

Does Change in Hostility Predict Sexual Recidivism?

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Hostility and sex offending

- Negative evaluations and feelings towards people
- Perception of others as antagonistic and threatening
- Multifactor theories of sexual aggression (e.g., Hall & Hirschman, 1991)
- Distinguishes SOs from NSOs and NOs (Whitaker et al., 2008)
- Predicts sexual, violent, and general recidivism among SOs (Hanson & Morton-Bourgon, 2005; Hanson et al., 2007)

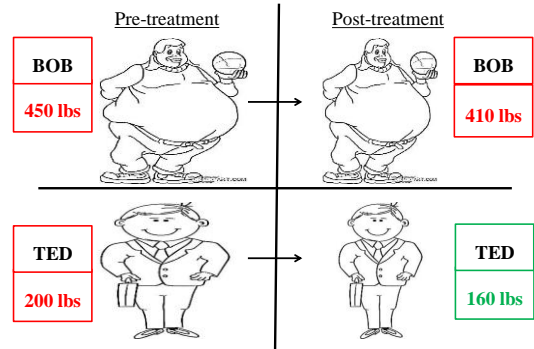


Treatment Change in Hostility and Recidivism

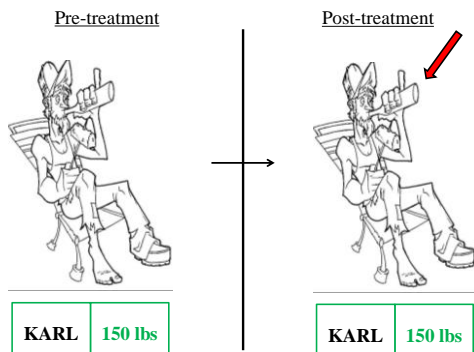
- Hostility as a dynamic risk factor
 - Findings of treatment change studies are equivocal (Beggs & Grace, 2011; Wakeling & Barnett, 2011)
- Difference scores
 - Post- minus pre-treatment scores
 - Meaningful change?
 - Controlling for pre-treatment scores (Beggs & Grace, 2011)
- Clinical Significance
 - Has client reached a target level of functioning?
 - Is the amount of change larger than what would be expected by chance alone?



Controlling for pre-treatment scores



Functional vs. dysfunctional



PURPOSE

- The goal of the current study was to examine whether clinically significant change in hostility over the course of treatment predicts sexual recidivism.
 - Pre- treatment scores
 - Post- treatment scores
 - Simple difference scores
 - Clinically significant change



PARTICIPANTS

- $N = 120$
 - 94 non-recidivists
 - 26 recidivists
- Treated at Regional Treatment Centre Sex Offender Treatment Program (RTCSOTP) in Ontario, Canada from 1996 to 2010
- Average follow-up time (years) = 7.82 (3.63)
- Mixed sample
 - Sex offenders against children (51.7%)
 - Sex offenders against adults (42.5%)
 - Sex offenders with adult **and** child victims (5.8%)



MEASURES

- The Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957)
 - Self-report measure (66 bipolar items)
 - Seven subscales: Assault, Indirect hostility, Irritability, Negativism, Resentment, Suspicion, Verbal hostility
- Sexual recidivism
 - Any post-release conviction
 - Sexual offence(s)
 - Sexually motivated offences



CLINICALLY SIGNIFICANT CHANGE

- How do we determine a (dys)functional level of hostility?
 - What score on our measure is considered (dys)functional?
 - **Determine a cutoff score for (dys)functional**
 - Cutoff scores only as good as the norms they are based on
 - META-ANALYSES OF NORMS



STEP 1: COLLECT NORMS

- Search for norms
 - PsycINFO, Pubmed, and Web of Science,
 - Reference lists
 - Published articles
 - Means, standard deviations, or internal consistency estimates
 - BDHI subscale(s) and/or total score
- Search terminated in January 2013



STEP 1.1: SELECT CUTOFF

- What cutoff (functional vs. dysfunctional) should we use?
 - **Dependent on client group and availability of norms**
 - Cutoff A: Dysfunctional mean *minus* 2 standard deviations
 - Clients expected to be dysfunctional at pre-treatment
 - **Cutoff B:** ✓ Functional mean *plus* 2 standard deviations
 - 1 *SD* in current study
 - Clients vary on area/extent of dysfunction at pre-treatment
 - Cutoff C: midpoint of functional and dysfunctional means



