

Static-99R Samples for Violent Recidivism Tables

(With 5-year violent recidivism data, $k = 19$, $N = 4,710$; with 10-year violent recidivism data, $k = 12$, $N = 1,859$.)

Routine Corrections

(With 5-year data, $k = 7$, $n = 2,256$; with 10-year data, $k = 3$, $n = 714$)

Bartosh et al. (2003)
Bigras (2007)
Boer (2003)
Craissati et al. (2008)
Eher et al. (2008)
Hanson et al. (2007)
Långström (2004)

Non-Routine

(With 5-year data, $k = 12$, $n = 2,454$; with 10-year data, $k = 9$, $n = 1,142$)

Allan et al. (2007)
Bengtson (2008)
Bonta & Yessine (2005)
Brouillette-Alarie & Proulx (2008)
Cortoni & Nunes (2007)
Harkins et al. (2007)
Harris et al. (2003)
Hill et al. (2008)
Johansen (2007)
Knight & Thornton (2007)
Ternowski (2004)
Wilson et al. (2007 a & b)

Preselected Treatment Need

(With 5-year data, $k = 5$, $n = 1,213$)

Allan et al. (2007)
Brouillette-Alarie & Proulx (2008)
Harkins et al. (2007)
Johansen (2007)
Ternowski (2004)

Preselected High-Risk/Need

(With 5-year data, $k = 5$, $n = 1,151$; with 10-year data, $k = 4$, $n = 767$)

Bengtson (2008)
Bonta & Yessine (2005)
Harris et al. (2003)
Knight & Thornton (2007)
Wilson et al. (2007 a & b)

Static-99R Samples for Violent Recidivism Tables

Routine Corrections

Bartosh, Garby, Lewis, & Gray, 2003. The study sample consists of sex offenders released from the Arizona Department of Corrections and subject to registration and notification. The Static-99 was scored from file information and recidivism was coded from FBI records. Interrater reliability was reported ($r = .90$), although the number of cases coded by multiple raters is unknown.

Bigras, 2007. The original sample contained 94% of all sexual offenders receiving a federal sentence (two or more years) in Quebec between 1995 and 2000 (6% refused participation in the research or were unable to provide consent). Assessment information was extracted from file data and interviews with offenders. Recidivism data was collected using CPIC records.

Boer, 2003. The study sample consists of all male federal offenders serving a sentence for a sexual offense in British Columbia whose Warrant Expiry Date (WED; the end of their sentence) was between January 1990 and May 1994. Many offenders are granted conditional release prior to their WED; thus, offenders in this sample were released as early as 1976. Recidivism information was collected using CPIC records. Category B sexual offenses (see A. J. R. Harris et al., 2003) were excluded from the definition of sexual recidivism.

Craissati, Bierer, & South, 2008. The study sample consists of all contact sex offenders on probation in two boroughs in South East London during the study period. The Static-99 was coded from file information and recidivism data was collected from four sources: the Police National Computer, the Violent and Sex Offenders Register, the Multiple Criminal Remote Access, and the EApps database.

Eher, Rettenberger, Schilling, & Pfafflin, 2009. The study sample consists of sex offenders released from prison in Austria (see Eher, Rettenberger, Schilling, & Pfafflin, 2008). Interrater reliability was assessed by having four raters code 27 cases ($ICC = .90$). Recidivism information was collected from the Federal Department of the Interior.

Hanson, Harris, Scott, & Helmus, 2007. This prospective study followed offenders on community supervision between 2001-2005 in Canada, Alaska, and Iowa, although only Canadian offenders were used in the current study. Static-99 was coded by community supervision officers and sent to the project staff, and interrater reliability was examined through file review of 88 cases coded by the officers ($ICC = .91$). Recidivism information was collected from CPIC records, supervising officers, provincial records, and informal police contacts (additionally, one recidivist was identified in a newspaper article).

Långström, 2004. The study sample consists of sex offenders released from prison in Sweden. The Static-99 was coded from file information and recidivism was coded from the National Council for Crime Prevention.

Non-Routine

Preselected Treatment Need

Allan, Grace, Rutherford, & Hudson, 2007. The study sample consists of child molesters who completed the prison-based Kia Marama sex offender treatment program in Christchurch, New

Zealand. Recidivism information was collected from the New Zealand Department of Corrections.

Brouillette-Alarie & Proulx, 2008. The study sample consists of offenders treated or assessed at a maximum security psychiatric facility in Quebec. A sample from this facility was used in the original development samples of Static-99, but any overlapping cases were removed in the present study. Recidivism information was collected from CPIC records and Montreal courthouse records.

Harkins & Beech, 2007. This sample included offenders from three other studies in the United Kingdom. The first sample consisted of offenders from the mid to late 1990s in Her Majesty's Prison Service's Sex Offender Treatment Programme. The second sample was drawn from a community treatment program in the early 1990s, and the third sample included offenders who underwent community treatment in the late 1990s in West Midlands. The intensity of the treatment varied and treatment dropouts were retained in the sample. Recidivism data was collected from the Home Office offenders Index and Police National Computer.

