Psychotherapy Update

Acceptance and commitment Therapy
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Open-source Material:
Association for Contextual Behavioral Science

www.contextualpsychology.org
What is ACT?

- A detailed system of psychotherapy
- Rooted in empirical science
  - emerging from radical behaviorism (BF Skinner)
- Uses Acceptance & Mindfulness processes and Commitment and Behavior Change processes
  - to produce greater psychological flexibility
- Part of 3rd Wave of Cognitive-Behavioral Therapies
Behavior Therapy: 1st Wave

- Treatments based on well established basic learning principles
  - for example…
  - Systematic Desensitization
    - Classical conditioning

- Behavior Modification
  - Operant conditioning
Behavior Therapy: 2\textsuperscript{nd} Wave

- Examining cognition as behavior to be changed

- Cognitive Therapy (Beck)

- Rational-Emotive Behavior Therapy
  - RT -> RET -> REBT ....
  - ALBERT
Behavior Therapy: 3\textsuperscript{rd} Wave

- “Mindfulness” – changing relationship to thoughts
  - Focus on FUNCTION, not FORM of cognitive events

- Mindfulness-Based Stress Reduction
  - (MBSR, Jon Kabat-Zinn)

- Dialectical Behavior Therapy
  - (DBT, Marsha Linehan)
What do we mean by function not form?

In traditional CBT: FORM

- Emotions
- Thoughts & Beliefs
- Physiology
- Behaviour
- The Environment
What do we mean by function not form?

In traditional CBT: FORM

- Emotions
- Behaviour
- Thoughts & Beliefs
- Physiology
- Anxiety symptoms
- People will think I’m a freak!!
- Change those two and these will change
- Avoid social situations
- This is distorted, catastrophic: change it and all will be well
- This is a safety behavior, change it and the thought will change
Problems with $2^{\text{nd}}$-Wave Model

- Mechanistic
- It has difficulty explaining the actual effects of cognitive therapy
- People often don't stop having negative thoughts, but they “buy into them” less
- We can have emotional reactions without apparent thoughts
- We can have thoughts about distressing things without having strong emotions
- How is it that thoughts cause actions?
What do we mean by function not form?

In Acceptance & Commitment Therapy: FUNCTION

- Emotions
- Thoughts & Beliefs
- Behaviour
- Physiology
- The Environment

These are not targets for change in content.

This link is a target.
What do people normally do with distressing private experiences?

- Pain, unpleasant physiological sensations, negative memories, unwanted urges:
  - **Control them**

- We don’t like having them
- We are taught as children to develop emotional and behavioral control
- If something aversive happens outside in the world, often getting rid of it WORKS
What happens if we try to control private experiences?

- What do your patients do to try and avoid having pain, unpleasant feelings, thoughts, memories etc?

- Do these things lead them to more vitality, a greater sense of fulfilment, meaning and purpose in life?

- So maybe: Control is part of the problem, not the solution
Living with Pain vs. Pain of not Living?

- Having unpleasant private experiences is hard.
- It's normal (and healthy) to suffer, to get upset.
- Illness, Loss, not getting what you want or need, fear of the unknown, change etc.....
- But in your efforts to avoid having that, life SHRINKS – Pain of presence replaced with pain of ABSENCE.
How does ACT approach this?

- Stopping fruitless attempts at control:
  - “Creative Hopelessness”

- Helping the person to make contact with what values are important to them

- Defining values in relation to achievable goals

- Promoting acceptance and contact with whatever private experiences are aversive or difficult
How does ACT approach this?

