The Reliability and Validity of the *Sexual Violence Risk-20* (SVR-20): An International Review

Martin Rettenberger[1], Stephen J. Hucker[2], Douglas P. Boer[3], Reinhard Eher[1]
[1] Federal Evaluation Centre for Violent and Sexual Offenders, Vienna, Austria
[2] Law and Mental Health Programme, Department of Psychiatry, University of Toronto, Toronto, Canada
[3] Department of Psychology, University of Waikato, Hamilton, New Zealand

[Sexual Offender Treatment, Volume 4 (2009), Issue 2]

Abstract

This article reports on the current state of research about the most commonly used Structured Professional Judgement (SPJ) guidelines for sexual offender risk assessment, the Sexual Violence Risk-20 (SVR-20). After describing the general characteristics as well as frequently discussed strengths and weaknesses of this risk assessment approach, we give an international overview of the empirical results of the reliability and validity of the SVR-20. We conclude by describing briefly a convergent strategy for sexual offender risk assessment incorporating the SVR-20 and offer some future directions for international research on the SPJ approach.

Key words: risk assessment, sex offender, recidivism, validity, SVR-20

Introduction

Sexual offender risk assessment has made important progress during the past few decades (Boer, 2009; Barbaree, Langton, & Peacock, 2006; Hanson, 2009). Especially over the last 20 years a huge number of risk assessment techniques, instruments, and procedures have been developed. Therefore, some forensic researchers have tried to define different types of risk assessment methodologies for different kinds of offenders (e.g. Andrews & Bonta, 2006; Dahle, 2005; Boer & Hart, 2009; Craig, Browne, & Beech, 2008; Hanson & Morton-Bourgon, 2004, 2007, 2009). In the international literature and recent academic debate risk assessment instruments are usually divided into three different categories: Unstructured clinical judgement (UCJ), actuarial risk assessment instruments (ARAIs), and structured professional judgement (SPJ).

The UCJ approach - the so-called first-generation type of risk assessment (Andrews & Bonta, 2006) - refers to decisions unguided by standardized tests, psychological procedures, or professional guidelines and is, therefore, typically considered to be the least useful approach because it fails to provide a transparent and comprehensible basis for the decisions reached by individual clinicians (e.g. Quinsey et al., 2006). The experience of the clinician, which is then often used intuitively, is characteristic of the decision-making process with the UCJ approach (Dahle, 2005). In UCJ risk factors are neither specified in advance nor are they combined by a defined algorithm (Hanson & Morton-Bourgon, 2007). Although intuitive judgement is most relevant in many human decision-making situations[1], it is not when it comes to offender risk assessment due to 1. its inaccuracy in predicting reoffending, 2. its potential for bias in considered risk factors, 3. and the lack of structure, transparency, and empirical validation data (Krueger, 2007; Hanson & Morton-Bourgon, 2004, 2007, 2009; Dahle, 2005). Intuitively made clinical judgements - even if they are made by highly trained and experienced clinicians - should no longer play an important role in professional risk assessment settings because "the evidence suggests that they are relatively poor

prognosticators if they fail to attend to empirically defensible risk factors in a structured way" (Andrews & Bonta, 2006, p. 286). Moreover, the UCJs of mental health experts were no different from those of otherwise intelligent lay people (Hanson, 2009).

There are, however, better ways of conducting risk assessments by focusing on empirically based risk factors (Quinsey et al., 2006). There are a number of empirical studies which indicate that the accuracy of risk prediction is substantially increased when evaluators use structured, empirically-based risk assessment instruments (Hanson, 2009). Actuarial risk assessment instruments (ARAIs, 'second-generation risk assessment'; Andrews & Bonta, 2006) are such highly structured risk scales using combinations of mostly empirically determined predictor variables[2] through the use of statistical techniques such as stepwise regression analyses (e.g. Craig et al., 2008; Boer & Hart, 2009). Even though there is a long tradition of research on actuarial risk assessment methods (e.g. Burgess, 1928), during the last two decades this empirical approach has become increasingly important (Craig et al., 2008). Today the most commonly used ARAIs for sexual offenders are the *STATIC-99* (Hanson & Thornton, 2000), the *Rapid Risk Assessment for Sexual Offense Recidivism* (RRASOR; Hanson, 1997), the *Sex Offender Risk Appraisal Guide* (SORAG; Quinsey et al., 2006), the *Structured Anchored Clinical Judgement Scale* (SACJ; Grubin, 1998), the *Risk Matrix 2000 - Sexual/Violence* (RM2000-SV; Thornton et al., 2003), and the *Minnesota Sex Offender Screening Tool-Revised* (MnSOST-R; Epperson, Kaul, & Hesselton, 1998). Meanwhile, there is a large number of ARAIs validation studies showing these instruments to gain 'moderate' to 'good' predictive validity in terms of their overall predictive accuracy (e.g. Hanson & Morton-Bourgon, 2004, 2007, 2009). Furthermore, recent meta-analyses have confirmed the predictive power of empirically determined statistical methods over clinical approaches for the prediction of crime in general (e.g. Andrews & Bonta, 2006) and for the prediction of sexual aggression in particular (Hanson & Morton-Bourgon, 2004, 2007, 2009). Although research has demonstrated the usefulness of ARAIs to assess risk in sexual offenders, there has nonetheless been much criticism of the actuarial approach (e.g. Litwack, 2001; Craig, Browne, Stringer, & Beech, 2004; Craig et al., 2008; Hart et al., 2003; Boer & Hart, 2009). These authors point out the lack of a theoretical basis, the predominance of static and unchangeable items, and the problem of generalization across different sexual offender subgroups and jurisdictions. But the most important limitation is the fact that ARAIs provide no ideographic information about the risk and potential risk management strategies in an individual case, whereas all jurisdictions insist on a risk assessment which consider the characteristics and properties of the individual offender (see for example the proposals for minimum standards of recidivism risk assessments in Germany, Boetticher et al., 2006, where the authors point out that only an individual-centered professional risk assessment approach is acceptable from a juridical point of view). By definition, only an ideographic risk assessment approach meets these practical, ethical, and legal requirements by considering the relevant facts of the present case (Dahle, 2007). In contrast, using only ARAIs is applying aggregate group data to an individual case whose characteristics may differ from those in the original study sample (Craig et al., 2008). Therefore, the benefit of ARAIs in applied risk assessment and risk management settings is limited (Boer & Hart, 2009; Craig et al., 2008; Andrews & Bonta, 2006)[3].