Johansen, 2007. The study sample consists of participants from a prison-based sex offender treatment program in Washington State. Static-99 was coded from file information and recidivism was coded from the Office of the Administrators of the Courts and the Department of Corrections Offender Based Tracking System.

Ternowski, 2004. The study sample consists of sex offenders referred to the Stave Lake Correctional Centre Program, located in a provincial institution in B.C. Recidivism information was coded from provincial correctional records maintained by the Minister of the Attorney General of British Columbia.

Preselected High-Risk/Need

Bengtson, 2008. The study sample consists of sex offenders who received a pre-trial forensic psychiatric evaluation in Denmark. Such evaluations were typically conducted for offenders suspected of mental disorder or mental retardation, offenders deemed high risk by the courts, those accused of serious offenses, and those for whom an indefinite sentence was being considered. The Static-99 was coded from file information and criminal records. Recidivism information was obtained from the Danish Central Crime Register, and interrater reliability was assessed by having two raters code 20 cases ($ICC = .94$).

Bonta & Yessine, 2005. The original sample consisted of three subgroups of Canadian offenders: 1) offenders flagged as potential Dangerous Offenders (subject to indeterminate sentence) by the National Flagging System, 2) offenders designated as Dangerous Offenders, and 3) offenders who committed a violent reoffense after being detained until their Warrant Expiry Date. Only offenders in the first group (flagged offenders), however, had Static-99 scores available. For these offenders, Static-99 was coded from file information and recidivism was coded from CPIC records and Offender Management System (OMS) records from the Correctional Service of Canada (CSC). The definition of sexual recidivism excluded prostitution offenses, indecent phone calls, and possession of child pornography. Given the low frequency of these offenses, it is expected that this restricted definition would have minimal impact on the results. In some cases the offender's "current" offense (i.e., the offense that precipitated the flag) was non-sexual but there was a prior sexual offense on record. Their most recent sex offense was used as the index sex offense for Static-99 scoring purposes (as per the coding rules), but these cases are somewhat unique because the offenders spent time in the

community after their index sex offense but before the recidivism follow-up period began. To retain a sample of offenders who were serving a sentence for a sexual offense or who had a recent sex offense on file, offenders with more than two years between their index sex offense and the current offense for which they were flagged were deleted ($n = 22$).

Harris, Rice, Quinsey, Lalumière, Boer, & Lang, 2003. The study sample consists of Canadian sex offenders from the following sources: 1) offenders assessed in the Sexual Behaviour Lab in Penetanguishene, Ontario, who were either incarcerated after the assessment or released to the community; 2) offenders from the Regional Treatment Centre, located in a maximum security federal institution in Ontario; and 3) offenders from the Regional Psychiatric Centre, a maximum security federal institution in B.C. Static-99 was coded from file information, with some modifications from the coding rules (personal communication between Karl Hanson and Grant Harris, October, 2004). Interrater reliability was assessed by having two raters code 10 cases. Recidivism information was coded from CPIC records. This is the only study included which did not have sexual recidivism; only violent recidivism information was available.

Knight & Thornton, 2007. This study followed offenders who were either assessed or treated at the Massachusetts Treatment Center (MTC; a treatment center for sexually dangerous persons) between 1959 and 1984. Static-99 was retrospectively coded from file data by raters who were blind to recidivism status. Recidivism information was obtained from four sources: Massachusetts Board of Probation records, Massachusetts Parole Board records, MTC Authorized Absence Program records, and FBI records. Interrater reliability was evaluated by having 232 Static-99 cases coded by two raters ($r = .87$).

Wilson and colleagues (2007a & b). The study sample consists of Canadian offenders combined from two previous studies: Wilson, Cortoni, and Vermani (2007a), and Wilson, Picheca, and Prinzo (2007b). Both studies consist of high-risk sex offenders who were detained in prison until their Warrant Expiry Date (the end of their sentence). In both studies, half of the offenders participated in Circles of Support and accountability, while another (matched) group of sex offenders did not. Although the two studies had separate samples, they were combined into one dataset because both samples were selected in the same way and the basic descriptive information was the same for both studies.

Non-Routine: Other

Cortoni & Nunes, 2007. The study sample consists of Canadian federal offenders who received the low or moderate intensity National Sexual Offender Treatment Program (implemented in 2000). The original study also used a comparison group of federal offenders under community supervision in 1991, but these offenders were excluded from the present study due to insufficient follow-up information for logistic regression analyses. Recidivism information was collected from CPIC records. This sample was not included as Preselected for Treatment because offenders are screened into CSC's low risk sex offender program because they have few or no criminogenic needs.

Hill, Haberman, Klusmann, Berner, & Briken, 2008. The study sample consists of offenders who committed a sexual homicide. Static-99 was coded from file information and recidivism was coded from German federal criminal records.

