Person-Centered Mindfulness

Willoughby B. Britton, Ph.D.

Department of Psychiatry and Human Behavior
Brown University Medical School

BROWN
Alpert Medical School

Overview

- The problem with averages
- Too-much-of-a–good-thing-effect (Inverted-U)
- Attentional Biases
    - Valence Bias
    - Modality Bias
- Attentional Biases Exercise
- Q+ A /Discussion
- Person-centered mindfulness modifications
- Additional Resources

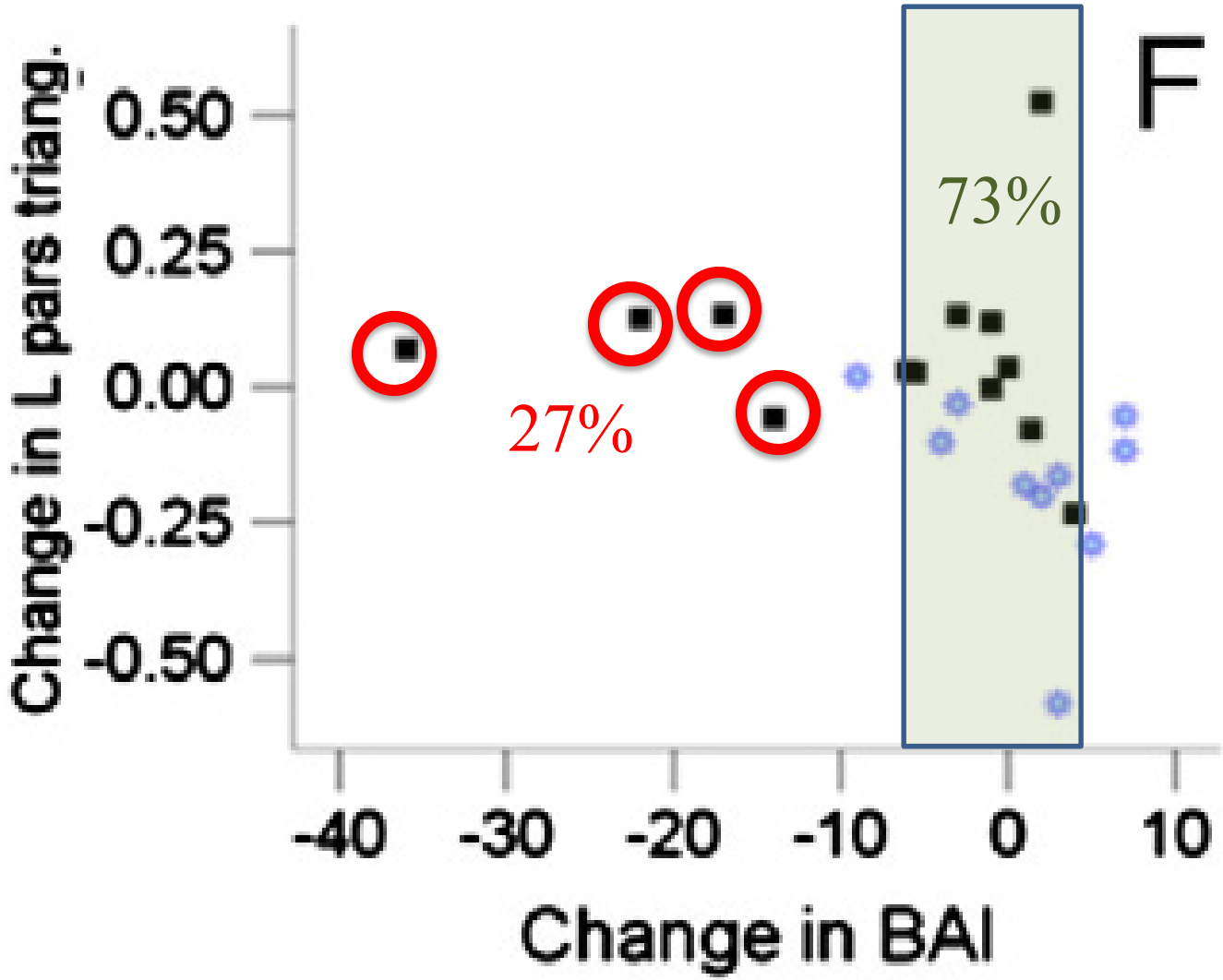
The problem with averages

Statistical Significance ($p < .05$)

$\neq$

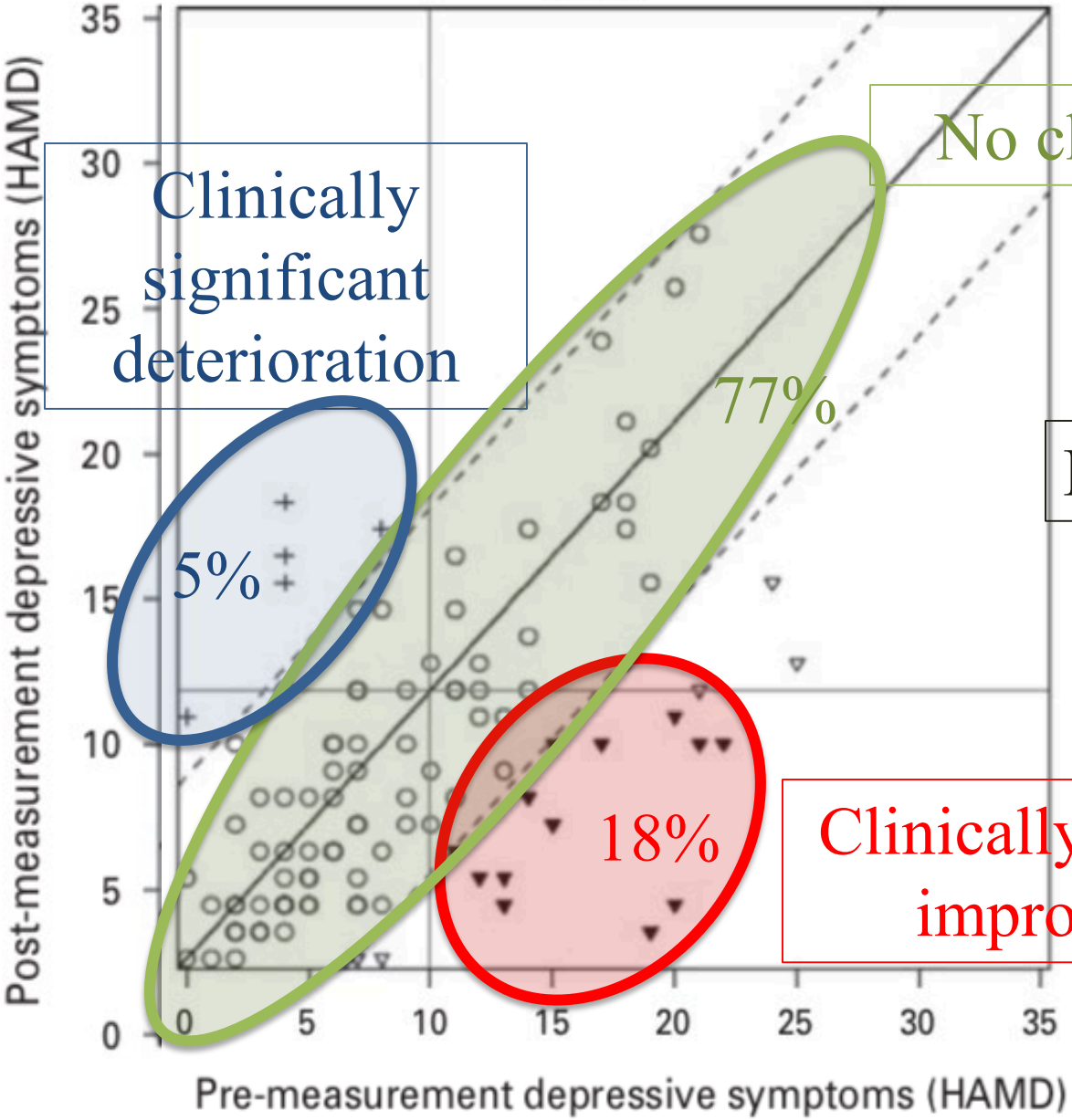
Clinical Significance

"Generalized anxiety disorder (GAD) symptoms can be successfully addressed through MBIs."



