

Treatment for Adult Sex Offenders: May we reject the null hypothesis?

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The null hypothesis:

- “There is currently no treatment that reduces the recidivism of adult sex offenders”
- Occam’s Razor

- 1. Do you believe there is sufficient evidence to conclude that there is at least one treatment that reduces risk of recidivism among adult sex offenders?
- OR
- 2. Do you believe there is not yet sufficient evidence to conclude that there are any treatments that reduce risk of recidivism among adult sex offenders?
- How confident are you in your belief?
0= not at all, 5= fairly confident, 10= sure

Outline

- My introduction to treatment evaluation research
- Summary of evidence regarding treatment for adult sex offenders
 - Quotes from expert reviews and statements
 - Hanson et al., 2009
- Other areas where beneficial treatments on weak evidence turned out not to be with random controlled trial (RCT)
- Critique of non-experimental designs
- Ethically/legally/politically possible RCT for ADT?

An early lesson

- A Therapeutic Community
Program Evaluation
Participants: Psychopaths, Others
Program Description
Program Evaluation
Program Review
Outcome

Rice, Harris, & Cormier (1992). *Law & Human Behavior*, 16, 399-412.

Program review

- “This is an exciting program which has the hallmark of being right... as the final model of the DNA molecule looked right to Watson and Crick.”
- “We were satisfied that the patients benefited greatly from the Social Therapy Unit experience. We are quite sure that the program itself is of considerable benefit not only to the patients but to the hospital as a whole and the country.”

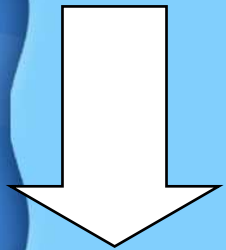
Program review

- “We were satisfied that the program [has]....a very low recidivism rate”
-developed the techniques that...are the most fruitful anywhere in the universe at the present time”

