



**YALE CHILD  
STUDY CENTER**

*Where discovery inspires care*



# SPACE: Parent-Based Treatment for Child Anxiety and Related Disorders

Eli Lebowitz

Yale Medicine

Yale SCHOOL OF MEDICINE

# Disclosures

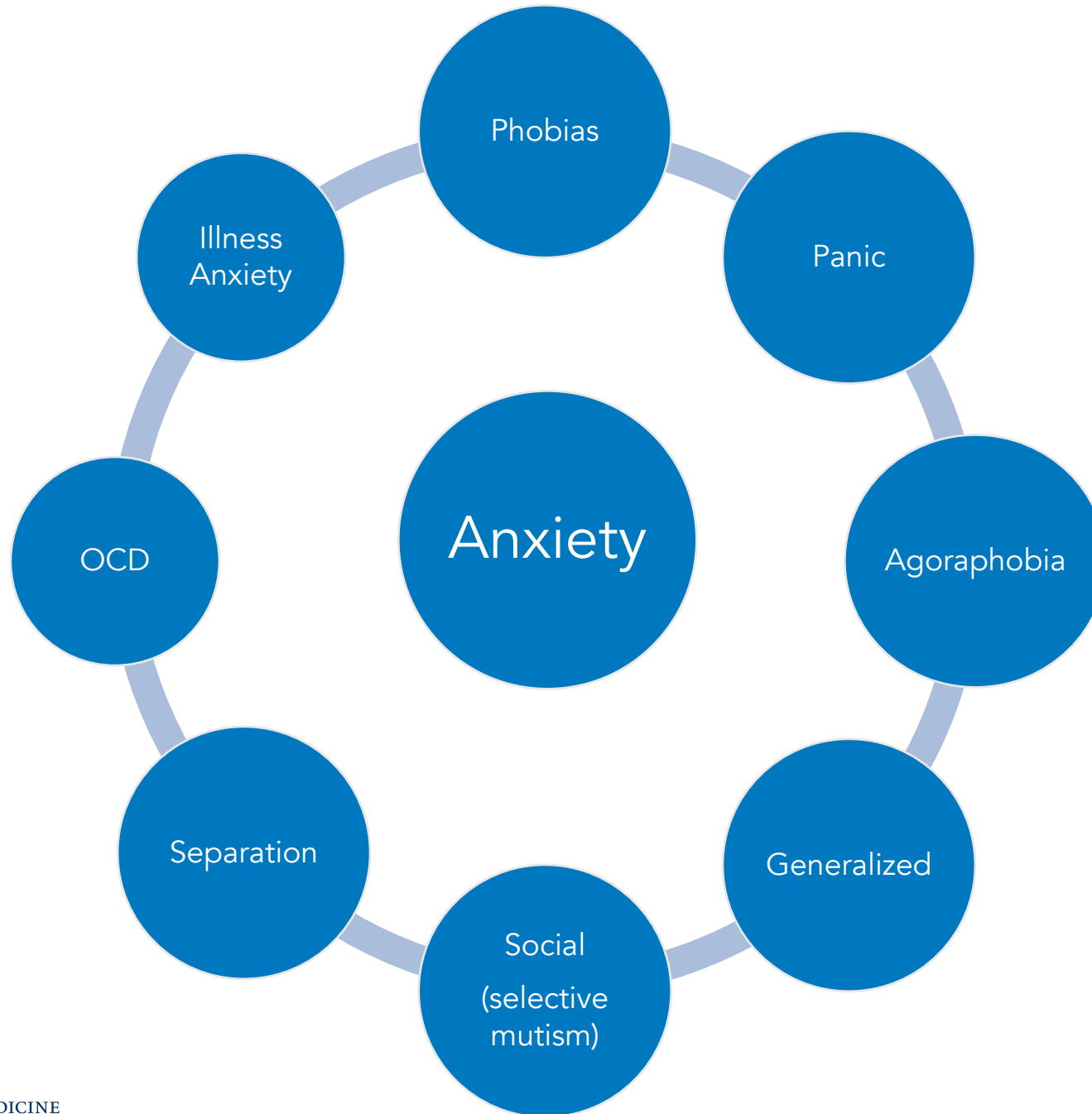
Neither I nor my spouse have, nor have had in the past 12 months, a financial relationship with manufacturers of products or providers of services or with any medically related commercial interests relevant to this planned educational activity

I receive(d) funds from:

Grants: NIMH, NARSAD, NCATS

Royalties: Wiley, Oxford, International

Speaker/Training fees



## Well Established Evidence-Based Treatments for Anxiety and OCD

Cognitive Behavioral Therapy (CBT)

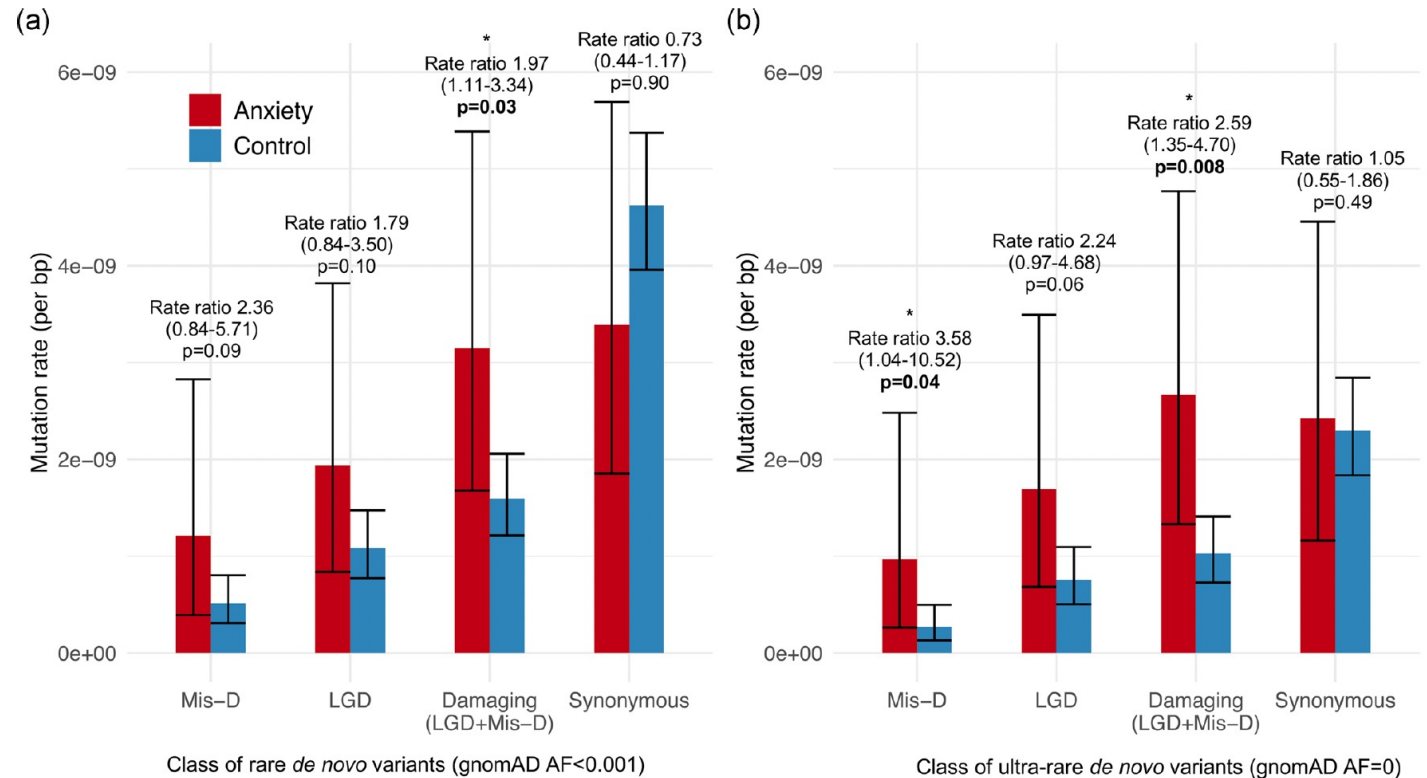
Pharmacological Treatments (Medication; SSRI)

