Australian Forensic Psychologists' Perspectives on the Utility of Actuarial versus Clinical Assessment for Predicting Recidivism among Sex offenders

Gavan Palk
Forensic Psychologist & Barrister at Law

Dr. James Freeman
Forensic Psychologist & Post Doctoral Researcher

Dr. Jeremy Davey
Professor & Injury Prevention Researcher

Abstract

Actuarial approaches are regarded as more accurate than both unstructured and structured clinical approaches in assessing risk of recidivism among sex offenders. While there has been a plethora of research on evaluating the effectiveness of actuarial instruments, there has been a paucity of research investigating their actual level of use in forensic settings. In addition, little is known about the practical difficulties associated with administering actuarial instruments. This paper reports on a survey completed by forensic psychologists in Australia about the risk assessment tools they prefer and the benefits and difficulties associated with their use. In addition, the paper explores the extent to which forensic psychologists use clinical information to adjust the level of risk identified through the actuarial approach. The findings are discussed in light of the utility of particular approaches to assessing risk of recidivism among violent offenders and sex offenders.
Keywords – sex offenders, risk assessment, actuarial assessment, clinical assessment, structured professional judgment

Introduction

Predicting the risk of recidivism among offenders who commit violent offences and sex crimes is a complex and challenging task. Risk assessment initially focussed on predicting future acts of violence among individuals with mental health problems and progressed to predicting the likelihood of further offending by sex offenders. Due to the increased public concern about the risk of releasing sex offenders to community based supervision programs, the Judiciary and Parole Tribunals look to the expert opinion of psychiatrists and psychologists to guide their decision making. Predicting the risk of violent and sexual offending recidivism is not an exact science. However, over the last four decades it has developed and refined through five main phases from an art based on professional experience to a science based on empirically guided research.

Unstructured and Structured Clinical Opinion

During the 1960s and the 1970s (1st phase) risk assessment was largely based on unstructured clinical opinion also referred to as professional judgment. In this approach to risk assessment, the assessors based their opinion largely on their clinical subjective experience in treating and managing mental health patients and prisoners with a propensity towards violence. Through this experience information was

gathered and professional judgments began to become more structured (2nd phase). However, both of these approaches have been criticised for the lack of consistency in the risk analysis among assessors and the fact that the risk assessment was largely informal, subjective, inductive and inaccurate (Grove & Meehl, 1996; Hart, 1998; Kemshall, 1996; Lidz, Mulvey, & Gardner, 1993).

Empirically Guided Clinical and Actuarial Risk Assessment

In order to increase the reliability of risk assessment, empirically guided clinical evaluations emerged in the 1980s (3rd phase, see Becker & Coleman, 1988; Webster, Douglas, Eaves, & Hart, 1997; Webster, Harris, Rice, Cormier, & Quinsey, 1994). This approach was based on research that identified a number of variables associated with the proclivity to re-offend. The variables most commonly found to be associated with an increased risk of re-offending included: past and recent violence; disruptive and abusive family history; availability of victim and current relationship difficulties and substance abuse.

During the mid 1990s empirically guided risk evaluation research led to the development of more precise measures of violent and sexual offence recidivism. This 4th phase of risk assessment is known as the actuarial approach in which a number of risk factors were quantitatively derived. Factors that were empirically and statistically demonstrated to be associated with an increased risk of violence or sexual offending were codified to formulate risk scales and provide a score indicating the level of risk (low, moderate & high) for a set future time period. The actuarial approach had the advantage of not only increasing the accuracy of predicting recidivism but also provided a reliable and consistent approach to risk assessment that was transparent and verifiable (Hanson & Thornton, 2000; Harris, Hart, 1998; Quinsey, Rice & Harris, 1995; Rice & Cormier, 2002). The superiority of actuarial risk assessment led Quinsey, Harris, Rice, & Cormier, (1998) to caution against using clinical approaches and replace all clinical prediction of re-offending risk with actuarial methods.

The main strengths of the actuarial approach include the ability to provide an objective, formal and deductive approach to determining the level of risk associated with future acts of violence and sexual offending. Consequently, the actuarial approach proved far superior to earlier forms of unstructured/structured clinical and empirically guided clinical risk assessments (Grove & Meehl, 1998; Hanson & Bussiere, 1998). In fact, research has consistently demonstrated the superiority of actuarial or empirically-based risk assessment over clinical prediction (Epperson, Kaul, & Hesselton, 1999; Hanson & Morton-Bourgon, 2004; Harris, Rice & Quinsey, 1993).