Data Analyses for Violent Recidivism Estimates

Note: More detailed information on the project of which these analyses form a part can be found from Helmus (2009; available online at www.static99.org). Additional resources for reporting Static-99R scores (e.g., report templates) and describing the sample types (e.g., routine correctional, preselected high risk/need) can also be found on the Static-99 website: www.static99.org

Meta-Analysis

Violent recidivism norms for Static-99R were produced using random-effects meta-analysis of logistic regression coefficients. Whereas the results of fixed-effects meta-analysis are conceptually restricted to the particular set of studies included in the meta-analysis, random-effects meta-analysis estimates effects for the population to which the current sample of studies is a part (Hedges & Vevea, 1998). More specifically, random-effects meta-analysis incorporates variability across samples into the error term, whereas fixed-effects meta-analysis separates that variability (measured as Cochran's Q statistic; Hedges & Olkin, 1985). Consequently, the random-effects model calculates a more conceptually generalizable recidivism estimate, and the variability across samples is incorporated in the confidence interval for that estimate. When variability across studies is low ($Q < \text{degrees of freedom}$), random-effects and fixed-effect meta-analysis produce identical results.

Logistic Regression

New violent recidivism estimates for Static-99R were produced using random-effects meta-analysis of logistic regression coefficients, calculated separately for fixed 5-year and fixed 10-year follow-ups. Logistic regression is a form of regression in which the dichotomous dependent variable (recidivism) is transformed into log odds (Hosmer & Lemeshow, 2000). With one predictor variable (Static-99R), logistic regression estimates two regression coefficients (B_0 and B_1). B_1 (often referred to as a slope) is an estimate of predictive accuracy, or the average change in recidivism rates for adjacent scores. In other words, B_1 estimates the average increase in recidivism (expressed as a log odds ratio) associated with each one-unit increase in Static-99R. B_0 (often referred to as an intercept) is a measure of the recidivism base rate for the sample (technically, the log odds of the predicted recidivism rate for offenders with a Static-99R score of zero). It is important to note that the B_0 is a base rate estimate for Static-99R scores of zero. Re-centering Static-99R can produce B_0 s that examine base rates for any score. In the analyses reported here, Static-99R was centered on a score of 2 because it is the score for the "typical" sex offender, defined as the median score for routine correctional samples. The symbol $B_{0(2)}$ was used to refer to B_0 values centered on a score of 2. $B_{0(2)}$ can therefore be interpreted as the predicted recidivism rate for a Static-99R score of 2.

For samples in which there were no recidivists, logistic regression coefficients could not be computed. Rather than deleting the low base rate samples, the recidivism base rate (p) was estimated as $1/4n$ (i.e., Bartlett's adjustment, see Eisenhart, 1947, §4.3; Cohen, 1988, p. 183). In this formula, n refers to the total number of offenders with follow-up information. To obtain the B_0 for meta-analysis, the proportions were transformed into log odds (the same metric as the logistic regression coefficients), with an estimated

variance of $1/(np(1-p))$ (see Fleiss, Levin, & Paik, 2003, §2.6). B_1 could not be calculated for samples with no recidivists.

Tables 1 and 2 present the logistic regression results per sample for the fixed 5- and 10-year follow-up periods, with B_0 s centered on Static-99R score of 2. For ease of interpretation, the B_0 values (log odds) were transformed into percentages using the following formula:

$$p = \left(\frac{e^{B_0}}{1 + e^{B_0}} \right) \times 100 \quad (\text{Formula 1.0})$$

Moderator Analyses

To examine whether recidivism rates fluctuated as a function of a moderator variable, analyses were conducted using fixed-effects meta-analysis of B_0 s centered on a Static-99R score of 2. Fixed-effects meta-analysis was used because, unlike random-effects analyses, it permits calculation of the variability across studies (e.g., the Cochran's Q statistic). If recidivism estimates vary based on a moderator variable, separate recidivism tables may be necessary.

The Cochran's Q statistic allows variability across studies to be measured and compared across levels of moderator variables (Hedges & Olkin, 1985). For moderator variables, the overall Q statistic was partitioned into variability across samples that could be explained by the moderator (between-level variability, which will be referred to as between-level Q), and unexplained variability within each level of the moderator (within-level variability, which will be referred to as Q). A significant between-level Q statistic indicates that the moderator variable explains a significant portion of the variability across studies. The Q statistic is distributed as a chi-square, with $x - 1$ degrees of freedom (x = the number of levels of a moderator).

Tables 3 and 4 present the moderator analyses for both 5- and 10-year violent recidivism, respectively. Analyses focused only on the moderator variables that were significant in analyses of sexual recidivism (see Helmus, 2009), as well as the offender type (rapist versus child molester) because analyses from a smaller subset of these data found offender type to be a meaningful moderator for violent recidivism, but not sexual recidivism (Helmus, Hanson, & Thornton, 2009). Although the tests of a moderator variable were obtained from fixed-effects meta-analysis, the results of random-effects meta-analysis are also presented in Tables 3 and 4.

There were no significant differences in the predicted recidivism rates ($B_{0(2)}$) based on the country of the study (at 5 years, between-level $Q = 5.73$, $df = 4$, $p > .10$; at 10 years, between-level $Q = 4.96$, $df = 4$, $p > .10$). Interestingly, there were also no significant differences in recidivism rates for rapists and child molesters (at 5 years, between-level $Q = 0.73$, $df = 1$, $p > .25$; at 10 years, between-level $Q = 0.04$, $df = 1$, $p > .10$), indicating that separate recidivism tables for rapists and child molesters are not needed.