Current treatments are not effective enough in up to half of cases and many children will not or cannot participate in therapy

# Whole-exome DNA sequencing in childhood anxiety disorders identifies rare de novo damaging coding variants

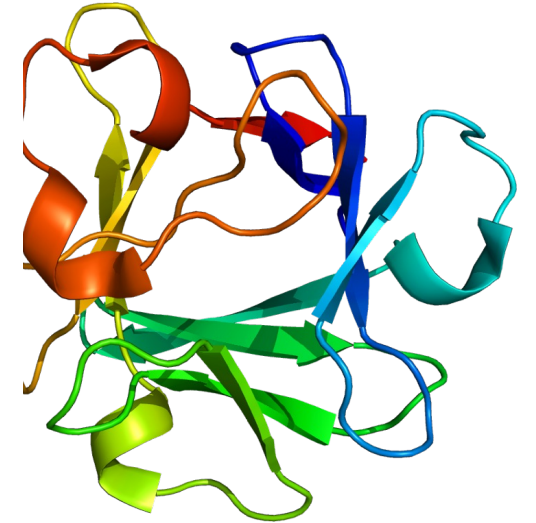
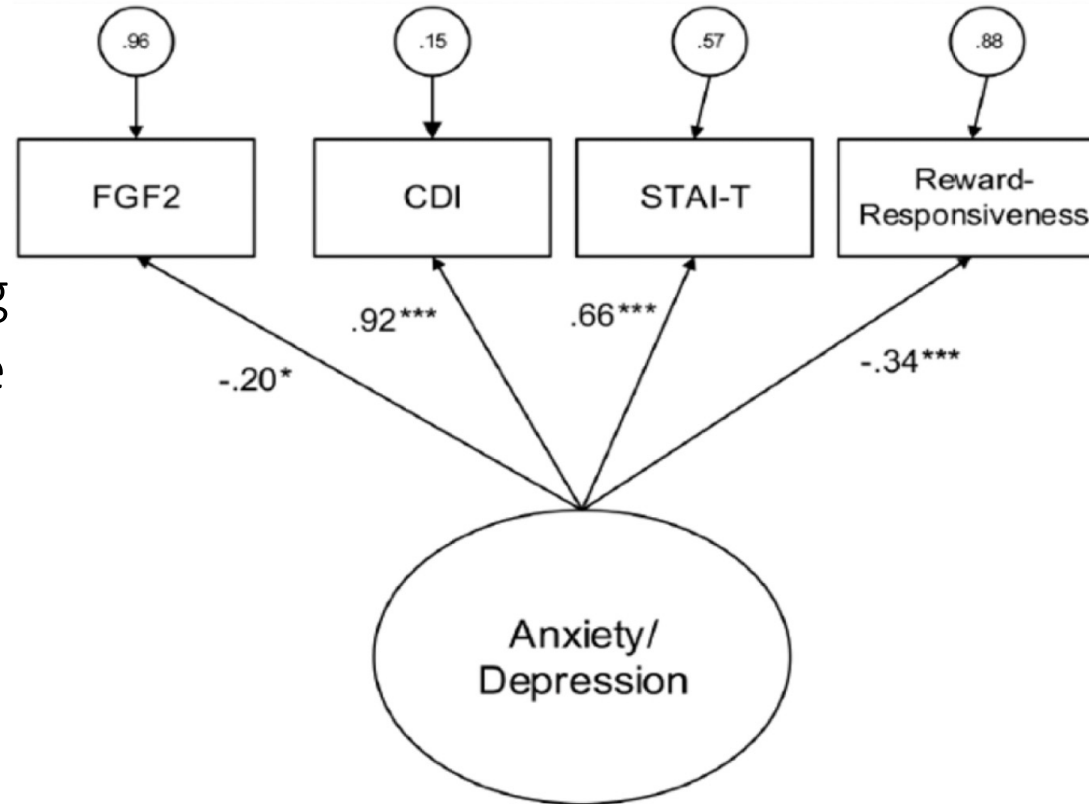


“Rare and ultra-rare de novo likely gene disrupting and predicted damaging missense genetic variants are enriched in anxiety disorder probands compared with controls”  
Olfson et al, 2021



