

Assessment & Treatment of Adult Male Sexual Offenders: A Closer Look at Eight Issues

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Overview

1. Age
2. Denial
3. Distorted attitudes and pro-offending beliefs
4. Psychological risk factors
5. Biological insights
6. Schema
7. Treatment interfering factors
8. Approaching empathy

Age and sexual recidivism

A Complicated Story

General Effects of Aging

- As teenagers and young adults get older they become less impulsive, less sensation-seeking, and their testosterone declines as does their general physical health and prowess
- At the same time their moral reasoning becomes less egocentric and their ties to conventional institutions increase
- Social expectations and social power also change with age
- Finally, in old age, social power declines as do some cognitive functions, and impulsiveness may increase (dementia)

Age and Criminal Behavior

- Peak ages for most kinds of crime are in the teenage years or when people are in their 20s

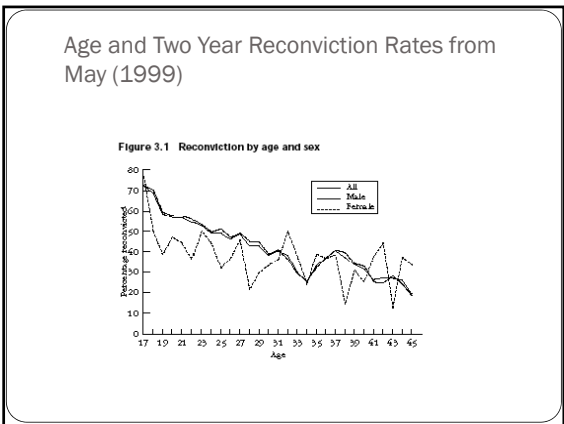
A very general model for predicting any kind of offending

- Risk of Recidivism of type K
- =
- Number of prior convictions for type K offenses
- plus
- Some marker for general criminality
- minus
- Age

Actuarial Instruments designed to predict general reconviction usually include Markers for Age

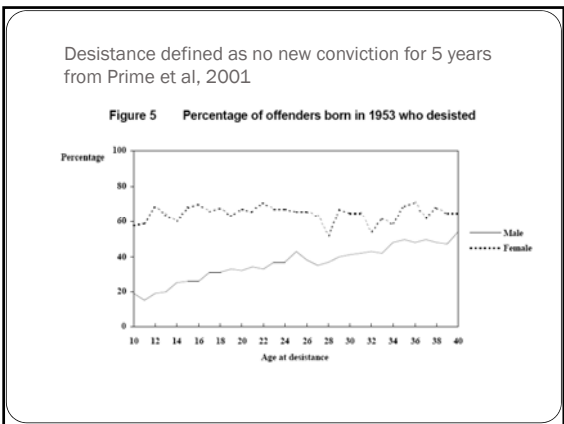
- OGRS (UK Home Office)
 - Age on sentence
 - Age at first offense
- SIR-R1 (Corrections Canada)
 - Age at admission
 - Age at first adult conviction

- And numerous studies that examine the association between age and general recidivism find an inverse relationship.
- For example



Source

- May (1999) Explaining reconviction following a community sentence.
- Home Office Research Study 192



Source

- Criminal careers of those born between 1953 and 1978
- Home Office Statistical Bulletin 4/01

Note Gender Difference in Trends

- Desistance increased consistently with age for male offenders but not female offenders

Most studies have been cross-sectional

- This leaves an important ambiguity
- Older offenders may be a different population, rather than young offenders who have grown older
- There are potentially
 - True developmental effects
 - Different populations of offenders start offending at different ages
 - Generation effects

Longitudinal Study of Age-related changes in offending

- Laub, J.H., & Sampson, R.J. (2003). *Shared beginnings, divergent lives*. Cambridge, MA: Harvard University Press.
- Examined life course pattern of offending of male delinquents followed until age 70
- Rate of violent crime peaked at age 25, halved by age 40, and was close to zero by age 65

Developmental effects may vary depending on the setting that aging takes place in

- Is the effect of aging in prison the same as the effect of aging in the outside world?
 - In prison you are mixing with antisocial peers; much of the time in prison is spent orientating to the norms of the prison subculture.
- Time in the community without offending is known to relate to reduced recidivism but this combines the effect of aging in the outside world with the predictive value of demonstrated desistance
 - Sustained period making pro-social choices implies real change?
 - Was he really less high risk than he appeared?

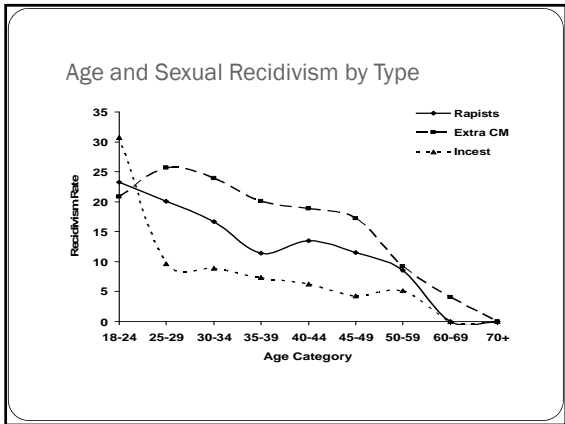
Past Studies of Sex Offenders

Hanson, R. K., & Bussière, M. T. (1998).

- Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, 66, 348-362.
- Overall inverse relationship between age and sexual recidivism
- Significant variation in the size of this relationship between studies

Hanson, R. K. (2002).

- Recidivism and age: Follow-up data on 4,673 sexual offenders. *Journal of Interpersonal Violence*, 17, 1046-1062.
- Finds inverse relationship holds for different kinds of sexual offender though the exact form of the relationship appears to differ depending on victim choice
- Graph from Harris et al (2003) S99 scoring guide. Note change in width of age bands.



Comment on Hanson (2002)

- Although victim choice is controlled in this analysis it does not allow for possible differences between age groups in sexual deviance, antisociality or other risk factors.

Barbaree, H.E., Blanchard, R., & Langton, C.M. (2003).

- The development of sexual aggression through the life span: The effect of age on sexual arousal and recidivism among sex offenders. In R. Prentky, E. Janus, & M. Seto (Eds.), *Understanding and managing sexually coercive behavior* (pp. 59-71). Annals of the New York Academy of Sciences, Vol 989. New York: New York Academy of Sciences.
- Re-organizes Hanson data to suggest linear inverse relationship declining to a common near zero recidivism point (if exclude under 25s)
- Finds inverse linear relationship in new (Warkworth treatment participant) sample
- Relationship holds when RRASOR controlled
- Inverse relationship relatively strong; recidivism rate for offenders released at age N was about 0.95 that of those released at age N-1

Barbaree & Blanchard (in press)

- Sexual Deviance Over the Lifespan: Reductions in Deviant Sexual Behavior in the Aging Sex Offender. In D.R. Laws and O'Donohue, (Eds.). *Sexual Deviance 2nd Edition*.
- More developed presentation of this perspective.
- Age is claimed to be a unique dynamic variable, changing in a predictable and unidirectional way

The Proposed Mechanism

- Sexual behavior in the human male is determined in large part by blood levels of the male sex hormone testosterone, and that blood levels decrease with age.
- Sexual behavior by sexual offenders, including sexual recidivism is expected to follow this principle

Note on Testosterone

- In mammals, gonads and adrenals secrete several male sex hormones called *androgens*.
 - Androgens are steroid hormones mainly produced in the Leydig cells in the male testes, although small amounts of these hormones are produced in the adrenals in both males and females.
 - Testosterone is the most potent and abundant androgen
- Almost all (98%) of testosterone molecules are protein-bound, with approximately one-third of these weakly bound to albumin and the remainder strongly bound to sex hormone-binding globulin (SHBG).
 - The testosterone molecules that are bound with SHBG cannot bind with receptor cells, so this component of testosterone has no behavioural effect
 - Only the non-SHBG-bound testosterone is biologically active ("bio-available"), including free testosterone and testosterone that is loosely bound to albumin

- Free testosterone diffuses into target cells, where it is converted to dihydrotestosterone and estradiol.
- Testosterone and dihydrotestosterone bind to androgen receptor cells mediating the effects on sexual behavior.

