Violence Risk Scale-Sexual Offense Version (VRS-SO): Users' Workbook

Mark Olver, Sharon Kelley, Letitia Johnson, and Stephen Wong

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Acknowledgements

Populations for use

The VRS-SO is intended for use with adult male sexual offenders, age 18 and above. Normative samples include real human victims, primarily contact and some non-contact. The samples are treated incarcerated men convicted for sexual offenses.

- The VRS-SO can be used with men who committed non-contact or hands-off offenses (e.g., exhibitionism). For men who are charged **only** with child pornography (C-P) related offenses, we recommend the following: 1) At present do not use the calculator to generate absolute recidivism estimates, given the recidivism base rates tend to be considerably lower for people with exclusive C-P offending; 2) Until further validation research has been conducted, we recommend using the dynamic items only. Score tallies can be generated and used to identify the individual's percentile rank (i.e., their level of riskiness relative to other contact sexual offenders in the sample) and the items can be used to identify treatment targets. A Common Language (CL) for the dynamic item total scores can be used, as this also informs management, treatment, and supervision intensity. However, the risk levels should not be linked to recidivism estimates from the normative sample.

- Using the VRS-SO with men whose only sexual offenses occurred as a juvenile is potentially problematic as the norms have only a few such individuals and research indicates most juveniles do not go on to sexually re-offend once reaching adulthood. In some circumstances, the use of the VRS-SO may be warranted: i) Men who sexually offended just prior to adulthood and whose offense(s) demonstrate an enduring predatory pattern, and ii) Men adjudicated for a nonsexual offense as an adult, but with adjudicated sexual offenses as a youth, which indicates they have not desisted from adult offending more broadly. The use of the VRS-SO for clinical purposes would be appropriate for both of these scenarios. Users may use cautious discretion in determining whether to use the calculator since the absolute recidivism rates have not yet been validated with this population.

- The VRS-SO can be used with older men who have sexually offended. Validation research within the normative sample has demonstrated that the VRS-SO has good predictive accuracy for sexual recidivism among men age 60+, and that age at release is not incrementally predictive of sexual recidivism after accounting for individual differences on static (Static-99R or VRS-SO) and VRS-SO dynamic risk factors.

- The VRS-SO can be used with institutional and community samples. There are two types of community samples, those who were released from a secure setting (e.g., prison) and those who remained in the community following a sanction for a sex offense (e.g., placed on probation), but had not been incarcerated. The use of the VRS-SO for clinical purposes would be appropriate for both types of community samples. However, there is a stronger empirical basis for using the calculator with the former type of community sample as opposed to the latter.

- The VRS-SO can be used with either treated or untreated cases. In these instances, the tool can be used to provide an initial assessment with an untreated case or repeated measures assessment with a case undergoing treatment or continued monitoring/supervision. The use of the tool in this manner is elaborated upon in further detail in the next section.

- The VRS-SO can be used with individuals who have histories of sex offenses and major mental illness (SOMMI). How professionals employ the VRS-SO may differ based on the type of SOMMI case. For those individuals who do not demonstrate an exacerbation of dynamic risk factors in general as a result of psychiatric decompensation, administration of the VRS-SO can be done in a straightforward manner. However, other individuals could show marked differences in the manifestation of their dynamic risk factors depending on whether they are psychiatrically stable or not. For these individuals, two ratings of the VRS-SO dynamic items can be made to reflect their best and worst psychiatric presentations respectively. The range of the two ratings would inform their risk management and treatment needs that can vary between the two presentations. As such, the VRS-SO items would likely best capture their treatment and risk management needs if they are provided two ratings representing the rating at the individual's best psychiatric baseline and worst psychiatric baseline with the range communicating their dimensional risk/needs between these two presentations.

About the Samples

These norms were generated from four samples described below. The percentile ranks and recidivism norms are based on a combined sample of 913 treated sexual men convicted for sexual offenses with complete pre and posttreatment VRS-SO scores and a minimum of 10 years follow-up.

Sample 1. Clearwater Sex Offender Treatment Program, Regional Psychiatric Centre (Olver, Wong, Nicholaichuk, & Gordon, 2007). Mixed sample of 314 men who attended the Clearwater High Intensity Sex Offender Program (8-9 months in duration, 420-480 hours) from 1983 to 1997. Archival VRS-SO and Static-99R ratings were completed pre- and posttreatment from institutional file information.

Sample 2. Kia Marama Special Treatment Unit, New Zealand Department of Corrections (Beggs & Grace, 2010, 2011). Consists of 187 men sentenced for intrafamilial (56.4%) and extrafamilial (43.6%) child sexual offenses who participated in the Kia Marama Special Treatment Unit, a moderate to high intensity (300-hour) program, in Rolleston Prison, New Zealand, between 1993 and 2000. Pre and posttreatment ratings were archival and made from comprehensive institutional file information.

Sample 3. National Sex Offender Program, Correctional Service of Canada (Olver, Nicholaichuk, Kingston, & Wong, 2014). A sample of 307 treated men who attended sexual offense treatment services between 2000 and 2008 through one of the low (2-4 months, 40-48 hours), moderate (4-5 months, 200-224 hours), or high (8-9 months, 420-480 hours) intensity programs operated by the Correctional Service of Canada's National Sex Offender Program, including participants from the Clearwater Program. These were prospective ratings made by service providers using the VRS-SO in the course of clinical service delivery. Static-99R ratings were extracted from file and VRS-SO static ratings were completed from archival sources (see Olver, Klepfisz, Stockdale, Kingston, Nicholaichuk, & Wong, 2016), which is a common practice with static tools, even for samples contributing to field applications (e.g., Phenix et al., 2016).

Sample 4. Clearwater Sex Offender Program II, Regional Psychiatric Centre (Sowden & Olver, 2017). A sample of 105 men who attended sexual offense treatment services between 1998 and 2001 through the Clearwater High Intensity Sex Offender Program that did not overlap with Samples 1 or 3, but subscribed to the same model of sexual offender treatment. Retrospective pre and posttreatment VRS-SO and Static-99R ratings were completed via file review by trained raters.

Other Details About the Samples

The following table, adapted from Olver et al. (2018), provides complete data on mean scores, recidivism rates, victim profile, and demographic characteristics for the four samples, and the overall sample as a whole. Of note, the age at release for the sample ranged from 18 to 75 years while age at index sentence (i.e., for which the VRS-SO was rated) ranged from 17 to 66 years. All cases were adjudicated as adults. The column for the aggregate normative sample of 913 cases is highlighted.

Measure	Sample									
	Olver et al., 2007 Clearwater 1 (*n* = 314)		Beggs & Grace, 2011 Kia Marama (*n* = 187)		Olver et al., 2014 NaSOP (*n* = 307)		Sowden & Olver, 2017 Clearwater 2 (*n* = 105)		Total (*N* = 913)	
	M (SD)	*% (n)*	*M (SD)*	*% (n)*	*M (SD)*	*% (n)*	*M (SD)*	*% (n)*	*M (SD)*	*% (n)*
Risk measure										
Static-99R	4.6 (2.3)	-	1.7 (2.5)	-	3.3 (2.8)	-	4.9 (2.1)	-	**3.6 (2.7)**	**-**
VRS static	10.0 (4.0)	-	7.3 (4.7)	-	8.1 (4.5)	-	11.1 (3.5)	-	**8.9 (4.5)**	**-**
VRS dynamic pre	25.0 (7.5)	-	21.4 (6.0)	-	25.0 (8.5)	-	31.1 (5.1)	-	**24.9 (7.8)**	**-**
VRS dynamic post	22.4 (7.4)	-	17.0 (6.9)	-	21.0 (8.0)	-	26.5 (5.5)	-	**21.3 (7.8)**	**-**
VRS change	2.6 (2.1)	-	4.4 (1.9)	-	4.0 (2.7)	-	4.5 (3.0)	-	**3.7 (2.5)**	**-**
VRS pretreatment total	35.0 (10.1)	-	28.7 (9.2)	-	33.1 (11.6)	-	42.2 (7.0)	-	**33.9 (10.8)**	**-**
VRS posttreatment total	32.4 (9.9)	-	24.2 (9.6)	-	29.1 (11.2)	-	37.6 (7.2)	-	**30.2 (10.8)**	**-**
Recidivism criterion										
Sexual 5-year	-	18.5 (58)	-	8.0 (15)	-	7.2 (22)	-	13.3 (14)	**-**	**11.9 (109)**
Sexual 10-year	-	25.5 (80)	-	12.8 (24)	-	11.1 (34)	-	25.7 (27)	**-**	**18.2 (165)**
Violent 5-year	-	34.7 (109)	-	15.5 (29)	-	17.6 (54)	-	35.2 (37)	**-**	**25.1 (229)**
Violent 10-year	-	48.1 (151)	-	21.4 (40)	-	26.4 (81)	-	52.4 (55)	**-**	**35.8 (327)**
Sexual offense victim profile										
Adult victim	-	67.2 (211)	-	0.0 (0)	-	52.4 (161)	-	63.8 (67)	**-**	**48.7 (439)**
Child victim	-	32.8 (103)	-	100.0 (187)	-	44.0 (135)	-	36.2 (38)	**-**	**51.3 (463)**
Unknown	-	-	-	-	-	3.6 (11)	-	-	**-**	**1.2 (11)**
Demographics										
White	-	63.1 (198)	-	77.1 (144)	-	55.7 (171)	-	48.6 (51)	**-**	**61.8 (564)**
Indigenous	-	33.1 (104)	-	22.9 (43)	-	36.7 (112)	-	49.5 (52)	**-**	**34.1 (311)**
Age at release	34.4 (9.5)	-	40.3 (11.6)	-	41.2 (12.2)	-	36.8 (8.7)	-	**38.2 (11.2)**	**-**

Standard Error of Measurement

The standard error of measurement (SEM) is generated based on the weighted interrater reliability coefficients (intraclass correlation coefficient; ICC) from Olver et al. (2007, *n* = 35 pairs), Beggs and Grace (2010, *n* = 23 pairs), and Sowden and Olver (2017, *n* = 21 pairs) and the overall normative sample standard deviation.[1] The table below provides a summary of SEM statistics for the VRS-SO based on these quantities computed from the formula:

$$\text{SEM} = SD * \sqrt{1 - r_{xx}}$$

VRS-SO Measure	ICC_w	SD	SEM
Static	.97	4.5	0.8
Dynamic (pre)	.78	7.8	3.7
Dynamic (post)	.82	7.8	3.3
Total (pre)	.83	10.8	4.5
Total (post)	.85	10.8	4.2
Change	.76	2.5	1.2

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[1] Only Sowden and Olver (2017) reported interrater reliability (IRR) for the static and hence total scores. For the purposes of computing the SEM for the total scores, the IRR coefficients for dynamic scores were substituted when generating a weighted ICC value. For SEM of change scores, Beggs and Grace (2010) did not report interrater reliability separately for change scores, and thus their reported mean ICC value for all dynamic factor ratings (ICC = .88) is substituted in place when generating a weighted ICC value.

