



ICED 2017

Diverse Perspectives, Shared Goals June 8-10

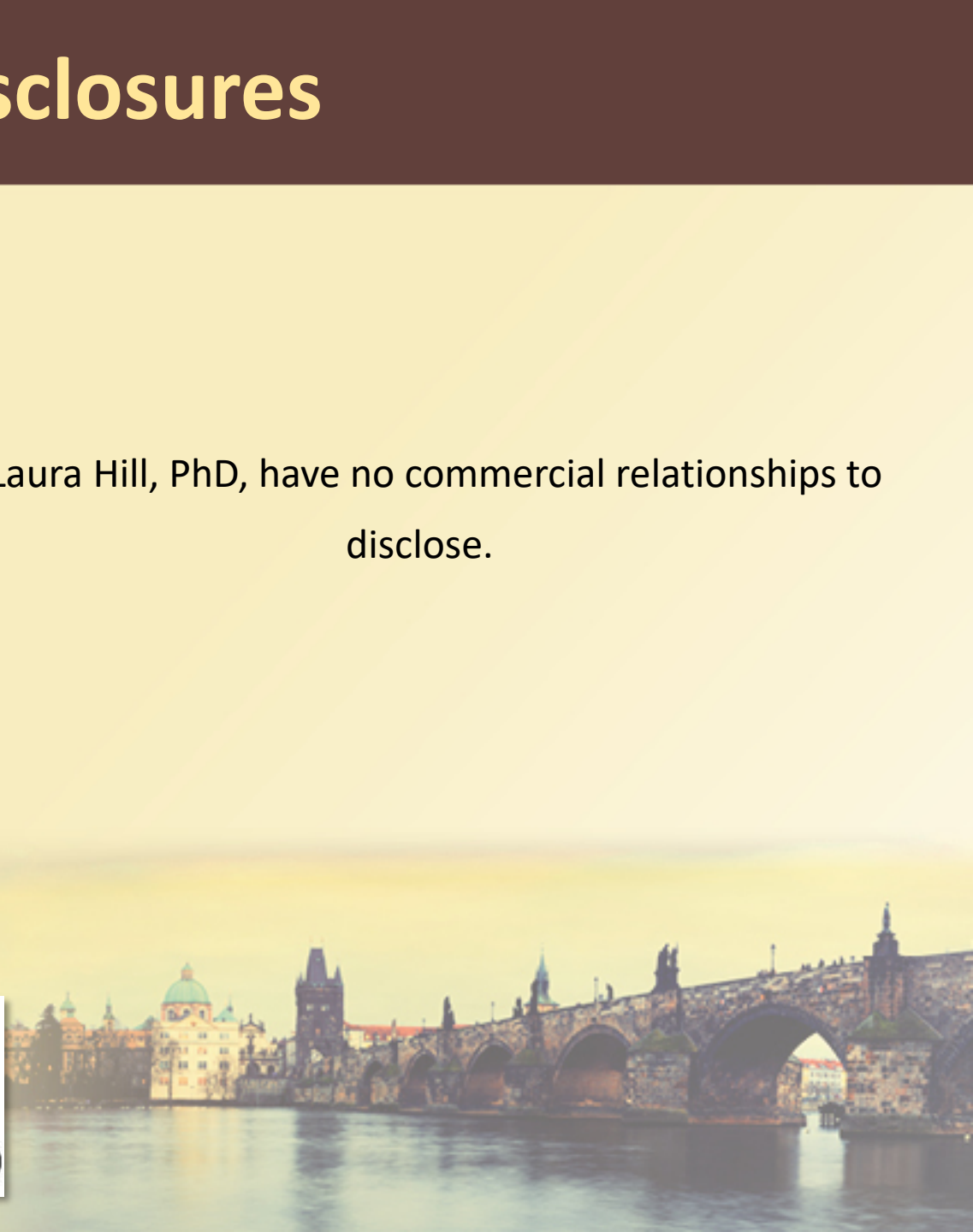
Prague Congress Centre
Prague, Czech Republic



2017 International Conference on Eating Disorders
June 7: Clinical Teaching & Research Training Day

Disclosures

I, Laura Hill, PhD, have no commercial relationships to disclose.



