

Validation of the Juvenile Sexual Offender Recidivism Risk Assessment Tool – II (JSORRAT-II) in Iowa

Douglas L. Epperson, Ph.D. – Washington State University
Christopher A. Ralston, Ph.D. – Grinnell College

Contact Information

- Douglas L. Epperson, Ph.D.
- Dean & Prof. of Psychology
- College of Liberal Arts
- P.O. Box 642630
- Pullman, WA 99164-2630
- 509-335-4581
- epperson@wsu.edu
- Christopher A. Ralston, Ph.D.
- Assistant Professor
- Department of Psychology
- Grinnell College
- 1116 8th Avenue
- Grinnell, IA 50112-1690
- ralstonc@grinnell.edu

Goals/Purposes of the JSORRAT-II

- Provide empirically based estimates of risk of juvenile sexual recidivism to inform a range of decisions, such as:
 - Placement
 - Programming
 - Treatment intensity
 - Resource allocation
- Reflected our belief that treatment outcomes must be defined and assessed with greater precision and specificity before good measures of modified risk can be developed

Development of the JSORRAT-II

- Collaborative project with Utah Juvenile Justice Services (Dave Fowers & John Dewitt)
- Exhaustive cohort of 636 male JSOs in Utah
- Extensive case review of large number of potential predictors
- Hierarchical and sequential logistic regression analyses identified 12 variables that were optimally predictive of juvenile sexual recidivism

Development of the JSORRAT-II (cont.)

- Details in Epperson et al. (2005). Actuarial risk assessment with juveniles who offend sexually: Development of the Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (JSORRAT-II). In D. Prescott (Ed.), Risk assessment of youth who have sexually abused: Theory, controversy, and emerging strategies. Oklahoma City, OK: Woods 'N' Barnes

Final 12 Variables that Comprise the JSORRAT-II (See attached score sheet)

- Sex Offending History
 - Number of SO adjudications
 - Duration of sexual offending
 - Number of SO victims
- Offense characteristics
 - SO while under supervision
 - Felony-level SO in a public place
 - Use of deception, grooming, enticement

- Abuse history (as victim)
 - Number of hands-on sexual abuse events as victim (official report)
 - Number of physical abuse events as victim (official report)
- SO treatment history
 - Completion status of prior SO treatments

- Special education history
 - Placement in a special ed. program
- School discipline history
 - Number of educational periods with discipline problems (elementary, middle school, high school)
- Non-sexual offending behavior
 - Number of adjudications for non-sexual offenses

Examples of Simple Categorical Scoring

1. Number of SO adjudications

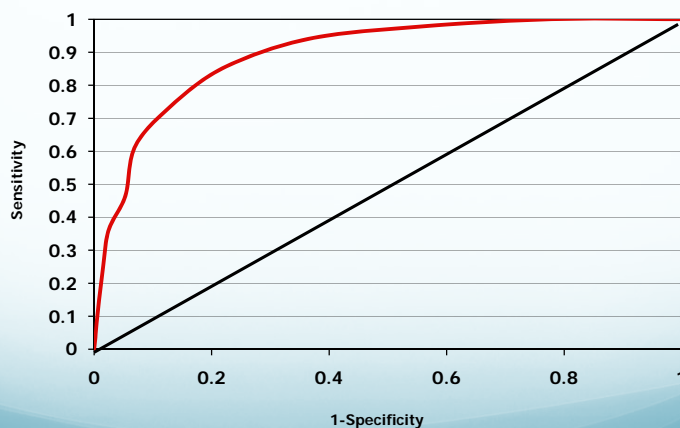
Value	Score	Recidivism Rate
1	0	6.2%
2	1	26.3%
3	2	35.1%
4+	3	41.4%

8. Number of officially documented hands-on, sexual abuse incidents in which the offender was the victim

Value	Score	Recidivism Rate
0	0	9.8%
1 – 4	1	26.0%
5+	2	46.2%

Performance of the Simplified Categorical Scoring Model

Area Under the ROC Curve = .89



Reliability of Student Coders

- Scored the same 16 cases selected by stratified (on expected score) random selection
- Singular ICC for absolute agreement was .96

Reliability of Evaluators

- Collaborative study with Michelle Gourley and colleagues
- Seven state evaluators who had attended a one-day training session
- Scored the same 17 cases (stratified random selection) over the next couple of weeks
- Singular ICC for absolute agreement was .91, which is excellent

Validation Studies

- Utah
 - completed for juvenile sexual recidivism but not for adult recidivism
- Iowa
 - completed for juvenile sexual recidivism but not for adult recidivism
- Georgia in progress
- Other states in preparation

