

The Violence Risk Scale[©]

A brief introduction

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The Violence Risk Scale - VRS

Risk assessment and prediction have become an important part of forensic practice for many psychologists and non-psychologist practitioners. For those of us involved in providing treatment services to forensic clients, such as interventions to reduce the risk of violence (see Wong, Gordon & Gu, 2007; Wong & Hare, 2005), we need assessment tools that can help us make treatment as well as risk assessment and prediction decisions. In short, assessment and treatment should be closely integrated and not separate activities. The results of the assessment should inform the client's risk level and the treatment targets or criminogenic needs; the results of treatment should inform the amount of treatment change and the level of post-treatment risk. We started developing the Violent Risk Scale (VRS; Wong & Gordon, 2000-3) some years ago as we felt an instrument was needed that:

1. Adheres to the Risk, Need & Responsivity principles of forensic assessment and treatment;
2. Can assess quantitatively the risk of violent offending, not just general offending;
3. Can identify treatment targets and the client's strengths;
4. Can assess the client's readiness for treatment;
5. Can assess the progress of treatment;
6. Can assess quantitatively the risk after treatment.

One of the main objectives of the VRS is to assess the risk of violence for those who are being considered for release from a custodial institution to the community.

Using Dynamic Variables to Assess Change in Risk

A person's risk for violence can change, for example, after participating in effective treatment programs. A tool that assesses the risk of violence also should be able to detect changes in risk with treatment in order for it to be useful. The VRS was developed based on the notion that to provide a comprehensive evaluation of an individual's risk for violent recidivism and changes in risk during treatment, it is necessary to assess both static and dynamic risk variables. The VRS uses 6 Static and 20 Dynamic variables derived from an extensive review of the risk assessment and treatment literature to identify variables that are empirically or theoretically linked to violence. The static and dynamic variables used in the VRS are also useful in assisting the practitioner in case conceptualization and management. The static variables, such as offense history, are important predictors of recidivism, but remain unchanged regardless of treatment interventions. Dynamic variables, such as interpersonal aggression or emotional control, are also important risk predictors. Unlike static variables, dynamic variables are changeable and, therefore, can be relevant targets for treatment and can reflect changes in risk. The VRS Dynamic and Static variables are rated on a 4-point scale (0, 1, 2 or 3); higher ratings indicate the variables in question are closely linked to violence in the client's lifetime functioning. The sum of the Static and Dynamic variable scores reflects the client's level of violence risk; the higher the score, the higher the risk. Those with high VRS scores should be at high risk to recidivate violently and, as such, are appropriate candidates for high intensity intervention - the **Risk Principle**. Dynamic variables that are rated 2 or 3 are significant violence/criminogenic risk markers for the client and are appropriate targets for treatment to reduce violent recidivism- the **Need Principle**. Risk variables rated "0" are the client's areas of strength. A Clinical Override is also provided to accommodate exceptional situations not captured by the VRS risk variables.

Measuring Treatment Change and Change in Risk

The VRS uses a staff rated metric derived from a modified Transtheoretical Model of Change (Prochaska, DeClemente & Norcross, 1992) to assess the individual's treatment readiness and changes

in risk during treatment. The Transtheoretical Model, which is supported by extensive research evidence, posits that, regardless of the therapist's treatment orientation, clients tend to progress through a number of stages in making changes: the pre-contemplation, contemplation, preparation, action, and maintenance stages. Progression from one stage to a subsequent stage is an indication of increased motivation and commitment to change resulting in improvements in the targeted behaviors. Each of these stages has been operationalized in the VRS to delineate the typical behaviors that characterize the stages for each of the dynamic risk predictors. Hence, the VRS uses the behavioral indications of the client's progress through the stages of change as a quantitative measure of the reduction in risk.

Progression from any one stage to the next stage is translated into a .5-point reduction in the pre-treatment risk rating, progression through 2 stages, a 1-point reduction, and, progression through 3 stages, the maximum progression, a 1.5 reduction. For example, a client who started treatment at the preparation stage and ended up at the maintenance stage post-treatment would have progressed through 2 stages and would obtain a reduction in risk of 1 point (.5x2). For every dynamic risk variable targeted for treatment, the pre-treatment risk rating minus the change score is the post-treatment risk rating for that dynamic variable. At the end of treatment, the post treatment risk is the total post-treatment dynamic variable scores plus the total static variable score; the latter should remain unchanged.

Matching Treatment Strategy to Treatment Readiness

As well, according to the Transtheoretical Model of Change (Prochaska, DeClemente & Norcross, 1992), treatment intervention should match the client's prototypical behaviors at each stage of change. Treatment that does not match the client's stage of change or treatment readiness is less effective or even harmful to the client- the **Responsivity Principle**. For example, clients who are in the pre-contemplation stage are characterized by denial and rationalization, and interventions such as motivational interviewing and building therapeutic alliances are key to address the client's needs. Intensive skills training, although appropriate for action stage clients, would not be appropriate for those in the pre-contemplation stage of change. By assessing the client's stages of change using the VRS, the therapist can select the most appropriate treatment strategy that would maximize treatment efficacy.

