

# Creation and Validation of the Inmate Risk Assessment for Violent Victimization (IRAVV)

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# Inmate Victimization

- 28 of every 1,000 U.S. inmates were victims of an assault in 2000 (Stephan & Karberg, 2003)
- 25% of male inmates reported a fellow inmate assaulted them while in custody (Wolff et al., 2007)
- No evidence to indicate institutional violence is decreasing on a system-wide level

# Why is Inmate Victimization Research Important?

- Prison officials have a responsibility to keep inmates safe
- Rehabilitation is difficult when violence is pervasive
- Effective policies and preventative strategies must begin with the knowledge of what factors elevate risk for victimization

# Predicting Inmate Victimization

- Race
- Age
- Criminal history
  - Violent and sex offenders
- Sentence length
- Mental health status

# Current Study

- There are two potential methods to assess inmate risk
  1. The prediction of perpetrators
  2. The prediction of victims
- The goal of this study was to develop a risk assessment that predicts inmate violent victimization

# Violent Victimization

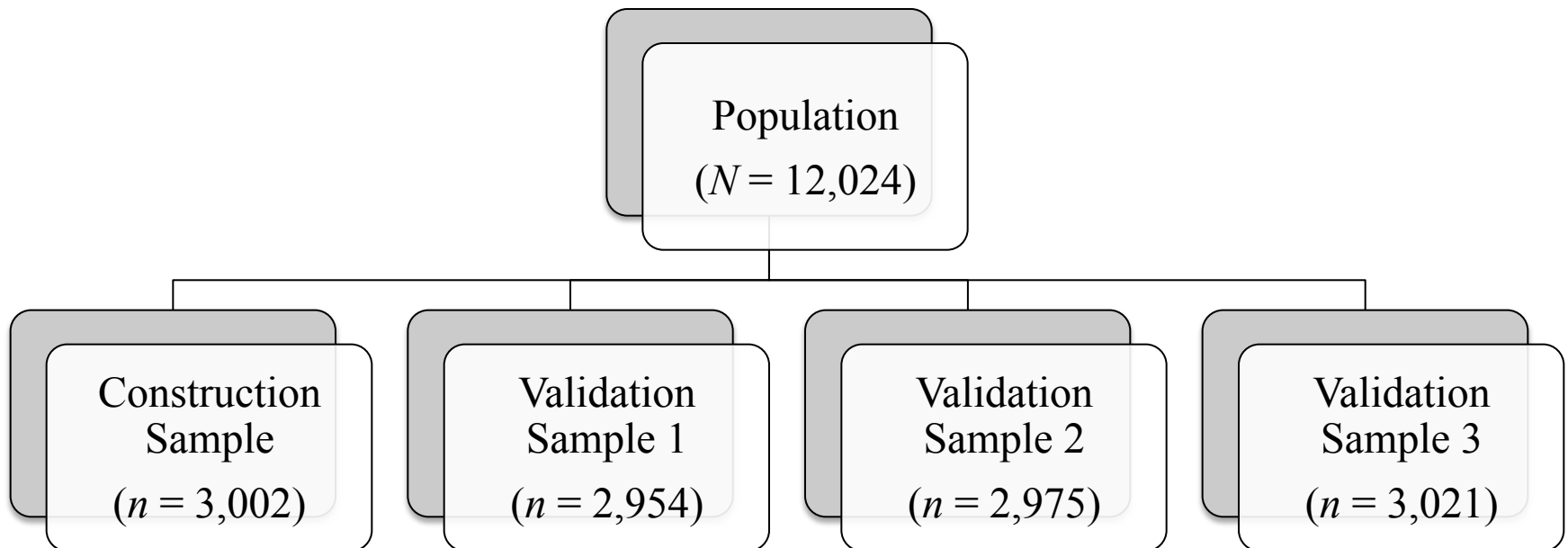
- Any institutional incident where an inmate was the victim of an assault by another inmate
- Does not include:
  - Property victimizations
  - Sexual assaults
  - Assaults by staff

# Population

- Federally sentenced inmates
- Released during 3-year period
  - 1999 to 2001
- Male
- Non-Aboriginal
- Served at least 6-months

# Sampling Procedure

- 25% Random Selection with Replacement





# Descriptive Statistics for Total Sample

Characteristic	%
White	85.2
Married	41.8
Graduated high school	21.9
Prior federal sentence	29.0
History of violence	68.4
Mean age at admission ( <i>SD</i> )	32.9 (10.3)
Median time served in days ( <i>QD</i> )	723.0 (401.4)

