Assessing risk change in sexual offender treatment using the Violence Risk Scale - sexual offender version: a brief overview

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Abstract

The Violence Risk Scale - Sexual Offender Version (VRS-SO) was developed to assess sexual offending risk, identify treatment targets and measure treatment changes using a combination of static and dynamic risk factors. Treatment change is assessed using a rubric based on a modified Stage of Change model for each dynamic factor identified as a treatment target. We provide a brief overview of the VRS-SO and review the research evidence showing that treatment changes assessed with the tool were associated prospectively with expected changes in sexual and violent recidivism in the community. The VRS-SO dynamic factors fulfil the requirements of what is termed causal risk factors, that is, a causal link has been demonstrated between the dynamic factors and prospectively assessed recidivism (Kraemer et al., 1997).

Key words: sexual offender, risk assessment, treatment change, dynamic risk, risk prediction

The assessment, prediction and treatment of sexual violence have important implications for the public health, the forensic mental health and the criminal justice systems as well as in research and clinical practice. Accurate identification of high risk sexual offenders together with the successful treatment and management to lower their reoffending risk can reduce sexual victimization, promote safer communities together with the reduction of the associated human and system costs. Treatment is about making changes which should be assessed reliably and systematically to ensure that the observed changes are meaningful and can lead to subsequent reduction in sexual reoffending. While there is a choice of many assessment tools that can be used to predict sexual violent risk and reoffending, research to develop tools to assess risk changes lacks behind.

Many sexual offender assessment tools consist of only static or historical risk factors, such as criminal history, while others have both static and dynamic factors such as attitudes and beliefs. Static factors cannot measure risk change. Dynamic or changeable risk factors are necessary but not sufficient to assess risk changes that are linked to changes in reoffending. Without the empirical evidence to show that changes in certain dynamic factors are associated prospectively with changes in reoffending, such dynamic factors can only be regarded as factors that can change or can be changed - what Kraemer, Kazdin, Offord, Kessler, Jensen, and Kupfer (1997) termed variable risk factors. Variable risk factors are those with the potential of being linked to changes in the criterion variable, in this case, sexual reoffending, but no such empirical evidence is available. As such, changes in the variable risk factors, even if demonstrated in a treatment programme, do not provide sufficient evidence that the observed changes *will likely or necessarily* lead to the subsequent reduction in reoffending. On the other hand, casual risk factors (CRFs, Kraemer et al., 1997), are variable risk factors that can be manipulated, for example through treatment, and there is empirical evidence that their reduction (treatment improvements) have been linked prospectively to

the reduction in reoffending. Kraemer et al. (1997) discussed in detail the necessary and sufficient conditions for a risk factor to be deemed a CRF. If CRFs are used in sexual offenders risk assessment and treatment, and if the expected CRFs changes are observed, then there is evidence to suggest that the observed changes should likely lead to reductions in sexual recidivism.

In the literature, the term dynamic risk factors or predictors are generally used to indicate variable or conceptually changeable risk factors without making the clear distinction if evidence is available to show that the requirements of CRF have been met. In this paper, a brief description of the Violence Risk Scale-sexual offender version (VRS-SO; Wong, Olver, Nichlaichuk & Gordon, 2003; Olver, Wong, Nicholaichuk & Gordon, 2007) and a review of the evidence that support the CRF characteristics of the dynamic factors in the VRS-SO are provided.

The VRS-SO was developed using a framework similar to the Violence Risk Scale (Wong & Gordon, 2006) to assist service providers who work with sexual offenders to integrate risk assessment and risk reduction treatment (see Wong, Gordon & Gu, 2007). Assessments using the VRS-SO can inform service providers of "who" to treat by identifying higher risk/need treatment candidates, "what" to treat by identifying CRFs as treatment targets, and "how" to treat by identifying appropriate therapeutic approaches using a modified Stages of Change (SOC) model (Prochaska, Diclemente, & Norcross, 1992). The VRS-SO also uses the modified SOC model to measure "how much" changes in risks have occurred as a result of treatment. The VRS-SO is theoretically underpinned by the Psychology of Criminal Conduct (PCC; see Andrews & Bonta, 2006, 2010), the principles of effective correctional treatment, relapse prevention (RP) theory (Pithers, 1993; Ward & Hudson, 1998), and the Transtheoretical Model of Change.