- Taking committed action towards valued goals, even in the presence of aversive private events
- Experiential exercises
  - Contact with Present-moment sensations
  - Increased Willingness to have discomfort
  - “Defusion” from thoughts, “You are not your thoughts”
  - “Self-As-Context” – Contacting the Observing Self
The ACT Model of Psychopathology

Psychological inflexibility

Dominance of Conceptualized Past & Future

Lack of Values Clarity, dominance of pliance and avoidant tracking

Inaction, impulsivity or avoidant persistence

Experiential avoidance

Cognitive Fusion

Attachment to the conceptualized self
The Positive Psychological Processes ACT Seeks to Strengthen

- Being in the present moment
- Acceptance / Willingness
- Defusion
- Self as Context
- Values
- Committed Action

Psychological Flexibility
Key Concepts in ACT

Acceptance & Mindfulness Processes

Being in the present moment

Components of ACT

Acceptance / Willingness

Defusion

Self as Context

Values

Committed Action
Key Concepts in ACT

Components of ACT

Being in the present moment

Acceptance / Willingness

Defusion

Self as Context

Commitment and Behavior Change Processes

Values

Committed Action
Key Concepts in ACT

Contacting the present moment

Psychological Flexibility

Acceptance / Willingness

Defusion

Self as Context

Values

Committed Action
The Question

- Given what's important to me, what am I willing to do and experience to move me in that direction, in this moment?

  - “Choose Again!”

  - Context-sensitivity:
    - “Not Always So” (S. Suzuki)
Evidence Base for ACT

- Controlled studies have provided evidence of efficacy for:
  - Work stress, social phobia, agoraphobia, stigma and burnout in substance abuse counselors, depression, substance misuse, smoking cessation, weight loss, diabetes, chronic pain, epilepsy, psychosis, borderline personality disorder, trichotillomania, tinnitus, end-stage cancer
  - (Hayes, et al 2006)
## Evidence base for ACT (Hayes 2006)

Overall effect sizes across all RCTs

<table>
<thead>
<tr>
<th>Vs.</th>
<th>#</th>
<th>Post d</th>
<th>N</th>
<th>F-Up d</th>
<th>N</th>
<th>F-Up weeks</th>
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<tr>
<td>No Rx/TAU</td>
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<tr>
<td>Active Rx</td>
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<td>.82</td>
<td>727</td>
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<tr>
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<td>.55</td>
<td>120</td>
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<tr>
<td>All</td>
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<td>.66</td>
<td>1041</td>
<td>.8</td>
<td>903</td>
<td>33</td>
</tr>
</tbody>
</table>
This graph contains a cumulative record of the randomized clinical trial on Acceptance and Commitment Therapy through June 20, 2012 (including articles in press).
Evidence base for ACT

Meta-analysis of ACT versus CBT

Effect Sizes:

Overall 0.68 (15 studies)
WL Control 0.96 (2 studies)
TAU 0.79 (5 studies)
Active Treatment 0.53 (8 studies)

Lars Goran Ost (BRAT 2008)
Evidence base for ACT

Also:
Background variables

<table>
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<th>ACT</th>
<th>CBT</th>
<th>p value</th>
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<tr>
<td>Numbers starting</td>
<td>52.1</td>
<td>76.5</td>
<td>NS</td>
</tr>
<tr>
<td>Attrition (% starters)</td>
<td>15.4</td>
<td>16.1</td>
<td>NS</td>
</tr>
<tr>
<td>No of weeks</td>
<td>8.2</td>
<td>17.2</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>No of hours</td>
<td>10.7</td>
<td>22</td>
<td>NS</td>
</tr>
<tr>
<td>Months follow up</td>
<td>4.2</td>
<td>9.6</td>
<td>NS</td>
</tr>
</tbody>
</table>

Lars Goran Ost (BRAT 2008)
Evidence base for ACT

HOWEVER…

Using a scale to rate methodological rigour

ACT studies on average are significantly poorer quality than recent CBT studies:

Total quality score (max 44)

ACT = 18.1 (SD = 5.0)  CBT = 27.8 (SD = 4.2)  
\[ p < 0.0001 \]
Evidence base for ACT

ACT studies are poorer on criteria such as;

Representativeness of the sample, reliability of diagnosis, reliability and validity of outcome measures, assignment to treatment, number of therapists, therapist training and experience, treatment adherence checks, control of other treatments.

Lars Goran Ost (BRAT 2008)
Evidence base for ACT

ACT studies are equivalent on other criteria:

clarity of sample description, severity / chronicity of disorder, specificity of measures, use of blind assessors, assessor training, design, power analysis, assessment points, manualized specific treatments, checks for therapist competence, handling of attrition, statistical analyses and presentation of results, clinical significance of results.

