

Rumination-focused Cognitive Behavior Therapy

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Overview

- What is rumination?
- How is RFCBT different than CBT?
- Assessment of rumination
- Case formulation
- Role play
- Points of intervention
- Research results

What is rumination?

- Rumination = response to low mood involving going over and over thoughts
- We all know it when we see it, but how would you describe it to a young person?
- Usually cognitive as well as behavioral avoidance

Overlap of CBT and RFCBT

- Introduction to therapy model
- Psychoeducation
- Identification of links between behaviour and mood
- Homework Setting
- Homework review
- Activity/mood monitoring
- Activity scheduling
- Socratic questioning
- Review of what learned
- Relapse prevention

Standard CBT approach

- Identify and challenge negative thoughts and beliefs underlying them
- Cognitive restructuring



Spoiler Alert!

Trigger –
Response
Avoidance
Pattern



Trigger
Response
Alternative
Coping
(Approach)

What is the TRAP here?" "So what could get you back on TRAC?"

Rumination-focused Cognitive Behavior Therapy (R-CBT)

- **Functional-analytic perspective** based on behavioral activation which views rumination as a **learned habit** developed through **negative reinforcement**
- Habits resist informational interventions (Verplanken & Wood, 2006)
- Successful habit change involves
 - disrupting the environmental factors (time, place, mood) that automatically cue habit
 - counter-conditioning an alternative incompatible response to triggering cues (a helpful habit)

Habit model

- Cues trigger ruminative response automatically [mood, stress, contexts]
- Information-giving, thought challenging unlikely to change a habit
- Therefore, treatment only effective if counter-condition alternative responses to warning signs

Session 1 and 2

Assess rumination

- normalize and validate

Specify as clinical target for treatment

- link rumination to challenges

- link to their goals

Introduce habit model

- link to their own experience and normalize

Self-monitoring

Rumination Record Form

This form will help you to identify times when you are ruminating so we can explore in the session. By rumination we mean times when; repeatedly thinking about, dwelling on, worried about, preoccupied with how you are feeling, going over and over past events, current problems, things about yourself or about the future.

Date/time	What happened just before (trigger)	How did you feel before you started ruminating?	When you started ruminating what were you thinking about?	How long did it last	What were the consequences of ruminating – on how you felt or what you did?	Did you try to stop ruminating, and if you did what did you try, and did it work?	How did the rumination end?
<i>Example 10pm 10/05/20</i>	<i>Went to bed</i>	<i>Anxious, stressed</i>	<i>Why do I feel this way? Why can't I sleep? Going over all the things I didn't do.</i>	<i>2 hours</i>	<i>Couldn't sleep Felt worse</i>	<i>Tried thinking about other things, told myself to stop – these helped for a little bit</i>	<i>I eventually fell asleep</i>

Roleplay

- (1) Therapist to ask about specific examples/memories of rumination
- (2) Therapists uses questioning to map out in specific, concrete detail the process of rumination moment-by-moment for that example
 - Remember ACES “What do you notice? What learnt? What helpful?”)
- (3) Ask about Context (Who, what, where, when, how) and consequences. Look for ABC

Session 3/Early treatment

- Use log to focus on rumination event
- Get brief description to make sure it is a prototypical example with some detail
- Functional Behavioral Analysis
- Establish triggers, warning signs and the function of rumination
- Socialize towards being specific/concrete versus vague and abstract

FBA

- Recreate the scene, prompt to close eyes if safe
- Remember as though it is happening again
- Second-by-second rumination episode
- “*Just the moment after you did (noticed, saw, felt, etc.) X and then what did you do (notice, see, feel, etc.) Y next?*”

Specific to RFCBT part 1

- Detailed description of rumination
- IF-THEN plans
- Explanation of engagement/absorption
- Visualisation – activity with engagement/absorption
- Functional Analysis – ABC, CUDOS
- Identifying triggers and cues to unhelpful behaviours
- Identifying functions for behaviours
- Finding alternative responses to replace those functions

Specific to RFCBT part 2

- Introduction to compassion
- Compassionate experiential exercises
- Compassionate speech
- Compassionate images
- Discussion of values
- Planning to live according to values
- ASK (active, specific, kind)

