

Criterion and Predictive Validity of the Static-99 for Adult Males Convicted of Sexual Offences Against Children

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Abstract

Official demographic and offence history data and confidential self-report data obtained from adult males convicted of sexual offences against children were used to produce actuarial recidivism risk prediction (Static-99) scores, four sexual deviance and general criminological predictor variables, and four (official and unofficial) offence-related outcome variables. Static-99 scores applicable at the time of the current sexual offence conviction ($n = 172$) predicted sexual and nonsexual offending outcomes. Regression models were improved with the addition of sexual deviance and criminological predictors not included in the Static-99. Static-99 scores applicable at the time of the first sexual offence conviction for known recidivist sexual offenders ($n = 40$) predicted official nonsexual offence convictions and self-reported number of sexual offence victims, but not official sexual offence convictions or self-reported total period of sexual offending. Again, regression models were improved with the addition of other sexual deviance and criminological predictors. Results provide partial support for criterion and predictive validity of the Static-99. Applied risk assessments may benefit from consideration of key self-report and official data not included in the Static-99.

Introduction

As public concern about sexual crime continues to grow, psychologists are increasingly being called upon to assess the risk of further offending by known sexual offenders. While risk assessment has broad potential application, estimations of the risk of recidivism are particularly important for the courts when considering sentencing options, and for parole boards when considering offenders' release from custody.

The Static-99 (Hanson & Thornton, 1999) is one of the most widely used actuarial sexual offender risk prediction instruments. Administration of the Static-99 has the advantage of quickness and ease over other risk instruments used with sexual offenders (e.g., the Sex Offender Risk Appraisal Guide: Quinsey, Lalumiere, Rice, & Harris, 1995), and can be applied to a broader range of sexual offender subtypes than other

instruments (e.g., the Minnesota Sex Offender Screening Tool – Revised: Epperson, Kaul, & Hesselton, 1998). The accuracy of the Static-99 in predicting both sexual and nonsexual recidivism outcomes among sexual offenders has been shown to be comparable to these other more complex and/or more restrictive instruments (Barbaree, Seto, Langton, & Peacock, 2001).

Thus far, studies of the predictive validity of the Static-99, as with other sexual offender risk prediction instruments, have been largely restricted to questions concerning dichotomous outcomes – that is, whether or not recidivism has been observed to occur. Leaving aside the serious problem of the large number of false positive and false negative predictions produced by existing risk prediction instruments (including the Static-99) in applied settings there are of course other compelling questions concerning the validity of such instruments. These include questions concerning the relative *extent* of re-offending, such as the number of further offences, the number of future victims, and the period over which further offending occurs. It is of considerable practical significance, for example, that some recidivist sexual offenders may commit one further sexual offence within, say, five years, while others may proceed to commit numerous sexual and nonsexual offences over that time.

A further practical problem is that, as risk assessments in applied settings become increasingly routine, so too will practitioners increasingly be called upon to assess sexual offenders at the point of their first sexual offence conviction. While historical factors, including details about previous sexual offending, are commonly relied upon in actuarial risk assessment instruments, practitioners will increasingly be faced with the challenge of estimating recidivism risk when there is no known sexual offence history. There is therefore a need to identify and validate predictors relevant to 'first-time' sexual offenders.

Hanson and Bussiere's (1998) meta-analysis of sexual offender recidivism studies provided a much-needed empirical basis for the development of actuarial

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sexual offender risk prediction instruments, including the Static-99. Some 70 variables were identified in their meta-analysis as potential predictors of sexual recidivism, although no single predictor accounted for more than 10% of the variance in sexual recidivism. The task of discovering the best combinations of predictor variables is clearly important. However, it is also important to be reminded that the retrospective, empirically-driven approach to most sexual offender recidivism research is itself subject to important constraints. Chief among these, in our view, is the absence of testing of theoretically-derived predictor variables. Instead, sexual offender recidivism research has tended to rely on archival data, the main inclusion criteria for which may simply be its availability rather than its theoretical significance. Apart from the difficulty this creates in explaining observed associations between predictor and criterion variables, there may well be important predictors that were not relevant to the purposes of the original data collection and were therefore unavailable for meta-analysis.

