



catalyst
CONSORTIUM

Australian Consortium for Research Excellence
in Reducing Persistent Violence and
Sexual Offending

Understanding and Assessment Summary Report

An examination of the validity of the Level of Service Inventory-Revised Screening Version, Level of Service/Risk, Need, Responsivity, and Violence Risk Scale in a sample of Australian males incarcerated for serious violent offences

- ✓ LSI-R:SV, LS/RNR and VRS performed reasonably well in a high risk population of men designated as serious violent offenders, identifying which offenders were likely to reoffend at a level better than chance.
- ✓ There were no meaningful differences between the VRS and LS/RNR in ability to identify individuals at risk of general or violent reoffending. There may, however, be other benefits in using both measures in combination to inform treatment and management interventions.
- ✓ Very few participants were assessed as low risk suggesting current assessment processes could be streamlined by eliminating the screening assessment for men designated as serious violent offenders.

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Centre for Forensic
Behavioural Science

Background

Violence is a major problem with serious impacts on victims, offenders, prison services, the healthcare sector, and society more generally. Underpinning many violence reduction strategies is the assessment of violence risk which assumes that identifying the causes and likelihood of violence, combined with targeted treatment and management, can help prevent violence. As a result, violence risk assessment has become a central part of many criminal justice and forensic practices, informing decisions such as sentencing, parole, and access to rehabilitation programs. Ensuring that risk assessment measures used when making these decisions are accurate is critical for the effective treatment and management of offenders, and to reduce societal harm.

Commonly used risk assessment measures in criminal justice and forensic settings

Level of Service/Risk Need Responsivity (LS/RNR)

Assesses the rehabilitation needs of general offenders and their risk of reoffending (low, moderate or high).

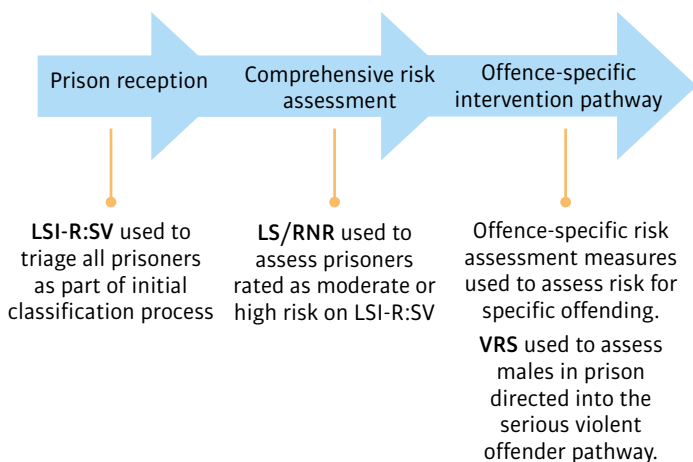
Level of Service Inventory-Revised: Screening Version (LSI-R:SV)

A condensed screening version of the LS/RNR that can be used when it is not feasible to complete the full version.

Violence Risk Scale (VRS)

Assesses a person's risk of violent reoffending and changes in risk level over time.

How these risk assessment measures are used in Victoria's prison system




Aims of the study


While there is a lot of international research about how well the LS/RNR and, to a lesser extent, the LSI-R:SV and VRS, assess risk for violence and violent and general reoffending, few studies have examined the validity of these measures in Australia. Given potential differences across locations, it is important that risk assessment measures are shown to be valid and useful in the local contexts in which they are used.

This study aims to address some of these gaps in knowledge by examining the predictive validity of the LSI-R:SV, LS/RNR and VRS for violent and general reoffending in a sample of males in prison in Victoria, Australia who have been convicted of a serious violent offence. The study also examines the incremental validity of the LS/RNR over the LSI-R:SV and the VRS over the LS measures in this population.

What is predictive validity?

 Predictive validity tells you how well a score on an assessment measure can predict reoffending.

What is incremental validity?


 Incremental validity tells you if a particular assessment measure improves predictive validity beyond that provided by existing methods of assessment.