R61 Results - Sample

Demographic characteristics	AO (n = 37)	RF-CBT (n = 39)	Group comparison
<i>Age (SD)</i>	16.00 (0.91)	15.67 (1.13)	$t(72.17) = 1.417$, $p = .161$
<i>Female</i>	25 (67.57%)	26 (66.67%)	$\chi^2(1) = 0.007$, $p = .933$
Race			
<i>White</i>	33 (89.1%)	35 (89.7%)	
<i>Black/African American</i>	0	0	
<i>Asian</i>	0	1 (2.6%)	
<i>American Indian</i>	0	1 (2.6%)	
<i>Pacific Islander</i>	0	0	
<i>Other</i>	0	1 (2.6%: Asian/White)	
<i>Response Missing</i>	4 (10.8%)		
Family Income			
<i>Less than \$21,000</i>	2 (5.4%)	1 (2.6%)	
<i>\$21,000 to \$40,000</i>	0 (0%)	2 (5.1%)	
<i>\$41,000 to \$60,000</i>	3 (8.1%)	4 (10.3%)	
<i>\$61,000 to \$80,000</i>	4 (10.8%)	4 (10.3%)	
<i>\$81,000 to \$100,000</i>	4 (10.8%)	12 (30.8%)	
<i>Above \$100,000</i>	20 (54.1%)	15 (38.5%)	
<i>Response missing</i>	4 (10.85%)	1 (2.65%)	

Sample Characteristics

Clinical characteristics	AO (n = 36)	RF-CBT (n = 39)	Group comparison
Baseline RRS total	54.19 (11.24)	59.87 (12.03)	$t(73) = 2.107$, $p = .039^*$
Baseline RRS brooding	12.42 (3.71)	14.28 (3.28)	$t(73) = 2.311$, $p = .024^*$
Baseline RRS reflection	12.00 (3.14)	12.18 (3.56)	$t(73) = 0.231$, $p = .818$
Baseline CDRS	33.61 (8.29)	36.54 (7.89)	$t(73) = 1.567$, $p = .121$
Baseline SCARED	35.17 (16.30)	39.03 (15.27)	$t(71) = 1.043$, $p = .300$

Change in the mechanism

Z-Scores for Rumination Treatment Change^a

	AO (N = 27)	RF-CBT (N = 34)
RRS total	-0.046 (1.29)	-1.036 (1.08)
RRS brooding	-0.155 (1.41)	-1.023 (1.02)

^aZ-scores were calculated for the whole sample by subtracting follow-up scores from baseline scores and dividing by baseline standard deviation.

Table 5: Mean difference and Cohen's d effect size for changes in RRS from baseline to follow-up

	Baseline		Follow-Up		Mean difference in change scores (95% CI) ^a	Effect size ^b
	AO (N = 27)	RF-CBT (N = 34)	AO (N = 27)	RF-CBT (N = 34)		
RRS total	53.80 (12.13)	60.53 (12.21)	53.00 (14.61)	48.21 (12.24)	11.77 (4.55, 18.99)	.83
Brooding	12.36 (3.85)	14.32 (3.39)	11.67 (3.70)	10.65 (2.99)	3.12 (0.89, 5.36)	.71

^a Mean difference in change scores: change in rumination scores from baseline to post-treatment for RF-CBT minus change in rumination scores for AO

^b Effect size: between-group effect size for change in symptoms (Cohen's d where $d = M_1 - M_2 / \sigma_{pooled}$, $\sigma_{pooled} = \sqrt{[(\sigma_1^2 + \sigma_2^2)/2]}$. M_1 is the mean change on outcome measure from baseline to post-treatment for RF-CBT; M_2 is the mean change in outcome measures from baseline to post-treatment for treatment as usual).

Z-Scores for Brain Treatment Change^a

	AO (N = 26)	RF-CBT (N = 28)
LPCC-RIFG, RIPL	0.21 (0.95)	-.75 (1.71)

^aZ-scores were calculated for the whole sample by subtracting follow-up scores from baseline scores and dividing by baseline standard deviation.

