

**Emotional Cascades: A New Paradigm
for Understanding and Treating
Borderline Personality Disorder**

Edward A. Selby, Ph.D.

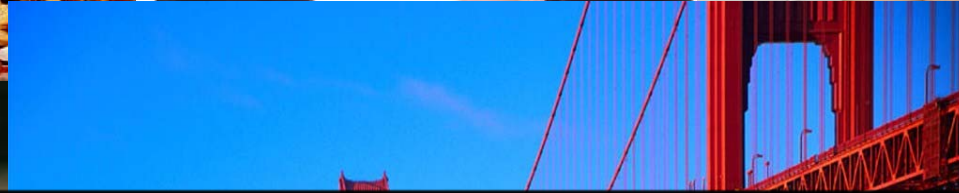
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Department of Psychology
Rutgers, The State University of New Jersey*

Self-Sabotage

dysregulated behaviors







NEGATIVE EMOTION



Borderline personality disorder



Turbulent Emotions
Stormy Relationships
Suicidal Behavior/Self-Injury
Identity Disturbance
Dissociation/Interpersonal Paranoia
Dysregulated Behaviors



Health Impact Consequences of BPD

- Elevated suicide attempts/death by suicide
- Frequent users of ERs
 - Self injury
 - Drug overdose
 - Nutritional Issues related to Binging/Purging
- Treatments are long-term and intensive



Emotion Dysregulation

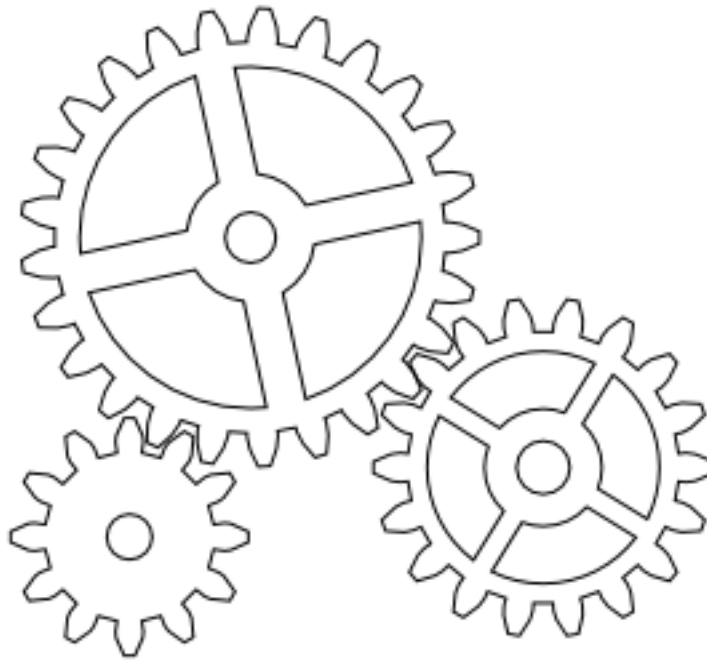


Emotional Intensity
Emotional Sensitivity
Long Lasting Emotions



“THEORIES OF DYSFUNCTION” (KAZDIN, 1999)

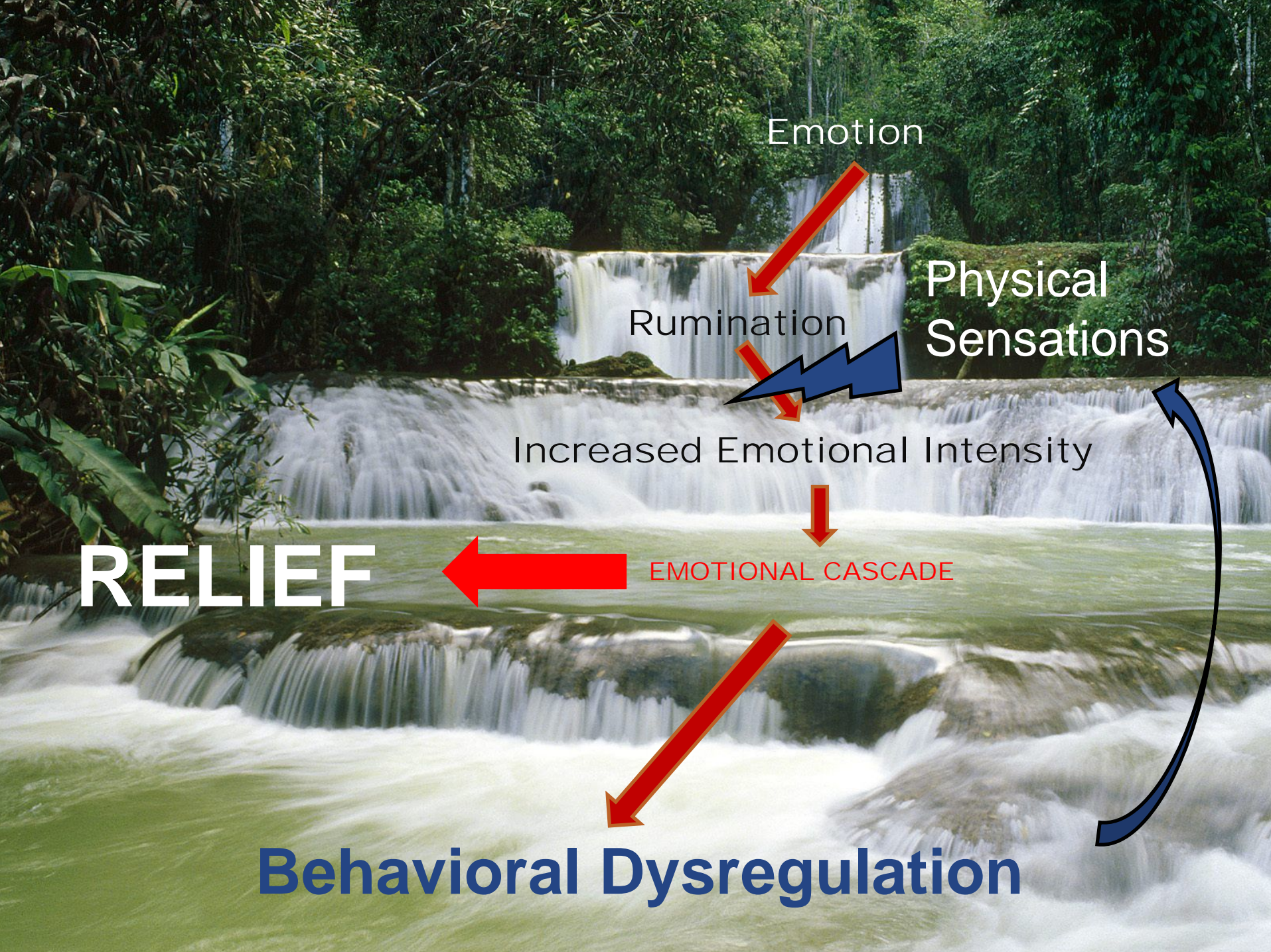
... in other words,
MECHANISMS





Emotional Cascades

Selby & Joiner (2009) *Rev Gen Psy*



Emotion

Rumination

Physical
Sensations

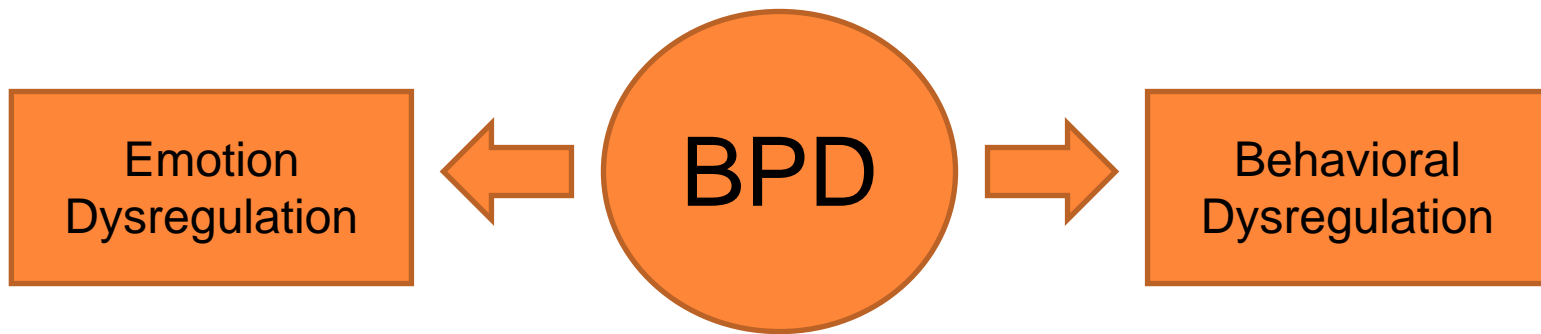
Increased Emotional Intensity

RELIEF

EMOTIONAL CASCADE

Behavioral Dysregulation

Cascades = Mechanism?