Nevertheless, Hanson and Bussiere's (1998) empirical observation that different sets of factors were predictive of sexual and nonsexual recidivism in sexual offenders raises important theoretical questions about the nature of sexual crime, and may provide a coherent theoretical basis for testing recidivism prediction models. Specifically, they observed that 'sexual deviance' factors (e.g., deviant sexual preferences) best predicted sexual recidivism, whereas general criminological factors (e.g., history of delinquency) best predicted nonsexual recidivism among sexual offenders. Individual differences in sexual and nonsexual offending patterns among sexual offenders may therefore be explained on the basis of the relative contributions of sexual deviance and criminological risk factors. Thus, while there is a need to extend the evaluation of risk prediction instruments beyond dichotomous recidivism outcomes, there is also both a theoretical and a practical need to continue the search for other predictors of recidivism among sexual offenders, especially those with no known sexual offending history.

Finally, given the considerable heterogeneity among sexual offenders in terms of individual characteristics and offending patterns, and given that most sexual offender recidivism research has been based on mixed offender populations, there is a need to validate risk prediction models specifically for their application to more homogenous subtypes of sexual offenders. It is possible, for example, that certain risk factors are concentrated within particular subtypes, and that these may go undiscovered in heterogenous samples. With arguably the greatest level of public policy attention, especially with increasing police attention, being given to sexual offences against children in some

jurisdictions, there may be a special need for research activity to inform applied risk assessments of men convicted of sexual offences against children.

The present study aimed to address a number of questions raised from the preceding discussion. First, we aimed to test the criterion validity of the Static-99 in terms of associations between Static-99 scores and four offence-related criteria, namely the number of sexual offence convictions, the number of nonsexual offence convictions, the number of sexual offence victims, and the total period of sexual offending, among men convicted of sexual offences against children. Further, we aimed to examine whether prediction models would be improved with the addition of sexual deviance and/or criminological predictors not included in the Static-99. More specifically, we hypothesised that sexual deviance predictors (early onset of sexual contact with children; multiple paraphilic interests) would improve regression models for predicting sexual offending outcomes, and that general criminological predictors (age at first conviction; first conviction was for a nonsexual offence) would improve models for predicting nonsexual offending outcomes.

Second, we aimed to test predictive validity of the Static-99 specifically for those offenders in our sample who were known to have at least one previous sexual offence conviction. Using the four offending outcome criteria described above, we again examined whether prediction models would be improved with the addition of sexual deviance and/or criminological predictors. We also expected that for this subgroup of sexual recidivists, sexual deviance predictors would improve regression models for predicting sexual offending outcomes, and that general criminological predictors would improve models for predicting nonsexual offending outcomes.

Method

Participants

Three hundred and sixty two adult males serving sentences in Queensland, Australia, for sexual offences against children were approached individually and invited to participate in a study of offender characteristics and modus operandi. Official demographic and offence history data were obtained on all 362 prospective participants. Of these, 221 (61%) agreed to anonymously complete a 386 item self-report questionnaire designed to elicit wide-ranging data on personal characteristics, psychosocial and psychosexual histories, pornography and Internet use, paraphilic interests, offender networking, and modus operandi. Those who provided self-report data (respondents) did not differ from those who declined to do so (non-respondents) on any demographic or offence history

variable, with the exception of education level. Respondents had achieved a significantly higher level of education than had the non-respondents.

Based on their anonymous self-reports, the 221 respondents were categorised into one of four mutually exclusive groups: intrafamilial offenders (those who had offended only within family settings); extrafamilial offenders (those who had offended only outside family settings); mixed-type offenders (those who had offended both within and outside family settings); and deniers (those who denied ever having committed a child sexual offence). The self-report sample consisted of 98 intrafamilial offenders, 72 extrafamilial offenders, and 37 mixed-type offenders. Thirteen deniers of course did not provide self-report data on their offending, and so this group was excluded for the purposes of the current study.

The mean age of the total sample ($n = 362$) at the time of their current sexual offence conviction(s) was 41.8 years ($SD = 12.10$). The mean age at first conviction for any offence was 30.2 years ($SD = 13.1$). About half (48%) of the total sample was first convicted for a sexual offence, with the remainder (52%) first convicted for a nonsexual offence. About two thirds (64%) had at least one previous conviction recorded in their criminal histories. Of these, 35% had previous convictions for sexual offences and 92% had previous convictions for nonsexual offences.