# The Creation of the IRVV

- DV was violent victimization
- Began with 345 theoretically relevant IVs
- Zero-order correlations  $p \leq .01$  kept
- All significant variables were put into a multivariate model and ( $p \geq .01$ ) eliminated
- Process continued until only significant variables remained

# IRAVV

Item	<i>b</i>	S.E. <sub>(<i>b</i>)</sub>	Odds Ratio
Three or more sex offense criteria	1.17*	.32	3.21
Ever an instigator of institutional misconduct	.84*	.22	2.31
Ever placed in segregation as a punishment	1.73*	.20	5.64
Use drugs when stressed	.46*	.20	1.59
Poor regard for others	.62*	.22	1.85
Mental health diagnosis – past	.70*	.24	2.01
Constant	-4.71*	.27	.01
Model Chi-Square ( <i>df</i> )	163.16 (6)		
-2 Log Likelihood	824.82		
Nagelkerke R <sup>2</sup>	.20*		

Note: \*  $p \leq .001$ .

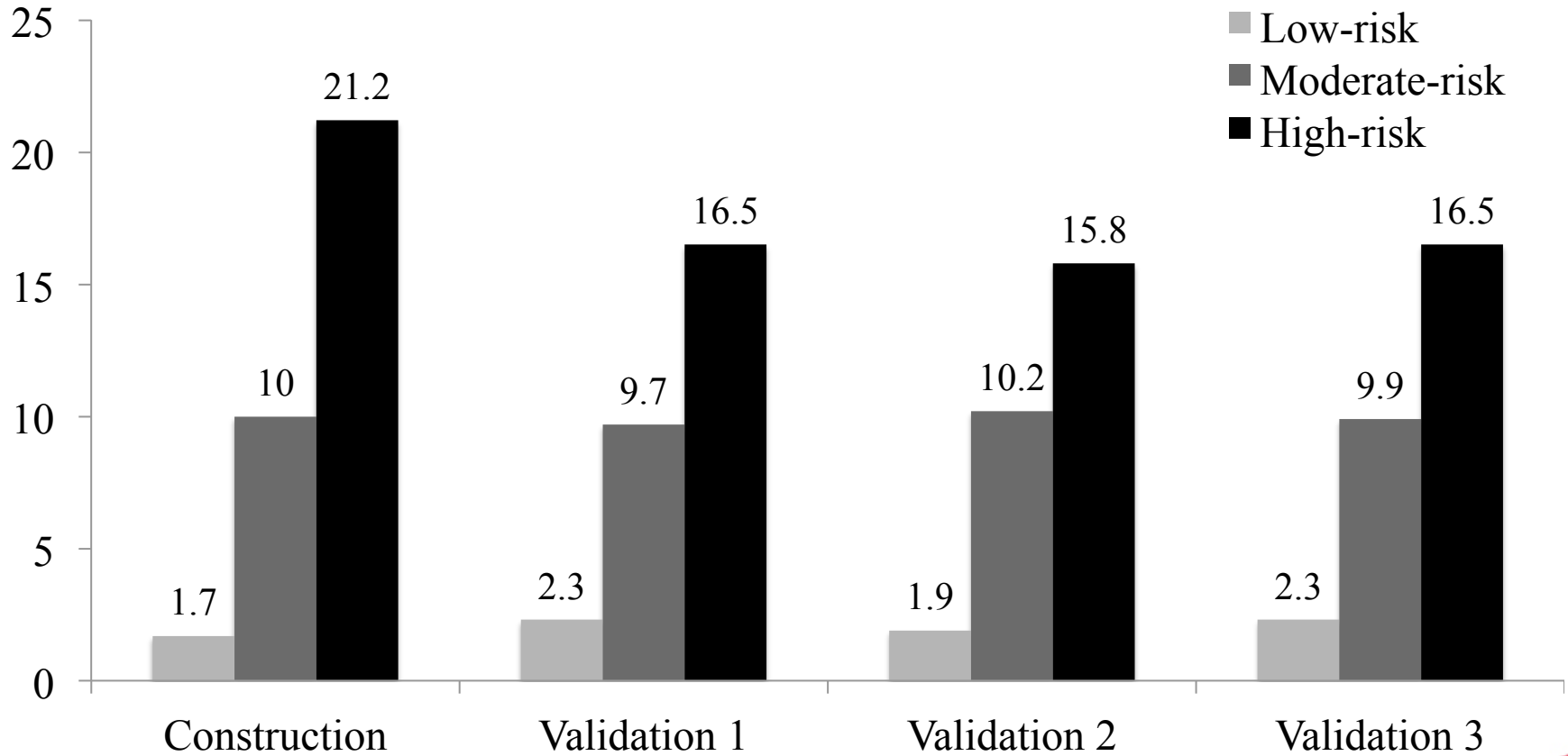
# IRAVV Assessment

Item Number	Risk Factor	Add	Score
1	Meets three or more of the sex offense criteria	11.7	
2	Ever an instigator of an institutional misconduct	8.4	
3	Ever placed in segregation for punishment	17.3	
4	Uses drugs when stressed	4.6	
5	Poor regard for others	6.2	
6	Mental health diagnosis – past	7.0	
		Total Score	