The VRS-SO Static and Dynamic Items

The VRS-SO has 7 static and 17 dynamic variables (see Table 1 for a listing of items with brief item descriptions). The static variables were identified empirically based on their predictive efficacy for sexual recidivism and, the dynamic variables, after a careful review of the relevant theoretical and empirical literature. Each variable is rated on a four-point scale (0, 1, 2, 3). Higher ratings generally indicate that the variable is more closely linked to inappropriate sexual or nonsexual behaviors; the dynamic risk factors rated 2 or 3 can be considered as treatment targets. The sum of the ratings of the static and dynamic variables provides an overall measure of risk of sexual offending.

Table 1: VRS-SO Static and Dynamic Items and Brief Item Descriptions (Adapted from Olver & Wong (2011) with permission)

Static Items
S1 Age at release: < age 25; 25-34; 35-44; 45 years and up
S2 Age at first sex offense: < age 20; 20-24; 25-34; 35 and up
S3 Sex offender type: Mixed offender; child molester; rapist; incest offender
S4 Prior sex offenses: 4 or more prior sexual charges/convictions; 2-3 prior; 1 prior; 0 prior
S5 Unrelated victims: 4 or more unrelated victims; 2-3 unrelated; 1 unrelated; 0 unrelated (all related)
S6 Victim gender: 2+ male victims; 1 male and 1 female/or 2+ female; 1 male victim only; 1 female victim only

S7 Prior sentencing dates: 11+ prior sentencing dates; 5-10 prior; 2-4 prior; 0-1 prior

Dynamic Items

D1 Sexually deviant lifestyle: Lifestyle hobbies, interests, work, or relationships involve sexually deviant behaviors

D2 Sexual compulsivity: Strong sex drive and high frequency of sexual behavior and cognitions

D3 Offense planning: Victim grooming and premeditation involved in sexual offending

D4 Criminal personality: Interpersonal and emotional attributes conducive to criminal behavior (e.g., lack of remorse)

D5 Cognitive distortions: Attitudes and distorted thinking supportive of sexual offending

D6 Interpersonal aggression: Physically and/or verbally aggressive behavior in interpersonal interactions

D7 Emotional control: Tendency to overcontrol or undercontrol emotions linked to sexual offending

D8 Insight: Poor understanding of causes of sexual offending and unwillingness to discuss/explore sexual offending

D9 Substance abuse: Substance use problems linked specifically to sexual offending

D10 Community support: Lack of positive support people, services, or plans in community (or unwilling to use)

D11 Released to HRS: Offender seems likely or has shown pattern of returning to situations linked to sex offending

D12 Sexual offending cycle: Pattern of interpersonal, situational, and personal factors linked to sexual offending

D13 Impulsivity: Behavior displays tendency to "act first, think later" and lacks reflection or forethought

D14 Compliance with community supervision: Poor attitude and/or cooperation with community supervision

D15 Treatment compliance: Poor attitude and/or cooperation with sex offender treatment

D16 Deviant sexual preference: Interests or preferences for deviant sexual stimuli or behaviors (e.g., children, violence)

D17 Intimacy deficits: Incapacity to form or maintain adult romantic relationships

*All items are rated on a four-point (3, 2, 1, 0) scale. Item descriptions are abbreviated examples of the originals and are not intended to be used for clinical or research purposes. Please consult the VRS-SO rating manual (Wong, Olver, Nicholaichuk, & Gordon, 2003) for more detailed item descriptions, stages of change ratings, and scoring instructions.

