Are New Norms Needed for Static-99?

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Crimes Rates in Canada

Reported
Charged
Property Crimes Rates in U.S.: Uniform Crime Reports
Victimization Rates in U.S.: Property
Victimization Rates in U.S.: Violent
Child Sexual Abuse

• 1990-2004, sexual abuse substantiations down 49% (Finkelhor & Jones, 2006)

• At least two self-report victimization surveys with children show decreases in sexual victimization in the 1990s (Jones & Finkelhor, 2003)
Minnesota Dept of Corrections (2007)
Three-Year Sexual Recidivism Rates

Arrest
Conviction
Incarceration
Are the Original Static-99 Recidivism Estimates Still Valid???
Static-99

- Actuarial

- Designed to predict sexual and violent recidivism in adult male sexual offenders

- Includes sexual and violent recidivism estimates (5, 10, 15 years)

- Most widely used in Canada and US
  - Archer et al., 2006; Interstate Commission for Adult Offender Supervision, 2007; Jackson & Hess, 2007; McGrath, Cumming, & Burchard, 2003
Static-99: Replications

- Most researched instrument for sex offenders (Hanson & Morton-Bourgon, 2007; Hanson & Morton-Bourgon, in press)

- Moderate predictive accuracy: ROC = .68; $d = .67$

- 63 replications
  - RRASOR has 34 replications, all other sex offender tools have $\leq 12$
Stability of Static-99 Recidivism Rates

• Doren (2004)
  • 5 years; 7 studies

• Helmus (2007/2008)
  • 5 & 10 years; 8 samples, $n = 3,034$
STATIC-99 5-year Sexual Recidivism Rates
(Doren, 2004)
STATIC-99 5-year Sexual Recidivism Rates
(Helmus et al., 2007/2008)
The Present Project

• Collected datasets with Static-99 scores and recidivism information

• 26 datasets (so far!)
  • All 8 included in Helmus (2008)
  • Four from Doren (2004)

• 18 datasets have been transformed, cleaned, and merged
  • 1 dataset has violent recidivism only (not sexual)
Studies included
(*cleaned and merged so far)

*Allan et al. (2007) [Kia Marama]
*Bartosh et al. (2003)
*Bengtson & Långström (2007)
*Bigras (2007)
*Boer (2003)
*Bonta & Yessine (2005)
*Cortoni & Nunes (2007)
Craig et al. (2006)
*Craissati et al. (2008)
*de Vogel et al. (2008)
*Eher et al. (2008)
Endrass et al. (in press)
*Epperson (2003)
Studies included
(*cleaned and merged so far)

*Haag (2005)
*Hanson et al. (2007)
*Harkins & Beech (2007)
*Harris et al. (2003)
Hill et al. (2008)
Johansen (2007)
*Knight & Thornton (2007)
*Saum (2007)
Wilson, Cortoni, & Vermani (2007)
Wilson, Pichica, & Prinzo (2007)
Wilson, Leaver, & Whealy (2007)
Descriptives of 18 Samples

- **Country:**
  - 8 Canadian ($n = 2,271$)
  - 4 continental Europe ($n = 2,416$)
  - 4 U.S. ($n = 1,028$)
  - 1 New Zealand ($n = 493$)
  - 1 U.K. ($n = 198$)

- **Offender Type ($n = 4,953$, Info on 10 samples):**
  - 53% Child Molester
  - 38% Rapist
  - 5% Other (e.g., exhibitionist, voyeur)
  - 4% Mixed

- **Year of Release ($n = 6,114$, Info on 16 samples):**
  - 90% released in 1990 or later
Descriptives of 18 samples

- **Recidivism Criteria**
  - 10 samples used charges \((n = 3,462)\); 8 convictions \((n = 3,312)\)

- **Location (Info on 16 samples)**
  - 15 samples from institutions \((n = 5,590)\)
  - 3 samples had some community-only offenders \((n = 483)\)