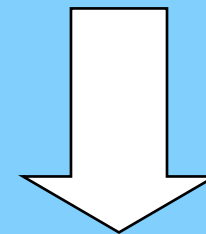
Outcome study

Treated
n=146

Untreated
n=146

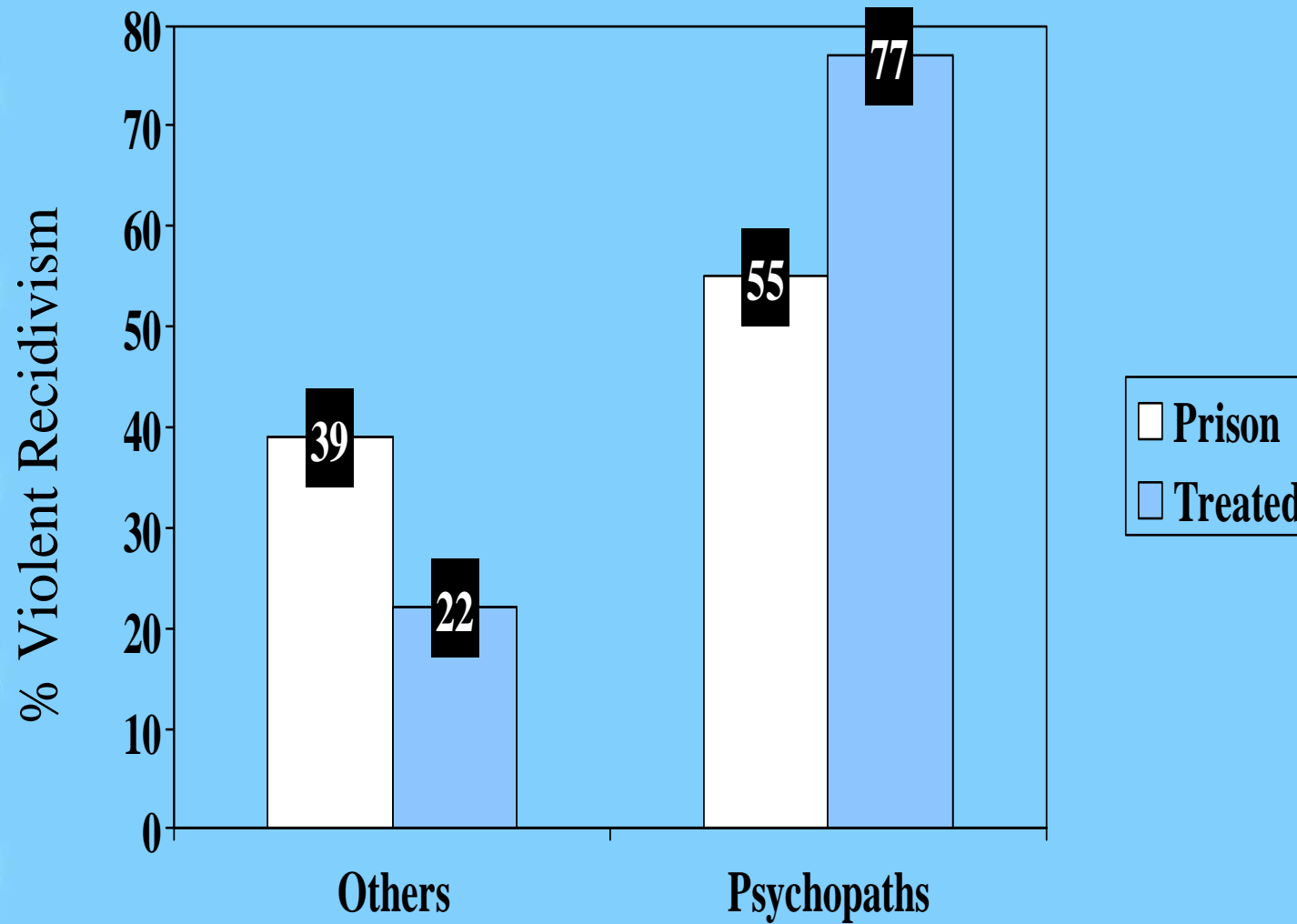


Therapeutic
Community



Prison

Psychopathy & treatment



Lesson

- Importance of follow-up studies
- Importance of psychopathy as an important predictor of outcome
- Treatment can cause harm

What if we read only study summary and “expert” statements about sex offender treatment?

- From ATSA web-site Factsheet:
- “statistically sophisticated studies with extremely large combined samples have found that contemporary cognitive-behavioral treatment does help to reduce rates of sexual reoffending by as much as 40% (Hanson, Gordon, Harris, Marques, Murphy, Quinsey, & Seto, 2002)”

Continued from ATSA factsheet

- “Because treated offenders re-offend at lower rates than untreated offenders, providing therapeutic intervention saves money on investigation, prosecution, incarceration, and victim services”

- “there is an impressive body of evidence indicating that sexual and non-sexual offenders can be effectively reintegrated into the community provided they participate in specific types of programmes” (Ward et al., 2009 in Beech et al. Assessment & Treatment of Sex Offenders: A handbook)

- “Despite a wide range of positive and negative effect sizes, the majority confirmed the benefits of treatment”. (Lösel and Schmucker, 2005, p.117)
- “The average effect of physical treatment is much larger than that of psychosocial programs. The main source for this difference is a very strong effect of surgical castration, although hormonal medication also shows a relatively good outcome” (p. 135).

- “Long-acting GnRh agonists, together with psychotherapy, are highly effective in controlling selected paraphilias (pedophilia, exhibitionism, and voyeurism) and are the most promising mode of therapy in the next millennium” (Rösler and Witztum, 2000, p.43).
- “In light of the high effectiveness and low recidivism rate, it will not be surprising if a ‘comeback’ to surgical castration will occur” (p. 52).

- “The treatment of paraphilias using pharmacological agents ...is effective in all types of sexual deviations, including the simultaneous presence of multiple deviations. In addition, it is the treatment of choice for the most serious sexual deviations...”
(Bradford, 2000; p. 249).

Randomized Controlled trial (RCT)

- involves the random allocation of different interventions (treatments or conditions) to subjects. The most important advantage of proper randomization is that "it eliminates selection bias, balancing both known and unknown prognostic factors, in the assignment of treatments."

- By the late 20th century, RCTs had become the "gold standard" for "rational therapeutics" in medicine and other fields. As of 2004, more than 150,000 RCTs were in the Cochrane Library-- The Cochrane Library aims to make the results of well-conducted (almost exclusively RCT controlled trials) readily available and is a key resource in evidence-based medicine.