**But how do we see emotional
cascades?**

Cascades = Mechanism?

Selby et al. (2009)

J Abnormal Psy



Cascades = Mechanism?

Screened for High BPD Symptoms

5,000+ Students Screened Over 2 Years

Invited if: 5+ self-reported BPD symptoms

Selby et al. (2009)

J Abnormal Psy



Cascades = Mechanism?

N = 138 undergraduates

Screened for High BPD Symptoms

5,000+ Students Screened Over 2 Years

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J Abnormal Psy



Cascades = Mechanism?

N = 138 undergraduates

Screened for High BPD Symptoms

38 BPD Diagnosis - SCID-II

Questionnaires

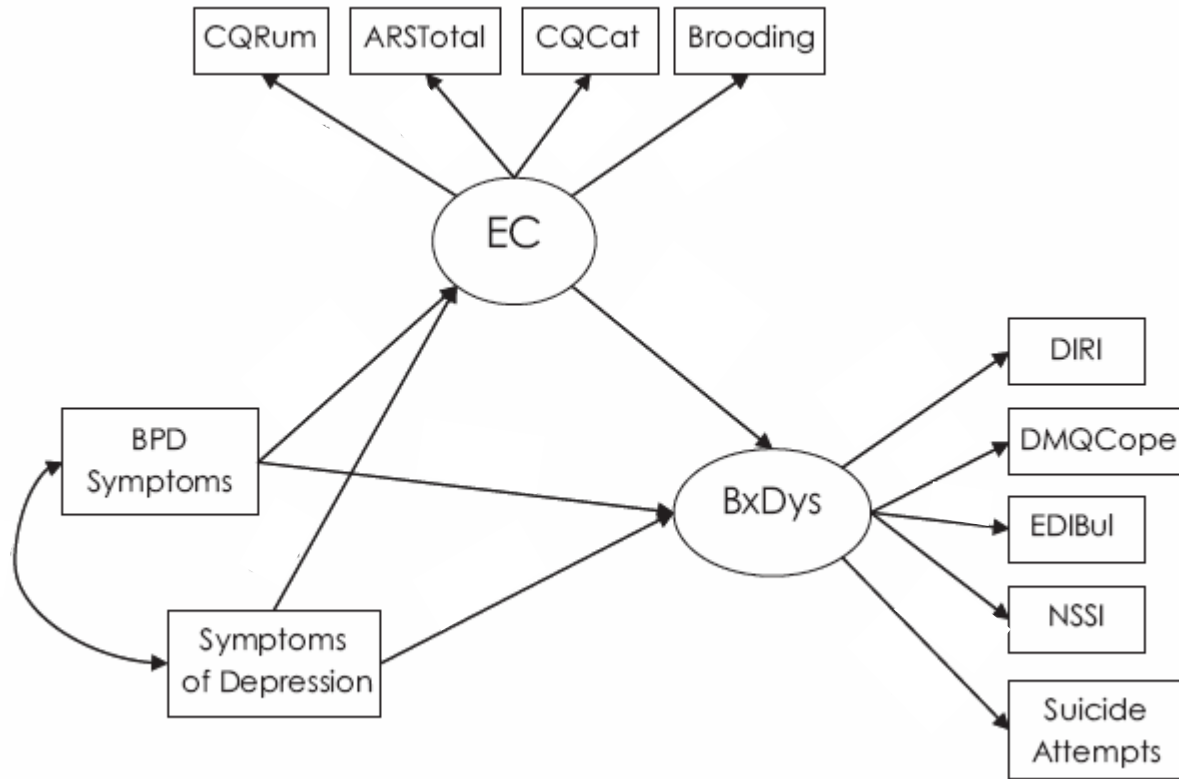
Rumination Induction

Selby et al. (2009)

J Abnormal Psy



Cascades = Mechanism?