Because of the limitations of the UCJ and ARAIs approaches, and parallel to their development, several structured professional clinical judgement (SPJ) methods have been constructed during the last few years. Usually an SPJ instrument consists of an empirically-based inventory of risk and protective factors and the scoring is typically based upon professional considerations about which of the items apply best to an individual case. In contrast to ARAIs, the final risk judgement - e.g. if an offender has to be classified as 'low', 'moderate', or 'high risk' - in SPJ procedure of risk assessment is primarily based on the clinician's judgement using clinical experience, and theoretical or empirical knowledge about (re-)offending behaviour. The purpose of the SPJ approach is to reach decisions regarding two major issues: On the one hand, the individual risk level of the offender, and, on the

other hand, the strategies which would most effectively manage those risks (Hart & Boer, 2009). Because of a number of considerable methodological and legal advantages, and especially because of its practical use in applied risk assessment settings, the SPJ approach in Forensic Psychology and Psychiatry has become more and more important.

In this article, we will present recent international empirical data about the most important and likely most commonly used SPJ method for sexual offender risk assessment, the *Sexual Violence Risk-20* (SVR-20; Boer, Hart, Kropp, & Webster, 1997)[4].

The *Sexual Violence Risk-20* (SVR-20)

The SVR-20 is probably the most commonly used SPJ instrument for the risk assessment of sexual offenders[5]. Boer and Hart (2009) stated that 'the SVR-20 has been evaluated by a variety of researchers in a variety of sites and is the best-validated SPJ for the risk assessment of sexual offenders' (p. 34)[6]. The SVR-20 is a structured clinical guideline for the assessment of risk for sexual violence in adult sex offenders designed by a group of forensic scientists who had already done research on SPJ for other offender subgroups[7]. The SVR-20 was developed from a thorough research of the empirical literature and using the clinical expertise of a number of clinicians. In order to identify relevant risk factors, there were three general principles: The risk factor has to be (a) supported by scientific research, (b) consistent with theory and professional recommendations, and (c) legally acceptable, that is, consistent with human and civil rights. The SVR-20 consists of 20 items, divided into three domains (see Table 1). The authors developed a manual and worksheets, in order to support a reliable application of the instrument. The administration of the SVR-20 can be divided into three general steps of the risk assessment process: First, the 20 items, as well as any additional case-specific risk factors have to be coded by an experienced forensic clinician. The items are rated using a 3-point ordinal rating scale as definitely present, possibly or partially present, or absent. In the second step, the evaluator indicates for each present risk factor whether there has been any recent change in the status of that factor within a flexible time frame. Changes are also coded on a 3-point ordinal rating scale in terms of exacerbation, no change, or amelioration. In the final step, users make a final judgement about the risk of future violence using again a 3-point ordinal rating scale. The final risk judgement should be rated as low, moderate, or high which is also indicating the degree of intervention required in this individual case. For example, a final judgement of high risk would indicate an urgent need to develop and start a comprehensive risk management plan for the individual which would feature more resources than in case of moderate or low risk.

Table 1: The Risk Factors and Items of the *Sexual Violence Risk-20* (SVR-20; Boer et al., 1997)

Domain	Risk Factor
Psychological Adjustment	1. Sexual deviance 2. Victim of child abuse 3. Psychopathy 4. Major mental illness 5. Substance use problems 6. Suicidal/homicidal ideation 7. Relationship problems

	8. Employment problems 9. Past nonsexual violent offences 10. Past nonviolent offences 11. Past supervision failure
History of Sexual Offenses	12. High density 13. Multiple types 14. Physical harm 15. Weapons/threats 16. Escalation in frequency or severity 17. Extreme minimization/denial 18. Attitudes that support or condone
Future Plans	19. Lacks realistic plans 20 . Negative attitude toward intervention

On this note, the SVR-20 helps users both to predict the risk of future sexual violence of a particular sexual offender and to guide potential risk management strategies. The instrument defines sexual violence as the actual, attempted, or threatened sexual contact with another person that is nonconsensual (Boer et al., 1997). Risk is conceptualized in terms of nature, severity, imminence, frequency, and likelihood of future sexual violent acts. Although the instrument is intended for use in a wide range of civil and criminal justice contexts with different subgroups of sexual offenders, it should be primarily used with men aged 18 and older who have a known or suspected history of sexual violence. It should only be used with caution to guide evaluations of male adolescents or women (Hart & Boer, 2009).

In comparison to the above-mentioned ARAIs, there is relatively little knowledge about the psychometric properties of the SVR-20 (de Vogel et al., 2004). However, current studies provide first indications of the reliability, (predictive) validity, and cross-cultural transferability of the SVR-20 (e.g. Hanson & Morton-Bourgon, 2007; Stadtland et al., 2005; de Vogel et al., 2004; Rettenberger, Matthes, Boer, & Eher, 2009; Dempster, 1998; Macpherson, 2003; Dietiker, Dittmann, & Graf, 2007).