Problems with RCTs

- Most serious issue is implementation:

Hard to get all participants required for statistical power, and often much attrition

Random assignment is often not actually implemented

Treatment assigned may not be the treatment implemented- e.g., drop-out before beginning

But nothing better

Berk, 2005 "Randomized experiments as the bronze standard"

Hanson et al., 2009

- “Strong studies are needed. Of the 129 studies of treatment for adult or adolescent sexual offenders examined using the CODC Guidelines, 19 were rated as weak, 5 were good, and 81% (105) were rejected. None were rated as strong.”
- “none of the surgery or drug studies met the minimum level of study quality established by the CODC Guidelines”

Example of rejected study

- 136 extra-familial child molesters in a maximum security psychiatric 6.3-year follow-up; 43% violent recidivism
- Fifty had participated in behavioral treatment to alter inappropriate sexual age preferences- 29 could be matched to untreated controls
- Treatment did not affect recidivism.

Rice, Quinsey, & Harris, 1991, JCCP

One more lesson

- Study targeted deviant sexual preferences

Often, these are referred to as a
“dynamic” risk factor

But, is there any evidence for that?

Rice, Quinsey, & Harris, 1991, JCCP

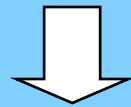
What is a dynamic predictor variable?

Score on variable precedes and is related to recidivism?



Yes

Score changes/Can be changed?



Yes

Changed variable score predicts better than original score AND adds to best known static predictors?



Yes

Truly dynamic predictor variable

Are deviant sexual preferences a dynamic risk factor?

Phallometric preferences can be measured before recidivism?

Yes

Phallometric preferences related to recidivism?

Yes

Phallometric preferences can be changed with treatment?

Yes

Post- treatment preferences predict recidivism better than pre-treatment preferences?

No

Evidence that they are dynamic risk indicator?

No

Hanson et al., 2009

<u>“Good” Adult studies</u>	<u>OR</u>	<u>RNR</u>	<u>Total</u>
Hanson et al. 2004	1.00	0	
Marques et al. 2005	.97	2	
McGrath et al. * 1998	.11	2	
Meyer & Romero 1980	1.90	0	

*** “The factors that excluded offenders from the treatment group were not fully known, but could reasonably be expected to have involved decisions made by the offenders and treatment providers”**

Cambridge-Somerville Youth study: McCord, 1978, '81, '90

- Belief at time study began (1940's) was that high risk youth lacked affectionate guidance
- Boys (av. age 10) matched, then 1 of each pair randomly assigned to treatment or control for 6 yrs
- Follow-ups at study end & when middle age
- More treated Ss died, convicted, alcoholic, or seriously mentally ill
- Reactions to study

Critical incident stress debriefing

- Meant to prevent PTSD among those exposed to extreme stress
- Usually performed in groups 24-72 hrs after traumatic event
- Therapists encourage members to discuss & “process” –ve emotions, learn about PTSD symptoms; was eligible for APA CE credits
- Meta-analysis of RCTs: $d = -.11$ for PTSD symptoms
- Recipients reported they found it helpful

Litz et al., 2002 reported in Lillienfeld, 2007

Other “probably” harmful psychological treatments

- “Scared Straight” programs
- Facilitated communication for autistic children
- Recovered-memory techniques
- Dissociative identity disorder
- Grief counseling for normal bereavement
- Drug abuse and resistance education (DARE) programs

Lilienfeld, 2007

Other fields: Arthroscopic surgery for osteoarthritis of the knee

- >12 uncontrolled studies: 1/2 patients report pain relief
 - 650,000 procedures performed annually @ \$5000 each
- RCT: 180 patients assigned to 1 of 3 groups- 2 had actual surgical procedures as done in uncontrolled studies, 1 had **sham surgery**

Moseley et al., 2002 New England Journal of Medicine

Results & authors' conclusions

- “this study provides strong evidence that arthroscopic [surgery] is not better than and appears to be equivalent to a placebo procedure... Indeed, at some points during follow-up, objective function was worse in the [surgery] group than in the placebo group”
- “the billions of dollars spent on such procedures annually might be put to better use”

Moseley et al., 2002 New England Journal of Medicine

Other fields: Parkinson's disease (PD)

- Transplantation of fetal nigral dopamine neurons is a rational treatment approach & several non-RCTs had shown clinically meaningful improvement.
- Was offered many places throughout the world
- 2 double-blind, placebo-controlled RCTs
1st failed to show significant clinical benefit

- 2nd RCT: 2 yr. placebo-controlled, double-blind, for patients with advanced PD

Protocol was reviewed by the REB of each participating centre and by NIH

Groups: bilateral transplantation of fetal brain tissue using 1 (or 4) donor per side; OR bilateral placebo surgery

Results: No significant overall treatment effect, but more adverse events for treated patients

Olanow et al., 2003, Annals of Neurology

Authors' conclusions

“We cannot recommend fetal nigral transplantation for PD”