The VRS-SO uses a rubric based on a modified SOC model to assess the individual's readiness for treatment and treatment change. Dynamic variables identified as treatment targets (i.e., rated 2 or 3) are also rated to determine the SOC (readiness for treatment) evidenced by the individual. The five stages of change are *Precontemplation, Contemplation, Preparation, Action and Maintenance.* Those in the Precontemplation stage have neither insight nor intention to change in the foreseeable future. They are often in denial and externalize blame. Those in the Contemplation stage

acknowledge their problems but have shown no relevant behavioral change: all talk, no walk. Those in the Preparation stage have intentions to change but the relevant behavioral changes tend to be quite recent and/or unstable. Those in the Action stage actively and consistently modify their behaviors, attitudes, and environment to address their problems; overt behavioral changes are made, commitments followed through, and energies expended to change. In the Maintenance stage, relapse prevention techniques are used to consolidate, strengthen and generalize the gains made in the Action stage.

Treatment change is quantitatively measured using the SOC by comparing the stages of change rating for each dynamic item at pre-treatment to that at post-treatment. Advancing from one stage of change to the next on a given item is an indication of positive change, and hence, risk reduction. All treatment targets, that is, dynamic items rated 2 or 3, are given a stages of change baseline rating at pre-treatment to assess the individual's motivation and readiness for change. Dynamic items that are not treatment targets, that is, those rated 0 or 1, generally require no stages of change rating. The stages of change are then re-rated at post-treatment on all dynamic items identified as treatment targets. Progression from one stage to the next stage is scored as a 0.5 point reduction in the pre-treatment rating of the item, progression in two stages, 1.0 point reduction and so on. This is repeated for each dynamic item identified as a treatment target. The total point deductions for each dynamic item at post-treatment are summed across all 17 dynamic items to arrive at a total change score reflecting the total amount of change. The total change score is subtracted from the total pre-treatment dynamic ratings to obtain the total post-treatment dynamic ratings, which, when added to the total Static score, is the total post-treatment risk ratings.

Research Linking Treatment Changes to Changes in Sexual and Violent Reoffending

Research has examined the dynamic validity of the VRS-SO, that is, the extent to which risk related changes measured by this tool following sex offender treatment are associated with reductions in sexual or violent recidivism upon community release. The first validation study examined the validity and reliability of the VRS-SO in an archival investigation on a sample of 321 sex offenders who attended a high intensity CBT-based sex offender treatment program, the Clearwater Program, in Saskatoon, Saskatchewan, Canada (Olver, Wong, Nicholaichuk, & Gordon, 2007). Using the Stages of Change rubric described above, the VRS-SO was rated pre- and posttreatment on each patient and the men were followed up an average of 10 years post-release. Overall, the men made significant pre-posttreatment changes on the VRS-SO, indicating some form of risk reduction. Importantly, however, VRS-SO change scores were significantly associated with reductions in sexual recidivism after controlling for pretreatment risk level. Treatment changes were also associated with reductions in recidivism among higher risk, as opposed to lower risk, offenders. Subsequent analyses have extended and supported this line of research. Olver and Wong (2009) further found that treatment changes captured by the VRS-SO in this treated Clearwater sample also predicted reductions in sexual and violent (including sexual) recidivism after controlling for Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) score. Moreover, among high psychopathy scorers (PCL-R ≥ 25), VRS-SO change scores were significantly associated with decreases in violent recidivism; that is, even among psychopathic offenders, risk changes operationalized through the VRS-SO were associated with reduced recidivism. Finally, Olver and Wong (2011) compared high and low scorers on the Static-99 who made different amounts of change (assessed via the VRS-SO) on their success upon release. Among the men scoring medium-high (4 or 5) or high (6-12) on the Static-99 (Hanson & Thornton, 1999), those who scored above the mean on the amount of treatment change they made had significantly lower rates of sexual recidivism (27%), than men with high Static 99 scores who scored below the mean on

