Table of Contents

Brief overview of ACT ..............................................................2
Independent evaluations of empirical support for ACT .....................7
A sample of theoretical and review articles relevant to ACT ................8
ACT Randomized Controlled Trials .............................................10
How to learn more about ACT ...................................................26
**Brief overview of ACT**

ACT targets six core processes that are designed to build psychological flexibility. *Psychological flexibility* refers to an individual’s ability to connect with the present moment fully, as a conscious human being, and to change or persist in behavior that is in line with their identified values (Hayes, *et al.*, 1999).

Increasing psychological flexibility involves helping clients to disentangle themselves from the cycle of experiential avoidance and cognitive fusion, not by challenging or changing their thoughts and emotions for example, but by learning to react more mindfully to such experiences, so that they no longer seem to be barriers (Ciarrochi, *et al.*, 2006). Clients are encouraged to shift their energies away from experiential control and towards valued activity, and to consistently choose to act effectively, even in the presence of difficult private events. For a detailed and comprehensive account of ACT readers are referred to Hayes *et al.* (Hayes, *et al.*, 1999).

The ACT treatment model consists of six sub-processes that are organized into a ‘hexaflex’ (see Figure 1). The hexaflex can be divided into two main components. The first includes acceptance and mindfulness processes (acceptance, defusion, the present moment, and a transcendent sense of self), and the second reflects commitment and behavioural change processes (values, committed action, the present moment and a transcendent sense of self). The ACT practitioner targets these six processes in order to build psychological flexibility.
Figure 1: The six core processes targeted by ACT are expected to build psychological flexibility.

The hexaflex illustrates that these processes are all connected and support each other. There is no correct order for focusing on the processes and not all individuals need to concentrate extensively on each of the processes (Strosahl, et al., 2004; Hayes, et al., 2005). The ultimate goal is to help people to persist in or change their behavior, depending on what the situation affords, in order to move towards what they value.

ACT clinicians use a number of exercises for each process to enhance adoption and understanding of relevant skills (for more detail see Hayes, et al., 1999;
Strosahl, et al., 2004). These include metaphor, paradox and experiential exercises that aim to undermine the power of experiential avoidance and cognitive fusion. A brief description of each process will now be provided.

**Acceptance.** The focus of this ACT process is to develop and enhance an individual’s willingness to have and accept their private experiences. Treatment involves exploring the futility of emotional control and avoidance, which can often paradoxically increase an individual’s level of distress and deter them from engaging in purposeful and vital, value driven behaviour. Instead, individuals are encouraged to accept their private experiences, when doing so helps them engage in valued behavior.

**Defusion** is a process that involves weakening the language processes that promote fusion (Hayes, et al., 1999; Strosahl, et al., 2004). People learn to see thoughts for what they are and not what they say they are (Hayes, et al., 1999), for example, symbols of one’s experience and not actual descriptive ‘realities’. Defusion exercises help people to notice their language processes as they unfold and to watch the thoughts come and go, almost like a neutral observer. Defusion thus involves a radical shift in context, where thoughts are observed events, rather than literal truths that must dictate behavior.

**Getting in contact with the present moment.** This ACT process is often equated to mindfulness. Clients are taught to build their awareness of their private experiences and be fully open to what is happening in the present moment. In the mindful state, thoughts are expected to be experienced as what they are, events that come and go, rather than what they often seem to be, truths that bind or actual barriers. For example, a self-critical thought such as “I am useless” can be viewed as a
passing event rather than something that must control behavior. Mindfulness also connects to the values and commitment component of ACT, in that it allows the regulation of action that is informed by needs, feelings, values, and their fit with the current situation (Brown, et al., 2007). According to Strosahl et al. (2004) and Hayes et al. (1999), the qualities that reflect this process are vitality, spontaneity, connection, and creativity.

