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Abstract

This study examined the extent to which sexual offenders present an enduring risk for sexual recidivism over a 20-year follow-up period. Using an aggregated sample of 7,740 sexual offenders from 21 samples, the yearly recidivism rates were calculated using survival analysis. Overall, the risk of sexual recidivism was highest during the first few years after release, and decreased substantially the longer individuals remained sex offense-free in the community. This pattern was particularly strong for the high-risk sexual offenders (defined by Static-99R scores). Whereas the 5-year sexual recidivism rate for high-risk sex offenders was 22% from the time of release, this rate decreased to 4.2% for the offenders in the same static risk category who remained offense-free in the community for 10 years. The recidivism rates of the low-risk offenders were consistently low (1%-5%) for all time periods. The results suggest that offense history is a valid, but time-dependent, indicator of the propensity to sexually reoffend. Further research is needed to explain the substantial rate of desistance by high-risk sexual offenders.

Keywords

sex offenders, risk assessment, desistance, recidivism

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Of all people who commit serious transgressions, sexual offenders are perceived as the least likely to change. The widespread implementation of long-term social controls that uniquely apply to sexual offenders (e.g., lifetime community supervision, registration) indicates that policy makers, and the public that they represent, expect the risk posed by this population to persist almost indefinitely. The reasons that sexual offenders are treated differently from other offenders are not fully known. Contributing factors could include the particularly serious harm caused by sexual victimization (Browne & Finkelhor, 1986; Resick, 1993), and the belief that there is “no cure” for deviant sexual interests (e.g., Colorado Sex Offender Management Board, 2011). In certain public discussions, the special status of sexual offenders is sometimes justified by reference to a perceived high recidivism rate (see Ewing, 2011, p. 78).

Our belief that sexual offenders are intractable is in contrast to our openness to accept change among other offenders. Although certain restrictions and prejudices apply to all persons with a criminal record, the criminal justice systems of most Western democracies are predicated on the assumption that virtually all offenders could and should be reintegrated into society as law-abiding citizens. As articulated by Maruna and Roy (2007), the notion of personal reinvention by “knifing off” an old self is deeply rooted in the American psyche, and, quite likely, many other societies. It is an option, however, that is elusive to sexual offenders.

Sexual offenders vary in their risk for sexual recidivism. Previous meta-analyses have found that the average sexual recidivism rates of identified sexual offenders are in the 7% to 15% range after 5 to 6 years follow-up (Hanson & Morton-Bourgon, 2005; Helmus, Hanson, Thornton, Babchishin, & Harris, 2012). In contrast, sex offenders defined as high risk by the Violence Risk Scale–Sexual Offender Version (VRS-SO) have 10-year sexual recidivism rates between 56% and 70% (Beggs & Grace, 2010; Olver, Wong, Nicholaichuk, & Gordon, 2007).

Even if certain subgroups of sexual offenders can be identified as high risk, they need not be high risk forever. Risk-relevant propensities could change based on fortunate life circumstances, life choices, aging, or deliberate interventions (such as attending treatment). It is not necessary, however, to prove that an offender has changed to revise a risk assessment. New information could also be used to downgrade (or upgrade) an individual’s risk, even when the reasons for the change are uncertain. Some of this information could be potentially available at the time of the index sex offense (e.g., psychopathy scores), whereas other information is only available later. In this article, we focus on one objective indicator of post-index behavior that could be used to revise risk assessments: the length of time that individuals do not reoffend when given the opportunity to do so.

General offenders are at greatest risk for new criminal behavior immediately after release (Blumstein & Nakamura, 2009; Bushway, Nieuwebeerta, & Blokland, 2011; Howard, 2011). The longer they remain offense-free in the community, the lower their likelihood of ever again coming in contact with the criminal justice system. Blumstein and Nakamura (2009) introduced the concept of a redemption period, defined as the time at which an offender's risk has declined sufficiently that it is indistinguishable from the risk posed by men with no prior criminal record. Similarly, G. T. Harris and Rice (2007) found that for most forensic psychiatric patients, the risk for violent recidivism declined the longer they remained offense-free in the community. The reduction in risk, however, was relatively modest, and did not apply to the highest risk offenders (defined by Violence Risk Appraisal Guide [VRAG] bins of 7, 8, or 9).

Preliminary studies suggest that the overall time offense-free also applies to the risk of sexual recidivism among sexual offenders. A. J. R. Harris and Hanson (2004) compared the recidivism rates of a large sample of sexual offenders from the United States, United Kingdom, and Canada ($n = 4,724$) beginning at 4 start dates: time of release, and after 5, 10, and 15 years offense-free in the community. In their study, offense-free was defined as no new sexual or violent offenses. They found that the 5-year recidivism rates were 14.0% from time of release, compared with 7.0% after 5 years, 5.4% after 10 years, and 3.7% after 15 years offense-free. Similarly, Howard (2011) observed that the risk of sexual recidivism declined over the 4-year follow-up period in his study. Neither Howard nor A. J. R. Harris and Hanson (2004) examined whether the time-free effect applied equally to sexual offenders at different initial risk levels.

Time-free adjustments for different risk levels (Static-99 risk categories) were presented by A. J. R. Harris, Phenix, Hanson, and Thornton (2003; Appendix I). For each category of risk, the longer they remained offense-free in the community (2-10 years), the lower their recidivism rates. For example, the 5-year sexual recidivism for the Static-99 high-risk group (scores of 6+) was 38.8% from time of release but only 13.1% after 4 years offense-free. The decline, however, was not completely consistent. For certain groups, the risk after 10 years offense-free was greater than the risk after 6 years. Given the modest sample size ($n < 30$ for some cells), it was difficult to know whether the observed variation was meaningful. Apart from A. J. R. Harris et al.'s (2003) preliminary analyses by risk level, none of the previous studies have examined potential moderators of the time-free effect, such as age and victim type (rapist/child molester).