Selby et al. (2009)
J Abnormal Psy





Emotional Cascades



BPD



ptoms
ession



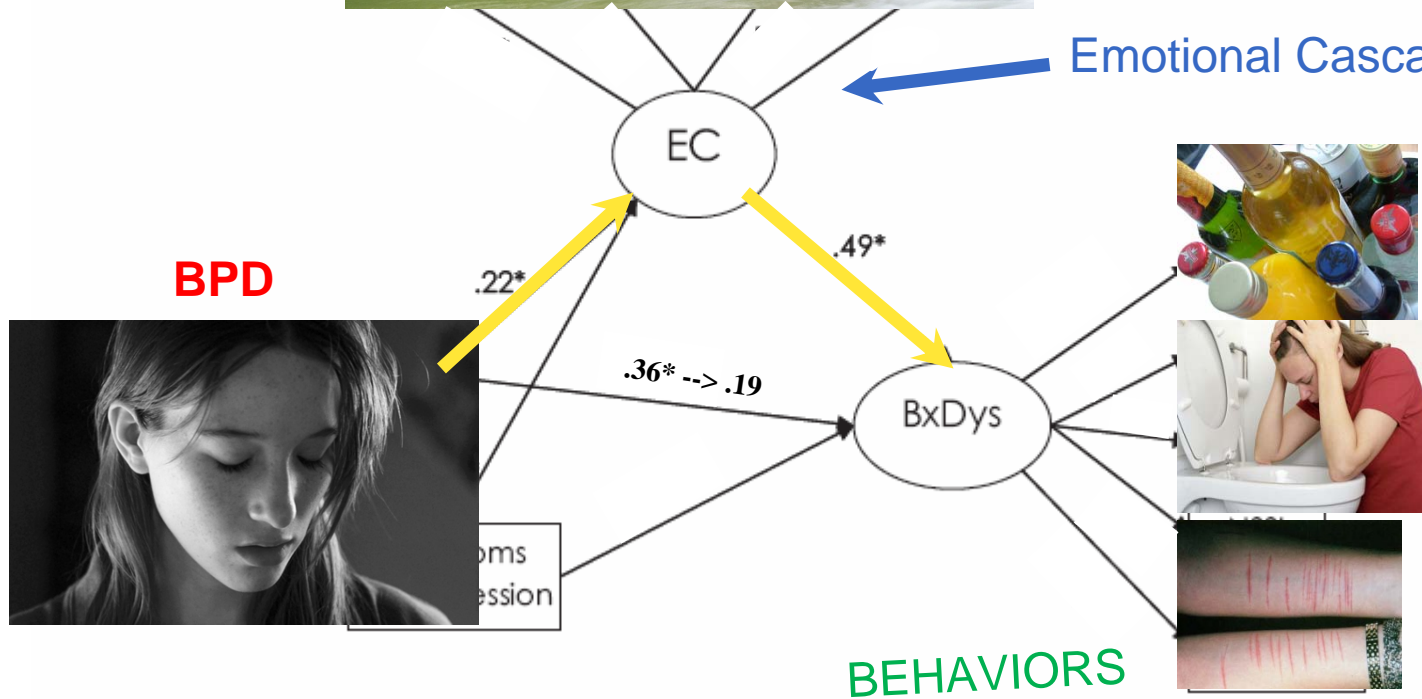
BEHAVIORS

Selby et al. (2009)
J Abnormal Psy



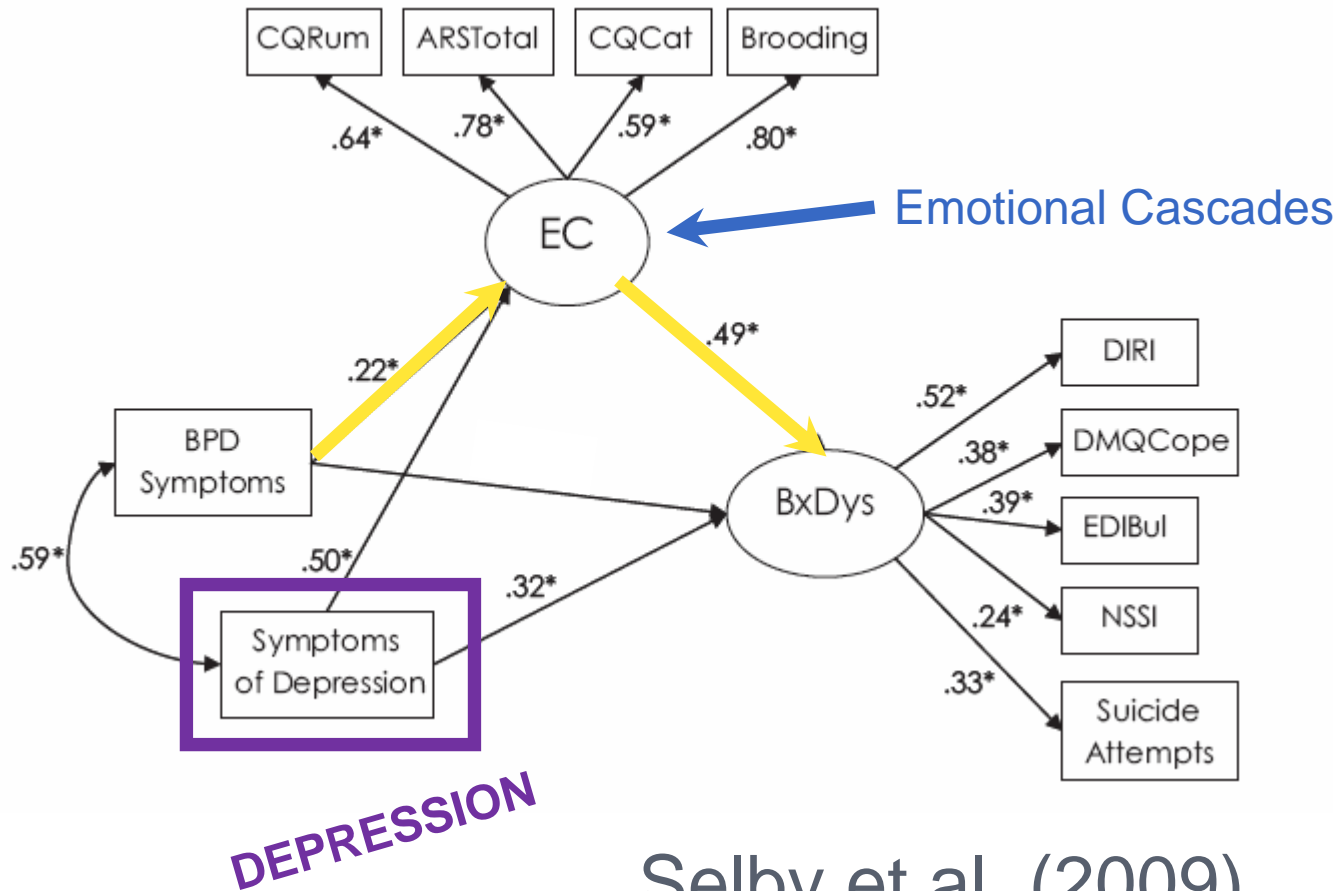


Emotional Cascades



Selby et al. (2009)
J Abnormal Psy





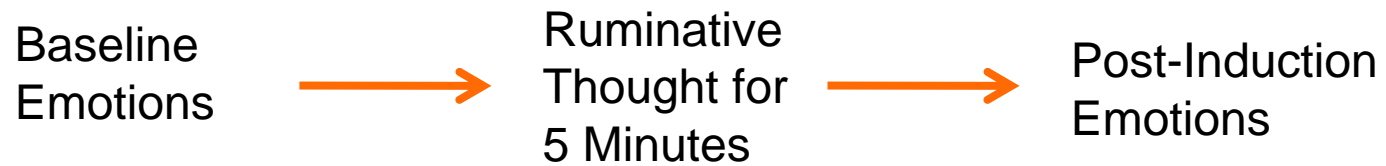
Selby et al. (2009)
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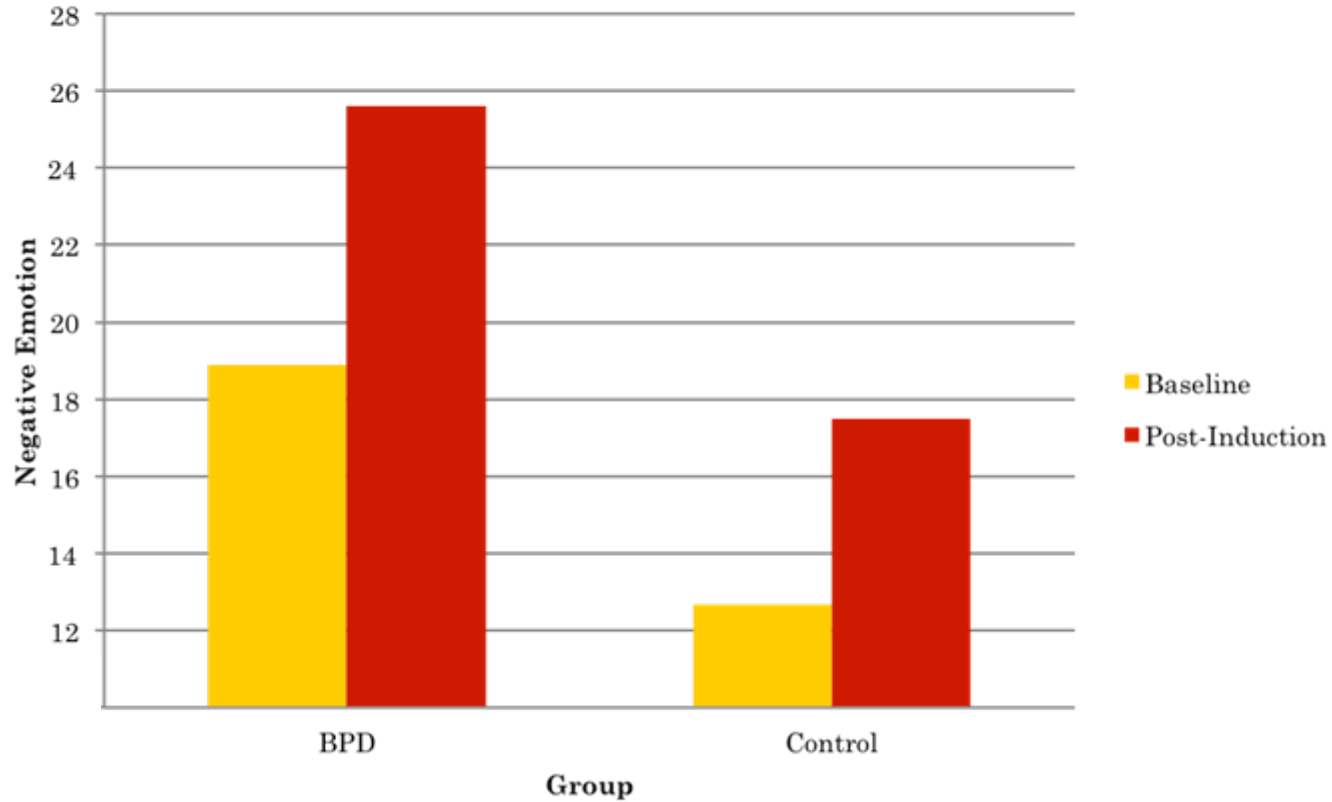
Rumination Induction



