ACT for thriving young people

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A unified approach to improving the lives of young people

The Thriving Adolescent
Using Acceptance and Commitment Therapy and Positive Psychology to Help Teens Manage Emotions, Achieve Goals, and Build Connections

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Joseph Ciarrochi, PhD
Foreword by Steven C. Hayes, PhD
Rationale

• Our question - How do people grow flexibly?

• ACT
  • Based on psychopathology - originally
  • For adults
  • Did not account for growth in development
  • Was top down, we wanted bottom up
Connection

• large portion of the human brain is devoted to recognizing facial expressions and vocalisations

• recorded imitation of adult facial expressions as early as 42 minutes after birth

• by 6 months of age infants readily show the same emotions as adults who are caring for them

• when we witness emotions in another, our brain shows that same emotion; in other words, we mirror what others feel

• by the toddler years, spontaneously help others
WE ALL BEGIN LIFE THE SAME WAY

AS BABIES WE CRY WHEN WE ARE SAD
Laugh when we’re happy
even if it is........

We just feel... even if it is........

Weird Squishy
• We all begin seeing, hearing, touching, tasting, smelling the world just as it is - a physical experience

• We call this the - Noticer

Then we discover

• the world can be moved
• manipulated
• changed
Hey,

What's out here?

We soon set out to discover the world.

Psychological Flexibility

- Contact with the Present Moment
- Acceptance
- Values
- Defusion
- Committed Action
- Self as Context
WE SOON BECOME DISCOVERERS OF ALL SORTS OF THINGS....
At first adults speak for us

You are tired

Then we take over and speak for ourselves

I'm not tired!!!
quiet... I'm trying to think

Slowly we create a new world, a world made of our thoughts, words, memories, ideas.....
It is unique to us and we create it.
AND THEN, EVEN IF THE PHYSICAL WORLD LOOKS LIKE THIS.

WE HAVE THE POWER TO SEE THIS INSTEAD......

“The world is a cold place”

SLOWLY WE CREATE OUR VERY OWN.....

YOU SHOULD DO THIS!

YOU SHOULD DO THAT!

WHY DON'T YOU

YOU DID IT AGAIN!!!!

YOU GOT IT WRONG!

ADVISOR
our best friend too....
Not this kind of DNA
Self-view
Recognizes that self is more than self-concepts.
Can see the self as holding self-concepts.
Sees that growth and improvement are possible.
Doesn’t view self-concepts as physical descriptions of the self.
Can view himself or herself with compassion.

Social view
Recognizes the value of social connection.
Is able to have empathy and compassion for others.
Can cooperate, build friendships, and love.
Sees that history with others influences present interactions, and believes he or she can change.
Sees personal agency: “I can choose” instead of “They made me like this.”

Current situation and presenting issue
Why is the person seeking or needing help?
What are the important aspects of the person’s environment (other than social context), such as sleep patterns, medical conditions, a dangerous environment, and nutrition?

Social and historical environment
Who is important to the person? Why?
Who can the person turn to for help?
Who is the person in conflict with?
Who is the person disappointed in?
What critical experiences have happened in the past?

Able to try new behavior to discover what works and builds value.
Able to spot and develop strengths.

Able to generate beliefs, predictions, evaluations, reasons, justifications, self-concepts, and so on.
Uses workable beliefs to guide action.
Able to listen to the adviser and unhook from unhelpful beliefs, such as beliefs about emotion control and justifications for unworkable behavior.

Exploration is driven toward building values rather than by impulses that undermine values.
Tests new behavior when old behavior doesn’t work.

Has clear values.
Uses values to guide action—connecting, giving, being active, challenging the self, enjoying the moment, and self-care.

Notice self, others, and events unfolding in the present moment.
Able to notice and make space for difficult inner experiences to come and go without immediately reacting to them.

Able to try new behavior to discover what works and builds value.
Able to spot and develop strengths.