# IRAVV Risk Categories

<b>Score:</b>	<b>Risk Category:</b>
15.00 or fewer	1: Low-risk
15.01 – 25.00	2: Moderate-risk
25.01 – 55.20	3: High-risk

# % Violently Victimized



# Correlations & AUCs of IRAVV on Violent Victimization

Sample	<i>r</i> [95% CI]	AUC [95% CI]
Construction*	.28 [.24, .32]	.78 [.74, .82]
Validation 1*	.22 [.18, .26]	.73 [.68, .78]
Validation 2*	.23 [.19, .27]	.74 [.69, .79]
Validation 3*	.22 [.18, .26]	.73 [.68, .78]

Note: \*  $p \leq .001$ .

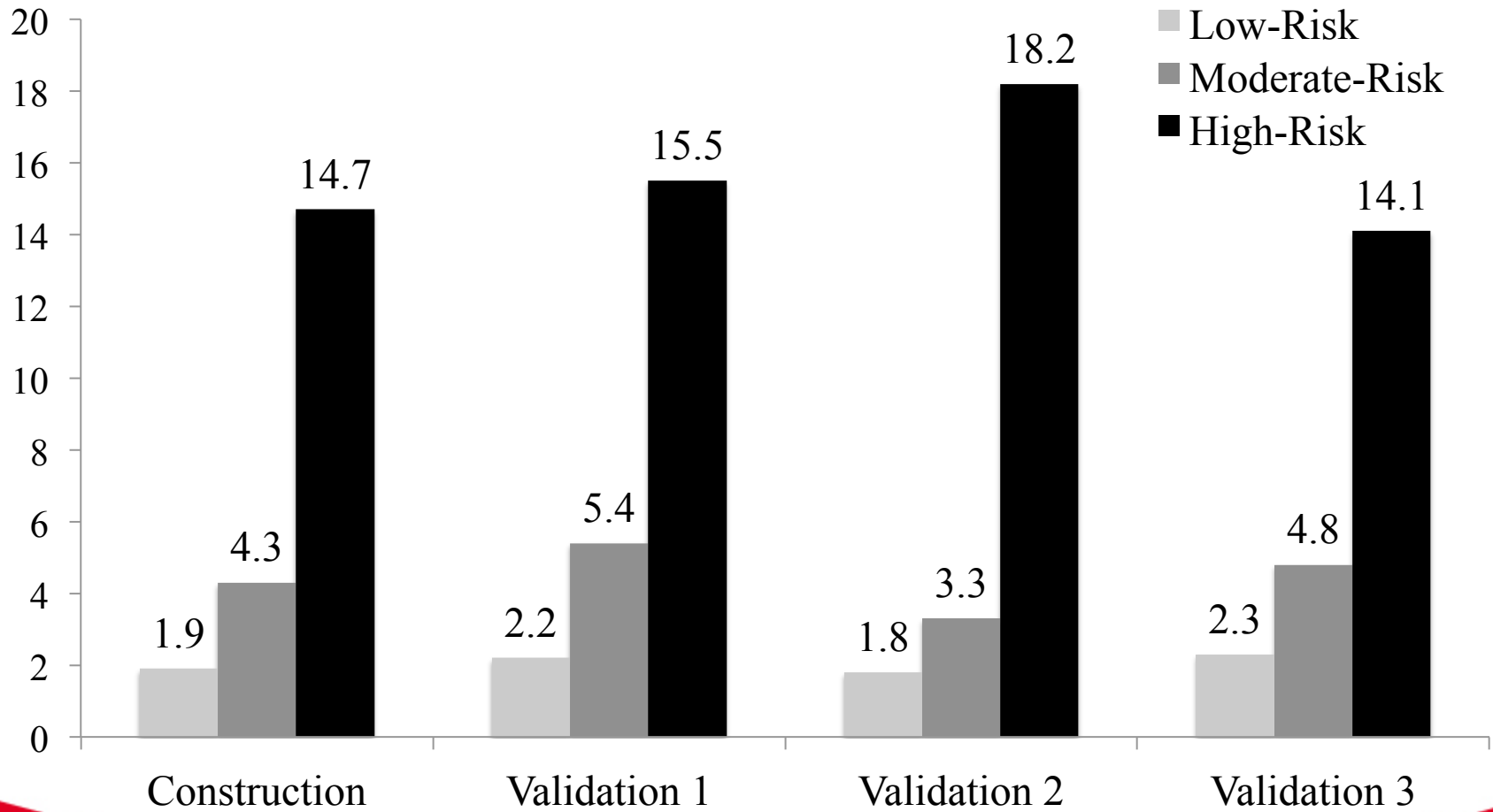
## Effect of IRAVV on Violent Victimization Controlling for Other Correlates of Victimization Risk

