

**Making Sensible Estimates of the Effects of Age,
Treatment Completion and Treatment Termination on Sexual Recidivism Risk**

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Factors that Modify Static Risk Assessments: Absolute vs. Proportionate Effects

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Static risk assessment instruments like Static-99 (Hanson & Thornton, 2000) are now widely used to guide decisions about such things as treatment intensity, parole, supervision intensity, public notification, police surveillance and monitoring, and civil commitment. Most instruments of this kind presently do not incorporate all those variables identified as predictive in recent meta-analyses (Hanson & Bussiere, 1998; Hanson, Gordon, Harris, Marques, Murphy, Quinsey & Seto, 2000). Notable stable-dynamic factors not presently taken into account by most actuarial classification schemes include age (which is not fully represented by most schemes), treatment completion, and treatment termination. Consequently professionals carrying out risk assessments need to take account of all these considerations in addition to historically-based static assessments.

Ideally, in deciding how much weight to give to these additional considerations, assessors would have access to data that showed the rate of recidivism that corresponds to each combination of historical risk and potential modifying factor. Of course, if that were possible, the modifying factors could just be straightforwardly incorporated into actuarial equations. In practice, the data actually available will simply indicate the strength of the relationship between recidivism and the potential modifying factor.

The apparent implications of these observed relationships will, however, depend critically on how the relationship is described. The relationship between a factor and recidivism can be described either in terms of the number of percentage points difference in the recidivism rates associated with different categories on the factor. This is here called an "absolute difference". Alternatively the relationship can equally validly be described as a "proportionate difference". For example, if treated sex offenders recidivate on average at a rate of 10% and untreated at a rate of 17% this could be described either as treatment being associated with a reduction in recidivism of 7 percentage points, or as treatment nearly halving recidivism rates (reducing them to about 60% of the untreated rate).

These alternative and equally valid descriptions of a research finding have quite different implications when applied to estimations of recidivism rates for high-risk offenders. Thus, if a category of offenders have an expected recidivism rate of 70% -based on static

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assessment of untreated offenders, then their having completed treatment would produce an estimate of either 63% or of 42% depending on whether the treatment effect was assumed to be absolute or proportionate.

This difference between absolute and proportionate characterizations of treatment impact has important practical implications. For example, a proportionate interpretation would imply that the commonly used civil commitment risk threshold, "more likely than not" to re-offend, would be met by virtually no treated sex offenders. Similarly, a proportionate interpretation would imply that provision of treatment to high-risk offenders was far more cost-effective than provision of treatment to low risk offenders. Neither of these implications follow from describing treatment impact in terms of absolute differences in percentage points.

This symposium examines the effects of three variables that might be potentially used to modify static assessments: age, treatment completion, and treatment drop-out. In each case we seek to determine whether the effects associated with these factors are proportionate or absolute.

In addition each paper seeks to determine whether the apparent effect of these modifying factors applies in the same way to offenders who present a higher risk based on static historical factors.

Finally, the last paper examines the issue of whether treatment termination produces a level of risk greater than that associated with not starting treatment.

How Much Safer are Older Offenders?

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Hanson (2001) has provided a striking analysis of age effects on sexual recidivism by combining data from several large samples. These effects show a general decline in recidivism after the age of 35 with a further decline from the age of 60 when sexual recidivism rates become negligible. Slightly different effects were observed for rapists and extra-familial child-molesters with the rate of sexual recidivism declining more sharply for rapists.

The most consistent comparison is between the 18 to 29 age-band and the 50 to 59 age-band. For both rapists and child-molesters, the younger group had sexual recidivism rates in the low 20s while the older group had a rate of just under 10%, representing an absolute

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decline of about 10 percentage points and a halving of the rate. A further decline was apparent for those aged 60 or over where recidivism rates fell to below 5%, an absolute decline of at least 5 points and at least a further halving of the rate (the effect is actually more dramatic for rapists. There was essentially no recorded recidivism for rapists aged 60 or over).