Able to generate beliefs, predictions, evaluations, reasons, justifications, self-concepts, and so on.
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DNA-V is a CBS model
CBS is a science with multiple levels

1. **Evolution science** and its principles of variation, selection and retention as an adaptation for all living organisms

2. worldview of **functional contextualism**

3. **behavioural principles** from operant theory and relational frame theory

4. applied realm with **Acceptance and Commitment Therapy (and fellow travellers)**

   • One goal:

   • basic and applied scientific methods to predict and influence the behaviour of humans with precision, scope and depth

**Evolution science**

• variation, selection, and retention

• encouraging young people to flexibly try different things (variation)

• to discover what works, or what is consistent with values (selection)

• discover something that works, they are reinforced for persisting in that behaviour (retention)

• need to be sensitive to ever changing context, that is, psychologically flexible (adaptive)
**Functional Contextualism**

- A view of the world - not the right view or the only view, just *our* view
- Our subject is always behaviour-in-context
- Behaviour is - thoughts, feelings, sensations, memories
- Context is - everything else!

Slide: J and M Villatte (2013) ACBS Boot Camp Reno
Operant behaviour principles

- Operant principles involve selection by consequences
- Behavior that is reinforced gets selected (or is more likely to be repeated)
- Behavior that is not reinforced or is punished get selected against (is less likely to be repeated)
- Years of research show these principals are well established in humans and child development (Patterson, 1982, 2002)
  - and are well established treatments for children (Brestan & Eyberg, 1998; Ollendick & King, 2004)

A detour

- Operant principles - what went wrong?
- Abandoned
  - No way of dealing with complex symbolic processes
- Along comes....
  - Relational frame theory
Relational Frame Theory

- new principle for verbal behaviour:
  - arbitrarily applicable derived relational responding
    - Arbitrarily applicable means that stimuli are related based on social convention or verbal history
    - ‘derived’ refers to our capacity to infer relations without ever needing direct contact
    - in other words - relating
    - an operant
- In depth read: S. C. Hayes, Barnes-Holmes, & Roche, 2001; S. C. Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004
- RFT now has over 100 studies (e.g., Barnes-Holmes, Barnes-Holmes, Stewart, & Boles, 2010; McHugh & Stewart, 2012; Rehfeldt & Barnes-Holmes, 2009).
  - For an easier RFT read: ironshrink.com
Earthquake

Transformation of Stimulus Function

- Transformation of stimulus function
- Allows you to learn fast
Derived Relational Responding

Transformation of Stimulus Function

Earthquake

- Antecedents: shaking ground, hot sun, etc.
- Consequences: fear, love, connection, community, agency

Noticer’s bodily sensations
- Advisor’s hearing: this is quake, prior learning danger, keep safe, etc.

Discover - explore
once we relate - we become insensitive to changes in context

• Slide: J and M Villatte (2013) ACBS Boot Camp Reno

ACT allows us to bring new contexts
...... through experiences, ah-ha moments, we see new relations and we transform meaning
DNA in clinical practice

An ACT model for young people

Our goal

- psychological flexibility in adults:
  - “the ability to contact the present moment more fully as a conscious human being, and to change or persist in behavior when doing so serves valued ends” (S. C. Hayes, Luoma, Bond, Masuda, & Lillis, 2006, p. 8)

- for young people we can say - flexible strength
  - the ability to utilise DNA skills in a way that promotes growth and builds vitality and valued action.
  - no assumption that young people have values
  - assumption that testing and exploration are necessary
Take the DNA walk of life
what matters to you?
Values

- chosen
- quality of action
- not an outcome
- not a goal
- constructed from language
- held lightly
- dynamic
- intrinsically reinforcing

variation in behavior
Discoverer

test themselves
explore their world
build strengths
find out what they value

What’s the purpose?

• a time of physical and mental maturing
• compared with children they are:-
  • physically - faster, stronger, bigger,
  • psychologically - have greater reasoning capacity, greater capacity to handle stress,
  • biologically - increased pain tolerance, and better immune function (Dahl, 2004)
adolescents in a modern context

- Traditional societies - adolescence was a 2-4 year period,
  - physical maturation key indicator
  - learnt adult roles from adults
  - spent time caring for small children and babies
  - lived in larger family and community groups

- majority of their waking hours with adults of the same sex –
  - in 66% of 161 cultures for boys and in 84% of 160 cultures for girls
  - For boys, the father was the single most important agent in 79% of 173 cultures, while the mother is the most important for girls in 85% of 171 cultures (Schlegel, & Barry. 1991).

are we adapted for this?

- In just a few hundred years we have changed adolescence
- It now lasts 10 years,
- They spend more time than ever with peers, rather than adults
  - % of children with one parent?
- Most of their adolescence is spent with people 12-18 months in age range
- Families are smaller and more transient
- Internet and television sources of information
What is the purpose of adolescence?