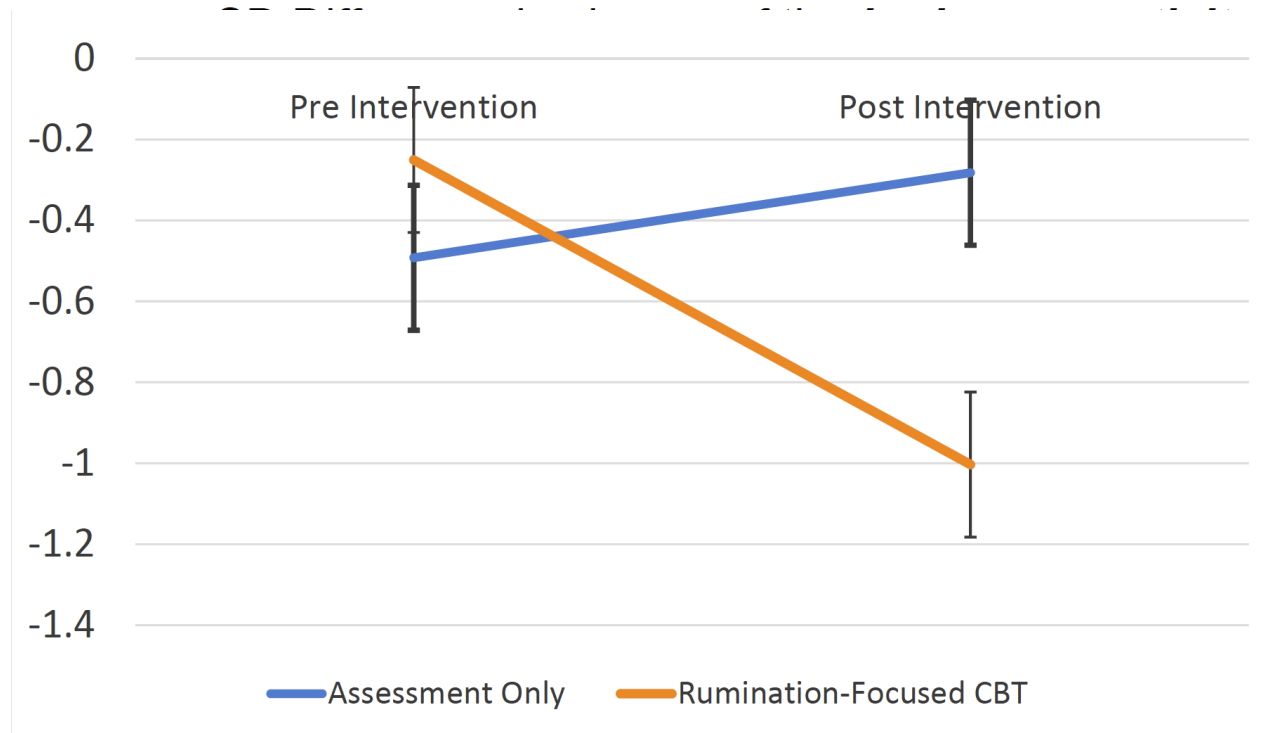


Figure 1. Illustration of pre to post treatment change in connectivity for the primary seed-edge relationships of Left PCC to Right IFG and ITG over time. Error bars are standard error of estimate. The Y axis is the Z score of connectivity along this edge.