Examples of Pure Actuarial Risk Assessment

Some examples of pure actuarial risk assessment scales include the STATIC-99 (Hanson & Thornton, 2000) and the Sexual Offender Risk Appraisal Guide (SORAG, Quinsey et al., 1998). It should be noted that these types of scales are formed by studying and classifying the factors or characteristics in groups of offenders in order to identify the most common factors that are statistically associated with violent crimes and sexual re-offending. Hence the classification of offenders or risk factors associated with recidivism in this manner has its base firmly in the discipline of scientific enquiry. Nonetheless, the profile produced by such an analysis will not be unique to every offender as they are based on a group analysis.

For example, the STATIC-99 provides the ability to rate the offender on 10 items that addresses the offender's past criminal history, relationship to the victim,

sex of victim and other offender demographics. The STATIC-99 was specifically designed to assess the level of future risk among a population of violent and sexual offenders. Numerous studies have found that the STATIC-99 can predict violent and sexual recidivism at a moderate to high level (.62 - .92) (Hanson & Thornton, 2000; Hanson & Morton-Bourgon, 2004; Harris, Phenix, Hanson & Thornton, 2003; Thornton, 2002).

The SORAG (Hanson & Morton-Bourgon, 2004; Quinsey et al., 1998; 2006) is a 14 item instrument used to assess the risk of violent and sexual recidivism of previously convicted sex offenders within a specific period of release. It also uses the clinical record as a basis for scoring and incorporates the Hare Psychopathy Check List (PCL-R) score (Hare, 1991; Hare, & Neumann, 2006) as well as physiological phallometric measures. It is regarded as valid and reliable for limited populations. The SORAG is based on developmental, personality, non-violent and violent history as well as deviant sexual preferences. It predicts for 7 and 10 years the risk of violent (sexual) assaults, yielding probability scores. The SORAG has been found to be a moderate predictor of sexual recidivism (.50) and a reasonably high predictor of violent recidivism (.80) (Hanson & Morton-Bourgon, 2004).

Limitations of Actuarial Risk Assessment

However, the actuarial approach has been criticised for ignoring important clinical information that may contribute to prediction and assist with the development of relapse prevention plans (Hart, 1998). A benefit of the clinical approach is, that it allows the assessor flexibility in identifying relevant dynamic factors that maybe beneficial in formulating treatment plans. The actuarial approach emphasises static factors which do not change over time and ignores crucial dynamic factors such as the effects of treatment and lack of victim access that may affect level of risk (Hart, 1998). In addition, it is difficult to formulate treatment and prevention management programs based solely on static factors.

The Sexual Offender Needs Assessment Rating (SONAR) scale (Hanson & Harris, 1998, 2000-1) was developed to address the lack of dynamic factors in actuarial instruments. It is an actuarial based assessment tool providing a score indicating the level of future risk (low, medium & high). This instrument also has the capacity to evaluate change in risk among sex offenders. The SONAR includes five relatively stable factors (intimacy deficits, negative social influences, attitudes tolerant of sex offending, sexual self-regulation and general self-regulation) and four acute dynamic factors (substance abuse, negative mood, anger and victim access). The test has demonstrated adequate internal consistency and moderate ability to differentiate between recidivists and non-recidivists (Hanson & Harris, 1998, 2000-1).

Structured Professional Judgment

Due to the limitations of the pure actuarial approach and the poor predictive ability of the clinical approach, some authors suggested that combining the advantages of actuarial and clinical approaches may prove valuable in guiding risk assessment and treatment (Monahan & Steadman, 1996; Swets, Dawes, & Monahan, 2000). Such an approach incorporates the benefits of both forms of risk assessment including empirically established static factors associated with re-offending and relevant clinical/dynamic factors important for the development of treatment programs. This fifth phase of risk assessment is based on empirically validated structured professional judgment (Douglas, Cox & Webster, 1999; Douglas, Ogloff & Hart, 2003). In the structured professional judgment approach the assessment

framework is flexible enough to account for not only static factors but also case specific dynamic influences (Hart, 1998; Douglas et al., 1999). Such an approach considers the importance of past history as well as current environmental influences that may include protective and risk factors. A broad structured professional judgment approach is conducive to formulating treatment and prevention programs.

The Sexual Violence Risk-20 (SVR-20) (Boer, Hart, Kropp & Webster, 1997) is an example of the structured professional judgment approach. It provides a structure for reviewing information important in characterising an individual's risk of committing sexual violence as well as for targeting plans to manage that risk. The instrument includes three major sections: Psychosocial Adjustment, Sexual Offenses, and Future Plans. The SVR-20 items are coded based on presence (Yes or No) and if present, whether there has been a recent change in status regarding that factor (Exacerbation, No Change, Amelioration). Nevertheless, it is noted that the validity of the structured professional judgment approach is yet to be established.