- Castration leads to a rapid decline in blood testosterone levels and a slower decline in sexual behavior
- Where testosterone is low due to malfunctioning hypothalamic-pituitary-gonadal axis (hypogonadism) there is a loss of libido and a loss of erections.
- Sexual Behavior increases following injections of testosterone in a way that corresponds to peak blood testosterone levels

- A significant relationship between serum testosterone levels and libido has been found in the following populations:
 - normal men
 - normal adolescent boys
 - men in or past middle-age
 - men complaining of loss of sexual interest
 - men with erectile dysfunction
 - hypogonadal men

- Male testosterone levels rise sharply with puberty, peaks in early twenties and then decline steadily with age in healthy men
- There is a general decline with age in the frequency of male sexual behaviour and an increase in the number of problems associated with sexual relations with age, including a reduction in the number and quality of erections

The change in penile response with age is apparent with sexual offenders

Blanchard, R. & Barbaree, H.E. (2005)

- The strength of sexual arousal as a function of the age of the sex offender: comparisons among pedophiles, hebephiles, and teleiophiles. *Sexual Abuse: A Journal of Research and Treatment*, 17, 441-456.
- Strength of maximum arousal response (Output Index) declines as a function of $1/\text{age}$ over the age range 13 to 79 for all three sexual interest groups

Critique of Actuarials

- Part of the predictive power of actuarials derives from their overlap with age
- Age changes as the years pass, actuarial scores don't, so risk will be over-estimated for those who have served long sentences
- Typical sexual offender samples used in constructing actuarials had mean ages in the 30s; applicability of instruments to elderly sexual offenders is questionable

Alternate Model

- Age is confounded with static variables, including age of onset, and by implication, life-course persistent delinquency
- Aging is a proxy for changes in a wide range of variables, but while age may change in a predictable and unidirectional way, the factors it is a proxy for may change in more complex ways

Potential Mediators other than Testosterone

- Other health factors
- Social roles
- Routine activities
- Years of experience in particular settings

Testosterone levels do decline with age

- Do testosterone levels relate to sexual recidivism?

Studer, L.H., Aylwin, A.S. & Reddon, J.R (2005)

- Testosterone, sexual offense recidivism, and treatment effect among adult male sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, 17, 171-182.
- They review research linking testosterone levels to aggression and report finding that testosterone levels are linked to sexual recidivism for those offenders who fail to complete treatment

Partial correlations between serum testosterone and sexual recidivism after controlling for age among adult male sex offenders (N=501)

Treatment Response	N	Partial r	p
Completers	270	0.065	NS
Non-completers	231	0.168	0.011

Note on Studer et al

- This is only one study but it does raise questions about whether testosterone levels are closely enough linked to sexual recidivism to play the mediating role suggested by Barbaree and colleagues
- In this study at least it would appear that effects of age on recidivism could only be mediated by changes in testosterone levels for Non-completers
- We could do with more studies relating testosterone to sexual recidivism in various groups to get a clearer picture

Comment on Barbaree et al

- Landmark study!
 - Integrating theory and multiple lines of evidence to create a new perspective
 - The first to control for prior risk
 - Later analyses have controlled for antisociality as well as sexual deviance
- But
 - Age has unusually strong relationship to recidivism in this study
 - Later analyses found age on release added nothing to SORAG (which uses age on sentence)
 - These findings provide support for risk being reduced by aging in the community but not necessarily by aging while in custody

In the debate between Barbaree & colleagues and Rice & Harris

- Rice & Harris treat age on sentence as a marker for early onset antisociality and so argue that you should control for these history factors when investigating the effect of age.
- Barbaree argues that actuarial instruments, and variables indicating early onset antisociality, derive part of their predictive power from their overlap with age. He argues that age should be partialled out when examining the effect of actuarials or early onset antisociality.

- This competition between actuarials and age is partially spurious. Most constructors of actuarials have deliberately included direct and indirect markers for age in their scales
- There is a genuine competition between different components of age (age of onset vs age on sentence vs age on release)
- Equally there is a competition between age and factors that tend to be correlated with it – sexual deviance being correlated with advanced age and general criminality with younger age

How well do other studies support Barbaree's claims?

Langan, P.A., Schmitt, E.L., & Durose, M.R. (2003).

- Recidivism of sex offenders released from prison in 1994. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Washington, D.C.
- National US Sample: 9,691 sex offenders released from 15 States (two-thirds of sex offenders released from State prisons in 1994)

Age Distribution on Sentence

Age on Sentence	Percent of Sample (N=9,691) in age band
18-24	12
25-29	16
30-34	20
35-39	19
40-44	13
45+	19

Sentence Length and Time Served

- The average sentence length was 8 years, with three and a half years on average being served
- Follow up was for 3 years

Langan et al: Re-arrests for any offense or for a sex offense by age on sentence

- Rates of re-arrest for any offense decline steadily with age
- Up until the age of 45 there is no effect of age on rate of sexual arrests
- At some (unknown) point after the age of 44 the rate of sexual re-arrest declines

Age	Any R	Sex R
18-24	60%	6%
25-29	54%	6%
30-34	49%	6%
35-39	41%	6%
40-44	35%	6%
45+	24%	3%

Features of the Langan et al study

- Large and representative sample (of US sex offenders released from State prisons)
- 39% were returned to prison during the three year follow up (commonly for a technical violation, non-compliance or for a non-sexual offense)
- More than half would have been under supervision for all three years and nearly three-quarters would have been under supervision for more than two of the three years at risk.

Comment on the Langan et al study

- Younger offenders may have been selectively removed from risk due to their more often engaging in technical violations and non-sexual offenses, and being returned to custody during the three years of the follow up.
- If this is the case, then when they were returned to the community and their supervision time had expired, a higher sexual re-offense rate might emerge.

Fazel et al (2006)

- All sexual offenders released from Swedish prisons between 1993-1997
- N = 1303 (excluded those deported)
- Aged 18+
- Mean follow up = 8.9 years
- Range of follow up = 6.25 – 11.25 years
- Outcome is sexual reconviction

Swedish Sexual Recidivism by Age

- Overall gradual decline in sexual recidivism with age
- Scandinavian prison sentences tend to be short by US standards and so the effect likely reflects age on sentence
- It is not clear that effect would be beyond that incorporated in actuarial scales

Age on release	Sexual Recidivism
Under 25 (103)	11%
25 – 39 (498)	9%
40 – 54 (539)	6%
55+ (163)	6%

Thornton (2006)

- Age and Sexual Recidivism: A Variable Connection. Sexual Abuse: A Journal of Research and Treatment.
- N=752
- Nationally representative sample of sex offenders released from prison in England and Wales (NB Sentence Length)
- Uniform 10 year follow up
- Rates of Sexual Reconviction

Univariate findings for age

- The *b* coefficient for linear age was -0.007 (Wald $\chi^2 = 0.961$; d.f. = 1; NS) and *eb* was 0.993 (confidence limits: 0.979 to 1.007).
- Adding a quadratic term significantly improved the fit [Log Likelihood Ratio $\chi^2 (1, n = 752) = 4.51, p < 0.05$], indicating that the effect of age wasn't linear.
- The equation indicated that risk first increased with age and then declined.

Multivariate findings for age

- The results changed when markers for prior sexual deviance and general anti-sociality were added to the equation.
- Now the linear effect of age was significant [Log Likelihood Ratio $\chi^2 (1, n = 752) = 4.21, p < 0.05$], quadratic and cubic terms were not.
- However, when interactions were explored, there was a significant cubic interaction between criminal history and age [Log Likelihood Ratio $\chi^2 (2, n = 752) = 10.51, p = 0.006$].

Effects broken down by # of sexual sentencing occasions prior to the instant offense

Number of Prior Sexual Sentencing Occasions	<i>eb</i> – Change in odds ratio for each additional year of age (linear effect)
None	0.996 NS
One	0.959*
Two+	0.981 NS but significant cubic effect)

Illustration of Cubic Effect for the Two plus Sexual Sentencing Occasions Group

Age band	Sexual Recidivism	N in Age band
18-24	80%	10
25-39	43%	74
40-59	49%	49
60+	0%	8

Comment on Thornton (2006) findings

- Overall effect of age on release after adjusting for criminal history was a change in the odds ratio of 0.98 per annum. This is similar to the effect of age that Hanson finds for the rate ratio.
- Note that part of the present sample was included in the Hanson multi-sample analysis
- What is most striking is how the apparent effect of age fluctuates between subgroups or depending on which factors you control

Hanson, R.K. (2005)

- **The Validity of Static-99 with Older Sexual Offenders 2005-01**
- Available on the usual website: www.psepc-sppcc.gc.ca.
- Examine this in more detail

Study Features

- Uses data from 8 samples (combined size of 3,425 sexual offenders)
- Tested the combined effects of Static-99 and age using Cox regression with each sample identified as a stratum
- The exponent of the Cox regression weights can be interpreted as rate ratios, i.e., the change in the recidivism rate for each unit change in the predictor variable.