The purpose of the current study was to examine the effects of time offense-free in the community on the recidivism risk of sexual offenders. The study used an aggregate sample of 7,740 sexual offenders drawn from

21 different samples. Sexual recidivism rates were estimated from time of release, and then after 5 years and 10 years sexual offense-free in the community. Based on Static-99R scores (Helmus, Thornton, Hanson, & Babchishin, 2012), the sample was divided into three risk categories: low, moderate (or typical), and high. As well, we examined a number of other potential moderators of the time-free effect, including age at release, country of origin, victim type (rapist/child molester), and exposure to treatment.

Method

Measures

Static-99R. Static-99R is a 10-item actuarial scale that assesses the recidivism risk of adult male sex offenders. The items and scoring rules are identical to Static-99 (Hanson & Thornton, 2000; see also www.static99.org) with the exception of updated age weights (Helmus, Thornton, et al., 2012). The 10 items cover demographics, sexual criminal history (e.g., prior sex offense), and general criminal history (e.g., prior nonsexual violence).

Static-99/R are the most widely used sexual offender risk tools in mental health and corrections (Archer, Buffington-Vollum, Stredny, & Handel, 2006; Interstate Commission for Adult Offender Supervision, 2007; McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010). Static-99R has high rater reliability (interclass correlation coefficient [*ICC*] = .89; McGrath, Lasher, & Cumming, 2012) and a moderate ability to discriminate between sexual recidivists and non-recidivists (area under the receiver operating characteristic curve [*AUC*] = .69, 95% CI [.66, .72], $k = 22$, $n = 8,033$; Helmus, Hanson, et al., 2012).

Rather than use the standard four risk categories (see A. J. R. Harris et al., 2003), only three risk categories were used to maximize the sample size in each group (and increase the stability of the results). The three risk categories were created based on percentile ranks (Hanson, Lloyd, Helmus, & Thornton, 2012): Specifically, scores one standard deviation below the population mean were considered “low” (−3, −2, −1), scores one standard deviation above the mean were considered “high” (5 and higher), and the remaining scores were considered “moderate” (0, 1, 2, 3, 4).

Samples

Twenty-one samples were selected from those used by Helmus and colleagues to re-norm the Static-99/R (Helmus, 2009; Helmus, Hanson, et al.,

2012; Helmus, Thornton, et al., 2012); of the 23 samples with Static-99R data available, one was excluded because it did not have the information needed to compute survival analyses, and one was excluded because it was identified as a statistical outlier in previous research (Helmus, Hanson, et al., 2012). The data retained for analysis contained 7,740 offenders from 21 samples. A brief description of the included studies can be found in Table 1.

Overview of Analyses

The recidivism rates were estimated using life table survival analysis (Singer & Willet, 2003; Soothill & Gibbens, 1978). In this approach, the follow-up time is divided into discrete time intervals (12 months), and the proportion failing (reoffending) in each time interval is calculated. This quantity is referred to as a hazard rate, or the probability of reoffending in a specific time interval given that the individual has survived (not reoffended) up to that time.

The only type of recidivism examined in the current study was sexual recidivism. Consequently, statements concerning the length of time that individuals were “offense-free” should be interpreted as meaning that no new sexual offenses were detected during that time period.

The 95% confidence interval for the observed proportions were calculated using Wald’s method: $CI \pm 1.96 (p(1 - p)/n)^{1/2}$ (Agresti & Coull, 1998). Proportions were interpreted as different when their 95% confidence intervals did not overlap, which corresponds to a difference test of approximately $p < .01$ (Cumming & Finch, 2005).

Results

Without controlling for time at risk, the observed sexual recidivism rate for all cases was 11.9% ($n = 7,740$), 2.9% for the low-risk cases ($n = 890$), 8.5% for the moderate cases ($n = 4,858$), and 24.2% for the high-risk cases ($n = 1,992$). The average follow-up period was 8.2 years ($SD = 5.2$, range of 0.01 to 31.5).

Figure 1 plots the cumulative survival rates over time for the three risk categories. The survival curves were truncated when there were fewer than 50 offenders at the end of the at-risk period (between 20 & 25 years). As can be seen from Figure 1, the risk of reoffending was highest in the first few years following release, and declined thereafter. This pattern was particularly strong for the high-risk offenders. During the first year after release, 7% reoffended, and during the first five years after release, a total of 22% reoffended. In contrast, during the next 5 years (between 5 & 10 years), the survival curve

Table 1. Descriptive Information.

Study	<i>n</i>	Age <i>M</i> (<i>SD</i>)	Country	5-Year Recidivism (%)	Recidivism Criteria	Type of Sample	Mostly Treated	Release Period	Median Year of Release
Allan, Grace, Rutherford, and Hudson (2007)	492	42 (12)	New Zealand	9.8	Charges	Prison treatment	Yes	1990-2000	1994
Bartosh, Garby, Lewis, and Gray (2003)	186	38 (12)	United States	11.8	Charges	Routine correctional	—	1996	1996
Bengtson (2008)	311	33 (10)	Denmark	19.6	Charges	Forensic psychiatric	—	1978-1995	1986
Bigras (2007)	483	43 (12)	Canada	7.4	Charges	Correctional Service of Canada	Mixed	1995-2004	1999
Boer (2003)	299	41 (12)	Canada	3.7	Conviction	Correctional Service of Canada	—	1976-1994	1990
Bonta and Yessine (2005)	133	40 (10)	Canada	17.3	Conviction	Preselected high risk	Mixed	1992-2004	1999
Brouillette-Alarie and Proulx (2008)	228	36 (10)	Canada	14.2	Conviction	Prison and community treatment	—	1979-2006	1996
Cortoni and Nunes (2007)	73	42 (12)	Canada	0.0	Charges	Prison treatment	Yes	2001-2004	2003
Craissati, Bierer, and South (2008)	209	38 (12)	United Kingdom	6.7	Conviction	Community supervision	Mixed	1992-2005	1998
Eher, Rettenberger, Schilling, and Pfafflin (2009)	706	41 (12)	Austria	4.9	Conviction	European prison	—	2000-2005	2003
Epperson (2003)	177	37 (13)	United States	11.3	Charges	Routine correctional	—	1989-1998	1995
Haag (2005)	198	37 (10)	Canada	19.7	Conviction	Preselected high risk	Mixed	1995	1995

(continued)

Table 1. (continued)