Brain-Based Eating Disorder Treatment Applications

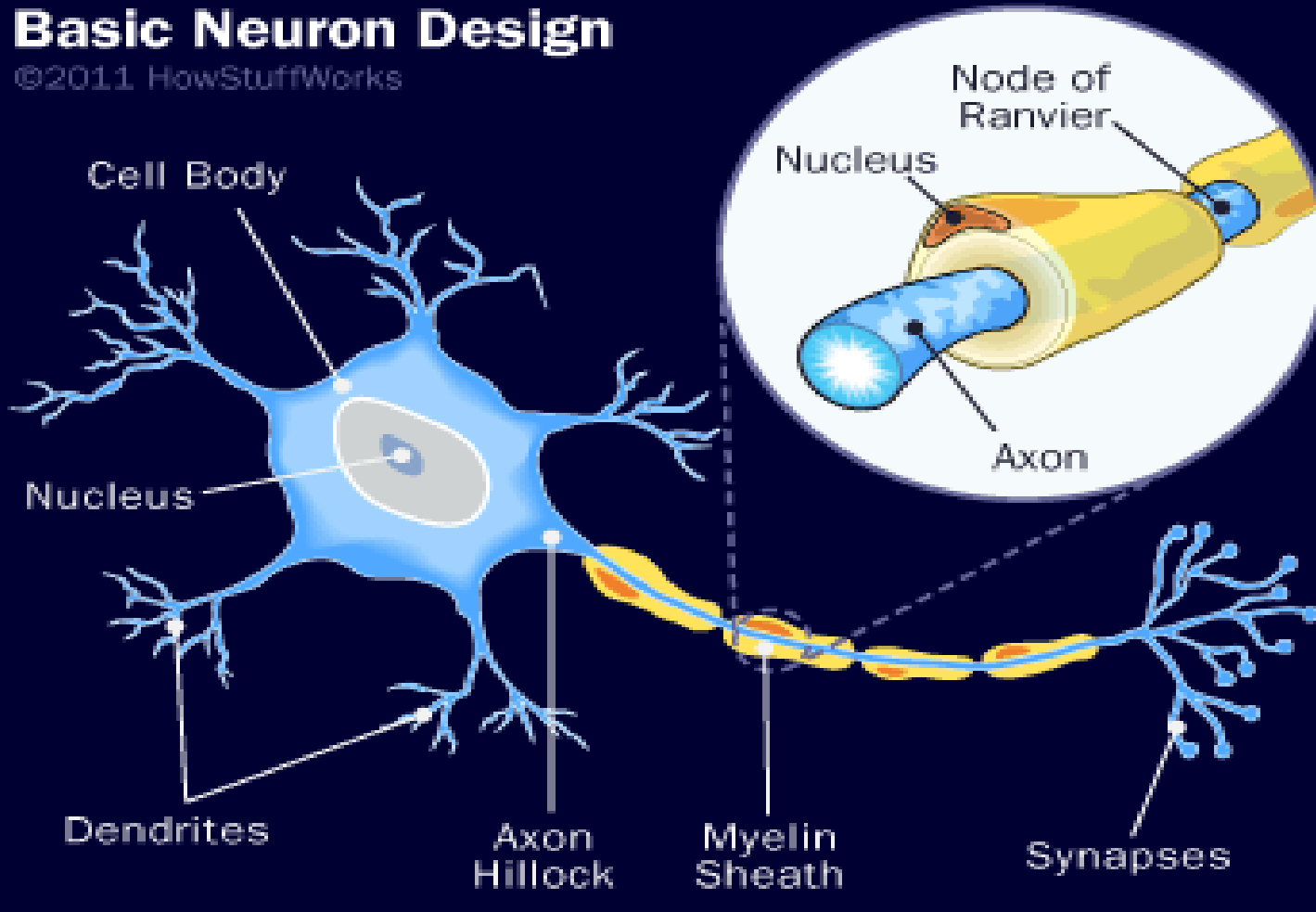
Laura Hill, PhD



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Basic Neuron Design

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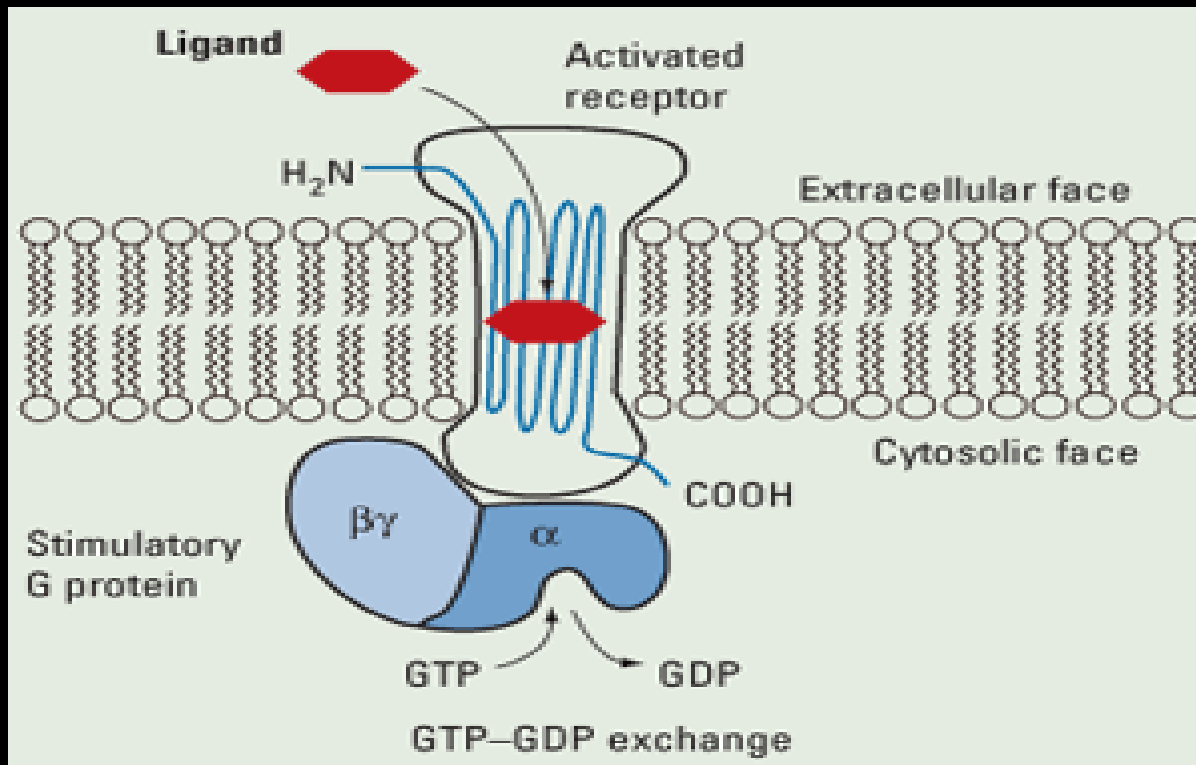


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<https://www.google.com/search?q=neuron+g+protein+7+times+picture&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwiBk-D8h4TUAhWr6oMKHZxJBtQQsAQILQ&biw=1600&bih=746#imgdii=HjkvaNFkBp3nqM:&imgsrc=noGxeW9opO6kM:&spf=1495475401052>



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Neurons require imbalance to
function

For **Action**

...**Potential**
to take place.



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Neural Cell Membranes:

Outer layer substance

2 layers of fat

Embedded in the fat =

ion channels = pores = openings.



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Ion Channels

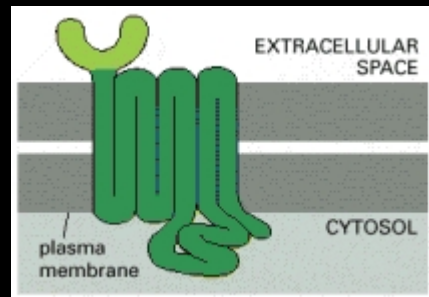
Most ions are in dendrites and cell bodies: **chemical gated** = *open and close* to neurotransmitters

Those in axons = **voltage gated** = open based on *intensity of the charge*



Signal Proteins

- Molecules go back and forth 7 X and associate with G-Proteins (guanine-sensitive).
 - G-Proteins initiate change internally over time.
 - More G-Proteins associated with longer lasting change.



Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter; Copyright Bruce Alberts, Dennis Bray, Julian Lewis, Martin Raff, Keith Roberts, and James D. Watson. 2002 Molecular Biology of the Cell. (4th Edi.)NY.



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One time change vs. Longer term change rewires brain

- **Ionotropic receptors** = fast in.
- **Metabotropic receptors** =
slow and steady change over time in
neuron.



Glial Cells

- Used for myelination for neuronal conduction.
- 15 X more glial cells than neurons.



Glial Function Informs Intervention

- Protects the brain from "foreign substances."
- Protects the brain from hormones and neurotransmitters in the rest of the body.
- Maintains a constant environment for the brain.
- Forms blood brain barrier.



What's on the Therapeutic Table for Eating Disorders?

- CBT
- DBT
- ITP
- ICAT



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Brain-Basis of eating disorders

IS the Table



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Brain-Based Treatment becomes basis

Upon which

- CBT
- DBT
- ITP
- ICAT

Can offer more comprehensive impact.



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Blood Brain Barrier

Application to Treatment

Glial = Supports

- Nonnegotiable/Blood brain barrier.
- Picks up on food accountability.
- Stops and reboots the impulse.
- Assists in carrying out the meal plan.
- Present to hold and support structure.
- Keeps the momentum going.
- Aids in transitions/synapses.





5-Day Treatment for ED: Preliminary Findings

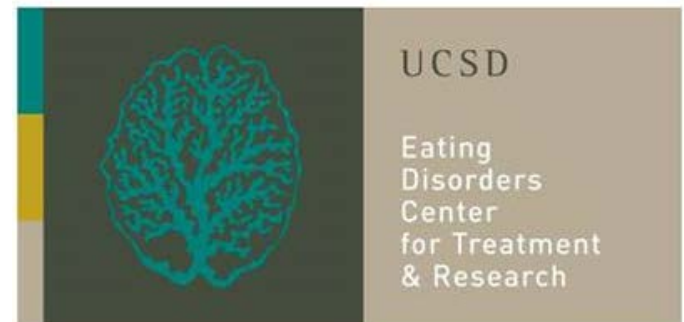
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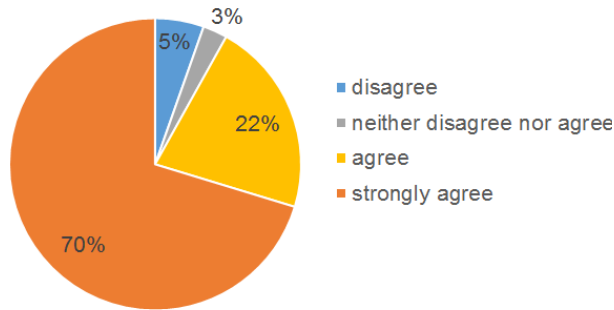
eatingdisorders.ucsd.edu



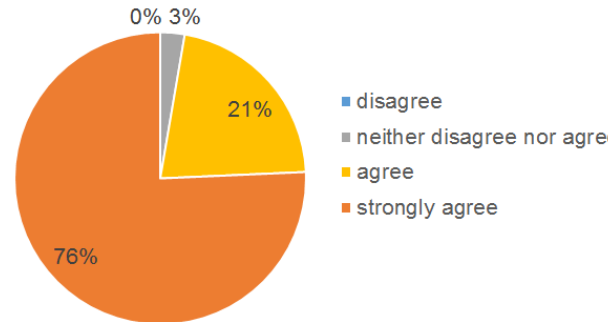
Preliminary acceptability data (n=37)