Rumination Induction



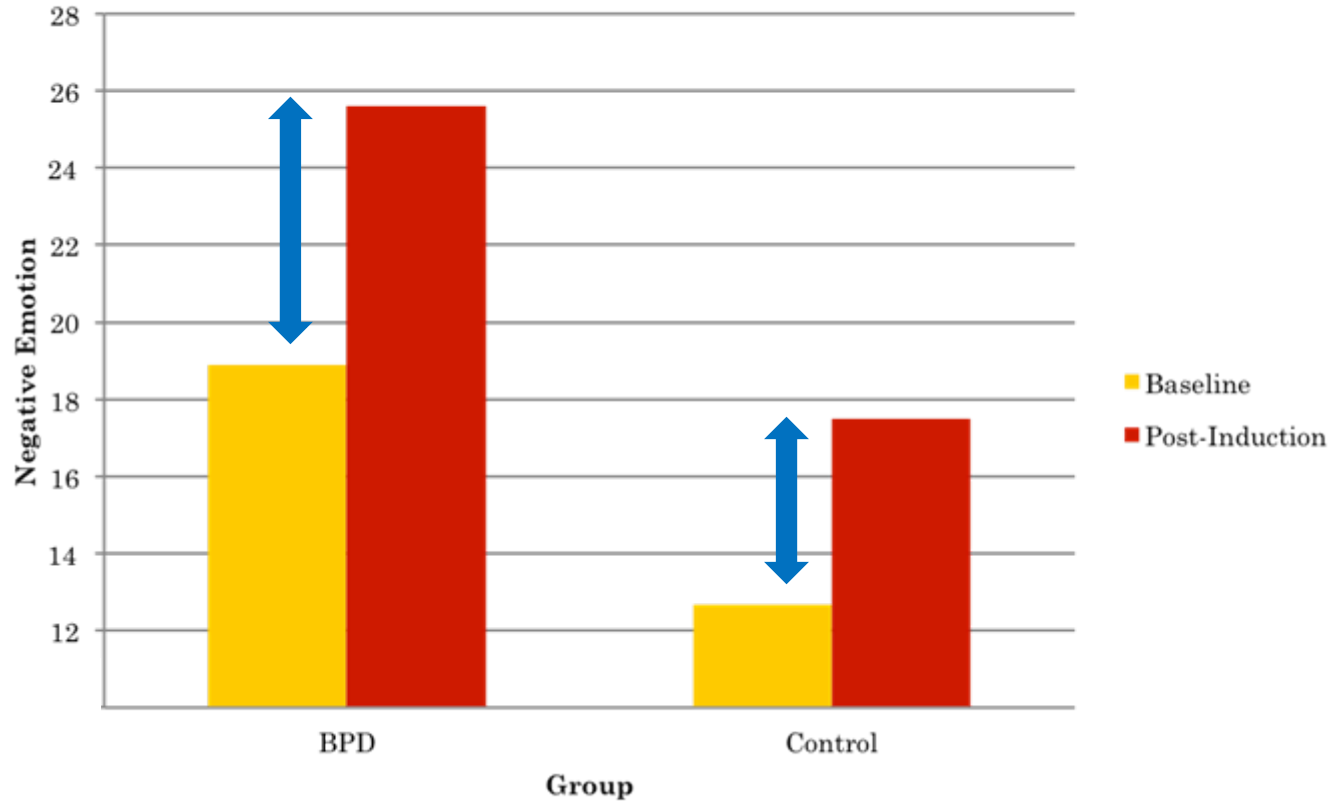
Rumination Induction



Selby et al. (2009)
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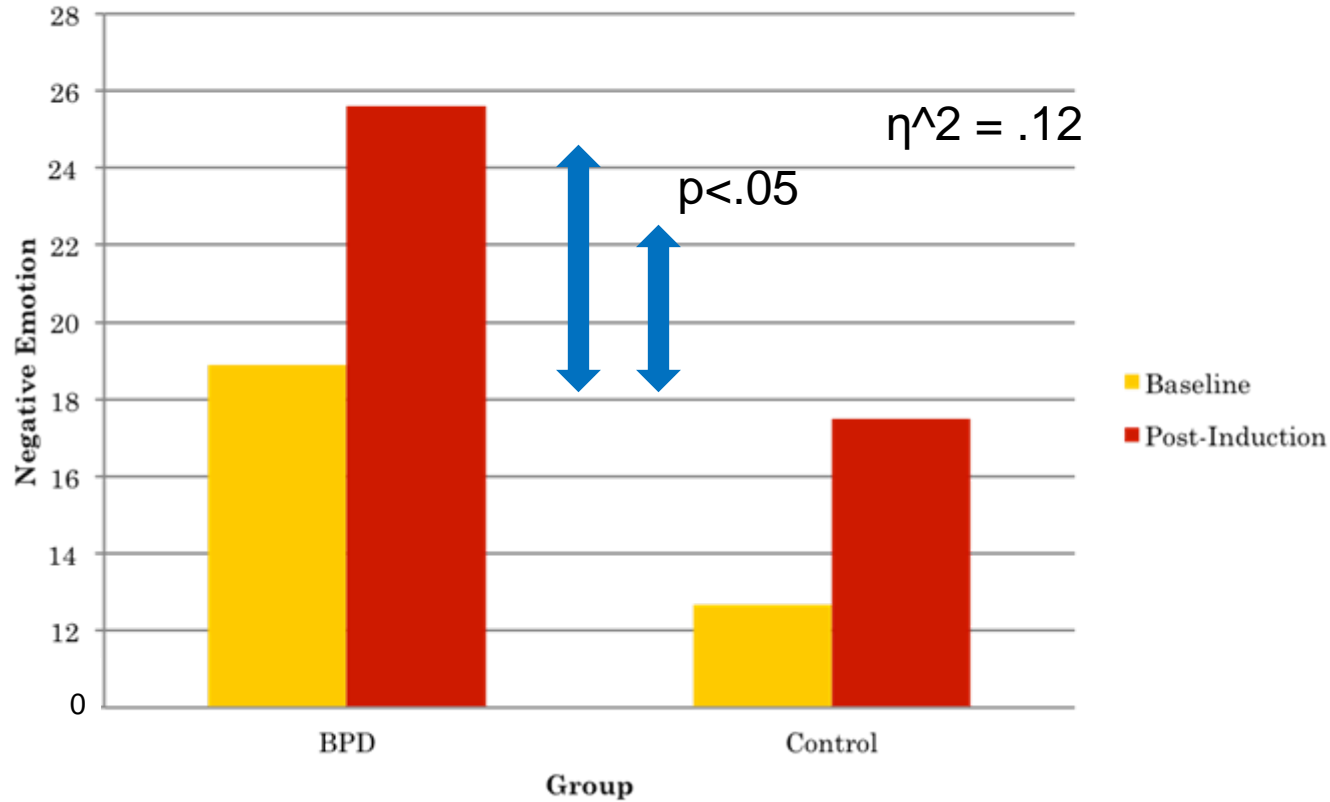
Rumination Induction



Selby et al. (2009)
J Abnormal Psy



Rumination Induction



Selby et al. (2009)
J Abnormal Psy



Conclusions

- A glimpse of emotional cascades
- Emotional cascades -> Dysregulated behaviors

Limitations

- Cross-sectional
- Student sample



Experience Sampling



Methods

- 47 Dysregulated Participants
 - Mixed community (58%) / student sample (42%)
 - 16 BPD Diagnoses
- 4+ Dysregulated Behaviors in last 2 Weeks
 - NSSI
 - Binge eating
 - Substance use
 - Impulsive shopping
 - Yelled at someone
 - Threw something
 - Physical fights



Methods

- 47 Dysregulated Participants
 - Mixed community (58%) / student sample (42%)
 - 16 BPD Diagnoses
- 4+ Dysregulated Behaviors in last 2 Weeks
- Baseline Assessment
 - MINI Diagnostic Interview
 - SCID-II BPD Module
- Experience Sampling
 - Palm Pilot =16 days
 - 2 practice days, 14 data collection days
 - 5 daily assessments
 - Incentives for compliance



Affective Assessment

Please indicate how much you feel
this way RIGHT NOW:

	None	Some	A Lot
Happy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excited	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ashamed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Numb	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Behavioral Assessment

Since the Last Signal Have You Done
Any of the Following Behaviors?

Check ALL that Apply:

- Binged on Alcohol
- Drove Recklessly
- Purposely Injured Self
- Went on Shopping Spree
- Used an illicit Drug
- Binged on Food
- Physical Fight with Someone
- Threw Something
- Slammed a Door

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[More Behaviors](#)



Rumination Assessment

What are you thinking about

RIGHT NOW?

1- Not at All: 10-Very Much So:



A Currently Upsetting Situation:

1 2 3 4 5 6 7 8 9 10

Pleasant Memories

1 2 3 4 5 6 7 8 9 10



Upsetting Memories:

1 2 3 4 5 6 7 8 9 10



How to Solve a Problem:

1 2 3 4 5 6 7 8 9 10

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[More Thoughts](#)



Interpersonal Assessment

Since the last signal have you:
Experienced any of the following?