Applications of the VRS-SO: Assessing Sexual Violence Risk

The VRS-SO is a dynamic empirical actuarial tool. Items are tallied to generate risk scores, which in turn, are linked to recidivism estimates and risk categories. As with any tool that is scored by a clinician, professional judgment plays a role, particularly when used for case formulation and risk management

The options exist to use the VRS-SO as a standalone tool (on its own), that is, ratings of both its static and dynamic factors as well as their summation to provide a total score, or it can be used in tandem with the Static-99R as substitute for the VRS-SOs static items. These two combinations can then be used to formulate overall risk categories for sexual violence risk as well as 5 and 10-year estimates of recidivism associated with specific score combinations. These are detailed below.

VRS-SO Calculator and Absolute Risk

Absolute risk refers to the rates of recidivism associated with test scores or a collection of scores. This is an illustration of criterion referenced testing, in which test scores are interpreted based on their association with a meaningful criterion variable or outcome, such as recidivism. As detailed in Olver et al. (2018) an Excel workbook calculator has been created by Dr. James C. Mundt, using the results of logistic regression modeling predicting 5 and 10-year sexual recidivism (i.e., absolute risk) on the normative sample. Estimates also exist for violent (i.e., sexual and nonsexual) recidivism, although the primary purpose of the tool is estimating risk for sexual violence. The calculator uses a log linking function generated from this validation research to compute estimated rates of sexual recidivism over 5 and 10-year periods associated with specific VRS-SO scores, with or without the Static-99R. In addition, 90% and 95% confidence intervals are provided (along with one and two tailed estimates), if users wish to incorporate this information.

Six models were created. These are:
- Model 1: VRS-SO static score
- Model 2: VRS-SO pretreatment dynamic score
- Model 3: VRS-SO pretreatment total score
- Model 4: VRS-SO pretreatment dynamic score AND Static-99R score
- Model 5: VRS-SO pretreatment total score AND VRS-SO change score
- Model 6: Static-99R score AND VRS-SO pretreatment dynamic score AND VRS-SO change score

The logic behind using the pretreatment dynamic score in tandem with the change score to generate a recidivism risk estimate is based on the fact that the normative sample is a treated one which registered a treatment effect overall, with expected variability in treatment performance and change among the individual cases. The same score at posttreatment can mean entirely different things as a result, as illustrated in the table adapted from Olver et al.

(2018) below, with the estimates generated from the VRS-SO calculator. As seen in this table, the higher the initial score at baseline, the more substantial are the discrepancies at posttreatment in terms of estimates risk for sexual recidivism depending on how much the individual has changed.

Time 1 assessment	Time 2 assessment		5-year sexual recidivism		10-year sexual recidivism	
Pretreatment	Change	Posttreatment	Estimate	95% CI	Estimate	95% CI
30	-	-	7.0	5.3, 9.1	11.3	9.0, 14.1
30	0	30	11.0	7.7, 15.4	17.2	12.9, 22.5
35	5	30	8.2	6.3, 10.5	13.1	10.6, 16.1
40	10	30	6.0	3.4, 10.4	9.9	6.3, 15.4
40	-	-	14.3	11.9, 17.0	22.4	19.5, 25.7
40	0	40	21.9	16.7, 28.2	32.7	26.5, 39.5
45	5	40	16.8	13.2, 21.1	26.1	22.1, 30.6
50	10	40	12.7	7.2, 21.4	20.5	13.4, 30.1
50	-	-	27.0	21.3, 33.6	39.7	33.9, 45.7
50	0	50	38.9	29.6, 49.1	53.1	44.4, 61.7
55	5	50	31.4	23.1, 41.0	45.3	37.6, 53.2
60	10	50	24.7	13.7, 40.5	37.7	25.4, 51.8

We recommend users employ Model 5 or Model 6 in their use of the VRS-SO in order to account for change, given this effect within the treatment sample. That means either directly assessing change, even in an untreated case, or providing a reasonable approximation of change based on the individual's context, which are detailed in the section "Using the VRS-SO at Time 1 and Additional Time Points." If Model 3 and 4 are used, this amounts to crediting the individual with a default 3.5 points of change, since this is the average change score in the sample as a whole. This is further demonstrated by the close correspondence of pretreatment estimates (i.e., without change) and the midpoint between estimates employing 0 change and 5-points of change in the table above. As such, if users only employ Model 3 or 4, they are crediting the case with having changed, which may or may not be appropriate, depending on their context.

The calculator should be used when commenting on recidivism estimates associated with VRS-SO risk/change scores. Further, it is important to note that the recidivism percentages are group estimates of 5 and 10-year recidivism generated from an aggregate sample applied to a score combination. To use the calculator, select the appropriate model for a given outcome and follow-up from the home page menu, and then enter the exact score (include decimals if prorated) into the designated empty spaces for the risk/change score.

VRS-SO Percentiles and Relative Risk

The VRS-SO posttreatment score has informational value and can be used to generate a measure of relative risk (i.e., how risky is a given case compared to other cases within the normative sample). Percentile ranks are a good measure of relative risk and are commonly used in other domains of psychological testing such as intelligence and personality assessment. These are illustrations of norm referenced testing, since an individual's score is being compared to other scores with the overall sample. Percentile ranks have been generated for VRS-SO scores from the sample of 913 cases using the methodology laid out in Hanson, Lloyd, Helmus, and Thornton (2012). This takes into account the number of cases falling below and above an observed score, as well as applying the midpoint of the number of cases with the same score (i.e., ties). The percentile ranks are presented in the Appendix of this workbook.

A challenge is presented by generating percentile ranks across multiple time points when the tool is dynamic and the sample has changed as a whole, as reflected in their scores. However, there is also the convenience and necessity of being able to compare percentile ranks across multiple timepoints. To avoid the scenario where an individual's relative risk has increased if they do not change in treatment, for the purpose of generating percentiles, we took the average of pretreatment and posttreatment scores on the dynamic items as a way of partially accounting for change and to create a consistent moveable metric across timepoints. In this manner, if an individual has a score of 40 at pretreatment and is at the 73.9 percentile, if they make no change, they remain at this percentile and same relative risk at posttreatment. Their absolute risk, however, may be affected in a non-trivial manner, and for this reason we have the VRS-SO calculator to provide a more complete account for the risk ramifications of making zero change in a treatment regime. Users can provide the percentile ranks for VRS-SO scores, including static, dynamic, total, and change, and/or the factor domains. For dynamic ratings, users are instructed to use the score(s) from the current or most recent assessment.

Assignment of Risk Level for Sexual Recidivism to VRS-SO and Static-99R Score Combinations

The Council of State Governments (CSG) has advocated for a common language (CL) to classify risk level for different offender groups (e.g., sexual vs. violent), across different risk instruments (e.g., LSI-R, VRS, Static-99R), with respect to different outcomes (e.g., sexual vs. violent vs. general recidivism). The language is both less stigmatizing and involves non-arbitrary application of nominal labels to classify risk.

VRS-SO CL Category	Total Score (static + dynamic)	Dynamic Score
Level I: Very low risk	0-14.5	0-10.5
Level II: Below average risk	15-24.5	11-16.5
Level III: Average risk	25-39.5	17-27.5
Level IVa: Above average risk	40-49.5	28-34.5
Level IVb: Well above average risk	50-72	35-51

The provision of nominal categories for dynamic scores alone permits the combination of risk estimates across for Static-99R (employing the guidelines from Hanson, Babchishin, Helmus, Thornton, & Harris, 2017). Olver et al (2018) provide the rationale for the derivation of risk categories applying the CL to VRS-SO total scores and dynamic scores. In short, the categories were derived through a combination of norm-referenced (i.e., percentile ranks) and criterion referenced (i.e., recidivism estimates) for VRS-SO scores, taking into account changes in risk. Recidivism estimates at different change thresholds (0-points no change, 3.5-points mean sample change, and 6-points 1 SD above the mean for change) for the five risk levels were scrutinized in generating these categories.

It is important to bear in mind that these are ultimately summary nominal labels to provide a verbal descriptor for risk using a non-arbitrary and evidence-based label. The two figures below illustrate how estimated rates of 5 and 10-year sexual recidivism for all possible VRS-SO total scores at three change thresholds map onto the CL framework. The dotted lines represent the criterion-based estimates for the CL using the recidivism estimates obtained from the Static-99R High Risk/Need Group for illustrative purposes (High/Risk Need is shown since 10-year routine norms are not available). As seen in the 5-year figure below, the logistic regression lines fall generally within the bands (dotted lines) demarcating the Static-99R recidivism estimates associated with the CL categories.