- Adolescence seen across 187 countries (Schlegel & Barry, 1991)
  - shared characteristics –
    - risk taking,
    - love of novelty,
    - sensation seeking,
    - and changes in peer and family relationship

And in non-human animals

- Non-human animal studies
  - Adolescent animal behaviours include: risk taking, sensation seeking, and a preference for novelty (Spear, 2004)
  - For example, three age groups of mice were introduced to an elevated maze that had no protective walls and a risk of falling (Laviola, Macri, Morley-Fletcher, & Walter, 2003)
    - juvenile and adult mice avoided the maze, showing heightened stress response to it.
    - Adolescent mice were attracted to the dangerous maze and didn't display any heightened anxiety levels to it.
  - Animal research - risk and attraction to novelty is needed to leave safe surroundings to mate, especially for males (Spear, 2004)
    - Risk has trade-off costs - attraction to novelty exposes animals to life threatening situations (Kelley, et al., 2004; Spear, 2004)
**Strength brings vulnerability...**

- morbidity and mortality rates increase in adolescence by 200%
- major source of this difficulty is emotional and behavioral problems
- psychiatric illness is most likely to begin
- greatest time for **maladaptive** risk taking: sensation seeking and the onset of alcohol, drug and substance use
- have good reasoning and problem solving skills, yet are more prone to erratic and emotionally influenced behavior with peers

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**Risk opportunities in today’s modern context**
Noticer

aware their bodily sensations
able to label as feelings
enjoy the moment
experience their world
We Begin as Noticers

- As babies we experience the world as physical sensations - feelings and sensations are there as signals.
- By age 3 we have labels and can link emotions and events. Parents are their primary source of information.
- By the middle years, the Advisor dominates their interpretations of sensations - they become their own information source.
- Adolescence is deeply emotional - a time more emotional than any other (Siegel, 2014).
- In our society we are taught to manage our bodies and emotions, we have been taught to use cognition.
- Deficits in noticer skills can lead young people to respond to emotions in rigid ways, reacting to them with either avoidance or impulsivity.
  - MAKE. THIS. FEELING. STOP!

Noticer

- in 3 steps
  - 1. Build awareness that ALL feelings are normal, and control is the problem.
    - Feelings do not need to be controlled, eradicated, changed or managed.
  - 2. Coach emotion awareness and labelling.
  - 3. Practice allowing feelings rather than controlling.
Why become aware and label sensations?

- Being able to label the incoming signal is enormously important
- It helps us ‘make sense’
- Some research examples:
  - Young people who struggle to identify their feelings tend to develop emotional problems and poor social networks (Ciarrochi, Heaven, & Supavadeeprasit, 2008)
  - Adults who struggle to identify their feelings are much more likely to turn to substance abuse to cope with emotions (Lindsay & Ciarrochi, 2009)
  - Adults more likely to experience asthma, hypertension, chronic pain, and gastrointestinal disorders (Lumley et al., 2005)
  - Limited skills in emotion identification are associated with death due to increased risk of cardiovascular disease, accidents, injury, and violence (Kauhanen, Kaplan, Cohen, Julkunen, & Salonen, 1996; Tolmunen, Lehto, Heliste, Kurl, & Kauhanen, 2010)

Why we need to allow?

1. Avoidance—the flip side of allowing—shown across many studies to be problematic.
   1. It doesn’t work and often makes things worse (S. C. Hayes, Wilson, Gifford, Follette, & Strosahl, 1996).
      - e.g. PTSD - avoid trauma from being remembered, social anxiety - avoid negative evaluations

2. Expands people’s ability to respond and act in valued ways = variation
Adviser

use your past learning flexibly
sees thoughts are guide - not fixed
unhook when not useful
Upsides of the Advisor

- protects us from danger
  - don’t want to rely on trial and error experience to learn everything
- promotes high-speed evolution
  - e.g. rapid scientific and technological advances
- promotes fast and efficient functioning
  - while sitting in your living room you can surf the net and learn how to sail a yacht.
- encourages us to follow helpful rules
  - e.g. toddlers love to follow rules, teens less so