Check ALL that Apply:

- Someone Insulted You
- Someone Rejected You
- Someone Criticized You
- Someone Ignored You
- Someone Gave you an Order
- Someone Gave you a Dirty Look
- Someone Disappointed You
- You Failed at Something
- You Disappointed Yourself

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Number Reported % Sample Reporting Behavior

Alcohol Use	50	45.3%
Reckless Driving	14	20.3%
Self-Injury	25	13.8%
Impulsive Shopping	21	25.6%
Marijuana Use	116	34.2%
Binge Episode	62	36.8%
Physical Fight	9	4.4%
Threw Object	20	29.0%



Predicting Emotional Cascades and Dysregulated Behaviors

*Selby & Joiner, In Press, Personality Disorders, Theory, Research
& Treatment*

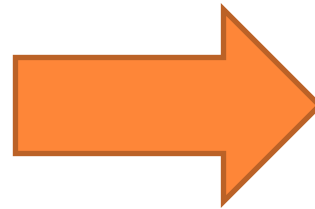


Predictive Validity

Signal 1



$$\gamma = .18^*$$



Signal 2



High Lag-
Rumination

$$\gamma = .20^*$$

X

High Lag- Negative
Emotion

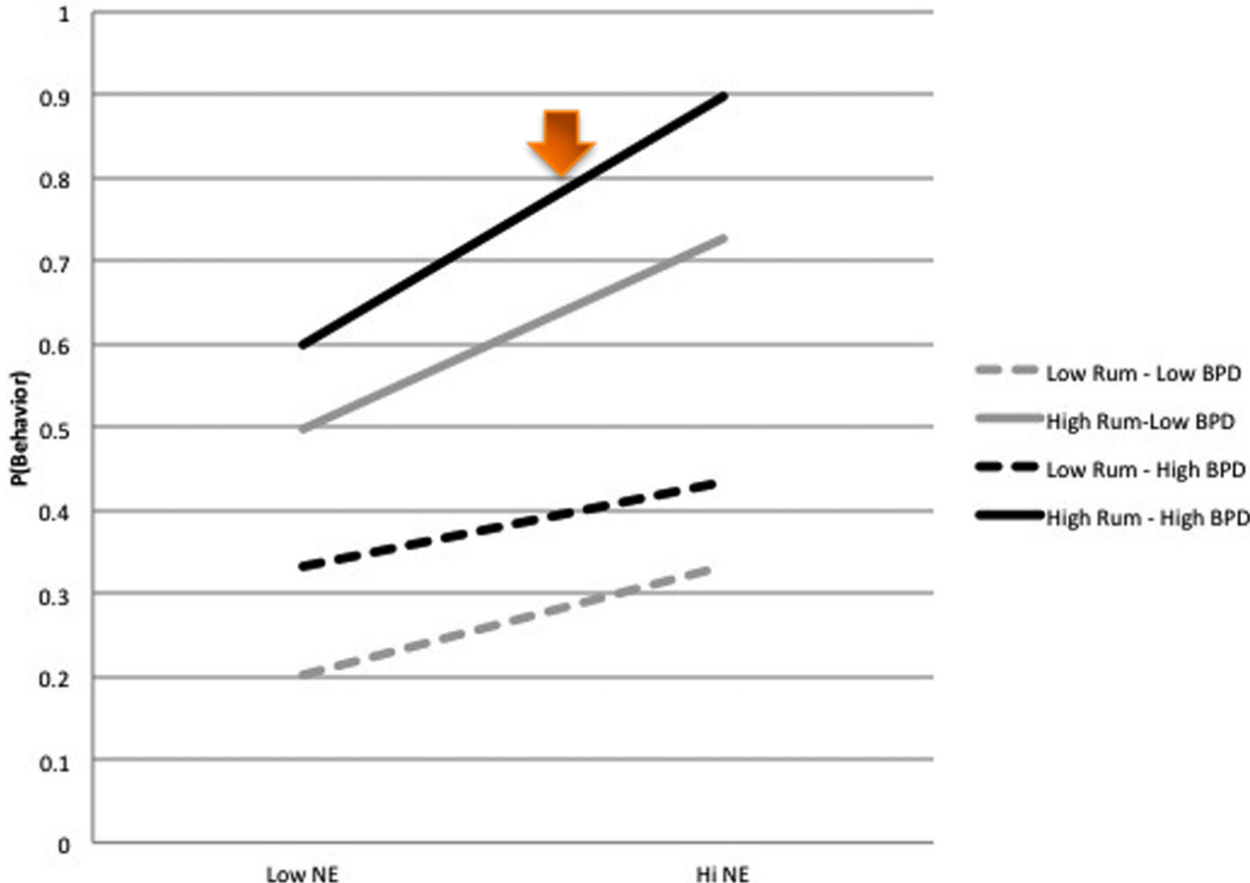
$$\gamma = .17^*$$

Immediate
Future
Dysregulated
Behavior

Selby & Joiner, In Press



3-Way Interaction Predicting Occurrence of a Dysregulated Behavior



Selby & Joiner, In Press



Further Findings on Emotional Cascades

- Frequent fluctuations in rumination interact with fluctuations in negative emotion to predict number of self-injury episodes (Selby, Franklin, et al., in press, Cog Ther & Res)
- Elevated rumination levels predict nightmare frequency, especially in those with BPD (Selby, Ribeiro, & Joiner, under review)
- Broadness of rumination (tendency to ruminate about many things at one time, rather than one focused problem) higher in those with BPD and predicts increased dysregulated behaviors (Selby & Joiner, in preparation)

