

# ACTUARIAL RISK ASSESSMENT OF INTRAFAMILIAL SEX OFFENDERS: PREDICTIVE VALIDITY OF THE STATIC-99 AND SONAR



Thea Gumbert

BPsych Hons

University of New South Wales

Professor Jane Goodman-Delahunty

Australian Graduate School of Policing

Charles Sturt University



# BACKGROUND

- Intrafamilial sex abuse refers to male adults who abuse minors with whom they have a parenting role, whether or not they are biological parents
- Little previous research exclusively on intrafamilial sex offenders--sample availability
- Researchers and clinicians distinguish incest from other types of sex offenders (Herman, 2000; Johnson, 2007)
- Differences may limit usefulness of risk assessment tools designed for extrafamilial and mixed-type sex offenders
- Implications for policy if risk is underestimated

# INTRAFAMILIAL SEX OFFENDERS

- *Noone has been able to come up with a psychological 'profile' to identify incest offenders, because they look too normal*

(Herman, 2000)

- **Typical incest offenders:**
  - Stable relationships--married or de facto
  - No history of criminal or sexual offending
  - Unlikely to use violence when offending

(Herman, 2000; Johnson, 2007)

- *...for many, the problem seems to be less some special motivation to abuse children than a general problem involving the **failure to inhibit urges and impulses**... these offenders may better be portrayed as 'opportunity takers' than 'sexual deviants'*

(Wortley & Smallbone, 2006)

- Self-regulation problems may underlie sexually inappropriate interests and behaviour, as well as general criminality, in both intra- and extra-familial sex offenders.

(Stinson, Becker & Sales, 2008)

# RISK ASSESSMENT INSTRUMENTS

## STATIC-99 (Hanson & Thornton, 1999)

- Extensive use to assess risk of sexual and violent recidivism
- Few and inconsistent results for intrafamilial sex offenders.
- 10 static risk factors: fixed, historical variables
  - 5 variables -prior criminal/sexual/violent offences
  - 3 victim variables
  - Young age and history of living with an intimate partner
  - Scores range 0 - 12

## SONAR (Hanson & Harris, 2001)

- Little research beyond initial analyses by authors.
- 9 dynamic predictors: changeable over time
  - 5 stable factors: social functioning, sexual and general self-regulation
  - 4 acute dynamic factors: substance abuse, negative mood, anger/hostility, victim access/grooming
  - Scores range from -3 to 14

# POTENTIAL ISSUES

- Little indication SONAR is useful, lack of research.
- Some individual risk factors in STATIC-99 more useful than others.
- **Viability of STATIC-99 for intrafamilial offenders:**
  - **Relation to victims:** an offender must be biologically related/have lived with victim for > 6 months to be coded as "related," true for 97.2% in this sample – others had prior unrelated victims.
  - **Stranger victims:** few intrafamilial offender also target stranger victims
  - History of **living with an intimate partner**
    - Indicator of intimacy deficits
- Problems for Index nonsexual violence
- Prior nonsexual violence, sex offences, sentencing dates, and non-contact sex offences may not be appropriate predictors.

# NSW DIVERSION OF OFFENDERS

- Government-funded (SWAHS) treatment program for intrafamilial child sex offenders since 1989
- Eligibility for referral:
  - Charged with sexual abuse of a child in care
  - No overt force/violence during the abuse (though 3.8% did)
  - No prior sexual offence *convictions* (6.1% did)
  - Plead guilty

