The Predictive Validity of Static-99R Over 10 Years for Sexual Offenders in California: 2018 Update

Seung C. Lee

Presentation at SARATSO Committee Meeting on April 12, 2018
Purpose

- Updated the 2014 study (Hanson et al., 2014)

- $N = 475$
- Paroled sex offenders
- Static-99R
- 5-year follow-up period
Hanson et al. (2014)

✓ Good discrimination
  • AUCs of .75 to .86; White, Black, Hispanic

✓ Good calibration
  • $E/O = 1.30 \ [0.87, 1.96]$
What is the New?

1) Additional Information of
   - Death
   - Deportation
   - Sex offender registry

2) New Standardized Risk Categories
   - I, II, III, IVa, and IVb

3) 10-year follow-up period
# Current Study

<table>
<thead>
<tr>
<th>Information of</th>
<th>New Risk Categories</th>
<th>Follow-up period</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Death, Deportation, Sex offender registry)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>PART I</td>
<td>YES</td>
<td>5 years</td>
</tr>
<tr>
<td>PART II</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
PART I

Total Sample (N = 541)

- 371 (68%)
- 119 (22%)
- 26 (5%)
- 25 (5%)

Deportees (n = 119)

- 107 (90%)
- 8 (7%)
- 2 (1%)
- 2 (2%)

Death
Deported
Terminated
PART I Sample

White
Black
Hispanic
Other
PART I

Racial Distribution

Hanson et al. (2014)

- White: 140 (29%)
- Black: 99 (21%)
- Hispanic: 36 (8%)
- Other/Unknown: 200 (42%)

Current Study

- White: 146 (39%)
- Black: 102 (27%)
- Hispanic: 95 (26%)
- Other/Unknown: 28 (8%)

N = 475
N = 371
PART I

Fixed 5-year follow-up period

Sexual Recidivism Rates

Hanson et al. (2014)  Current Study

- White: 7.1  6.9
- Black: 7.1  6.9
- Hispanic: 2.5  5.3

Hanson et al. (2014)  Current Study

- 0% 1% 2% 3% 4% 5% 6% 7% 8%

- White  Black  Hispanic
PART I

Fixed 5-year follow-up period

Hanson et al. (2014)
PART I

Conclusion

✓ Good discrimination
  • AUCs of .72 to .85; White, Black, Hispanic

✓ Good calibration
  • \( E/O = 1.34 \ [0.89, 2.01] \)
  • Sexual recidivism rates for Hispanic sex offender became comparable with the sexual recidivism rates for White and Black ethnic groups, as well as the norms of Static-99R.
PART II

• \( N = 338 \)

• Fixed 10-year Follow-up Period

<table>
<thead>
<tr>
<th>Racial groups</th>
<th>Sexual recidivism rates (%)</th>
<th>Number of Recidivists/Total</th>
<th>Static-99R ( M (SD) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>10.6</td>
<td>14/132</td>
<td>2.42 (2.38)</td>
</tr>
<tr>
<td>Black</td>
<td>10.8</td>
<td>10/93</td>
<td>2.85 (2.15)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.8</td>
<td>10/85</td>
<td>2.11 (2.24)</td>
</tr>
<tr>
<td>Total</td>
<td>10.4</td>
<td>35/338</td>
<td>2.43 (2.25)</td>
</tr>
</tbody>
</table>

✓ Similar sexual recidivism rates across the ethnic groups

✓ Black sex offenders had the highest Static-99R score and Hispanic sex offenders had the lowest score.
• BUT, there were no significant differences.
# Offense-Free Effect

## Sexual Recidivism Rates

<table>
<thead>
<tr>
<th></th>
<th>5-year follow-up period (PART I)</th>
<th>10-year follow-up period (PART II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>6.85% (10/146)</td>
<td>10.6% (14/132)</td>
</tr>
<tr>
<td>Black</td>
<td>6.86% (7/102)</td>
<td>10.8% (10/93)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.26% (5/95)</td>
<td>11.8% (10/85)</td>
</tr>
<tr>
<td>Overall</td>
<td>6.20% (23/371)</td>
<td>10.4% (35/338)</td>
</tr>
</tbody>
</table>

- The sexual recidivism rate halves every 5-year offense-free in the community (Hanson et al., 2018).

- Offense-free effect in this California sample
  - 6.20% (23/371) vs. 3.80% (12/315)
    - 0-5 Year vs. 5-10 Year
PART II

AUC

<table>
<thead>
<tr>
<th></th>
<th>5-year follow-up period (PART I)</th>
<th>10-year follow-up period (PART II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>.852 [.724, .980]</td>
<td>.849 [.736, .961]</td>
</tr>
<tr>
<td>Black</td>
<td>.755 [.549, .961]</td>
<td>.628 [.421, .836]</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.723 [.431, .999]</td>
<td>.696 [.478, .914]</td>
</tr>
<tr>
<td>Overall</td>
<td>.806 [.701, .911]</td>
<td>.751 [.651, .850]</td>
</tr>
</tbody>
</table>

- Good discrimination for White and Hispanic groups was consistent with time.
- Lower AUC for Black with a 10-year follow-up period
Discrimination for full sample declines slightly over time (non-significant)

\[ \rho = -0.22, \chi^2 = 2.04, p = 0.15 \]

Scatter plot of scaled Schoenfeld residuals from Cox regression model
California 10-year rates are similar to those found in other routine samples

<table>
<thead>
<tr>
<th>Settings</th>
<th>Sexual Recidivism Rate (%, n/N)</th>
<th>Base rate (Static-99R score of 2)</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada (Boer, 2003)</td>
<td>7.80 (23/295)</td>
<td>3.81%</td>
<td>[1.92%, 7.40%]</td>
</tr>
<tr>
<td>North Dakota (Epperson, 2003)</td>
<td>22.2 (8/36)</td>
<td>2.53%</td>
<td>[0.13%, 34.3%]</td>
</tr>
<tr>
<td>Sweden (Långström, 2004)</td>
<td>7.37 (26/353)</td>
<td>4.83%</td>
<td>[2.85%, 8.08%]</td>
</tr>
<tr>
<td>New Jersey (Mercado et al., 2011)</td>
<td>9.01 (10/111)</td>
<td>6.12%</td>
<td>[2.43%, 14.6%]</td>
</tr>
<tr>
<td>California (Current Study)</td>
<td>9.17 (31/338)</td>
<td>6.07%</td>
<td>[3.76%, 9.62%]</td>
</tr>
</tbody>
</table>

\[ Q (\text{df} = 4) \] \text{1.77, } p = .777

\[ I^2 \] .00

Average (fixed-effect) 5.12% [3.81%, 6.84%]
PART II

Conclusion

✓ Overall good discrimination
  • Lower for Blacks (AUC and Harrell’s C of .63)
    • Meaningful? or Chance variation due to small sample?

✓ No calibration analysis for Static-99R risk levels
  • BUT, overall 10-year sexual recidivism rates in this California sample were comparable to the rates observed in other jurisdictions.
Overall Conclusion

✓ Support the continued use of Static-99R in California for 5- and 10-year risk assessments.

✓ Consider the time they have been sex offense-free in the community in the overall evaluation of risk.
Thank you

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