For instance, all three regression lines for the IVb VRS-SO nominal category are above the IVb line of criterion-based estimates (, even) for the Static-99R high risk needs group. Similarly, at the other extreme end, Level I and II fall below the respective dotted lines for Levels I and II, while Level IVa falls largely within the respective IVa -IVb criterion band. VRS-SO Level III, the largest and most heterogeneous group straddles multiple criterion referenced (dotted) bands from the Static-99R normative sample, with the midpoint defined by the Average (Level III) dotted line. The same trend is shown in the figure below for 10-year estimates. This highlights the importance of utilizing the VRS-SO dynamic score with a measure of static risk to differentiate variations of risk for individuals with similar static risk scores. For the VRS-SO dynamic or total score, the CL derived will be anchored in the numeric risk score from the most recent (i.e., posttreatment timepoint) rating.

VRS-SO Risk Levels and Change: 5-Year Sexual Recidivism
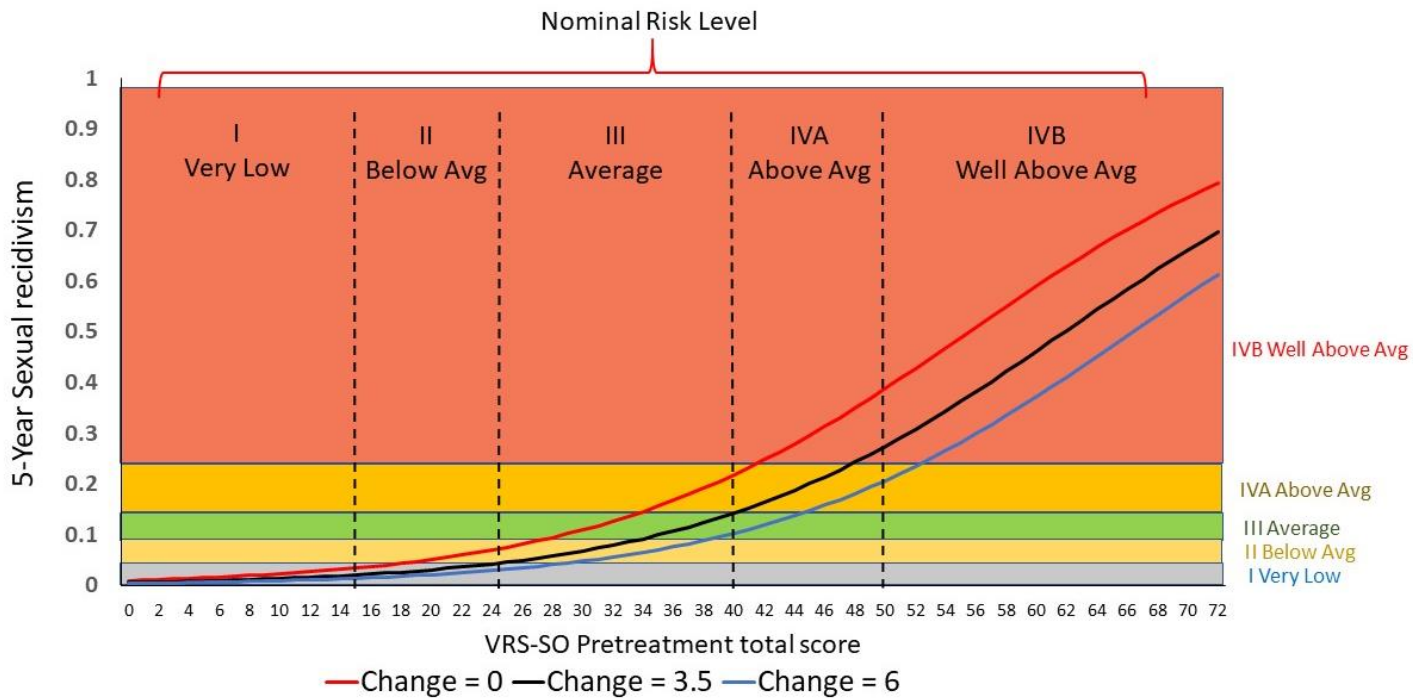
VRS-SO Risk Levels and Change: 10-Year Sexual Recidivism
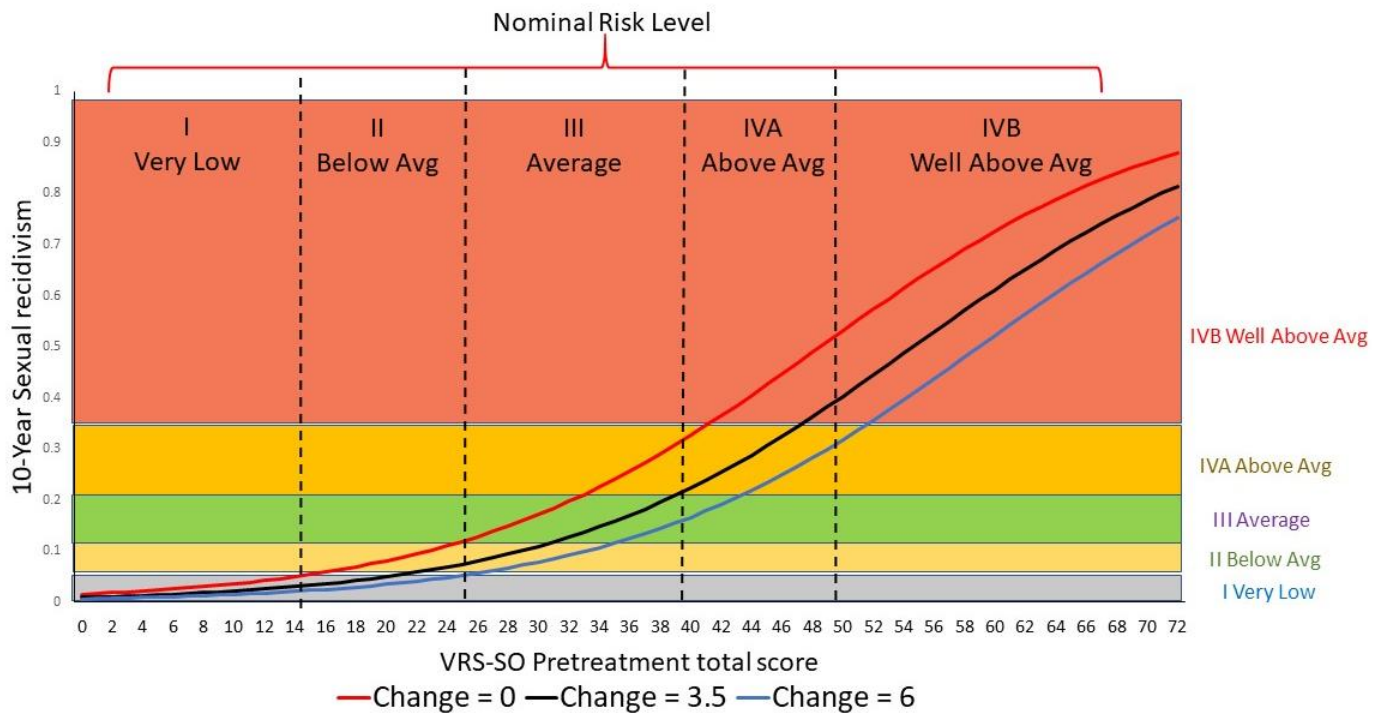
To combine VRS-SO dynamic and Static-99R CL nominal categories, we propose the following grid below. The combination of risk levels again was based on scrutiny of recidivism estimates from Static-99R normative samples for 5-year sexual recidivism and their correspondence with 5-year recidivism estimates generated by the VRS-SO calculator from the range of possible Static-99R-VRS-SO score combinations.

Guidelines for Combining VRS-SO Dynamic and Static-99R Risk Levels into an Overall Risk Level							
			Static 99-R				
			I	II	III	IVa	IVb
			-3, -2	-1, 0	1, 2, 3	4, 5	6-12
VRS-SO Dynamic	I	0-10.5	I	I	II	II	III
	II	11-16.5	I	II	II	III	III
	III	17-27.5	II	II	III	III	IVa
	IVa	28-34.5	II	III	III	IVa	IVb
	IVb	35-51	III	III	IVa	IVb	IVb

General Rule for Assigning a Final Risk Category to VRS-SO Scores with or without Static-99R

After deriving a score for VRS-SO risk and change scores (whether used with Static-99R or not), use the VRS-SO calculator to generate 5 and/or 10-year sexual recidivism estimates, and thus, a measure of absolute risk associated with the score combination obtained. Use the absolute risk table below to anchor a risk category to the calculator generated recidivism estimate. The table values are generated from consultation with Hanson et al. (2017), Static-99R norms, and the CSG guidelines for recidivism estimates associated with a given risk category. In most instances, the VRS-SO nominal risk category assigned to a numeric score (or when the dynamic items are paired with Static-99R), as described above, will fall within the same risk category as the absolute risk estimate. ***If there is a discrepancy (i.e., the absolute recidivism estimate corresponds to a lower or higher risk category than indicated by the numeric risk band) users are advised to default to the absolute risk category in the table below to generate an overall category to characterize the final CL risk category.***

VRS-SO CL Category	Numeric risk band		Absolute recidivism estimate	
	Total Score (static + dynamic)	Dynamic Score	5-year sexual recidivism	10-year sexual recidivism
Level I: Very low risk	0-14.5	0-10.5	< 3.0	< 5.0
Level II: Below average risk	15-23.5	11-16.5	3.0-6.9	5.0-10.9
Level III: Average risk	24-39.5	17-27.5	7.0-14.9	11.0-19.9
Level IVa: Above average risk	40-49.5	28-34.5	15.0-24.9	20.0-34.9
Level IVb: Well above average risk	50-72	35-51	25.0 ≤	35.0 ≤

Further Applications of the VRS-SO

Risk Management and Case Planning

The total score on the VRS-SO (or Static-99R and VRS-SO dynamic combination) and the associated CL category represent: 1) the risk potential for sexual recidivism (as noted in the previous section above); 2) the intensity or dosage of risk management services (e.g., treatment, supervision, monitoring) to reduce risk and prevent new acts of sexual violence; and 3) the areas or targets specifically within which to intervene. Per point #2, the higher the risk (e.g., Level IVa or IVb = high intensity), the greater the intensity of services required, and the lower the risk (e.g., Level I or II), fewer services and restrictions would be required to safely manage risk. Level III, the most populous category, would tend to entail moderate intensity services.