Findings

- The average age at release was 37.9 years, with a range from 18 to 85
- The five year sexual recidivism rate based on survival analysis was 12.0%
- Age at release made a significant contribution to the prediction of sexual recidivism after controlling for Static-99 scores (Chi squared change = 17.52, *df* = 1, *p* < .001).
- Age and Static-99 score did not interact significantly

Findings continued

- When Static-99 scores were controlled, the relationship between age and rate of sexual recidivism was not completely linear
- When controlling for Static-99, the recidivism risk increased slightly between age 18 and 30, then declined thereafter (30 was the local maximum). The shape of the curve was such that offenders over age 41 started to show lower age related recidivism risk than 18 years olds, and that the rates declined gradually thereafter with further increases in age.

Findings continued

- Linear rate ratio = 0.98
- After controlling Static-99, sexual recidivism rates for age N are 0.98 of the rates for year N+1
- However, significant non-linearity compromises this estimate.

Weighted Average Calculated from table III

- A weighted average recidivism rate was calculated using the percent recidivating for each age/Static-99 combination and weighting it by the overall N in each Static-99 category for the whole sample.
- The effect is to produce mean recidivism rates that are equated for differences between the age bands in Static-99 scores

Five Year Sexual Recidivism Rates by Age controlling Static-99 Category

Age band	18-39	40-49	50-59	60+
Weighted Mean Recidivism Rate	14.5%	9.4%	8.7%	2.9%

Comments on Hanson study

- The wide first category disguises some of the non-linearity
- Virtually no change in recidivism rate between age 40 and age 59 (less than one percentage point)
- The under 39s are riskier than you would expect from their Static-99 score while the 40+ group are less risky; not clear where the turning points are.
- The 60+ are materially less risky

Bridgewater Study

- Age on Index coded into VRAG/SORAG categories
- Age on discharge in years
- New charge for a sexual offense over 5-year follow used in the following analyses
- Longer and variable time served meant that the effects of aging in prison could be disentangled from that of prior aging in the community

- This is the only study to date that can give us a glimpse at the effect of aging in prison vs. ageing in the community

Logistic Regression for 5-Year Sexual Recidivism

- Younger age at index associated with more recidivism
- Older age on discharge associated with more recidivism
- Age on discharge effect smaller for older age on index groups

	b (sig)
Youthful Index Offense	+0.244*
Age on discharge	+0.256**
Age on dis squared	-0.003*
Constant	-6.792

Aged 27 or younger at Index Offense

- For those with a young age at index, older age at discharge is associated with markedly higher sexual recidivism

Age at discharge	5 Yr Sex Recid
30 & under	16%
>30 – 45	33%
>45 – 59	-
60+	-

Aged 28 to 38 at Index Offense

- For those aged 28 to 38 at index, older age at discharge is associated with markedly higher sexual recidivism
- This is particularly marked for the 45-59 age group

Age at discharge	5 Yr Sex Recid
30 & under	14%
>30 – 45	20%
>45 – 59	42%
60+	-

Aged 39 or older at Index Offense

- For those aged 39 or older at index, older age at discharge has a small quadratic effect, being associated with a small rise and then a return to the original level of sexual recidivism

Age at discharge	5 Yr Sex Recid
30 & under	-
>30 – 45	10%
>45 – 59	19%
60+	10%

Comment on Bridgewater Findings

- The apparent worsening of risk with increased time served might be a selection effect
 - Officials delaying the release of riskier cases
- However, these data make it hard to see aging in prison as reducing risk
- They are more consistent with aging as an opportunity for years of experience rather than an age reduces risk through reducing testosterone hypothesis
- Note the low recidivism rates for the 60+ group

Summary of Findings so far

- In some samples, with some analyses, you get a moderate-sized unqualified inverse linear relationship between age and sexual recidivism
- In some samples, with some analyses, no such relationship is apparent or you get non-linear or interaction effects instead
- We don't understand the reasons for this variation in results
 - Barbaree suggests that non-linear effects are due to older age being confounded with greater sexual deviance in some samples
- Aging in prison may increase risk; it certainly doesn't seem to reduce it

Denial and sexual recidivism

Now you see it, now you don't

This is based on work done with Ray Knight

Traditional View of Denial

- Denial implies an intent to continue offending
- Denial implies an unwillingness to admit you have a problem
- Breaking through Denial is a primary task of treatment
- Denial is Bad

Denial & Sexual Recidivism

- Surprisingly Denial has generally turned out not to predict sexual recidivism
- Hanson & Bussiere (1996) meta-analyzed 6 studies that examined the relation of Denial of Sex Offense to Sexual Recidivism using a base-rate corrected correlation coefficient as their index of association
- Mean $r = +0.02$ NS $N=762$

This finding led to a variety of responses

- Denial (i.e. just ignoring it)
- Unhappy dissonance
 - Accepting the finding but not being able to integrate it into our current practice
- Critiquing the analysis
 - Lund (2000) and others highlighted the diversity of the construct of denial (e.g. denial of culpability vs. denial of committing the offense) and the issue of when it was assessed relative to treatment

Second Meta-Analytic Finding

- Hanson & Morton (2004) revisited the issue in a more comprehensive analysis and there were enough studies now to collate results for two kinds of denial
 - Denial of Sexual Crime
 - Minimizing Culpability
- However, neither of these turned out to be predictive (mean $d=0.02$ and 0.06 ; both NS)

This hasn't addressed all the concerns about the earlier finding

- But it has become increasingly hard for anyone who tries to base their views on evidence to continue to see Denial as a risk factor
- It is not uncommon now for people to see it as a treatment interfering factor rather than a risk factor

Maruna & Mann (2006)

- Have argued that denial and minimization of misconduct are normal and healthy reactions to scrutiny.
- Indeed claiming that some inappropriate behavior was not characteristic can be seen as expressing an intent not to behave like that in the future and is part of the social repair process that allows for reintegration into the social network

Maruna's Findings

- Imprisoned general offenders
- Those who re-offended tended to have a "condemnation script" – attributing their past offending to their own character and feeling unable to control their deviance
- Those who successfully avoided re-offending tended to have a redemption script – claiming that their "true self" had always been good and that they had made bad choices through circumstances but now had control over their behavior

A Challenging Thought

- Sometimes work in SOT looks like trying to get a patient with a Redemption Script to swap it for a Condemnation Script in the name of "taking responsibility"

On the other hand

- Can you really change problems you won't acknowledge?
- Denial can be a way of gaining access to potential victims if you convince others that you really didn't do it

Possibilities

- Perhaps then it may be useful to distinguish Denial of Responsibility from Denial of Sexual Offenses
- Perhaps Denial may relate differently to risk for different kinds of offender
 - Incest; Child Molester; Rapist
 - Low vs. Moderate vs. High Risk

Some recent findings

Nunes et al (2007)

- Across three samples
 - Denial associated with
 - higher rates of sexual recidivism for Low Risk (RRASOR) sex offenders (!)
 - lower rates of sexual recidivism for High Risk (RRASOR) sex offenders (?)
 - Denial associated with
 - higher rates of sexual recidivism for familial sex offenders (!)
 - No consistent relationship between denial and recidivism for non-familial offenders

Harkins et al 2007

- Risk defined using Risk Matrix 2000
- Denial a composite index
 - Denial protective among actuarially high risk offenders
 - The highest long term recidivism rate was for high risk offenders who admitted their offending
 - Actuarially high risk offenders who denied their offending had lower recidivism rates, similar to those of Low risk offenders

The Bridgewater Data Set

- Early civil commitment program
- Cases who were referred to Bridgewater for evaluation to determine whether they were sexually dangerous
- Some committed to Bridgewater for treatment, some returned to prison
- Follow Up: 10 years street time
 - New Sexual Charge

Denial Measures

- SVR-20 Item 17
 - Extreme Minimization or Denial (No/Maybe/Yes)
- ASOAP Item 16
 - Acceptance of Responsibility
 - Accepts Full Responsibility / Accepts Some / Accepts None
- 0, 1, 2 codes for both ratings

Most cases were independently rated by two raters

- Both raters were blind to the recidivism outcome
- Where ratings were discrepant:
 - If either rater coded 0, the offender was coded as 0
 - If either rater coded a 2, the offender was coded a 2
 - If the only rating was 1, the offender was coded a 1 (also if he was coded a 0 and a 2)