Client

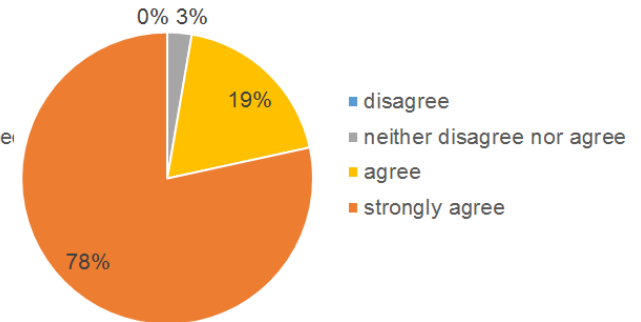
I would recommend NEW FED TR to others



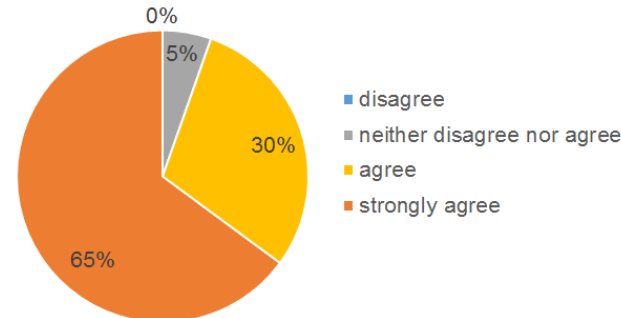
I enjoyed learning about the neurobiology of AN through group exercises



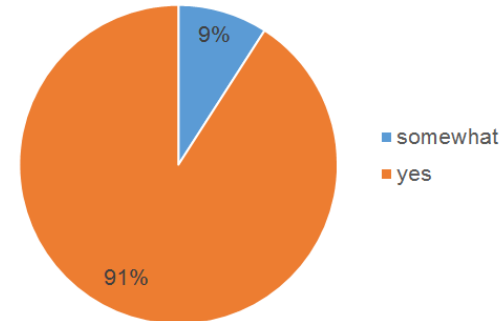
The exercises on neurobiology improved my understanding of AN



My supports are equipped with better tools to support me



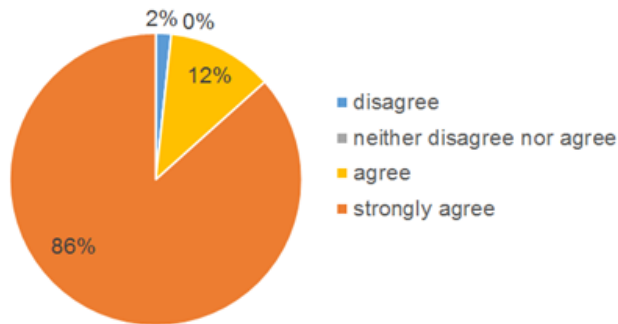
Did this treatment meet your expectations?



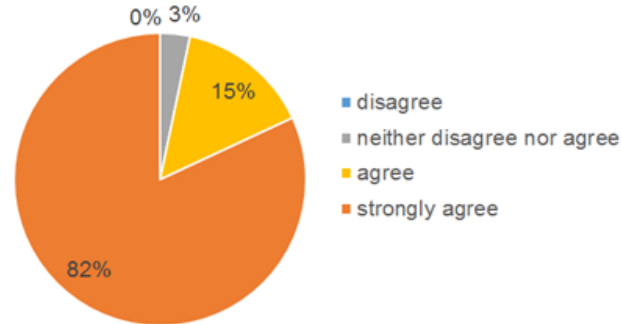
Preliminary acceptability data (n=60)