Holzel et al. (2013). *Neuroimage*

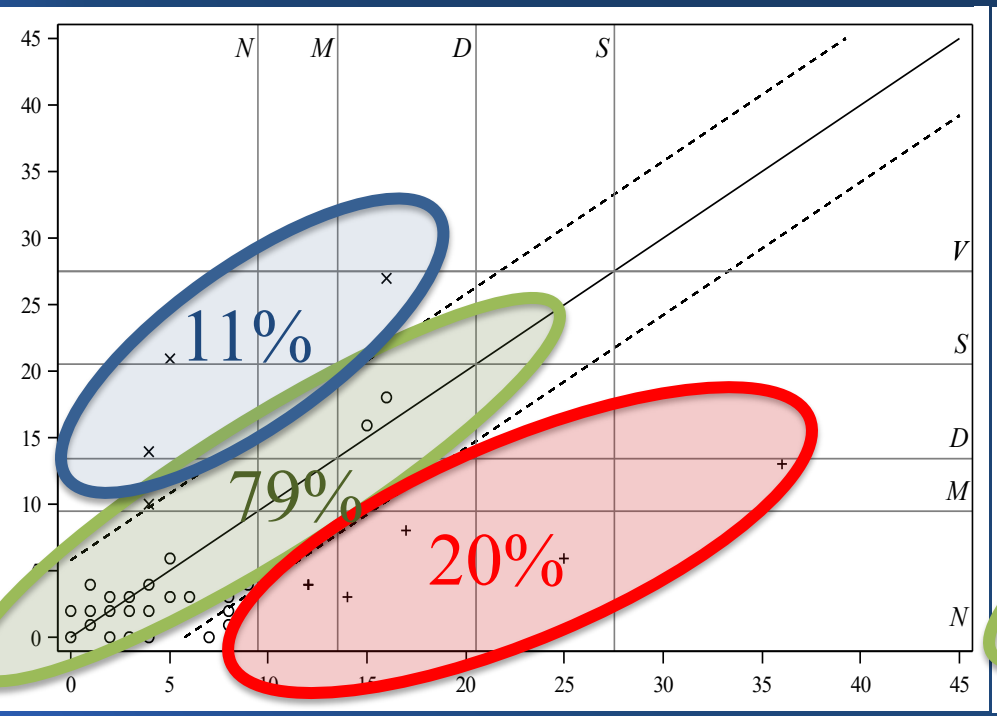
Reliable Change Index



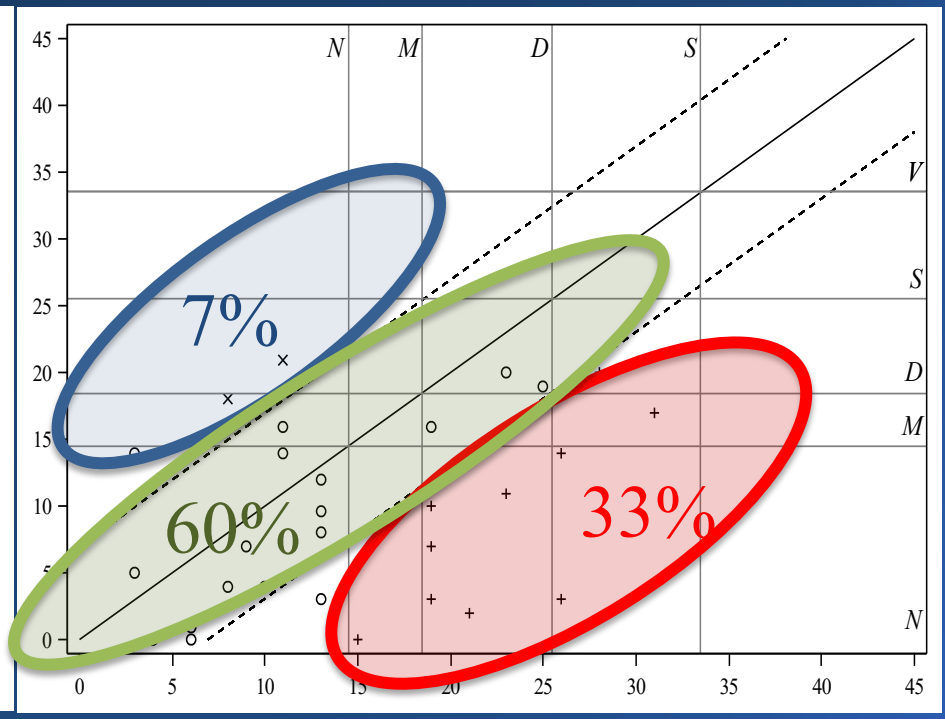
Depression, $d = .55$

van Aalderen et al (2012) *Psychological Medicine*

Reliable Change Index



Depression
$d = .85$



Stress
$d = .90$

Britton et al (*under review*)

Questions

- Are we making sweeping, universal statements based on the experience of a (privileged) few?
- How do we make more inclusively accurate language?
- Why is this happening?
- Can we create MBIs that benefit more people?

ELSEVIER

Available online at www.sciencedirect.com

ScienceDirect

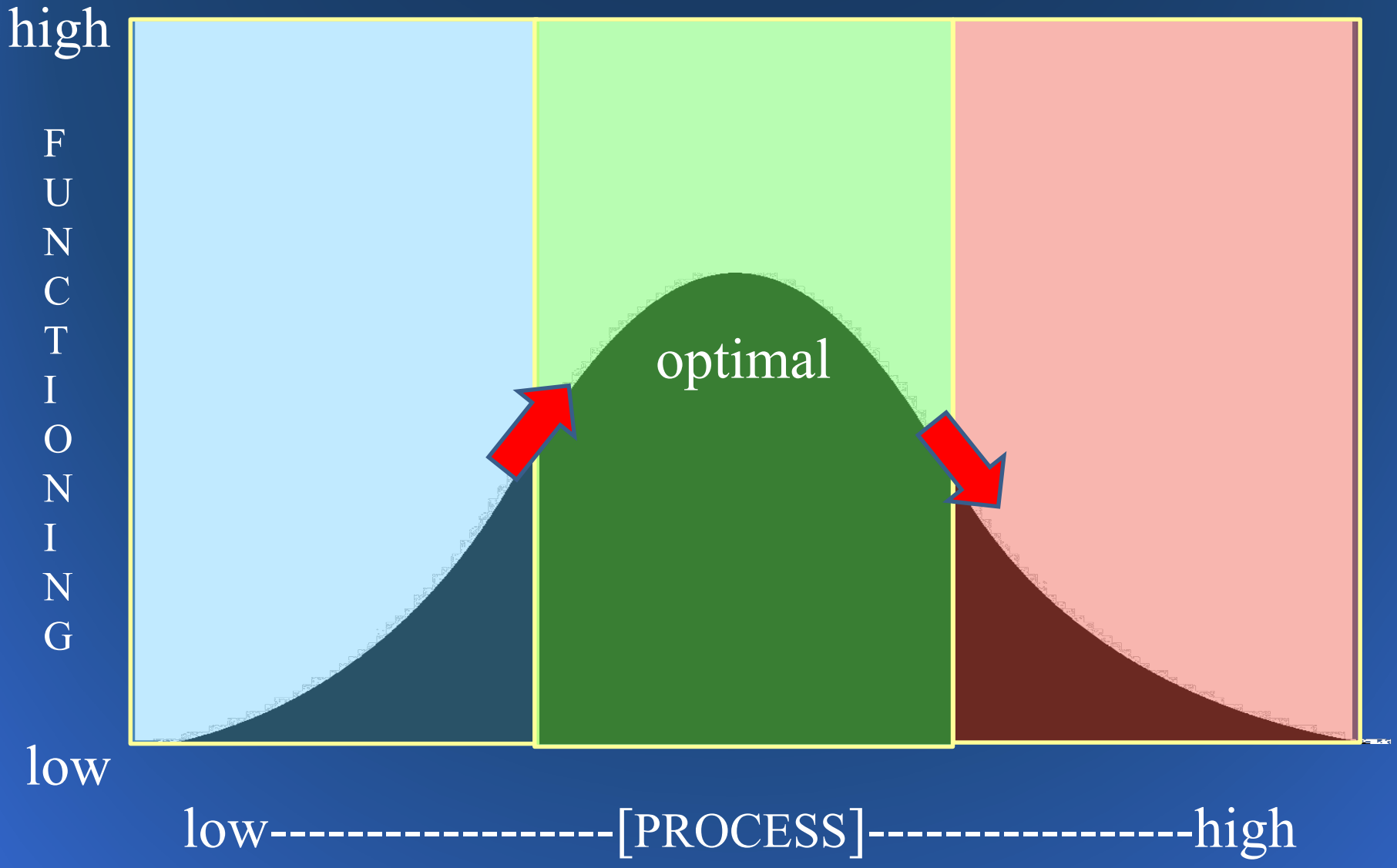
Can mindfulness be too much of a good thing? The value of a middle way

Willoughby B Britton

Current Opinion in Psychology
Special Issue on Mindfulness
volume 28, August 2019

The Inverted U-Shaped Curve

(more is not always better)