Twenty-four respondents were re-contacted after an average two months, at which time the entire questionnaire was re-administered for the purposes of computing test-retest reliability.

Measures

Predictor Variables

The Static-99 (Hanson & Thornton, 1999) is a 10-item actuarial risk prediction instrument yielding scores ranging from 0 to 12, with higher scores indicating higher recidivism risk. Static-99 items are prior sentencing dates, prior sexual offences, any noncontact sexual offence convictions, nonsexual index and/or previous violent offence, any stranger and/or male victims, current age, and marital history. Small to moderate correlations between Static-99 scores and sexual ($r = .18$), "serious" ($r = .28$) and "any" recidivism ($r = .34$) have been reported (Barbaree, et al., 2001). These authors also reported strong inter-rater reliability for the Static-99, and moderate to strong correlations between Static-99 scores and other risk instruments, including the Sex Offender Risk Appraisal Guide (Quinsey, et al., 1998), and the Psychopathy Checklist - Revised (Hare, 1991).

Due to the format of available data, two modifications to the scoring rules for the Static-99 were made. First, data on the number of prior sentencing dates were unavailable (number of previous

convictions, but not number of sentencing dates, were recorded), and so this item was excluded, resulting in a reduction in the range of possible scores from 0-12 to 0-11. Second, the item "ever lived with a lover for at least two years" was modified. We allocated a score of 0 if the participant was either married, defacto, divorced, separated or widowed, and a score of 1 if he had "never been married (or defacto etc)".

Two independent raters (graduate students) used coding rules described by Hanson and Thornton (2000) (modified as described above) to independently allocate Static-99 scores to 20% of cases for which all required data were available. After an initial discrepancy concerning whether "dangerous or negligent acts" constituted a nonsexual violent offence was resolved (in the affirmative), near perfect agreement was reached ($r = .99$). The mean Static-99 score ($n = 172$) was 2.44 ($SD = 2.15$). For the sexual recidivist sub-sample ($n = 40$), the mean Static-99 score applicable at the time of their first sexual offence conviction was 2.33 ($SD = 1.25$).

Two sexual deviance predictor variables were used – early onset, and multiple paraphilic interests. Early onset was operationalised as the self-reported age at first sexual contact with a child. Twenty-two offenders (11%) reported that their first sexual contact with a child occurred prior to age 18 years. However, six of these were excluded from further analysis because the victim was reported to have been less than three years younger than themselves. After excluding these cases, the mean self-reported onset age was 31.3 years ($SD = 11.9$). Test-retest reliability for this item was $r = .73$.

Using plain-language definitions based on DSM-IV-R criteria (APA, 1994), a series of 11 questions was developed asking whether the offender had ever experienced "intense, sexually arousing fantasies, urges, or behaviour" concerning exhibitionism; fetishism; public masturbation; frotteurism; sexual masochism; sexual sadism, transvestic fetishism; voyeurism; telephone scatologia; necrophilia; and zoophilia. Of the eleven individual paraphilic interests, zoophilia and necrophilia were discarded from further analysis because too few offenders acknowledged any interest in these. The result was a 9-item multiple paraphilic interests scale. The internal consistency of the scale proved to be adequate (Cronbach's alpha = .74), although test-retest reliability was at best moderate ($r = .40$). The distribution of multiple paraphilic interest scores was markedly positively skewed, and log transformation of these data was therefore used for subsequent regression analyses.

General criminological predictors were the age at first conviction for any offence, and whether the first conviction was for a sexual or nonsexual offence. Both variables were based on official criminal history data. The latter was coded as a dichotomous variable (sexual

= 0; nonsexual = 1) and treated as a continuous variable for the purposes of subsequent regression analyses.

Criterion Variables

Four offending outcome variables (two based on official data; two based on self-report data) were used. First, official sexual offending was operationalised as the average yearly number of sexual offence convictions accrued as an adult. Official sexual offending indices were calculated by adding all current and past sexual offence convictions and dividing by the period of opportunity (the period between the 17th birthday and the age at current conviction). This procedure was repeated to calculate official nonsexual offending indices. For the total sample ($n = 362$), the mean yearly number of sexual offence convictions was 0.47 ($SD = 0.65$), and the mean yearly number of nonsexual offence convictions was 0.44 ($SD = 1.25$).