Method

Sample

The sample comprised 348 adult males who were sentenced to prison in Victoria, Australia for a serious violent offence between 1 January 2015 and 31 December 2017 and who were assessed with the LSI-R:SV, LS/RNR and/or VRS during their period of imprisonment.

What is a serious violent offence?

 A serious violent offence is defined in section 3 of the Corrections Act 1986 (Vic). It includes murder, causing serious injury intentionally, aggravated burglary, making a threat to kill and false imprisonment).

Participant characteristics

348 males in prison

32.6 yrs (average age at time of first risk assessment)

312 (90%) born in Australia

161 (46.3%) Aboriginal and Torres Strait Islander*



* The proportion of Aboriginal and Torres Strait Islander participants in the sample was high due to deliberate oversampling.

Procedure

Risk assessment data were extracted from Corrections Victoria's administrative databases. The data was then linked to Victoria Police databases to obtain information about reoffending up until 31 December 2019. Reoffending was defined as any new criminal charges following release from prison.

Not all participants had complete risk assessment data for all three assessment measures. Accordingly, the cohort was separated into subsamples based on the risk measure/s of interest. Where a participant had been assessed multiple times with the same measure, the last assessment completed during their period of imprisonment before release was used for the analysis. If a participant was not assessed with the measure during their period of imprisonment, the first assessment completed in the community post-release was used.

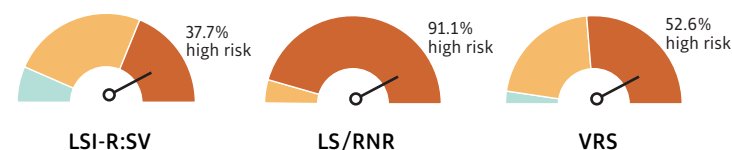
Number of participants in each risk assessment subsample



Results

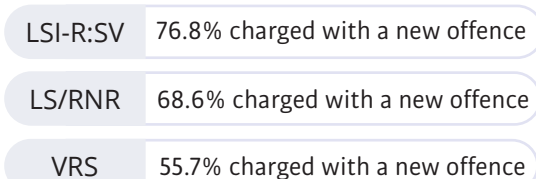
Level of risk and characteristics of reoffending

Across the three risk assessment measures, around half of the participants were categorised as high risk. **Less than 5% of the sample received a low risk rating.** This likely reflects the high risk nature of the population, with men designated as serious violent offenders less likely to be classified as low risk. Almost three quarters (74%) of men in the sample who were rated as moderate risk on the LSI-R:SV went on to be rated as high risk on the LS/RNR.



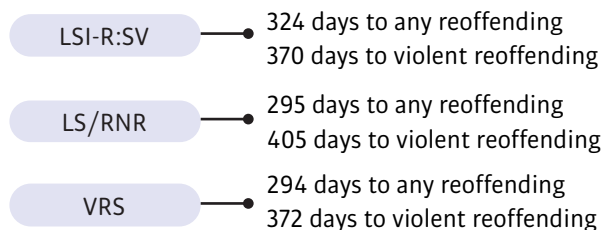
There was a very high rate of reoffending across the sample. This is unsurprising given the high risk nature of the population. But despite the high rate of reoffending across the sample, the proportion of participants who reoffended in the high and moderate risk categories were not considerably higher than in previous research.

Number of men in each risk assessment subsample charged with a new offence



In terms of the nature of reoffending, non-violent offences were more frequent than violent offences and typically occurred sooner following release from prison than violent offences.

Average time to first offence following release from prison for each risk assessment subsample



Predictive validity

Consistent with previous research, all three measures predicted reoffending at a level better than chance.

The VRS was better at identifying violent reoffending than non-violent reoffending, while the LS measures performed best at predicting general reoffending.



The likelihood of reoffending increased as the total risk score increased for all three measures.

Predictive values

Positive predictive values (PPV) represents the proportion of men in the sample classified as high risk who went on to reoffend.

Negative predictive values (NPV) represents the proportion of men in the sample classified as low risk who did not go on to reoffend.

All three risk measures performed more strongly when predicting who would not reoffend violently (NPV) than who would go on to reoffend violently (PPV) within 12 months post-release.