Study	<i>n</i>	Age <i>M</i> (<i>SD</i>)	Country	5-Year Recidivism (%)	Recidivism Criteria	Type of Sample	Mostly Treated	Release Period	Median Year of Release
Hanson, Harris, Scott, and Helmus (2007)	702	42 (13)	Canada	8.7	Charges	Community supervision	—	2001-2005	2002
Hill, Habermann, Klusmann, Berner, and Briken (2008)	86	39 (11)	Germany	9.6	Conviction	Sexual homicide perpetrators	—	1971-2002	1989
Johansen (2007)	273	38 (11)	United States	5.5	Charges	Prison treatment	Yes	1994-2000	1996
Knight and Thornton (2007)	466	36 (11)	United States	23.3	Charges	Civil commitment evaluation	—	1957-1986	1970
Långström (2004)	1,278	41 (12)	Sweden	5.4	Conviction	Routine European prison	No	1993-1997	1995
Nicholaichuk (2001)	281	35 (9)	Canada	26.3	Conviction	High-intensity treatment	Yes	1983-1998	1992
Swinburne Romine, Dwyer, Mathiowetz, and Thomas (2008)	680	38 (12)	United States	8.8	Conviction	Community treatment	Mixed	1977-2007	1988
Ternowski (2004)	247	44 (13)	Canada	6.5	Charges	Prison treatment	Yes	1994-1998	1996
Wilson, Cortoni, and Vermani (2007) and Wilson, Picheca, and Prinzo (2007)	232	42 (11)	Canada	12.4	Charges	Preselected high risk	—	1994-2007	2002
Total	7,740	40 (12)		10.1				1957-2007	1996

Note. Five-year sexual recidivism rates were obtained from survival analysis. All samples had >50 cases at the beginning of the 5-year interval.

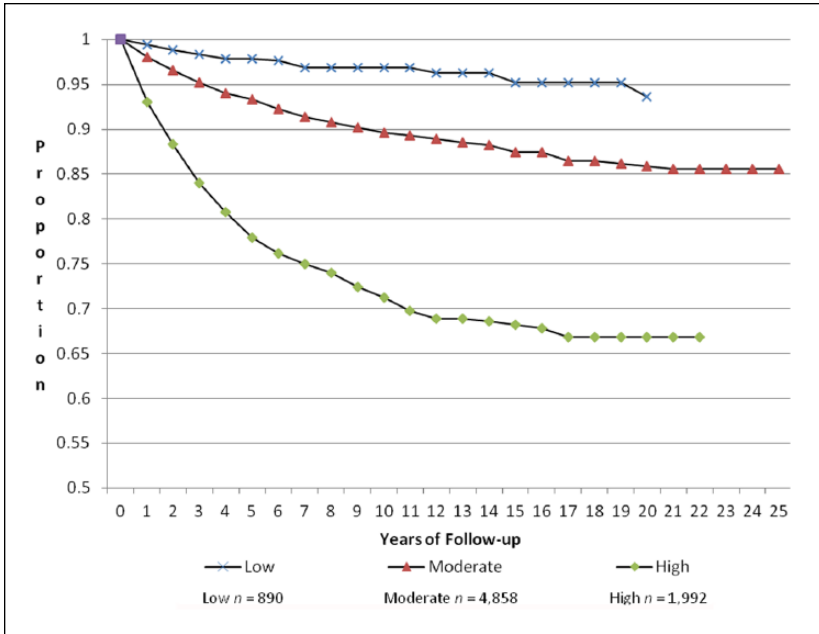


Figure 1. Time to sexual recidivism by risk level.

descended only 7% (from 78% to 71%) representing yearly rates in the 1% to 2% range. No high-risk sexual offender in this sample reoffended after 16 years offense-free (126 high-risk cases started year 17, of which 61 were followed for 5 years or more). The cumulative survival function indicated that the long-term recidivism rate for the high-risk offenders was approximately 32% starting from time of release.

Figures 2 and 3 plot the cumulative survival rates for offenders who remained sexual offense-free for 5 or 10 years, respectively. Summaries of the data from Figures 1 through 3 are presented in Table 2. The high-risk offenders still reoffended more quickly than the other groups, but the recidivism rates for all groups were substantially lower than for offenders at time of release. Whereas the 10-year sexual recidivism rate of the high-risk offenders from time of release was 28.8%, the rate declined to 12.5% for those who remained offense-free for 5 years, then 6.2% for those who remained offense-free for 10 years (see Table 2). A 10-year sexual recidivism rate of 6.2% for the high-risk group (10 years offense-free) was less than the expected rate of moderate risk offenders from time-at-release (10.4%).

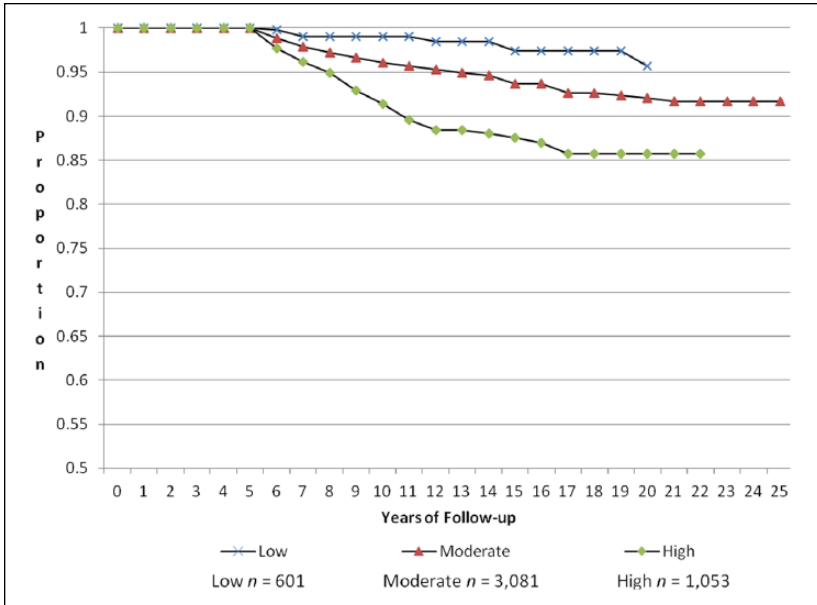


Figure 2. Time to sexual recidivism after 5 years sex offense-free in the community by risk level.