# Fibroblast Growth Factor 2 (FGF2) – An intergenerational factor in child anxiety?

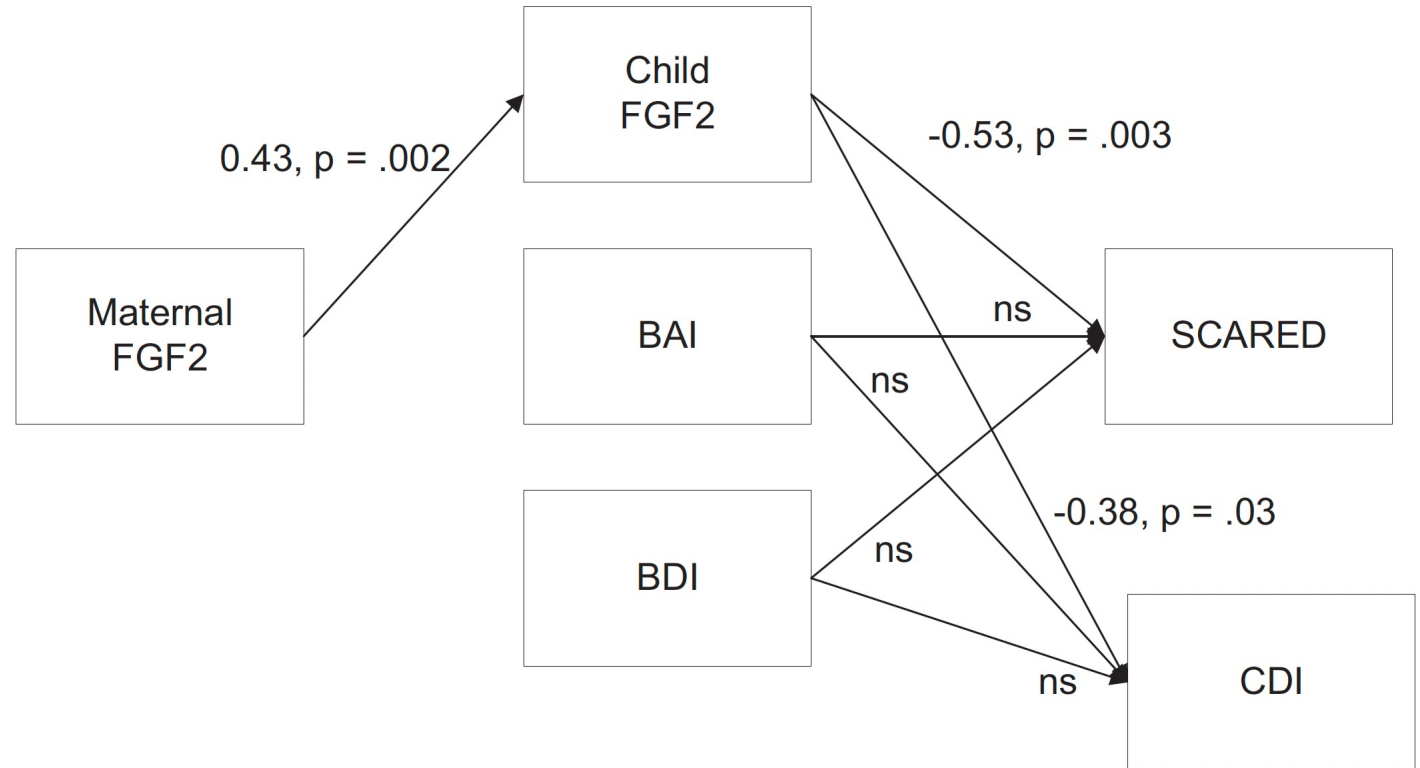
“FGF2 had a negative factor loading explaining approximately 5% of the variance in the latent variable of Anxiety/Depression”  
Lebowitz et al, 2021



# Maternal FGF2 levels associated with child anxiety and depression symptoms through child FGF2 levels

“Higher maternal FGF2 may serve as a protective factor, buffering children against such risk and increasing resilience in the face of other risk factors, such as maternal anxiety and/or depression”

Lebowitz et al, 2023



# Does involving parents benefit child anxiety treatment?

Barret et al, 1996



Helps

Doesn't  
Help

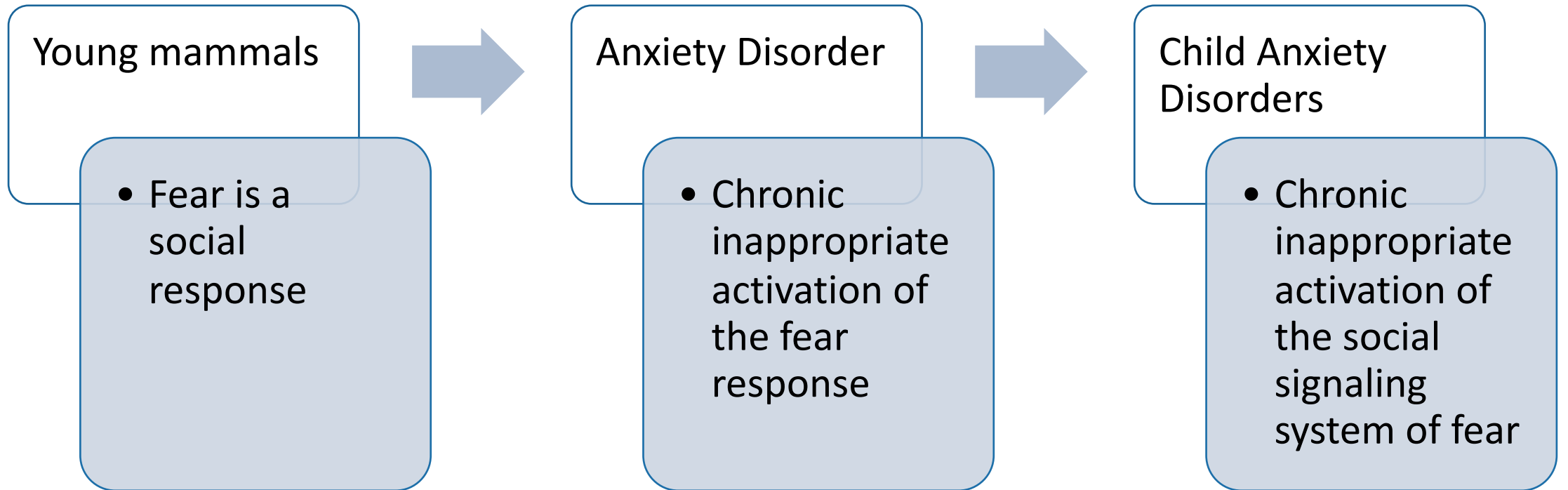
Cobham et al, 1998; Heyne et al., 2002; Mendlowitz et al., 1999; Spence, 2000; Wood et al., 2006; Nauta et al., 2001; Nauta et al., 2003; Siqueland, 2005; Bodden et al., 2008