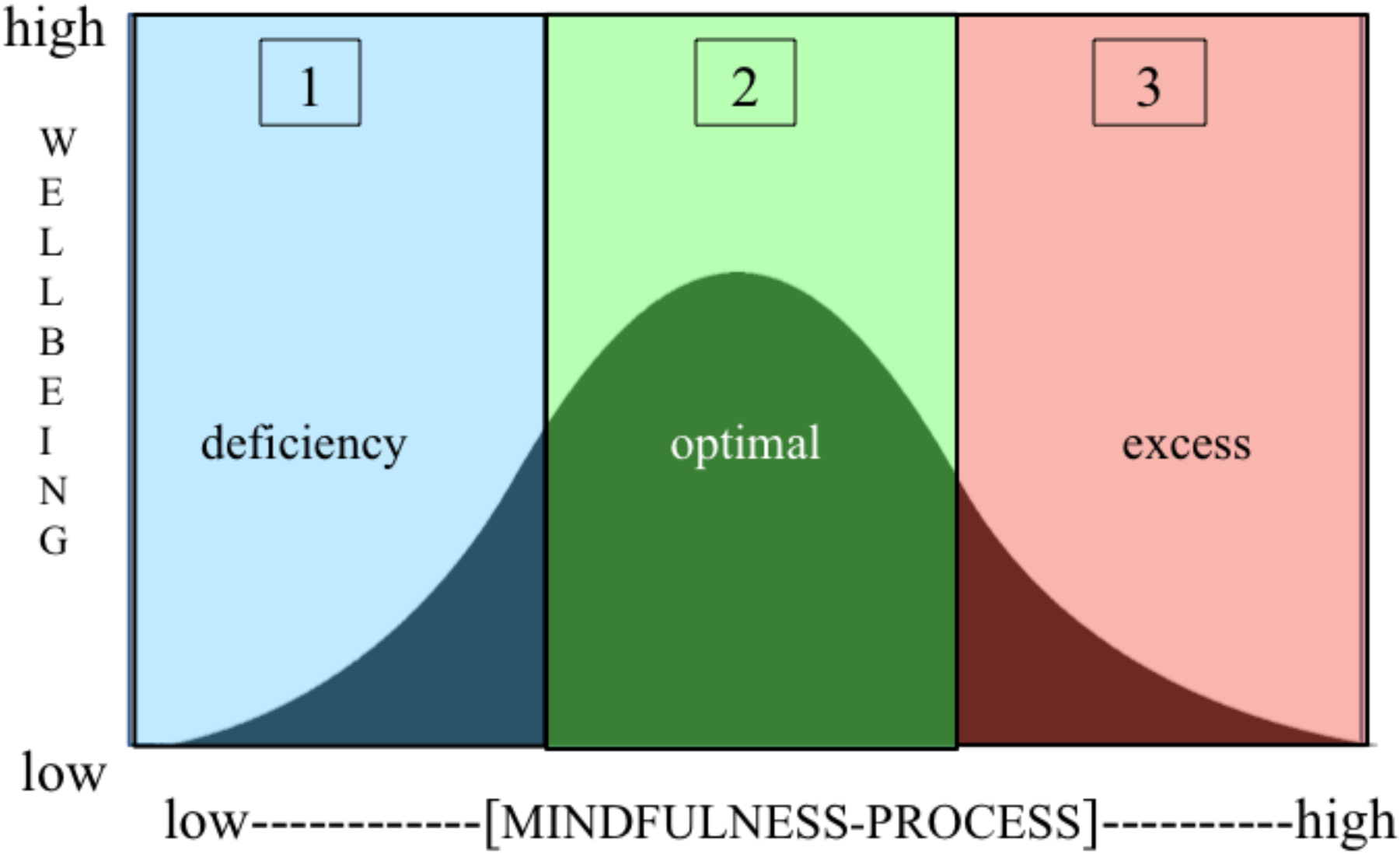


Too-Much-of-a-Good-Thing Effect

- acceptance
- nonjudgment
- curiosity
- open-mindedness
- optimism
- self-efficacy
- courage
- trust
- kindness
- patience
- persistence
- empathy
- generosity
- gratitude
- freedom
- autonomy
- choice

Grant & Schwartz (2011) Too much of a good thing: the challenge and opportunity of the inverted U. *Perspectives on Psychological Science*

The Inverted U-Shaped Curve



Britton (2019) *Current Opinion in Psychology*

Attentional Biases

- Valence bias
- Modality bias

Valence Bias

Valence Bias

Negative

Valence Bias

Positive

Information Processing Biases in Psychiatry

Negative-bias
Deficit of positive

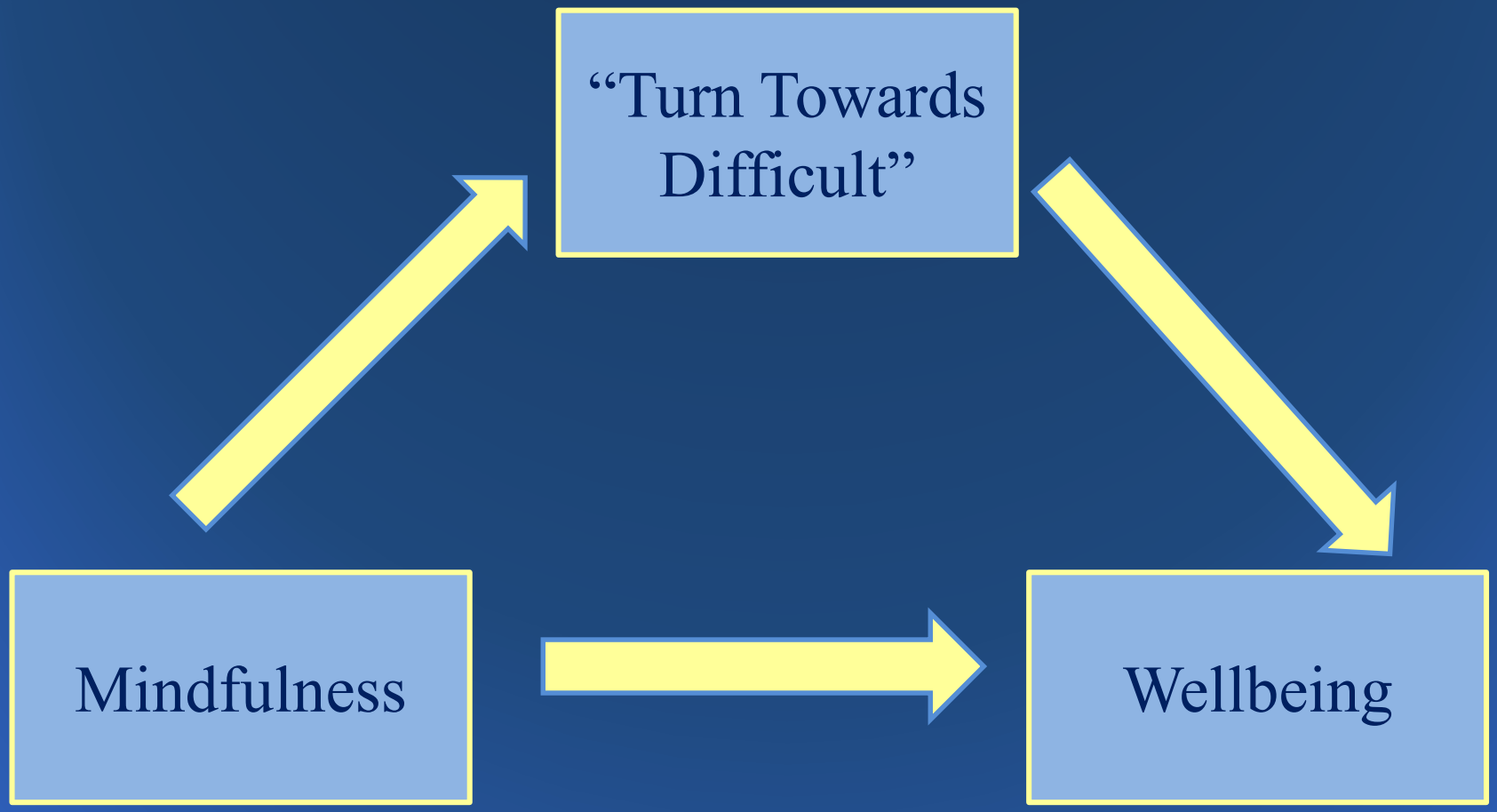
- Depression
- Anxiety
- PTSD

Positive-bias
Deficit of negative

- Addiction
- Mania
- Avoidant

Successful Treatments: reverse the initial bias
Iatrogenic Treatments: enhance the initial bias