Validation Studies (continued)

- Research methods in validation studies
 - Same file preparation and review as in the development study
 - Same training methods for coders, but using a coding grid instead of the old coding books
 - 12 JSORRAT-II variables plus about 30 research variables
 - 12 items were optimal in development study, but others may replicate better across samples

Utah Validation Study

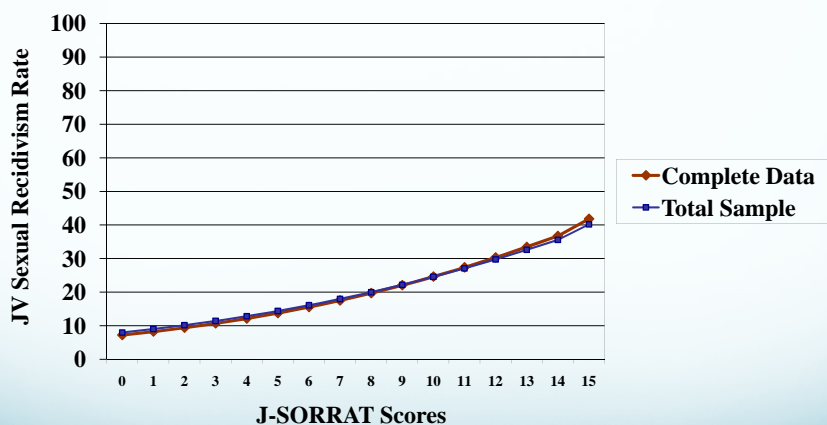
- Nearly exhaustive sample of 494 male JSOs
 - adjudicated sexual offense in 1996 or 1997
 - between the ages of 11.00 and 16.99 years
- Only real difference from development sample is temporal cohort
- Complete data sample of 406 JSOs having complete data for all 12 JSORRAT-II items
- Juvenile sexual recidivism base rates
 - 14.0% for full under age 17 sample (69/494)
 - 12.3% for complete data sample (50/406)

Utah Validation Study (continued)

- Areas under the ROC curves and 95% confidence intervals

Sample	ROC	95% CI
Full Sample (n=494)	.64	.57 to .71
Complete Data (n=408)	.66	.58 to .74

Predicted Probabilities: Total Sample (N = 494) and the Complete Data Sample (N = 408)



Optimal Risk Levels from Utah Validation Data

Risk Level	Score Range	Recidivists/ Non-Recid's	Recidivism Rate
1	0	1/56	1.8%
2	1-3	27/214	11.2%
3	4-7	25/108	18.8%
4	8+	16/47	25.4%

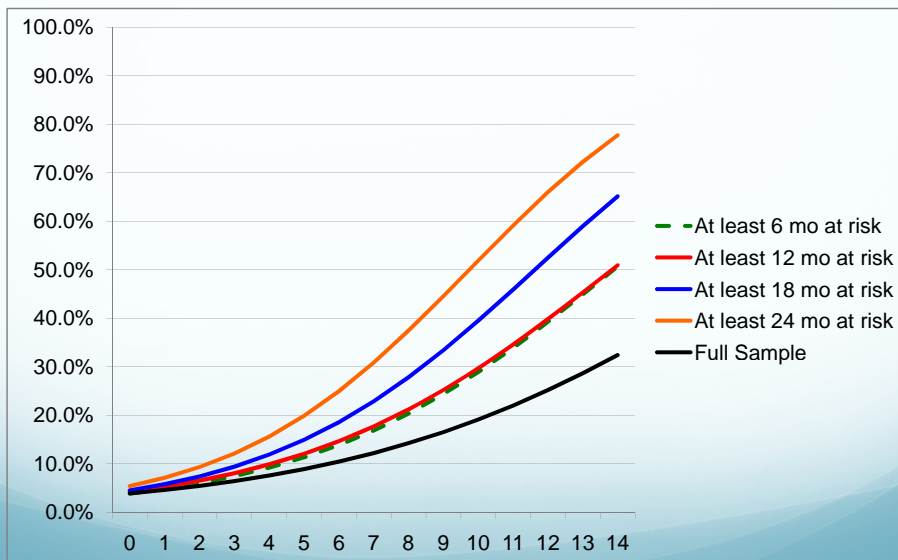
Iowa Validation Study

- Nearly exhaustive sample of 318 juveniles between 11 and 16.99
 - Adjudicated for a sexual offense on or after 1/1/2000 and turned 18 by March 2008
- Base rate for juvenile sexual recidivism was
 - 7.2% (23/318)
- ROC-AUC = .65 (95% CI of .54 - .75)