Dynamic items with 2 or 3 ratings should be prioritized for services in contrast with items with a 0 or 1 rating that require little or no service as they represent low risk areas, potential strengths (e.g., a rating of 0 on D10 Community Supports would indicate an established and effective support network that the individual uses), or well managed issues that were previously a focus of concern. Patterns of item ratings on the three broad factors—Sexual Deviance, Criminality, and Treatment Responsivity—can be used to generate a criminogenic profile of risks and needs. For instance, a man who has sexually assaulted an adult female who demonstrates nondeviant sexual interests, does not show evidence of extensive planning or a possible paraphilia, and does not manifest issues concerning sexual preoccupation, compulsivity or hypersexuality (i.e., low scores on most Sexual Deviance items) would not be a candidate for intensive arousal modification treatment. By contrast, the same individual, may have longstanding problems of impulsivity, aggression, and substance abuse (high scores on Criminality items), coupled with a history of relationship instability and entrenched attitudes of female subordination and male superiority; all of which would be candidates for services (e.g., substance abuse treatment, relationship skills, cognitive restructuring, problem solving skills etc.)

It is important to note that although an item may not be criminogenic for sexual offending specifically, it may still be a general treatment target. For instance, a man may have committed his sexual offenses while sober, but may have a concordant drug and alcohol problem that contributes to problems in other domains of his life (e.g., work, relationships, health). Moreover, some items, although not rated as criminogenic per se (e.g., D12 Sexual Offending Cycle), services relevant to the item may still be provided, given that they also have relevance for therapeutic change in other domains. For instance, a man in sexual offense treatment may still do some work understanding the thoughts, feelings, behaviors, and situational/contextual circumstances around his past sexual offending (and then to address those issues therapeutically), even if sexual offending was not necessarily cyclical or recurrent for that individual.

Assessment of Treatment Readiness

The stage of change represents the individual's readiness to change, as it reflects the individual's level of insight and understanding about the existence of a problem area, the level of motivation or willingness to address the problem area, and/or any use of skills and strategies to manage a problem area. For instance, an individual predominantly in the precontemplation stage of change on identified treatment targets, by definition, would lack insight, awareness, and/or motivation to manage a problem area. Such an individual would be much more challenging to engage than a person in the contemplation stage of change on a treatment target, or set of treatment targets, who, by contrast, would have some modicum of awareness, insight, or motivation to address a problem area. This knowledge can inform the use of clinical interventions to maximize engagement and minimize attrition. For instance, individuals in earlier stages of change will stand to benefit from non-confrontational motivational strategies (e.g., motivational interviewing) to foster insight and enhance therapeutic buy-in, in contrast to specific behavioral and cognitive interventions directed toward specific treatment targets (e.g., arousal modification strategies for paraphilic interests), which typify more advances stages of change, as the acquisition and use of such skills and strategies naturally require acknowledgement of the problem area and the motivation to learn and to use the strategies to manage the problem area.

Assessment of Change

Finally, the VRS-SO can be used for the assessment of treatment progress throughout or at the terminus of a rehabilitation program or regime. The magnitude of change, especially in the context of the pretreatment or baseline score, is particularly relevant and represents the amount of risk reduction made that can be modeled into an adjusted recidivism estimate using the VRS-SO calculator. The change tables in the appendix also report percentile ranks for change made overall as well on the individual factors, bearing in mind that the amount of change that could occur is constrained by the baseline score. Given the availability of norms, the amount of change made can also be framed in standard deviation units by dividing the change score by the standard deviation from the normative sample of the scale component that it represents.

The individual's stage of change, in turn, represents the extent to which they have internalized the change and have adopted the use of new skills and strategies to manage the problem with respect to a given item. There may be evidence of reductions in offense analogue behaviors and an increase in offense replacement/reduction behaviors, the stability and frequency of which determines the individual's stage of change on the item. The relative absence of skills or strategies would indicate that the individual remains in the early stages of change with respect to an area of concern. Finally, the stage of change, and progression (or lack thereof) over time will indicate what work remains to be done and in what areas. This will likely also be reflected in their CL risk level and recidivism estimate associated with their risk and change scores.

Using the VRS-SO at Time 1 and Additional Time Points

The terms "pretreatment" or "Time 1" (T1) can be used interchangeably. We use the term T1 to dispel conceptions that the tool can be used only on a treated sample. As noted above, the VRS-SO can be used as a standalone risk assessment instrument with an untreated case. Attending or being referred to treatment is not a prerequisite for use of the tool. The stages of change for the individual's current functioning can be applied for all 2 and 3 rated items, irrespective of whether the individual has attempted, completed, or been referred to sexual offense specific treatment.

Incorporating Past Program Involvement

It is not uncommon that the VRS-SO may be used for the first time on a case that may have previously completed sexual offense specific treatment, other relevant programming, dropout of a program, or that has been immersed in a program or milieu for a period of time. There are multiple ways of addressing this.

- **Option 1.** Retrospectively rate risk on dynamic factors and stage of change on criminogenic items from the point of program intake relying primarily on archival or case file information to obtain a T1 rating. (Individuals can also be interviewed about previous functioning, bearing in mind temptations to present oneself as having previously functioned more poorly, to provide the impression of increased progress or reductions in risk that may be exaggerated). T2 rating of current stage of change representing present day usage of skills and strategies and risk reduction behaviors can then be completed. Change score can then be directly computed from T1-T2 ratings and model 5 or 6 can be employed in a straightforward manner to obtain estimate of present risk. NB: This manner of scoring the VRS-SO and obtaining change scores was the method employed for the three archival samples contained within the combined normative sample.

- **Option 2.** There will unavoidably be instances in which evaluators are rating the VRS-SO for the first time (T1) when the individual has not participated in sexual offense treatment (SOT) for a variety of reasons. This raises the issue as to how to apply Models 5 or 6 when it is uncertain to what extent the individual may have made risk-related change. Treat the present date as T1, integrating historic and recent information concerning risk and progress on the dynamic items, culminating in a single risk rating and present stage of change.

  As no change score is computed a change score would need to be imputed, using the guidelines below and then use models 5 or 6 to generate recidivism estimates. Use of model 3 or 4 (pretreatment information only) would be the equivalent of model 5 and 6 using a default change rating of 3.5.

Guidelines for Imputing Change Scores

- Refuser or previous SOT noncompleter or new admission who previously successfully completed sexual offense specific treatment, but sexually reoffended and is now being assessed for a new disposition post-recidivism: default change score of 0 using Model 5 or 6

- Untreated cases with or without a referral to SOT but has not yet had an opportunity to begin treatment: report both rates of change 0 and change 3.5 (mean), noting that the estimated rate falls within this interval and may or may not change depending on the individual's progress in SOT. A variation on this would be to take the midpoint or 1.75 points of change to make a modest adjustment for intention to undergo treatment; this was the intention to change is given appropriate credit. Compute change score at T2 at next reassessment interval and employ Model 5 or 6.

- Treated case that previously successfully completed SOT during current sentence or disposition: default change 3.5 using Model 5 or 6. (Equivalent to Model 3 or 4 as standalone.) This procedure should be followed if their previous SOT records are not available; however, if SOT records are available, users are advised to retrospectively score T1 and T2 to generate a change score.

- Individuals who are not participating in SOT and/or who dropped out of treatment while incarcerated, but who are residing in the therapeutic milieu of a treatment facility: Score the VRS-SO as for someone who is in treatment at the institution –i.e., retrospectively score T1 for the day prior to their arrival at the treatment facility; score T2 as present; compute change score with regular "a – b" score-sheet procedure, and use Model 5 or 6.

Reassessments

We recommend that change should be tracked cumulatively (i.e., changing the baseline is a less preferred option) across reassessments as illustrated in the table below adapted from Olver et al. (2018). This can be relatively straightforward when one has done the original set of assessments, but it may be more challenging if one is uncertain about the credibility (i.e., accuracy, quality) of the assessment.

Model	Pretreatment score	Change score	Posttreatment score	5-year sexual recidivism		10-year sexual recidivism	
				Estimate	95%CI	Estimate	95%CI
Cumulative change							
T1 through T4	50	10	40	12.7	7.2, 21.4	20.5	13.4, 30.1
Changing baselines							
T1 - T2	50	4	46	26.0	20.4, 32.6	38.6	33.0, 44.4
T2 - T3	46	4	42	20.2	16.3, 24.8	30.9	26.7, 35.4
T3 - T4	42	2	40	19.7	16.2, 23.8	29.9	25.8, 34.4

In the event that users are tasked with completing a VRS-SO when there has already been a previous or recent administration of the tool, we recommend users take into consideration the credibility of the assessment and the context. Was it completed five years ago and prior to the individual entering a high intensity sexual violence reduction program that he has since completed? Or was it completed by a well-intentioned but possibly less than objective service provider who perceived large amounts of progress (e.g., over a short period) and may have inflated some change ratings in certain areas? In such instances, the evaluator should take into consideration the context and credibility of the assessment in deciding whether or not to use or to incorporate a previous VRS-SO assessment into their current rating.

Some possible issues to consider are:

- Context/rater objectivity (e.g., was it completed by somebody directly involved in service provision vs. somebody more at arms-length such as an internal or external evaluator?)