The Interrater-reliability of the SVR-20

Hart and Boer (2009) provided a comprehensive survey of the international research about the psychometric properties of the SVR-20. First, they reviewed a few studies concerning the interrater-reliability of the SVR-20 from Canada together with data from Spain, Sweden, Austria, the Netherlands, and Germany. According to the critical values of Fleiss (1981)[8] the results indicate that the SVR-20 showed at least fair interrater-reliability. In more than half of these studies the results could be classified as excellent, whereas only one study showed poor reliability indices. Taken together, these results clearly support the objectivity and reliability of the SVR-20.

Empirical Results about the Validity of the SVR-20 in English-speaking Countries

Furthermore, Hart & Boer (2009) reviewed some studies about the concurrent validity of the SVR-20. They showed that the SVR-20 correlated strongly with other commonly used risk assessment instruments like the STATIC-99 or the SORAG, but the highest correlation was between the SVR-20 and the RSVP. This is not a surprising result because of the similarity of these instruments. The first cross-validation study in the narrower sense was conducted by Dempster (1998) who examined the predictive validity of five risk assessment instruments (PCL-R, VRAG, SORAG, RRASOR, and SVR-20) for the prediction of violent and sexually violent recidivism in Canadian sexual offenders released from federal correctional facilities (N = 95) between 1988 and 1993. The most important result was that clinical ratings provided by the SVR-20 added significantly to prediction of sexual reoffending in comparison to the actuarial ratings of the SORAG, RRASOR, and also in comparison to the actuarial (numerically derived) ratings of the SVR-20 (the instrument showed incremental validity; see Hunsley & Meyer, 2003). In contrast, the SVR-20 had no incremental validity with respect to the rate of violent recidivism. However, this can also be seen as an indicator for discriminant validity of the instrument because the SVR-20 is not designed for predicting violent but for predicting sexual reoffenses (Boer, 2009). MacPherson (2003) investigated 40 sexual offenders from Scotland and found that a progressive pattern from non-contact sexual offending to contact sexual offending is associated with a combination of several items of the SVR-20. Lennings (2003) conducted another so-called content-related validity study (Hart & Boer, 2009) using a small sexual offender sample (N = 27) from Australia. He showed that SVR-20 lifetime presence ratings of specific items could discriminate significantly between sexual offenders groups who were found or pleaded guilty and those who were not found guilty. Craig, Browne, Beech, and Stringer (2006) evaluated the predictive validity of the SVR-20 with a sample of 85 sexual offenders in the UK using a retrospective research design and a file-based data collection approach. Like other risk assessments also investigated in this study the SVR-20 failed to significantly predict sexually violent recidivism. Barbaree and his colleagues (Barbaree, Langton, Blanchard, & Boer, 2008) examined the predictive accuracy of the SVR-20 using a large Canadian sample (N = 468) within a retrospective research design and a file-based data collection method. According to the AUC-values of ROC-analyses, the SVR-20 showed at least moderate predictive accuracy.

The Current State of Research in German-speaking and other European Countries

In the German-speaking part of Europe the SVR-20 has been commonly used for many years in different forensic settings and meanwhile there exist cross-validation studies from Germany, Austria, and Switzerland. Dietiker, Dittmann, and Graf (2007) examined the concurrent validity of the SVR-20 by assessing 64 Swiss sexual offenders. They concluded that the results confirmed the utility of the SVR-20 primarily as a scientific instrument and as a checklist for assessment practice. In order to evaluate standardized risk assessment instruments for sexual offenders in Germany, Stadtland et al. (2005) compared the predictive validity of the STATIC-99, HCR-20, PCL-R, and SVR-20 in 134 sexual offenders. The SVR-20 showed moderate predictive accuracy. The subscale *Psychosocial Adjustment* convincingly predicted violent recidivism, whereas the Subscales *Sexual Offenses* and *Future Plans* did not contribute to the predictive accuracy of the instrument. The authors also mentioned that relying on the SVR-20 alone would lead to a high rate of false positives. However, the authors used the SVR-20 by adding up the item scores and without making a final clinical judgement. The same methodological criticism applies to a recent Austrian validation study of the SVR-20 and four other standardized risk assessment instruments (RRASOR, STATIC-99, PCL-R, and SORAG) using a prospective longitudinal research design (Rettenberger et al., 2009). Using a numerically derived final judgement by adding up the item scores, the predictive validity of the SVR-20 for the total sample (N = 394) was only moderate for sexual recidivism. However, the

predictive accuracy of all five instruments varied strongly depending on sexual offender subgroup and recidivism criterion. In a more recent publication of this research project, Rettenberger & Eher (2009) investigated the predictive accuracy of the SVR-20 using a bigger sample (N = 511) and found moderate predictive validity for the total sample. Comparable to previous results the instrument showed better predictive accuracy for the child molester subgroup than for the rapist subgroup. The subscale A ('Psychological Adjustment') had generally a higher predictability than subscale B ('History of Sexual Offenses') and subscale C ('Future Plans'). However, the subscale B showed especially good accuracy in predicting sexual recidivism in rapists. In another German cross-validation study, Hill and his colleagues (Hill et al., 2008) examined the association between SVR-20 ratings and recidivism in 166 adult male sexual homicide offenders. In a retrospective and file-based study design the authors found that the SVR-20 ratings were not significantly associated with recidivism.

Sjöstedt and Långstrom (2003) published a Swedish cross-validation study using a sample of N = 51 male adult rapists. They examined the predictive accuracy of the SVR-20 and found neither the summary risk ratings nor the total scores to significantly predict recidivism. In 2004 de Vogel and colleagues published an elaborative retrospective cross-validation study using a sexual offender sample (N = 122) from the Netherlands (de Vogel, de Ruiter, van Beek, & Mead, 2004). According to common interpretation rules for predictive validity indices[9], the SVR-20 showed good predictive accuracy, especially for the prediction of sexual recidivism. The validity indices for general criminal and general violent recidivism were much lower. A further important result was that the SVR-20 clinically derived final risk judgment was a significantly better predictor of sexual recidivism than the prediction made by using the STATIC-99. In another retrospective research project from Spain the SVR-20 showed also a relatively high predictive accuracy which can be classified as 'good' (Pérez Ramiréz et al., 2008).

