New Directions in Implementing Exposure and Response Prevention

An Inhibitory Learning Perspective

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Outline

- Models of ERP: Habituation vs. Inhibitory learning
  - Using exposure to foster fear tolerance
  - Techniques for optimizing exposure
    - 1. Expectancy tracking
    - 2. Multi-media exposure
    - 3. Linguistic processing
    - 4. Variability in exposures
      - a) Intensity
      - b) Context
      - c) Practice intervals
  - Response prevention
- Case example – “Samantha”
  - Applying the material to Samantha’s case
- Discussion

The Nature of OCD

- Senseless mental stimuli (and external triggers) are misinterpreted as significant and threatening
  - Based on mistaken beliefs
  - Leads to obsessional fear
- Avoidance and rituals performed to reduce obsessional fear
- Avoidance and rituals are reinforced by the reduction in distress they engender
- Avoidance and rituals maintain obsessional fears by preventing changes in mistaken beliefs

Treatment of OCD: ERP

- OCD remits when patients come to believe their obsessions and fears are unfounded and act accordingly
  - Simply talking about probabilities is not as convincing as direct evidence from experience
  - Patients need to directly confront their fears (exposure) and drop their rituals (response prevention) to truly master them
- Exposure & response prevention (ERP) is the most powerful intervention in the treatment of OCD

Emotional Processing Theory (EPT), Habituation, and Exposure Therapy

- EPT emphasizes the importance of within- and between-session habituation
  - Provok initial anxiety (SUDS)
  - Remain exposed until anxiety subsides naturally
Implications of EPT for OCD Patients

- It is assumed that patients improve if
  - Self-reported anxiety (SUDS) decline during exposure trials
  - Exposure to the same stimulus evokes less anxiety from one trial to the next

Craske et al. (2008)

Is Performance During Exposure a Reliable Indicator of Learning?

- Although habituation usually occurs during exposure, it’s not a good predictor of outcome
- Fear expression during learning is not the same thing as fear learning
- Decline in anxiety across similar exposures may predict, but is not necessary for, long-term improvement
- Successful response to exposure can occur in the absence of habituation

Re-thinking Pathways to Long-term Success: An Inhibitory Learning (IL) Approach

- Research shows that fear associations remain intact during exposure while new safety learning is formed
  - The old and new associations compete with one another
- Important to maximize the likelihood that safety learning will inhibit access and retrieval of fear associations
  - Violate negative expectancies
  - De-contextualize inhibitory associations

Consequences of Over-Relying on Habituation

- Can contribute to return of fear and relapse
  - Patients view anxiety/fear/arousal/obsessions as a problem
  - Exposure used to control anxiety
  - Sets up the expectation that lower-level anxiety is safer or easier than higher levels
  - Inevitable surges of anxiety and arousal viewed as a failure

Using Exposure to Foster Fear Tolerance

- If ERP can instill greater fear tolerance, inoculate patients against return of fear
  - Lapse vs. relapse

- How to set up exposures
  - Opportunities to practice fear tolerance
    - OCD patients: “Make anxiety go down”
    - IL approach: “Learn that you can tolerate anxiety”
  - “Bring it on” attitude!
  - Be on the lookout…

Techniques for Enhancing Inhibitory Learning during ERP
1. Frame ERP to Mismatch Expectancies

- Non-catastrophic exposure trials generate “non-threat” associations
- What are negative outcomes for OCD patients?
  - Immediate
  - Long-term
  - Unknowable
  - Intolerance of unpleasant internal experiences

Clinical Implications: Expectancy Tracking

- Set up exposure to violate expectancies, not SUDS
- Strength of negative expectancy (90% sure X will happen…)
- Level of distress tolerance
- Length of time patient can resist ritual
- Consolidate learning by asking patients to summarize what they learned (i.e., the discrepancy between what was predicted and what occurred)

2. Combine Fear Cues

- When an expected negative outcome fails to occur despite the presence of multiple fear cues, inhibitory learning is greater than when only a single fear cue is present
  - “Deepened extinction” (Rescorla, 2006)
- What are fear cues for OCD patients?
  - External (contaminants, leaving the house, numbers, religion)
  - Cognitive (obsessional thoughts, images, doubts)
  - Physiological (arousal)

Clinical Implications: Multi-Media Exposure

- Include multiple fear cues and multiple media in exposures

3. Linguistic Processing

- Speaking about how one is feeling (“affect labeling”) aids the development of non-threat associations
- Different than cognitive therapy in which appraisals are changed
Clinical Implications: Put Feelings into Words

- Ask patients to label their feelings during exposure
- “I’m feeling scared that reading about Jerry Sandusky’s despicable behavior will cause me to become a pedophile”
- “I am very afraid that when I touched the bathroom floor, I got urine and feces germs on my hands”
- “I feel uncertain of whether God is angry at me for thinking curse words while sitting next to the bible”