	<b>Construction</b>	<b>Validation 1</b>	<b>Validation 2</b>	<b>Validation 3</b>
Race	.61	.73	.51	.80
Marital Status	1.05	1.19	1.14	1.17
Education	1.05	1.53	1.44	1.41
Criminal History	.80	.69	1.03	.77
Violent History	1.08	1.20	1.04	1.04
Age	.99	.99	.99	.99
Length of Sentence	1.08	1.00	1.11	1.09
<b>IRAVV Moderate-risk</b>	<b>7.15*</b>	<b>5.14*</b>	<b>6.40*</b>	<b>4.73*</b>
<b>IRAVV High-risk</b>	<b>17.07*</b>	<b>9.42*</b>	<b>10.37*</b>	<b>9.02*</b>
Constant	.03*	.03*	.03*	.03*
Model Chi-Square ( <i>df</i> )	159.05 (9)	104.78 (9)	115.27 (9)	100.50 (9)
-2 Log Likelihood	820.59	843.94	746.32	830.70
Nagelkerke $R^2$	.19	.13	.16	.13

Note: \*  $p \leq .001$ .



# % Non-Violently Victimized



# Correlations & AUCs of IRVV on Non-Violent Victimization

Sample	<i>r</i> [95% CI]	AUC [95% CI]
Construction*	.20 [.16, .24]	.72 [.66, .79]
Validation 1*	.20 [.17, .24]	.71 [.66,.77]
Validation 2*	.23 [.19, .27]	.74 [.68, .80]
Validation 3*	.17 [.13, .21]	.69 [.62, .75]

Note: \*  $p \leq .001$ .

# Effect of IRAVV on Non-Violent Victimization Controlling for Other Correlates of Victimization Risk

	<b>Construction</b>	<b>Validation 1</b>	<b>Validation 2</b>	<b>Validation 3</b>
Race	.95	1.18	.75	1.14
Marital Status	1.27	1.34	1.19	1.75
Education	1.20	1.31	.73	.85
Criminal History	.57	.95	.49	.64
Violent History	1.04	1.11	.92	1.13
Age	1.01	.98	1.01	1.01
Length of Sentence	1.17	1.01	1.10	1.10
<b>IRAVV Moderate-risk</b>	<b>2.41</b>	<b>2.55*</b>	<b>1.96</b>	<b>1.98</b>
<b>IRAVV High-risk</b>	<b>9.31*</b>	<b>9.42*</b>	<b>13.32*</b>	<b>7.36*</b>
Constant	.01*	.03*	.02*	.01*
Model Chi-Square ( <i>df</i> )	82.68 (9)	79.45 (9)	109.22 (9)	100.50 (9)
-2 Log Likelihood	660.96	729.82	612.28	830.70
Nagelkerke $R^2$	.13	.12	.17	.13

Note: \*  $p \leq .001$ .

# Conclusion

- Not intended to replace other risk assessments
- Predicts violent and non-violent victimizations
- Easy to use
- Can be used in classification decisions
- Divides inmates into manageable groups
  - Only 1 of 8 offenders was high-risk

# Where Do We Go From Here?

- More research with victimization as the DV
- IRAVV should be validated on other samples
- 3<sup>rd</sup> generation risk/needs victimization assessments need to be tested against current practices
- Not all factors are static, so theoretically we could treat them to reduce risk

# Creating Other Victimization Risk Assessments

- Other departments/systems could use similar process to develop a victimization risk tool
- 3 domains
  - Behavioral (patterns of victimizing/victimization)
  - Offender characteristics (S.O., M.H., easy targets)
  - Managing emotions/relationships
    - How offender deal with stress
    - How offender deals with other inmates

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