Results from Meta-Analyses and Conclusions

The predictive accuracy of the SVR-20 was also part of extensive meta-analyses of various sexual offender risk assessment methods (Hanson-Morton-Bourgon, 2004, 2007, 2009). In 2004 R. Karl Hanson and Kelly Morton-Bourgon reviewed 95 different studies involving more than 31,000 sexual offenders. The SVR-20 was the only included SPJ method and showed also satisfactory predictive accuracy being at least as good as other instruments or better. In a subsequent meta-analysis the authors concluded that 'the strongest single predictor of sexual recidivism was a measure of structured professional judgement (the SVR-20). Furthermore, in those studies which directly compared structured professional judgement with simply adding the items, clinical judgements turned out to be slightly better (although the difference was not significant)' (Hanson & Morton-Bourgon, 2007, p. 14). However, it has to be considered that in comparison to other sexual offender risk assessment measurements there exist only a few validation studies of the SVR-20. In the most recent version Hanson and Morton-Bourgon (2009) analysed 536 findings drawn from 118 samples involving more than 45,000 sexual offenders from 16 different countries. Again, the results supported previous findings about the usefulness of SVR-20, but the data base still remains relatively poor.

There are two important conclusions to draw from the currently available research data about the SVR-20: First, although numerically coding the total scores of the SVR-20 appears to perform as well as ARAIs, there is also growing evidence that summary risk ratings or case priorization ratings could have even better predictive accuracy than combinations of numerically recoded risk factors (Hart & Boer, 2009)[10]. Second, most of the the currently available validation studies have used a retrospective research design which makes it impossible to code changes over time in risk factors or in overall risk by considering possible changes due to risk management strategies or changes in

life circumstances. Hart and Boer (2009) suggested that both limitations may result in an underestimation of the validity especially of SPJ methods for risk assessment.

To conclude, the international research evidence about the accuracy of the SVR-20 predicting sexual recidivism indicates that this SPJ instrument usually shows moderate to good predictive validity in a number of different countries. However, compared to the available research data of ARAIs, there is still a lack of comprehensive and methodologically sophisticated validation studies.

Because of important developments in risk assessment and relevant changes in treatment foci over the past decade, the SVR-20 is currently being revised with an expected completion date of 2009[11] (Boer & Hart, 2009). According to Boer (2009), the revised version will include an updated literature review of the theoretical and empirical support for the included risk factors, an increased focus on the relevance of risk factors for use in the development of risk management strategies, and an enhanced systematization of the assessment process. There are - especially for an improved documentation of the relevance of particular risk factors - three important enhancements: First, evaluators are able to clarify the causal roles of particular risk factors by dividing common risk factors among: motivators (which increase the perceived benefits of sexual violence), disinhibitors (which decrease the perceived costs of sexual violence), and destabilizers (which generally impair the person's decision-making abilities or psychosocial adjustments). Second, the user will then also be able to identify and consider protective factors (e.g. potential personal strengths or resources) by using a modified coding system. Third, in the revised version of the SVR-20 a so-called scenario planning system will be included which allows to focus on concrete future situations of risk. Irrespective of these conceptual changes, there will be a number of some small content changes, too: The definitions of some risk factors will be clarified, two risk factors will be deleted, and two new risk factors will be added (for further information see e.g. Boer & Hart, 2009).

Future Directions for International Research and Practice

Despite of a huge number of research projects and studies, the strengths and weaknesses of these different kinds of sexual offender risk assessment methodologies remains a controversial and important topic in forensic psychology and psychiatry (e.g. Hanson, 2009). One reason for the maintenance of this controversy is the limitations and methodological problems with the existing research. The internationally published studies about the reliability and validity of SPJ guidelines especially have several common problems and deficits (e.g. Hart & Boer, 2009; Boer & Hart, 2009): First and most important, almost every existing research study has used a retrospective file-based research design. In the absence of an interview with the offender, there could be a systematic bias in the results of the reliability and validity of the instruments. A second common problem is that some researchers relied on untrained and/or unexperienced people to make ratings of risk factors. Despite comprehensive operationalizations of each risk factor and standardized manuals and worksheet, most SPJ guidelines include still complex risk factors such as psychopathy or sexual deviance which requires usually a certain degree of training and clinical experience. Third, many researchers coded only lifetime presence ratings on the SPJ instruments and failed to code (recent) changes for individual risk factors or the final risk judgements. Instead of that, some researchers used SPJ guidelines in a conceptually similar way to ARAIs by simply adding up the item scores. However, it should be emphasized that this kind of decision-making regarding overall risk is contrary to the principles of the SPJ approach. Furthermore, there is also growing evidence that summary risk ratings have even greater validity than linear combinations of numerically recoded risk factors (Hart & Boer, 2009). In this connection, the retrospective research design of most validation studies impede ratings about dynamic changes over time due to intervention and modified life circumstances. It can be hypothesized that these studies probably underestimate the validity of SPJ guidelines.

