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

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Self-Sabotage

dysregulated behaviors
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
Increased Emotional Intensity

Emotion

Rumination

Physical Sensations

Increased Emotional Intensity

Behavioral Dysregulation

RELIEF

EMOTIONAL CASCADE

Behavioral Dysregulation

RELIEF
Cascades = Mechanism?

Emotion Dysregulation  BPD  Behavioral Dysregulation
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

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Selby et al. (2009)
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
Selby et al. (2009)
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Selby et al. (2009)

J Abnormal Psy
Selby et al. (2009)

*J Abnormal Psy*
Rumination Induction
Rumination Induction

Baseline Emotions → Ruminative Thought for 5 Minutes → Post-Induction Emotions
Selby et al. (2009)
J Abnormal Psy
Selby et al. (2009)
J Abnormal Psy
Selby et al. (2009)
J Abnormal Psy

Rumination Induction

η^2 = .12

p<.05

Baseline
Post-Induction
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
Please indicate how much you feel this way RIGHT NOW:

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Some</th>
<th>A Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Angry</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Excited</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Proud</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sad</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bored</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Numb</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Behavioral Assessment

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

Check ALL that Apply:

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

[Previous Page] [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

[Previous Page] [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 

[Previous Page] [Next Page]
<table>
<thead>
<tr>
<th>Behavior</th>
<th>Number Reported</th>
<th>% Sample Reporting Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Use</td>
<td>50</td>
<td>45.3%</td>
</tr>
<tr>
<td>Reckless Driving</td>
<td>14</td>
<td>20.3%</td>
</tr>
<tr>
<td>Self-Injury</td>
<td>25</td>
<td>13.8%</td>
</tr>
<tr>
<td>Impulsive Shopping</td>
<td>21</td>
<td>25.6%</td>
</tr>
<tr>
<td>Marijuana Use</td>
<td>116</td>
<td>34.2%</td>
</tr>
<tr>
<td>Binge Episode</td>
<td>62</td>
<td>36.8%</td>
</tr>
<tr>
<td>Physical Fight</td>
<td>9</td>
<td>4.4%</td>
</tr>
<tr>
<td>Threw Object</td>
<td>20</td>
<td>29.0%</td>
</tr>
</tbody>
</table>
Predicting Emotional Cascades and Dysregulated Behaviors

Selby & Joiner, In Press, Personality Disorders, Theory, Research & Treatment
High Lag-Rumination

$\gamma = .18^*$

High Lag- Negative Emotion

$\gamma = .20^*$

Immediate Future Dysregulated Behavior

$\gamma = .17^*$

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
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