- Recency (e.g., was it completed within the previous 6 months to a year and/or has the individual been exposed to major change agents since the last assessment, such as treatment)

- Other matters pertaining to credibility (e.g., was it completed by a trained rater; is the score sheet completed properly?)

- Accuracy (e.g., are the baseline ratings on target, major treatment domains correctly identified, etc.?)

Report Writing

There are a number of valid ways to write a report including VRS-SO ratings, and this can be very detailed or concise. There are some templates of acceptable ways of writing up the VRS-SO in a psychological risk assessment, but the following details should be included:

1. Brief description of the instrument, its purpose, and organization
2. Specify if using Static-99R or VRS-SO static items in instrument scoring
3. Report Static-99R or static score with item rationale
4. Identify items with 2 or 3 ratings that are criminogenic and provide rationale
    a. Can be organized by factor domain
    b. Can be arranged hierarchically by 3 and 2 rating
5. Report stage of change
    a. Can be done item by item, in tandem with rationale for item rating
    b. A global stage of change can be provided with rationale if this characterizes a predominant collection of items
6. Report common language risk category for VRS-SO total score or VRS-SO dynamic score and Static-99R
7. Report norm referenced and criterion referenced information for VRS-SO risk and change scores with or without the Static-99R
    a. Norm referenced information: relative risk estimates using percentile ranks
        i. This can be done with total score, static and/or dynamic risk scores, factor scores, or change scores.
    b. Criterion reference information: absolute risk estimate using the VRS-SO calculator and the appropriate model (model 5 without Static-99R, model 6 with Static-99R)

Appendix A: VRS-SO Percentiles
Table 1. VRS-SO Total (Static + Dynamic) Score Percentiles

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0-9	0	0.1	99.9	0.1	23	22.7	1.2	76.1	23.3
9.5	0.1	0.2	99.7	0.2	23.5	23.9	2.0	74.1	24.9
10	0.1	0	99.7	0.2	24	25.8	1.1	73.1	26.3
10.5	0.1	0	99.7	0.2	24.5	26.9	1.0	72.1	27.4
11	0.3	0.2	99.5	0.4	25	27.9	1.3	70.8	28.5
11.5	0.5	0.3	99.2	0.6	25.5	29.2	1.8	69.0	30.1
12	0.9	0.4	98.7	1.1	26	31.0	1.1	67.9	31.5
12.5	0.9	0	98.7	1.1	26.5	32.1	2.1	65.8	33.1
13	1.3	0.9	97.8	1.7	27	34.2	2.7	63.1	35.5
13.5	2.2	1.0	96.8	2.7	27.5	36.9	1.1	62.0	37.4
14	3.2	0.3	96.5	3.3	28	38.0	2.1	59.9	39.0
14.5	3.5	0.9	95.6	3.9	28.5	40.1	1.4	58.5	40.8
15	4.4	0.2	95.4	4.5	29	41.5	1.5	57.0	42.2
15.5	4.6	1.1	94.3	5.1	29.5	43.0	1.6	55.4	43.8
16	5.7	1.1	93.2	6.2	30	44.7	1.8	53.5	45.6
16.5	6.8	1.0	92.2	7.3	30.5	46.4	1.1	52.5	46.9
17	7.8	1.0	91.2	8.3	31	47.5	1.3	51.2	48.1
17.5	8.8	1.0	90.2	9.3	31.5	48.8	1.3	49.9	49.4
18	9.7	1.4	88.9	10.4	32	50.2	1.8	48.1	51.1
18.5	11.2	0.8	88.0	11.6	32.5	51.9	0.7	47.4	52.2
19	11.9	0.7	87.4	12.2	33	52.6	1.3	46.1	53.2
19.5	12.6	0.7	86.7	12.9	33.5	53.9	1.1	45.0	54.4
20	13.3	0.8	85.9	13.7	34	55.0	1.6	43.4	55.8
20.5	14.0	1.2	84.8	14.6	34.5	56.6	1.6	41.8	57.4
21	15.2	2.2	82.6	16.1	35	58.3	1.6	40.1	59.1
21.5	17.4	1.8	81.8	18.3	35.5	59.9	1.9	38.2	60.9
22	19.2	1.2	79.6	19.8	36	61.8	1.1	37.1	62.3
22.5	20.4	2.3	77.3	21.5	36.5	62.9	2.0	35.1	63.9

Table 1. VRS-SO Total (Static + Dynamic) Score Percentiles (continued)

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
37	64.8	1.6	33.6	65.6	51	96.1	0.4	3.5	96.3
37.5	66.5	1.6	31.9	67.3	51.5	96.5	0.3	3.2	96.6
38	68.1	1.3	30.6	68.7	52	96.8	0.5	2.7	97.0
38.5	69.4	0.9	29.7	69.8	52.5	97.4	0.2	2.4	97.5
39	70.3	1.0	28.7	70.8	53	97.6	0.1	2.3	97.6
39.5	71.3	1.5	27.2	72.0	53.5	97.7	0.3	2.0	97.8
40	72.8	2.3	24.9	73.9	54	98.0	0.2	1.8	98.1
40.5	75.1	1.2	23.7	75.7	54.5	98.2	0.1	1.7	98.2
41	76.3	1.8	21.9	77.2	55	98.4	0.2	1.4	98.5
41.5	78.1	1.4	20.5	78.8	55.5	98.6	0.1	1.3	98.6
42	79.5	1.5	19.0	80.2	56	98.7	0.1	1.2	98.7
42.5	81.1	1.8	17.1	82.0	56.5	98.7	0	1.2	98.7
43	82.8	1.5	16.7	83.5	57	98.8	0.3	0.9	98.9
43.5	84.3	0.8	14.9	84.4	57.5	99.1	0.1	0.8	99.1
44	85.1	1.2	13.7	85.7	58	99.2	0.1	0.7	99.2
44.5	86.3	1.3	12.4	86.9	58.5	99.3	0.1	0.6	99.3
45	87.6	0.9	11.5	88.1	59	99.3	0	0.6	99.3
45.5	88.5	0.7	10.8	88.8	59.5	99.5	0.1	0.4	99.5
46	89.2	1.1	9.7	89.7	60	99.5	0	0.4	99.5
46.5	90.3	0.5	9.2	90.5	60.5	99.5	0	0.4	99.5
47	90.8	1.2	8.0	91.4	61	99.5	0	0.4	99.5
47.5	92.0	0.4	7.6	92.2	61.5	99.6	0.2	0.2	99.7
48	92.4	0.7	6.9	92.7	62	99.6	0	0.2	99.7
48.5	93.1	0.7	6.2	93.4	62.5	99.6	0	0.2	99.7
49	93.8	0.5	5.7	94.0	63	99.6	0	0.2	99.7
49.5	94.3	0.3	5.4	94.4	63.5	99.6	0	0.2	99.7
50	94.6	0.7	4.7	94.9	64	99.8	0.1	0.1	99.8
50.5	95.3	0.8	3.9	95.7	64.5	99.8	0	0.1	99.8

Table 1. VRS-SO Total (Static + Dynamic) Score Percentiles (continued)

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
65	99.8	0	0.1	99.8	69	99.9	0	0	99.9
65.5	99.8	0	0.1	99.8	69.5	99.9	0	0	99.9
66	99.8	0	0.1	99.8	70	99.9	0	0	99.9
66.5	99.8	0	0.1	99.8	70.5	99.9	0	0	99.9
67	99.9	0.1	0	99.9	71	99.9	0	0	99.9
67.5	99.9	0	0	99.9	71.5	99.9	0	0	99.9
68	99.9	0	0	99.9	72	99.9	0	0	99.9
68.5	99.9	0	0	99.9					
M = 32.1, SD = 10.8									

Table 2. VRS-SO Dynamic Total Score Percentiles

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0-3	0	0.1	99.9	0.1	17	22.8	1.4	75.8	23.5
3.5	0	0	99.9	0.1	17.5	24.2	2.2	73.6	25.3
4	0	0	99.9	0.1	18	26.4	2.8	70.8	27.8
4.5	0	0	99.9	0.1	18.5	29.2	1.9	68.9	30.1
5	0.1	0.1	99.8	0.2	19	31.1	2.4	66.5	32.3
5.5	0.1	0	99.8	0.2	19.5	33.5	1.6	64.9	34.3
6	0.1	0	99.8	0.2	20	35.2	2.5	62.3	36.4
6.5	0.2	0.1	99.7	0.3	20.5	37.7	2.6	59.7	39.0
7	0.2	0.1	99.7	0.3	21	40.3	1.9	57.8	41.2
7.5	0.3	0.1	99.6	0.4	21.5	42.2	2.6	55.2	43.5
8	0.4	0.3	99.3	0.6	22	44.8	2.2	53.0	45.9
8.5	0.8	0.9	98.3	1.2	22.5	47.0	2.5	50.5	48.2
9	0.8	0	98.3	1.2	23	49.5	3.0	47.5	51.0
9.5	1.6	0.9	97.5	2.0	23.5	52.5	2.1	45.4	53.5
10	2.5	0.5	97.0	2.7	24	54.5	2.8	42.7	55.9
10.5	3.1	1.3	95.6	3.7	24.5	57.4	2.0	40.6	58.4
11	4.4	0.5	95.1	4.6	25	59.4	2.3	38.3	60.5
11.5	4.9	0.9	94.2	5.4	25.5	61.7	2.8	35.5	62.1
12	5.8	1.1	93.1	6.3	26	64.5	1.8	33.7	65.4
12.5	6.9	1.2	91.9	7.5	26.5	66.3	2.0	31.7	67.3
13	8.1	1.1	90.8	8.6	27	68.2	1.4	30.4	69.4
13.5	9.2	1.1	89.7	9.7	27.5	69.7	2.1	28.2	70.7
14	10.3	2.2	87.5	11.4	28	71.7	2.7	25.6	73
14.5	12.5	1.3	86.2	13.6	28.5	74.5	2.3	23.2	75.6
15	13.8	1.6	84.6	14.6	29	76.8	2.2	21.0	77.9
15.5	15.4	2.6	82.0	16.7	29.5	79.0	1.0	20.0	79.5
16	18.1	2.1	79.8	19.1	30	80.0	2.0	18.0	81.0
16.5	20.2	2.6	77.2	21.5	30.5	81.9	2.1	16.0	82.9