Because of these limitations, Stephen D. Hart and his colleagues formulated recommendations for future research projects (Hart et al., 2003): According to these, researchers should use clinical interviews together with complete clinical and criminal record. The participating raters have to be trained and experienced in using SPJ guidelines and in doing sexual offender evaluations. Furthermore, forensic scientists should examine predictive validity using prospective longitudinal research designs that include complete clinical ratings and repeated assessment of risk factors. This procedure allows consideration of the prominent dynamic element of the SPJ approach. In addition to these methodological improvements, Hart and Boer (2009) mention also a few interesting research questions which were not be addressed until now: One priority for future research would be to examine how evaluators make final risk judgements and case prioritization ratings. Research of this sort may also contribute to the issue whether clinical risk judgements are actually able to outperform ARAIs risk assessment in terms of predictive validity. Another research priority should focus on the utility of the SVR-20 case management decisions and the scenario planning methods of the revised SVR-20. A further priority is related to other sexual offender subgroups which have theoretically and practically special characteristics in terms of risk assessment and management such as female or juvenile sexual offender. Finally, and most importantly, researchers should determine whether systematic implementation of the SVR-20 leads to a significant reduction in future sexual violence. Especially the use of prospective longitudinal research design would contribute to the knowledge about effective risk assessment and management strategies.

Irrespective of future research results, what are the current implications of existing research and practice about the SVR-20 for the use of risk assessment for sexual offender evaluations? There is currently still controversy over the superiority of particular risk prediction methods and a conclusion about what works is not foreseeable. Because SPJ as well as ARAI show specific advantages for a standardized risk assessment process, we recommend that both approaches should be integrated into one comprehensive risk assessment procedure. Although ARAIs have some important conceptual limitations, especially for risk management settings, evaluators should not do risk assessments without the empirically guided combinations of risk factors (Hanson, 2009). On the other hand, the concept of SPJ guidelines like the SVR-20 being used to complement ARAIs is consistent with both evidence-based and probation practices. As mentioned above, the concept is flexible, can be applied in a range of different risk assessment settings, and has considerable methodological, ethical, and legal advantages. Therefore, it could be hypothesized that in applied risk assessment settings, the two types of evaluations - SPJ and ARAIs - will have better validity in terms of providing a convergent approach[12] to risk assessment than either of the two types alone (e.g. Boer & Hart, 2006; Boer, 2006). Given the lack of research to substantiate a clear superiority of one type of instrument over the other[13], as well as the complementary nature of these types of tests in terms of how risk is conceptualized and analyzed, a convergent approach seems to be the current best practise solution (Boer, 2006).

Within a convergent risk assessment approach, the evaluator should use the best ARAI and the best SPJ guidelines which are reasonably applied to the type of offender whom the evaluator is assessing. The ARAI will then provide an empirically-derived numerical risk baseline which can be used as a kind of anchor estimate for the structured clinical evaluation (Boer & Hart, 2006). In order to use ARAIs reasonably, there are three important preconditions for the application internationally: First, the original (mostly English) manuals have to be translated and, if necessary, adapted to the particular national assessment context. Second, national research institutions need to conduct their own cross-validation studies in order to determine whether risk assessment instruments are also applicable in other jurisdictions. Third, it is necessary that each particular jurisdiction collects its own data about recidivism standard values in relation to instrument risk levels such as the recidivism

percentages by STATIC-99 risk level (Harris et al., 2003). Without national standard values about expected recidivism rates by risk level, the application of ARAIs makes only limited sense.

After this, the application of the ARAIs will be followed by using an SPJ instrument like the SVR-20 which can guide the overall risk estimation as well as make recommendations for risk management and treatment planning. Because of a number of advantages in using a convergent approach, Boer (2006) suggested 'that a convergent approach to risk assessment may be both the most responsible and most appropriate approach at this time' (p. 1). Concerning current best-practice recommendations, we suggest that the SVR-20 should be an integral part of applied risk assessment in international settings. Until now, no single risk assessment approach on its own can be characterized as a panacea for the problems that have plagued the prediction of recidivism for sexual offenders. Therefore, the advantages of different prediction methods should be integrated in a convergent risk assessment approach, in order to provide best possible risk assessment and management strategies for sexual offenders.

References

1. Andrews, D. A. & Bonta, J. (2006). The Psychology of Criminal Conduct (4th ed.). Cincinnati: Anderson Publishing.
2. Archer, R. P., Buffington-Vollum, J. K., Stredny, R. V., & Handel, R. W. (2006). A Survey of Psychological Test Use Patterns among Forensic Psychologists. Journal of Personality Assessment, 87, 84-94.
3. Barbaree, H. E., Langton, C. M., & Peacock, E. J. (2006). Different Actuarial Risk Measures Produce Different Risk Rankings for Sexual Offenders. Sex Abuse, 18, 423-440.
4. Barbaree, H. E., Langton, C. M., Blanchard, R., & Boer, D. P. (2008). Predicting Recidivism in Sex Offenders Using the SVR-20: The Contribution of Age-at-release. International Journal of Forensic Mental Health, 7, 47-64.
5. Bengtson, S. & Långstrom, N. (2007). Unguided Clinical and Actuarial Assessment of Re-offending Risk: A Direct Comparison with Sex Offenders in Denmark. Sex Abuse, 19, 135-153.
6. Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). Manual for the Sexual Violence Risk - 20: Professional Guidelines for Assessing Risk of Sexual Violence. Vancouver: The Mental Health, Law, & Policy Institute.
7. Boer, D. P. (2006). Sexual Offender Risk Assessment Strategies: Is there a Convergence of Opinion yet? Sexual Offender Treatment, 1, 1-4.
8. Boer, D. P. & Hart, S. D. (2006). Actuarial versus Structured Clinical Risk Assessment Strategies: Is there a Convergence of Opinion yet? Paper presented at the 9th Conference of the International Association for the Treatment of Sexual Offenders (IATSO). Hamburg, Germany, September 2006.
9. Boer, D. P. & Hart, S. D. (2009). Sex Offender Risk Assessment: Research, Evaluation, 'Best-practice' Recommendations and Future Directions. In J. L. Ireland, C. A. Ireland, & P. Birch (Eds.), Violent and Sexual Offenders. Assessment, Treatment, and Management (pp. 27-42). Cullompton: Willan Publishing.
10. Boer, D. P. (2009). Sexual Violence Risk (SVR-20, 1st & 2nd versions) Workshop - A Convergent Approach to Risk Assessment. Workshop held in Vienna, Austria, August 2009.
11. Boetticher, A., Kröber, H.-L., Müller-Isberner, R., Böhm, K. M., Müller-Metz, R., & Wolf, T. (2007). Mindestanforderungen für Prognosegutachten [Minimum Standards for Risk Prediction Assessments]. Forensische Psychiatrie, Psychologie, Kriminologie, 1, 90-100.
12. Burgess, E. W. (1928). Factors Determining Success or Failure on Parole. In A. A. Bruce, A. J. Harno, E. W. Burgess, & J. Landesco (Eds.), The Workings of the Indeterminate Sentence Law and the Parole System in Illinois (pp. 221-234). Springfield: State Board of Parole.