“This study illustrates the importance of performing placebo-controlled double-blind trials for assessing new treatments and demonstrates the feasibility of using this type of study design even with surgical therapies”

Olanow et al., 2003, Annals of Neurology

Subsequent survey of PD Clinical researchers

- Surveyed 168 clinical researchers
- A large majority believe sham surgery is ethically permissible
- Concluded that PD research community is unlikely to believe any future interventions for PD are truly efficacious unless a sham-control condition is used to test it

Kim et al., 2005, Archives of Neurology

RCTs for child and adolescents with sexual behavior problems

- Multisystemic therapy (MST)- Borduin et al.

Juvenile sex offenders randomly assigned to MST or treatment as usual

- Other studies with younger children
- Can we generalize from adolescent to adult sex offenders?

Berliner & Saunders, 1996 Child Maltreatment; Cohen et al., 2004, J. Amer. Acad. Child & Adol. Psychiatry

Folklores justifying non-RCTs

- Don't need RCTs because we know most important causes, so can control for them

Unlikely to be true in crime & justice field
given low variance explained

- If effect of treatment is large, can assume uncontrolled factors aren't very important

But absent full knowledge of causes of an outcome, can never be sure results will stand up even if they appear robust in study at hand

Weisburd, 2010 J. Exp. Crim.

Folklores justifying non-RCTs

- Can assume biases are balanced
i.e., Once we have taken into account known causes, everything else will balance off

But this relies on model in which exclusion of factors is random- rarely the case. In criminal justice system research, often have to use variables at hand- Many missing that can be expected to be related to treatment*

Weisburd, 2010 J. Exp. Crim.

- Although there is research from other fields showing outcomes of RCTs are similar to propensity matching and regression discontinuity designs, that's not true in crime & justice field
- Without an RCT, impossible to know if there are systematic biases

Weisburd, 2010 J. Exp. Crim.

Folklore justifying not using RCTs

- They're not ethical

Long history of debate in crime & justice field

Is it ethical to withhold treatments from those who might need them vs.

Is it ethical not to use RCTs & risk providing wrong answers to important societal issues

- They can't be implemented in the real world

267 RCTs in English in crime & justice in 2003 including drug treatment, juvenile drug prevention, sentencing, etc.

83 RCTs in corrections research as of 2010

Perry et al., 2010, J. Exp. Crim.; Weisburd, 2010 J. Exp. Crim.

Ibuprofen for ultra-long distance runners

- Not an RCT– very hard to find runners willing to do without it, and race medical board was against it for ethical reasons, but results were clear:
 - Ibuprofen failed to reduce muscle pain and increased inflammation
 - Ibuprofen poses serious health risks- e.g., gastrointestinal bleeding
- When presented with the results, runners didn't change their behavior
- Why? Once someone believes something is true, they fit new information into that belief

Nieman et al., 2006

Testimonial of 1 runner

- Despite having been hospitalized for serious problems at least partly attributable to taking 12 ibuprofen pills during the 24 hr. run, she still takes it:
- “Ibuprofin absolutely works for me both in terms of pain management and decreasing joint inflammation”

Evidence is only part of the battle to change beliefs

- Researchers tend to believe “truth wins”
- But when facts contradict a strongly held belief, they’re unlikely to be accepted without a fight.

e.g., MacCoun experiments:

Participants read fictitious studies on gun control, the death penalty, or medical marijuana

When results supported their own views, they considered the study unbiased

But quick to dismiss studies when didn’t

Aschwanden, 2010 Miller- McCune

“Truthiness” vs. fact

- “Truthiness is what you want the truth to be, as opposed to what the facts are...
It is the truth that is felt deep down in the gut” (Stephen Colbert, the Colbert Report, 2005)
- For new evidence to overcome truthiness, it must be framed in an appealing story, one that acknowledges the existing narrative

Appeal to authority

- “I, for one, have done enough meta-analyses of barely acceptable studies. It is time to counter the political resistance to random assignment studies by getting ATSA to endorse a position statement supporting their use.”

Karl Hanson, personal communication, February, 2010

- Completing treatment is a positive indicator

RCT for testosterone-lowering drugs?

- Invite offenders (with definite sentences) to volunteer for a study in which they could receive ADT in return for earlier release.
- Offenders would be agree to comply once started or return to prison for longer time
- Prescribe a non-ADT drug for the control group that has noticeable but innocuous, side effects
- Half of the participants in each group could, at random, be given one of two expectancy sets.