Preliminary Analysis

- Found no interactions between STATIC-99 and either aspect of Denial in determining sexual or violent recidivism
- Analyses that follow focus solely on potential interactions between Offense Type and Denial in determining sexual or violent recidivism

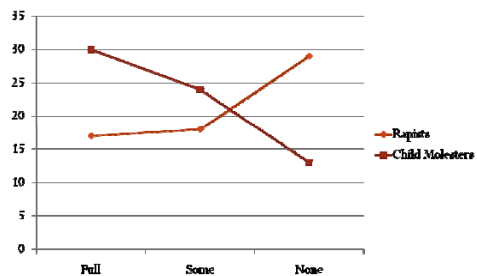
10 Year Sexual Recidivism and the interaction of Denial of Responsibility and Offense-Type

Predictor	B	Sig
STATIC-99	+0.17	<0.05
Rapist vs. CM	+1.15	<0.05
Denial of Responsibility	+0.43	NS
Interaction Effect	-0.99	0.017
Constant	2.64	N=264

Comment

- Denial of Responsibility does interact significantly with offense-type in determining sexual recidivism
- This interaction effect holds after controlling STATIC-99 scores

Sexual Recidivism by Acceptance of Responsibility

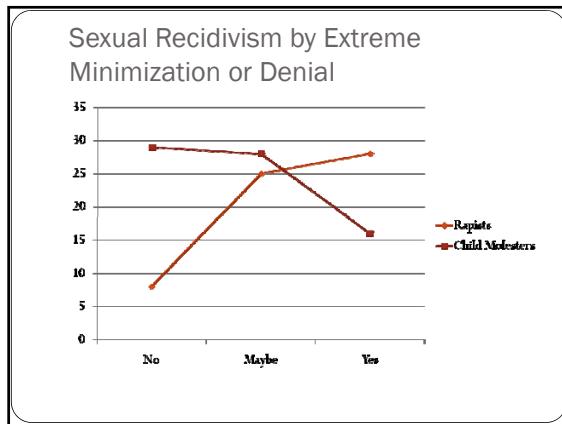


Description of Diverging Trends for Acceptance of Responsibility

- For Rapists
 - Those who take No Responsibility show a **raised** sexual recidivism rate
- For Child Molesters
 - The more Responsibility they take, the higher their recidivism
 - Those who take No Responsibility show a **reduced** sexual recidivism rate

10 Year Sexual Recidivism and the interaction of Extreme Minimization/Denial and Offense-Type

Predictor	B	Sig
STATIC-99	+0.20	0.009
Rapist vs. CM	+1.46	0.017
Extreme Minimization/Denial	+0.63	0.059
Interaction Effect	-1.13	0.006
Constant	-3.09	N=259



Description of Diverging Trends for Extreme Minimization/Denial

- For Rapists
 - When extreme Minimization or Denial was clearly ABSENT sexual recidivism was **lowered**
- For Child Molesters
 - When extreme Minimization or Denial was clearly PRESENT sexual recidivism was **lowered**

Summary of Results for Sexual Recidivism

- For Rapists
 - Recidivism is lower if they accept responsibility and don't deny/minimize what they have done
- For Child Molesters
 - Recidivism is lower if they deny responsibility and deny/minimize what they have done

What about Non-Sexual Violence?

- Defined as Victim-Involved Non-Sexual Offenses
- No Interactions between either form of Denial and either offense-type or risk were found

Making sense of it all

- Why might denial increase risk for Rapists but reduce it for Child Molesters?
- Perhaps Denial comes from a different place for these two kinds of offender
 - From Psychopathy for Rapists
 - From rejecting a deviant identity for Child Molesters

So does Denial imply Psychopathic Traits for Rapists but not for Child Molesters?

- Regression equation predicting PCL-R from
 - STATIC-99
 - Denial
 - Rapist (0) vs Child Molester (1)
- Second Step
 - Adds Denial x Offense Type Interaction

Predicting PCL-R Scores

Predictor	B	Beta	Sig
Constant	4.46		
STATIC-99	1.54	+0.46	0.001
Denial	1.66	+0.35	0.001
Rapist vs. CM	-2.19	-0.17	0.001

Psychopathy increases with ...

- STATIC-99
- Denial
- Being a Rapist

Predicting PCL-R with interaction

Predictor	B	Beta	Sig
Constant	3.46		
STATIC-99	+1.55	+0.46	0.001
Denial	+2.06	+0.44	0.001
Rapist vs. CM	-0.56	-0.04	NS
Interaction Effect	-0.73	-0.16	<0.05

Comment

- For Rapists
 - Regression Coefficient predicting PCL-R from Denial
 - +2.06
- For Child Molesters
 - Regression Coefficient predicting PCL-R from Denial
 - +1.33
- So Denial implies twice as much psychopathy for Rapists as it does for Child Molesters

If

- If the **positive** relation between Denial and Sexual Recidivism for Rapists is due to Denial implying increased psychopathy for them, then controlling PCL-R should leave Denial implying reduced Sexual Recidivism in the whole sample
- If the **negative** relation between Denial and Sexual Recidivism for Child Molesters is due to Denial implying a rejection of the "self as deviant" self-image, then even controlling PCL-R will still leave an interaction between Denial and Type of offense

Predicting Sexual Recidivism

Predictor	B	Sig
STATIC-99	+0.02	NS
PCL-R	+-.10	0.002
Denial	-0.25	0.042
Rapist vs. CM	+0.27	NS
Constant	-2.33	

Comment

- When PCL-R is controlled, High levels of Denial imply lower recidivism rates

Predicting Sexual Recidivism – interaction when PCL-R is controlled

Predictors	B	Sig
STATIC-99	+0.06	NS
PCL-R	+0.09	0.005
Denial	+0.152	NS
Rapist vs. CM	+1.62	0.018
Interaction Effect	-0.60	0.019
Constant	-3.40	

Once PCL-R is controlled

- For Rapists
 - Regression Coefficient predicting Sexual Recidivism from Denial
 - +0.15
- For Child Molesters
 - Regression Coefficient predicting Sexual Recidivism from Denial
 - 0.45
- So once PCL-R is controlled, Denial largely ceases to predict for Rapists while it continues to predict inversely for Child Molesters

Reflection

- Denial comes from a different psychological place for Child Molesters than it does for Rapists
- We need to understand these different psychological places if we are to make progress in understanding how and when Denial relates to recidivism

Distorted attitudes and pro-offending beliefs

- Results from the Dynamic Supervision Project raised questions about whether pro-offending beliefs are related to sexual recidivism
- Led to dropping them from STABLE 2007
- Question of whether they should be targeted in treatment

How to explain the DSP result?

- One possibility is that supervising officers who had only seen an offender a couple of times did not have good enough information to make valid assessments of the degree to which offenders held pro-offending beliefs
- Contrast this to treatment providers who have observed many hours of an offender talking about his and other group members' offenses
- Contrast this to questionnaire measures of pro-offending beliefs administered under research conditions

Hanson & Morton-Bourgon (2005)

- 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.
- Found pro-offending beliefs to show a small but statistically significant predictive value in their meta-analysis
- The DSP study was reported after that
- What about other more recent studies?

Other more recent studies

Two Studies Using Questionnaires

- 1) Craig et al (2007) - their marker for the Distorted Attitudes domain had an AUC of 0.62 for a two year follow up and 0.64 for a 5 year follow up. N=119.
- 2) Allen et al (2007) - their pro-offending attitudes factor was loaded most strongly by the Abel Cognitions scale and by a measure of Rape Myth Acceptance. The AUC for this factor was 0.70 (N=471) with an average follow up of 5.8 yrs.

VRS: SO Treatment Responsivity

- Two studies using ratings
- 3) The New Zealand group reported an AUC of 0.77 for pre-treatment ratings on this factor (N=218) with an average follow up time of 4.5 years.
 - 4) Separately Olver et al (2007) has reported an AUC of 0.58 (N=321) for an average 10 year follow up.

VRS Factor includes more behavioral expressions of attitude

- Insight - Understanding of the factors that contributed to their sexual offending and not seeking to justify sexual offending.
- Treatment Compliance – Demonstrating motivation for personal improvement through treatment participation
- Cognitive Distortions - use of CDs to justify or rationalize his sexually deviant behavior
- Release to High Risk Situations – Seeking vs. Avoiding high risk situations

Conclusion

- An offender's attitudes towards repeating offending can be hard to assess validly in some circumstances but the fact that they are predictive of future offending in studies where they could be more easily assessed suggests that we should continue to target them in treatment

Understanding psychological risk factors

Focus on several related issues

- The value of Need Assessment
 - Is it worth doing?
- Which potential Need factors have turned out to be predictive?
- The predictive value of different Need Assessment systems
- Does Need Assessment have incremental value over and above static actuarial assessment?
- How should psychological risk factors be conceptualized?