13. Cohen, J. (1992). A Power Primer. Psychological Bulletin, 112, 155-159.
14. Craig, L. A., Browne, K. D., Stringer, I., & Beech, A. (2004). Limitations in Actuarial Risk Assessment of Sexual Offenders: A Methodological Note. British Journal of Forensic Practice, 6, 16-32.
15. Craig, L. A., Browne, K. D., Beech, A., & Stringer, I. (2006). Differences in Personality and Risk Characteristics in Sex, Violent, and General Offenders. Criminal Behaviour and Mental Health, 16, 183-194.
16. Craig, L. A., Browne, K. D., & Beech, A. R. (2008). Assessing Risk in Sex Offenders - A Practitioner's Guide. Chichester: Wiley.
17. Dahle, K.-P. (2005). Psychologische Kriminalprognose [Psychological Prognosis of Criminality]. Herbolzheim: Centaurus.
18. Dahle, K.-P. (2007). Methodische Grundlagen der Kriminalprognose [Methodological Standards for the Prediction of Criminal Reoffenses]. Forensische Psychiatrie, Psychologie, Kriminologie, 1, 101-110.
19. Dahle, K.-P., Schneider, V., & Ziethen, F. (2007). Standardisierte Instrumente zur Kriminalprognose [Actuarial Instruments for the Prediction of Criminal Reoffenses]. Forensische Psychiatrie, Psychologie, Kriminologie, 1, 15-26.
20. Dempster, R. J. (1998). Prediction of Sexually Violent Recidivism: A Comparison of Risk Assessment Instruments. Unpublished Masters Thesis, Department of Psychology, Simon Fraser University, Burnaby, Canada.
21. Dietiker, J., Dittmann, V., & Graf, M. (2007). Gutachterliche Risikoeinschätzung bei Sexualstraftätern. Anwendbarkeit von PCL: SV, HCR-20+3 und SVR-20 [Risk Assessment of Sex Offenders in a German-speaking Sample: Applicability of PCL: SV, HCR-20+3, and SVR-20]. Nervenarzt, 78, 53-61.
22. Douglas, K. S., Cox, D. N., & Webster, C. D. (1999). Violence Risk Assessment: Science and Practice. Legal and Criminological Psychology, 4, 149-184.
23. Douglas, K. S., Webster, C. D., Hart, S. D., Eaves, D., & Ogloff, J. R. P. (2001). HCR-20 Violence Risk Management Companion Guide. Burnaby: Mental Health Law and Policy Institute, Simon Fraser University and Louis de la Parte Florida Mental Health Institute, University of South Florida.
24. Eher, R., Rettenberger, M., Schilling, F., & Pfäfflin, F. (2008). Failure of Static-99 and SORAG to Predict Relevant Reoffense Categories in Relevant Sexual Offender Subtypes: A Prospective Study. Sexual Offender Treatment, 3, 1-14.
25. Epperson, D. L., Kaul, J. D., & Hesselton, D. (1998). Final Report on the Development of the Minnesota Sex Offender Screening Tool-Revised (MnSOST-R). Paper Presented at the 17th Annual Conference of the Association for the Treatment of Sexual Abusers, Vancouver, Canada, October 1998.
26. Fleiss, J. L. (1981). Statistical Methods for Rates and Proportions (2nd ed.). New York: Wiley.
    Gigerenzer, G. (2008). Gut Feelings: Short Cuts to Better Decision Making. London: Penguin.
27. Grubin, D. (1998). Sex Offending Against Children: Understanding the Risk. Police Research Series, Paper 99. London: Home Office.
28. Hanley, J. A. & McNeil, B. J. (1982). The Meaning and Use of the Area Under a Receiver Operating Characteristic (ROC) Curve. Radiology, 143, 29-36.
29. Hanson, R. K. (1997). The Development of a Brief Actuarial Risk Scale for Sexual Offense Recidivism. (User Report No. 1997-04). Ottawa: Department of the Solicitor General of Canada.
30. Hanson, R. K. & Thornton, D. (2000). Improving Risk Assessment for Sex Offenders: A Comparison of Three Actuarial Scales. Law and Human Behavior, 24, 119-136.

