Acceptance and Commitment Therapy (ACT) and Chronic Pain

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Outline of Talk

- Propose that psychological approaches to chronic pain are developing
- Describe an ACT model.
- Summarize the state of outcome literature on ACT for chronic pain.
- Suggest that
  - Suffering is normal
  - control is often unworkable
  - your mind cannot be trusted
# The Evolution of Clinical Psychology

<table>
<thead>
<tr>
<th>Underlying Framework</th>
<th>Processes of Pathology</th>
<th>Target</th>
<th>Therapy Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operant</td>
<td>Conditioning</td>
<td>Behavior</td>
<td>Conditioning</td>
</tr>
<tr>
<td>Cognitive Behavioral</td>
<td>Conditioning, attention, cog bias, thinking, believing</td>
<td>Behavior and symptoms (physical &amp; emotional)</td>
<td>Skills training, exposure, cognitive therapy</td>
</tr>
<tr>
<td>Contextual (MBSR, ACT)</td>
<td>Avoidance, cog fusion, self, values, commitment, loss of present</td>
<td>Behavior</td>
<td>Acceptance, defusion, mindfulness, values, skills training, relationship</td>
</tr>
</tbody>
</table>
Do we need to challenge thoughts in cognitive behavior therapy?

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“…there is little empirical support for the role of cognitive change as causal in symptomatic improvements achieved in CBT.”

(Longmore & Worrell, 2007)
Cognitive-behavioral therapy for persistent pain: Does adherence after treatment affect outcome?

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Outcome

ABSTRACT

It is a tenet of cognitive behavioral treatment of persistent pain problems that ex-patients should adhere to treatment methods over the longer term, in order to maintain and to extend treatment gains. However, no research has quantified the causal influence of adherence on short-term outcome in this field. The aims of this study are to assess determinants of adherence to treatment recommendations in several domains, and to examine the extent to which cognitive and behavioral adherence predicts better outcome of cognitive behavioral treatment for persistent pain. Longitudinal data from a sample of 2345 persistent pain patients who attended a multicomponent treatment programme were subjected to structural equation modeling. Adherence emerged as a mediating factor linking post-treatment and follow-up treatment outcome, but contributed only 3% unique variance to follow-up outcomes. Combined end-of-treatment outcomes and adherence factors accounted for 72% of the variance in outcome at one-month follow-up. Notwithstanding shortcomings in the measurement of adherence, these findings question the emphasis normally given to adherence in the maintenance of behavioral and cognitive change, and clinical implications are discussed.

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Method

- N = 2,345 people attending treatment for chronic pain.
- Measures of outcome administered pre-, post, and 1 month follow-up.
- Measures of adherence to treatment methods measured at 1 month follow-up.
Results

- Adherence to pacing, thought challenging, stretching, and exercise had very small relations with outcome variables.
- Variance in wellbeing at follow-up accounted for by adherence factors ranged from 1 to 2%. 
"If taken at face value, the findings suggest that both theory and practice of recommending adherence to treatment methods require re-examination if not overhaul." (p 187)
Therapist Drift

- Therapists often do not fully implement CBT.
- This usually includes shifting focus from doing to talking.
- This arises from therapist cognitive distortions, emotional reactions, and avoidance.

“Our biggest single problem in implementing CBT is that many clinicians fail to push for behavior change (e.g., exposure, behavioral activation, ...) despite the evidence that these elements of treatment are the most important.”

“Our being ‘nice to’ or ‘protective of’ the patient can worsen the problem.”
Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial

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John A. Astin
California Pacific Medical Center

Scott R. Bishop
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Matthew Cordova
Palo Alto Veteran Affairs Health Care System

The literature is replete with evidence that the stress inherent in health care negatively impacts health care professionals, leading to increased depression, decreased job satisfaction, and psychological distress. In an attempt to address this, the current study examined the effects of a short-term stress management program, mindfulness-based stress reduction (MBSR), on health care professionals. Results from this prospective randomized controlled pilot study suggest that an 8-week MBSR intervention may be effective for reducing stress and increasing quality of life and self-compassion in health care professionals. Implications for future research and practice are discussed.