What is Need Assessment?

- Don Andrews and colleagues introduced the concept of Criminogenic Needs
- Criminogenic Needs are relatively stable but potentially changeable factors that predispose to some form of re-offending
- Need Assessment is assessment of the extent to which the offender shows Needs that are relevant to the kind of re-offending that you are concerned with
- They can also be called psychological risk factors or stable dynamic factors

Potential Value of Need Assessment

- Need Assessment might
 - Contribute to overall risk assessment either by itself or in conjunction with static actuarial assessment
 - Need Assessment can inform the selection of treatment targets
 - Need Assessment can focus post-treatment monitoring
 - Has he changed in the identified need areas
 - Is he relapsing in these areas

How is this different from static actuarial assessment?

- The present generation of static actuarial instruments are non-theoretical, mechanical aggregations of easily measured correlates of sexual recidivism
- The total score does not purport to be a causative factor, nor do its components
- Future actuarial scales might be constructed of predisposing factors
- It is possible to explain the predictive power of existing actuarials by postulating that they reflect the historical operation of predisposing factors

Example of the difference

- Typical actuarial item
 - At least one conviction for a sexual offense against a Male Victim
- Typical Need factor
 - Sexual preference for children

How do you identify Needs?

- You can't absolutely prove that something is a Need
- You can test the hypothesis that something is a Need
- There can be greater or lesser evidence that something is a Need

Mann, Hanson & Thornton (in prep)

- We are currently reviewing dynamic risk factor research as part of a larger project.
- In doing this we have developed criteria for classifying changeable psychological factors according to the degree of evidence supporting their relevance to repeated sexual offending
 - A-list = good evidence
 - B-list = reasonable evidence
 - C-list = candidate factors worth investigating

A-list Criteria

- Theoretically plausible as a potentially changeable predisposing factor
- At least three studies that when meta-analytically integrated show the construct to have significant predictive value for sexual recidivism

B-list Criteria

- Theoretically plausible as a potentially changeable predisposing factor
- Significantly predictive in at least one study (or two studies when integrated)
- Some relevant supportive evidence of other kinds

The following counts as "relevant supportive evidence"

- Correlated with actuarial risk or with having been sentenced for sexual offenses more than once
- Correlated with self-report or other indices of sexual aggression in individuals who have not been convicted for sexual offenses
- More strongly present among convicted sexual offenders than among non-offenders
- Present in the cognitive-behavioral chains leading to sexual offenses of a significant proportion of sexual offenders

Structured Risk Assessment Model

- SRA proposes a framework for Need Assessment (Thornton, 2002)
- The framework is meant to develop in response to evidence; in other words it is meant to guide evaluations and research but also to regularly be revised in the light of emerging evidence
- SRA Needs are defined abstractly in a way that is conceptually independent of any particular operationalization of them
- The most common implementation of SRA in the UK is SARN

Domains

- The SRA Need framework holds that psychological risk factors (Needs) fall into four domains
 - Sexual Interests
 - Distorted Attitudes
 - Socio-affective functioning
 - Self-management
- It identifies particular factors within these domains as Needs

How much has changed since 1999?

- The SRA Needs were first defined in 1998/1999.
- Since then one factor has been added to the system
- Two factors have been reconceptualized, either in response to research or to make clearer what they focus on.
- One factor has been dropped
- Most of the factors remain as they were originally defined
- SARN currently uses Need definitions that are part way between the 1999 version and the 2007 version

Sexual Interests Domain

- Sexual Preoccupation (A)
 - Intense interest in sex
- Offense-related Sexual Preference
 - Child preference (A)
 - Sexualized violence (A)
 - Idiosyncratic offense-related sexual interest (C)

Distorted Attitudes

- Generalized beliefs, schema rather than specific cognitions
 - Child abuse supportive beliefs (As part of offense-supportive beliefs – A-list)
 - Adversarial Sexual Attitudes (B-list)
 - Deceitful women (B-list)
 - Excessive sense of entitlement (Undetermined)
 - Machiavellianism (B-list)

Socio-affective functioning

- Dysfunctional self-evaluation* (C-list; may be a difference between jurisdictions)
 - Inadequacy; Delinquent pride; Fragile narcissism
- Emotional congruence with children (A-list)
- Lack of emotionally intimate relationships with adults (A-list)
- Callous, shallow emotionality (B-list)
- Grievance Thinking (A-list)

Self-management

- Lifestyle impulsiveness (A-list)
 - pervasive, habitual antisocial, irresponsible responses and behaviors
- Resistance to Rules and Supervision (A-list)
- Poor problem-solving skills that lead to impulsive or reckless choices (A-list)
- Poor regulation of emotions leading to externalizing problems (Undetermined)

Overall Need Assessment

- Develop valid indicators for each domain
- Combine valid indicators for each domain
- Compute a total Need Score that equally weights relevant dysfunction across all the domains
- Note: If no valid indicators are available you cannot compute a domain index; the overall Need classification will have to be based on the domains for which you do have valid indicators
- You need valid indicators for at least three domains for an SRA assessment

Results for Studies explicitly using the SRA Framework

SRA Implementations: Questionnaires

- Implementation with questionnaires
- Thornton (2002), Thornton & Beech (2002), and Craig, Thornton, Beech & Browne (2007)
- Generalized algorithm for integrating relevant questionnaire scores designed to give number of dysfunctional SRA domains
- Explored with two different questionnaire batteries in the UK

SRA Implementations: SARN

- SARN
 - Structured assessment of risk and need
- Version of SRA developed for HMPS
- Primarily based on structured ratings supported by questionnaires
- Written around data typically available in HMPS for offenders participating HMPS treatment programs

SRA Implementations: Bridgewater

- Simplified Structured Rating system written around data available in the Bridgewater data set

Predictive value of SRA Need Assessment

- Relevant studies
 - Thornton & Beech (2002) and in prep
 - Craig et al (2007)
 - Knight & Thornton (2007) Bridgewater

Thornton & Beech (2002)

- Re-analysis of Thornton (2002)'s prison sample using more general algorithm
 - Average 3.3 years follow up; Sexual Reconviction
 - Number of Dysfunctional Domains AUC = 0.82
- Re-analysis of Beech et al (2002) STEP data using general SRA algorithm
 - 6 year follow up; Sexual Reconviction
 - Number of Dysfunctional Domains AUC = 0.85

Craig, L.A., Thornton, D., Beech, A., & Browne, K.D. (2007)

- The relationship of statistical and psychological risk markers to sexual reconviction in child molesters. *Criminal Justice & Behavior*, 34, 314-329.
- N=119;
- Combined Beech et al's sample with a new outpatient sample
- Restricted set of Q-scales
 - MSI; SHAPS; meant that Socio-affective domain in particular poorly implemented
- 2 year follow up sexual reconviction
 - Number of dysfunctional domains AUC = 0.75
- 5 year follow up sexual reconviction
 - Number of dysfunctional domains AUC 0.69

Bridgewater

- 10 year follow up; new charge for a serious sexual offense;
- Larger Ns for shorter follow ups

Construction of SRA Need Indicator

- Marker variables for ratable-Needs defined
- Conceptually related variables from other scales added if showed appropriate correlation with marker variables

Marker Variables

- Child preference
- Sexualized Violence
- Sexual Preoccupation
- Emotional congruence with children
- Lack of Emotionally Intimate relations with Adults
- Grievance Thinking
- Dysfunctional Coping

Selected additional scales

- SVR 20 – Sexual Deviation
- ASOAP – Sexual Drive
- ASOAP – Pervasive Anger
- ASOAP – Impulsive Lifestyle
- (PCL-R – Factor 2)

Inter-rater Reliability

- Around 0.7 (correlation between scores from independent raters)
- Note: poor quality of case files depressed reliability for all scales
- Note: Distorted Attitudes Domain not scored since inspection of a few cases indicated that valid ratings of attitude variables unlikely

Implication of Lower Reliability

- Study probably underestimates predictive value of SRA-Need score
- Importance of developing scorer reliability in clinical practice

Total Need Score and Sexual Recidivism

N	Follow Up	Outcome	AUC
324	10 years	Charge for Serious Sex Offense	0.74 (0.68-0.80)
428	3 years	Ditto	0.71 (0.65-0.78)

SRA Need and static assessment

- How do AUC's compare for Static-99 versus SRA Need Assessment?
- Does Need Assessment add significantly to what is known on the basis of Static-99?