Parents are attuned to child fear cues



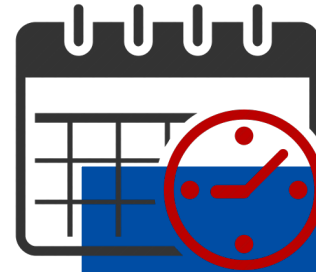


# Family Accommodation



## Participation

- Answer repeated questions
- Sleep near child
- Perform checks



## Modification

- Return early from work
- Drive special routes
- Maintain rigid schedules

# Family Accommodation

- Present in 97-100% of parents of anxious children

- Shimshoni et al., 2019; Benito et al., 2015; Storch et al, 2015

- Associated with more severe anxiety symptoms

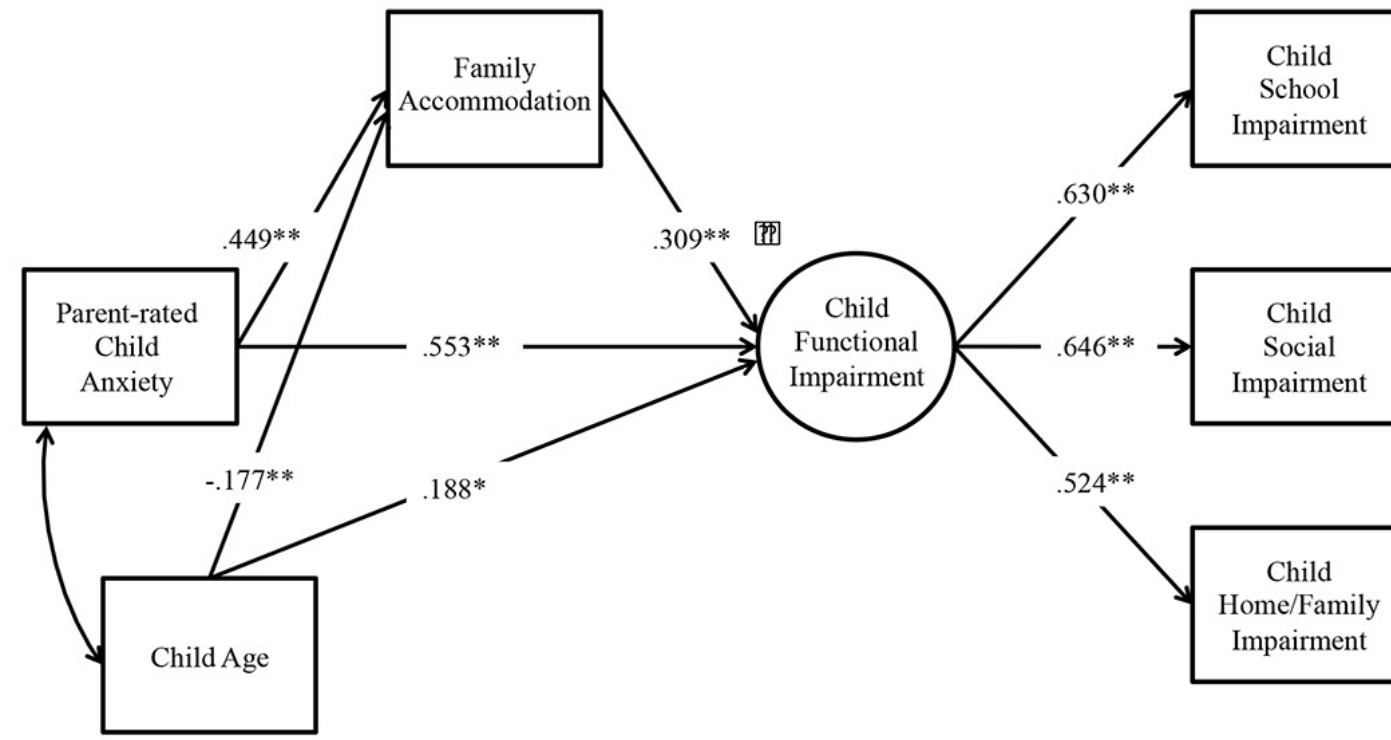
- Norman et al, 2014; Lebowitz, et al., 2016

- Associated with more severe impairment for child and family

- Thompson–Hollands et al., 2014

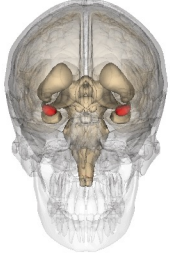
- Predicts poor treatment outcome

- Kagan et al., 2016; Turner, et al., 2017

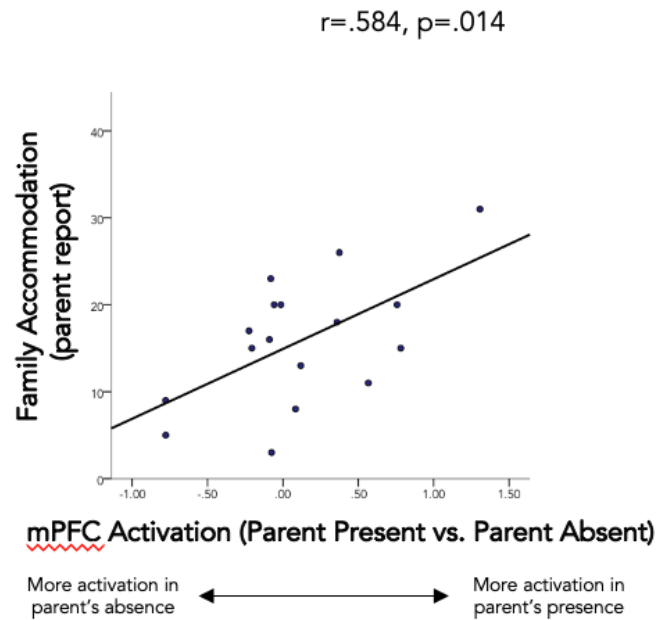


## Family accommodation mediates the impact of childhood anxiety on functional impairment

Pedro Macul Ferreira de Barros<sup>1</sup>, Natália Polga<sup>2</sup>, Natalia Szejko<sup>3</sup>,  
 Eurípedes Constantino Miguel<sup>2</sup>, James Frederick Leckman<sup>4</sup>, Wendy K Silverman<sup>4</sup>,  
 Eli R Lebowitz<sup>4</sup>