STEP 1.2: EXCLUSION CRITERIA

- Samples wherein an appreciable portion of cases may be dysfunctional
 - Inpatients with PDs associated with hostility (e.g., BPD)
 - Chronic alcohol/substance abusers
 - Violent offenders
- Samples from (possibly) incomparable populations
 - Children/youth
 - Women



STEP 1.3: DEFINE RELIABLE CHANGE

- How do we determine what amount of change is reliable?
 - Highly reliable measures
 - Small changes may be meaningful
 - Less reliable measures
 - Relatively large changes may be required
- Reliability norms
 - Meta-analysis of internal consistency coefficients



STEP 1.4: CONDUCT META-ANALYSIS

- Meta-analyses of means and standard deviations
 - Comprehensive meta-analysis program (CMA)
 - Means (random-effects model)
 - Standard deviations (fixed-effects model)
- Meta-analyses of internal consistency coefficients
 - Rodriguez and Maeda (2006) formulae and SPSS syntax (fixed-effects meta-analysis)



STEP 2: CALCULATE RELIABLE CHANGE

$$RCI = \frac{M_2 - M_1}{S_{diff}}$$

$$S_{diff} = \sqrt{2(S_E)^2}$$

$$S_E = S_1 \sqrt{1 - r_{xx}}$$

M_2 = post-treatment score, M_1 = pre-treatment score
 S_{diff} = standard error of difference between M_2 and M_1
 S_E = standard error of measurement
 r_{xx} = reliability (meta-analyzed internal consistency)
 S_1 = standard deviation for functional group



STEP 3: DEFINE CHANGE GROUPS

Change Group	Pre-treatment	Post-treatment	Reliable change?
Recovered	Dysfunctional	Functional	yes
Improved	Dysfunctional Functional	Dysfunctional Functional	yes
Unchanged	Dysfunctional Functional	Dysfunctional Functional	no
Deteriorated	Dysfunctional Functional	Dysfunctional Functional	yes



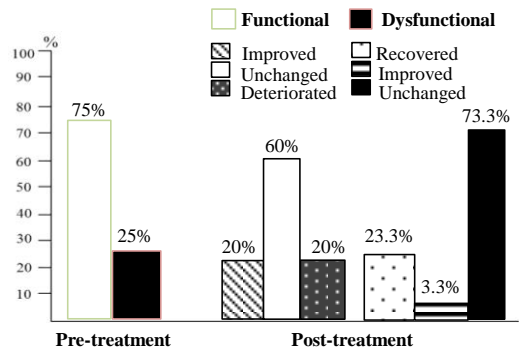
RESULTS

PRE, POST, AND SIMPLE DIFFERENCE SCORES

- Pre-treatment total scores
 - $d = 0.32$, 95% CI [-0.11, 0.76]
- Post-treatment total scores
 - $d = 0.36$, 95% CI [-0.08, 0.79]
 - Assault
 - $d = 0.48^*$, 95% CI [0.04, 0.92]
 - Verbal Hostility
 - $d = 0.54^*$, 95% CI [0.10, 0.98]
 - Simple difference total (and subscale scores)
 - $d = 0.06$, 95% CI [-0.37, 0.50]



TREATMENT NEEDS AND CHANGE



FUNCTIONAL VS. DYSFUNCTIONAL

- Functional vs. dysfunctional on BDHI total scores at pre- and post-treatment and sexual recidivism

	Functional	Dysfunctional	OR [95% CI]
Pre-treatment	20.0% (18/90)	26.7% (8/30)	1.46 [0.56, 3.80]
Post-treatment	20.2% (18/89)	25.8% (8/31)	1.37 [0.53, 3.57]

- Functional vs. dysfunctional on BDHI subscale scores pre-and post-treatment did not significantly predict sexual recidivism



CLINICALLY SIGNIFICANT CHANGE

- Improved/recovered vs. unchanged/deteriorated on BDHI total scores and sexual recidivism (N = 120)

Post-treatment				OR [95% CI]
Improved/ Recovered		Unchanged / Deteriorated		
57.1% (4/7)	21.1% (4/19)	13.2% (10/76)	44.4% (8/18)	1.88 [0.71, 4.99]

- Improved/recovered vs. unchanged/deteriorated on BDHI subscale scores did not predict sexual recidivism (N = 120)



CLINICALLY SIGNIFICANT CHANGE

- Improved/recovered vs. unchanged on BDHI total scores and sexual recidivism among offenders with dysfunctional pre-treatment scores (n = 30)