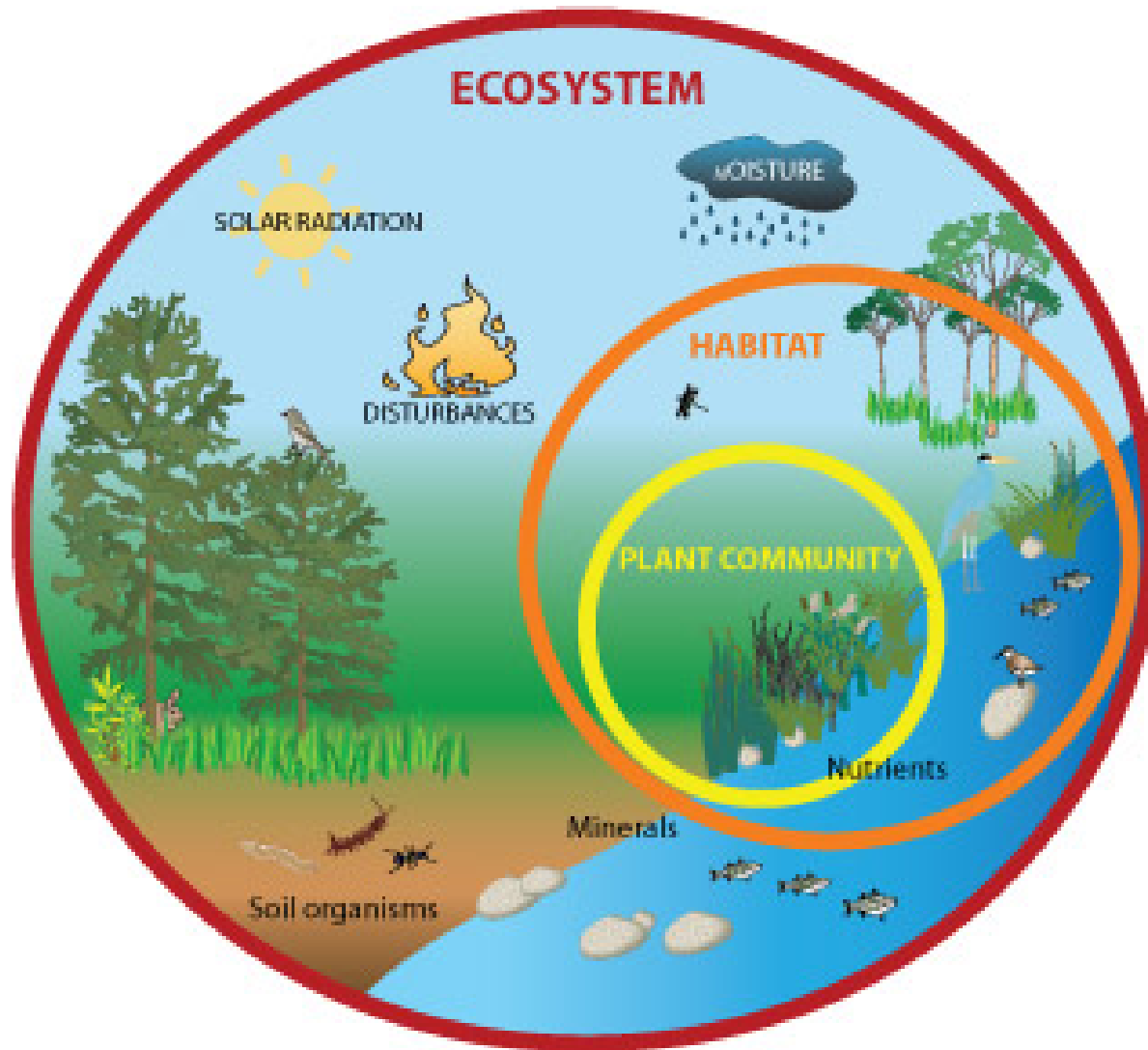




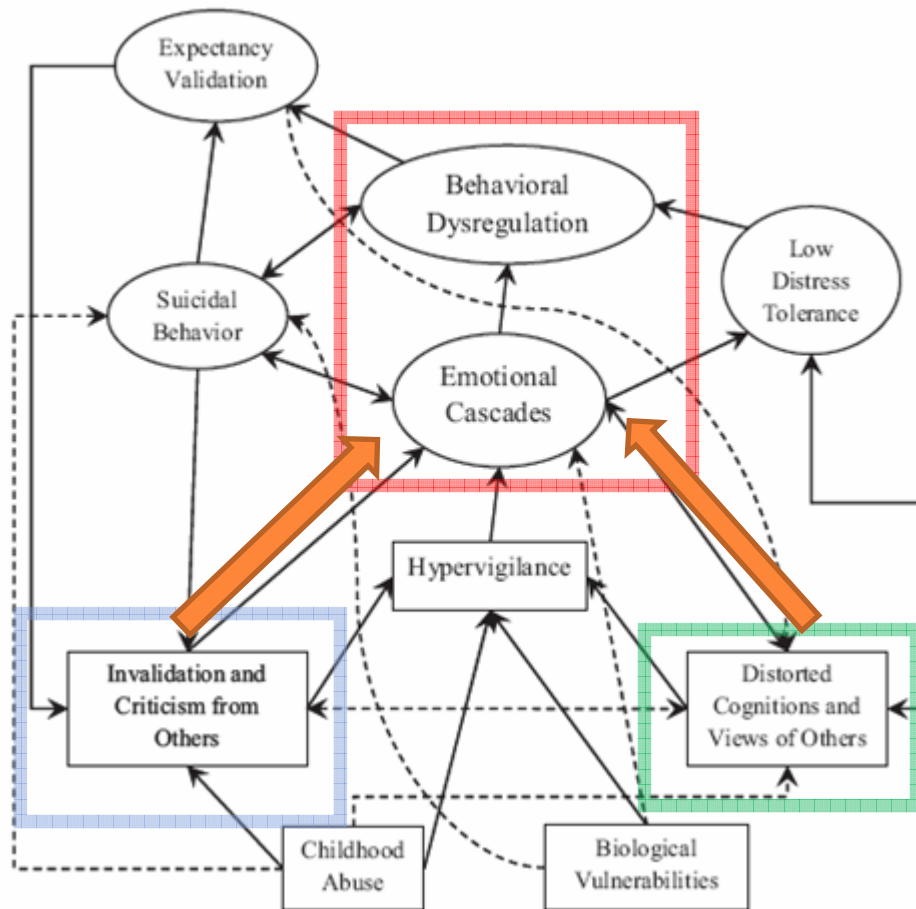
Emergence



Emergence



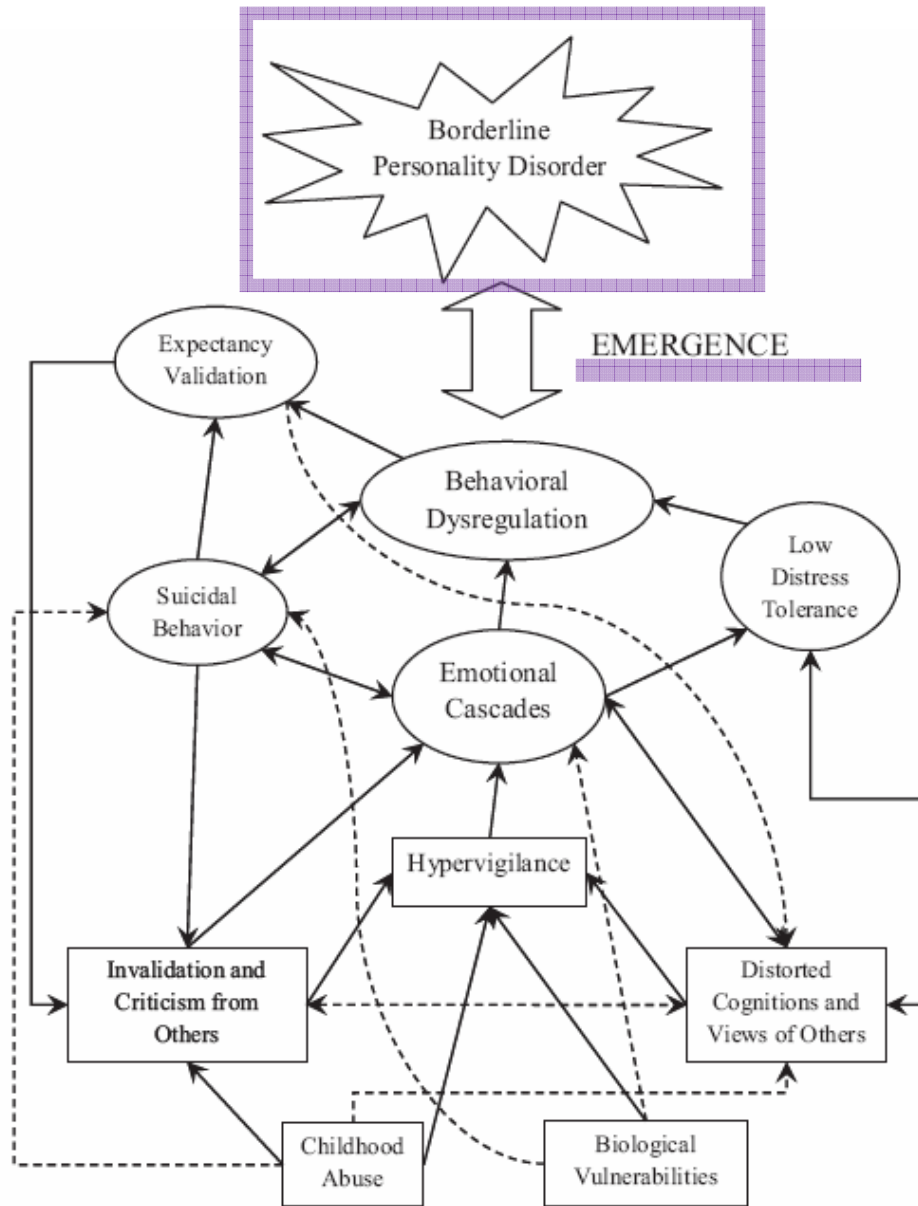
The Emotional Cascade Model



Selby & Joiner (2009)