Similar to the findings for sexual recidivism (Helmus, 2009), dividing samples into those that were relatively routine (i.e., unselected, representative) correctional samples and all other samples (non-routine) explained a significant portion of the variability in recidivism rates, with lower recidivism rates found in routine correctional samples (at 5 years,

between-level $Q = 5.15$, $df = 1$, $p < .05$; at 10 years, between-level $Q = 15.26$, $df = 1$, $p < .001$).

The sample type moderator variable was created by further subdividing the non-routine samples into those that were preselected as needing sexual offender treatment and those that were preselected based on perceived high risk/need (note that two non-routine samples, Cortoni & Nunes [2007] and Hill et al. [2008], were excluded from this variable because they did not fit into either category). Sample type was a significant moderator variable and explained approximately half of the variability in recidivism rates across studies (at 5 years, between-level $Q = 21.12$, $df = 1$, $p < .001$; at 10 years, between-level $Q = 23.71$, $df = 1$, $p < .001$), with the highest recidivism rates found in samples preselected as high risk/need.

Unlike the findings for sexual recidivism, the routine corrections group and the preselected for treatment need group had remarkably similar recidivism rates. This is likely because the treatment need group were selected for treatment specific to sexual offenders. Selection for sexual offender treatment is likely to be based on risk factors unique to sexual offending (e.g., sexual deviance), which are less predictive of violent recidivism than sexual recidivism (Hanson & Morton-Bourgon, 2004). Despite the similarity between these groups, separate recidivism tables were created for each sample type to match the sexual recidivism estimates, which found meaningful differences between these sample types.

In addition to creating separate recidivism tables for the three sample type groups (routine, preselected for treatment need, preselected as high risk/need), another table was created for the combined group of non-routine samples, to be used in cases where an offender clearly does not belong in a routine sample, but it is unclear which non-routine sample type is most appropriate. Further information on how to select the appropriate sample type is available in the template for reporting Static-99R scores, available from www.static99.org

Estimating Recidivism Rates

Recidivism estimates (presented in Tables 5 through 8, and graphed in Figures 1 and 2) were created using the logistic regression coefficients derived from random-effects meta-analyses. In regression, the predicted value on a dependent variable (recidivism) for a given score on the independent variable (Static-99R) is obtained by adding the intercept (the predicted value for a score of 0) to the product of the slope and the independent variable. In other words,

$$y = B_0 + x \cdot B_1 \quad \text{(Formula 1.1)}$$

where y is the predicted recidivism rate (as a log odds) and x is the Static-99R score for which you are trying to predict the recidivism rate. Recall from earlier that B_0 is the log odds of the recidivism rate for a Static-99R score of 0, and B_1 is a log odds ratio that indicates that average increase in recidivism for each one-point increase on Static-99R. Although we calculated recidivism estimates using B_0 centered on a Static-99R score of 2, had it been centered on a score of 0, it would have produced identical per-score recidivism estimates and confidence intervals.

From the random-effects meta-analysis, the average B_0 for each sample type (routine, preselected treatment need, preselected high risk/need, non-routine) and the overall B_1 were obtained to estimate the 5-year violent recidivism rates for a given Static-99R score. The overall B_1 was used as there was no significant variability in the B_1 at 5 years for violent recidivism ($B_1 = 0.309666$, $Q = 16.14$, $k = 19$, $p > .50$).

For the 10 year tables, the average B_0 for each sample type was used. For the B_1 , however, there was significant variability across samples ($B_1 = .296097$, $Q = 20.73$, $k = 12$, $p < .05$). As such, each recidivism table was created using the B_1 specific to that sample type. The complication that arises from using different slopes for each sample type is that the slopes *will* intersect at some point.

Figure 2 demonstrates that the slope is steeper for the routine correctional samples (in other words, the B_1 was higher), and starting at a Static-99R score of 6, the recidivism estimates are higher for routine correctional samples than the other groups. Although this finding is illogical, it is a natural byproduct of the analyses used to produce the estimates. Similarly, because the 10 year estimates are based on a subsample of cases used for the 5 year analyses and using a different B_1 , it is also possible (but rare) for a 10 year estimate to be lower than a 5 year estimate. For the routine correctional samples, this occurs for a Static-99R score of -3, with a 5 year recidivism estimate of 3.1% and a 10 year estimate of 2.9%. Although this estimate is counterintuitive, note that the confidence interval at 10 years is extremely wide and includes the confidence interval for the 5 year estimates. This is the only case where a 10 year estimate is lower than the corresponding 5 year estimate. There was insufficient data to produce 10 year violent recidivism estimates for the Preselected Treatment Need group ($N = 324$).

To obtain confidence intervals around the recidivism estimates (recall that the recidivism estimates are initially calculated as the log odds of recidivism), the standard error for the estimated recidivism rates are computed using the standard error of the B_0 (referred to as SE_{B_0}), the standard error of the B_1 (referred to as SE_{B_1}), and the correlation of the estimates (r) derived from the logistic regression analyses. The correlation of estimates is an estimate of the relationship between B_0 and B_1 . For these calculations, the median correlation of estimates from all samples at 5 years was used for the 5 year tables, and the median correlation of estimates at 10 years was used for the 10 year tables.