Keywords: mindfulness, stress, health care professionals, meditation
Suffering is Normal

- 15% to 30% of adults have chronic pain.
- 19% to 30% of the population suffers from a diagnosable psychological disorder in any given year.
- The lifetime prevalence of psychological disorders is nearly 50%.

The ACT model of Psychopathology

Psychological Inflexibility

- Dominance of the Conceptualized Past and Feared Future
- Attachment to the Conceptualized Self
- Inaction, Impulsivity, or Avoidant Persistence
- Lack of Values Clarity
- Experiential Avoidance
- Cognitive Fusion
“Psychological Inflexibility”

A process based in interactions of language and cognition with direct experiences that produces an inability to persist in, or change, a behavior pattern in the service of long term goals or values.

ACT Treatment Processes

Contact with the Present Moment

Psychological Flexibility

Acceptance

Values

Cognitive Defusion

Committed Action

Self as Context
Experience Thoughts and Feelings

- **Detect**
  - know a thought or feeling is present

- **Register the content**
  - understand the message of the experience

- **Believe/heed**
  - take it as true

- **Fuse**
  - contact it as the only experience present
Chronic Pain and Suffering

- Pain
- Distress & Discomfort
- Poor Functioning
- Avoidance
- Unwillingness Inflexibility

The cycle illustrates how pain leads to distress and discomfort, which in turn affects poor functioning, avoidance, and ultimately unwillingness and inflexibility.
Chronic Pain and Suffering

- Pain
- Poor Functioning
- Avoidance
- Unwillingness
- Inflexibility

Distress & Discomfort
Chronic Pain and Suffering

- Pain
- Poor Functioning
- Distress & Discomfort
- Avoidance
- Unwillingness & Inflexibility
ACT-Based Treatment for Chronic Pain

- Dahl et al., 2004. Behav Ther
- McCracken et al., 2005. Behav Res Ther
- McCracken et al., 2007. Eur J Pain
- Wicksell et al., 2008. Eur J Pain
- Vowles et al. 2009. Cog Behav Practice
Acceptance and Values-Based Action in Chronic Pain: A Study of Treatment Effectiveness and Process

Kevin E. Vowles and Lance M. McCracken
University of Bath and Royal National Hospital for Rheumatic Diseases

Developing approaches within cognitive behavioral therapy are increasingly process-oriented and based on a functional and contextual framework that differs from the focus of earlier work. The present study investigated the effectiveness of acceptance and commitment therapy (S. C. Hayes, K. Strosahl, & K. G. Wilson, 1999) in the treatment of chronic pain and also examined 2 processes from this model, acceptance and values-based action. Participants included 171 completers of an interdisciplinary treatment program, 66.7% of whom completed a 3-month follow-up assessment as well. Results indicated significant improvements for pain, depression, pain-related anxiety, disability, medical visits, work status, and physical performance. Effect size statistics were uniformly medium or larger. According to reliable change analyses, 75.4% of patients demonstrated improvement in at least one key domain. Both acceptance of pain and values-based action improved, and increases in these processes were associated with improvements in the primary outcome domains.

Keywords: acceptance, values, chronic pain, contextual cognitive-behavioral treatment, acceptance and commitment therapy
3 Year Follow-up Survey in Bath

- N = 90 (61% of those contacted)
- 64% women
- Pain Duration M = 135 months (SD = 104).

Note: Thanks to Kevin Vowles & Jane Zhao-O'Brien
Measures

- 0-10 rating of pain
- Sickness Impact Profile
- Pain Anxiety Symptoms Scale
- British Columbia Major Depression Inventory
- Medical Visits (past six months)
- Chronic Pain Acceptance Questionnaire
# Outcome at 3 Years