Post-treatment			OR [95% CI]
Improved / Recovered		Unchanged	
57.1% (4/7)	0.0% (0/1)	18.2% (4/22)	4.50 [0.78, 26.13]

- Improved/recovered vs. unchanged/deteriorated on BDHI subscale scores did not predict sexual recidivism among offenders with dysfunctional pre-treatment scores (n = 30)



CLINICALLY SIGNIFICANT CHANGE

- Improved vs. unchanged/deteriorated on BDHI total scores and sexual recidivism among offenders with functional pre-treatment scores (n = 90)

Post-treatment			OR [95% CI]
Improved	Unchanged/deteriorated		
22.2% (4/18)	11.1% (6/54)	44.4% (8/18)	1.18 [0.34, 4.15]

- Improved/recovered vs. unchanged/deteriorated on BDHI subscale scores did not predict sexual recidivism among offenders with functional pre-treatment scores (n = 90)



CLINICALLY SIGNIFICANT CHANGE

- Positive change vs. negative change vs. no change and sexual recidivism (N = 120)

Post-treatment	OR [95% CI]
Recovered/improved vs. unchanged	0.34* [0.12, 0.99]
Improved vs. deteriorated	0.56 [0.16, 1.94]
Unchanged vs. deteriorated	0.19* [0.06, 0.59]

* p < .05

- The same pattern of results emerged with subscales



CLINICALLY SIGNIFICANT CHANGE

- Positive change vs. negative change vs. no change and sexual recidivism among offenders with dysfunctional pre-treatment scores (n = 30)

Post-treatment	OR [95% CI]
Recovered/improved vs. unchanged	0.22 [0.04, 1.29]

* p < .05

- The same pattern of results emerged with subscales



CLINICALLY SIGNIFICANT CHANGE

- o Positive change vs. negative change vs. no change and sexual recidivism among offenders with functional pre-treatment scores (*n* = 90)

Post-treatment	OR [95% CI]
Improved vs. Unchanged	2.29 [0.57, 9.25]
Improved vs. deteriorated	0.36 [0.08, 1.52]
Unchanged vs. deteriorated	6.40*[1.82, 22.54]

* *p* < .05

- o The same pattern of results emerged with subscales



SUMMARY

- o The purpose of current study was to examine whether hostility and change in hostility predicted sexual recidivism
- o Partial support for relevance of **hostility** to sexual recidivism
 - o Post-treatment: **Assault** and **Verbal hostility**
- o Effect sizes vs. statistical significance
 - o Recidivists more likely to have **dysfunctional** scores
 - o Functional pre- + post-treatment = **lower** recidivism
- o Treatment **gains** on hostility did **not** lead to lower recidivism
- ⚠ Functional pre-treatment + treatment gain = increased recidivism



DISCUSSION AND LIMITATIONS

- o **No untreated control group**
- o **Few** offenders with **dysfunctional** pre-treatment scores
 - o Results of clinical significance analyses for offenders with functional pre-treatment scores
 - o Are lower scores always better?

☞ “When someone doesn’t treat me right, I don’t let it annoy me”

- o Cutoff scores
- o Differential relevance of BDHI subscales
- o Sex offender subtypes



FUTURE DIRECTIONS

- o Current study highlights the utility of clinical significance to assessment of treatment change among sex offenders
- o Treatment gains in larger sample of dysfunctional on hostility at pre-treatment
- o Deterioration + remain functional vs. become dysfunctional
 - o “Relapse” group?
- o Subtypes of sex offenders
- o Practical utility of BDHI and similar measures for assessment of treatment change and risk of recidivism



META-ANALYSIS OF FUNCTIONAL NORMS

BDHI Scale	Functional means and standard deviations			Internal consistency		Cutoff B ^c
	<i>k</i>	<i>M</i>	<i>SD</i> ^b	<i>α</i>	<i>k</i>	
Total	13	28.7	8.41	.80	3	37.11
Assault	11	4.20	2.12	.73	2	6.32
Indirect hostility	11	4.08	1.56	.55	2	6.46
Irritability	11	4.81	1.11	.62	2	6.93
Negativism	11	2.47	2.12	.43	2	3.58
Resentment	11	2.65	1.34	.63	2	3.99
Suspicion	11	3.48	1.92	.67	2	5.40
Verbal hostility	11	6.25	2.18	.54	2	8.43

^a Random effects. ^b Fixed effects. ^c Functional mean + 1 SD

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Thank you

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Questions?

More about our research

Aggressive Cognition and Behaviour Research Lab

<http://www.carleton.ca/acbrlab/>

Presentation reference

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