The standard error of the predicted recidivism rates (obtained from Fleiss, Levin, & Paik, 2003) is:

$$SE_{logit} = \sqrt{(SE_{B_0})^2 + 2 \cdot x \cdot r \cdot SE_{B_0} \cdot SE_{B_1} + x^2 (SE_{B_1})^2} \quad (1.2)$$

Note that x refers to the Static-99R score for which we are predicting the recidivism rate, so the standard error must be calculated separately for each Static-99R score.

From the standard error, confidence intervals for the estimated recidivism rates (as log odds) for each Static-99R score can be obtained. The confidence intervals are

$$95\% \text{ CI} = \text{logit} \pm (1.96 \cdot (SE_{logit})) \quad (1.3)$$

Once you have the estimated recidivism rates and the confidence intervals as log odds, you can transform them into percentages using formula 1.0.

References

Note: References marked with an asterisk were included in the analyses. Wilson et al. (2007a & b) both have an asterisk, although they were combined into one sample for the current study.

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Table 1

Static-99R Logistic Regression Analyses at Five Years with B_0 Centered on 2 Converted to Percentages

	Static-99R <i>M (SD)</i>	<i>N</i>	<i>N</i> _{recidivists} (%)	B_1	B_1SE	$B_{0(2)}$	$B_{0(2)}$ 95% CI	
Allan et al. (2007)	1.9 (2.3)	298	54 (18.1)	0.361	0.072	15.9	11.9	20.9
Bartosh et al. (2007)	3.0 (2.7)	90	24 (26.7)	0.168	0.092	22.8	14.6	33.8
Bengtson (2008)	3.8 (2.4)	310	100 (32.2)	0.300	0.060	20.4	15.0	27.0
Bigras (2007)	2.1 (2.3)	207	46 (22.2)	0.340	0.082	19.3	14.1	25.8
Boer (2003)	2.8 (2.8)	299	42 (14.0)	0.381	0.075	7.6	4.7	12.1
Bonta & Yessine (2005)	5.1 (2.2)	101	46 (45.5)	0.276	0.106	25.8	13.6	43.4
Brouillette-Alarie & Proulx (2008)	3.9 (2.4)	199	44 (22.1)	0.296	0.079	12.5	7.7	19.8
Cortoni & Nunes (2007)	2.7 (1.8)	17	2 (11.8)	9.444	3866.121	0.0	<.01	>99.9
Craissati et al. (2008)	2.1 (2.3)	200	32 (16.0)	0.276	0.085	13.9	9.5	19.8
Eher et al. (2008)	1.9 (2.1)	151	18 (11.9)	0.665	0.155	7.2	3.7	13.9
Hanson et al. (2007)	2.2 (2.6)	31	1 (3.2)	0.358	0.520	2.2	0.1	27.1
Harkins & Beech (2007)	2.2 (2.6)	197	27 (13.7)	0.291	0.081	10.8	6.9	16.6
Harris et al. (2003)	3.4 (2.7)	197	57 (28.9)	0.247	0.064	20.9	14.8	28.5
Hill et al. (2008)	4.8 (1.9)	73	17 (23.3)	0.335	0.168	9.6	3.0	27.1
Johansen (2007)	2.9 (2.3)	272	41 (15.1)	0.303	0.078	10.4	6.8	15.4
Knight & Thornton (2007)	4.6 (2.4)	440	143 (32.5)	0.246	0.048	19.4	14.5	25.5
Långström (2004)	2.0 (2.4)	1278	196 (15.3)	0.363	0.035	12.3	10.5	14.5
Ternowski (2004)	1.6 (2.5)	247	33 (13.4)	0.320	0.078	12.4	8.6	17.5
Wilson et al. (2007a & b)	5.2 (2.3)	103	33 (32.0)	0.188	0.100	20.1	10.1	36.0

Table 2

Static-99R Logistic Regression Analyses at Ten Years with B_0 Centered on 2 Converted to Percentages

	Static-99R <i>M (SD)</i>	<i>N</i>	<i>N</i> _{recidivists (%)}	B_1	B_1SE	$B_{0(2)}$	$B_{0(2)}$ 95% CI	
Allan et al. (2007)	1.6 (2.1)	25	9 (36.0)	0.949	0.420	40.8	19.8	65.8
Bengtson (2008)	3.8 (2.3)	291	128 (44.0)	0.337	0.061	29.0	22.4	36.7
Boer (2003)	2.8 (2.8)	295	62 (21.0)	0.374	0.065	12.8	8.9	18.2
Brouillette-Alarie & Proulx (2008)	3.9 (2.4)	110	35 (31.8)	0.301	0.099	19.6	11.5	31.2
Craissati et al. (2008)	1.4 (2.1)	66	16 (24.2)	0.361	0.150	25.9	16.1	38.8
Harkins & Beech (2007)	2.3 (2.6)	127	30 (23.6)	0.372	0.093	18.2	11.8	27.0
Harris et al. (2003)	3.8 (2.6)	94	41 (43.6)	0.092	0.080	39.6	28.4	52.0
Hill et al. (2008)	5.0 (1.8)	54	20 (37.0)	0.165	0.162	26.1	10.1	52.6
Johansen (2007)	3.6 (2.3)	62	11 (17.7)	0.233	0.153	12.0	5.0	26.4
Knight & Thornton (2007)	4.4 (2.5)	363	150 (41.3)	0.212	0.048	29.0	22.7	36.2
Långström (2004)	2.0 (2.5)	353	81 (22.9)	0.429	0.062	18.4	14.2	23.4
Wilson et al. (2007a & b)	5.4 (2.6)	16	7 (43.8)	0.142	0.210	32.3	7.6	73.5