Inspection of Table 2 indicates that the expected recidivism rates were approximately cut in half for each 5 years that the offender was sexual offense-free in the community. For example, the 5-year sexual recidivism rate of the high-risk groups was 22.0% at release, 8.6% after 5 years, and 4.2% after 10 years offense-free. The same pattern applied to the moderate-risk offenders (and the full sample). In contrast, the recidivism rates for the low-risk offenders were consistently low (1%-5%), and did not change meaningfully based on years offense-free. For example, the 10-year sexual recidivism rate for the low-risk offenders was 3.1% from time of release and 3.4% for those who remained offense-free in the community for 10 years.

Table 3 compares the observed recidivism rate for the first five years with the recidivism rates for years 6 to 10 and years 11 to 15. These comparisons are reported as risk ratios, with the rates for subsequent 5-year periods divided by the rate for the first five years after release. For example, a risk ratio of 0.50 would indicate that the recidivism rate was cut in half, and a rate of 0.25 would indicate that the recidivism rate was $\frac{1}{4}$ the initial rate. All rate estimates were created from life table survival analysis.

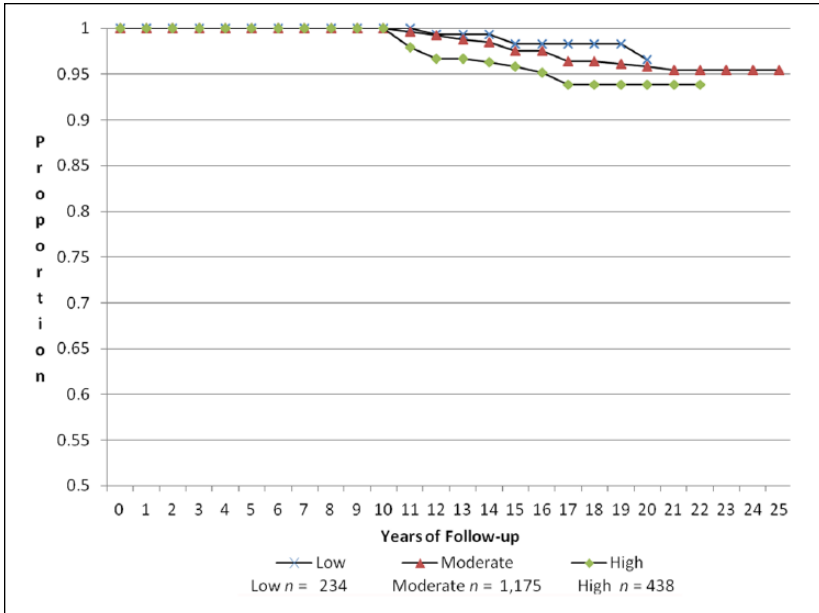


Figure 3. Time to sexual recidivism after 10 years sex offense-free in the community by risk level.

As can be seen in Table 3, the time-free effect was similar across the various subgroups examined, including those defined by age at release, treatment involvement, preselected high risk/high need, country, year of release, and victim type (adults, children, related children). As expected, there were meaningful differences in the initial recidivism rates; however, the relative risk reductions were similar across all subgroups. The risk ratios comparing the rates for years 6 to 10 with years 1 to 5 were tightly clustered between 0.33 and 0.59 (median of 0.46). The risk ratios comparing years 11 to 15 with years 1 to 5 varied between 0.07 and 0.36, with the exception of the low-risk group, which had a risk ratio of 0.78 (median of 0.28).

Discussion

The purpose of this study was to examine the extent to which high-risk sexual offenders remain high risk over time. As has been found for general offenders and violent offenders, the risk of sexual recidivism was highest in the first few years after release, and then decreased the longer they remained

Table 2. Sexual Recidivism Rates From Survival Analyses (Including Confidence Intervals).

n at Start of Follow-up	5-Years Follow-up			10-Years Follow-up			15-Years Follow-up			
	%	95% CI	(n)	%	95% CI	(n)	%	95% CI	(n)	
Complete sample										
From release	7,740	10.1	[9.4, 10.8]	(4,735)	14.2	[13.3, 15.2]	(1,847)	16.6	[15.4, 17.9]	(755)
5 Years offense-free	4,735	4.6	[3.9, 5.4]	(1,847)	7.3	[6.1, 8.5]	(755)	9.0	[7.5, 10.5]	(420)
10 Years offense-free	1,847	2.8	[1.8, 3.8]	(755)	4.6	[3.1, 6.0]	(420)	4.8	[3.3, 6.3]	(102)
Low (scores of -3 to -1)										
From release	890	2.2	[1.2, 3.2]	(601)	3.1	[1.8, 4.4]	(234)	4.7	[2.1, 7.4]	(88)
5 Years offense-free	601	0.95	[0.12, 1.8]	(234)	2.6	[0.12, 5.1]	(88)	4.3	[0.23, 8.4]	(53)
10 Years offense-free	234	1.7	[0.0, 4.1]	(88)	3.4	[0.0, 7.4]	(53)	—	—	—
Moderate (scores of 0 to 4)										
From release	4,858	6.7	[5.9, 7.4]	(3,081)	10.4	[9.3, 11.4]	(1,175)	12.6	[11.1, 14.0]	(496)
5 Years offense-free	3,081	4.0	[3.1, 4.8]	(1,175)	6.3	[4.9, 7.7]	(496)	8.0	[6.1, 9.8]	(280)
10 Years offense-free	1,175	2.4	[1.2, 3.6]	(496)	4.2	[2.4, 5.9]	(280)	4.5	[2.7, 6.4]	(69)
High (scores of 5+)										
From release	1,992	22.0	[20.1, 24.0]	(1,053)	28.8	[26.4, 31.1]	(438)	31.8	[29.0, 34.5]	(171)
5 Years offense-free	1,053	8.6	[6.6, 10.6]	(438)	12.5	[9.6, 15.3]	(171)	14.3	[10.8, 17.7]	(87)
10 Years offense-free	438	4.2	[2.0, 6.4]	(171)	6.2	[3.1, 9.3]	(87)	—	—	—

Note. "—" Indicates insufficient numbers to make useful estimates (< 50 cases per cell). Each column presents information for a specified follow-up period (i.e., 5, 10, or 15 years). The rows denote when the follow-up period starts. For example, the second row of data is for offenders in the overall sample who did not commit a sex offense in the first five years. The 5-year follow-up data for these offenders starts after their 5 years of offense-free survival in the community (i.e., it reflects recidivism rates 10 years from their initial release date).