The two self-report outcome variables were the average yearly number of sexual offence victims ($M = 0.2$; $SD = 0.38$) and the total period of sexual offending activity (the period between the age at self-reported first and last sexual contact with a child; $M = 5.0$ years; $SD = 8.70$). Test-retest reliability for total number of sexual offence victims was $r = .72$, and for the age at last sexual contact with a child $r = .96$ (test-retest reliability for age at first sexual contact with a child was $r = .73$). Log transformation of both self-report outcome variables was employed to correct positive skew.

Procedure

All 362 offenders were approached individually and invited to participate. They were told that their participation would not benefit them with regard to their current sentence and nor would they be penalised should they choose not to participate. Prospective participants were asked to sign a consent form, and were provided with an information sheet which emphasised that while information could be provided anonymously, participants could provide their names to be contacted at a later date for follow-up contact. Prospective participants were assured that self-report information would be kept confidential, and in particular that no identifying information would be revealed outside the research team. The entire questionnaire was re-administered to a sub-sample of 24 for the purposes of calculating test-retest reliability. The average test-retest period was approximately 2 months.

Results

Criterion Validity

The first aim of the study was to examine associations between Static-99 scores applicable at the time of the

current sexual offence conviction and four offending outcome variables, and to test whether the addition of sexual deviance and general criminological predictors not included in the Static-99 would improve prediction models. Four hierarchical multiple regression analyses were computed, the results of which are summarised in Tables 1 to 4. Predictor variables were entered as blocks: Static-99 scores (block 1); sexual deviance predictors (block 2); and criminological predictors (block 3). Some moderate correlations were found among both the predictor variables and the criterion variables. The strongest correlations among predictor variables were between Static-99 scores and onset age, $r = -.42$, $p < .001$, and between Static-99 scores and age at first conviction for any offence, $r = -.33$, $p < .001$. The strongest correlations among criterion variables were between the number of sexual offence convictions and number of sexual offence victims, $r = .45$, $p < .001$, and between the number of victims and total period of offending, $r = .40$, $p < .001$. The strength of these correlations is well below acceptable limits for collinearity (Tabachnick, Fidell, & Osterlind, 2001). Participant numbers in the following analyses vary according to availability of complete data sets.

Table 1 shows that Static-99 scores accounted for a significant proportion (33%) of the variance in the average yearly number of sexual offence convictions. Consistent with our expectations, sexual deviance predictors, but not general criminological predictors, accounted for a significant additional proportion of the variance, $F(2, 161) = 4.02$, $p = .02$. Examination of univariate predictors shows that the Static-99 scores were the strongest predictor of sexual offence conviction outcomes, $t = 3.45$, $p < .01$. Although the criminological predictors did not add to the prediction of official sexual offence convictions, the first conviction being for a sexual offence was a significant univariate predictor, $t = -2.09$, $p = .04$.

Static-99 scores also accounted for a significant proportion (12%) of the variance in the average yearly number of nonsexual offence convictions (see Table 2). In this case, both sexual deviance and general criminological predictors strengthened the prediction model. Static-99 scores, $t = 2.61$, $p = .01$, multiple paraphilic interests, $t = 2.40$, $p = .02$, and the first conviction being for a nonsexual offence, $t = 2.41$, $p = .02$, all contributed unique variance.

Table 3 shows the predictions for the self-reported number of sexual offence victims. Once again, Static-99 scores explained a significant proportion (34%) of the variance in this outcome. As expected, sexual deviance predictors, but not general criminological predictors, strengthened the prediction. An impressive 50% of the variance was accounted for by the Static-99 scores together with the two additional sexual deviance predictors, with both early onset, $t = -4.89$, $p < .001$,

Table 1. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Sexual Offence Convictions (n = 165)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.33	19.56***		.280	3.45**
<i>Sexual deviance predictors</i>					
Early onset				-.149	-1.70
Paraphilic interests	.39	9.44***	4.02*	-.049	-0.67
<i>Criminological predictors</i>					
Age at first conviction				-.121	-1.34
First conviction nonsexual	.42	6.65***	2.24	-.182	-2.09*

p < .05; ** p < .01; *** p < .001

Table 2. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Nonsexual Offence Convictions (n = 168)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.12	22.77***		.203	2.61**
<i>Sexual deviance predictors</i>					
Early onset				-.113	-1.33
Paraphilic interests	.16	10.67***	4.18*	.169	2.40*
<i>Criminological predictors</i>					
Age at first conviction				-.114	-1.32
First conviction nonsexual	.23	9.71***	7.08**	.199	2.41*