## Family Accommodation and mPFC Activation in Clinically Anxious Children

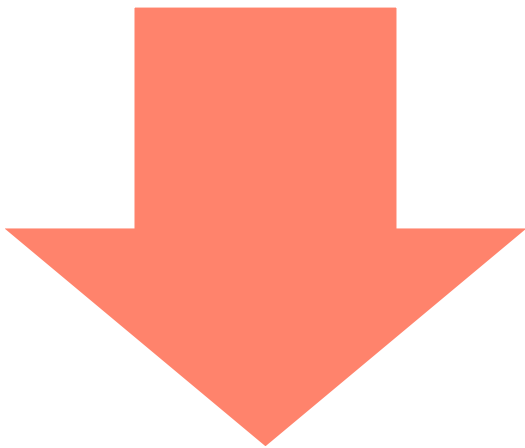


# SPACE

Supportive Parenting for Anxious Childhood Emotions



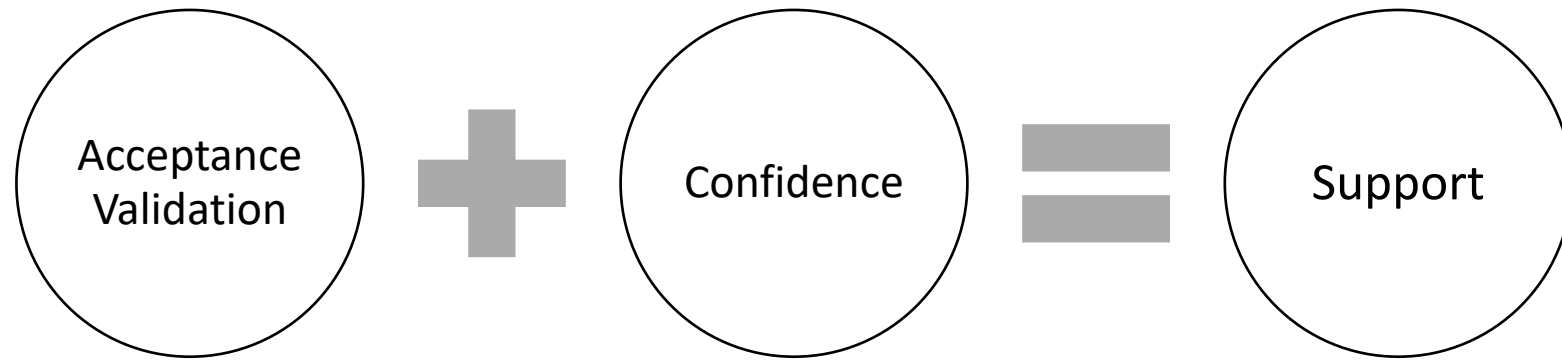
Increase  
Support



Decrease  
Accommodation



# Support

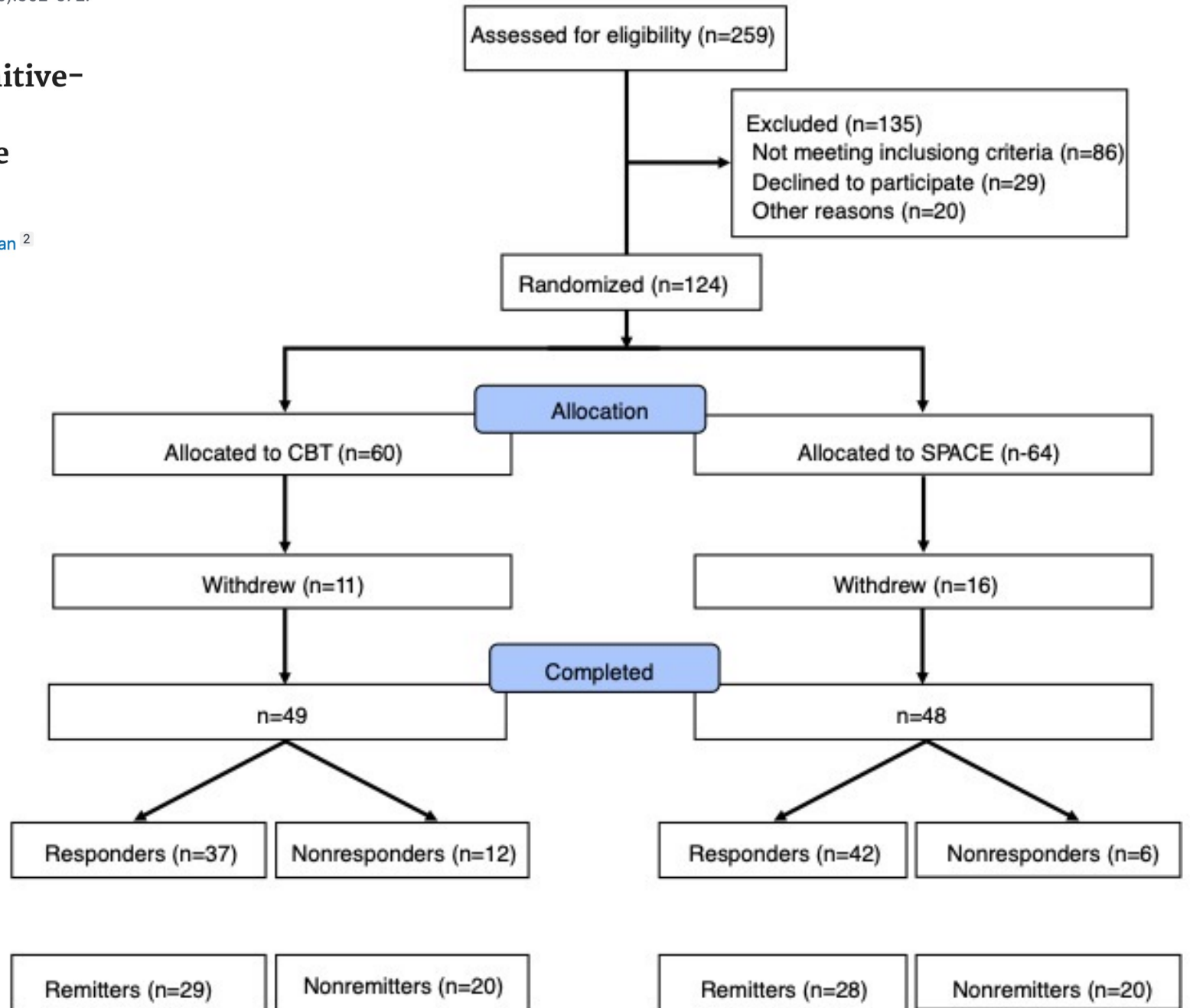


*"I see that this is hard for you,  
and I am 100% sure you can handle it"*

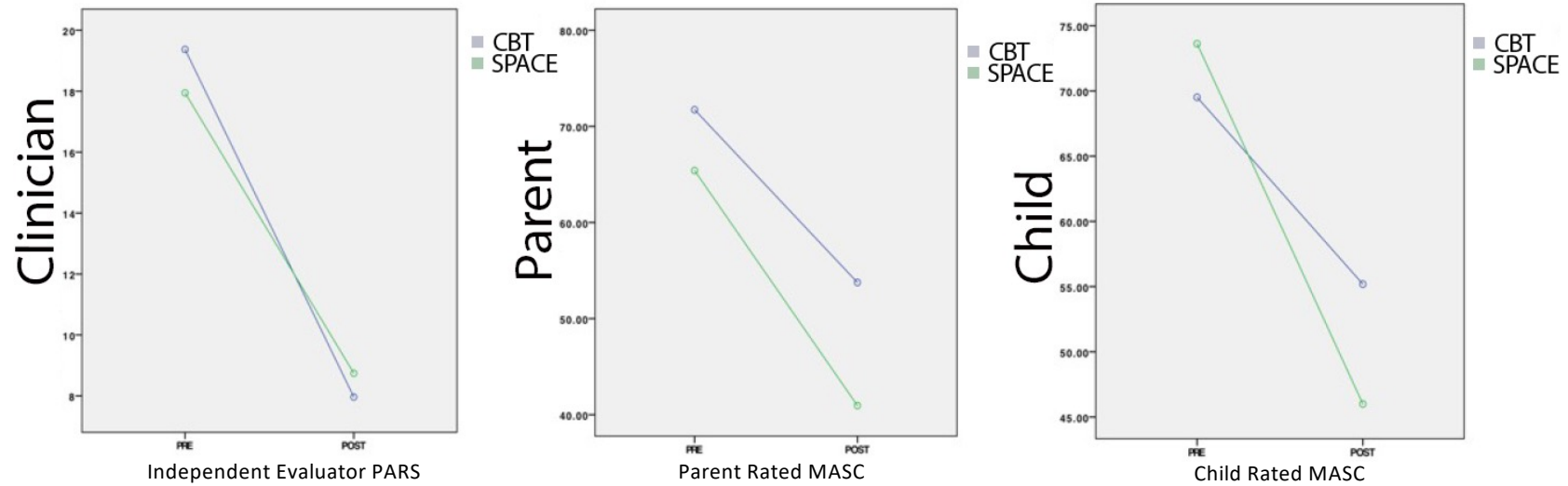


# Parent-Based Treatment as Efficacious as Cognitive-Behavioral Therapy for Childhood Anxiety: A Randomized Noninferiority Study of Supportive Parenting for Anxious Childhood Emotions

Eli R Lebowitz <sup>1</sup>, Carla Marin <sup>2</sup>, Alyssa Martino <sup>2</sup>, Yaara Shimshoni <sup>2</sup>, Wendy K Silverman <sup>2</sup>