Table 3. Relative Reductions in Sexual Recidivism Based on Comparing the Rate During the First Five Years in the Community With the 5-Year Rates Starting After 5 and 10 Offense-Free Years in the Community.

	Sample Size at Start of Follow-up	Initial 5-Year Recidivism Rate (Years 1-5)		Relative Rate After 5 Years Offense-Free (Years 6-10)		Relative Rate After 10 Years Offense-Free (Years 11-15)	
		%	(n)	Risk Ratio	(n)	Risk Ratio	(n)
Complete sample	7,740	10.1	(4,735)	0.46	(1,847)	0.28	(755)
Risk level (Static-99R scores)							
Low (scores of -3 to -1)	890	2.2	(601)	0.44	(234)	0.78	(88)
Moderate (scores of 0 to 4)	4,858	6.7	(3,081)	0.59	(1,175)	0.36	(496)
High (scores of 5+)	1,992	22.0	(1,053)	0.39	(438)	0.19	(171)
Age at release							
Immature (18 to 30 years)	1,818	13.74	(1,130)	0.46	(524)	0.31	(260)
Young (30 to 50 years)	4,434	10.07	(2,719)	0.44	(1,051)	0.21	(411)
Prime of life (50+ years)	1,488	5.44	(866)	0.52	(272)	0.31	(84)
Sample type							
Routine correctional	4,040	6.73	(2,248)	0.55	(671)	—	—
Preselected treatment	1,920	8.85	(1,442)	0.46	(642)	0.32	(420)
Preselected high risk/needs	1,621	20.42	(963)	0.37	(491)	0.16	(294)
Country							
United States	1,782	12.70	(1,318)	0.33	(810)	0.15	(552)
Canada	2,875	11.10	(1,298)	0.48	(379)	0.16	(55)
Other	3,082	7.63	(2,118)	0.60	(658)	—	—

(continued)

Table 3. (continued)

Year of release (sample median)	Initial 5-Year Recidivism Rate (Years 1-5)		Relative Rate After 5 Years Offense-Free (Years 6-10)		Relative Rate After 10 Years Offense-Free (Years 11-15)		
	Sample Size at Start of Follow-up	%	(n)	Risk Ratio	(n)	Risk Ratio	(n)
1970-1995	4,268	11.38	(3,278)	0.42	(1,628)	0.24	(734)
1996-2003	3,472	8.40	(1,457)	0.47	(219)	—	
Victim type							
Adults (rape)	2,182	9.95	(1,262)	0.45	(443)	0.24	(102)
Children (all child molesters)	3,188	8.59	(1,887)	0.42	(807)	0.19	(351)
Related children (incest)	1,539	4.17	(985)	0.50	(418)	0.07	(179)

Note. In the two right-hand columns, the "rate" represents the 5-year recidivism percentage observed in either the "after 5 years" or "after 10 years" offense-free in the community (as seen in Table 2) divided by the observed recidivism rate in the first five years in the community. Using the "Moderate" Static-99R row as an example, the expected 5-year recidivism rate for the initial sample ($n = 4,858$) is 6.68%. For those who did not reoffend in the first five years ($n = 3,081$), between the 6th and 10th year of follow-up the recidivism rate for this group is 3.96%. The 5-year recidivism rate for those who survived the first five years (3.96%) is then divided by the initial 5-year recidivism rate (6.68%; $3.96/6.68 = 0.59$) which is the risk ratio included in the table. This finding indicates that the recidivism rate for men with "Moderate" Static-99R scores during the period between years 6 and 10 of follow-up has reduced to about 60% of what it was during the first five years of release. This method of calculation is used throughout Table 3.

offense-free in the community. The decline in hazard rates was greatest for sexual offenders who had been identified as high risk at time of release. For low-risk offenders, time free had little influence: their risk was consistently low (1%-5%). The same relative risk reductions were observed for subgroups categorized by age at release, treatment involvement, country, and victim type.

The current findings indicate static risk factors (e.g., prior offenses, victim characteristics) are valid, but time-dependent, markers for risk-relevant propensities. If high-risk sexual offenders do not reoffend when given the opportunity to do so, then there is clear evidence that they are not as high risk as initially perceived. The current study found that, on average, their recidivism risk was cut in half for each 5 years that they remained offense-free in the community.

Risk predictions describe lives that have yet to be fully lived; consequently, the more we know of an offender's life, the easier it is to predict the remainder. At the time of release, the best estimate of the likelihood of recidivism is the base rate for the group that the offender most closely resembles (i.e., offenders with the same risk score). Once given the opportunity to reoffend, the individuals who reoffend should be sorted into higher risk groups, and those who do not reoffend should be sorted into lower risk groups. This sorting process can result in drastic changes from the initial risk estimates. Based on the current results, for example, 22 out of 100 high-risk offenders would be expected to be charged or convicted of a new sexual offense during the 10 years following release. In contrast, the rate would be 4 out of 100 for those who survive sexual offense-free for 10 years. This low recidivism rate among the survivors suggests that their initial designation as "high-risk" sexual offenders was either incorrect, or that something has changed.

The current study did not address the reasons for the strong empirical association between years crime-free and desistance. There are several different mechanisms that could lead to this effect. The study did not directly address whether the offenders remaining offense-free were different individuals from the recidivists. Consequently, any apparent "effect" of time offense-free could be attributed to pre-existing differences between offenders. Given that criminal history variables (including Static-99R scores) are fallible indicators of risk-relevant propensities, some individuals who have a conviction for a sexual offense (or even a high Static-99R score) may never have had an enduring propensity toward sexual crime in the first place.