Table 2. VRS-SO Dynamic Total Score Percentiles (Continued)

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
31	84.0	0.9	15.1	84.4	44.5	99.7	0	0.3	99.7
31.5	84.9	0.9	14.2	85.3	45	99.7	0	0.3	99.7
32	85.8	2.5	11.7	87.0	45.5	99.7	0	0.3	99.7
32.5	88.3	0.8	10.9	88.7	46	99.7	0	0.3	99.7
33	89.0	1.3	9.7	90.1	46.5	99.7	0.1	0.2	99.7
33.5	90.4	0.4	9.2	90.6	47	99.8	0	0.2	99.8
34	90.8	0.4	8.8	91.0	47.5	99.8	0	0.2	99.8
34.5	91.2	0.9	7.9	91.6	48	99.8	0	0.2	99.8
35	92.1	0.8	7.1	92.5	48.5	99.8	0	0.2	99.8
35.5	92.9	0.9	6.2	93.4	49	99.8	0	0.2	99.8
36	93.8	1.0	5.2	94.3	49.5	99.8	0	0.2	99.8
36.5	94.7	0.7	4.6	95.0	50	99.8	0.1	0.1	99.8
37	95.4	0.8	3.8	95.8	50.5	99.9	0	0.1	99.9
37.5	96.2	0.3	3.5	96.3	51	99.9	0.1	0	99.9
38	96.5	0.2	3.3	96.6					
38.5	96.7	0.2	3.1	96.8					
39	96.9	0.9	2.2	97.3					
39.5	97.8	0.2	2.0	97.9					
40	98.0	0.2	1.8	98.1					
40.5	98.0	0	1.8	98.1					
41	98.2	0.3	1.5	98.3					
41.5	98.6	0.1	1.3	98.6					
42	98.7	0.3	1.0	98.8					
42.5	99.0	0.4	0.6	99.2					
43	99.0	0	0.6	99.2					
43.5	99.5	0.2	0.3	99.6					
44	99.7	0	0.3	99.7					
M = 23.2, *SD* = 7.8									

Table 3. VRS-SO Sexual Deviance Factor Score Percentiles

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0	0	5.3	94.7	2.6	8	60.4	3.6	36.0	62.2
0.5	0	0	94.7	2.6	8.5	64.0	3.9	32.1	65.9
1	5.3	3.6	91.1	7.1	9	68.0	4.7	27.3	70.3
1.5	8.9	0.4	90.7	9.1	9.5	72.7	2.5	24.8	73.9
2	9.3	4.6	86.1	11.6	10	75.2	3.7	21.1	78.0
2.5	13.9	0.7	85.4	14.2	10.5	78.9	1.9	19.2	79.9
3	14.6	5.8	79.6	17.5	11	80.8	3.2	16.0	82.4
3.5	20.4	1.4	78.2	21.1	11.5	84.0	3.1	12.9	85.5
4	21.8	4.3	73.9	23.9	12	87.1	3.8	9.1	89.0
4.5	26.1	4.3	69.6	28.2	12.5	90.9	1.5	7.6	91.6
5	30.4	6.2	63.4	33.5	13	92.4	2.8	4.8	93.8
5.5	36.6	3.8	59.6	38.5	13.5	95.3	1.2	3.5	95.6
6	40.5	6.0	53.5	43.5	14	96.5	2.0	1.5	97.5
6.5	46.5	5.7	47.8	49.3	14.5	98.5	0.7	0.8	98.8
7	52.2	4.2	43.6	54.3	15	99.1	0.9	0	99.5
7.5	56.4	4.1	39.5	58.4					
M = 6.8, SD = 3.8									

Table 4. VRS-SO Criminality Factor Score Percentiles

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0	0	1.1	98.9	0.5	9.5	61.7	3.5	34.8	63.4
0.5	0	0	98.9	0.5	10	65.2	4.2	30.6	67.3
1	1.1	2.2	96.7	2.2	10.5	69.3	4.7	26.0	71.6
1.5	3.3	0.4	96.3	3.5	11	74.0	6.5	19.5	77.2
2	3.7	3.1	93.2	5.2	11.5	80.5	2.6	16.9	81.8
2.5	6.8	1.3	91.9	7.9	12	83.1	3.7	13.2	84.9
3	8.1	4.6	87.3	10.4	12.5	86.9	2.0	11.1	87.9
3.5	12.7	1.6	85.7	13.5	13	88.8	3.2	8.0	90.4
4	14.3	5.3	80.4	16.9	13.5	92.0	2.1	5.9	93.0
4.5	19.6	1.9	78.5	20.5	14	94.1	1.6	4.3	94.9
5	21.5	5.4	73.1	24.2	14.5	95.7	0.9	3.4	96.2
5.5	26.8	3.4	69.8	28.5	15	96.6	1.5	1.9	97.3
6	30.2	4.8	65.0	32.6	15.5	98.1	0.8	1.1	98.5
6.5	35.0	3.9	61.1	36.9	16	98.9	0.4	0.7	99.1
7	39.0	5.5	55.5	41.7	16.5	98.9	0	0.7	99.1
7.5	44.5	4.4	51.1	46.7	17	99.3	0.3	0.4	99.4
8	48.8	4.4	46.8	51.0	17.5	99.3	0	0	99.4
8.5	53.2	3.0	43.8	54.7	18	99.7	0.3	0	99.8
9	56.2	5.5	38.3	58.9					
M = 7.9, *SD* = 3.7									

Table 5. VRS-SO Treatment Responsivity Factor Score Percentiles

Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0	0	0.2	99.8	0.1	6.5	60.2	7.6	32.2	64.0
0.5	0.2	1.2	98.6	0.8	7	67.8	6.6	25.6	71.1
1	1.8	1.8	96.4	2.7	7.5	74.4	4.4	21.2	76.6
1.5	3.5	2.1	94.4	4.5	8	78.8	5.0	16.2	81.3
2	5.6	3.1	91.3	7.1	8.5	83.8	3.7	12.5	85.6
2.5	8.7	3.8	87.5	10.6	9	87.5	4.2	8.3	89.6
3	12.5	4.8	82.7	14.9	9.5	91.7	2.7	5.6	93.0
3.5	17.3	5.0	77.7	19.8	10	94.4	2.3	3.3	95.5
4	22.3	5.5	72.2	24.1	10.5	96.7	1.1	2.2	97.2
4.5	27.8	7.1	65.1	31.3	11	97.8	1.3	0.9	98.4
5	34.9	8.8	56.3	39.3	11.5	99.1	0.4	0.5	99.3
5.5	43.7	8.4	47.9	47.9	12	99.6	0.4	0	99.8
6	52.1	8.1	39.8	56.1					
M = 5.6, *SD* = 2.5									

Table 6. VRS-SO Static Score Percentiles

Score	Below	Same	Higher	Percentile
0	0	2.2	97.8	1.1
1	2.2	2.3	95.5	3.1
2	4.5	3.5	92.0	6.2
3	8.0	5.5	86.5	10.7
4	13.5	5.0	81.5	15.0
5	18.5	6.4	75.1	21.7
6	24.9	7.0	68.1	28.4
7	31.9	6.8	61.3	35.3
8	38.7	9.0	52.3	43.2
9	47.6	6.6	45.8	50.9
10	54.2	6.6	39.1	57.5
11	60.8	7.1	32.1	64.3
12	67.9	7.3	24.8	71.5
13	75.2	7.4	17.4	78.9
14	82.7	5.3	12.0	85.3
15	88.0	4.8	7.2	92.4
16	92.8	4.4	2.8	95.0
17	97.2	1.4	1.4	97.9
18	98.6	1.0	0.4	99.1
19	99.6	0.2	0.2	99.7
20	99.8	0.2	0	99.9
21	99.8	0	0	99.9
M = 8.9, SD = 4.5				

Table 11. VRS-SO Dynamic Total Change Score Percentiles

Score	Below	Same	Higher	Percentile
0.0	1.5	9.0	89.5	6.0
0.5	10.5	3.9	85.6	12.4
1.0	14.5	3.6	81.9	16.3
1.5	18.1	6.1	75.8	21.1
2.0	24.2	6.4	69.4	27.4
2.5	30.6	6.8	62.6	34.0
3.0	37.3	8.8	53.9	41.7
3.5	46.1	9.0	44.9	50.6
4.0	55.1	5.7	39.2	57.9
4.5	60.8	6.2	33.0	63.9
5.0	67.0	5.4	27.6	69.7
5.5	72.4	7.2	20.4	75.0
6.0	79.6	4.9	15.5	82.0
6.5	84.6	3.7	11.7	86.4
7.0	88.3	3.4	8.3	90.0
7.5	91.7	3.0	5.3	93.2
8.0	94.6	1.4	4.0	95.3
8.5	96.1	1.3	2.6	96.7
9.0	97.4	0.4	2.2	97.6
9.5	97.8	0.8	1.4	98.2
10.0	98.6	0.8	0.6	99.0
10.5	99.3	0.3	0.4	99.4
11.0	99.7	0.2	0.1	99.8
11.5	99.9	0	0	99.9
12.0	99.9	0	0	99.9
M = 3.7, SD = 2.5				