Rev of Gen Psy



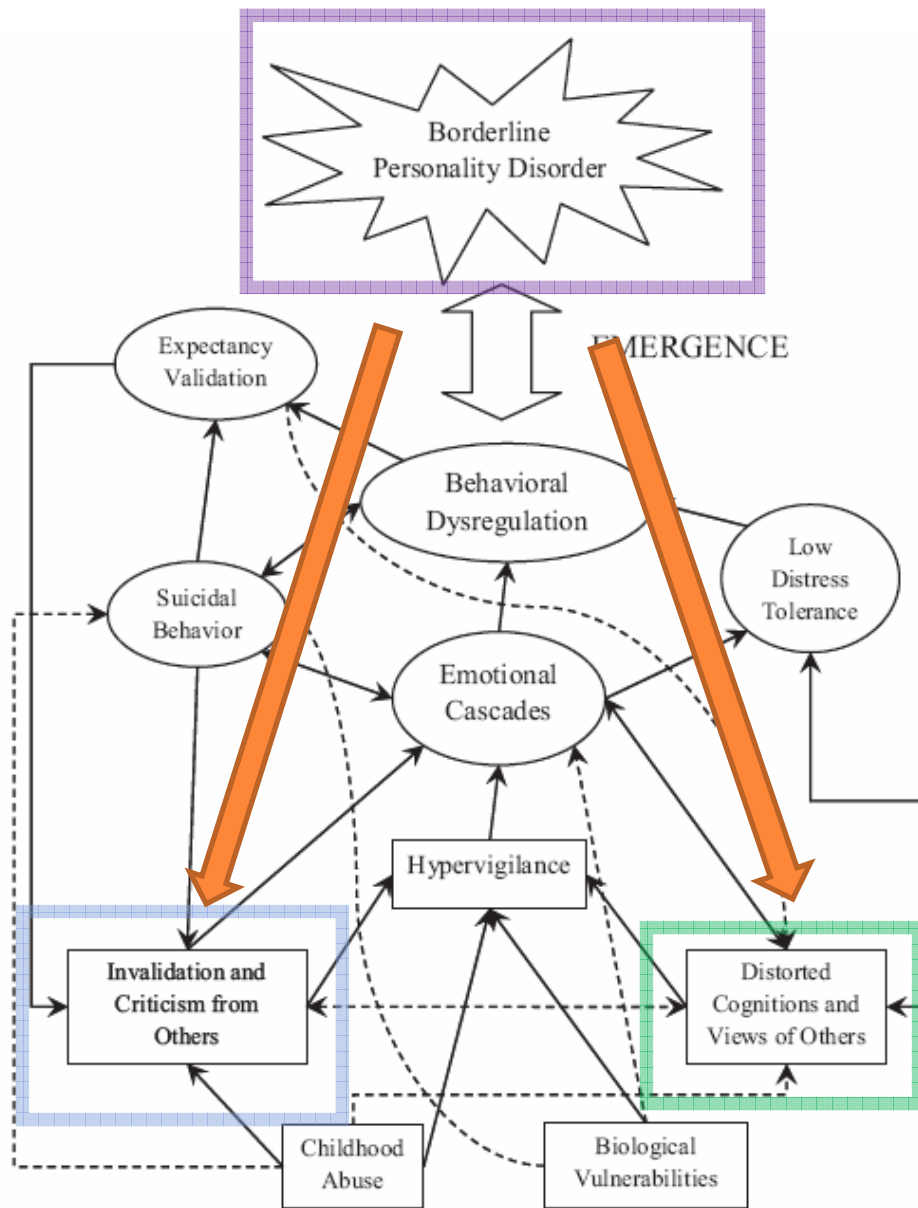


The Emotional Cascade Model

Selby & Joiner (2009)

Rev of Gen Psy





The Emotional Cascade Model

Selby & Joiner (2009)

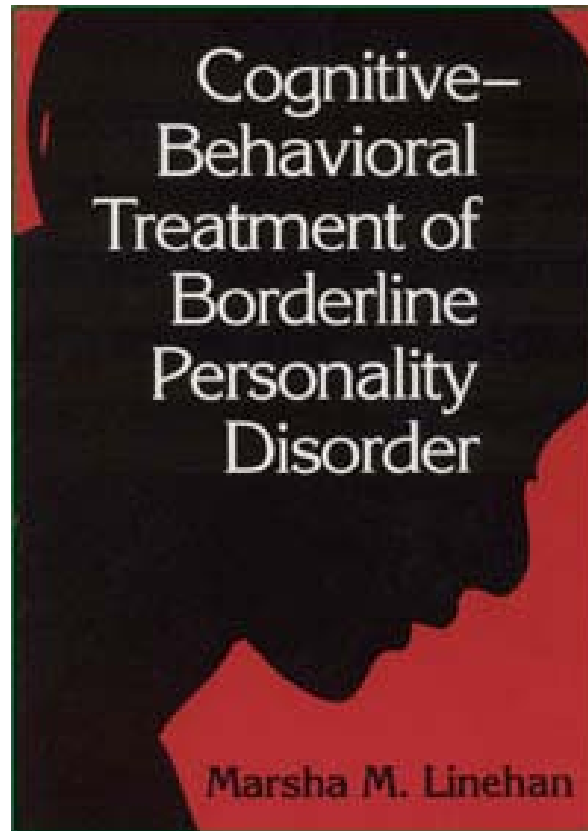
Rev of Gen Psy



Treatment Implications



Dialectical Behavior Therapy





Mindfulness

Activities



Puzzles

8			4		6			7
						4		
	1					6	5	
5		9		3		7	8	
				7				
	4	8		2		1		3
	5	2					9	
		1						
3			9		2			5

	A	N	T	S		S	O	U	N	D		A	G	E	N	T
D			R			O				E			U			R
E			A			F	I	S	H			N	O	R	T	H
A	G	E	N	T		L				G			S			P
T			S			E				U		B		B	T	I
H	O	R	M	O	N	O	M	I	M	E	T	I	C			C
	D		I			E				A		O		C		S
H	O	S	T			M		P		R		A	L	G	A	E
	R					I		A		I		O		T		
R						F	E	E	D	I	N	G		E	G	G
A			A			S		N		O		I				E
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H			A			A				D		A		O		E
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T	E	X	A	S								V	E	C	T	O



Computer-Aided Therapy



iPhone Apps

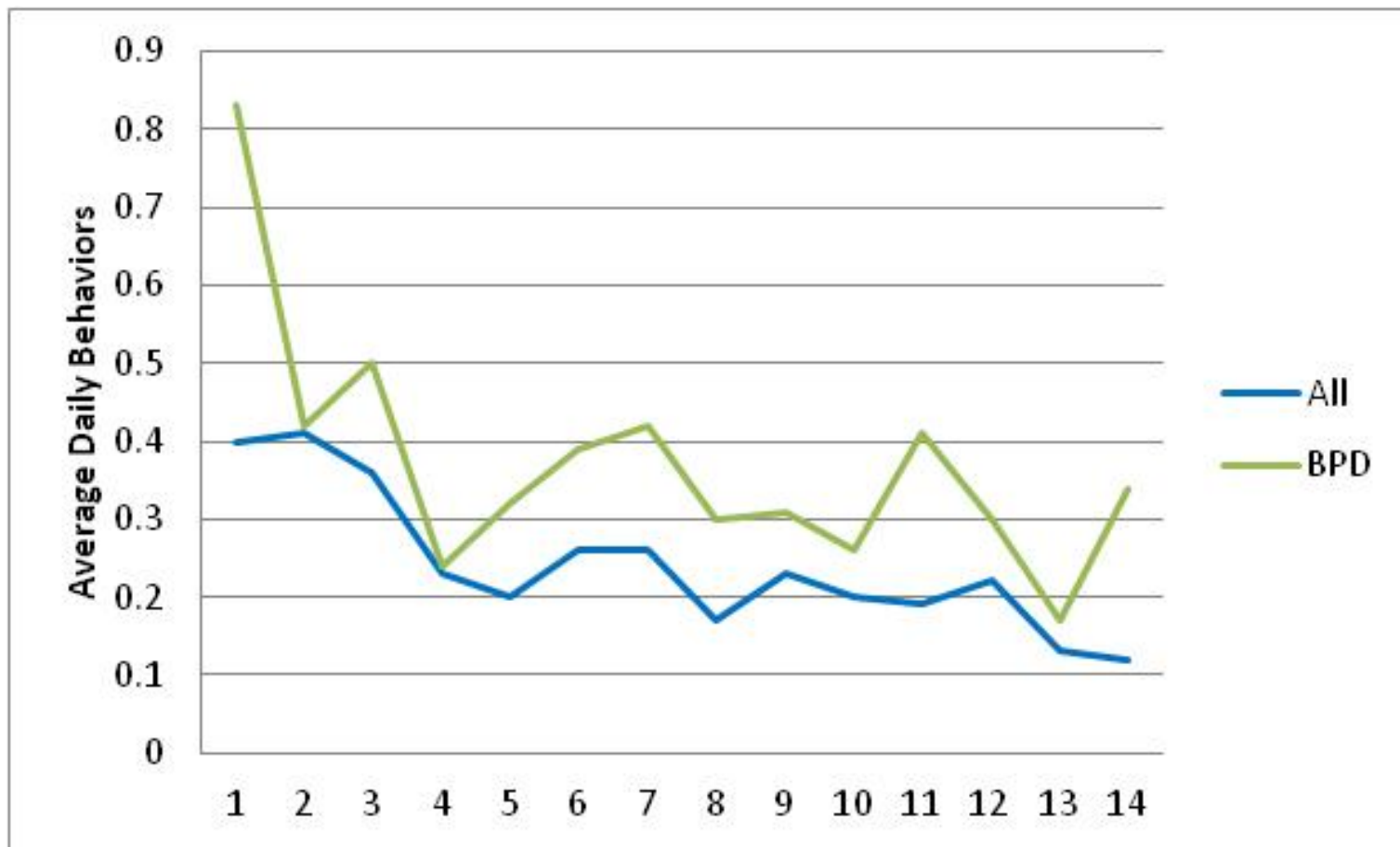


See work of Shireen Rizvi, Ph.D. here at Rutgers (Rizvi et al., 2011, Beh Therapy)

- Why?
- Practical
 - Therapy is like Church
- Efficient
 - Connecting Rumination -> Negative Emotion -> Behavior
- Economical
 - Could reduce sessions need and/or time in treatment
- Engaging