Aim of Study

While there has been a plethora of research on evaluating the effectiveness of actuarial instruments, there has been a paucity of research investigating their actual level of use in forensic settings. In addition, little is known about the practical difficulties associated with administering actuarial instruments, particularly among sex offenders. The aim of this paper is to report on a survey completed by forensic psychologists in Australia about the risk assessment tools they prefer and the benefits and difficulties associated with their use. In addition, the paper explores the extent to which forensic psychologists use clinical information to adjust the level of risk assessed by the actuarial approach. The findings are discussed in light of the utility of particular approaches to assessing risk of recidivism among sex offenders.

Method

Participants

Although there are 17,000 psychologists registered with the Australian Psychological Society (APS) across Australian States and Territories, only 200 psychologists are registered as forensic psychologists and are members of the College of Forensic Psychologists. In some jurisdictions' there are only a few registered specialist forensic psychologists. In Queensland, there 51 psychologists registered as forensic psychologists to cater for a prison population of about 5000.

Within the current study, attempts were made to contact the 200 registered forensic psychologists through the various Chairs of the State and Territories Colleges of Forensic Psychologists. In addition, psychologists at a number of prisons throughout Australia were contacted. To date, 70 forensic psychologists have been contacted and a total of 22 (31.4%) forensic psychologists have completed the forensic risk questionnaire. Data collection is ongoing.

Forensic Risk Questionnaire

The forensic risk questionnaire is comprised of three sections. The first section includes 10 questions. One question sought general information about the type of actuarial assessment instruments used. Two questions required participants to indicate on a Likert Scale (very unreliable – very reliable) their views about the reliability of clinical and actuarial assessment in predicting recidivism among sex offenders. An additional two questions sought information on a Likert Scale (not at all – all the time) about the extent forensic psychologists believed clinical judgement contributes

towards predicting sexual recidivism and whether actuarial assessments can be improved by taking into account clinical judgement.

A sixth question asked participants about the extent they amended the actuarial rated level of risk in accordance with their clinical judgement. Four other questions sought information about how often participants used a variety of risk assessment instruments.

Section two of the forensic risk questionnaire required participants to provide their opinion about the benefits of actuarial assessment in predicting sexual recidivism. In addition, participants' opinions about the limitations of actuarial assessment in predicting sexual recidivism were also sought.

Results

Participants' beliefs about the extent of reliability of either actuarial or clinical assessment in predicting recidivism among sex offenders are depicted in table 1.
The majority of forensic psychologists surveyed (81.8%) indicated that they believed that actuarial risk assessment was reliable. In contrast, while the majority of participants held the view that clinical assessment was unreliable (40.9%), a substantial percentage were unsure (31.8%). Only a small proportion of participants (18.2%) believed that clinical assessment was reliable.

Table 1: *Beliefs about the extent of reliability of either actuarial or clinical assessment in predicting recidivism among sex offenders*

	Beliefs about Reliability				
	Very Unreliable	Unreliable	Unsure	Reliable	Very Reliable
Actuarial Reliability in Predicting Recidivism	1 (4.5%)	2(9.1%)	1(4.5)	18(81.8%)	0
Clinical Reliability in Predicting Recidivism	2(9.1%)	9(40.9%)	7(31.8%)	4(18.2%)	0

Participants' views about the contribution of clinical judgment towards predicting sex offending recidivism were categorised and are displayed in Table 2. In addition, information about whether participants believed that actuarial risk assessment can be improved by taking into account clinical judgment is also depicted in table 2. While half of the participants (50.0%) indicated that clinical judgment contributed to predicting recidivism "sometimes", a smaller proportion were less convinced that actuarial risk assessment could be improved after taking into account clinical judgment. In respect of whether clinical judgment can improve actuarial risk assessment, participants respondents were fairly evenly divided across three of the main likert criteria. For instance, a third of participants indicated that clinical

judgment improved actuarial risk assessment "a little", while about a quarter of participants stated that actuarial risk assessment was improved by clinical judgment either "some of the time" or "often".