It is also possible that certain high-risk offenders genuinely changed. All the offenders in the current study had been convicted of at least one sexual offense, which would indicate a non-negligible risk at one time. Furthermore, it would be difficult to get a high score (5+) on Static-99R without an extended

period of engaging in sexual and general crime. Nevertheless, a substantial portion of the high-risk offenders survived throughout the complete follow-up period without any new crimes being detected. Given that it is likely that at least some of the offenders changed in a prosocial direction, further research is needed to increase our capacity to distinguish between desisters and future recidivists.

The only type of recidivism examined in the current study was sexual recidivism (as measured by charges and convictions). Consequently, it is quite likely that evaluators would have increased capacity to discriminate recidivists from non-recidivists by monitoring ongoing involvement in non-sexual crime, and by measuring indicators of commitment to prosocial goals. In particular, structured methods for evaluating sexual offenders' criminogenic needs have been demonstrated to be incremental to Static-99/R in the prediction of sexual recidivism for prison samples (Beggs & Grace, 2010; Knight & Thornton, 2007; Olver et al., 2007) and community samples (McGrath et al., 2012).

Even if the reasons for the reduced risk over time are not fully known, the current results have clear implications for the community supervision of sexual offenders. Following Andrews and Bonta's (2010) risk principle, high-risk sexual offenders should receive the most intensive service and monitoring during the early part of their community sentence. Subsequently, the intensity of interventions could decline to the level normally applied to moderate-risk individuals when offenders who were initially high risk remain offense-free for several years.

The current findings also suggest that certain long-term supervision and monitoring policies (e.g., lifetime registration) may be being applied to a substantial number of individuals with a low risk for sexual offending. Although the moral consequences of sexual offending may last forever, the current results suggest that sexual offenders who remain offense-free could eventually cross a "redemption" threshold in terms of recidivism risk, such that their current risk for a sexual crime becomes indistinguishable from the risk presented by nonsexual offenders.

Previous large sample studies have found that the likelihood of an "out of the blue" sexual offense committed by offenders with no history of sexual crime is 1% to 3%: 1.1% after 4 years (Duwe, 2012); 1.3% after 3 years (Langan, Schmitt, & Durose, 2003); 3.2% after 4.5 years (Wormith, Hogg, & Guzzo, 2012). In comparison, only 2 of 100 moderate-risk sexual offenders in the current study committed a new sexual offense during a 5-year follow-up period if they were able to remain 10 years offense-free in the community. The high-risk offenders in the current sample, however, never fully resembled nonsexual offenders. Although their recidivism rates declined

substantially when they were 10 years offense-free, the 5-year recidivism rate of the initially high-risk offenders (4.2%) was still higher than the expected rate for nonsexual offenders (1%-3%).

Limitations

The current results were predicated on the assumption that release to the community provided opportunities for offending. However, it is possible that certain forms of conditional release are sufficiently confining as to meaningfully limit opportunities (e.g., house arrest). The nature of the supervision conditions of the offenders in the current study were not fully known; however, given the typical practices in the jurisdictions for these time periods, it would be likely that the offenders had real opportunities to reoffend once released to the community.

Some evidence that supervision practices may moderate the time-free effect is provided in a recent study by Zgoba et al. (2012). This follow-up study of 1,789 adult sex offenders from four states (Minnesota, New Jersey, Florida, and South Carolina), did not find that risk declined with time in the community. Overall, there was a constant hazard rate of 1% per year for first ten years (e.g., 5% after 5 years; 10% after 10 years). The reasons for the constant hazard rate is not known, but could be related to strict supervision practices and high rates of technical breaches observed in these samples.

Another limitation is that recidivism was measured by officially recorded charges or convictions. It is well known that official records as an indicator of recidivism have high specificity (those identified are most likely guilty) but low sensitivity (many offenses are undetected). Even if the detection rate per offense is low, however, the detection rate per offender could be high if offenders commit multiple offenses. As well, the most serious offenses are those most likely to be reported to the police (Fisher, Daigle, Cullen, & Turner, 2003).

Conclusions

This study found that sexual offenders' risk of serious and persistent sexual crime decreased the longer they had been sex offense-free in the community. This pattern was particularly evident for high-risk sexual offenders, whose yearly recidivism rates declined from approximately 7% during the first calendar year, to less than 1% per year when they have been offense-free for 10 years or more. Consequently, intervention and monitoring resources should be concentrated in the first few years after release, with diminishing attention

and concern for individuals who remain offense-free for substantial periods of time.

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References

- References marked with an asterisk indicate studies included in the analyses. Wilson, Cortoni, and Vermani (2007) and Wilson, Picheca, and Prinzo (2007) both have an asterisk, although they were combined into one sample for the current study.
- Agresti, A., & Coull, B. A. (1998). Approximate is better than "exact" for interval estimation of binomial proportions. *The American Statistician*, 52, 119-126. doi: 10.1080/00031305.1998.10480550
- *Allan, M., Grace, R. C., Rutherford, B., & Hudson, S. M. (2007). Psychometric assessment of dynamic risk factors for child molesters. *Sexual Abuse: A Journal of Research and Treatment*, 19, 347-367. doi:10.1007/s11194-007-9052-5
- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conduct* (5th ed.). Newark, NJ: LexisNexus.
- Archer, R. P., Buffington-Vollum, J. K., Stredny, R. V., & Handel, R. W. (2006). A survey of psychological test use patterns among forensic psychologists. *Journal of Personality Assessment*, 87, 84-94. doi:10.1207/s15327752jpa8701_07
- *Bartosh, D. L., Garby, T., Lewis, D., & Gray, S. (2003). Differences in the predictive validity of actuarial risk assessments in relation to sex offender type.