Downsides of the Advisor

- unhelpful evaluations, beliefs, and rules—over reliance on the advisor—can limit variation
- can lead to rigid rule following
  - rules tend to make us insensitive to the actual situations that exist in the physical world (S. C. Hayes, 1989)
- absorbs others’ unhelpful ideas
  - we often rely on socially transmitted ideas, such as other people’s advice and opinions
- can become decontextualized
  - environments are typically heterogeneous and changing, so a verbal rule that works at one time in one environment may be entirely useless in another
- can distort incoming information
  - this distortion is all AADRR
Unhooking from your advisor

1. We hear the advisor and experience those thoughts as passing sounds, rather than literal truth.

2. We recognize that the advisor may not be useful all the time.

3. We shift into noticer or discoverer mode in order to test this and engage in valued action.
Self view
Where is the rest of the moon?

Self is always more than what you see now.....

Step into noticer and try new perspectives

**Applying Behavioral Principles to Examining the Self**

- Self is merely the act of relating to oneself
- but with use it is over learned
- it can become us, but with variability in behaviour, we can become free of this
- as behaviour, it therefore has ABCs
- Q to ask = how does the selfing work in this context?
Conceptual using the DNA model

What kind of person do you want to be in this relationship?

What do I care about in this relationship?
Young people report the highest rates of loneliness in any age group (Hawkley & Cacioppo, 2010; Heinrich & Gullone, 2006). 79 percent of those under eighteen reported feeling lonely sometimes or often.

What does loneliness predict? ....

- Heart disease
- Obesity
- Impaired cognitive performance
- Poor sleep quality
- Poor immune function
- Mental health problems
- Poor self-control

....and the list goes on
Adolescent attachment

- Adolescence is a time of critical growth in biological, brain, cognitive and social functioning (Sternberg, 2014)

- adult problems set their roots, with up to 40% of mental illness (Mcgorry, 2012) in adults beginning in the adolescent period

- need a solid relationship with parents that facilitates communication, and allows exploration but also providing fair rules and boundaries (L. Hayes, 2004)

- does not mean absence of conflict

- Securely attached adolescents will have a strong relationship, be able to express their opinions even while disagreeing, validate other’s opinions and show empathy
Changing relationships

• During adolescence, perceived parental support declines and perceived support from friends increases until the point where support from both sources are similar (Helsen et al., 2000) (Furman & Buhrmester, 1992).

• Later adolescence is characterized by another shift, this time away from peers towards romantic relationships (Helsen et al., 2000) (Brown, Eicher, & Petrie, 1986).

• Importantly, support from parents is more strongly associated with well-being and development than support from friends, and having friends does not adequately compensate for a lack of support from parents (Helsen et al., 2000)

rat licking for humans =
  nurture them,
  connect,
  appreciate,
  in appreciation,
  give them your TIME!
why might YP be lonely?

• Some suggestions:
  • psychologically separating from their parents,
  • moving outside the comfort and safety of a familiar relationship
  • move beyond peer relationships based on activities to ones based on loyalty, support, intimacy, and shared values
  • many adolescents do not yet have the skills to develop and maintain such intimate relationships
  • busy families, working stressed parents
  • Structure of our schools, changing classes, busyness, revolving teachers

why might YP be lonely?

Modern environments:

• may decrease the chance of young people forming social connection
• young people don’t have to interact with other humans, use electronic gadgets or television
• don’t let them explore for fear they are in danger
Academically smart, emotionally and socially stupid

• Culture:
  • We strive to build their IQ
  • Good grades, good careers, study hard, benchmarking tests, homework
  • Social skills (for some) are squeezed into spare time
    • 12 years developing their academic intelligence
    • How many developing their social intelligence?

Social view

• The ability to shift between Discoverer, Noticer, and Advisor, in the service of valued connection.
  • need to guess what it’s like to be in another’s shoes
  • and then hold those guesses lightly while using noticer and discoverer skills to learn about others
setting the change agenda

Control is the problem
setting the change agenda

Use Noticing Skills to Draw Out the Unworkability of Control Strategies - being stuck

setting the change agenda

Use the Discoverer to establish creative Hopelessness has it been working?
setting the change agenda

Connect DNA to V to promote willingness

setting the change agenda

Where possible, work with the social context, not just individual in the room
Willingness question

• Am I willing to allow __________ [internal states]
• in order to ________________ [do a valued activity]?