Table 2: *The extent that clinical judgment contributes towards predicting recidivism among sex offenders and whether actuarial assessments can be improved by taking into account clinical judgement*

	Contribution & Improvement				
	Not at all	A little (1-20%)	Sometimes (21-59%)	often (60-99%)	All the Time (100%)
Extent Clinical Judgement Contributes to Predicting Risk	0	6(27.3%)	11(50.0%)	3(13.6%)	2(9.1%)
Can Actuarial Assessment be improved by adding Clinical Judgement	1(4.5%)	7(31.8%)	6(27.3%)	6(27.3%)	2(9.1%)

The extent participants adjusted the level of risk score as determined by actuarial assessment after considering clinical judgement is examined in table 3. Although the majority of participants (59.1%) indicated that they do not adjust the actuarial rating having regard to clinical judgment, a substantial proportion (27.3%) did amend their actuarial score "sometimes". In contrast, a small proportion of participants (9.1%) stated that they always amended their actuarial risk assessment score after taking into account clinical judgment.

Table 3: *The extent actuarial rated level of risk is adjusted after taking into account clinical judgement*

	Extent Actuarial Risk Level Amended				
	Not at all	A little (1-20%)	Sometimes (21-59%)	often (60-99%)	All the Time (100%)
Extent amend Actuarial score with Clinical Judgement	13(59.1%)	1 (4.5%)	6(27.3%)	0	2(9.1%)

Table 4 displays the extent that participants used a number of actuarial risk assessment instruments and a structured professional judgment guideline. The most popular actuarial instrument to be used by participants in assessing recidivism risk was the STATIC 99. In contrast, most participants did not use the SORAG. Approximately a third of the participants used the SONAR instrument. In regards to the use of a structured professional judgment approach to assessing recidivism, again, only just over 45% had used the SVR-20. However, the majority of participants did not use the SVR-20 (54.5%). However, it was noted that a small proportion of participants indicated that they used a number of other structured professional judgment instruments such as the PCL-R and the Historical Clinical Risk Violence assessment scheme (HCR-20).

Table 4: *The extent assessment instruments are used to assess the level of risk among sex offenders*

	Extent of Use				
	Not at all	A little (1-20%)	Sometimes (21-59%)	often (60-99%)	All the Time (100%)
Extent Static 99 Used	6(27.3%)	4(18.2%)	4(18.2%)	7(31.8%)	1(4.5%)
Extent SORAG Use	16(72.7%)	2(9.1%)	2(9.1%)	0	2(9.1%)
Extent SONAR Used	11(50.0%)	0	7 (31.8%)	2(9.1%)	2(9.1%)
Extent SVR-20 Used	12(54.5%)	2(9.1%)	1(4.5%)	5(22.7%)	2(9.1%)

Table 5 depicts participants' opinions about the benefits and limitations of actuarial assessment in predicting sexual offending recidivism. Overall, participants believed that actuarial risk assessment instruments were practical and evidenced based. There was also a belief that both lawyers and the judiciary expected assessors to make use of actuarial instruments. Other benefits that actuarial based risk assessment provided included: (a) their ability to improve the accuracy of prediction; (b) improve interrater agreement; promote accountability; and (c) consideration of evidence based risk factors. However, participants believed that actuarial risk assessment instruments were limited as they largely focussed on static factors and did not consider the importance of individual dynamic influences. Such a limitation prevents taking into account current circumstances (e.g., treatment effects, opportunities that increase risk, protective factors) that may affect the risk level of offenders. This latter information was believed crucial to developing appropriate treatment and prevention plans. Taken together, the importance of multiple risk

assessments measures was recognised and the need to consider both actuarial and clinical measures of risk assessment.

Table 5: *Opinions about the benefits and limitations of actuarial assessment in predicting sexual offending recidivism*

Theme	**Participant's Comments**
Benefits	*Practical, empirically based, better than no tool, more reliable & objective, expectations that they be used by lawyers & courts, evidence based criminogenic factors associated with offending, contributes to formulation, SONAR provides some insights for treatment, multiple methods of assessments, more accurate, improves predictive agreement, promotes consideration of recognised risk factors, improves predictive agreement & interrater agreement, transparency, weight risks versus rights of offenders, restrictions can be increased for high scorers, based on outcome data, places individuals within a population, accountability*
Limitations	*Most ignore dynamic factors, may not capture profile of an individual, ignores role of free will & outcomes of treatment, indicators not actual predictors, useful for medico/legal reports, limited research in Australia, static tools do not reflect changes in risk status, can not relied upon as sole indicator of risk, misses important characteristics, structured interpersonal judgement measures are more clinically useful, no direction for treatment, lack of consideration for current environment, less useful for evaluating interventions, identifies priority, fosters reliance on risk scores rather than risk factors in context, limited predictability, should be used in a measured way, maybe a host of predictors never examined*

Discussion

Predicting the risk of recidivism for perpetrators of violent crimes and sexual offending has progressed from an art form to a science over the last four decades. Advocates of the scientific approach argue that the empirically based pure actuarial approach to assessing the level of potential risk among violent offenders is far superior to relying on unstructured or structured clinical judgment or experience. The actuarial approach to risk assessment is formal, objective and deductive whereas the clinical approach is largely informal, subjective and inductive. Although the actuarial approach has been demonstrated to be statistically more accurate in predicting offending recidivism, it is based on group analysis and therefore, generally fails to include crucial or idiosyncratic information. This information can be vital to understanding the complete needs and circumstances of the individual offender and is therefore important to establishing treatment and prevention plans. The structured professional judgment approach to risk assessment has been developed to combine the advantages of both actuarial and clinical risk assessment.