Summary

- Current treatment for adult sex offenders may be effective, but
- May not, and may even be harmful
- Must find out using RCTs
- To do so is legal, ethical, and feasible
- Endorsed by leading authorities

Position Statement drafted for ATSA by Research Committee

- “After 50 years of research, the field of sex offender treatment cannot, using generally accepted scientific standards, demonstrate conclusively that effective treatments are available for adult sex offenders”
- Argues for RCTs

- 1. Do you believe there is sufficient evidence to conclude that there is at least one treatment that reduces risk of recidivism among adult sex offenders?
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Thank you

Time at Risk and Predictive Accuracy of SORAG: Violent recidivism

Time at risk	ROC area	Baserate (%)	N
6 months	.76	9	692
5 years	.74	36	692
12 years	.72	62	656
20 years	.71	79	542

Rice & Harris, 2010 preliminary data

Quotes from other reviews

- Quotes from IATSO web-site:
- *Principle 1: There is evidence that some kinds of treatment may be effective in managing*
- and reducing recidivism with some types of sexual offenders.
- *Principle 12: In order to effectively persuade the professionals in the legal community as well*
- as society in general about the

- Hucker, Langevin, & Bain, 1988; McConaghy, Blaszczyński, & Kidson, 1988; Maletzky, 1991; Langevin et al., 1979). The study by Hucker et al. (1988) is particularly noteworthy because it was an attempt at a random assignment placebo design. However, of 100 child molester referrals, only 48 admitted to their offenses and completed an initial assessment. Only 18 of these agreed to take part in the study. Only 11 completed the 3-month trial (five experimental and six comparison participants). Although there was evidence that those on MPA showed reduced testosterone compared to those on the placebo, there was no evidence that MPA changed their sexual behavior. Moreover, the men for whom MPA most reduced sexual fantasy were also the most likely to drop out.

- A study by Maletzky, Tolan, and McFarland (2006), using MPA deserves mention because the treated men were under considerable coercion to accept ADT. These men were incarcerated in Oregon which has legislation specifying that sex offenders deemed appropriate can be ordered to take MPA as a condition of release. As of 2004, 274 inmates had been evaluated and 134 deemed appropriate (i.e., of sufficient risk). Of those, 70 received MPA and 55 somehow managed to obtain release without it. After a follow-up of approximately 2.5 years, those who received ADT had significantly fewer recorded criminal offenses than those in either of the two groups not receiving MPA, and none of the ADT cases had a recorded sex offense. The two groups of comparison participants exhibited similar rates of officially detected sexual recidivism, (18% among those recommended for treatment but not receiving it, compared to 15% among those not recommended). Based on the information available, however, it cannot be determined whether the three groups were equivalent in pre-treatment risk. Although the legislation intended that ADT go to those of higher risk, this evidently did not occur, at least among those who did not receive treatment -- the recidivism rate for those deemed appropriate who avoided treatment was essentially the same as that of the men deemed not to require treatment. Unfortunately, no empirically validated risk assessment was used to assign ADT.

- Truthiness- Treatment can reduce the risk of recidivism among sex offenders

VS

- Fact- There is as yet no compelling evidence that treatment reduces the risk of recidivism among adult sex offenders

Conditions under which sham surgery is an appropriate methodology

1. There are disagreements about the perceived benefits of a particular procedure
2. Benefits might be due to the “experience of surgery” and postoperative care
3. Risks are reduced as far as possible in the sham surgery without compromising trial design
4. There is a lack of a superior alternative therapy

Mehta et al., 2007 J.Bone & Joint Surgery

RCT for children with sexual behavior problems

- 229 8-14 yr. old sexually abused children with serious PTSD & their caretakers
- Randomly assigned to trauma-focused cognitive-behavioral treatment (TF-CBT) or child-centered therapy
- Results: TF-CBT superior

Cohen et al., 2004, J. Amer.Acad.Child & Adol. Psychiatry

RCT for children with sexual behavior problems

- 80 4-13 yr. old sexually abused children
- Randomly assigned to 10 wk treatment:
- Stress inoculation training and gradual exposure plus conventional treatment
- OR conventional treatment only
- Assessed before, immediately after, and 1 & 2 yrs. later