Predictive validity over time

Generally, predictive validity increased over time, with most measures demonstrating better performance for the prediction of reoffending outcomes at one and two years post-release from prison compared to the first six months post-release.

Predictive validity of risk assessment measures for any reoffending and violent reoffending over time

		3 months	6 months	12 months	2 years
LSI-R:SV	Violent	X	X	Poor	Poor
	Any	X	Poor	Poor	Adequate
LS/RNR	Violent	Adequate	Adequate	Adequate	Good
	Any	Poor	Adequate	Adequate	Good
VRS	Violent	Adequate	Adequate	Good	Good
	Any	Poor	Poor	Adequate	Good

X predictive performance no better than chance

Incremental validity

LS/RNR added information about risk that improved prediction of both general and violent reoffending outcomes compared to the LSI-R:SV. But combining the VRS and LS measures did not add any information to the prediction of any reoffending outcomes suggesting that the measures are similarly able to identify individuals who will reoffend.

LSI-R:SV + LS/RNR =



LS/RNR added information to LSI-R:SV

LSI-R:SV + VRS =
LS/RNR + VRS =



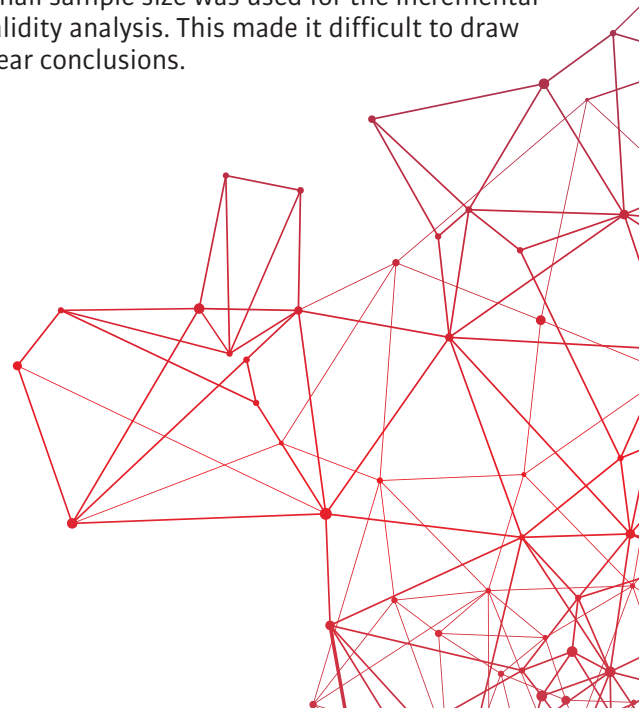
LS measures and VRS similarly able to identify reoffending

Key implications

- ✓ LSI-R:SV, LS/RNR and VRS are able to identify which men designated as serious violent offenders are more likely to reoffend, identifying those who were likely to reoffend at a level better than chance.
- ✓ In the study population, there are no meaningful differences between the VRS and LS/RNR in ability to identify men at risk of general or violent reoffending. This suggests little gain in risk assessment accuracy from using both measures in this group. However, given the VRS and LS/RNR identify different treatment needs and measure treatment change differently there may be other benefits in using the measures in combination to inform treatment and management interventions.
- ✓ The small number of participants categorised as low risk on the LSI-R:SV and LS/RNR suggests that Victoria's current assessment process could be streamlined by eliminating the screening assessment for men designated as serious violent offenders.
- ✓ The LS/RNR performed better than the LSI-R:SV at predicting reoffending. This is likely because of the considerable proportion of participants classified as moderate risk on the LSI-R:SV who were later classified as high risk on the LS/RNR, suggesting that relying solely on the LSI-R:SV may underestimate risk in some high risk individuals.

Key limitations

- ⚠ Unique and complex sample that may not be generalisable to other samples of men and women convicted of violent offences.
- ⚠ Not all men in the sample received the same risk assessment which meant that separate, non-mutually exclusive groups were compared.
- ⚠ Impact of treatment or management interventions on risk level was not examined.
- ⚠ Small sample size was used for the incremental validity analysis. This made it difficult to draw clear conclusions.





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Detailed study findings will be published in peer reviewed academic journals.



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