Table 3

Static-99R Logistic Regression Analyses at Five Years with B_0 Centered on 2 in Percentages

	Fixed-Effects Meta-Analysis			Random-Effects			
	$B_{0(2)}$ <i>M</i>	95% CI	Q	$B_{0(2)}$ <i>M</i>	95% CI	<i>n</i>	<i>k</i>
Country							
<i>Overall</i>	14.5%	13.3% to 15.8%	48.79***	14.7%	12.5% to 17.1%	4,710	19
Canada	15.4%	13.2% to 18.0%	21.82**	15.2%	11.2% to 20.3%	1,401	9
Europe	13.2%	11.5% to 15.2%	11.80**	12.8%	8.4% to 19.0%	1,812	4
New Zealand	15.9%	11.9% to 20.9%	–	15.9%	11.9% to 20.9%	298	1
United Kingdom	12.5%	9.4% to 16.5%	0.72	12.5%	9.4% to 16.5%	397	2
United States	16.8%	13.6% to 20.5%	8.72*	16.7%	10.5% to 25.6%	802	3
<i>Between-level Q</i>			5.73				
Routine Corrections							
<i>Overall</i>	14.5%	13.3% to 15.8%	48.79***	14.7%	12.5% to 17.1%	4,710	19
Routine Corrections	13.1%	11.6% to 14.8%	22.61***	12.9%	9.5% to 17.4%	2,256	7
Non-routine	16.0%	14.2% to 17.9%	21.03*	15.8%	13.2% to 18.7%	2,454	12
<i>Between-level Q</i>			5.15*				
Sample Type							
<i>Overall</i>	14.5%	13.4% to 15.8%	48.25***	14.8%	12.5% to 17.3%	4,620	17
Routine Corrections	13.1%	11.6% to 14.8%	22.61***	12.9%	9.5% to 17.4%	2,256	7
Preselected for treatment	12.8%	10.8% to 15.1%	3.81	12.8%	10.8% to 15.1%	1,213	5
Preselected for risk/need	20.5%	17.4% to 24.0%	0.71	20.5%	17.4% to 24.0%	1,151	5
<i>Between-level Q</i>			21.12***				
Sex Offender Type							
<i>Overall</i>	14.0%	12.5% to 15.6%	31.64*	13.9%	11.9% to 16.3%	3,008	21
Child Molesters	13.4%	11.6% to 15.5%	27.26**	13.4%	10.1% to 17.5%	1,722	11
Rapists	14.8%	12.5% to 17.5%	3.65	14.8%	12.5% to 17.5%	1,286	10
<i>Between-level Q</i>			0.73				

Note. Between-level Q tested on a chi-square distribution with the number of levels minus one as the degrees of freedom.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Static-99R Logistic Regression Analyses at ten Years with B_0 Centered on 2 in Percentages

	Fixed-Effect Meta-Analysis			Random-Effect			<i>n</i>	<i>k</i>
	$B_{0(2)}$ <i>M</i>	95% CI	Q	$B_{0(2)}$ <i>M</i>	95% CI			
Country								
<i>Overall</i>	23.2%	20.8% to 25.8%	37.79***	23.5%	18.6% to 29.1%	1,856	12	
Canada	21.1%	16.8% to 26.2%	20.69***	23.4%	11.7% to 41.3%	515	4	
Europe	22.7%	19.0% to 26.9%	6.44*	23.5%	16.0% to 33.2%	698	3	
New Zealand	40.8%	19.8% to 65.8%	–	40.8%	19.8% to 65.8%	25	1	
United Kingdom	21.2%	15.5% to 28.4%	1.27	21.4%	14.9% to 29.6%	193	2	
United States	26.7%	21.0% to 33.2%	4.43*	20.7%	8.3% to 42.8%	425	2	
<i>Between-level Q</i>			4.96					
Routine Corrections								
<i>Overall</i>	23.2%	20.8% to 25.8%	37.79***	23.5%	18.6% to 29.1%	1,856	12	
Routine Corrections	17.4%	14.4% to 21.0%	5.82	17.9%	12.5% to 24.8%	714	3	
Non-routine	27.4%	23.9% to 31.1%	16.71*	26.5%	21.1% to 32.6%	1,142	9	
<i>Between-level Q</i>			15.26***					
Sample Type								
<i>Overall</i>	23.1%	20.7% to 25.7%	37.72***	23.4%	18.4% to 29.2%	1,802	11	
Routine Corrections	17.4%	14.4% to 21.0%	5.82	17.9%	12.5% to 24.8%	714	3	
Preselected for treatment	19.6%	14.8% to 25.6%	5.43	20.2%	13.3% to 29.3%	324	4	
Preselected for risk/need	30.9%	26.5% to 35.6%	2.76	30.9%	26.5% to 35.6%	764	4	
<i>Between-level Q</i>			23.71***					
Sex Offender Type								
<i>Overall</i>	23.0%	19.9% to 26.4%	36.23*	24.2%	18.5% to 31.0%	1,152	14	
Child Molesters	22.8%	19.0% to 27.0%	28.02**	24.7%	16.3% to 35.6%	653	8	
Rapists	23.4%	18.2% to 29.5%	8.17	24.0%	17.1% to 32.4%	499	6	
<i>Between-level Q</i>			0.04					