* p < .05; ** p < .01; *** p < .001

Table 3. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Sexual Offence Victims (n = 165)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.34	85.56***		.422	6.71**
<i>Sexual deviance predictors</i>					
Early onset				-.327	-4.89***
Paraphilic interests	.50	53.87***	25.28***	.157	2.77**
<i>Criminological predictors</i>					
Age at first conviction				-.106	-1.55
First conviction nonsexual	.51	33.16***	1.56	-.096	-1.47

* p < .05; ** p < .01; *** p < .001

Table 4. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Total Period of Sexual Offending (n = 172)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.15	29.83***		.289	4.09***
<i>Sexual deviance predictors</i>					
Early onset				-.470	-6.13***
Paraphilic interests	.27	20.69***	13.87***	.054	0.85
<i>Criminological predictors</i>					
Age at first conviction				.327	4.21***
First conviction nonsexual				.013	0.18
	.36	18.28***	10.96***		

* p < .05; ** p < .01; *** p < .001

and multiple paraphilic interests, $t = 2.77$, $p = .01$, contributing unique variance.

Table 4 summarises the regression on self-reported total period of offending. Once again, Static-99 scores accounted for a significant proportion (15%) of the variance. For this regression equation, both sexual deviance and criminological predictors added to the strength of prediction, with 36% of the variance accounted for by the combined model. Early sexual contact with a child, $t = -6.13$, $p < .001$, was the strongest univariate predictor, followed by the age at first conviction for any offence, $t = 4.21$, $p < .001$, and Static-99 scores, $t = 4.10$, $p < .001$. Interestingly, the *older* the offender was when he was first convicted for any offence, the *longer* the total period of sexual offending.

Predictive Validity

The second aim of the study was to test predictive validity of the Static-99 specifically for a sub-sample of known recidivist sexual offenders. These were all those offenders in the sample who had at least one previous conviction for a sexual offence and for whom all required data were available. Forty five offenders (20.5% of the self-report sample) had at least one previous sexual offence conviction. Of these, 40 (89%) had first been convicted of a sexual offence, and 5 (11%) had first been convicted of a nonsexual offence. By the age of 24, more than half (24) had been convicted of their first sexual offence. All required data were not available for five cases, resulting in a sample size of 40.

The mean number of official sexual offence convictions ranged from 3 to 51 ($M = 16.2$; $SD = 12.1$), and the mean number of nonsexual offence convictions ranged from 0 to 225 ($M = 14.1$; $SD = 40.1$). The mean

self-reported total period of sexual offending activity for the sexual recidivist subsample was 13.8 years ($SD = 11.6$). Using data applicable at the time of their first sexual offence conviction, Static-99 scores ranged from 0 to 5 ($M = 2.33$; $SD = 1.26$). As would be expected, a strong correlation ($r = .79$) was obtained between Static-99 scores at the point of first conviction and at the point of the current conviction.

The available sample size for the sexual recidivist sub-sample unfortunately fell well short of recommendations for computing multiple regression analyses (see e.g., Tabachnick, Fidell, & Osterlind, 2001). Nevertheless, we decided to proceed on an exploratory basis and to take special care in interpreting significant findings. Four multiple regression analyses were computed for study 2, using the same stepwise procedure as that outlined above. Results are summarised in Tables 5 to 8. The reader is advised to keep in mind that substantial uncontrolled error variance may be contained in the following results.

Static-99 scores did not predict average yearly sexual offence convictions for the sexual recidivists. As Table 5 shows, the only significant univariate predictor of sexual offence convictions was self-reported age at first sexual contact with a child, $t = -2.28$, $p = .03$. Specifically, the earlier the initial sexual contact with a child, the more sexual offence convictions over time.

The regression on average yearly nonsexual offence convictions is summarised in Table 6. Static-99 scores accounted for 13% of the variance in nonsexual offence convictions, $F(1,38) = 5.54$, $p = .02$. Criminological predictors markedly improved the prediction, with 35% of variance accounted for by the combined model. Age at first conviction for any offence was the only significant univariate predictor, $t = -2.39$, $p = .02$.