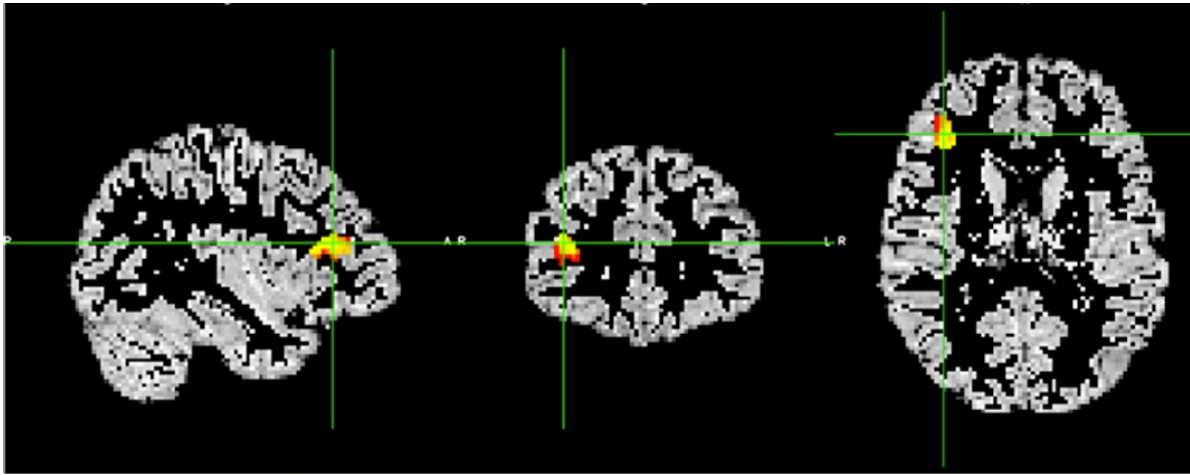


Fig. 3a.: Right Inferior Frontal gyrus map of overlapping significant areas of connectivity with left posterior cingulate cortex

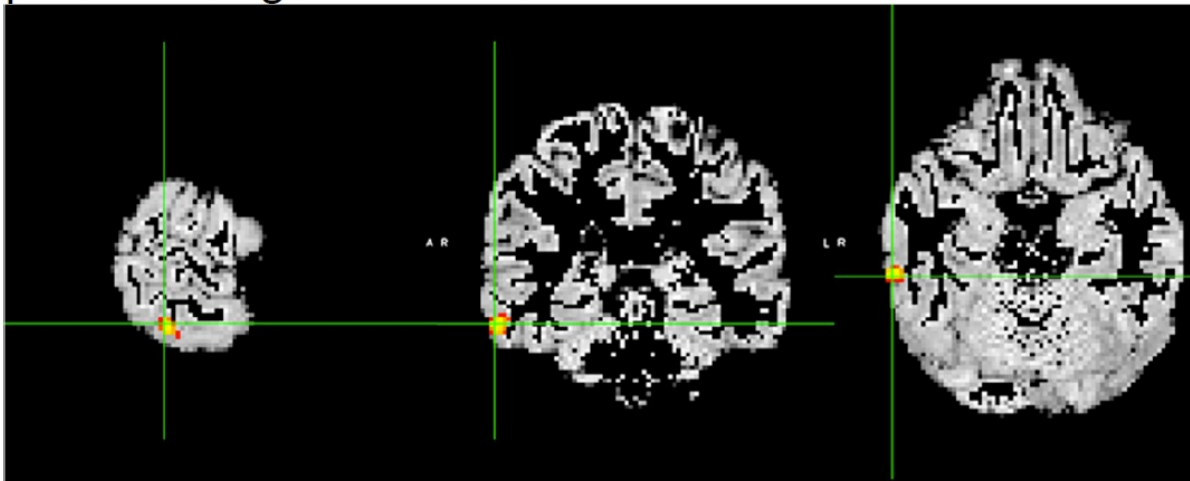


Fig. 3b: Right Inferior temporal gyrus map of overlapping significant areas of connectivity with left posterior cingulate cortex