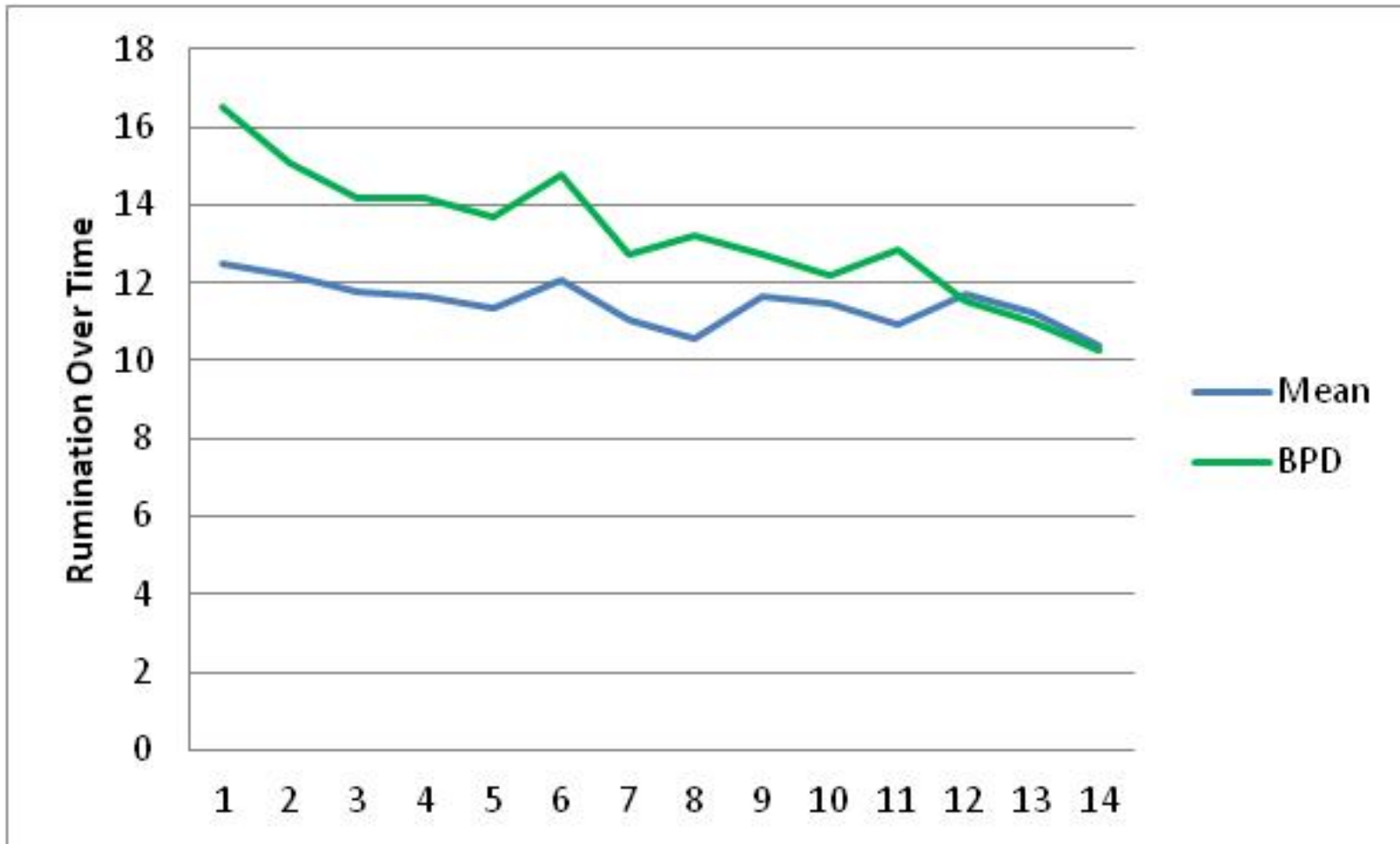
Changes in Behaviors



Selby, Rizvi et al., under review



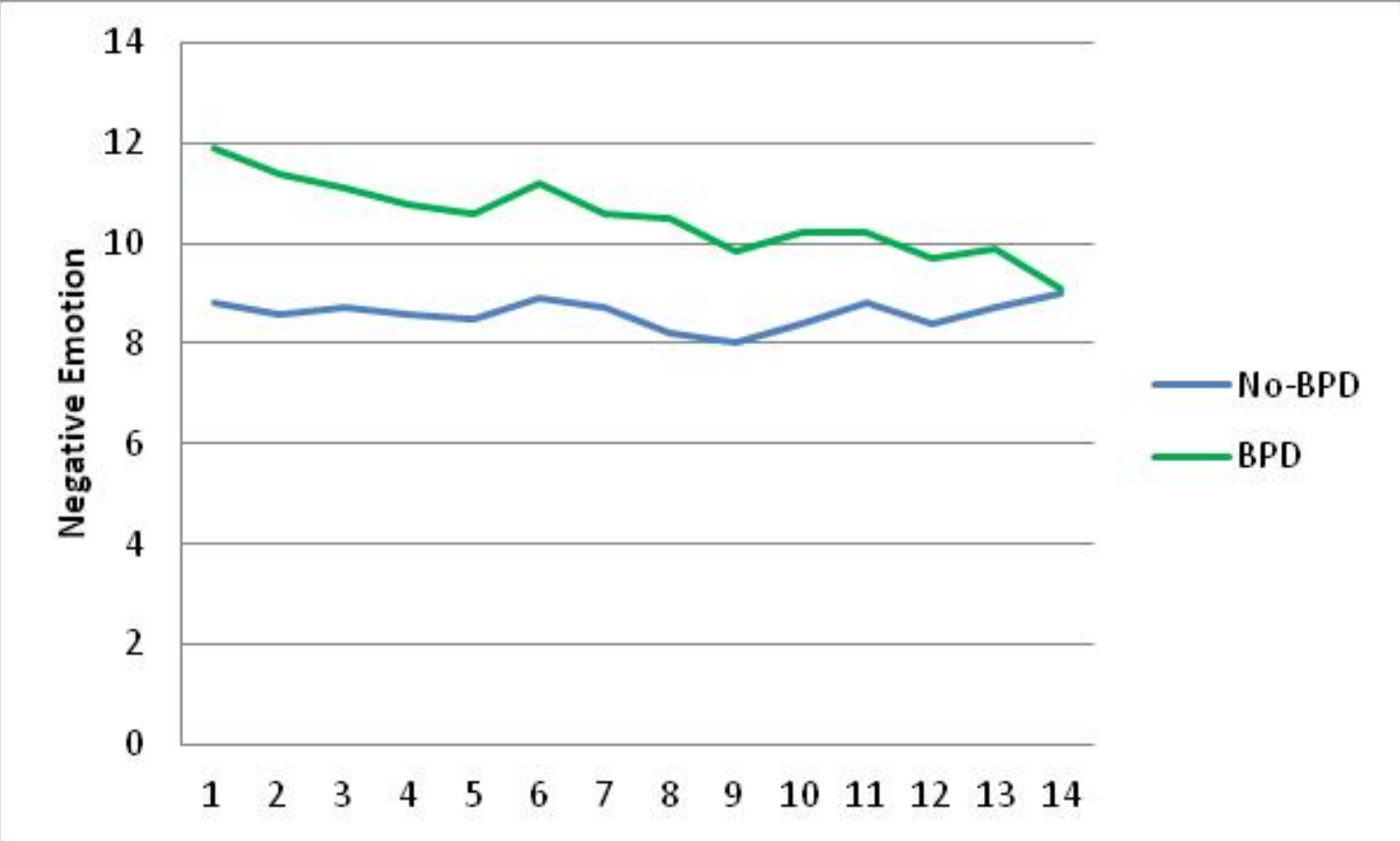
Changes in Rumination



Selby, Rizvi et al., under review



Changes in Negative Emotion



Selby, Rizvi et al., under review



Future Directions

- Comparing BPD to other emotion dysregulation disorders (bulimia, depression) on physiological responses to a rumination induction (NARSAD, Families for BPD Research Funded Project)
- Examining speed of negative thoughts on emotional reactivity, anticipate that emotional cascades are characterized by fast rumination
- Developing an Emotional Cascades Scale
- Examining if mindfulness treatments reduce rumination/emotional cascades



Special Thanks To:

- Brain and Behavior Research Foundation
- Families for Borderline Personality Disorder Research
- National Institute of Mental Health
- Rutgers University