- **Sample Type (Info on 12 samples)**
  - 6 samples pre-selected to be high risk \((n = 1,562)\)
  - 5 samples of routine CSC cases \((n = 1,249)\)
  - 2 samples with low-risk community cases \((n = 477)\)

- **Treatment Status by sample (Info on 9 samples)**
  - 6 samples mostly treated \((75\%+, n = 1,414)\)
  - 3 samples mixed \((25\%-75\%, n = 843)\)
  - 0 samples mostly untreated \(<25\% treated)\)
Descriptives of 18 samples: Recidivism Info

- Survival Analysis & Cox Regression
  - Sexual Recidivism ($k = 17, n = 6,406$)
  - Violent Recidivism ($k = 14, n = 6,098$)

- Fixed Follow-Up & Logistic Regression
  - 5-year Sexual Recidivism ($k = 17, n = 4,291$)
  - 10-year Sexual Recidivism ($k = 10, n = 1,621$)
  - 5-year Violent Recidivism ($k = 14, n = 3,929$)
  - 10-year Violent Recidivism ($k = 9, n = 1,642$)
New Recidivism Rates: 5-year Sexual Survival Analysis, initial $n = 6,406$
New Recidivism Rates: 10-year Sexual Survival Analysis, initial $n = 6,406$
New 5-Year Sexual Recidivism Rates: Logistic Regression, $n = 4,291$
10 Year Sexual Recidivism Rates: Logistic Regression, $n = 1,621$
New 5 Year Violent Recidivism Rates
Survival Analysis, initial $n = 6,096$
10 Year Violent Recidivism Rates: Survival Analysis, initial $n = 6,096$
Did Violent Recidivism Rates Decrease?

• Overall: do not appear lower than original

• Possibilities:
  • Sexual recidivism declined but violent did not (unlikely)
  • Both declined, but moderators are suppressing differences
    • Most likely: More rapists (37%) than original (28%)

• Let’s look a little closer……
5 Year Violent Recidivism: Child Molesters
(Survival Analysis)
10 Year Violent Recidivism: Child Molesters
(Survival Analysis)
5 Year Violent Recidivism Rates: Rapists
(Survival Analysis)

Original (n = 276)
2008 (n = 1,747)
10 Year Violent Recidivism: Rapists
(Survival Analysis)
Are Recidivism Rates Declining?
Another approach

• Survival Analysis: Overall comparison of original versus 2008
  • Sexual Recidivism
    • Original norms: Static-99 $M = 3.03$, $n = 1,086$
    • 2008 data: Static-99 $M = 3.06$, $n = 6,406$
    • Overall survival curves significantly different, Wilcoxon (Gehan) Statistic = 66.5 ($df = 1$), $p < .001$

• Violent Recidivism
  • Original norms: Static-99 $M = 3.03$, $n = 1,086$
  • 2008 data: Static-99 $M = 3.04$, $n = 6,098$
  • Overall survival curves significantly different, Wilcoxon (Gehan) Statistic = 11.1 ($df = 1$), $p = .001$
Are Recidivism Rates Declining? Overall Survival (Sexual Recidivism)
Are Recidivism Rates Declining?  
Overall Survival (Violent Recidivism)
Are Recidivism Rates Declining? Another Approach

• 2008 data: Logistic Regression for year of release

• After controlling for Static-99 scores, recidivism rates significantly decline for more recent releases:
  • 5 year sexual recidivism (Exp(B) = .965, n = 3,664)
  • 10 year sexual recidivism (Exp(B) = .937, n = 1,251)
  • 5 year violent recidivism overall (Exp(B) = .967, n = 3,470)
    – Also for child molesters (Exp(B) = .953, n = 1,317)
    – Trend for rapists (Exp(B) = .970, p = .084, n = 949)
  • 10 year violent recidivism (Exp(B) = .941, n = 1,262)
Are Recidivism Rates Declining?
Another Approach

- Cox Regression: Sexual Recidivism

  - Significant effect for original versus 2008 data
    - rate ratios: average recidivism rate of 2008 data approx. 2/3 of original, $\text{Exp}(B) = .656, n = 7,492$