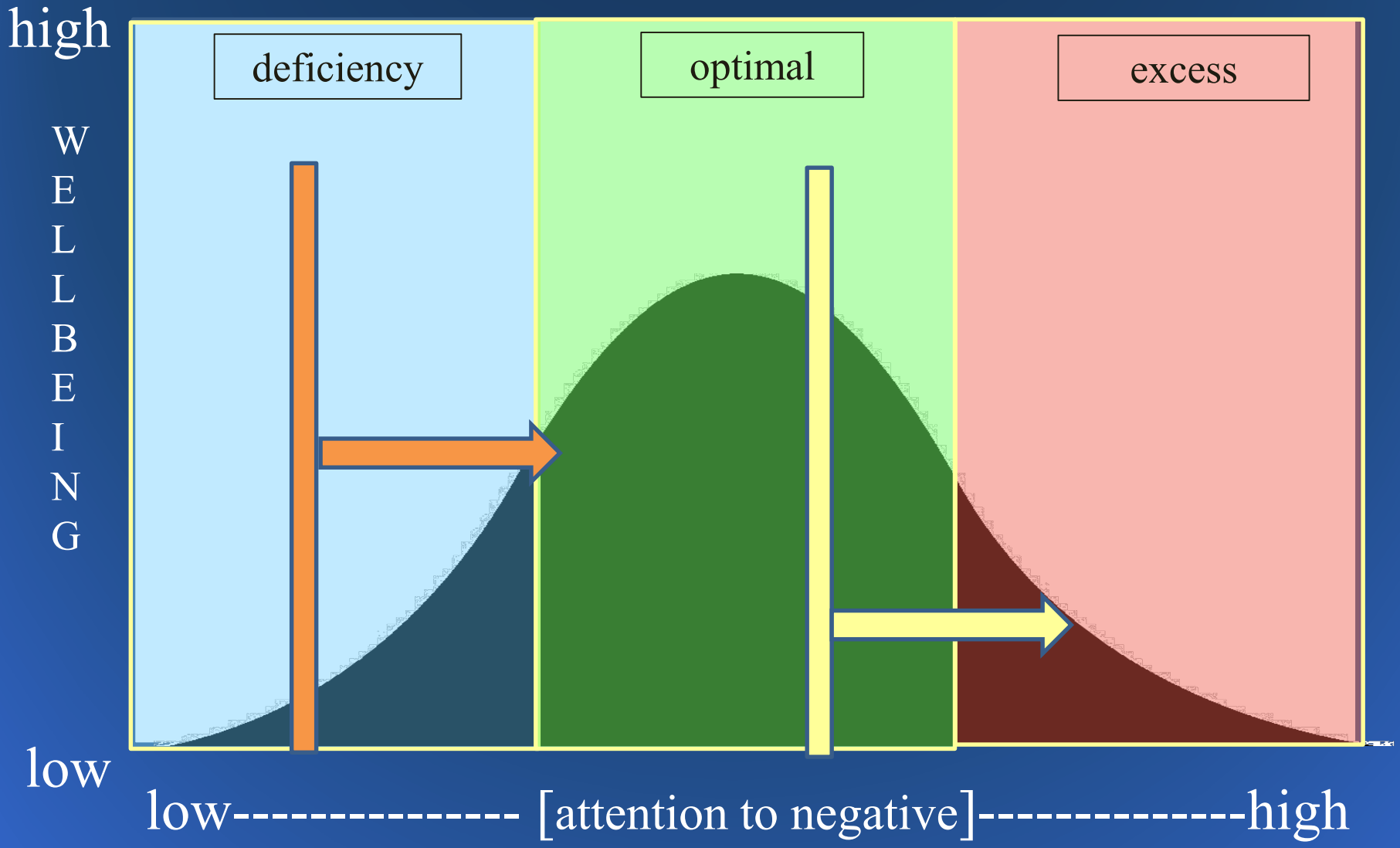
Mechanism



Crane et al. (2017). What defines mindfulness-based programs? *Psychological Medicine*

The Inverted U-Shaped Curve

(more is not always better)

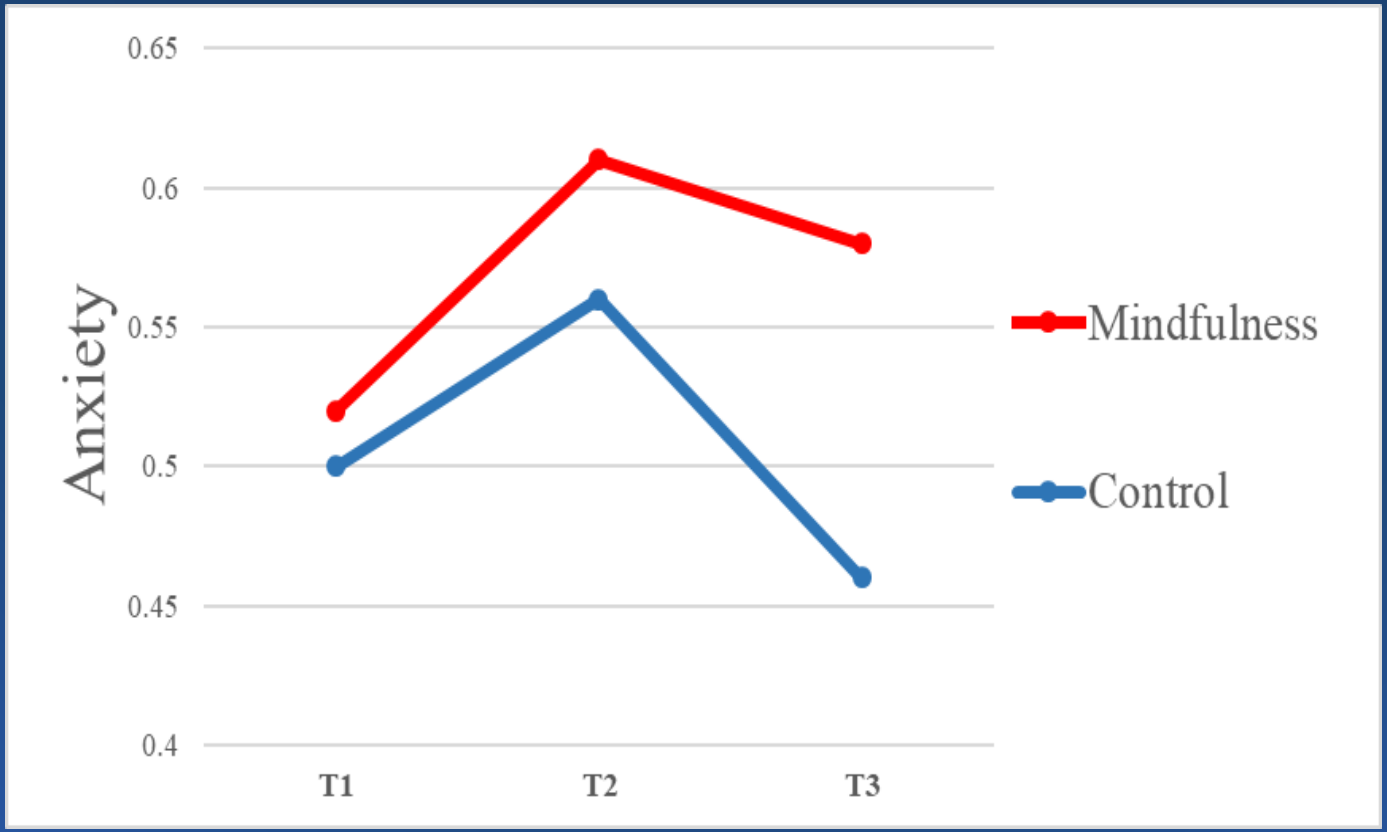


Successful treatment reverses the deficit
Iatrogenic treatments further the deficit

- Exposure (attending *toward* negative) most effective for highly avoidant
- Attending *away* from negative most effective for those with baseline negative bias
- Attending toward negative in normal, non-avoidant populations increase/causes anxiety in both adults and children

Barry et al 2015; McNally 2018; Eldar et al 2008; MacLeod et al 2002; Britton, 2018