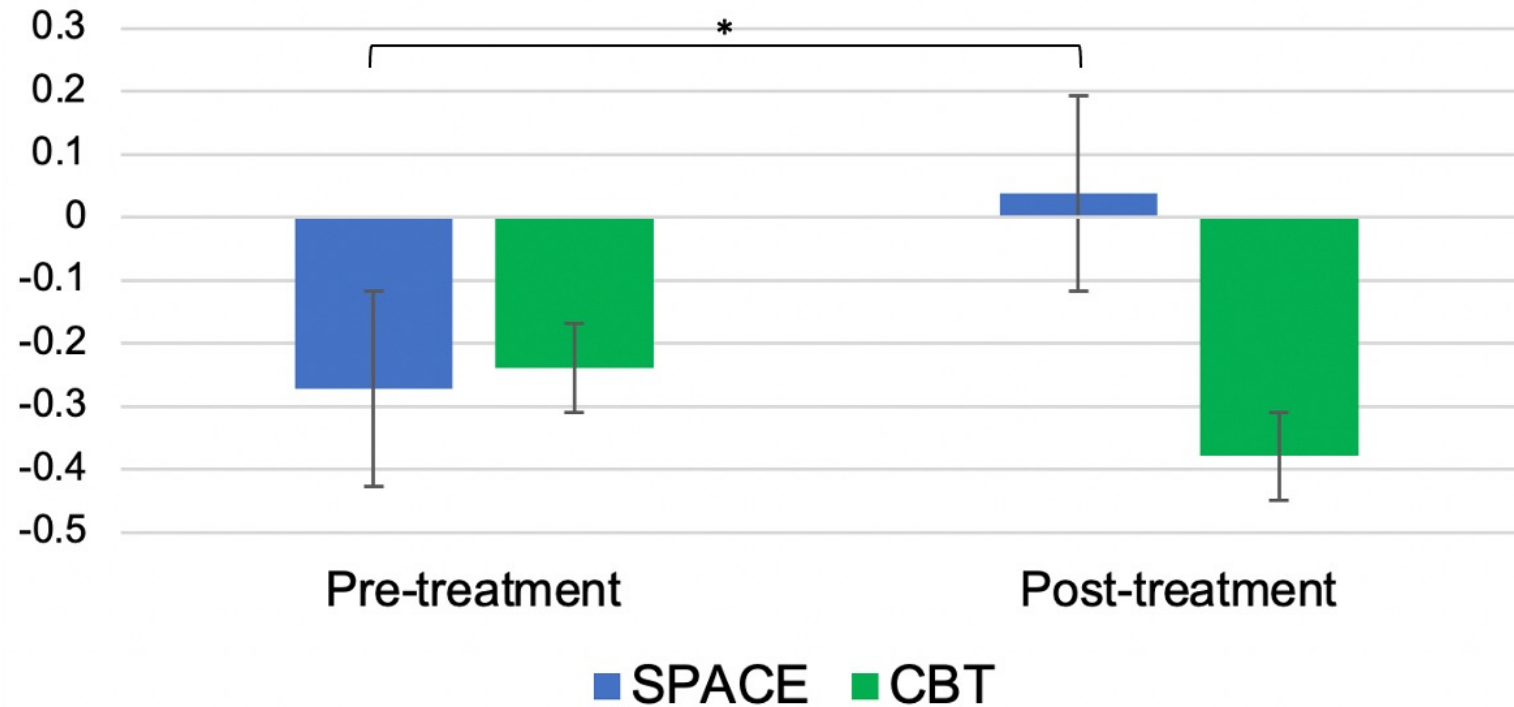


# Secondary Outcomes

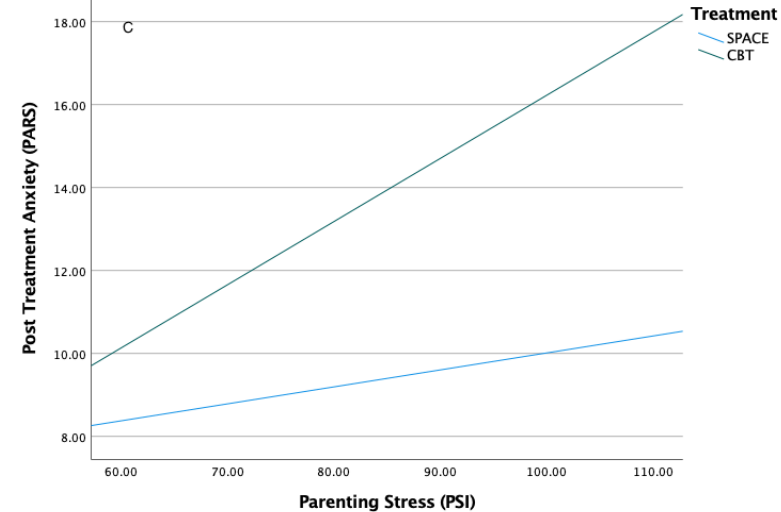
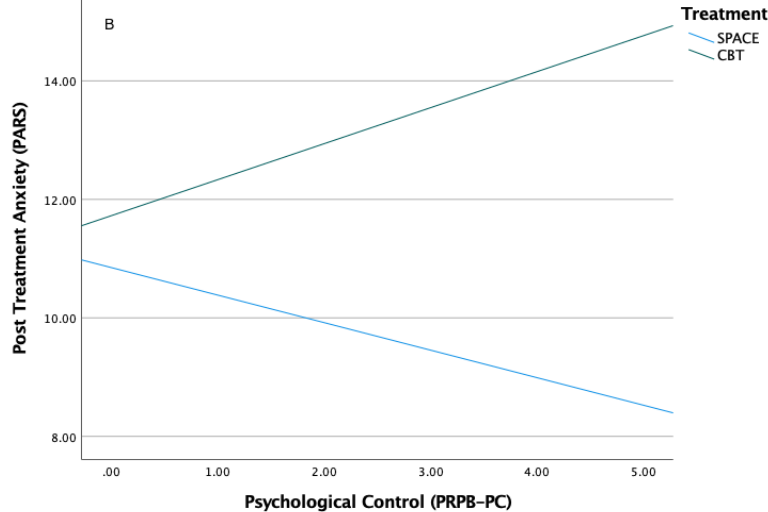
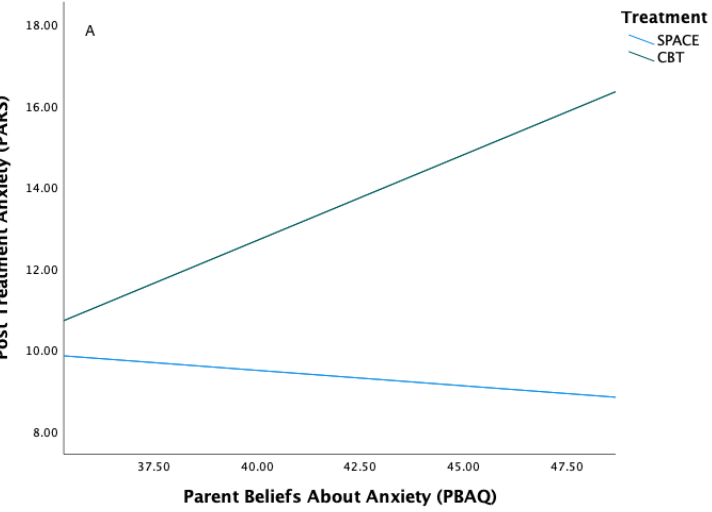