Administration of the VRS

Rating of the VRS variables, the stages of change and the computation of risk scores are provided in detail in the VRS manual (Wong & Gordon, 2001-4). A semi-structured interview guide is also included. A 2-day training session is required for those who wish to use the VRS for clinical purposes.

Research Results on the VRS

The VRS has been used to assess incarcerated and community released criminal offenders and hospitalized forensic mentally disordered patients in various studies (see the *List of References* document on one of our web pages). A brief summary of the results of the normative validation study of the VRS is given below. The study is based on a sample of 918 (unless otherwise indicated) male federal offenders in Canada (see Wong & Gordon, 2006 for details). The mean age of the offenders at release was 34.40 (sd= 9.46) and were followed up for a mean of 4.40 (sd=3.53) years using the Canadian Police Information Centre database (verified by fingerprinting) to determine criminal re-convictions. Good internal consistencies (Cronbach alpha .93; n=577) and interrater reliability of .92-.97 (Intraclass correlations, ICC; n=45) were obtained. Correlations with the Psychopathy Checklist-Revised (.83, n=809), General Statistical Information for Recidivism (GSIR; -.63, n=935) and the Level of Supervision Inventory (LSI-R; .82, n=60) were all highly significant (p<.001) and in the expected directions.

Pearson correlations of the VRS total score with violent and non-violent recidivism within a 1-year window of release were .28 and .33 respectively; within a 2-year window, .35 and .36 respectively, and within a 3-year window, .35 and .37 respectively. All correlations are significant at $p < .0001$.

A high, a medium and a low VRS ratings group were identified based on the VRS total (26-item) score. The medium group consisted of individuals whose scores (>35 and ≤ 50) were approximately $\pm .5$ sd of the sample mean. The high and the low groups consisted of those with VRS scores higher or lower than the medium group respectively. Survival analyses were used to compare the high, medium and low groups with respect to violent, non-violent and all criminal re-convictions using the Wilcoxon Gehan statistic. The overall model and all between group comparisons for all three measures of re-convictions were significant at the .0001 level.

Computation of the area under the curve (AUC) for the Receiver Operating Characteristics (ROC) analysis reflects prediction accuracy of an instrument independent of the base rate of occurrence of the outcome. The AUCs for the VRS for violent and non-violent re-convictions for all offenders with a 1-year follow up ($n=847$) were .73, .71 respectively, with a 2-year follow up ($n=758$), .74 and .71 respectively, and with a 3-year follow up ($n=571$), .72 and .71 respectively. All AUCs are significant ($p < .0001$).

In a sample of offenders at the Regional Psychiatric Centre, Canada, who received treatment in a program for violent offenders ($n=152$), the relationships of VRS scores to violent re-convictions after released from custody to the community were assessed (Lewis, Olver & Wong, under review). In a logistic regression analysis where the post-treatment risk level was controlled for, the VRS change scores continued to show a significant relationship to violent re-convictions. In short, the decrease in risk as a function of treatment, assessed using the VRS Stage of Change model, was significantly related to a reduction in violent recidivism.

Results of a recent study (Stewart, unpublished data) using 101 female offenders in the Correctional Service of Canada has shown that the VRS total scores predict recidivism at a highly significant level ($AUC > .80$) when the women were followed up on released to the community.

A summary of the key characteristics of the VRS:

The VRS

1. is designed based on the risk, need and responsivity principles. It is intended for use by researchers and practitioners to assess and predict the risk of violence, to measure changes in risk after treatment, and to make treatment decisions. The VRS allows the practitioner to exercise reasonable clinical discretion while maintaining structure and scientific rigor.
2. provides a quantitative measure of the risk of violent recidivism of forensic clients, in particular, those who are to be released from an institution to the community;
3. uses both static and dynamic variables that are empirically or theoretically linked to violence to assess and predict violence;
4. identifies treatment targets linked to violence; dynamic variables that receive high ratings (rated 2 or 3) are considered relevant treatment targets;
5. uses the foundation of a well established Transtheoretical Model of Change to assess change as a function of treatment;

6. identifies the client's stages of change (treatment readiness) which informs the service deliverer of therapeutic approaches that will maximize treatment efficacy;
7. links changes in treatment to changes in risk;
8. allows service deliverers to assess pre- and post-treatment risk levels;
9. is informative to those involved in risk management in the community;
10. is gender and race neutral in its application.

A sex offender version of the VRS also has been developed. The Violence Risk Scale-Sex Offender Version (VRS-SO) is organized in exactly the same format as the VRS. The rationale for the development, organization and rating instructions, etc. for the VRS also apply to the VRS-SO. The VRS:SO incorporates static and dynamic variables specifically relevant to sexual offending such as sexual deviancy, sexual compulsivity, offence planning etc. Research results also indicate that the VRS-SO has good psychometric properties similar to that of the VRS (see the *List of References* document on one of our web pages). A VRS-Youth Version (VRS-YV) has also been developed.