Brain change correlated with self-report rumination change

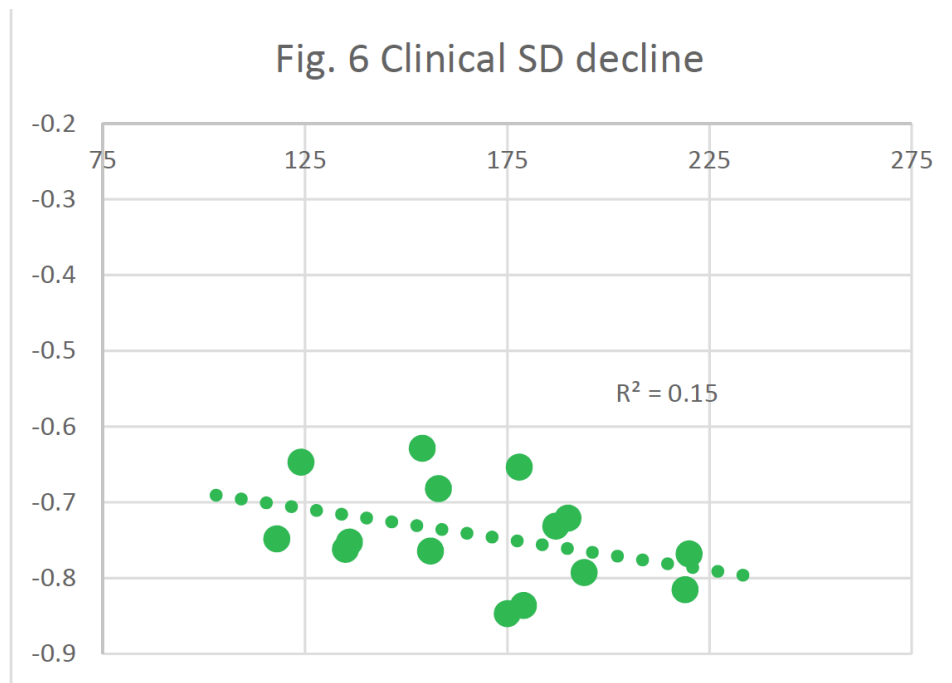
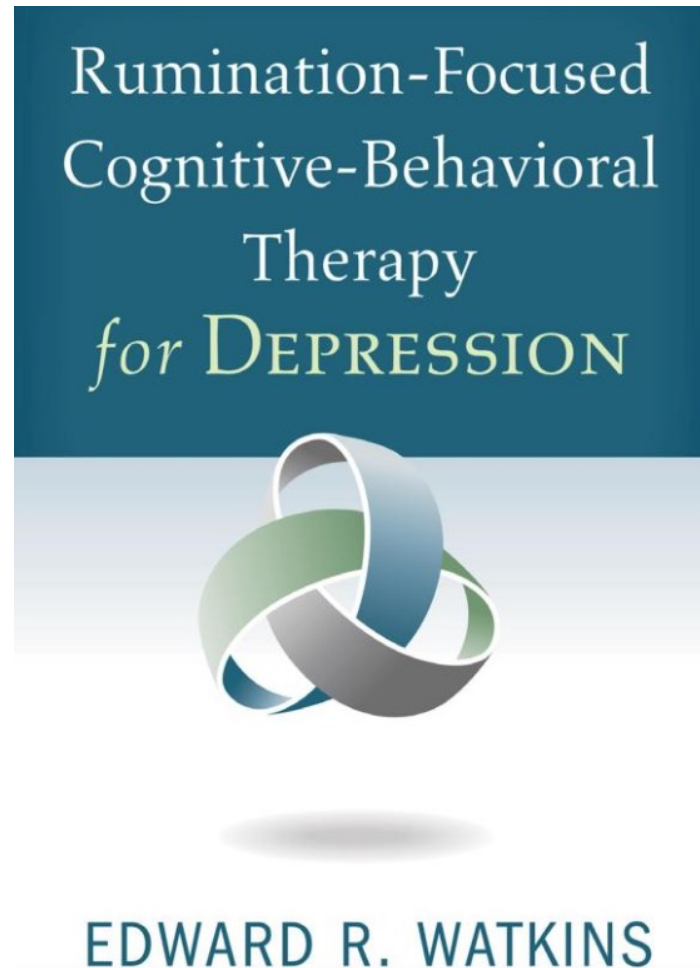
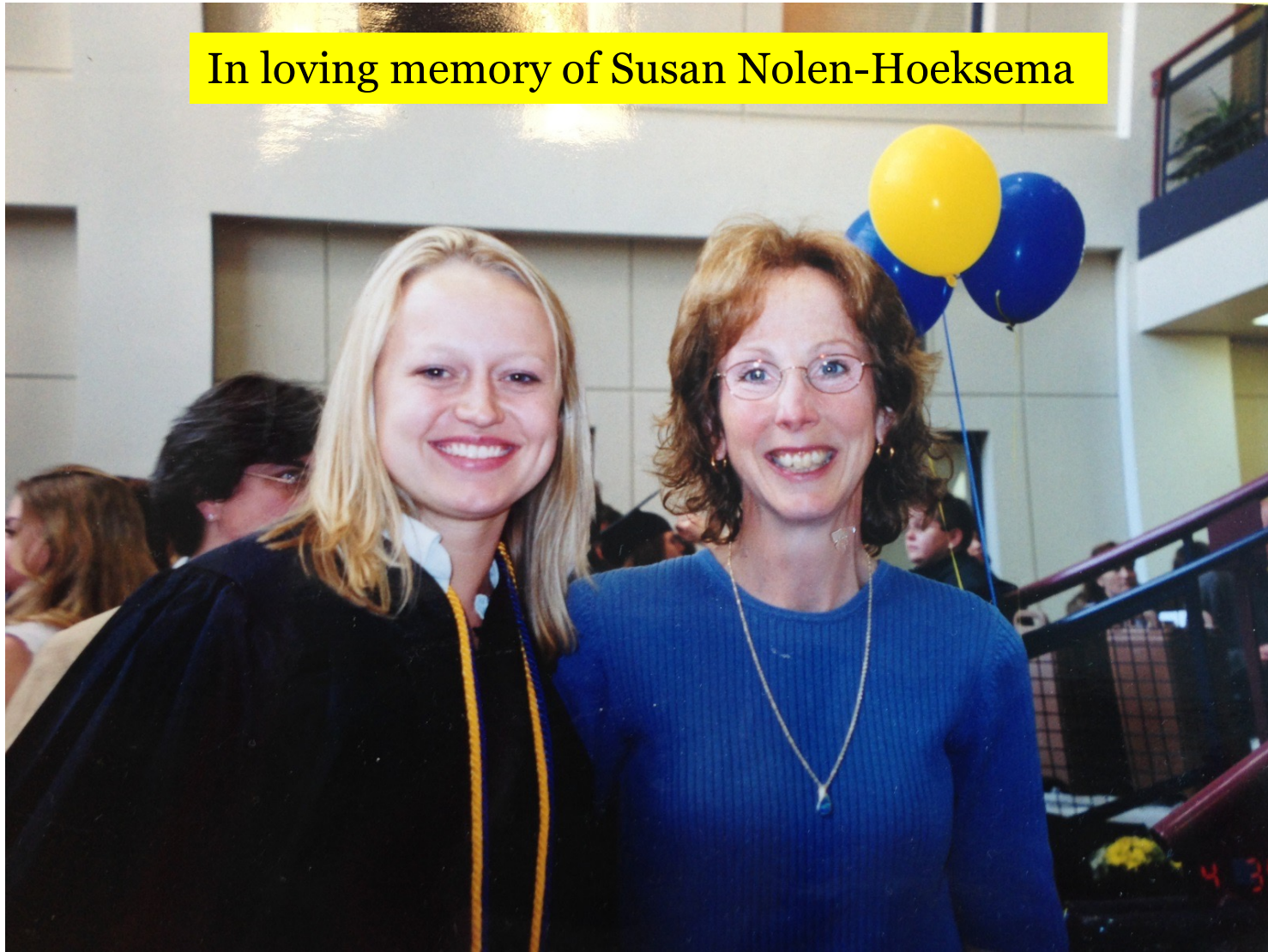