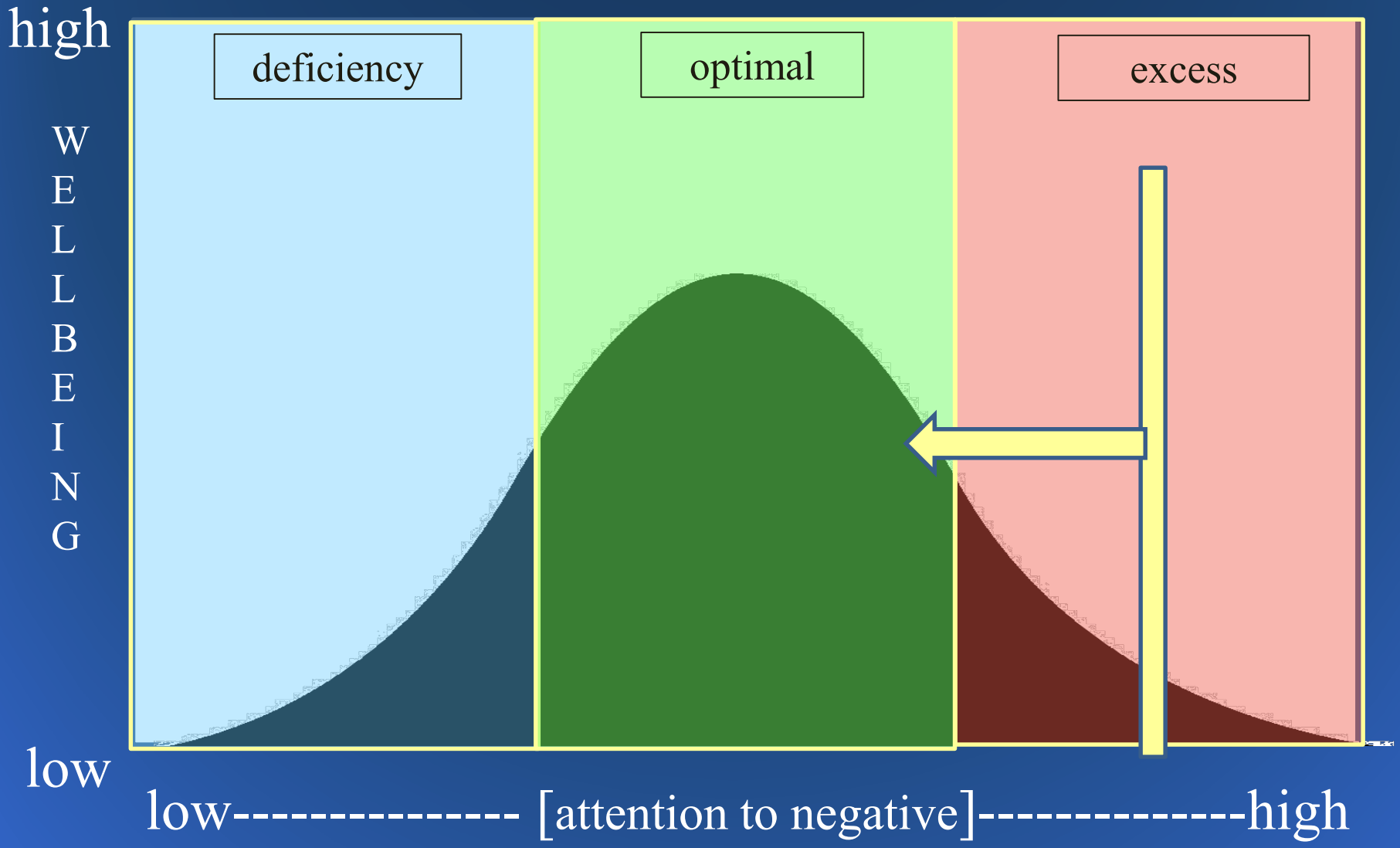
Increased anxiety



[adapted from Table 1] Johnson et al (2016). Effectiveness of a school-based mindfulness program for transdiagnostic prevention in young adolescents. *Behaviour, Research and Therapy*

The Inverted U-Shaped Curve

(more is not always better)



frontiers in
HUMAN NEUROSCIENCE

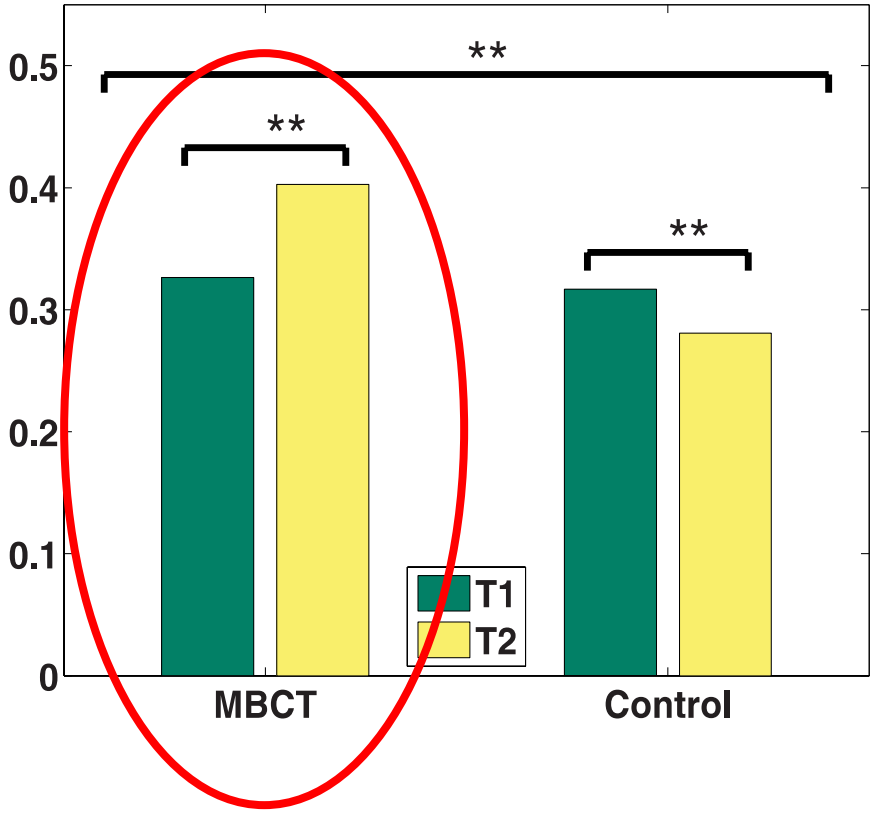
ORIGINAL RESEARCH ARTICLE
published: 19 September 2012
doi: 10.3389/fnhum.2012.00257

The effects of mindfulness-based cognitive therapy on affective memory recall dynamics in depression: a mechanistic model of rumination

Marieke Karlijn van Vugt[1]*, Peter Hitchcock[2,3], Ben Shahar[4] and Willoughby Britton[2,3]

[1] *Cognitive Modeling Group, Department of Artificial Intelligence, University of Groningen, Groningen, Netherlands*
[2] *Brown University Contemplative Studies Initiative, Brown University, Providence, RI, USA*
[3] *Department of Psychiatry and Human Behavior, Brown University Medical School, Brown University, Providence, RI, USA*
[4] *School of Psychology, Interdisciplinary Center Herzliya, Herzliya, Israel*

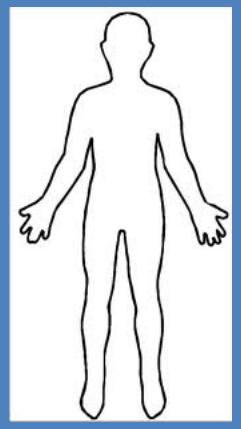
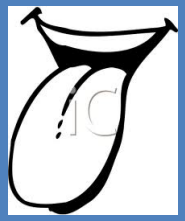
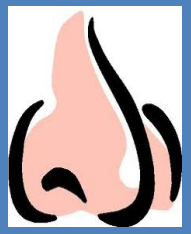
Improvement in valence-bias following mindfulness training underlies therapeutic effect for depression



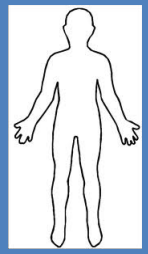
Van Vugt et al 2012, Frontiers in Human Neuroscience