Average of 15 referrals annually

Referrals 1989-2003 comprised study sample

Recidivation period of 4 - 18 years

# METHOD

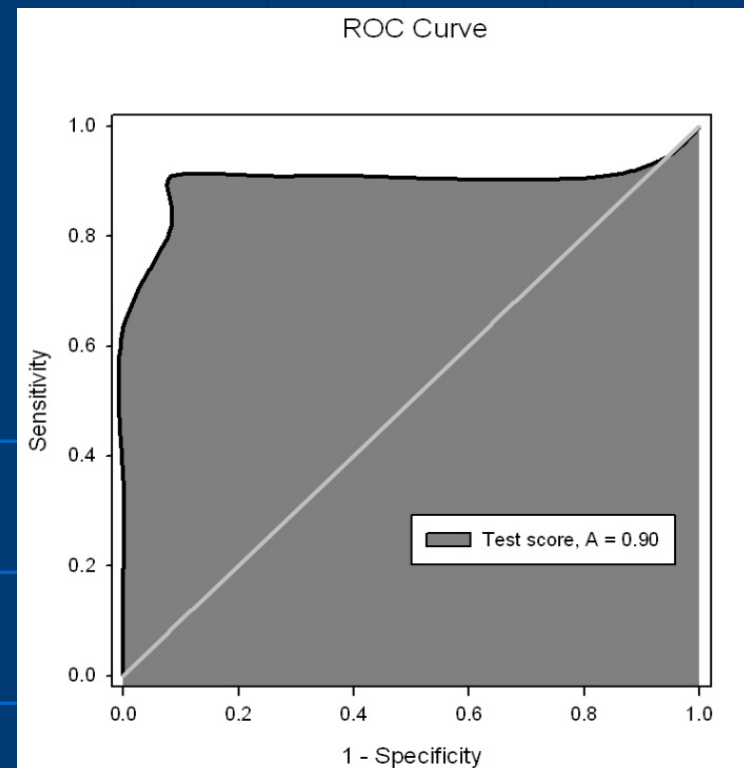
- **Design:** Quasi-experimental, retrospective
- **Sample:** 213 males referred to Cedar Cottage
- **SONAR:** manual audit of case files (n=183 as some files lacked required data)
- **STATIC-99:** data extracted from NSW Police Computer Operationalised Policing System (COPS) and BOCSAR Recidivism Offence Database (ROD) (n=213)
- **4 measures of recidivism:**
  - Sexual, violent, nonsexual nonviolent, all
  - Operationalised at lowest official threshold of detection (official reports), and charges/convictions.

# ANALYSIS

- Cox proportional hazards regression (Cox ph)
  - “Survival” analysis, time to recidivate
  - Estimate of linear relationship between multiple variables and recidivism.
  - Probability of recidivism predicted by IV=hazard ratio
    - If ratio=1, IV has no effect on recidivism.
    - If ratio=2, IV doubles the chance of recidivism (if ratio=.5, it is halved)
- Predictors: SONAR and STATIC-99 total scores, individual risk factors (e.g., prior sentence dates)
- Tested on all 4 types of recidivism.

# ANALYSIS, cont.

- ROC curves
- Use for STATIC-99 and SONAR scores
- Measure sensitivity vs. specificity of IV as predictor of DV
- Area Under Curve (AUC):
  - 1.0 perfect
  - .70 good
  - .60 fair
  - .50 chance level



# RESULTS - STATIC-99

| Recidivism risk factor            | Recidivism type | Hazard ratio | <i>P</i> value |
|-----------------------------------|-----------------|--------------|----------------|
| Prior non-contact sex offences    | All             | 5.268        | .022*          |
| Prior non-contact sex offences    | Sexual          | 14.519       | .001**         |
| Prior non-sexual violent offences | All             | 1.947        | .027*          |
| Prior non-sexual violent offences | NSNV            | 2.464        | .003**         |
| Prior sentencing dates            | All             | 2.215        | .027*          |
| Prior sentencing dates            | NSNV            | 2.199        | .039*          |
| Prior sentencing dates            | Violent         | 3.655        | .022*          |
| Unrelated victims                 | Sexual          | 4.425        | .046*          |