SRA Need & STATIC-99

Sample	AUC for STATIC - 99	AUC for SRA Need
HMPS	0.91	0.83
STEP	0.75	0.85
STEP+ at 2 yrs	0.66	0.75
STEP+ at 5 yrs	0.60	0.69
B'water 3 yrs	0.70	0.71
B'water 10 yrs	0.71	0.74

Average AUC

- Using
 - HMPS; STEP+ at 5 yrs; Bridgewater at 10 yrs
- Static-99: Mean AUC = 0.74
- Need: Mean AUC = 0.75

- They are equally important in prediction in SRA studies

Does SRA Need add significantly to Static-99

- Thornton & Beech
 - Yes in both samples
- Craig et al
 - Yes
- Bridgewater
 - Yes

Logistic Regression Equation for 10 Year Serious Sexual Recidivism (N=321)

	B	p
Static-99	0.177	0.019
SRA-Need	0.669	0.000

Comment

- In the Bridgewater data set SRA Need makes a strong, highly statistically significant, contribution to the prediction of long term sexual recidivism rates after controlling Static-99 scores.

Results for SRA Related Frameworks

STABLE 2000

- STABLE-2000 is an instrument that is conceptually similar to the SRA framework. There is a substantial overlap in the risk factor defined by both schemes
- STABLE 2000 was designed by Hanson & Harris for community use by supervising probation officers
- STABLE 2000 uses the offender's history, emphasizing recent functioning, to judge how they are likely to behave over the next 12 months, while SRA calls a risk factor a long term vulnerability if it has been a persistent and general factor in the offender's past functioning (not necessarily recently)
- STABLE is defined in terms of a specific rating scale while SRA's constructs are defined more abstractly and is capable of multiple implementations

The Dynamic Supervision Project

- 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. Public Safety Canada
- 997 sexual offenders under supervision drawn from Canada and two American States but only around 700 with both STATIC-99 and STABLE scores
- STATIC-99 AUC = 0.74 (N=972)
- STABLE 2000 AUC = 0.64 (799)
- Combined using a prior rules AUC = 0.71 (N=793)
- Follow up time mean = 41 months

Cox Regression Results

- Regression Coefficient = +0.085 p=0.141

Comment

- STABLE 2000 was moderately predictive by itself but less so than STATIC-99
- Combining STABLE 2000 with STATIC-99 using a priori rules actually reduced predictive accuracy
- Fitting a Cox Regression indicated that STABLE 2000 could have improved prediction slightly but that it was overweighted

Unpublished STABLE 2000 Study

- Saum, S. (2006). A comparison of an actuarial risk prediction measure (Static-99) and a stable dynamic risk prediction measure (Stable-2000) in making risk predictions for a group of sexual offenders

Saum's Results

- Static-99
 - AUC = 0.72
- STABLE 2000
 - AUC=0.68

STABLE-2000 controlling Static-99 (Cox Regression)

Predictors	B	p
Static-99	0.26	0.001
STABLE-2000	0.11	0.08

Comment on Saum Study

- One concern with the SAUM data is that STABLE ratings were made after response to treatment was known and seemed in part to reflect whether the offender was described as having completed treatment
- Once age and treatment completion, as well as Static-99, were controlled, STABLE 2000 added little
 - Cox Regression $B=+0.03$ $p=0.68$

Comment on the Two STABLE 2000 Studies

- It is not yet clear whether STABLE 2000 adds predictive value to Static-99
- Small trends of this kind are apparent in both studies though neither are statistically significant by themselves

STABLE 2007

- Hanson and colleagues did further analyses seeking to create an improved version of STABLE
- Close examination of the predictive value of STABLE items indicated that the attitude items had no predictive value in the DSP data set. They were dropped.
- Scoring processes were revised for a few other items
- Combination rules created empirically
- Resulting instrument called STABLE 2007
- AUC for STABLE 2007 = 0.67 (n=792)
- AUC for combined with STATIC-99 using empirical rules
 - 0.76

Cox Regression Results

- Regression Coefficient
 - +0.059
 - $p = 0.047$

Comment

- STABLE 2007 needs to be tested in a fresh sample before we will know what its statistical properties are but it seems to be promising
- Key issue is why the Attitude items in STABLE didn't work

Empirically Derived Dynamic Index Similar to SRA

- 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.
- New Zealand treatment sample: N=495
- Mean follow up = 5.8 years
- Factor analysis revealed
 - Sexual Interests
 - Pro-offending Attitudes
 - Social Inadequacy
 - Anger/Hostility

These factors bear a marked resemblance to SRA Factors

- For child-molesters the Socio-affective domain assessed through self-report normally splits into a broad Inadequacy factor and Grievance Thinking
- You might map this as follows
 - Sexual Interests domain
 - Sexual Interests factor
 - Distorted Attitudes domain
 - Pro-offending belief factor
 - Socio-affective domain
 - Inadequacy
 - Anger / Hostility

Their Deviance Index

- Corresponds quite well to the standard SRA index
- According to SRA, Inadequacy and Anger/Hostility should be weighted half as heavily as the other factors since they need to be averaged to represent the Socio-affective domain and then the SRA index is created by averaging markers for each of the three domains for which the data contain valid markers

AUCs for the three factors and the Deviance Index

Factor	AUC for Sexual Recidivism
Sexual Interests	0.72***
Pro-offending Beliefs	0.70***
Inadequacy	0.62**
Anger/Hostility	0.60*
Deviance Index	0.76***
Static-99	0.72***

Logistic Regression results

Predictor	B coefficient / eB
Static-99	+0.38 / 1.47***
Deviance Index	0.44 / 1.55***

VRS:SO

- Olver, M.E., Wong, S.C.P., Nicholaichuk, T., & Gordon, A. (2007). The validity and reliability of the Violence Risk Scale – Sexual Offender Version. *Psychological Assessment*, 19, 318-329.
- Beggs, S.M. & Grace, R.C. (2007) Assessing Recidivism Risk and Treatment Gain with the Violence Risk Scale: Sexual Offender Version. Paper presented at the ATSA Conference in San Diego, CA, November 2007

Violence Risk Scale: Sexual Offender Version

- This instrument was created by Wong et al
- It includes static and dynamic (Need) ratings and a method for rating improvement on each dynamic factor
- The original summary scales were:
 - VRS-SO Static (static instrument created for this population)
 - VRS-SO Dynamic (pre) – Need factors rated pre-treatment
 - VRS-SO Dynamic (post) – Modified by rated progress
 - Pre-treatment total – Combined pre measures
 - Post-treatment total – Combined post measures

Olver et al (2007)

- N=321 sexual offenders participating in a Canadian treatment program for higher risk offenders
- 10 year follow up for sexual reconviction
- STATIC-99 and VRS SO

Factor Analysis of VRS Dynamic

- Sexual Deviance
 - Sexually deviant lifestyle; deviant sexual preference; Offense Planning; Sexual Offending Cycle; Sexual Compulsivity
- Criminality
 - Impulsivity; Interpersonal Aggression; Substance Abuse; Supervision Compliance; Criminal Personality
- Treatment Responsivity
 - Insight; Treatment Compliance; Cognitive Distortions

Correspondence to SRA

- Sexual Deviance = Sexual Interests
- Criminality = Self-Management
- Treatment Responsivity = Distorted Attitudes

• So reasonable markers for three SRA domains and a Dynamic score that at pre-treatment corresponds to the SRA Need Index

AUCs for 10 Year Sexual Recidivism

Measure	AUC / Significance Level
STATIC-99	0.63**
VRS-SO Static	0.74***
VRS-SO Dynamic (Pre)	0.66***
Sexual Deviance (Pre)	0.59*
Criminality (Pre)	0.63***
Treatment Responsivity (Pre)	0.58*

Incremental Prediction over Static Measures

- Controlling VRS – SO Static
 - Dynamic p=0.012
- Controlling STATIC-99
 - Dynamic p<0.001

Beggs et al (2007)

- New Zealand treatment program
- N=218
- 4.5 years average follow up
- 7.3% Sexual Recidivism

AUCs for 4.5 Year Sexual Recidivism

Factor	AUC / Significance Level
VRS – SO Static	0.67*
Dynamic	0.80***
Sexual Deviance	0.78***
Criminality	0.70**
Treatment Responsivity	0.78***

Significance of Dynamic Factors after controlling VRS-SO Static

Dynamic Factor	Significance Level
Dynamic	***
Sexual Deviance	**
Criminality	**
Treatment Responsivity	***