Modality Bias

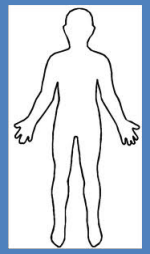
Modality Bias

Body	Seeing	Hearing	Taste + smell	Thinking
			 	

Noticing Modality Bias

	Body	Seeing	Hearing	Tasting/smell	Thinking
					
1					

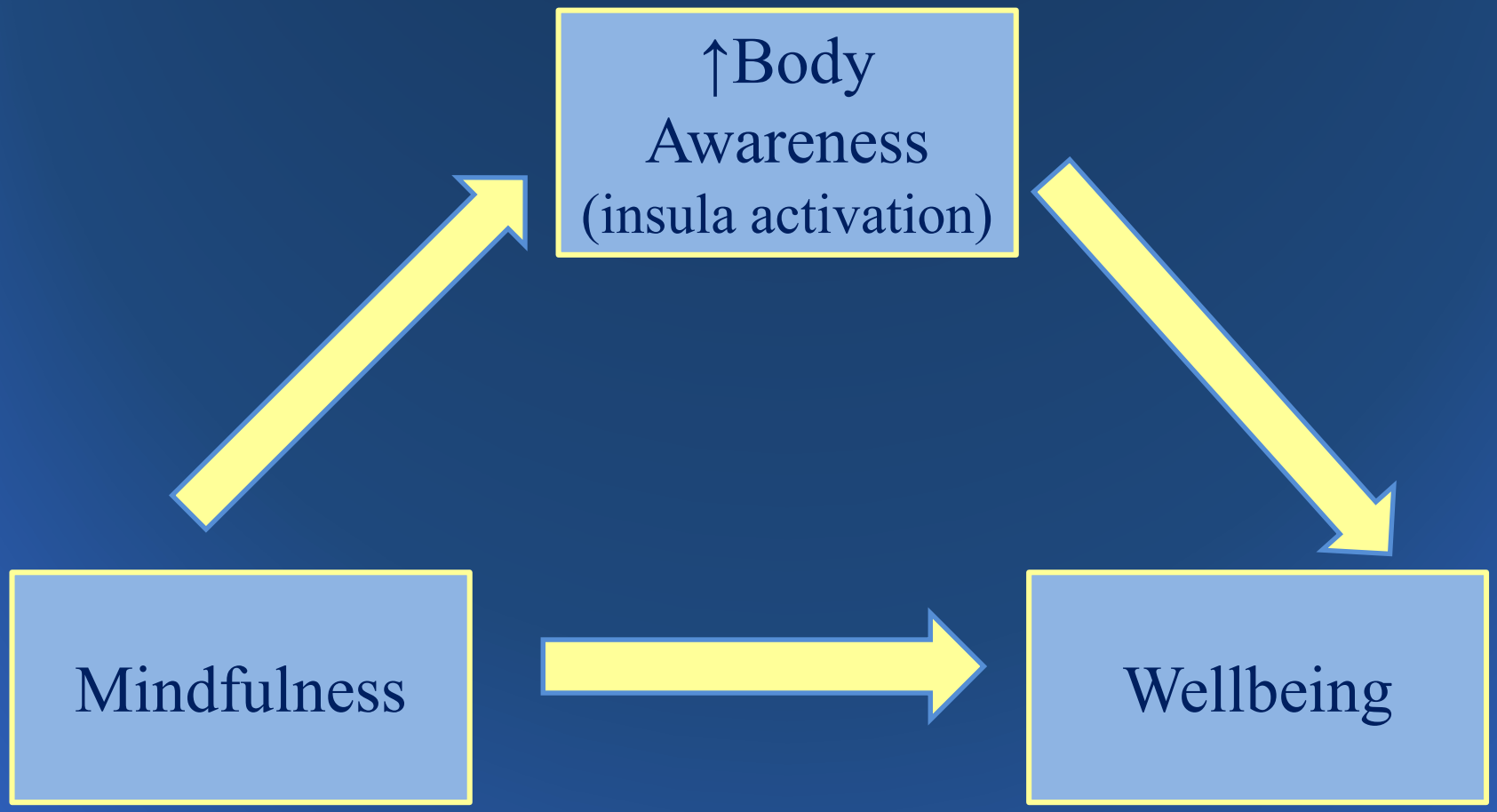
Noticing Modality Bias

	Body	Seeing	Hearing	Tasting/smell	Thinking
					
1					
2					

Noticing Modality Bias

	Body	Seeing	Hearing	Tasting/smell	Thinking
1					
2					
3					
4					

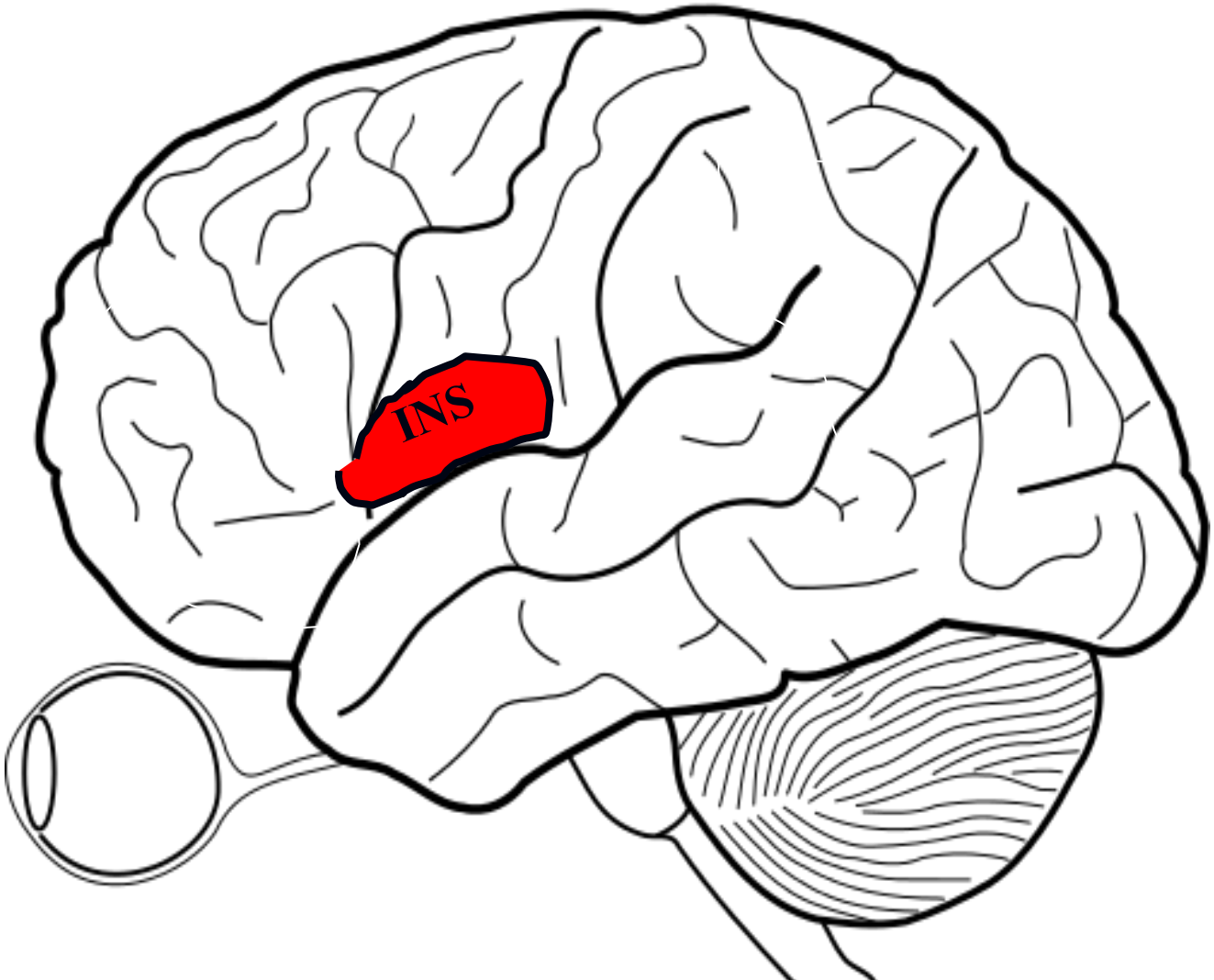
Mechanism

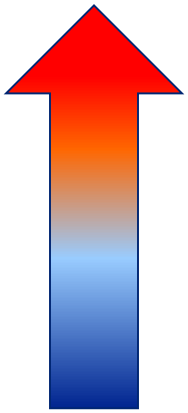


Holzel et al (2011) How does mindfulness meditation work? *Perspectives on Psychological Science*