- International Journal of Offender Therapy and Comparative Criminology*, 47, 422-438. doi:10.1177/0306624X03253850
- Beggs, S. M., & Grace, R. C. (2010). Assessment of dynamic risk factors: An independent validation study of the Violence Risk Scale: Sexual Offender version. *Sexual Abuse: A Journal of Research and Treatment*, 22, 234-251. doi:10.1177/1079063210369014
- *Bengtson, S. (2008). Is newer better? A cross-validation of the Static-2002 and the Risk Matrix 2000 in a Danish sample of sexual offenders. *Psychology, Crime & Law*, 14, 85-106. doi:10.1080/10683160701483104
- *Bigras, J. (2007). La prédiction de la récidive chez les délinquants sexuels [Prediction of recidivism among sex offenders]. (UMI No. NR30941, Université de Sherbrooke (Canada)). ProQuest Dissertations and Theses, 102. Retrieved from <http://search.proquest.com/docview/304759709?accountid=9894> (304759709).
- Blumstein, A., & Nakamura, K. (2009). Redemption in the presence of widespread criminal background checks. *Criminology*, 47, 327-359. doi:10.1111/j.1745-9125.2009.00155.x
- *Boer, A. (2003). *Evaluating the Static-99 and Static-2002 risk scales using Canadian sexual offenders* (Unpublished master's thesis). University of Leicester, UK.
- *Bonta, J., & Yessine, A. K. (2005). [Recidivism data for 124 released sexual offenders from the offenders identified in The National Flagging System: Identifying and responding to high-risk, violent offenders (User Report 2005-04)]. Unpublished raw data, Public Safety and Emergency Preparedness Canada, Ottawa, Ontario.
- *Brouillette-Alarie, S., & Proulx, J. (2008, October). *Predictive and convergent validity of phallometric assessment in relation to sexual recidivism risk*. Poster presented at the annual conference for the Association for the Treatment of Sexual Abusers, Atlanta, GA.
- Browne, A., & Finkelhor, D. (1986). Impact of child sexual abuse: A review of the research. *Psychological Bulletin*, 99, 66-77. doi:10.1037/0033-2909.99.1.66
- Bushway, S. D., Nieubeerta, P., & Blokland, A. (2011). The predictive value of criminal background checks: Do age and criminal history affect time to redemption? *Criminology*, 49, 27-60. doi:10.1111/j.1745-9125.2010.00217.x
- Colorado Sex Offender Management Board. (2011). *Standards and guidelines for the evaluation, assessment, treatment, and supervision of juveniles who have committed sexual offenses*. Colorado Department of Public Safety, Division of Criminal Justice. Retrieved from http://dcj.state.co.us/odvsom/sex_offender/SO_Pdfs/2012%20ADULT%20STANDARDS%20FINAL%20C.pdf
- *Cortoni, F., & Nunes, K. L. (2007). *Assessing the effectiveness of the National Sexual Offender Program* (Research Report No. R-183) (Unpublished Report). Ottawa, Ontario: Correctional Service of Canada.
- *Craissati, J., Bierer, K., & South, R. (2011). Risk, reconviction, and "sexually risky behaviour" in sex offenders. *Journal of Sexual Aggression*, 17, 153-165. doi:10.1080/13552600.2010.490306
- Cumming, G., & Finch, S. (2005). Inference by eye: Confidence intervals and how to read pictures of data. *American Psychologist*, 60, 170-180. doi:10.1037/0003-066X.60.2.170

- Duwe, G. (2012). Predicting first-time sexual offending among prisoners without a prior sex offense history: The Minnesota Sexual Criminal Offending Risk Estimate (MnSCORE). *Criminal Justice and Behavior, 39*, 1436-1456. doi:10.1177/0093854812453911
- *Eher, R., Rettenberger, M., Schilling, F., & Pfafflin, F. (2009). [Data from sex offenders released from prison in Austria]. Unpublished raw data.
- *Epperson, D. L. (2003). *Validation of the MnSOST-R, Static-99, and RRASOR with North Dakota prison and probation samples* (Unpublished Technical Assistance Report). Bismarck, ND: North Dakota Department of Parole and Probation.
- Ewing, C. P. (2011). *Justice perverted: Sex offense law, psychology, and public policy*. New York, NY: Oxford University Press.
- Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Reporting sexual victimization to the police and others: Results from a national-level study of college women. *Criminal Justice and Behavior, 30*, 6-38. doi:10.1177/0093854802239161
- *Haag, A. M. (2005). [Recidivism data from 198 offenders detained until their warrant expiry date. From: Do psychological interventions impact on actuarial measures: An analysis of the predictive validity of the Static-99 and Static-2002 on a re-conviction measure of sexual recidivism. *Dissertation Abstracts International, 66*(08), 4531B. (UMI No. NR05662)]. Unpublished raw data.
- *Hanson, R. K., Harris, A. J. R., Scott, T., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project* (Corrections Research User Report No. 2007-05). Ottawa, Ontario: Public Safety Canada.
- Hanson, R. K., Lloyd, C., Helmus, L., & Thornton, D. (2012). Developing non-arbitrary metrics for risk communication: Percentile ranks for the Static-99/R and Static-2002/R sexual offender risk tools. *International Journal of Forensic Mental Health, 11*, 9-23. doi:10.1080/14999013.2012.667511
- Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73*, 1154-1163. doi:10.1037/0022-006X.73.6.1154
- Hanson, R. K., & Thornton, D. (2000). Improving risk assessments for sex offenders: A comparison of three actuarial scales. *Law and Human Behavior, 24*, 119-136. doi:10.1023/A:1005482921333
- Harris, A. J. R., & Hanson, R. K. (2004). *Sex offender recidivism: A simple question* (User Report 2004-03). Ottawa, Ontario: Public Safety and Emergency Preparedness Canada.
- Harris, A. J. R., Phenix, A., Hanson, R. K., & Thornton, D. (2003). *Static-99 coding rules: Revised 2003*. Ottawa, Ontario: Solicitor General Canada.
- Harris, G. T., & Rice, M. E. (2007). Adjusting actuarial violence risk assessments based on aging or the passage of time. *Criminal Justice and Behavior, 34*, 297-313. doi:10.1177/0093854806293486
- Helmus, L. (2009). *Re-norming Static-99 recidivism estimates: Exploring base rate variability across sex offender samples* (Master's thesis). Available from ProQuest Dissertations and Theses database. (UMI No. MR58443).