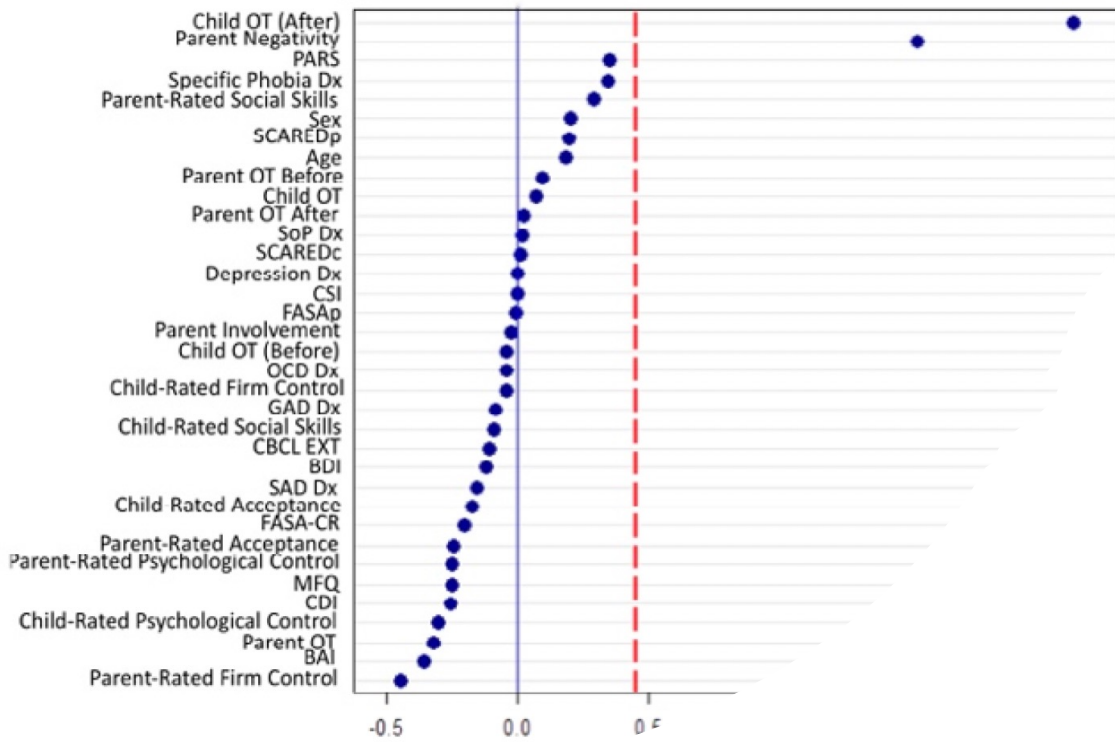
# More independent regulation after SPACE

Figure 3. Child vmPFC Activation  
(Viewing Fear Faces Alone)