Willingness research

• Gives people choice, and this can make experiencing negative emotions less aversive (Bown, Read, & Summers, 2003; Smith, Jostmann, Galinsky, & van Dijk, 2008)

• e.g. rats and humans appear to experience electric shocks as less aversive when they have some control over when the shock occurs (Gliner, 1972)

• Connects negative emotions to valued actions.

• e.g. a difficult situation is less aversive if we can ascribe meaning to it (Coutu et al., 2010)
BOLD

Breathing deeply and slowing down
Observing
Listening to your values
Deciding on actions and doing them
Follow-up:


2. **Professional Development workshop** - www.louisehayes.com.au

3. **Reading** anything about CBS/ACT - best book is Hayes, Strasahl and Wilson 2102 Acceptance and Commitment Therapy

4. **Conference** - ANZ in New Zealand in November www.anzact.com

Thank you,
Louise Hayes
Values

• basis for selection and retention of behavior

• values as bookends
The research

ACT as a contextual behavioural model

- Psychological flexibility is the ability to be mindful of one’s thoughts and feelings and to act in the services of one’s values even when thoughts and feelings discourage taking valued action (S. Hayes et al, 2012).
**ACT as a contextual behavioural model**

- Psych flex is the target in ACT:
  - traditional CBT targets symptom reduction as the target (i.e exposure for the purposes of habituation)
  - ACT aims to disentangle people from the cycles of avoidance, not by challenging or changing, but by learning to react mindfully toward valued ends (i.e exposure for the purposes of deriving valued living)
Our goal

ACT as a contextual behavioural model

- ACT has a goal of prediction-and-influence
- Measured by conceptual standards of precision, scope and depth
- In other words, an applied psychology, that is clear, simple and generally applicable
Trans-diagnostic - Scope

- Depression, work stress, psychosis, test anxiety, pain, smoking cessation, stigma, polysubstance abuse, self-harm, epilepsy, trichotillomania, anxiety, diabetes management, cancer patients, clinician training, obesity, weight-loss, methamphetamine use, OCD, promoting physical activity, college adjustment, bariatric surgery, tinnitus, body dissatisfaction, disordered eating, shame, methadone detox, borderline PD, for unemployed on sick-leave, tinnitus, teachers well-being, headache sufferers

- Format - individual, group, self-help bibliotherapy, online, work-place training, school educators

Scope

ACT - 100 RCTs to mid 2014

- Pre 1999 ACT book, N=2
Trans-diagnostic - Scope

- APA Div 12 Clinical psychology
  - **Strong** support - chronic pain
  - **Modest** support - depression, psychosis, OCD, and “mixed anxiety” (a sample composed of panic disorder, social phobia, OCD, and generalised anxiety disorder (GAD)),

- US Substance Abuse and Mental Health Services Administration (SAMSHA)
  - recognised as “empirically supported” for OCD, depression, general mental health, and rehospitalisation

Youth RCTs

- Schools
  - Two studies - Australia and Sweden - testing ACT in school groups. Australian study showed significant reductions in depression with a medium effect, when compared to the control group who received usual care. The Swedish study, when compared to the control group, reported significantly lower level of stress with a large effect size and increased mindfulness skills, also with a large effect size.

- Mental health settings
  - RCT (N = 30) of ACT for adolescent depression compared to treatment as usual. Good outcomes (about 60% showed clinically significant change in ACT; \( d = .38 \) at post and 1.45 at follow up).

- Pain
  - Small RCT (n = 32) comparing a brief ACT intervention (10 individual sessions) to multidisciplinary treatment plus amitriptyline (MDT) for chronic pediatric pain. ACT performed significantly better than MDT on perceived functional ability in relation to pain, pain intensity and pain related discomfort (intent-to-treat analyses). At post-treatment, before the dose differences happened, significant
**Child/Parent RCTs**

  - RCT (N = 20) comparing ACT and a control condition on the quality of life of children with chronic pain. At 5 mo. Follow up better physical, psychological and school outcomes.

  - RCT (N = 59) with parents of children with acquired brain injury randomly assigned either to treatment as usual or Stepping Stones Triple P: Positive Parenting Program (SSTP) plus Acceptance and Commitment Therapy (ACT) workshop. Better outcomes in treatment condition in number and intensity of child behaviour problems, child emotional symptoms, and parenting laxness and overreactivity. Most improvements were maintained at 6 months.