Support

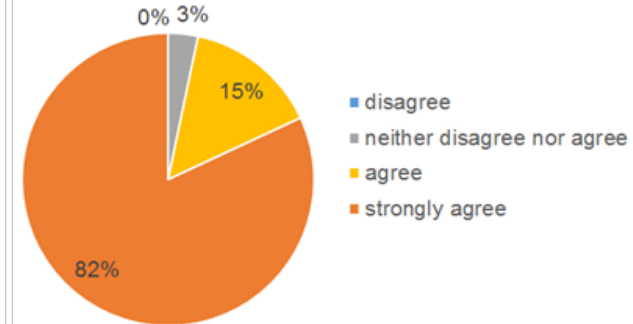
I would recommend NEW FED TR to others



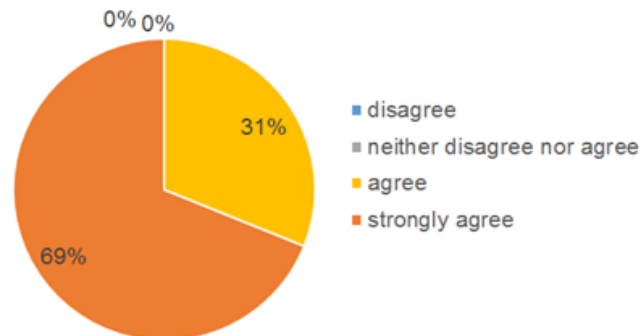
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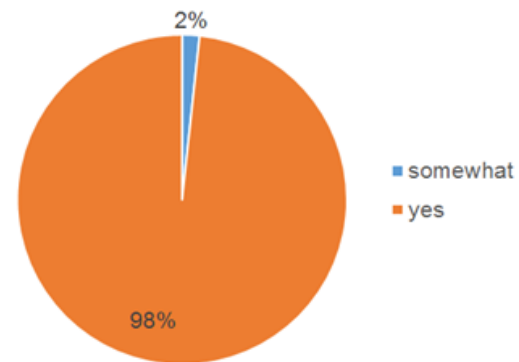
The exercises on neurobiology improved my understanding of AN



I feel equipped with better tools to support the client



Did this treatment meet your expectations?



Demographics for Full Sample

	Tx Completers (n=50)		Completed Follow-up (n=39)	
	Mean	SD	Mean	SD
Baseline BMI	18.1	2.0		
Age	24.5	8.8		
Illness Duration (yrs)	9.1	8.6		
Length of F/U Survey (days)			142.4	81.5
Length of F/U BMI (days)			228.0	177.7

Inclusion Criteria for Adult AN: At time of study entry:

- 1) Lifetime DSM IV diagnosis of AN; of 5-Day Tx Completers: 26 AN-R, 12 AN-BP, 2 OSFED, 10 AN pr
- 2) Current BMI $\leq 22 \text{ kg/m}^2$.
- 3) Current age between 16 and 60 years old.
- 4) Willingness to have identified Support participate in treatment.
- 5) Medically stable including normal vital signs and lab values.

Exclusion Criteria for Adult AN & Support: 1) Developmental, intellectual, or psychotic disorder, or a diagnosis of alcohol or drug abuse or dependence in the 3 months prior to the study 2) Presence of other psychopathology that might interfere with ability to participate in the study 3) Currently in any form of psychotherapeutic treatment unless the participant is willing to discontinue treatment.

Demographics for Full Sample

	Lost to Follow-Up (n=11)		Completed Follow-up (n=39)		<i>P</i> -value
	Mean	SD	Mean	SD	
Baseline BMI	18.6	1.5	18.0	2.2	.40
Age	19.1	1.7	25.8	9.3	<.001
Illness Duration (yrs)	4.7	2.8	10.4	9.2	.002

Inclusion Criteria for Adult AN: At time of study entry:

- 1) Lifetime DSM IV diagnosis of AN; of Follow-up Completers: 20 AN-R, 12 AN-BP, 1 OSFED, 6 AN pr
- 2) Current BMI ≤ 22 kg/m².
- 3) Current age between 16 and 60 years old.
- 4) Willingness to have identified Support participate in treatment.
- 5) Medically stable including normal vital signs and lab values.