Table 5. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Sexual Offence Convictions for Sexual Recidivists (n = 40)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.00	0.01		-.052	-0.31
<i>Sexual deviance predictors</i>					
Early onset				-.415	-2.28*
Paraphilic interests	.20	2.95*	4.41*	-.185	-1.13
<i>Criminological predictors</i>					
Age at first conviction				.037	0.22
First conviction nonsexual	.24	2.13	0.92	-.199	-1.28

* p < .05; ** p < .01; *** p < .001

Table 6. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Nonsexual Offence Convictions for Sexual Recidivists (n = 40)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.13	5.54*		.194	1.23
<i>Sexual deviance predictors</i>					
Early onset				-.007	-0.04
Paraphilic interests	.19	2.78	1.35	.240	1.58
<i>Criminological predictors</i>					
Age at first conviction				-.379	-2.39*
First conviction nonsexual	.35	3.58**	4.07*	.157	1.09

* p < .05; ** p < .01; *** p < .001

Table 7. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Average Yearly Number of Sexual Offence Victims for Sexual Recidivists (n = 40)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.12	5.16*		.168	1.07
<i>Sexual deviance predictors</i>					
Early onset				-.602	-3.68**
Paraphilic interests	.40	7.71***	8.01**	-.073	0.49
<i>Criminological predictors</i>					
Age at first conviction				.074	0.48
First conviction nonsexual	.40	4.45*	0.13	.037	0.27

* p < .05; ** p < .01; *** p < .001

Table 8. Summary of Results of an Hierarchical Multiple Regression of Static-99 Scores, Sexual Deviance and Criminological Predictors, on Total Period of Sexual Offending for Sexual Recidivists (n = 40)

Predictors	R ²	F	F (change)	Beta	t
Static-99	.08	3.10		.031	0.23
<i>Sexual deviance predictors</i>					
Early onset				-.684	-4.88***
Paraphilic interests	.37	7.05**	8.41**	.218	1.73
<i>Criminological predictors</i>					
Age at first conviction				.440	3.35**
First conviction nonsexual	.55	8.28***	6.75**	-.103	-0.86

* p < .05; ** p < .01; *** p < .001

Although the Static-99 scores did not predict official sexual offending outcomes, they did predict 12% of the variance in self-reported number of sexual offence victims, $F(1,37) = 5.16$, $p = .03$ (see Table 7). The prediction was strengthened considerably, however, with the addition of the two sexual deviance predictors, $F(2,35) = 8.01$, $p = .001$. Once again, self-reported age at first sexual contact with a child was the only significant univariate predictor, $t = -3.68$, $p = .001$, rendering the Static-99 scores effectively redundant.

Finally, Static-99 scores did not predict the self-reported total period of sexual offending. In this case, both the sexual deviance and the criminological predictors improved the regression model. In all, 55% of the variance was explained by the combined model. Age at first sexual contact with a child, $t = -4.88$, $p < .001$, and age at first conviction for any offence, $t = 3.35$, $p = .006$, were significant univariate predictors. Once again, the older the offender when they were first convicted for any offence, the longer the total period of sexual offending.

Discussion

The purpose of this study was to examine criterion and predictive validity of the Static-99 in adult males convicted of sexual offences against children. Using both official and self-report data, we aimed to examine whether the Static-99 would predict four offence-related outcomes and whether prediction models would be improved with the addition of theoretically-derived sexual deviance and criminological predictors not included in the Static-99. Given the increasing use of actuarial risk prediction instruments in applied forensic settings, we set out to consider these research questions from an applied perspective.

Taken together, our results provide partial support for criterion and predictive validity of the Static-99. For the larger sample, which included sexual recidivists as well

as men serving sentences for their first sexual offence convictions (n = 172), Static-99 scores predicted average yearly sexual offence convictions, average yearly nonsexual offence convictions, self-reported average yearly number of sexual offence victims, and self-reported total period of sexual offending. In each case the addition of other sexual deviance and criminological predictors improved prediction models. By and large, our expectations that the additional sexual deviance and criminological predictors would improve models for predicting sexual and nonsexual offending criteria respectively were supported.