  - RCT (N = 67) parents of children with CP randomly assigned to Stepping Stones Triple P (SSTP), SSTP plus ACT, or waitlist. SSTP with ACT was associated with decreased behavioral problems including hyperactivity as well as decreased parental overreactivity and verbosity (PS MD = 0.68, CI 0.17 to 1.20, P = .01). SSTP alone was associated with decreased behavioral problems but ACT delivered additive benefits.

**Ruiz (2012) ACT and traditional CBT: Systematic review and meta-analysis**

- Meta-analysis, 16 studies, (N= 954) of ACT and ‘traditional’ CBT
  - Primary outcomes - significantly favoured ACT, Hedges’s g= 0.40, p=.001.
  - Anxiety outcome - mean effect sizes, g = 0.14, not significant
  - Depression outcome - positive trend for ACT, g= 0.27, p=.12
  - Quality of life outcome - positive trend, g = 0.25, p=.14
Ruiz (2012) ACT and traditional CBT: Systematic review and meta-analysis

The effect sizes at pre-treatment were explored to analyze whether ACT and CBT differed at pre-treatment. If that were the case, the above-mentioned effect size values would provide a biased estimate of the differential treatment effects. Table 4 shows that ACT and CBT were equated at pre-treatment in the primary outcome, anxiety, and quality of life outcome measures as well as in the ACT and CBT process measures.

**Figure 1.** Forest plot of the mean effect sizes on primary outcomes.

<table>
<thead>
<tr>
<th>Study</th>
<th>Time Point</th>
<th>Hedges’s g and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown et al. (2011)</td>
<td>Post-treatment</td>
<td></td>
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<tr>
<td>Páez et al. (2007)</td>
<td>Combined</td>
<td></td>
</tr>
<tr>
<td>Zettle &amp; Hayes (1986)</td>
<td>Combined</td>
<td></td>
</tr>
<tr>
<td>Rost et al. (in press)</td>
<td>Post-treatment</td>
<td></td>
</tr>
<tr>
<td>Hernández López et al. 2009</td>
<td>Combined</td>
<td></td>
</tr>
<tr>
<td>Bond &amp; Bunce (2000)</td>
<td>Combined</td>
<td></td>
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<tr>
<td>Twohig et al. (2010)</td>
<td>Combined</td>
<td></td>
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<tr>
<td>Zettle &amp; Rains (1989)</td>
<td>Combined</td>
<td></td>
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<tr>
<td>Lappalainen et al. (2007)</td>
<td>Combined</td>
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<tr>
<td>Block 2002</td>
<td>Post-treatment</td>
<td></td>
</tr>
<tr>
<td>Arch et al. (in press)</td>
<td>Combined</td>
<td></td>
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<tr>
<td>Smout et al. (in press)</td>
<td>Combined</td>
<td></td>
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<tr>
<td>Flaxman &amp; Bond (2010)</td>
<td>Post-treatment</td>
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<td>Forman et al. (in press)</td>
<td>Combined</td>
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<td>Wetherell et al. (2011)</td>
<td>Combined</td>
<td></td>
</tr>
<tr>
<td>Zettle 2003</td>
<td>Post-treatment</td>
<td></td>
</tr>
</tbody>
</table>

Notes: k = number of studies; g = weighted mean effect size; 95% C.I.: 95 per cent confidence interval around the mean effect size; Q = heterogeneity Q statistic; I^2 = I^2 heterogeneity index (%); * p < .05; ** p < .01; *** p < .001; a p = .091.

**Precision**

- BA - **operant and respondent** principles
- RFT - **arbitrary applicable derived relational responding**
  - Mutual entailment, combinatorial entailment, transformation of stimulus functions
- ACT - **Psychological flexibility**
  - 6 core processes of acceptance, defusion, values, committed action, present moment awareness, and self as context
  - mid-level terms, some precision is lost in order to achieve scope and utility
Methodological Precision

- Follows from the Ost review (2008) and criticisms of methodology in ACT early studies
- On average methodology has improved:
  - Especially monitoring treatment adherence and competence of ACT
- Issues to address:
  - Use of treatment as usual continues to be widespread, unmatched for contact and unmonitored for competence a problem
  - Increases in competence and attention need to be ruled out
  - CBS model for working makes sense that some of these issue were present in early work