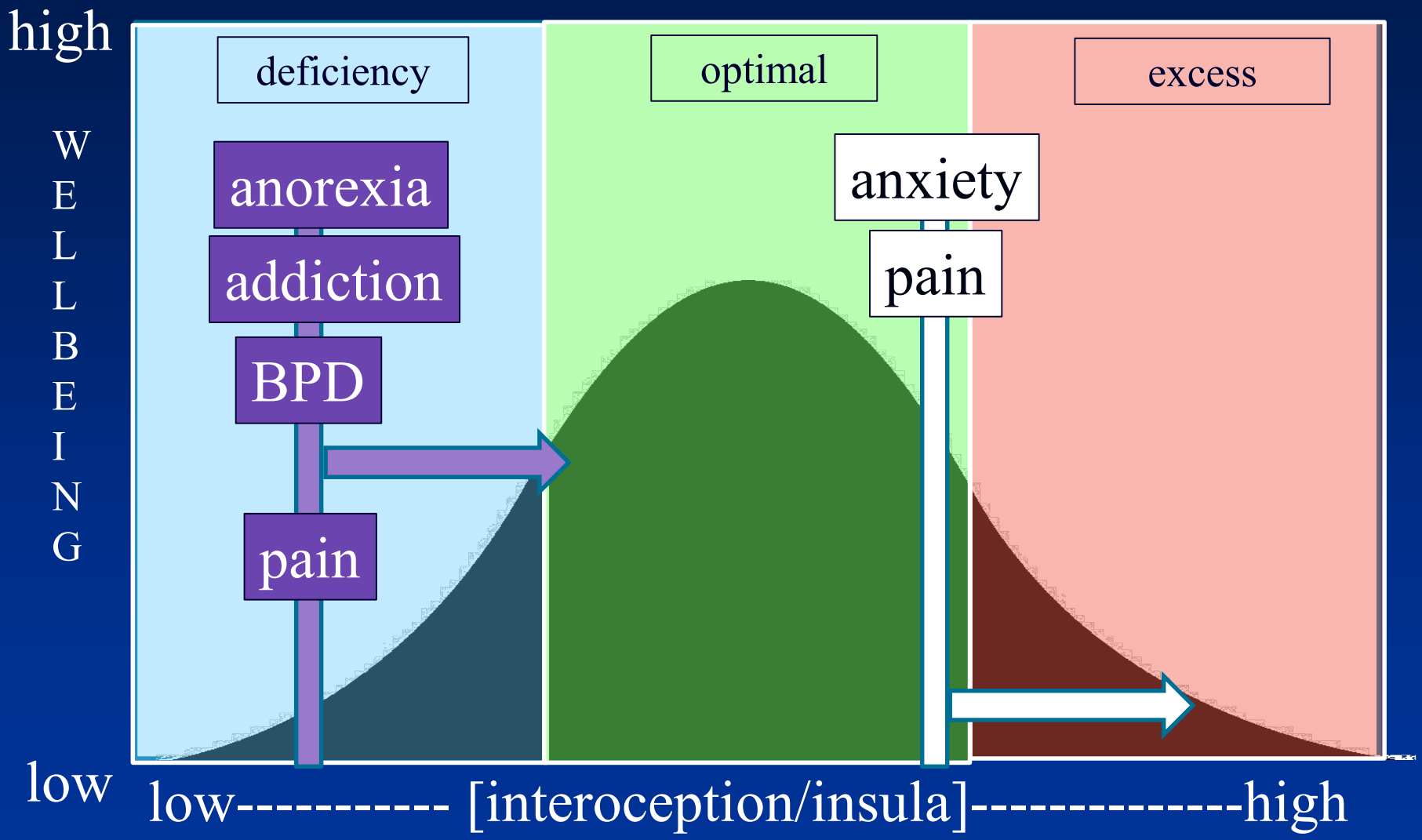
Mindfulness and the Insula

Meditation





The Inverted U-Shaped Curve



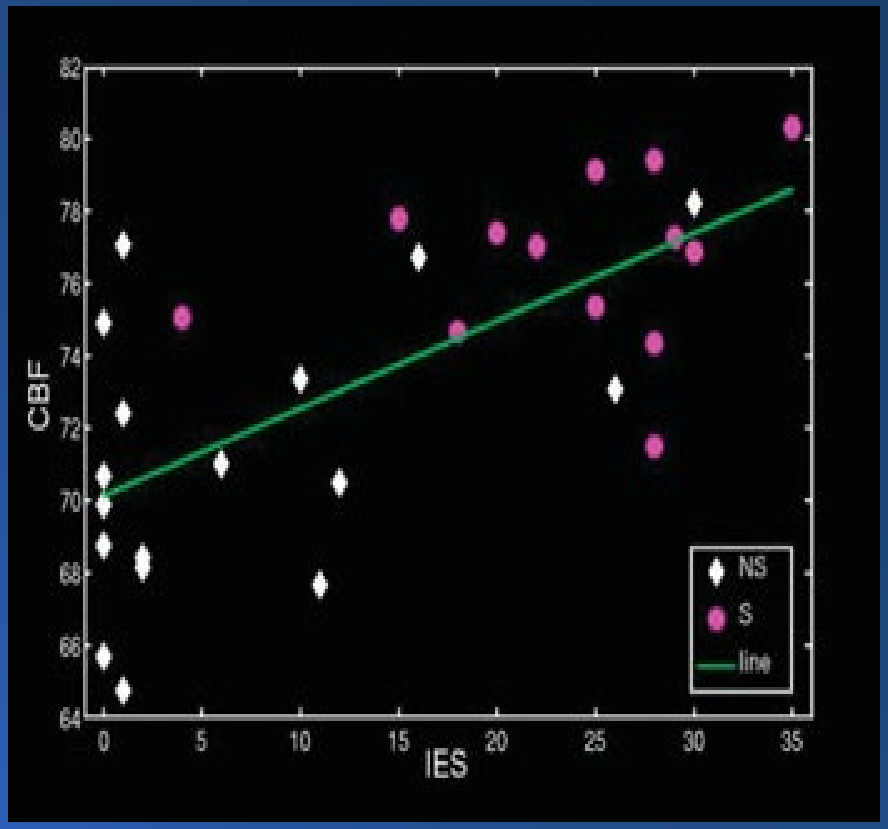
Murphy et al (2017) Interoception and psychopathology. *Dev Cogn Neurosci*

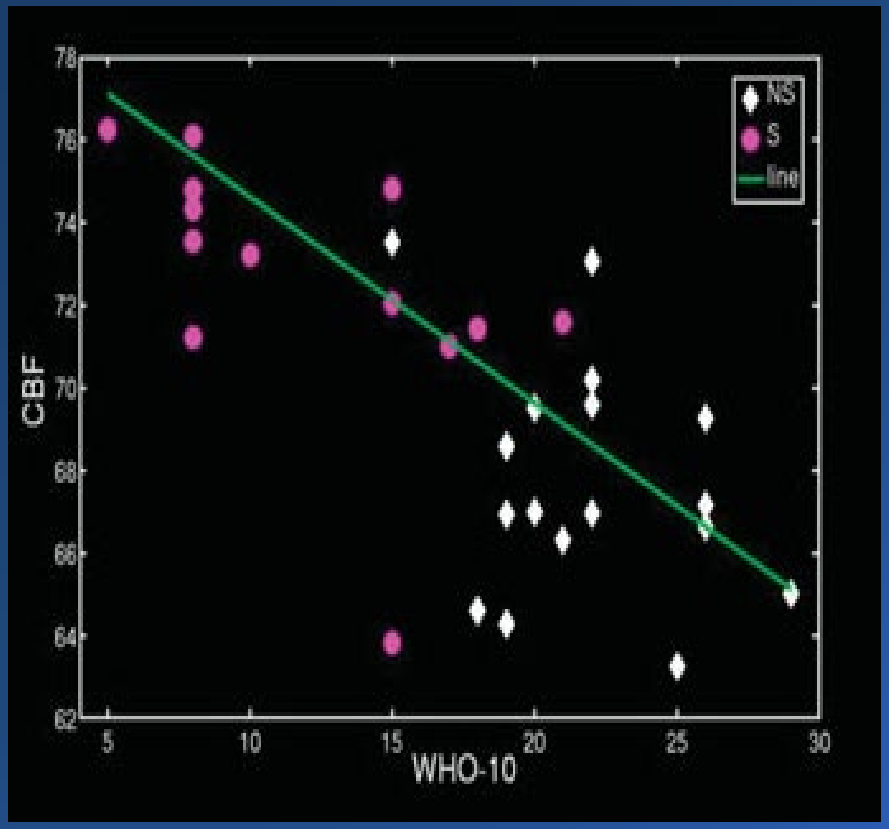
Somatosensory Amplification The insular cortex:

- "Enhanced" sensory processing
- interoception
- body awareness

- Visceral arousal (Craig 2002; Waugh and Schirillo, 2012)
- Emotional intensity (Zaki et 2012; Lindquist 2016)
- Stimulation → fear (Mazzola 2009; Nowacki et al., 2015).
- Anxiety (Chua et al., 1999; Osuch et al., 2000; Simmons et al., 2004; Simmons et al., 2006; Stein et al., 2007)
- PTSD/flashbacks (Etkin, & Wager, 2007; Lanius 2007; Liberzon, & Phan, 2003; Lindauer 2008; Whalley 2009; Moeller-Bertram 2012; Hopper et al., 2007 Osuch et al., 2001; Whalley et al., 2013)
- Avoidance symptoms (Strigo et al. 2010)

Insula activity positively associated with increased trauma symptoms, distress and lower levels of wellbeing