Comparing prediction based on STATIC-99 to prediction based on SRA-Related Need Ratings

Source of Need Rating	AUC for Need	AUC for STATIC-99
SRA Framework	0.83	0.91
SRA Framework	0.69	0.60
SRA Framework	0.74	0.71
STABLE 2000	0.64, 0.68	0.74, 0.72
2007	0.67	
Allen et al	0.76	0.72
VRS (Olver et al)	0.66	0.63
VRS (Beggs & Grace)	0.80	0.68

	AUC for Need	AUC for Static-99
SRA Framework	0.75	0.74
STABLE -2000	0.66	0.73
STABLE - 2007	0.67	
Other SRA-Related Frameworks	0.74	0.67

- ### Conclusion on Prediction
- Both Need Ratings and Static-99 are consistently related to sexual recidivism
 - STABLE-2000 seems to be a bit less predictive than the other SRA-related frameworks and only adds marginally to the prediction possible from Static-99 alone
 - The statistical properties of STABLE-2007 are not yet known but the way it was derived suggests that it may do rather better than STABLE-2000 when used by Supervising Agents
 - SRA and the SRA-Related frameworks other than STABLE seem to be about equally predictive as Static-99

- ### Why does STABLE seem to be less predictive?
- STABLE concentrates more on recent functioning while SRA concentrates on long term vulnerabilities

Conceptualizing Psychological Risk Factors

- A useful distinction can be made between long term vulnerabilities and current manifestations of these vulnerabilities
- We seem to be able to make useful ratings of long term vulnerabilities but it is less clear how much value manifestations have beyond their acting as markers for the long term vulnerability
- This is an area that badly needs further research

Biological insights

Some psychological risk factors are influenced by genetically-based biological disorders

Different brain systems involved according to the proximity of threat

Key Risk Factors have a biological basis

- Impulsivity
 - Failure to learn from negative feedback
- Excessive negative emotionality
 - The Threat System responds too strongly
- Callousness is under genetic control
 - It strongly influences how children respond to their environment

Impulsivity and Dopamine

- Two genetic variants have been identified that modify the dopamine system in the brain, and through this modify impulsiveness

1) The valine variant of the COMPT gene means that dopamine is catabolized at up to four times the rate of its normal methionine counterpart

- The VAL variant of this gene is associated with reduced cognitive functioning, increased impulsiveness, attention deficit disorder, substance mis-use and increased criminal behavior

2) The A1-allele of the dopamine D2 receptor gene polymorphism DRD2-TAQ-1A results in reduced dopamine receptor densities. This allele is associated with

- Increased risk of developing addictions
- Difficulty learning to avoid actions with negative consequences due to disruption of the dopaminergic signaling system

- Klein, T.A., Neumann, J., Reuter, M., Hennig, J., Von Cramon, D.Y., & Ullsperger, M. (2007). Genetically determined differences in learning from errors. *Science*, 318, 1642-1645.

The Threat Response System and Monoamine Oxidase A

- This gene encodes the MAOA enzyme which metabolizes the neurotransmitters (norepinephrine (NE), serotonin (5-HT), and dopamine (DA)), rendering them inactive
- The low activity version of this gene has been shown to interact with harsh childhood environments such that most (85% of) children with this allele who are exposed to harsh rearing environments show antisocial behavior and they account for about half of persons with violent convictions (even though only about 10% of people have this combination of genes and childhood environment)

- Drugs which inhibit the operation of the MAOA enzyme have been shown to prevent animals from habituating to chronic stressors
- Deleting the gene led to increased levels of neurotransmitters (NE, 5-HT and DA) and aggressive behavior; while restoring the gene led to normal levels of aggression
- MAOA-L carriers show greater amygdala responses to emotional stimuli (Meyer-Lindenberg et al, 2006)

- It looks like this genetic variant is associated with strong and hard to control negative emotions through an over-sensitive amygdala
- The threat system, which cascades from the amygdala via the hypothalamus, pituitary, adrenal axis, is too easily and strongly activated and at high levels of activation leads to reactive aggression

Take Home Point about Genetic Determined Biological Disorders

- Genetic variants, often in interaction with childhood environments, can create individuals with
 - Biologically-based Impulsivity (especially difficulty in learning about changed contingencies)
 - Biologically based Grievance Thinking (oversensitive threat system)
- Treatment that does not address or compensate for the underlying biological disorders may have limited value

Biologically-based callousness

- While the specific genes involved have yet to be identified we know that callous unemotional traits among children are under strong genetic control and profoundly influence how the developing child responds to the environment

Wooton et al 1997

- Found that poor parenting practices were correlated with conduct disorder only for boys who lacked Callous-Unemotional traits.
- For boys with these traits, conduct disorder was equally probable, regardless of the quality of parenting

- Wootton, J.M., Frick, P.J., Shelton, K.K., & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: the moderating role of callous unemotional traits. *Journal of Consulting and Clinical Psychology, 65*, 301-308.

Finding replicated in a mixed sex sample

- Oxford, M., Cavell, T.A., & Hughes, J.N. (2003). Callous unemotional traits moderate the relationship between ineffective parenting and child externalizing problems: a partial replication and extension. *Journal of Clinical Child and Adolescent Psychology, 32*, 577-585.

Viding et al (2004)

- Conduct problems are under strong genetic control for children who also have Callous-Unemotional traits
- For children without these traits, genetic effects are weaker (presumably because these children are more responsive to environmental variation in socialization influences)

- Viding, E., Blair, J.R., Moffitt, T.E., & Plomin, R. (2004) Evidence for substantial genetic risk for psychopathy in 7-year-olds. *Journal of Child Psychology and Psychiatry, 45*, 1-6.

Blair (1999); Frick et al (2003)

- Children with callous unemotional traits show
 - reduced sensitivity to cues indicating punishment once a reward-orientated response-set is primed
 - reduced reactivity to threatening and (normally) emotionally-distressing stimuli

- Blair, J.R. (1999). Responsiveness to distress cues in children with psychopathic tendencies. *Personality and Individual Differences, 27*, 135-145.
- Frick, P.J., Cornell, A.H., Bodin, S.D., Dane, H.E., Barry, C.T., & Loney, B.R. (2003). Callous-unemotional traits and developmental pathways to severe conduct disorder. *Developmental Psychology, 39*, 246-260.

Hawes & Dadds (2005)

- Children with callous-unemotional traits are particularly likely to continue conduct disorder after their families have been assisted with parent training.
- **Time out is particularly ineffective with them, though reward-based methods are equally effective**
- They show less psychological distress during time out

- Hawes, D.J. & Dadds, M.R. (2005) The treatment of conduct problems in children with callous-unemotional traits. *Journal of Consulting and Clinical Psychology*, 73, 737-741.

Brain Systems used to Respond to Threat

- Critical to a prey-animal's survival is the ability to switch flexibly between defensive states in response to threat
- Within biological ecology the predatory imminence continuum distinguishes three core stages, each with its underlying pattern of neuro-biological activity:
 - Pre-encounter where there is risk in the absence of immediate danger
 - Post-encounter where the threat is detected
 - Circa-strike – distal or proximal interaction with the predator

- Distal threats elicit activity in the prefrontal cortices (possibly reflecting complex planning of avoidance strategies)
- As the threat becomes proximal, mid-brain structures such as the periaqueductal gray (PAG) dominate
- These mid-brain structures control fast reflexive behaviors (fight, flight or freeze) as well as fear induced analgesia

Recently these models have been shown to apply to humans

- Distal threat is associated with activation in the brain regions associated with value-based and complex decision-making such as the ventromedial prefrontal cortex (vmPFC) but as the threat becomes proximate activation switches to the periaqueductal gray (PAG)
- This shift is more marked when a higher degree of pain is anticipated

- Mobbs, D., Petrovic, P., Marchant, J.L., Hassabis, D., Weiskopf, N., Seymour, B., Dolan, R.J., & Frith, C.D. (2007) When fear is near: threat imminence elicits prefrontal-periaqueductal gray shifts in humans. *Science*, 317, 1079-1083.