Lars Goran Ost (BRAT 2008)
A further recent review:


General conclusion is that ACT shows promise across a wide range of disorders (mainly focussed on adult clinical problems)

The mechanisms of change appear to fit with the models processes and are different to CT based mechanisms

The research evidence is not sufficiently developed to allow us to compare efficacy between therapies
Beyond Efficacy....
Importance of Mediation & Moderation

- **Moderation**
  - Treatment matching

- **Mediation**
  - Identifying core processes
    - Across treatments
    - Across diagnoses
  - New area of research
If This Model is Valid

- You should be able to see correlational evidence that experiential avoidance, cognitive fusion, and so on are associated with poor outcomes.
- The primary vehicle for population based correlational studies so far has been with the Acceptance and Action Questionnaire.
  - (AAQ, Hayes, Luoma, Bond, Masuda & Lillis 2006)
Origin of the AAQ

- Although the AAQ is often said to be a measure of experiential avoidance, the original item pool focused on all major ACT processes.
- These 9-16 items (depending on the version) cover a wide range of issues, including acceptance, defusion, and action.
- The AAQ seems to be a measure of psychological flexibility more generally, emphasizing the parts of the model that we can tap easily within the existing language community.
1. I am able to take action on a problem even if I am uncertain what is the right thing to do.
2. I often catch myself daydreaming about things I’ve done and what I would do differently next time.
3. When I feel depressed or anxious, I am unable to take care of my responsibilities.
4. I rarely worry about getting my anxieties, worries, and feelings under control.
5. I’m not afraid of my feelings.
6. When I evaluate something negatively, I usually recognize that this is just a reaction, not an objective fact.
7. When I compare myself to other people, it seems that most of them are handling their lives better than I do.
8. Anxiety is bad.
9. If I could magically remove all the painful experiences I’ve had in my life, I would do so.

Ratings on items 1, 4, 5, and 6 are reversed for scoring purposes.
AAQ Scores Are Associated With ….

- Higher anxiety
- More depression
- More overall pathology
- Poorer work performance
- Inability to learn
- Substance abuse
- Lower quality of life
- Trichotillomania

ALMOST EVERYTHING

- History of sexual abuse
- High risk sexual behavior
- BPD symptomatology and depression
- Thought suppression
- Alexithymia
- Anxiety sensitivity
- Long term disability
- Worry
Quantitative Summary

- All reported correlations are positive for the model
  - BDI (8 studies) \( .50 \)
  - SCL 90 (3 studies) \( .53 \)
  - BAI or STAI (3 studies): \( .49 \)
  - GHQ (3 studies): \( .40 \)
- Overall effect size \( .42 \)
  - (CI: 0.40–0.44)
- More specific AAQ-style measures are coming for use with various disorders and so far they too seem to be working
Analog Studies: Outcomes

- Review of 29 analog studies (Mike Levin)
  - All focusing on an acceptance-based interventions
    - Some also targeted defusion, values
  - Some compared acceptance to suppression/control
- 16 were for pain
  - Cold pressor
  - Electric shock
  - Root canal procedure
- Other challenges
  - Anxiety/Panic/CO₂
  - Negative Mood
  - Intrusive Thoughts

- Overall, positive effects for acceptance over suppression/control
Analog Studies of Moderation
Example: Feldner et al. (2003)

- 48 non-clinical participants
  - Divided into high and low EA
- CO₂ challenge
- 2 conditions:
  - Inhibit emotional state vs. simply observe
- Higher distress among high-EA participants
  - No effect for heart-rate or physiological arousal

EA Moderation
- Low EA participants, suppression resulted in lower anxiety
- High EA participants, observing resulted in lower anxiety
Analog Studies
Another example: Blacker et al. (2009)

- Cold pressor task, with alternating control vs. acceptance conditions
- EEG measured throughout (results described below…)
- Behavioral results: No overall differences in outcomes (pain intensity or latency to remove hand)

**EA Moderation**
- Higher baseline EA → greater pain tolerance for acceptance
- Lower baseline EA → greater pain tolerance for control