4. Maximize Exposure Variability

- Introducing variability into exposure makes short-term learning more difficult, but enhances long-term retention and generalization of learning
- “Desirable difficulties”

Challenges for therapists

Clinical Implication: a) Variable Exposure Intensity

- Limitations of the traditional “gradual” exposure hierarchy
- Over-reliance on habituation
- Sets up the expectation that lower-level anxiety is safer or easier than higher levels
- Anticipation of high items reinforces fear of anxiety

- Alternative “variable” approach…

Clinical Implication: a) Variable Exposure Intensity

- Why vary exposure intensity?
- To tolerate exposure across a variety of emotional states
- More opportunities for “surprise”
- Preparation for real world settings

In practice:
- “To do list” as opposed to “hierarchy”
- Select at random (as much as possible)

Fear Hierarchy: Gradual Exposure

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Variable Exposure

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### Clinical Implication:
#### b) Variable Exposure Contexts
- Enhances accessibility and retrieval of new safety learning (e.g., cues)
- In practice:
  - Patient practices exposure in as many contexts as possible
    - Situations and stimuli
    - Others present (therapist)
    - Other treatments (medication)
    - Time of day/week
  - Aim for practice in situations where symptoms are likely to be triggered

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### Clinical Implication:
#### c) Variable Practice Interval
- Temporally spacing learning trials results in better long-term retention of what was learned
- More opportunities to strengthen long-term memory by forgetting and practicing re-learning associations
- In practice:
  - Expanding spaced scheduling
    - 2x/week $\rightarrow$ 1x/week $\rightarrow$ every other week, etc.

### In-Situation Safety Behaviors
- Performed to (a) prevent feared outcomes and/or (b) reduce OCD-triggered distress
- Given role in maintenance of OCD, traditionally eliminated during “exposure and response prevention”
- Traditional justification for E + RP
  - Disrupts therapeutic information processing
  - Misattribution of safety
- But there’s more…
Safety Behaviors Interfere with IL
Hypothesized to interfere with theoretical mechanisms of IL:

- Violate negative expectancies
- De-contextualize inhibitory associations
- Develop fear tolerance

Recommendations

- Continue response prevention
- At the patient’s pace
- Consistent with “gradual” / “hierarchical” approaches
- Provide rationale for E + RP
- Tie in theoretical model of OCD
- Continued research will be helpful

Case Example: “Samantha”

- 30 yr old female (lives w/ husband)
- YBOCS = 27
- Obsessions: What if I “lose control” and murder loved ones, molest my nieces, or develop schizophrenia?
- Compulsions: Mental reassurance that personality isn’t changing, mental phrases (e.g., “I’m ok”), reassurance from husband
- Avoidance: Potential weapons (e.g., knives), nieces, news stories about violence, information about mental illness
- Onset: Adolescence
- No history of abuse, violence, or other psychiatric diagnoses

Samantha’s Exposure List

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</tr>
<tr>
<td>Write story about molesting nieces</td>
<td>85</td>
</tr>
<tr>
<td>Hold knife next to cat</td>
<td>80</td>
</tr>
<tr>
<td>Rough-housing with young nieces</td>
<td>70</td>
</tr>
<tr>
<td>Write story about murdering husband</td>
<td>90</td>
</tr>
<tr>
<td>Read news stories about child molesters</td>
<td>60</td>
</tr>
<tr>
<td>Sleep next to husband with knives on nightstand</td>
<td>90</td>
</tr>
<tr>
<td>Read news stories about murderers</td>
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Samantha’s Multi-Modal Exposures

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<td>Read about schizophrenia</td>
</tr>
<tr>
<td>Write story about molesting nieces while looking at pictures of nieces</td>
</tr>
<tr>
<td>Hold knife next to cat while listening to news story about psychotic break</td>
</tr>
<tr>
<td>Rough-housing with young nieces</td>
</tr>
<tr>
<td>Write story about murdering husband</td>
</tr>
<tr>
<td>Read news stories about child molesters after interoceptive exposure</td>
</tr>
<tr>
<td>Sleep next to husband with knives on nightstand</td>
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Samantha’s Varied Context Exposures

- Read about schizophrenia before bed and while eating lunch
- Write story about molesting nieces
- Hold knife next to cat while anxiety sensation is high (e.g., after caffeine)
- Rough-housing with young nieces while mother is around and while alone
- Write story about murdering husband after argument or sad movie
- Read news stories about child molesters
- Sleep next to husband with knives on nightstand
- Read news stories about murderers

Samantha’s Response Prevention Goals

- Discontinuing “checks” and mental reviewing to test whether she is “normal”
- Fade out self-talk/phrases that assure she is “ok”
- Cutting back on asking husband questions

Discussion

- How can we apply the techniques for enhancing inhibitory learning during ERP?
  1. Expectancy tracking
  2. Multi-media exposure
  3. Linguistic processing
  4. Variability in exposures
    a) Order
    b) Context
    c) Practice intervals

Thank you!