The distinction between proportionate and absolute effects becomes critical when trying to extrapolate these results for categories of offender for whom the overall sexual recidivism rate is much higher. One striking implication is for civil commitment cases where, if the effect of age is really to halve the rate for those aged at least 50, it would follow that no sex offender aged 50 or over could meet the usual civil commitment criterion of "more likely than not to re-offend" (any rate, halved, is less than 50%). Thus, on this basis, no sex offender of this age should be civilly committed, and all those already committed, who have reached this age, should be released. Arguments of this kind are already being made in court. On the other hand, if age effects are better represented as an absolute decline of 10 percentage points then a significant number of sex offenders aged 50 or over might still legitimately meet the "more likely than not" threshold.

To determine whether age effects are better represented as proportionate or absolute, data from two long-term recidivism studies were analyzed. Age by ten-year sexual recidivism tables were constructed for offenders categorized by number of sexual priors (no sexual priors; one prior, more than one prior). Results indicated that age had an effect at all levels of risk but did not support the proportionate model for ages below 60. However, essentially no sexual recidivism was recorded, regardless of sexual priors, for sex offenders aged 60 and above.

Possible reasons for these age effects are discussed as well as their implications for risk assessment.

Does Treatment Halve Recidivism for Higher Risk Sex Offenders?

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Results from the ATSA Collaborative Database suggest that completing modern sex offender treatment is associated with a reduction in sexual recidivism rates from an average of 17% for untreated offenders to an average of about 10% for those completing treatment. This effect can either be described as treatment being associated with an absolute reduction of 7 percentage points or as the rate being nearly halved (more precisely the reduction is to about 0.6 of the untreated rate).

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As noted earlier, accepting the proportionate account of treatment impact would imply that virtually no treated sex offenders should be civilly committed and that, for those already committed, completion of treatment comparable to that described in the ATSA Meta-analysis should be a sufficient condition for release.

Secondary analyses of the ATSA database were carried out to address this issue. Studies were categorized according the level of risk of those taking part, using either the rate of recidivism of the untreated cases or the equally weighted average of the treated and untreated recidivism rates to rank order studies. Differences between studies in follow-up time were allowed for both by computing annualized recidivism rates and by drawing on long-term survival curve data from Hanson & Thornton (2000).

Models assuming a proportionate treatment effect and an absolute treatment effect were tested for goodness of fit. Subjects' degree of recidivism risk were taken into consideration in these analyses. One known limitation to the analyses is that too few studies had data extending beyond 6 years follow-up. No conclusion will be drawn about whether treatment effects are stable beyond this period.

Implications of Premature Treatment Termination for Sexual Recidivism

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The phrase "premature treatment termination" is here used to refer to the various processes through which offenders leave treatment prior to treatment completion. Premature treatment termination may arise through the offender being removed from treatment for non-cooperation, through the offender choosing to drop-out, or through more benign processes like parole or end of sentence compelling the offender to terminate treatment prior to its being completed. Analysis of the ATSA Collaborative Outcome Database (Hanson et al, 2000) found a highly consistent trend for offenders who complete treatment to have lower recidivism rates than those who terminate treatment prematurely. This effect appeared to be as large as the difference between treatment completers and those who had no treatment.

Secondary analysis of the studies in the ATSA database suggested that the effect of premature termination of treatment was best described in terms of an absolute change in the rate of recidivism that was constant, regardless of prior level of risk.

Considering these results together with the effects for treatment completion suggests that premature termination may be a particularly critical issue for lower risk offenders. Programs for low risk offenders with a low completion rate might even be counter-productive as the increase in risk for the non-completers would be larger than the decrease in risk for the completers.

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A small number of studies in the ATSA database allowed a direct comparison between those not starting treatment and those terminating prematurely. Additional studies examining this issue were identified. Preliminary analysis suggested one outlier with a very small sample size. When analysis was restricted to studies with Ns of at least 20 per condition, a consistent trend was found for those terminating treatment prematurely to have higher recidivism rates than those who did not start treatment.

Possible explanations for this effect are discussed.