Time at Risk

	Total Sample	Recidivists	Non-Recidivists	Non-Recidivists Scoring 7+
No Secure Placement	39.3%	30.4%	40.0%	23.1%
Secure Placement	60.7%	69.6%	60.0%	76.9%
> 6 Months	44.3%	26.1%	45.8%	69.2%
> 9 Months	39.9%	17.4%	41.7%	69.2%
> 12 Months	34.6%	13.0%	36.3%	61.5%
> 15 Months	27.4%	13.0%	28.5%	53.8%
> 18 Months	25.2%	13.0%	26.1%	50.0%

Predicted Probabilities by Score and Time at Risk



Iowa Predicted Probability of Sexual Recidivism (<17-year-old Sample)

Score	Predicted Probability				Score	Predicted Probability			
	Total Sample	12-Mo. at Risk	18-Mo. at Risk	24-Mo. at risk		Total Sample	12-Mo. at Risk	18-Mo. at Risk	24-Mo. at Risk
0	.039	.043	.045	.054	8	.142	.212	.278	.374
1	.046	.053	.058	.071	9	.165	.252	.334	.445
2	.054	.065	.074	.093	10	.191	.297	.395	.519
3	.064	.080	.094	.121	11	.220	.346	.459	.591
4	.076	.099	.119	.156	12	.252	.398	.525	.660
5	.089	.120	.149	.199	13	.287	.453	.590	.723
6	.104	.146	.186	.250	14	.324	.509	.651	.777
7	.122	.177	.229	.309					

Optimal Risk Categories from Iowa Data

Risk Level	Score	Sexual Recidivism Rates			
		Total Sample	12-months at Risk	18-months at Risk	24-months at Risk
1	0 -1	0.0%	0.0%	0.0%	0.0%
2	2 – 6	8.1%	10.1%	11.6%	14.8%
3	7 +	18.8%	30.0%	35.3%	46.2%

Summary

- JSORRAT-II has been successfully validated in two states
- Although the predictive validity was statistically significant in both studies, it was less accurate than in the development sample
- This suggests that there may have been considerable “capitalization on chance” in the development sample -- but

Additional Likely Contributors

- Given that both Utah samples are exhaustive samples of JSO's that differ only temporally (1990-92 and 1996-97)
AND
- Given the much lower number of prior sex offense charges & adjudications in the validation samples
AND
- Given the dramatically lower recidivism rate for the Iowa sample (consistent with national trends)

Additional Likely Explanations (cont.)

- There may have been systemic changes between 1990-92 and 1996-97 and again between the mid-1990's and early 2000's in the way JSO's were charged, adjudicated, and managed
- Discussions with Utah JJS officials confirms that beginning in about 1995 more minor offenses were charged and processed through the juvenile court
 - More first-time offenders with minor offenses and little history. More minor offenses as recidivating offenses

Additional Likely Explanations (cont.)

- In Iowa, there is a possibility of a decreased likelihood of adjudicating sex offenses as sex offenses because of the consequences of registration and community notification
- Risk management (i.e., supervision) and reduction (i.e., treatment) strategies may be working

Future Research

- Revisit Utah validation data to explore time at risk
- Perform additional analyses in both the Utah and the Iowa validation samples controlling for severity of index and recidivating offenses

Future Research (continued)

- Complete validation studies in other states
 - Will provide multiple data points and ability to look for patterns (e.g., are Utah and Iowa validation samples outliers or part of a larger pattern)
 - If part of a larger pattern, evaluate research items for possible substitution to increase accuracy across states

Future Research (continued)

- Collect and analyze adult recidivism for Utah and Iowa validation samples
 - Continue to follow both Utah samples (development and validation samples) and the Iowa sample (n = 1540 for three samples combined) further into adulthood
 - Examine temporal patterns in offending
 - Further assess ability, if any, to predict sexual offending as adults

Use of the JSORRAT-II

- May be used experimentally to tentatively advise treatment and programming decisions
- May be used to advise forensic decisions in Utah and Iowa, as well as in Georgia and California where the tool is being validated concurrently with use
- Assessments expire at age 18

Use of the JSORRAT-II (continued)

- Use of the JSORRAT-II is free, but we ask that you request permission in an email that states your intended use
- Requests for scoring manuals and other materials and permission to use should be directed to Doug Epperson
- Questions may be directed to either of us
- Confidence in the accuracy and reliability of scores requires careful review of the scoring manual, training, and supervised scoring of practice cases