  - When control for Static-99 scores, effect gets slightly larger
    - $\text{Exp}(B) = .592, n = 7,492$
Are Recidivism Rates Declining?
Another Approach

• Cox Regression: Violent Recidivism
  • Significant effect for original versus 2008 data (though smaller than for sexual)
    • Exp(B) = .872, n = 7,184
  • When control for Static-99 scores, effect gets slightly larger
    • Exp(B) = .828, n = 7,184
  • When control for Static-99 AND rapist/child molester, effect of original versus 2008 increases
    • Exp(B) = .728, n = 5,192
  • Rapist/child molester suppressing differences between original and 2008 findings
Are Recidivism Rates Declining?

Summary

• Sexual Recidivism
  • Significant differences in both low power and high power tests
  • Differences meaningful
    • e.g., survival analysis, scores of 6+
      • 39% versus 26% at five years
      • 45% versus 35% at 10 years
Are Recidivism Rates Declining?

Summary

• Violent Recidivism
  • Appear similar
  • Low power tests: no differences
  • High power tests: significant differences
  • Conclusion: Violent recidivism lower in 2008 samples, but suppressed by increased proportion of rapists
Are New Norms Needed for Static-99??

• Yes
• Sexual and violent recidivism have declined since original norms were developed
• Newer norms should be used

NEXT: What about moderators? Are separate recidivism tables needed?
Moderators: Using Cox Regression

- Sample Type
  - Pre-selected high risk
    - Bridgewater, Denmark Psychiatric, CSC Detained, Dutch Psychiatric, Penetanguishene, Canada NFS/DO/Detained
  - Routine CSC
    - Dynamic Supervision Project federal cases, B.C., Quebec, Warkworth, National Sexual Offender Treatment Program

- Rapist/Child molester

- Insufficient cases to look at treatment variables
- Have not yet looked at jurisdiction
Moderators: Sexual Recidivism
Cox Regression

• After controlling for Static-99, pre-selected high risk samples \((n = 1,273)\) showed higher sexual recidivism rates than routine CSC samples \((n = 1,249)\), \(\text{Exp}(B) = 2.414\)

• Possible interaction between Static-99 score and high risk/routine CSC distinction
  • Possible that Static-99 predicts better in routine CSC samples (high risk groups are showing high recidivism rates in low risk categories)

• Separate tables NOT needed for rapists/child molesters
10 Year Sexual Recidivism Rates
(from logistic regression estimates)

High Risk (n = 735)
CSC (n = 342)
10 Year Sexual Recidivism Rates
(from logistic regression estimates)
10 Year Sexual Recidivism Rates
(from logistic regression estimates)

Rapist (n = 360)
Child Molesters (n = 544)
Moderators: Violent Recidivism
Cox Regression

• After controlling for Static-99:
  • Pre-Selected High Risk samples ($n = 1,241$) showed higher violent recidivism rates than routine CSC samples ($n = 1,249$), $\text{Exp}(B) = 1.858$

• Child molesters ($n = 2,507$) showed lower violent recidivism rates than rapists ($n = 1,749$), $\text{Exp}(B) = .618$

• Interaction between rapist/child molester and high-risk/CSC ($N = 1,309$, $p = .002$)
  • CSC/pre-selected high risk distinction matters less for rapists
5 Year Violent Recidivism Rates
(from logistic regression estimates)

- High Risk (n = 1,110)
- Routine CSC (n = 752)
5 Year Violent Recidivism Rates
(from logistic regression estimates)

Rapist (n = 1,107)
Child Molesters (n = 1,539)
This project is exciting. Is it too late to contribute my data for this research??

Not at all!

If you have any Static-99 data that you are willing to consider sharing for this important project, or if you would like further information about this project, please contact:

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Note: This research is not yet complete!!

Wouldn’t it be nice if there was a website where I could obtain the new recidivism norms once they become available??

Now there is! For updates, please check:

www.static99.org