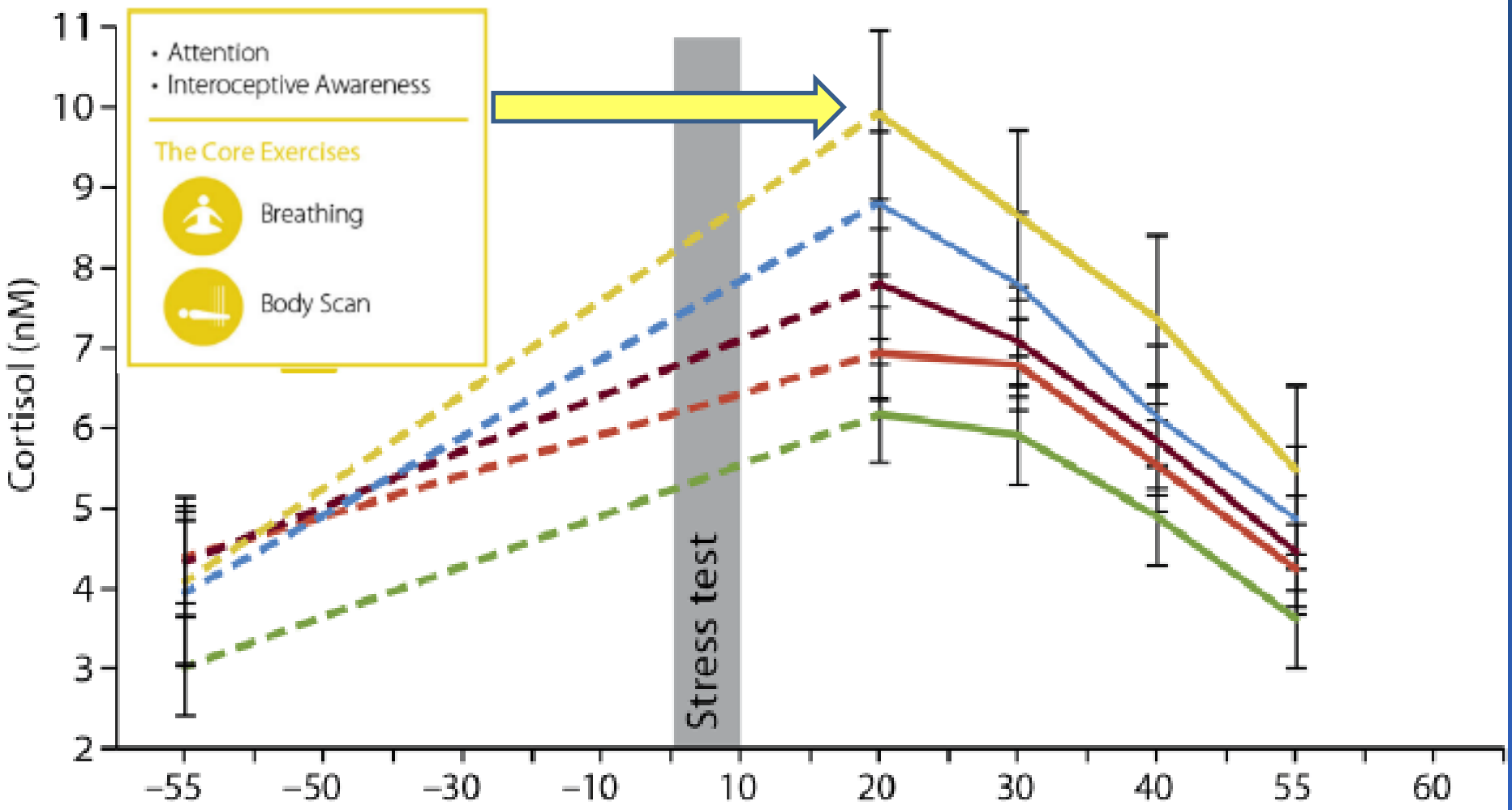
Nardo et al. (2011). *Psychological Medicine*

Mindfulness & the Insula

Greater insula activation associated with:

- greater intensity of negative emotions after mindful acceptance (Smoski et al 2015)
- higher ratings of pain unpleasantness in novice meditators (Gard et al., 2012)
- Higher depression severity (Farb et al 2010)

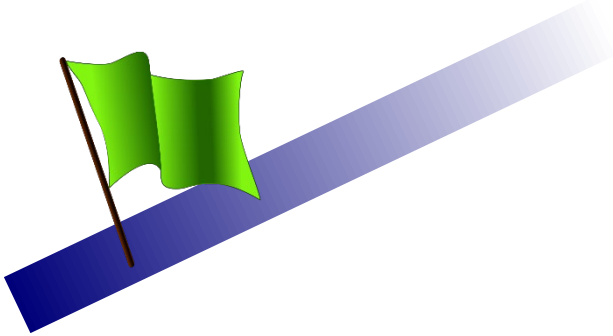
Body Focus and Stress Reactivity



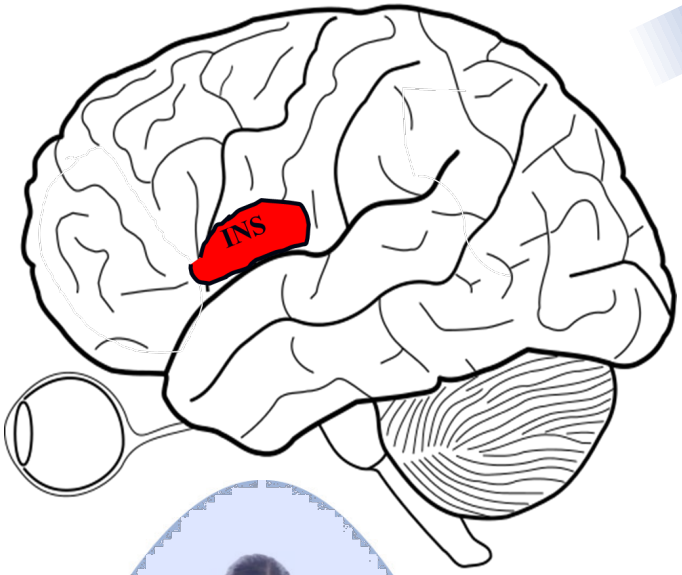
Engert et al. (2017). Specific reduction in cortisol stress reactivity after social but not attention-based mental training. *Science Advances*, 3: e1700495

Optimal insula activation

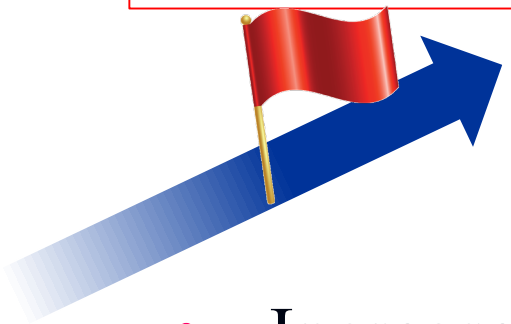
- Increased (improved)
  - interoception
  - body awareness
  - emotional granularity



- early detection
- emotion regulation



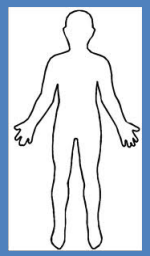
Central sensitization



- Increased (too much)
  - arousal
  - emotional intensity
  - anxiety
  - pain
  - tinnitus
  - headaches

Person-centered mindfulness

Attentional Bias Worksheet

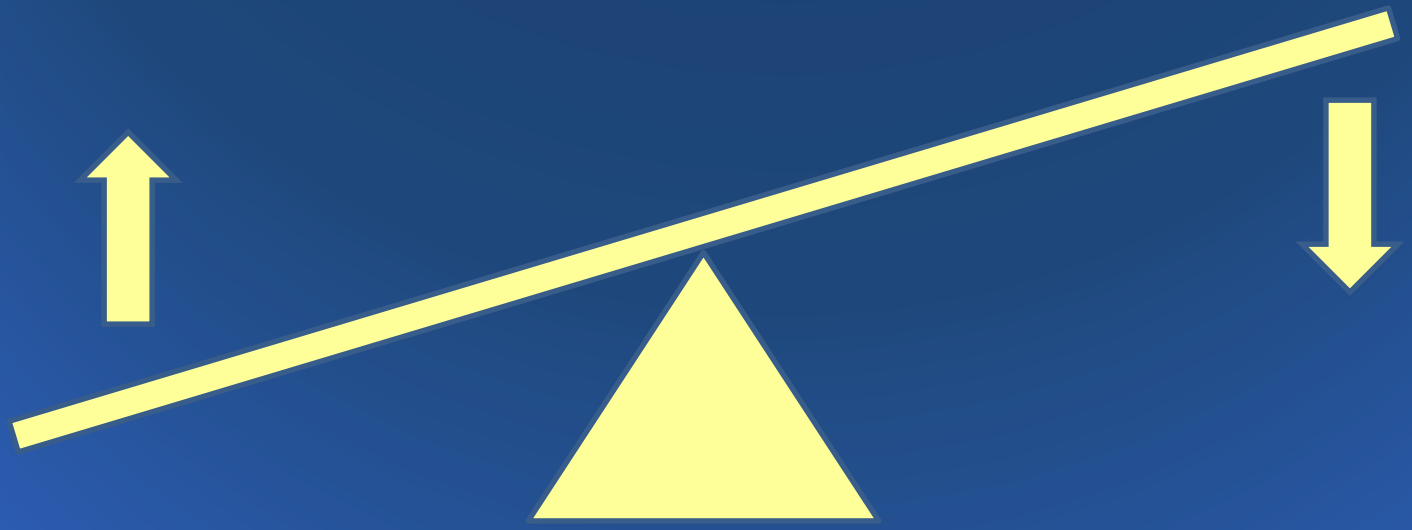
	Body 	Seeing	Hearing	Tasting/smell	Thinking
1					-
2			~		
3		+			
4	~				

Add up your score

	Body	seeing	hearing	Smell/ taste	Thinking	Valence TOTALS ↓
+	0	1	1	0	3	5
-	5	3	2	0	7	17
~	5	2	1	0	2	10
Modality TOTALS	10	6	4	0	12	

Balancing Awareness Practice

- Based on your deficits and/or excesses
- What practice could you do to create more balanced or even-handed awareness?



Attentional Biases Exercise

1) Track your valence + modality biases on the worksheet
2) Add up your score
3) Based on your excesses/deficits, create a practice that balances your awareness
4) What was the effect?