Figure 6. Illustration of the relationship between the effect size decrease in connectivity (y axis) and the number of suprathreshold voxels included in the analysis. The results suggest that more voxels in a calculation result in a larger effect size of change. This can also relate to some seeds being more spatially related to the hypothesized region of interest. Those walkabout seeds that were slightly less posterior ($y = -48$) were the ones with the largest number of suprathreshold voxels and largest effect sizes.

Adult manual



In loving memory of Susan Nolen-Hoeksema



With thanks to Ed Watkins and Scott Langenecker



Publications on adolescent trial so far

Jacobs, R.H., Watkins, E.R., Peters, A.T., Feldhaus, C.G., Barba, A., Carbray, J., & Langenecker, S.A. (2016). Targeting ruminative thinking in adolescents at risk for depressive relapse: Rumination-focused cognitive behavior therapy in a pilot randomized controlled trial with resting state fMRI. *PLoS ONE*, 11(11): e0163952.

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Bessette, K.L... & Langenecker, S.A. (2020). Malleability of rumination: An exploratory model of CBT-based plasticity and long-term reduced risk to for depressive relapse among youth from a pilot randomized clinical trial. *PLoS ONE* 15(6): e0233539.

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Opportunities to connect



WELLBRAIN THERAPY

- Child CBT class at NU Feinberg
Fridays 11am-130pm fall
quarter, audit option
- www.wellbraintherapy.com



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