Berliner & Saunders, 1996 Child Maltreatment

- Results: Both groups improved

Prospects for Dynamic Prediction

Dynamic violence risk items

Shallow affect, lacks empathy or concern for others

Antisocial attitudes

Poor therapeutic alliance

Predict **WHEN** an offender is likely to be violent

But high VRAG scorers are always at higher risk than lower scorers

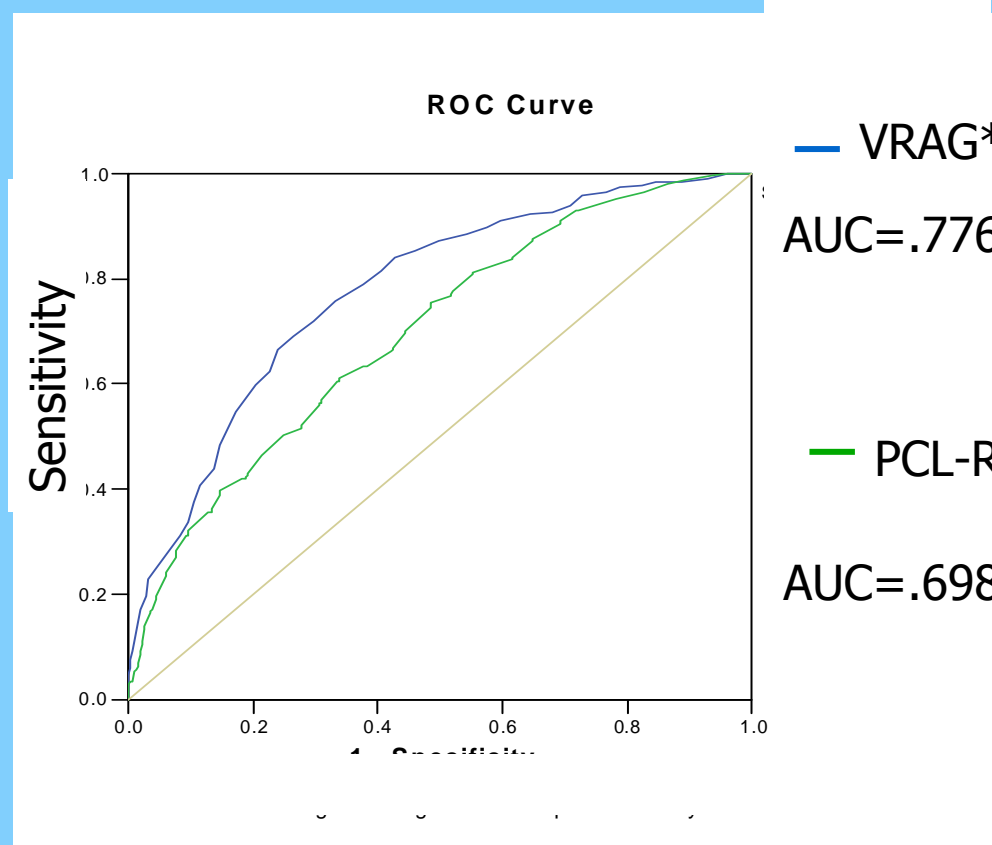
Makes most sense to use this primarily for high VRAG patients

Quinsey, Coleman, Jones, & Altrous (1997), *Journal of Interpersonal Violence*, 12, 794-813;
Quinsey, Book, & Skilling (2004) *Journal of Applied Research in Intellectual Abilities*, 17, 243-254
; Quinsey, Jones, Book, & Barr (2006). *Journal of Interpersonal Violence*, 21, 1539-1565.

Challenges for Dynamic Prediction of Who is Likely to be Violent

- Static predictors alone yield very high effect sizes (ROC areas up to .85)
- SO...Not much room for improvement on static predictors given noise in outcome measure unless dramatically effective treatments are found
- Dynamic predictors can likely make only a very modest contribution to the prediction of who is likely to reoffend
- Main hope for dynamic prediction is in

20 years (N=995)



63% failure rate

Critique of meta-analysis

- “Meta-analysis would be a wonderful method if the assumptions held. However, the assumptions are so esoteric as to be unfathomable and hence, immune from rational consideration: the rest is history”

Berk & Freedman, 2003, cited in Berk, 2005

- “The field [psychology] has... ignored the indirect harm that can result from inaccurate inferences drawn about treatment efficacy. An inert treatment that is falsely assumed to be beneficial can be costly in terms of time, expense, and other resources.”

Dimidjian & Hollon, 2010, AP

Hucker et al., Briken et al

- RCT for ADT?
- Survival curves for sex offenders?
- Predictive accuracy of SORAG?
- Jokes re things are not always as they appear?