Component Analysis - Precision

- Need to move away from the comparison between treatment packages, to understand the theoretically-specified components
  - (Levin, Hildebrandt, Lillis & S. Hayes. (in press) Behavior Therapy)
- Testing the psychological flexibility model
  - Experimental test of precision of 6 core concepts
  - Meta-analysis of 66 lab-based component studies
Component Analysis - Precision

• Compared to inactive conditions:
  • Psych flex components have significant medium effect on targeted outcomes - task persistence, willingness, believability of thoughts (g = .68, 95% CI = .50, .85, z = 7.53, n = 28)
  • + Small effect size on non-targeted outcomes - frequency/intensity of distressing internal experiences (g = .25, 95% CI = .08, .41, z = 2.91, n = 30)

• Compared to theoretically distinct conditions:
  • Favoured psychological flexibility components over control conditions on all outcomes (g = .20, 95% CI = .07, .33, z = 2.98, n = 39) and primary targeted outcomes (g = .48, 95% CI = .29, .67, z = 4.90, n = 26).
  • (Levin, Hildebrandt, Lillis & S. Hayes. (in press) Behavior Therapy)

META-ANALYSIS OF LAB-BASED COMPONENT STUDIES

Table 2. Effect Sizes Comparing ACT Components to Inactive Conditions

<table>
<thead>
<tr>
<th>Component</th>
<th>Number of Studies</th>
<th>Effect Size (Hedge’s g)</th>
<th>95% CI</th>
<th>z-Score</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Components</td>
<td>44</td>
<td>.44</td>
<td>.31, .58</td>
<td>6.33***</td>
<td>All outcomes</td>
</tr>
<tr>
<td>Acceptance</td>
<td>28</td>
<td>.68</td>
<td>.50, .85</td>
<td>7.53***</td>
<td>Targeted outcomes</td>
</tr>
<tr>
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<td>3</td>
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</table>

†p < .10, *p < .05, **p < .01, ***p < .001
Process Analysis - Precision

  - 9/16 included mediation
    - ACT showed a greater impact on its putative processes of change, $g = 0.38, p = .03$
    - No differences were found regarding CBT putative processes, $g = 0.05, NS$
  - Suggesting ACT seemed to work through its proposed processes of change, t-CBT did not.

CBS - Depth

- Contextual behavioural science - a broad paradigm for the science of psychology
  - Assumptions - Functional contextualism
  - Behavioural principles - Operant/respondent
  - RFT - Relating as an operant for verbal behaviour
  - ACT - therapeutic technology
  - Integrated into the larger fabric of science
  - Evolutionary science
    - linking up genetic, epigenetic, behavioural, cultural streams (See Eva Jablonka, David Sloan Wilson)

FC - Depth

• Functional Contextualism - the act-n-context is central
  • A pre-analytic assumption, not more right than others,
    • other pre-analytic assumptions (world views) include mechanism, organicism, formism (from Pepper, 1942)
  • Act-in-context is a holistic unit
    • We can examine parts of this unit, but cannot lose sight of the whole
    • We can extend out, e.g. sociological and anthropological domains
    • We can extend in to finer units, e.g. genetic, epigenetic, behaviour and symbolic streams (as per the work of Eva Jablonka)


FC - Depth

• Functional Contextualism
  • Explicitly reject ontological statements
  • Goals explicitly stated as - “what works”
  • Not interested in what is “true”
  • ACT we explicitly state that workability is measured against valued action, rather than reasoned action

Reticulated development
- Depth

• How can we move from principles and theories to practices?
  • Bottom up, although rigorous is often slow, not always applicable to practical use
  • Top down, can leave us leaping from one new product to the next
• ACT rests within a reticulated development that is web-like


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Reticulated development
- Depth

• Development at the practitioner level:
  • Unrealistic to expect every worker to be fully competent in behavioural principles and then to apply them in complex, new situations
  • Models that use mid-level terms - like acceptance and defusion
  • Orient the practitioner to the contextual features of each domain
  • Each can be nested within the overall web-like scientific paradigm
  • Maintain a constant effort to anchor them to technical terms

Depth - Multi-level development beyond ACT

- Reticulated development can be seen in recent work linking ACT into CBS
- and then CBS into evolution science
- Multi-level selection (within and between groups)
- Multi-dimensional selection (selection across multiple streams of genetic, epigenetic, behavioural and symbolic)