31. Hanson, R. K. & Morton-Bourgon, K. (2004). Predictors of Sexual Recidivism: An Updated Meta-Analysis. (User Report No. 2004-02). Ottawa: Public Safety and Emergency Preparedness.
32. Hanson, R. K. & Morton-Bourgon, K. (2007). The Accuracy of Recidivism Risk Assessment for Sexual Offenders: A Meta-Analysis. (User Report No. 2007-01). Ottawa: Public Safety and Emergency Preparedness.
33. Hanson, R. K., Harris, A. J. R., Scott, T., & Helmus, L. (2007). Assessing the Risk of Sexual Offenders on Community Supervision: The Dynamic Supervision Project. (User Report No. 2007-05). Ottawa: Public Safety and Emergency Preparedness.
34. Hanson, R. K. (2009). The Psychological Assessment of Risk for Crime and Violence. Canadian Psychology, 50, 172-182.
35. Hanson, R. K. & Morton-Bourgon, K. (2009). The Accuracy of Recidivism Risk Assessments for Sexual Offenders: A Meta-Analysis of 118 Prediction Studies. Psychological Assessment, 21, 1-21.
36. Harris, G. T., Rice, M. E., Quinsey, V. L., Lalumière, M. L., Boer, D.P., & Lang, C. (2003). A Multisite Comparison of Actuarial Risk Instruments for Sex Offenders. Psychological Assessment, 15, 413-425.
37. Hart, S. D., Kropp, P. R., Laws, D. R., Klaver, J., Logan, C., & Watt, K. A. (2003). The Risk for Sexual Violence Protocol (RSVP): Structured Professional Guidelines for Assessing Risk of Sexual Violence. Burnaby: Mental Health, Law, and Policy Institute, Simon Fraser University.
38. Hart, S. D. & Boer, D. P. (2009). Structured Professional Judgement Guidelines for Sexual Violence Risk Assessment: The Sexual Violence Risk-20 (SVR-20) and Risk for Sexual Violence Protocol (RSVP). In R.K.Otto & K. S. Douglas (Eds.), Handbook of Violence Risk Assessment. Oxford: Routledge.
39. Hill, A., Habermann, N., Klusmann, D., Berner, W., & Briken, P. (2008). Criminal Recidivism in Sexual Homicide Perpetrators. International Journal of Offender Therapy and Comparative Criminology, 52, 5-20.
40. Hunsley, J. & Meyer, G. J. (2003). The Incremental Validity of Psychological Testing and Assessment: Conceptual, Methodological, and Statistical Issues. Psychological Assessment, 15, 446-455.
41. Jung, C. G. (1975). Über Grundlagen der analytischen Psychologie. Die Tavistock Lectures 1935 [About the Basic Principles of Analytical Psychology. The Tavistock Lectures 1935]. Frankfurt am Main: Fischer Taschenbuch Verlag.
42. Kropp, P. R., Hart, S. D., Webster, C. D., & Eaves, D. (1995). Manual for the Spousal Assault Risk Assessment Guide (2nd ed.). Vancouver: British Columbia Institute of Family Violence.
43. Krueger, J. (2007). Clinical and Structured Assessment of Sex Offenders. New York: New York State Division of Probation and Correctional Alternatives.
44. Lennings, C. J. (2003). The Use of the SVR-20 in a Forensic Sample: A Research Note. International Journal of Forensic Psychology, 1, 147-153.
45. Litwack, T. R. (2001). Actuarial versus Clinical Assessments of Dangerousness. Psychology, Public Policy, and Law, 7, 409-433.
46. Macpherson, G. J. D. (2003). Predicting Escalation in Sexually Violent Recidivism: Use of the SVR-20 and PCL: SV to Predict Outcome with Non-contact Recidivists and Contact Recidivists. Journal of Forensic Psychiatry & Psychology, 14, 615-627.
47. Mossmann, D. (1994). Assessing Predictions of Violence: Being Accurate About Accuracy. Journal of Consulting and Clinical Psychology, 62, 783-792.
48. Pérez Ramírez, M., Redondo Illescas, S., Martínez García, M., García Forero, C., & Andrés Pueyo, A. (2008). Predicción de riesgo de reincidencia en agresores sexuales. Psicothema, 20, 205-210.

49. Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. (2006). Violent Offenders: Appraising and Managing Risk (2nd ed.). Washington, DC: American Psychological Association.
50. Rettenberger, M., Matthes, A., Boer, D.P., & Eher, R. (2009). Prospective Actuarial Risk Assessment: A Comparison of Five Risk Assessment Instruments in Different Sexual Offender Subtypes. International Journal of Offender Therapy and Comparative Criminology. First published on January 23, 2009 as doi: 10.1177/0306624X08328755
51. Rettenberger, M. & Eher, R. (2009). Eine prospektive Längsschnittstudie über die Reliabilität und Validität des Sexual Violence Risk-20 (SVR-20) [A Prospective-longitudinal Study about the Reliability and Validity of the Sexual Violence Risk-20 (SVR-20)]. Poster Presented at the Annual Conference of the Deutsche Gesellschaft für Psychiatrie, Psychotherapie und Nervenheilkunde [German Association for Psychiatry, Psychotherapy, and Neurology], Berlin, Germany, November 2009.
52. Rice, M. E. & Harris, G. T. (1995). Violent Recidivism: Assessing Predictive Validity. Journal of Consulting and Clinical Psychology, 63, 737-748.
53. Seto, M. C. (2005). Is More Better? Combining Actuarial Risk Scales to Predict Recidivism Among Adult Sex Offenders. Psychological Assessment, 17, 156-167.
54. Sjöstedt, G. & Långstrom, N. (2003). Assessment of Risk for Criminal Recidivism Among Rapists: A Comparison of Four Different Measures. Psychology, Crime & Law, 8, 25-40.
55. Stadtland, C., Hollweg, M., Kleindienst, N., Dietl, J., Reich, U., & Nedopil, N. (2005). Risk Assessment and Prediction of Violent and Sexual Recidivism in Sex Offenders: Long-term Predictive Validity of Four Risk Assessment Instruments. Journal of Forensic Psychiatry and Psychology, 16, 92-108.
56. Thornton, D., Mann, R., Webster, S., Blud, L., Travers, R., Friendship, C. et al. (2003). Distinguishing and Combining Risks for Sexual and Violent Recidivism. In R. Prentky, E. Janus, M. Seto, & A. W. Burgess (Eds.), Annals of the New York Academy of Science: Vol. 989. Understanding and Managing Sexually Coercive Behavior (pp. 225-235). New York: New York Academy of Science.
57. Vogel, V. de, Ruiter, C. de, Beek, D. van, & Mead, G. (2004). Predictive Validity of the SVR-20 and Static-99 in a Dutch Sample of Treated Sex Offenders. Law and Human Behavior, 28, 235-251.
58. Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). HCR-20: Assessing Risk for Violence, Version 2. Burnaby: Simon Fraser University.