Table 11. VRS-SO Dynamic Factor Change Score Percentiles

Sexual Deviance Change				Criminality Change				Treatment Responsivity Change			
Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile	Score	Below	Same	Higher	Percentile
0.0	0.5	32.4	67.1	16.7	0.0	1.0	26.8	72.2	14.4	0.0	1.9	15.0	83.1	9.4
0.5	33.0	14.6	52.4	40.3	0.5	27.8	22.1	50.1	38.8	0.5	16.9	17.5	65.6	25.6
1.0	47.5	13.3	39.2	54.1	1.0	49.9	16.4	33.7	58.1	1.0	34.4	25.1	40.5	46.9
1.5	60.8	10.1	29.1	65.8	1.5	66.4	12.9	20.7	72.8	1.5	59.5	19.7	20.8	69.3
2.0	70.9	9.4	19.7	75.6	2.0	79.3	8.4	12.3	83.5	2.0	79.2	14.7	6.1	86.5
2.5	80.3	7.6	12.1	84.1	2.5	87.7	6.4	5.9	90.9	2.5	93.9	3.5	2.6	95.6
3.0	87.8	6.0	6.2	90.8	3.0	94.1	3.1	2.8	95.6	3.0	97.4	1.5	1.1	98.1
3.5	93.9	3.8	2.3	95.8	3.5	97.2	1.0	1.8	97.7	3.5	98.9	0.7	0.4	99.2
4.0	97.7	1.5	0.8	98.4	4.0	98.1	1.0	0.9	98.6	4.0	99.6	0.4	0	99.8
4.5	99.2	0.2	0.6	99.3	4.5	99.1	0.3	0.6	99.2					
5.0	99.5	0.3	0.2	99.6	5.0	99.5	0.3	0.2	99.6					
5.5	99.5	0	0.2	99.6	5.5	99.8	0.1	0.1	99.8					
6.0	99.8	0.1	0.1	99.8	6.0	99.8	0	0.1	99.8					
6.5	99.9	0.1	0	99.9	6.5	99.9	0.1	0	99.9					
7.0	99.9	0	0	99.9	7.0	99.9	0	0	99.9					
$M = 1.1, SD = 1.2$					$M = 1.0, SD = 1.0$					$M = 1.1, SD = 0.8$				

Appendix B: Sample VRS-SO Reports

EXAMPLE OF A REPORT WRITE-UP #1

The **Violence Risk Scale – Sex Offense Version (VRS-SO)**[2] consists of 17 dynamic factors that assess sexual recidivism. In addition, this scale also measures changes in the dynamic factors following treatment progress. According to Olver et al. (2007), the dynamic items fit into three factors labeled Sexual Deviance, Criminality, and Treatment Responsivity. The VRS-SO was developed on a HR/HN sample of the Static-99R. It has since been cross-validated and independently cross validated on additional samples. The normative samples have recently been updated to include four samples: 1,113 cases have been followed for a period of five years while 913 cases have been followed for a period of ten years. Recidivism estimates are based on the 913 cases, which have information for both the five and ten-year periods. The VRS-SO also provides percentile rankings and standard risk categories ranging from Very Low Risk to Well Above Average Risk, which are the same risk categories developed for the Static-99R.[3] These risk categories can be obtained after incorporating treatment change. In a recent survey, the VRS-SO was the second most utilized dynamic risk assessment among SVP evaluators.[4] The VRS-SO was scored in order to assess Mr. Individual's dynamic risk factors. This scale was developed for use within a system with a shorter period of treatment in a secure facility; however, it provides a useful framework to assess dynamic risk factors in a structured manner. The advantage of the VRS-SO includes its own norms that do not require the selection of a high risk and need (HR/HN) or Routine group as well as an empirically based method to integrate static risk, pretreatment dynamic risk, and treatment change.

Sexual Deviance: This domain incorporates the following factors: sexually deviant lifestyle, deviant sexual preference, sexual compulsivity, offense planning, and sexual offending cycle. The following items were identified as treatment needs for Mr. Individual: sexual compulsivity, deviant sexual preference, and sexual offending cycle.

Pre-treatment: Mr. Individual has a history of using sex and masturbation to cope with his problems. He also had an early onset of engaging in sexual activity as well as sex offenses. He has reported having approximately 20 sexual partners, most of whom were one-night stands. While Mr. Individual does not exhibit a sexually deviant lifestyle, he does struggle with deviant sexual interests involving under-aged adolescent girls, coercion, and arousal to incestuous fantasies. His offenses have been preceded by sexual entitlement and negative emotional states including boredom and rejection. At the time he was referred for sex offense-specific

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[2] Olver, M. E., Wong, S. C. P., Nicholaichuk, T. P., & Gordon, A. (2007). The validity and reliability of the Violence Risk Scale – Sex Offender version: Assessing sex offender risk and evaluating therapeutic change. *Psychological Assessment*, 19, 318-329.

[3] Hanson, R. K., Babchishin, K. M., Helmus, L. M., Thornton, D., & Phenix, A. (2017). Communicating the results of criterion referenced prediction measures: Risk categories for the Static-99R and Static-2002R Sexual Offender Risk Assessment Tools. *Psychological Assessment*, 29, 582-597.

[4] Kelley, S. M., Ambroziak, G., Thornton, D., & Barahal, R. M. (June 25, 2018: Accepted for publication). How do professional assess sexual recidivism risk? An updated survey of practices. *Sexual Abuse*.

treatment (SOT), he was in the Precontemplation stage of change given his denial of problems in this domain.

Current: Mr. Individual is masturbating three times a week to normative images supplied through Behavior Therapy as well as to normative sexual fantasies. This rate has decreased from last year. He occasionally uses masturbation to cope with stress or to fall asleep. He has requested that his bedroom be moved to a high traffic area so that he would have less of an opportunity to masturbate. According to the most recent Sexual Thoughts and Fantasies polygraph exam, he occasionally has deviant thoughts but has not engaged in sexual fantasies or masturbated to such fantasies. He demonstrated a preferential arousal pattern to adult females on his most recent PPG test as well as an ability to suppress his arousal to all deviant stimuli. Mr. Individual currently demonstrates an understanding of his offense pathways and ways to manage risk factors. Overall, he has shown treatment progress in this domain. He is largely in the Preparation stage of change and as he demonstrates enduring stability of change he will be considered in the Action stage of change.

Criminality: This domain incorporates the following factors: interpersonal aggression, substance abuse, impulsivity, compliance with community supervision, community support, and criminal personality. All the factors within this domain were relevant for Mr. Individual.

Pre-treatment: Mr. Individual has historically been identified as having a high level of psychopathy according to PCL-R ratings. His current PCL-R rating (total score of 32) indicates that he is equally high on both Factor One traits (interpersonal and affective features of psychopathy) as well as Factor Two traits (lifestyle and antisocial behavior features of psychopathy). His most notable Factor One traits include grandiosity, manipulation, lack of remorse, and poor perspective taking. Mr. Individual has identified substance abuse as a risk factor for him and he noted a pattern of maintaining jobs in the community only long enough to obtain money for drugs. He also reported engaging in substance abuse at the time of the index offense. Mr. Individual has consistently identified impulsivity as a risk factor and he has a history of demonstrating impulsive behavior when emotionally charged. Additionally, Mr. Individual has a history of violating probation and jumping bail in the community. As Mr. Individual appeared to recognize his treatment needs related to certain factors (e.g., substance abuse and impulsivity), he was rated to be in the Contemplation stage of change. However, he demonstrated little awareness or willingness to address other relevant issues within this domain indicating a Precontemplation stage of change for these factors.

Current: Mr. Individual continues to demonstrate steady improvements in the past few years. He has worked to address and reduce his treatment interfering behaviors. However, he received his last sanction after conning another patient out of money. He has not engaged in incidents of physical aggression for over three years. He is more able to manage periods of anger, although he occasionally displays irritable and passive-aggressive behavior. He reported once engaging in verbal aggression towards another patient in the past year. He generally takes responsibility for behavior lapses, apologizes, and seeks to identify ways to prevent future lapses. His lapses are more likely in response to perceived slights, which is a prominent

vulnerability for him. With regards to impulsivity, Mr. Individual reported using mindfulness skills to be aware of negative emotional states that precede impulsive behavior. He also reported that his medication helps slow him down so that he can consider consequences before choosing a course of behavior. Mr. Individual has few friends and family in the community and parole is unable to offer resources to help support his transition into the community. However, for the past three years he has articulated a desire to participate in the conditional release program and he has worked on better preparing himself for entry into such a program. He has learned about conditional release as well as resources within his county should he be released. Overall, Mr. Individual demonstrates treatment gains in this domain. While he is largely considered to be in the Preparation stage of change due to continued lapses, he was thought to be in the Action stage of change with regard to substance abuse and compliance with community supervision.

Treatment Responsivity: This domain incorporates the following factors: cognitive distortions, treatment compliance, insight, and release to high risk situations. All of the items within this domain were relevant for Mr. Individual.

Pre-treatment: Mr. Individual identified previous cognitive distortions including sexual entitlement and the belief that women can be manipulated and controlled. There was a question in the records regarding to what extent he had refused SOT while incarcerated or whether treatment was not made available to him. He reportedly declined to sign a consent form and he appeared to have declined treatment again on a later occasion. Following his placement at a prison that offered SOT, records suggest that Mr. Individual was resistant to participating in treatment and was placed in the pre-treatment program for a period of time. Additionally, Mr. Individual was resistant to working with prison staff to formulate a release plan and had not elected to communicate with his parole officer regarding resources that might be available to him. Overall, he was in the Precontemplation stage of change in this domain.