Note. Between-level Q tested on a chi-square distribution with the number of levels minus one as the degrees of freedom.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

Logistic regression estimates for any violent (including sexual) recidivism (Routine Corrections)

Static-99R Score	5-Year Violent Recidivism Rates			10-Year Violent Recidivism Rates		
	Predicted Recidivism Rate	95% CI		Predicted Recidivism Rate	95% CI	
-3	3.1	2.0	4.6	2.9	1.6	5.2
-2	4.1	2.8	6.0	4.2	2.5	7.1
-1	5.5	3.9	7.8	6.2	3.9	9.6
0	7.4	5.4	10.2	8.9	6.0	13.0
1	9.8	7.3	13.1	12.7	9.2	17.4
2	12.9	9.9	16.8	17.9	13.6	23.2
3	16.8	13.2	21.3	24.5	19.3	30.6
4	21.6	17.3	26.7	32.6	26.3	39.6
5	27.3	22.3	33.0	41.9	34.2	50.1
6	33.9	28.2	40.0	51.8	42.6	60.9
7	41.1	34.9	47.6	61.6	51.2	71.0
8	48.8	42.2	55.4	70.5	59.5	79.6
9	56.5	49.7	63.0	-	-	-
10	-	-	-	-	-	-
11	-	-	-	-	-	-
12	-	-	-	-	-	-
Total N	2,256			714		

Note. *N* is the total sample size used in the logistic regression analysis to generate predicted recidivism values. The sample size with a particular Static-99R score is not reported because logistic regression uses information on the relationship between Static-99R and recidivism in the complete dataset to generate predicted values. Estimates are only provided for scores with at least 8 cases available for analysis. 5-year recidivism estimates were computed using $B_1 = 0.309666$, $B_1SE = 0.017006$, $B_0 = -1.906804$, $B_0SE = 0.176348$, and median $r = -0.649117$. 10-year recidivism estimates computed using $B_1 = 0.399399$, $B_1SE = 0.042916$, $B_0 = -1.524517$, $B_0SE = 0.213306$, and median $r = -0.692237$.

Table 6

Logistic regression estimates for any violent (including sexual) recidivism (Preselected Treatment Need)

Score	5-Year Violent Recidivism Rates		
	Predicted Recidivism Rate	95%	CI
-3	3.0	2.3	3.9
-2	4.1	3.2	5.1
-1	5.5	4.5	6.7
0	7.3	6.1	8.7
1	9.7	8.3	11.3
2	12.8	11.1	14.6
3	16.7	14.7	18.8
4	21.4	19.1	24.0
5	27.1	24.2	30.2
6	33.6	30.0	37.4
7	40.8	36.5	45.3
8	48.5	43.4	53.6
9	56.2	50.5	61.7
10	-	-	-
11	-	-	-
12	-	-	-
Total <i>N</i>	1,213		

Note. *N* is the total sample size used in the logistic regression analysis to generate predicted recidivism values. The sample size with a particular Static-99R score is not reported because logistic regression uses information on the relationship between Static-99R and recidivism in the complete dataset to generate predicted values. 10-year recidivism estimates were not provided for the Preselected treatment need sample group due to insufficient data. Estimates are only provided for scores with at least 8 cases available for analysis. 5-year recidivism estimates were computed using $B_1 = 0.309666$, $B_1SE = 0.017006$, $B_0 = -1.919516$, $B_0SE = 0.097702$, and median $r = -0.649117$.

Table 7

Logistic regression estimates for any violent (including sexual) recidivism (Preselected High-Risk/Need)

Static-99R Score	5-Year Violent Recidivism Rates			10-Year Violent Recidivism Rates		
	Predicted Recidivism Rate	95% CI		Predicted Recidivism Rate	95% CI	
-3	-	-	-	-	-	-
-2	-	-	-	-	-	-
-1	9.2	7.5	11.3	18.9	14.7	23.9
0	12.2	10.2	14.5	22.4	18.9	26.4
1	15.9	13.6	18.5	26.4	23.4	29.6
2	20.5	17.9	23.3	30.9	27.4	34.6
3	26.0	23.1	29.1	35.7	30.5	41.2
4	32.4	29.1	35.8	40.8	33.2	48.8
5	39.5	35.8	43.3	46.2	36.0	56.7
6	47.0	42.9	51.3	51.6	38.6	64.3
7	54.8	50.2	59.3	57.0	41.3	71.4
8	62.3	57.4	67.0	62.2	44.1	77.5
9	69.2	64.2	73.9	67.2	46.8	82.6
10	75.4	70.4	79.8	71.8	49.6	86.8
11	-	-	-	-	-	-
12	-	-	-	-	-	-
Total N	1,151			767		