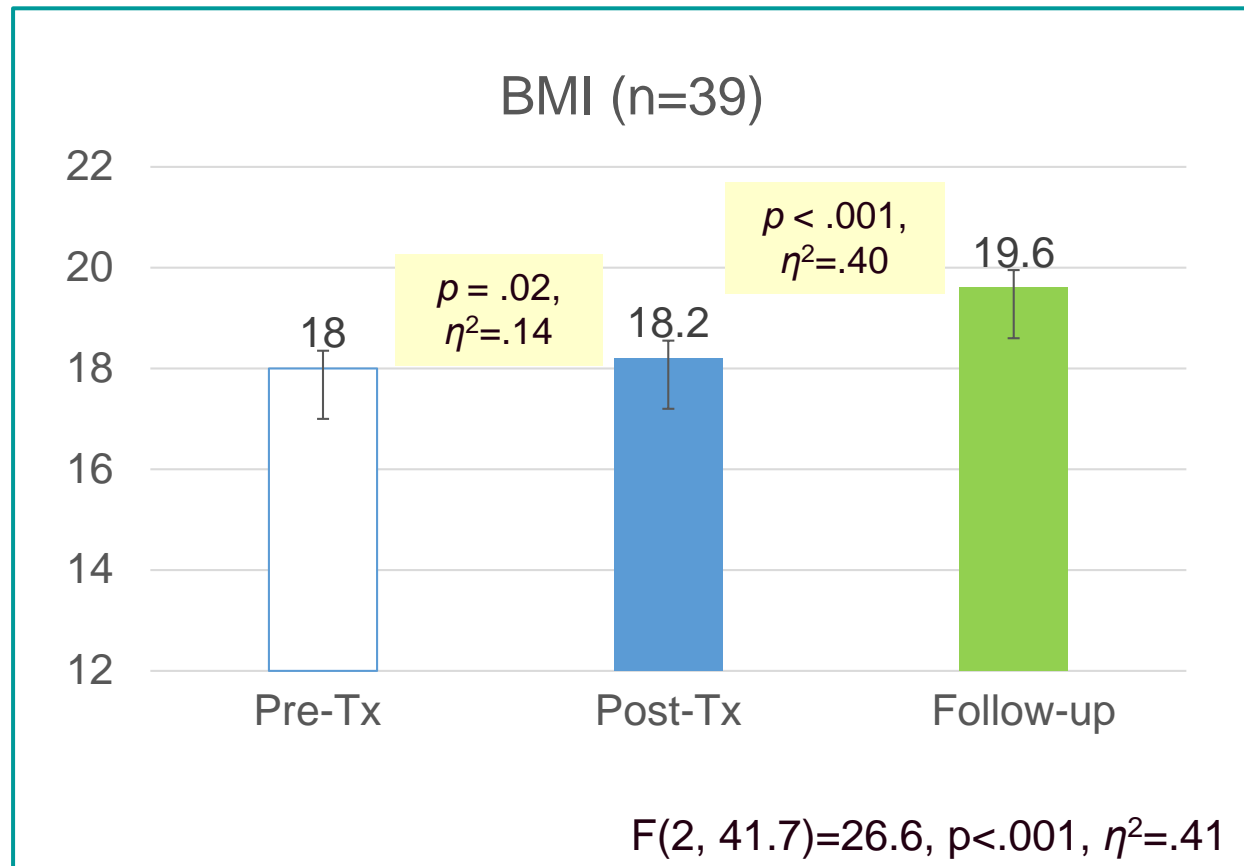
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Post 5-Day Outcome for Full Sample (n=50)

	Pre-Tx		Post 5-Day		<i>P</i> -value	Cohen's <i>d</i>
	Mean	SEM	Mean	SEM		
BMI	18.1	0.2	18.3	0.2	.001	.10
STAI State	56.2	1.9	47.8	1.8	<.001	.67
FAD Problem Solving	2.4	0.1	2.1	0.1	.006	.39
FAD Communication	2.4	0.1	2.2	0.1	.01	.42
FAD Affective Involvement	2.3	0.1	2.1	0.1	.04	.21
FAD General Family Fxn	2.2	0.1	2.0	0.1	.02	.34
MAIA Self Regulation	1.9	0.2	2.4	0.2	.01	.37
MAIA Body Listening	1.3	0.2	1.8	0.2	.02	.43
EDE-Q Restraint	2.7	0.3	1.8	0.2	.002	.51
EDE-Q Eating Concern	3.1	0.3	2.6	0.2	.005	.34
EDE-Q Total	3.5	0.2	3.1	0.2	.01	.27

*temperament measures of harm avoidance, sensitivity to reward/punishment, intolerance of uncertainty & alexithymia did not change