Blacker, Herbert, Kounios, & Forman, in preparation
Analog Studies
Example: Forman et al. (2007)

- 98 undergraduates
- Given Hershey’s Kisses and told not to eat them
- Conditions: control, acceptance, no instruction; DVs = cravings and consumption
- Sensitivity to food environment as moderator
  - Among those high in susceptibility to food, acceptance worked better than control
  - But acceptance caused higher cravings in those low in susceptibility to food
- Replication recently completed with obese women (Hoffman et al.)
  - Similar findings, except Emotional Eating emerged as moderator rather than susceptibility to food per se
Analog Studies

Clinical Population

- Feinstein et al., in preparation
- Impact of pain & acceptance on anxiety, disability, & quality of life in Juvenile Idiopathic Arthritis
- Acceptance associated with anxiety & QOL

*Interaction between acceptance and pain:*
  - Low acceptance → pain → decreased QOL
  - High acceptance → pain unrelated to QOL
EA as a Moderator in Analog Studies

- Overall, preliminary evidence for moderating effects of EA and related constructs in analog studies of acceptance-oriented interventions
- Those higher in baseline EA tend to do better in acceptance-based interventions relative to suppression or control-based interventions
Moderation in Clinical Trials

- Like analog studies, EA (and related constructs) has been studied as a moderator in a few clinical trails
Moderation in Clinical Trials

- Masuda et al. (2007)
  - 2-hr. college classroom intervention for stigma towards mentally ill
    - 2-hr. ACT vs. Education
  - ACT worked for participants high and low in EA
  - Education only worked for those low on EA
Moderation in Clinical Trials

- Clinical trials suggest that EA is associated with:
  - Greater psychopathology
  - Worse clinical outcomes
    - Higher attrition
    - Less responsiveness to treatment
Uncontrolled Clinical Trials: Example

- Dalrymple & Herbert (2007) uncontrolled pilot of Acceptance-based BT for social anxiety disorder
- Large treatment effects
- *Earlier (pre-to-mid-tx) changes in EA associated with later (mid-to-F/U) changes in symptoms (even after controlling for fear of negative evaluation)*
Example of RCT with Equivalent Outcomes

- Forman et al. (2008)
- RCT of ACT vs. CT (broadly defined)
- Novice therapists; controls for allegiance
- \( n = 101 \) heterogeneous outpatients with mood or anxiety problems
- Results: Large changes; no differences between groups
- Some evidence for distinct mechanisms:
  - Changes in "observing" & "describing" one's experiences associated with outcomes in CT
  - Changes in EA, "acting with awareness" and "acceptance" associated with outcomes for ACT
- Similar findings by Lappalainen et al., 2007
Example of Formal Mediation: Lillis et al. (2009)

- 84 participants who had completed at least 6 mos. of a weight loss program
- Conditions: 1-day ACT workshop vs. wait list
- Results of Sobel test with bootstrapping:
  - Weight-related ACT processes mediated
    - Weight loss (.55)
    - Psychological distress (.52)
    - Weight-related QoL (.69)
    - Weight-related stigma (.82)
  - AAQ mediated all but weight loss
  - Breath-holding mediated weight loss & stigma
ACT vs. TAU for Psychosis: Believability as Mediator
(Gaudiano & Herbert, 2005; Gaudiano et al., under review)

\[
\begin{align*}
X &= \text{Treatment Condition (TAU vs ACT)} \\
M &= \text{Believability of Hallucinations (Post-Treatment)} \\
Y &= \text{Distress about Hallucinations (Post-Treatment Scores Controlling for Pre-Treatment Scores)} \\
\end{align*}
\]

\[
\begin{align*}
a &= 2.54 \\
c &= 1.93 \\
b &= 0.52 \\
c' &= 0.61
\end{align*}
\]

- Examined 30 ACT outcome studies
- 27 studies found effects with ACT processes of change
- 18 showed successful mediation using formal analyses
- 14 were included in the meta-analysis
  - 80% used measures encompassing EA/acceptance
- Key metric: portion of effect mediated \( (1 - (c'/c)) \)
- Overall effect size: 42%