Hanson and Bussiere (1998) provided evidence that different factors are associated with sexual and nonsexual offending in sexual offenders, and suggested that practitioners should consider the risk of sexual and nonsexual recidivism separately when undertaking sexual offender risk assessments. While we acknowledge the importance of considering both sexual and nonsexual offending among sexual offenders, our findings were less clear-cut. We found, for example, that multiple paraphilic interests (a traditional sexual deviance construct) were associated with both sexual and nonsexual offending outcomes. The present results underscore the need suggested elsewhere (Smallbone & Wortley, 2004) for theoretical accounts of sexual offending to give more explicit attention to general criminality among sexual offenders.

The number of known sexual recidivists in our sample was unfortunately too small to be confident in the interpretation of the second series of regression analyses. Nevertheless, the preliminary indications are that the Static-99 does not do so well when applied at the time of the first sexual offence conviction. Specifically, for these known sexual recidivists, Static-99 scores applicable at the time of their first sexual offence conviction predicted average yearly number of nonsexual offence convictions and average yearly number of sexual offence victims, but did not predict

official sexual offence convictions or self-reported total period of sexual offending. Even when the Static-99 by itself predicted offence-related outcomes, the shared variance with other predictors effectively rendered the Static-99 redundant with respect to all four outcomes. The most important predictor for all three sexual offence outcomes was the age at which offenders first had sexual contact with a child. Notwithstanding the problem of obtaining reliable self-report data in applied forensic settings, this item of information may therefore be of considerable value in such settings.

The most important predictor of nonsexual offending outcomes for the sexual recidivists was the age at first conviction for any offence. However, the circumstances of the first official conviction differed in terms of sexual and nonsexual offending outcomes. A conviction at a relatively early stage appears to be predictive of nonsexual recidivism (and by extension, criminal versatility), whereas being first convicted at a later age was associated with longer periods of sexual offending activity. The finding with respect to early first convictions is consistent with established knowledge that involvement in general crime tends to peak in adolescence and young adulthood and to decline steadily thereafter (Elliot, 1994), and is therefore uncontroversial - the risk of becoming involved in the criminal justice system increases universally during adolescence and early adulthood.

But why would later first convictions be associated with longer periods of sexual offending? One possibility is that late convictions represent a deterrence failure. Sexual offenders who offend for years before being officially brought to account may become more confident over time that their offending will go undetected. Interestingly, however, late first convictions were not associated with the number of self-reported victims, suggesting that the 'failed deterrence' hypothesis may apply more to intermittent than to chronic offenders. An alternative (though not incompatible) explanation may be that those convicted relatively late are those less likely to involve themselves in general crime, and so are at much less risk of becoming involved in the criminal justice system. In any case, replication of these findings with a larger sample of sexual recidivists would be required before confidence could be placed in these interpretations.

There are a number of potential implications of the present findings for conducting applied risk assessments of men convicted of sexual offences against children. First, our results suggest that the Static-99 may be a useful indicator of the real extent of sexual and nonsexual offending activity. While the Static-99 does not account directly for the full extent of previous offending, our results show that the combination of factors included in the Static-99 relates

to continuous measures of both sexual and nonsexual offending, including unofficial accounts. This supports the criterion validity of the Static-99. Second, obtaining official data not required by the Static-99, namely the age of the offender at the time of their first conviction for any offence, and whether that first conviction was for a sexual or nonsexual offence, may improve risk assessment. The present results may provide some tentative basis to proceed toward formally incorporating these data in applied risk assessments. Third, obtaining self-report data, and particularly the age at first sexual contact with a child, may be especially informative, especially with respect to the risk of sexual recidivism.

Finally, and unfortunately, our results suggest that the Static-99 may not by itself be particularly useful for conducting risk assessments at the point of the first sexual offence conviction. Some Static-99 items (e.g., any male or stranger victims; any noncontact offences) may of course be applicable at the point of the first sexual offence conviction - such characteristics have in any case long been known to increase recidivism risk (see e.g., Marshall & Barbaree, 1990). Over-reliance on historical data, though, is a potential weakness for all risk prediction instruments, since their use for 'first-time' offenders will necessarily be limited. All chronic offenders were once 'first-time' offenders. One of the continuing challenges, then, will be to develop risk instruments suitable for use at the point of the first sexual offence conviction.

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