Note. N is the total sample size used in the logistic regression analysis to generate predicted recidivism values. The sample size with a particular Static-99R score is not reported because logistic regression uses information on the relationship between Static-99R and recidivism in the complete dataset to generate predicted values. Estimates are only provided for scores with at least 8 cases available for analysis. 5-year recidivism estimates were computed using $B_1 = 0.309666$, $B_1SE = 0.017006$, $B_0 = -1.356474$, $B_0SE = 0.103384$, and median $r = -0.649117$. 10-year recidivism estimates computed using $B_1 = 0.217521$, $B_1SE = 0.055425$, $B_0 = -0.806291$, $B_0SE = 0.109467$, and median $r = -0.692237$.

Table 8

Logistic regression estimates for any violent (including sexual) recidivism (All Nonroutine)

Static-99R Score	5-Year Violent Recidivism Rates			10-Year Violent Recidivism Rates		
	Predicted Recidivism Rate	95% CI		Predicted Recidivism Rate	95% CI	
-3	3.8	2.9	5.0	-	-	-
-2	5.1	4.0	6.5	-	-	-
-1	6.9	5.5	8.5	14.4	10.6	19.4
0	9.1	7.6	11.0	17.8	13.9	22.6
1	12.0	10.2	14.2	21.8	17.9	26.4
2	15.7	13.6	18.2	26.5	22.4	31.0
3	20.3	17.8	23.0	31.7	27.2	36.5
4	25.8	22.9	28.9	37.4	31.9	43.1
5	32.1	28.7	35.7	43.4	36.6	50.5
6	39.2	35.2	43.3	49.7	41.3	58.2
7	46.8	42.2	51.4	56.0	45.9	65.6
8	54.5	49.4	59.5	62.1	50.5	72.5
9	62.0	56.5	67.2	67.8	55.0	78.4
10	69.0	63.3	74.2	73.1	59.4	83.4
11	-	-	-	-	-	-
12	-	-	-	-	-	-
Total N	2,454			1,145		

Note. N is the total sample size used in the logistic regression analysis to generate predicted recidivism values. The sample size with a particular Static-99R score is not reported because logistic regression uses information on the relationship between Static-99R and recidivism in the complete dataset to generate predicted values. Estimates are only provided for scores with at least 8 cases available for analysis. 5-year recidivism estimates were computed using $B_1 = 0.309666$, $B_1SE = 0.017006$, $B_0 = -1.677226$, $B_0SE = 0.105612$, and median $r = -0.649117$. 10-year recidivism estimates computed using $B_1 = 0.252595$, $B_1SE = 0.040122$, $B_0 = -1.021844$, $B_0SE = 0.151894$, and median $r = -0.692237$.

Figure 1. 5-Year Violent (Including Sexual) Recidivism Rates

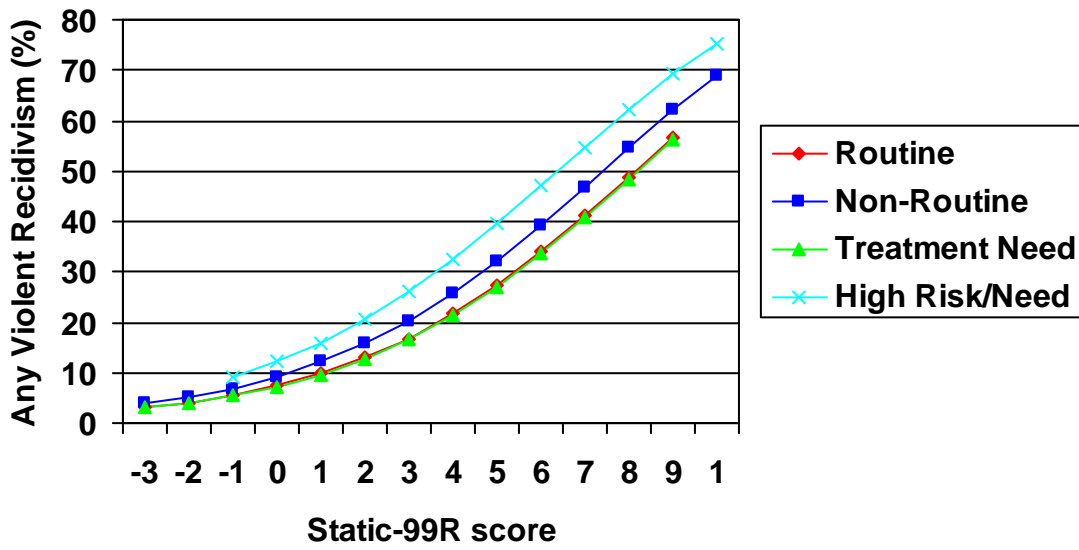


Figure 2. 10-Year Violent (Including Sexual) Recidivism Rates