Acknowledgement

The authors want to thank Stephen D. Hart for his important help on an earlier version of the draft of the present article.

Footnotes

[1] Indeed, there is a long tradition of research about the fascinating properties of intuition in the human decision-making process from the beginning of psychoanalysis (e.g. Jung, 1975) until the modern cognitive psychology (e.g. Gigerenzer, 2008). In contrast, in the field of Forensic Psychology an intuitive decision-making process is virtually useless because of a relatively small number of correct predictions; therefore, this approach cannot be called professional' (Hanson, 2009).

[2] Because not all ARAIs are empirically determined, Hanson and Morton-Bourgon (2007) divided ARAIs again into 'empirical actuarial approach' and 'conceptual actuarial approach'.

[3] On the other hand, we have to point out, that ARAIs can be also useful in applied risk assessment settings. For example, ARAIs can be used as base rate estimation instruments at the beginning of an elaborative and comprehensive risk assessment process or they can be used as screening tools, in order to guarantee a risk-related distribution of resources. However, like in any other case of psychological and psychiatric diagnosis and measurement, the user has to know the boundaries and limitations of her or his method (e.g. Eher, Rettenberger, Schilling, & Pfäfflin, 2008).

[4] Hart and Boer (2009) stated that the SVR-20 is together with the more recently developed *Risk for Sexual Violence Protocol* (RSVP; Hart et al., 2003) very popular in wide use internationally. More than 5,000 copies of the original English editions of the SVR-20 and the RSVP have been distributed, and authorized translations are available in several languages including Dutch, French, German, Norwegian, Spanish, and Swedish.

[5] According to a survey conducted by Archer, Buffington-Vollum, Stredny, and Handel (2006) about the psychological test use patterns among forensic psychologists, the STATIC-99 and the SVR-20 are the most widely used measures with adult sexual offenders.

[6] However, as already mentioned other authors have criticized that there is still a lack of validation studies about the SVR-20 (e.g. Craig et al., 2008; Andrews & Bonta, 2006).

[7] For example, Stephen D. Hart and Christopher D. Webster were also involved in developing the *Historical, Clinical, and Risk-20* (HCR-20; Webster, Douglas, Eaves, & Hart, 1997). The HCR-20 is a 20-item SPJ instrument to assess the risk for future violent behavior in forensic psychiatric, civil psychiatric, and prison institutional and community settings. Furthermore, the authors developed another widely used SPJ, the *Spousal Assault Risk Assessment Guide* (SARA; Kropp, Hart, Webster, & Eaves, 1995) which helps criminal justice professionals predicting the likelihood of domestic violence.

[8] Following Fleiss (1981), Hart and Boer (2009) interpreted single-rater intraclass correlation coefficients (ICC) as follows: ICC < .39 = poor, .40 to .59 = fair, .50 to .74 = good, and ICC > .75 = excellent.

[9] Because of a number of methodologically and statistically advantages (e.g. Seto, 2005; Rice & Harris, 1995; Mossmann, 1994), for examination of the predictive validity researchers are using usually the so-called *Area Under Curve* (AUC) of the *Receiver Operating Characteristics* (ROC; Hanley & McNeil, 1982). Referring to Cohen (1992), Dahle, Schneider, and Ziethen (2007) formulated the following criteria for the classification of the predictive accuracy of risk assessment tools: AUC values of .72 or above ($r \geq .37$) are classified as "good" and AUC values between .64 and .71 ($r \geq .24$) are classified as "moderate". Significant AUC values that are below the value of .64 ($r < .24$) are classified as "small". For the interpretation of predictive validity indices see also Bengtson and Långström (2007) and Douglas, Webster, Hart, Eaves, and Ogloff (2001).

[10] However, some results of the research studies conducted by R. Karl Hanson's and his colleagues indicate the opposite conclusion (e.g. Hanson, Harris, Scott, & Helmus, 2007).

[11] Because the SPJ approach has been generally based on literature research, all SPJ guidelines should be revised regularly or at least in the event of major advances in the forensic field. For example, Boer (2009) stated that the maximum time between revisions should be about ten years.

[12] A convergent approach will be also recommended in the revised version of the SVR-20 manual

(Boer, 2009).

[13] One the one hand, there are researchers who assume that ARAIs clearly exceed clinical risk assessment approaches (e.g. Quinsey et al., 2006). On the other hand, some authors stated that there is no evidence for the superiority of one type of risk assessment approach over the other until now (e.g. Douglas, Cox, & Webster, 1999). However, users have to consider that most of the studies indicating that actuarial measures outperform clinical judgement show important methodological limitations concerning the definition of what is a clinical prediction approach (Dahle, 2005). Irrespective of the academic debate of what works better, it is of relatively unimportant nature to clinical practice where evaluators have to use what is suggested as best practice (Boer, 2006).

Author address

Dipl.-Psych. Dr. biol. hum. Martin Rettenberger
Federal Evaluation Centre for Violent and Sexual Offenders
Austrian Prison System
Gerichtsgasse 6
A-1210 Vienna
Austria
Phone: ++43 1 27 85 300 31
Fax: ++43 1 27 85 300 32
martin.rettenberger@justiz.gv.at