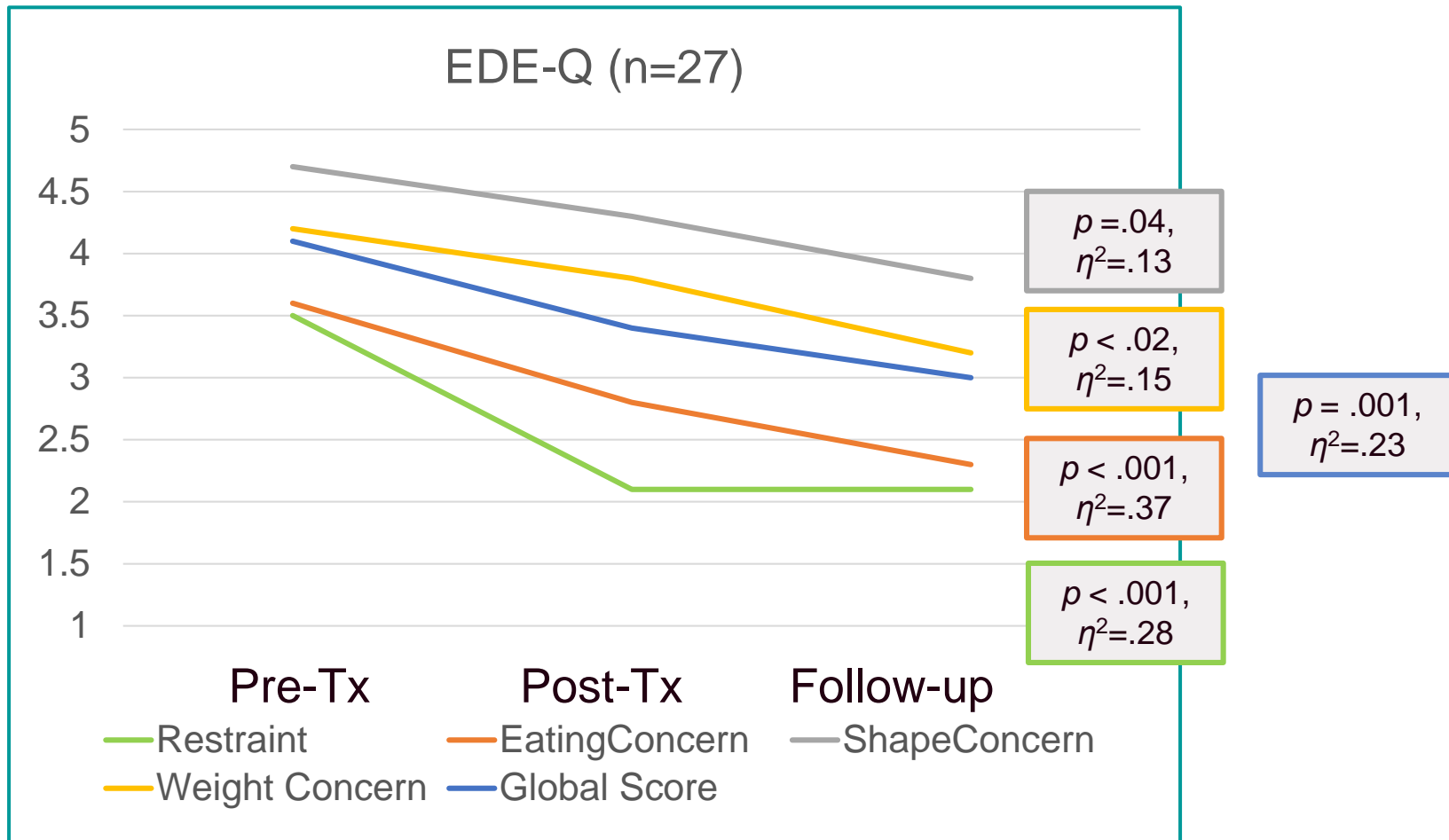
Follow-up Clinical Symptoms for Full Sample



Note: Post-Tx to Follow-up results hold after controlling for length of follow-up, illness duration, age



Follow-up Clinical Symptoms for Full Sample





Client Feedback

“The activities/illustrations were very helpful in more clearly understanding EDs and how they work in the brain. Working on the contract cleared up roles and goals.”

“Learning about the neurobiology of EDs was fascinating and extremely helpful.”

“I thought the exercises and activities were amazing in demonstrating to care givers just a little bit of what their loved one is going through.”



Support Feedback

“The entire treatment experience was magnificent! At the end of the week, it was mind boggling to realize how much information was presented and the array of formats utilized. The intimate setting was particularly helpful.”

“Neurobiology - really understanding why our daughter is stuck and what it will take to help her get unstuck. This understanding makes my support efforts more effective because I now know why and how the skills that I learned can be targeted and helpful. I knew before coming why restoration and maintenance of a healthy weight is critical - without this recovery can't happen. Now, I really ‘get it’.”

“The powerful use of science in a concise and illustrative way to explain the disease that brings both the carer and client together.”

The Brain has the Answers:
to Inform and Guide Treatment

Truth is in the details



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