- Helmus, L., Hanson, R. K., Thornton, D., Babchishin, K. M., & Harris, A. J. R. (2012). Absolute recidivism rates predicted by Static-99R and Static-2002R sex offender risk assessment tools vary across samples: A meta-analysis. *Criminal Justice and Behavior, 39*, 1148-1171. doi:10.1177/0093854812443648
- Helmus, L., Thornton, D., Hanson, R. K., & Babchishin, K. M. (2012). Improving the predictive accuracy of Static-99 and Static-2002 with older sex offenders: Revised age weights. *Sexual Abuse: A Journal of Research and Treatment, 24*, 64-101. doi:10.1177/1079063211409951
- *Hill, A., Habermann, N., Klusmann, D., Berner, W., & Briken, P. (2008). Criminal recidivism in sexual homicide perpetrators. *International Journal of Offender Therapy and Comparative Criminology, 52*, 5-20. doi:10.1177/0306624X07307450
- Howard, P. (2011). *Hazards of different types of reoffending* (Ministry of Justice Research Series 3/11). London, England: UK Ministry of Justice.
- Interstate Commission for Adult Offender Supervision. (2007). *Sex offender assessment information survey* (ICAOS Documents No. 4-2007). Lexington, KY: Author.
- *Johansen, S. H. (2007). Accuracy of predictions of sexual offense recidivism: A comparison of actuarial and clinical methods. *Dissertation Abstracts International, 68*(03), B. (UMI No. 3255527)
- *Knight, R. A., & Thornton, D. (2007). *Evaluating and improving risk assessment schemes for sexual recidivism: A long-term follow-up of convicted sexual offenders* (Document No. 217618). Washington, DC: U.S. Department of Justice.
- Langan, P. A., Schmitt, E. L., & Durose, M. R. (2003). *Recidivism of sex offenders released from prison in 1994*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- *Långström, N. (2004). Accuracy of actuarial procedures for assessment of sexual offender recidivism risk may vary across ethnicity. *Sexual Abuse: A Journal of Research and Treatment, 16*, 107-120. doi:10.1177/107906320401600202
- Maruna, S., & Roy, K. (2007). Amputation or reconstruction? Notes on the concept of "knifing off" and desistance from crime. *Journal of Contemporary Criminal Justice, 23*, 104-124. doi:10.1177/1043986206298951
- McGrath, R. J., Cumming, G. F., Burchard, B. L., Zeoli, S., & Ellerby, L. (2010). *Current practices and emerging trends in sexual abuser management: The Safer Society 2009 North American survey*. Brandon, VT: Safer Society Foundation.
- McGrath, R. J., Lasher, M. P., & Cumming, G. F. (2012). The sex Offender Treatment Intervention and Progress Scale (SOTIPS): Psychometric properties and incremental predictive validity with Static-99R. *Sexual Abuse: A Journal of Research and Treatment, 24*, 431-458. doi:10.1177/1079063211432475
- *Nicholaichuk, T. (2001, November). *The comparison of two standardized risk assessment instruments in a sample of Canadian Aboriginal sexual offenders*. Paper presented at the annual Research and Treatment Conference of the Association for the Treatment of Sexual Abusers, San Antonio, TX.
- Olver, M. E., Wong, S. C. P., Nicholaichuk, T., & Gordon, A. (2007). The validity and reliability of the Violence Risk Scale–Sexual Offender version: Assessing

- sex offender risk and evaluating therapeutic change. *Psychological Assessment*, 19, 318-329. doi:10.1037/1040-3590.19.3.318
- Resick, P. A. (1993). The psychological impact of rape. *Journal of Interpersonal Violence*, 8, 223-255. doi:10.1177/088626093008002005
- Singer, J. D., & Willet, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford, UK: Oxford University Press.
- Soothill, K. L., & Gibbens, T. C. N. (1978). Recidivism of sexual offenders: A re-appraisal. *British Journal of Criminology*, 18, 267-276.
- *Swinburne Romine, R., Dwyer, S. M., Mathiowetz, C., & Thomas, M. (2008, October). *Thirty years of sex offender specific treatment: A follow-up Study*. Poster presented at the conference for the Association for the Treatment of Sexual Abusers, Atlanta, GA.
- *Ternowski, D. R. (2004). Sex offender treatment: An evaluation of the Stave Lake Correctional Centre Program. *Dissertation Abstracts International*, 66(06), 3428B. (UMI No. NR03201)
- *Wilson, R. J., Cortoni, F., & Vermani, M. (2007). *Circles of support and accountability: A national replication of outcome findings* (Report No. R-185). Ottawa, Ontario: Correctional Service of Canada.
- *Wilson, R. J., Picheca, J. E., & Prinzo, M. (2007). Evaluating the effectiveness of professionally-facilitated volunteerism in the community-based management of high-risk sexual offenders: Part Two—A comparison of recidivism rates. *The Howard Journal*, 46, 327-337. doi:10.1111/j.146
- Wormith, J. S., Hogg, S., & Guzzo, L. (2012). The predictive validity of a general risk/needs assessment inventory on sexual offender recidivism and an exploration of the professional override. *Criminal Justice and Behavior*, 39, 1511-1538. doi:10.1177/0093854812455741
- Zgoba, K. M., Miner, M., Knight, R., Letourneau, E., Levenson, J., & Thornton, D. (2012). *A multi-site recidivism study using Static-99R and Static-2002 risk scores and tier guidelines from the Adam Walsh Act*. Washington, DC: U.S. National Institute of Justice. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/grants/240099.pdf>

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David Thornton obtained his PhD in psychology in the United Kingdom. About a third of his career has been in research designed to inform clinical practice, about a third of it in clinical practice (which he has tried to base on research), and about a third of it has been as an administrator trying to make systems support both research and clinical practice. Between 1990 and 2001 he led the team in Her Majesty's Prison Service responsible for developing and implementing national treatment programs for offenders. From 2001 until 2013, he was the treatment director for Wisconsin's SVP treatment program. He is currently the research director for this program and also a professor in the department of clinical psychology at the University of Bergen in Norway. He has been involved in the creation of widely used static risk assessment tools (Static-99, Risk Matrix 2000, etc.) and in the development of frameworks for evaluating psychological risk factors (the Structured Risk Assessment framework). Recent work has included research into the effects of eating salmon on executive functioning, an fMRI study of sexual sadists, and a review of the role of protective factors in sexual recidivism.