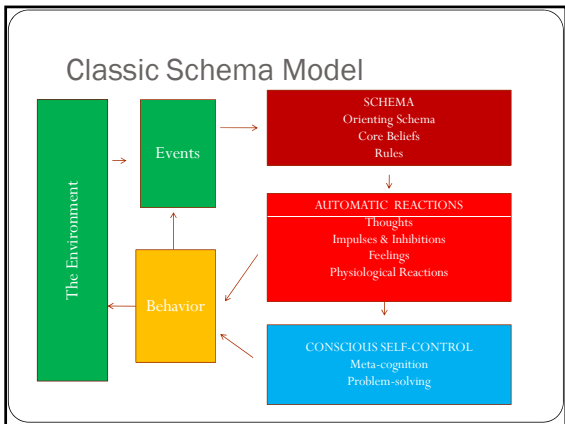
Take Home Point about Brain Systems used to Respond to Threat

- At a clinical / psychological level we have long known that people respond differently when under stress and the notion of the fight/flight/ freeze response is familiar to us
- Sometimes, however, our “too cognitive” therapies seem to suppose that our brains can always fully access our cognitive resources and behave in the way we “know” is sensible
- This research highlights that different and older brain systems gain control when threat is seen as imminent
- This produces a qualitative shift in psychological functioning

Schema

Getting below the surface

- A theme in recent innovations in sexual offender treatment is the need to get below the surface
- To find ways of conceptualizing treatment targets that are more fundamental
- A similar trend has taken place in general cognitive therapy where emphasis has increasingly shifted from targeting dysfunctional automatic thoughts to targeting underlying schema
- The classic schema model is shown on the next slide



What are schema for?

- Rapidly discern significant patterns
- Direct attentions
- Create expectancies
- Ready for action
- Schema are mainly functional and necessary parts of psychological functioning

Two broad varieties of schema can be distinguished

- Category schema
 - Prototypes for kinds of objects or person
 - A schema for Women or a schema for Children or for a specific person (Jane)
- Core schema
 - Represent sensitive aspects of the self-image, of others in relation to the self, and of the world in general

Schema activation

- Schema can be activated by biologically-based need or mood states (e.g. thirst)
- Schema also contain rules that define the conditions that indicate the schema is relevant
 - The orienting part of the schema scans continuously to determine whether these rules are met
- Schema are more easily activated in settings where they have been activated in the past or by events similar to those following which they have been activated in the past

Biologically-Based Schema

- Biologically-based schema that involve a switch to older brain systems have more power and are harder to restrain
- Beck refers to them as Modes
- Once a Mode is activated the shift in brain systems leads to the use of a variety of mental shortcuts
- These mental shortcuts can be functional in emergency situations but if used excessively will lay down an increasingly distorted view of the world

Normally schema develop and adapt

- Normally schema develop and adapt in response to changing patterns in the environment and in response to affective teaching signals that reward or punish responses

Old Schema never die

- Old schema never dies
- Change involves
 - their modification, slight changes in their content or their interpretation
 - Increased control by the PFC – inhibiting the schema
 - Development of new schema that compete for activation

Early Maladaptive Schema can persist

- Schemas direct attention to schema-related aspects of the situation
- Schemas lead to behavior that avoids testing the assumptions embedded in the schema
- Schemas lead to behavior that tends to generate an environment that confirms them
- Schemas make the world predictable; moving away from a schema you hold is intrinsically threatening and uncomfortable

Schemas are more influential when

- Strong emotional states, both positive and negative increase the use of schemas
- Similarly, fatigue, alcohol, drugs, and sexual arousal are thought to lead to more use of schemas to interpret current experience
- It is easier to go with whatever result your schemas give you; so you have to be really motivated to battle your schemas
- We have to be consciously attending to something and prepared to invest time and effort to be able to go beyond schema-driven behavior

Schema and Psychological Risk Factors

- Psychological risk factors are embedded in overlearned ways of coping with / responding to schema activation

Implicit Theories

- A closely related concept is that of an Implicit Theory – the assumptions I make when thinking about something

Research into ITs and other Schema particularly found in sexual offenders

- Gannon, T.A., Ward, T., Beech, A.R. & Fisher, D. (Eds) Aggressive offenders' cognition: theory, research and practice. Chichester: John Wiley & Sons Ltd.
- Myers, R. (2000) Identifying schemas in child and adult sex offenders and violent offenders. Unpublished MSc. Thesis. University of Leicester, England.
- Milner, R.J. & Webster, S.D. (2005) Identifying schemas in child molesters, rapists and violent offenders. Sexual Abuse: A Journal of Research and Treatment, 17, 425-440.
- Mann, R.E. (2005). An investigation of the nature, content and influence of schemas in sexual offending. Unpublished Doctoral Thesis: University of Leicester.
- Mann, R.E. & Beech, A.R. (2003). Cognitive distortions, schemas and implicit theories. In T.Ward, D.R.Laws, & S.M. Hudson (Eds) Sexual Deviance: Issues and Controversies. Thousand Oaks, CA: Sage.
- Mann, R.E. & Hollin, C.R. (2007). Sexual offenders explanations for their offending. Journal of Sexual Aggression, 13, 3-9.

- Pulling the schema identified in these studies together

Problematic Category Schema found among Sexual Offenders include

- Category schema for women
 - Unpredictable & Dangerous
 - Women as sexual beings
- Category schema for children
 - Children as sexual beings
- Category schema for men
 - Male Sex Drive is Uncontrollable
 - Men are superior, dominant, supposed to be in charge
- Category schema for sexual deviance
 - Entity vs. Incremental Implicit Theory

Problematic Core Schema among Sexual Offenders

- Self as
 - Worthless
 - Powerless
 - Entitled
- Others as
 - Powerful
 - Malevolent
- The World
 - Dangerous, indifferent, hostile

- ### Main varieties of maladaptive coping strategy
- Schema surrender
 - Accepts schema
 - Schema avoidance
 - Runs life so as to avoid schema activation
 - Schema Overcompensation
 - Fights to prove the opposite of the schema is true

How Core Schema combine with coping strategies

Schema	Method of Coping	Result Theme
Self as Worthless	Surrender	Worthlessness
	Counter-attack	Fragile Narcissism
Self as Entitled	Surrender	Superior & Entitled
Self as Powerless combined with Others as Powerful & Malevolent	Surrender	Damaged by Others Controlled by the Past Life Uncontrollable Self as Victim
	Avoidance	Seeking Children
	Counter-attack	Seeking to dominate/control Demanding Vengeance

- ### Where risk factors are embedded
- Where risk factors are embedded in how dysfunctional schema are coped with interventions need to target the ways dysfunctional schema are maintained
 - Schemas direct attention to schema-related aspects of the situation
 - Schemas lead to behavior that avoids testing the assumptions embedded in the schema
 - Schemas lead to behavior that tends to generate an environment that confirms them
 - Schemas make the world predictable; moving away from a schema you hold is intrinsically threatening and uncomfortable

Treatment interfering factors

- ### There are a broad range of potential TIFs
- Common cognitive deficits
 - Difficulties with abstract thinking, analogies, making connections
 - Difficulties with memory
 - Difficulties processing verbal information or expressing self verbally
 - Unhelpful schema or coping strategies
 - Treatment seen as an attempt by the system to control or damage you (Others as Powerful & Malevolent)
 - Self as helpless or vulnerable when exposed or only powerful when controlling others
 - More general category schema relevant to particular treatment providers
 - Schema developed around the process of treatment or supervision
 - Easily activated primal schema
 - Leading to primal processing

Callousness creates its own class of TIFs

- Interventions that assume empathic responsivity or a rich emotional experience push offenders who lack these things into faking what the treatment provider seems to want while leaving them without motivation to make pro-social changes
- Where high degrees of callousness are present treatment providers need to be careful to ensure that their interventions connect with the offender's self-interest

Approaching empathy

The traditional approach to empathy

- SOT has traditionally conceptualized empathy as victim empathy and sought to address it through pushing offenders to express credible empathy for past victims
- In my view this is a dead end
- We should conceptualize empathy in a different way

Two Empathy Targets

- Empathy for potential future victims
 - This is far more relevant to preventing re-offending than empathy for specific past victims
 - Some work done under the name of victim empathy is experienced by offenders as therapists using their power to make the offender suffer – there is no reason to suppose that this helps develop the offender's tendency to relate empathically to anyone!
- Capacity for empathic relating
 - An inability to relate to others empathically impedes the formation and maintenance of emotionally intimate relationships and the latter are a clear protective factor in relation to sexual offending

Treatment targets relevant to empathy development

- Relevant category schema
 - Children; Women; Men; Relationships
- Grievance Thinking
 - Failure to see other's point of view; feeling wronged and threatened
 - Expressive aggression; revenge-seeking etc
- Callousness
 - Conceptualize as a learning deficit
- Self as Superior & Entitled (core schema)
- Fragile Narcissism (over-compensation)
- Lack of the skills required for empathic relating

Reflection

- Having been in a period of stagnation for over a decade sexual offender treatment is going through a period of change and development