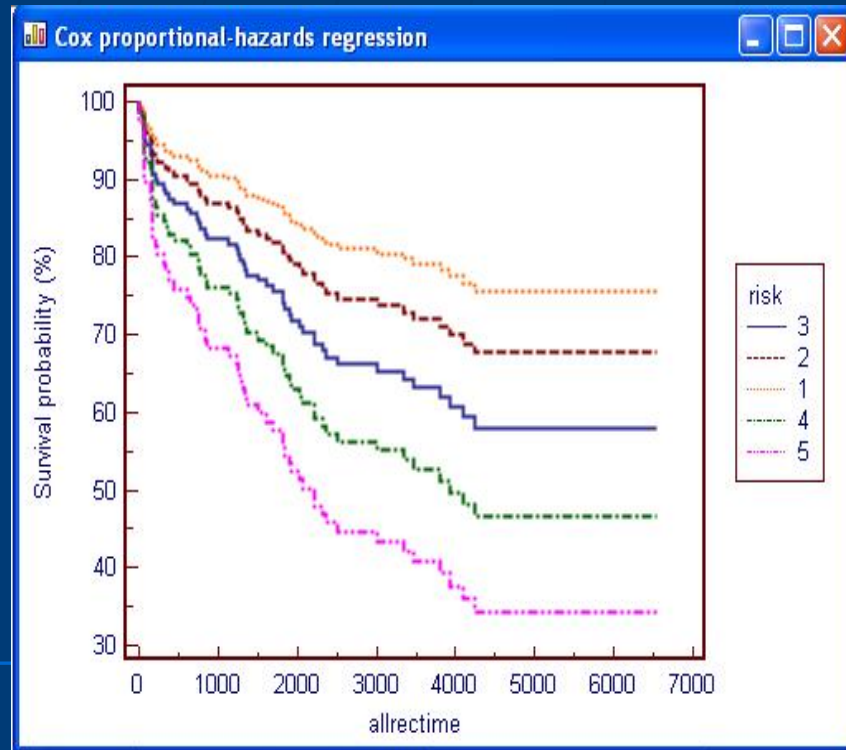
n = 213

# RESULTS - SONAR

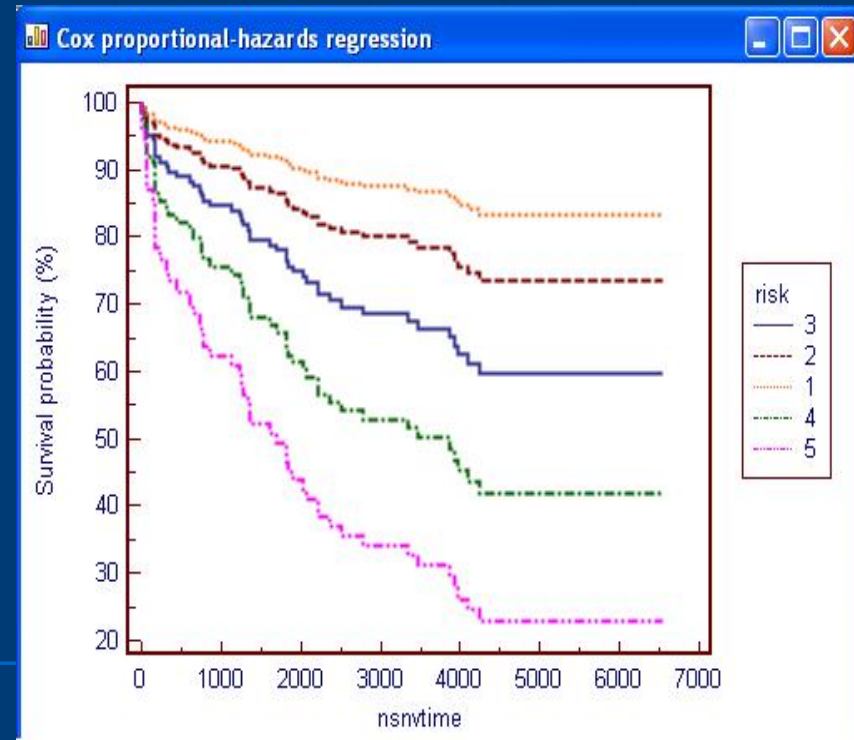
| Recidivism Risk Factor           | Recidivism Type | Hazard ratio | p value           |
|----------------------------------|-----------------|--------------|-------------------|
| Total score                      | All             | 1.150        | .032*             |
| Total score                      | NSNV            | 1.173        | .024*             |
| Negative social balance          | NSNV            | 1.634        | .047*             |
| Negative social balance          | Violent         | 1.976        | .058 <sup>†</sup> |
| Sexual self-regulation problems  | All             | 2.075        | .003**            |
| Sexual self-regulation problems  | NSNV            | 2.162        | .004**            |
| General self-regulation problems | All             | 1.877        | .003**            |
| General self-regulation problems | NSNV            | 2.090        | .002**            |
| Increased victim access          | Violent         | .219         | .008**            |