<table>
<thead>
<tr>
<th></th>
<th>Pre-Tx</th>
<th>3 Yr F-up</th>
<th>Sig</th>
<th>Effect Size (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>6.97 (1.84)</td>
<td>6.37 (1.84)</td>
<td>&lt;.05</td>
<td>.33</td>
</tr>
<tr>
<td>Physical Disability</td>
<td>.19 (.12)</td>
<td>.12 (.10)</td>
<td>&lt;.001</td>
<td>.60</td>
</tr>
<tr>
<td>Psychosocial Disability</td>
<td>.28 (.16)</td>
<td>.18 (.14)</td>
<td>&lt;.001</td>
<td>.63</td>
</tr>
<tr>
<td>Anxiety</td>
<td>46.52 (18.69)</td>
<td>32.88 (22.14)</td>
<td>&lt;.001</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>Pre-Tx</td>
<td>3 Yr F-up</td>
<td>Sig</td>
<td>Effect Size (d)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Depression</td>
<td>27.51</td>
<td>15.74</td>
<td>&lt;.001</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td>(12.74)</td>
<td>(12.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Visits</td>
<td>5.27</td>
<td>2.75</td>
<td>&lt;.001</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td>(5.06)</td>
<td>(2.89)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>50.61</td>
<td>69.55</td>
<td>&lt;.001</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td>(15.12)</td>
<td>(25.36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td></td>
<td></td>
<td></td>
<td>.71</td>
</tr>
</tbody>
</table>

\[ d > .2 \text{ small}, > .5 \text{ medium}, > .8 \text{ large}. \]
Impact of CBT and ACT Models in Psychology Trainee Therapists

- Participants were 28 people seeking treatment for depression or interpersonal problems.
- Matched pairs randomly assigned to be treated for 10 sessions of either ACT or CBT.
- Therapists: 14 master’s students with 3-4 years of study in psychology with little or no prior treatment experience.
- Each therapist treated one ACT and one CBT case.

## Therapist Training

<table>
<thead>
<tr>
<th>CBT</th>
<th>ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 hours lecture in CBT</td>
<td>6 hour lecture in ACT</td>
</tr>
<tr>
<td>85 pages reading</td>
<td>39 pages reading</td>
</tr>
<tr>
<td>weekly group supervision</td>
<td>weekly group supervision</td>
</tr>
</tbody>
</table>

### Note:
Both training conditions were embedded in a one semester ordinary Clinical Teaching program consisting of 20 hours lecture and 30 hours clinical case Supervision. The course emphasized evidence-based approaches.
Primary Client Outcome: GSI of SCL-90

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect at post Tx</th>
<th>Effect at follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>1.11</td>
<td>1.04</td>
</tr>
<tr>
<td>CBT</td>
<td>.56</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note: Calculated as Cohen’s $d$. (small > .20; medium > .50; large > .80)
Figure 1
Results for Primary and Secondary Outcome Measures on Which at Least Some Group Differences Were Found in Either the Nonparametric or Parametric Analyses or Both

<table>
<thead>
<tr>
<th>General Mental Health</th>
<th>Social Functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>(SCL-90 GSI)</td>
<td>(SASS)</td>
</tr>
<tr>
<td>CBT</td>
<td>ACT</td>
</tr>
<tr>
<td>ACT</td>
<td>CBT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Satisfaction</td>
<td>Pre</td>
</tr>
<tr>
<td>ACT</td>
<td>65</td>
</tr>
<tr>
<td>CBT</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depression (BDI)</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>Pre</td>
</tr>
<tr>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>CBT</td>
<td>12</td>
</tr>
</tbody>
</table>

| ACT                        | Pre   | Post | Follow-Up |
| 4                            | 8     | 12   |
| CBT                        | 12    | 8    | 4         |
Other Results

- Acceptance appeared to be the most important process to outcome in both groups.
- At the start of treatment therapists reported less knowledge of ACT.
- Therapists fear and tension during treatment decreased in CBT but not in ACT.
More Impactful Treatment in the Future

- **Contextual**
  - Able to experientially manipulate functional active influences outside of talking and thinking

- **Compassionate**
  - Able to include empathy, intimacy, and caring

- **Courageous**
  - Able to radically contact pain and suffering, and to learn to sit with it, openly, without resistance, whenever required.
Psychological approaches to chronic pain are developing and now include the notion of psychological flexibility. They emphasize that suffering is normal, and include acceptance. These approaches require treatment providers to:
- face discomfort
- act with awareness and flexibility
- enter caring relationships with people with pain.
Thank you