# Post-treatment (SPACE/CBT) anxiety moderated by parent beliefs, psychological control, parenting stress

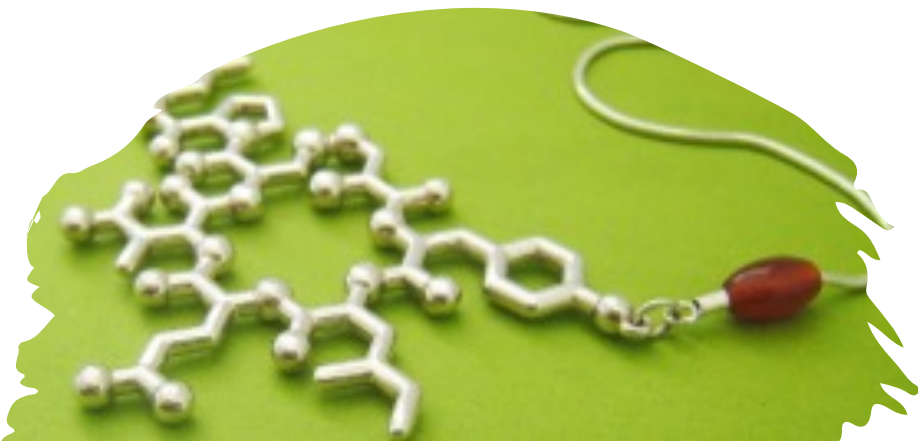




## *Moderators of response to child-based and parent-based child anxiety treatment: a machine learning-based analysis*

- Parent-reported outcomes were moderated by parent negativity and child oxytocin levels.
- Child-reported outcomes were moderated by baseline anxiety, parent negativity, and parent oxytocin levels.

Lebowitz et al, 2021









# SPACE in children with ASD

ORIGINAL ARTICLE

## A Pilot Trial of SPACE (Supportive Parenting for Anxious Childhood Emotions) in Autism

Shir Rozenblat<sup>1</sup>  · Yaara Shimshoni<sup>2</sup>  · Eli R. Lebowitz<sup>2</sup>  · Michal Perez<sup>1</sup> · Judah Koller<sup>1</sup> 







## **SPACE-ARFID: A pilot trial of a novel parent-based treatment for avoidant/restrictive food intake disorder**

[Yaara Shimshoni](#)<sup>1</sup>, [Wendy K Silverman](#)<sup>1</sup>, [Eli R Lebowitz](#)<sup>1</sup>

Affiliations + expand

PMID: 33464594 DOI: [10.1002/eat.23341](https://doi.org/10.1002/eat.23341)

SPACE for picky  
eating (ARFID)



## Parent training for dependent, yet abled, young adults

[Uri Berger](#)<sup>1</sup>, [Eli Lebowitz](#)<sup>1</sup>

Affiliations + expand

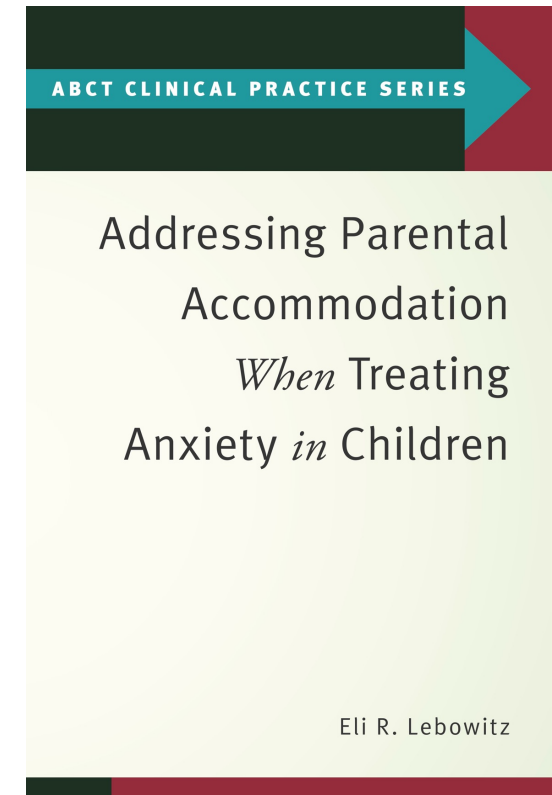
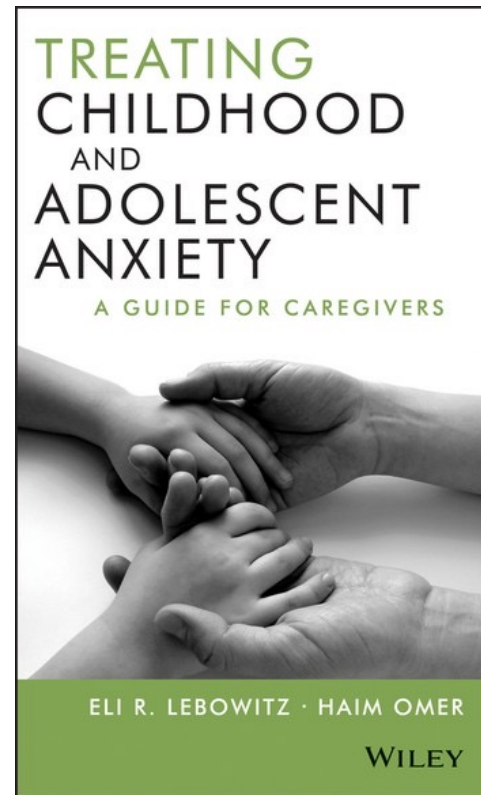
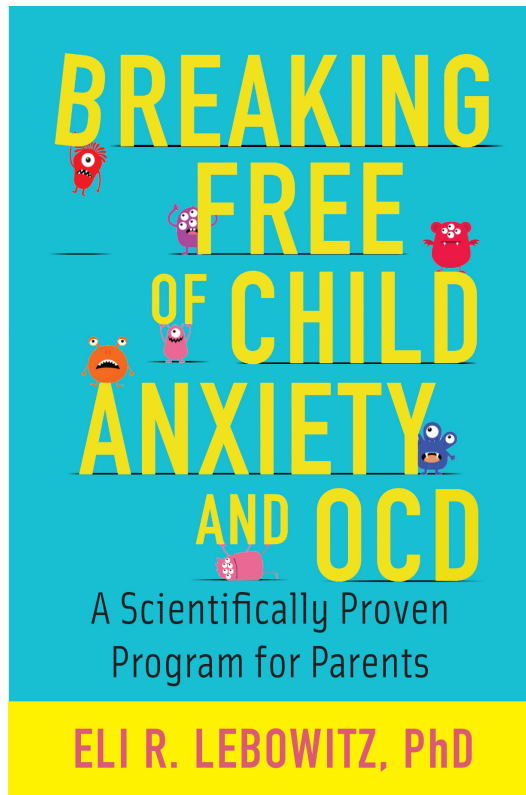
PMID: 36047938 DOI: [10.1521/bumc.2022.86.3.249](https://doi.org/10.1521/bumc.2022.86.3.249)

SPACE for highly dependent adult children (Failure to Launch)



SPACE for  
physical/somatic  
symptoms

---



[www.spacetreatment.net](http://www.spacetreatment.net)



Thank You