n = 187

# SURVIVAL CURVES



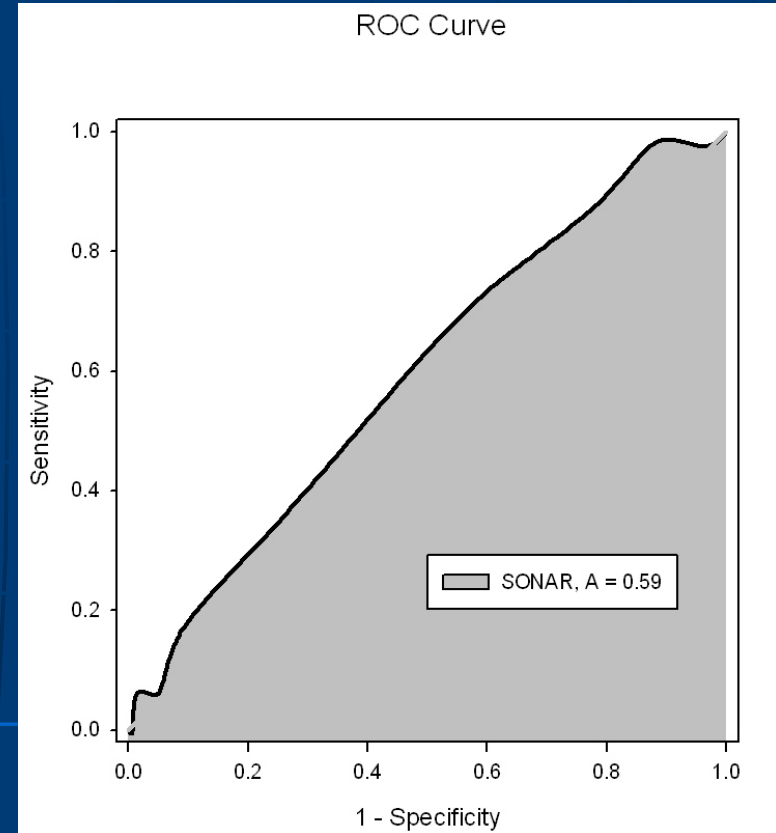
SONAR – all recidivism



SONAR – nonsexual nonviolent  
recidivism

# RESULTS, cont.

| Recidivism Type      | AUC  | p   |
|----------------------|------|-----|
| <b>STATIC-99</b>     |      |     |
| All                  | .559 | .16 |
| Sexual               | .517 | .79 |
| Violent              | .509 | .90 |
| Nonsexual nonviolent | .558 | .19 |
| <b>SONAR</b>         |      |     |
| All                  | .585 | .06 |
| Sexual               | .534 | .63 |
| Violent              | .555 | .45 |
| Nonsexual nonviolent | .594 | .05 |



SONAR - nonsexual nonviolent  
recidivism

# IMPLICATIONS FOR STATIC-99

- **Total score** not predictive of recidivism
- **Low variation in sample:** history of living with intimate partner, age under 25 and stranger victims - not predictive for intrafamilial offenders
- **Sexual deviance indicators** (non-contact offences, unrelated victims) predict sexual recidivism; few male intrafamilial victims (9.4% in this sample).
- **Prior sex offences?** (underreporting/screening)
- **Prior criminal offending** predicts future offending.

# IMPLICATIONS FOR SONAR

- **Total score** predicted All and NSNV recidivism using Cox analyses, hazard ratios are small. Only NSNV was significant using ROC analyses.  
→ **predictive validity**, but weak for risk assessment
- **Sexual and general self-regulation** problems predicted All and NSNV recidivism with similar hazard ratios, these risk factors may overlap.
- Acute-dynamic predictors were nonsignificant, apart from **increased victim access**, a protective factor in this sample → possibly poor predictors over a longer time-frame (ranged 3-18 years)

# LIMITATIONS

- Offenders referred for pre-trial diversion were deemed “low-risk,” instruments may be more sensitive to higher-risk offenders.
- Sample excluded some offenders with past convictions for sexual offences (6.1% had prior offences), or who used violence whilst offending → may not be “typical” intrafamilial offenders
- COPS and ROD provide offending data in NSW. Offenses outside NSW are missed. Actual rates of prior and re-offending are conservative due to underreporting.

# CONCLUSIONS

## Practical implications:

- Both static and dynamic factors were predictive
- Neither tool alone was sufficient
- Individual risk factors from each tool worked  
→ a new tool could incorporate the best of both

## Theoretical implications:

- No support for impulse-control hypothesis
- Self-regulation problems predicted general criminal but not sexual recidivism – only partial support for self-regulation hypothesis
- Indicia of sexual deviance predicted sexual recidivism (non-contact, unrelated victims).

# POLICY

- Basis for considering intrafamilial sex offenders “low risk” on basis of few/no prior convictions and low levels of violence needs re-visiting.
- Treatment targets:
  - Sexual deviance
  - Self-regulation