Current: Mr. Individual is currently working on challenging thinking errors as they occur. He still struggles with personalizing things others say to him, which leads to him feeling upset, angry, and rejected. However, he checks his interpretations following interpersonal encounters to make sure they are accurate. He demonstrates a good understanding of his offense pathways, risk factors, and coping strategies. Mr. Individual is currently demonstrating improvement with regards to his treatment participation and commitment to change. Last year, he was recognized in a ceremony for his treatment participation. However, last year he would also leave groups when angry, he occasionally struggled with maintaining his motivation in treatment, and on at least one occasion this year he left group early due to negative emotions. He completed all of his written work in Phase 3 and was placed in the Phase 3 Maintenance group. Overall, Mr. Individual is demonstrating treatment gains in this domain. His current stages of change ratings reflect a mix between Action and Preparation.

Additional Needs: Two of the 17 dynamic items on the VRS-SO do not load into any of the above three domains when factor analysis has been conducted. These two items include intimacy deficits and emotional control, which will be discussed separately here. Mr. Individual

has never had a long-term, stable, intimate relationship. He has worked on his interpersonal skills and ability to establish close relationships with others. He continues to struggle with confusing emotional intimacy with sexual interest. He has developed difficulties with female staff and he recently decided to end his relationship with a female friend in the community because he is not ready for an intimate relationship. He is not currently addressing this in treatment and so he is considered to be in the Contemplation stage of change. Mr. Individual has struggled with mood lability, grievance thinking, and anger. Two of his offenses occurred because he felt rejected by the victims, and he has a long history of being quick to anger over perceived slights. Currently, he has greatly improved his emotional lability and dysregulation, although he occasionally has lapses. His mood is better regulated since starting a mood stabilizing medication and he is able to describe his coping strategies. Overall, he is considered to be in the Preparation stage of change.

PRE-TREATMENT RISK AND TREATMENT CHANGE
Completion of treatment is generally noted as a protective factor. However individuals' treatment needs are highly dependent upon how much risk they started with at the time they were admitted to the treatment program. This greatly varies between individuals as well as between dynamic risk factors, and clinical judgment of whether the individual has completed a sufficient amount of treatment tasks (and more importantly whether they are demonstrating sustained utilization of learned skills in their everyday life) is susceptible to error. Further, research is now demonstrating that completion of treatment is not necessarily related to reduced sexual risk; rather, whether an individual demonstrates treatment gains relative to their pre-treatment risk is the important factor.[5]

The advantage of using the VRS-SO is that it allows evaluators to have clear guidelines to anchor their judgments and research has demonstrated that the treatment change on the VRS-SO is related to a reduction in sexual recidivism. Recently, Olver, Beggs-Christofferson, and Wong (2015)[6] applied logistic regression modeling to estimate 5-year rates of sexual recidivism as a function of the combined effect of the Static-99R score, VRS-SO pre-treatment dynamic score, and VRS-SO treatment change score. The formula provided in the above article has since been made accessible to evaluators in the form of an excel-based calculator so that evaluators can use the Static-99R, VRS-SO pre-treatment dynamic, and treatment change scores to obtain an individualized and more precise risk estimate. The current norms and excel-based calculator demonstrate good relative predictive validity and each of the three scores entered into the calculator make a unique contribution in the prediction of risk (i.e., incremental validity; see Olver et al., 2018).[4]

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[5] Olver, M. E., Mundt, J.C., Thornton, D., Beggs Christofferson, S. M., Kingston, D. A., Sowden, J. N., … & Wong, S. C. P. (2018). Using the Violence Risk Scale-Sexual Offense Version in Sexual Violence Risk Assessments: Updated Risk Categories and Recidivism Estimates from a Multisite Sample of Treated Sexual. *Psychological Assessment*, 30, 941-955.

[6] Olver, M. E. , Beggs Christofferson, S. M., & Wong, S. C. P. (2015). Evaluation and applications of the clinically significant change method with the Violence Risk Scale – Sexual Offender Version: Implications for risk-change communications. *Behavioral Sciences and the Law, 33*, 92-110.

Mr. Individual has made a large amount of change in treatment. When considering the combined effect of his static risk (Static-99R = 6), pre-treatment dynamic risk (VRS-SO pretreatment dynamic = 41), and treatment change (change score = 9), the VRS-SO generates the following sexual recidivism estimates based on the VRS-SO normative data:

- **5-year sexual recidivism estimate of 18% (confidence interval = 11% - 29%)**
- **10-year sexual recidivism estimate of 28% (confidence interval = 19% - 39%)**
- **His current risk as measured by the Static-99R and VRS-SO is in the "Well Above Average Risk" category**
- **Mr. Individual's post-treatment VRS-SO dynamic score of 32 indicates that 87% of the cases in the normative samples scored at or below this score.**

EXAMPLE OF A REPORT WRITE-UP #2

The VRS-SO consists of 7 static and 17 dynamic risk factors (i.e., potentially changeable personal, social, and psychological aspects of an individual's functioning) related to sexual recidivism. Each dynamic item is rated on a four-point (0, 1, 2, or 3) scale. Items rated a "3" indicate that the risk factor is present and related to sexual recidivism risk, and items rated a "2" indicate the presence of the risk factor to a less substantial degree. Items with 2 or 3-point ratings are considered criminogenic and are intended to be targeted for treatment. The dynamic items are further grouped under three broad factors: Sexual Deviance, Criminality, and Treatment Responsivity. Mr. X's dynamic factors are emphasized here to assist with case conceptualization and treatment planning.

Mr. X registered few criminogenic concerns on the Sexual Deviance factor. He received a 3-rating on Sexual Offending Cycle given that his index sentence represents his fifth sexual assault conviction and there is a discernible pattern to his sexual violence against women. As detailed above, all of these involved a high level of intoxication, acute intense episodes of anger, and perpetrated against adult female victims whom he had fairly recently been acquainted with, a number of whom reportedly rebutted sexual advances from Mr. X prior to the sexual assault occurring. Mr. X is assessed as being in the Precontemplation stage of change in terms of understanding his sexual offense cycle. Mr. X received 1-ratings on Sexual Compulsivity and Offense Planning and a 0-rating on the remaining three items. Although being physically aggressive in these sexual offenses, he did not appear to manifest gratuitous violence, and aside from a pattern of sexual promiscuity in the community, did not seem to evidence many signs of deviant sexual interests or a sexually deviant lifestyle pattern.

Most of the items on the Criminality factor are criminogenic for Mr. X including Criminal Personality (3-rating), Interpersonal Aggression (2-rating), Substance Abuse (3 rating), Community Support (3 rating), and Compliance with Community Supervision (2 rating). Mr. X has a large number of interpersonal and emotional personality features that are conducive to criminal activity (also see PCL-R section below). As he has moved frequently about the country over the years, leading an itinerant lifestyle and not setting down firm roots, Mr. X's community support network is almost nonexistent; he has a loose collection of family members, past romantic partners (some of whom he has assaulted), and casual friends and acquaintances (both positive and negative) spread out across parts of the country. Mr. X also has a longstanding pattern of substance dependence, particularly alcohol, which has been linked to episodes of sexual violence. Finally, Mr. X has evidenced a persistent pattern of interpersonal aggression, although his relative stability within a custodial setting and lack of aggression with this structure downgrades his score on interpersonal aggression (and for this reason as well, Mr. X received a 1-rating on Impulsivity). Mr. X is viewed to be in the Contemplation stage of change on most of these targets, that is, he is abundantly aware of his problems with substance abuse, lack of community support, and the need to cooperate with community supervision and case management planning, but he has not yet begun to implement skills and strategies to manage these areas.

Finally, in terms of the Treatment Responsivity factor, Mr. X has not yet developed much insight regarding past acts of sexual violence spanning five separate sentencing dates and nearly 30 years, and he thus received a high score on Insight (3-rating). Given his pattern of returning to high risk situations and reoffending following release and his current lack of viable risk-mitigating release prospects or use of relevant risk reduction skills, he also received a 3-rating on Released to High Risk Situations. Mr. X received a 2-rating on Cognitive Distortions given that he demonstrated considerable minimization about his culpability and the seriousness of past sexual offenses, although he did not otherwise seem to espouse blatant attitudes supportive of sexual offending. He also received a 2-rating on Treatment Compliance given his ambivalence toward attending sex offender treatment again; he is referred for such programming but has not yet begun services. He is viewed to be in the Precontemplation stage of change on each of the aforementioned Treatment Responsivity items with the exception of Released to High Risk Situations, which would be Contemplation, given his awareness that a poor release environment increases his risk and his desire to change same.

The Intimacy Deficits (2-rating) and Emotional Control (3-rating) items (which do not load on any of the three factors) are also relevant to Mr. X. He has clear deficits in the capacity to establish and maintain intimate relationships, has difficulty trusting others, especially within the context of such relationships, and has had a previous history of unstable and short-term relationships. Mr. X also has demonstrated a persistent pattern of emotional dysregulation, namely anger, linked to his incidents of sexual violence.

Overall, Mr. X presented as being predominately in the Precontemplation stage of change on his dynamic risk items, with a fewer number of risk areas as in the Contemplation stage of change. Individuals in the Precontemplation Stage of Change have not yet acknowledged their high risk factors and/or the need to address and mitigate these concerns. Those in the Contemplation Stage of Change acknowledge their risk factors but have not yet begun to implement and practice relevant risk reduction skills or strategies to mitigate their risk areas.

The VRS-SO norms are based on a combined sample of 913 treated sex offenders from four samples (three Canadian, one New Zealand) followed up a minimum 10-years post release. An online Excel calculator was created using the results of past validation research to generate 5 and 10-year estimates of sexual recidivism associated with VRS-SO scores and potential changes made from treatment or other change agents. Mr. X obtained a pretreatment VRS-SO combined static-dynamic total score of 47, placing him in the Above Average (Level IVa) range at about the 91st percentile. Given that he has yet to commence formal sexual offense specific programming, and sexually reoffended after completing such programming during his previous sentence he is assigned a baseline score of 0. Using the VRS-SO calculator, the estimated 5-year rate of sexual recidivism for a baseline score 47 and change of 0 is 33.2% while the 10-year estimate is 46.8%.

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