The present study examined the extent that Australian forensic psychologists relied upon either actuarial or clinical assessment to form their opinion about the future risk level of individuals who commit crimes of violence and sexual offences. The study also explored the extent that forensic psychologists used their clinical judgment to adjust the level of risk assessed by the actuarial approach. Finally, views that the forensic psychologists held about the benefits and limitations of actuarial risk assessment were documented.

The findings in the present study indicated that while the majority of surveyed forensic psychologists believed that the actuarial risk assessment approach was reliable, a substantial proportion of them did not use actuarial instruments to assess the level of future risk among offenders. This finding is surprising given the level of support for the reliability of actuarial risk assessment instruments. As most of the actuarial instruments can be used easily, quickly and cost effectively, it is difficult to understand what factors hinder their use. As the present study did not explore this issue, this is an area that requires further investigation. Despite the overwhelming support for the reliability of actuarial risk assessment, half of the participants in the study believed that clinical judgments can sometimes contribute to predicting risk assessment. In addition, just over a quarter of participants believed that clinical judgments contributes "a little" to actuarial risk assessment while a small proportion believed the contribution was "often or all the time".

In respect to whether clinical judgment can improve actuarial risk assessment, participants' responses were fairly evenly spread across three main criteria on the likert scale. For instance, approximately a third of the respondents (31.8%) indicated that clinical judgment could improve actuarial risk assessment "a little", while just over one quarter (27.3%) indicated improvement could be achieved "sometimes" and just over a quarter (27.3) stated that improvement could be achieved "often". Only a small proportion of participants believed that clinical judgment could not improve actuarial risk assessment. Interestingly, over half of the forensic psychologists reported not being prepared to adjust the actuarial risk assessment score with their clinical judgment. While approximately a quarter indicated they would engage in such behaviour.

Furthermore, the actuarial risk assessment instrument used most by forensic psychologists was the STATIC-99. In contrast, the majority of respondents (between 50.0% – 72.7%) did not make use of the other nominated actuarial instruments (SORAG & SONAR). Furthermore, more than half of the participants indicated that they had not used the SVR-20, which is a structured professional judgment guideline to assess level of re-offending risk. However, a small proportion of participants (18.2%) indicated that they did use other structured professional judgment instruments such as the PCL-R and the HCR-20.

Participants indicated that the main benefits of actuarial risk assessment included their empirical basis and their ability to improve prediction. In addition, it was believed that actuarial instruments could promote accountability and interrater agreement. However, participants were of the view that actuarial based risk assessment instruments were limited in that they ignored crucial dynamic predictive indicators such as treatment effects, protective factors and current circumstances. Due to these limitations, participants believed that it was difficult to formulate appropriate treatment and prevention plans. Some participants acknowledged that the SONAR scale took into account dynamic influences and the changing circumstances of the offenders. Taken together, while the benefits of actuarial risk assessment was acknowledged, participants believed that multiple assessment measures that included

clinical structured professional judgments were more useful, particularly having regard to treatment and prevention issues.

A number of limitations should be bourne in mind when interpreting the current findings. Firstly, the presence study was limited by the usual bias associated with survey questionnaires. In addition, only a small sample of the participants has completed the forensic risk questionnaire to date. However, data is still being collected and it remains to be seen if the main findings will change with a larger sample size.

In summary, while the majority of forensic psychologists surveyed indicated that they believed actuarial risk assessment was more reliable than clinically based risk assessment, a substantial proportion of them do not use actuarial risk assessment instruments. Further research needs to be conducted in order to identify the barriers that are preventing a wider use of actuarial risk assessment instruments. Both forensic psychologists and forensic psychiatrists need to be encouraged to include the use of actuarial based assessment and structured professional judgment instruments in assessing the future risk of violent or sexual offenders. In contrast, the authors remain sceptical of opinions about the predictive future risk level of offending that rely solely on unstructured/structured clinical and empirically guided clinical assessment.

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