treatment change (43%) (see Figure 1). Despite having identical mean Static-99 scores, approximately 5.5 points on average, men who evidenced substantive treatment changes had significantly lower rates of sexual recidivism than those who made few gains.
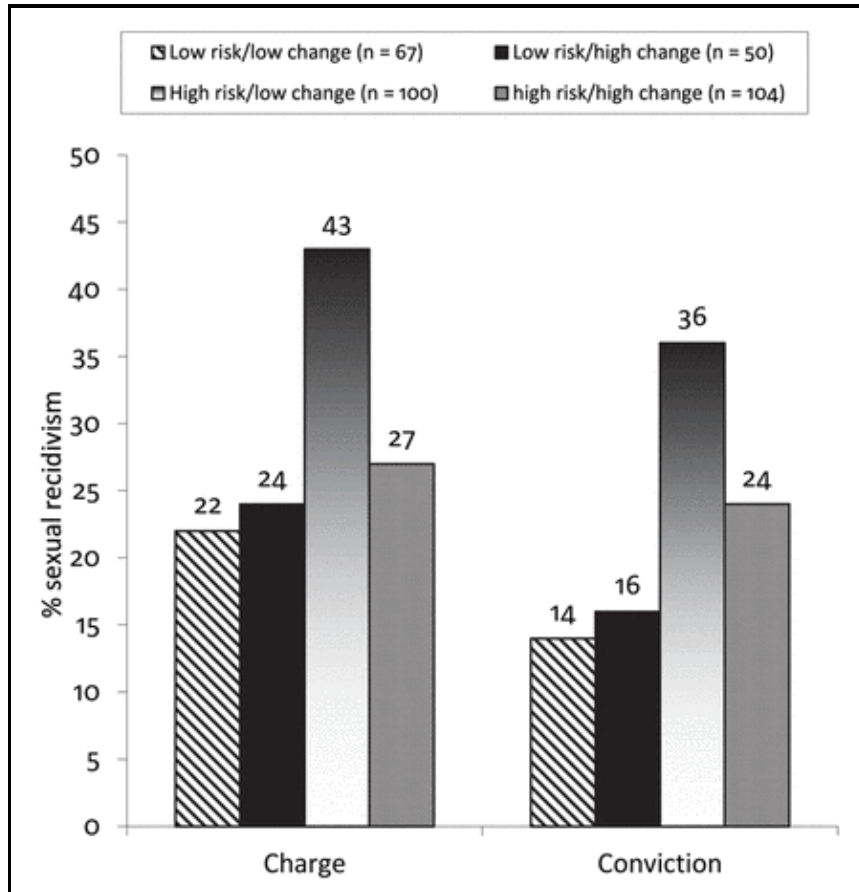

Figure 1: Rates of sexual recidivism as a function of change and actuarial risk level (Adapted from Olver & Wong (2011) with permission)

Beggs and Grace (2010, 2011) conducted a subsequent validation of the VRS-SO on a sample of 218 child molesters who attended treatment services at the Kia Marama Sex Offender Treatment Programme in the New Zealand Department of Corrections. As with Olver et al. (2007), this was also an archival investigation and the men were rated pre and posttreatment on the VRS-SO using comprehensive institutional file information and followed up an average of 12 years in the community post-release. The men also made significant pre-posttreatment changes on the VRS-SO and change scores were significantly associated with reductions in sexual reconviction after controlling for pretreatment risk level and the Static-99.

Discussion

While there is an assortment of valid and reliable risk assessment tools with both static and variable risk factors that can be used to predict sexual reoffending, research on establishing causal risk factors to assess risk change as a function of sexual offending treatment is still relatively under-developed. Many decisions on the disposition and management of sexual offenders in custody or in the community, nonetheless, are often based almost exclusively on assessing the offender's risk changes or lack thereof over time or post treatment such as among civilly committed sexual offenders. The VRS-SO can be used to fill this gap. We have provided evidence to indicate that the VRS-SO risk factors fulfilled the requirements of casual risk factors, that is, changes of the VRS-SO risk factors manipulated through sexual offender treatment were associated with the reduction in sexual and violent reoffending.

There are, in addition, several practical clinical implications from these findings. First, the results demonstrate that treatment changes made among higher risk offenders are more informative and predictive, compared to lower risk offenders, who would remain low risk regardless of the amount of change they may make, a floor effect. Secondly, the results underscore the dynamic nature of risk. Not only can risk change (for better or worse), but valid and structured assessments of change can be made and that the use of dynamic tools is extremely important, particularly among those who are expected to make some changes such as after participating in sex offender treatment interventions. Finally, we would argue that the risk changes captured by the VRS-SO are of both statistical and clinical relevance. The men in these samples made on average approximately one third to one half of a standard deviation of change. Those who made substantive (e.g., above average) risk-related changes, particularly those individuals who were higher risk to start with, had lower rates of sexual and violent recidivism, and thus fewer victims, when released. Further research efforts are ongoing to replicate and extend these findings supporting the VRS-SO as a dynamic sex offender risk assessment tool that can validly and reliably capture risk-related changes from treatment or other change agents.

The VRS-SO also has relevance to legal proceedings at the presentence stage. Because the tool can identify not only levels of risk, but the sources of that risk, VRS-SO assessments can be used to inform the judiciary on how best to manage the offender including the provision of treatment to address the risk. Appropriately targeted treatment has been repeatedly associated with reductions in sexual and non-sexual violent recidivism. While the implications for public safety are obvious, effective risk reduction focused interventions can also provide a significant cost reduction in managing some high risk offenders because some of them could be placed safely in non-institutional settings after treatment (see Nicholaichuk, Olver, Gu, & Takahashi, 2012b).

The VRS-SO also has relevance for the judicial review of civilly committed offenders many of whom have been held in custody for an extended period of time; some for decades. There is now quite robust evidence showing an inverse association of age and recidivism for general (Gendreau, Little, & Goggin, 1996), violent (Bonta, Law, & Hanson, 1998), and sexual (Hanson & Bussière, 1998; Nicholaichuk, Olver, Gu, & Wong, 2012a) recidivism. Civilly committed offenders who have had extended periods of institutionalization should have their risk re-assessed with a dynamic risk assessment tool, such as the VRS-SO, to determine if the original presenting risk has changed with the many physical, psychological and behavioural changes associated with aging. Few have been found to be immune to the ravaging effects of ageing in custody (cf. Nicholaichuk, et al. 2012b).

The research evidence presented were based on a sample of medium and high risk sexual offenders treated in an institutional based sexual offender treatment programme and independently validated with a sample of child molesters both of which were rated based on file information alone. More recent evidence obtained based on data collected by practitioners (mainly psychologists) involved in the treatment of sexual offenders in correctional institutions in a prospective follow up

design support the earlier findings (Nicholaichuk et al., 2012a). Overall, the research evidence indicates that the dynamic risk factors of VRS-SO, as a group, have the required CRF characteristics set forth by Kraemer et al. (1997). Changes in treatment measured using the VRS-SO should likely result in the predicted changes in sexual recidivism.

Limitations and future directions

Without the random assignment of the participants to a treated and a no-treatment control group, it is not possible to attribute unambiguously the changes measured by the VRS-SO to treatment per se. However, given the relatively short treatment duration (6-8 months) in a custodial environment, it is not likely that aging or some other change agent is the cause. Future research should include the appropriate control to rule out these possibilities.

Research to determine which causal risk variables are most impacted by treatment in what type of sex offender would serve to improve on the efficacy of treatment by targeting the most relevant CRFs for treatment.

Author note

The views presented are that of the authors and do not represent that of any of the affiliated organizations.

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