**Self-as-context.** Clients are taught to build their awareness of their ‘observing self’, or self-as-context, and work on letting go of their attachment to a conceptualised self (i.e. I am boring; I am useless). The self-as-context is independent of content: It is the place where content is observed. No matter how many self-statements we generate about who we are (“I am a father;” “I am an athlete;” I am not good enough”), there is an “I” that can observe these self-statements. This ‘I’ is experienced as constant and stable, whilst the self-evaluations come and go (Hayes, et al., 1999). From the perspective of self-as-context, people come to realize that they can let go of unhelpful self-evaluations and retain a sense of self (Pierson, et al., 2004).

**Values.** Values refer to the directions in life that individual’s choose which guide their behaviour. Thus, values are never really achieved or obtained, yet they are always present every time an individual chooses them (Hayes, et al., 1999; Pierson, et al., 2004). Individuals who are entangled in fusion and experiential avoidance are more likely to engage in behaviours that are inconsistent with their values. For example, even though an individual may value a relationship, they may engage in destructive social behavior, because they are afraid of intimacy. People in ACT learn to choose willingness to experience difficult thoughts and feelings, in order to engage in valued behaviour (Strosahl, et al., 2004).
**Committed Action.** Engaging in value-directed behaviour can often produce difficult experiences such as distress, failure, and fusion. ACT helps people to see that choosing a valued direction is not a permanent thing. The choice must be made again and again, for example, after failure. ACT helps prepare people for the difficult feelings and thoughts that will show up due to their valued striving and to be more willing to “carry” those feelings and thoughts in order to do what it takes to move in a valued direction.

The “inflexahex” is another way of looking at the various processes in ACT (Bach, Moran, & Hayes, 2008). Each “positive” process in ACT has a negative counterpart, as illustrated in Figure 2.

![Figure 2: The inflexahex model of suffering and problematic behavior](image-url)
Independent evaluations of empirical support for ACT

*The American Psychological Association* suggests ACT has research support for chronic pain ([http://www.div12.org/PsychologicalTreatments/treatments/chronicpain_act.html](http://www.div12.org/PsychologicalTreatments/treatments/chronicpain_act.html)) and depression ([http://www.div12.org/PsychologicalTreatments/treatments/depression_acceptance.html](http://www.div12.org/PsychologicalTreatments/treatments/depression_acceptance.html)).

A sample of theoretical and review articles relevant to ACT
(collated by Steve Hayes)


A comprehensive review of the evidence in three keys areas that question the idea that trying to change the form of thoughts is helpful. It finds little evidence that specific cognitive interventions significantly increase the effectiveness of CBT or that cognitive change is causal in the symptomatic improvements achieved in CBT. It does not find enough evidence to conclude that there is an early rapid response to CBT (before cognitive methods). Overall, the review supports the view of the basic ACT criticism of traditional CBT.


Good historical review of the acceptance concept.


Salters-Pedneault, K., Tull, M. T., & Roemer, L. (2004). The role of avoidance of
ACT Randomized Controlled Trials

Before publication of the 1999 book on ACT (N = 2)

1986


1989

2. Zettle, R. D., & Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology, 45*, 438-445. Small (N = 31) RCT. Shows that ACT is as effective as two variants of cognitive therapy for depression (a full package of CT vs. one without distancing) when presented in a group format, and that it works by a different process. A full intent to treat reanalysis and mediation analysis using modern statistical methods was published in Zettle, R. D., Rains, J. C., & Hayes, S. C. (2011). Do Acceptance and Commitment Therapy and Cognitive Therapy for depression work via the same process: A reanalysis of Zettle and Rains, 1989. *Behavior Modification, 35*, 265-283. The reanalysis, without the odd partial cognitive therapy group that was included for theoretical reasons of importance in the early days of ACT, shows that ACT did better than CT on the BDI at follow up and that the results were mediated by post scores on cognitive fusion but not level of depressogenic thoughts or general dysfunctional attitudes.

2000 – 2004 (N = 7)

2000

previously empirically supported behavioral approach to reducing worksite stress and anxiety, and that both are better than a wait list control. Those in the ACT condition then actively modified the work environment even though that was not targeted directly in the intervention. Process analyses fit the model.

2002

4. Bach, P. & Hayes, Steven C. (2002). The use of Acceptance and Commitment Therapy to prevent the rehospitalization of psychotic patients: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 70* (5), 1129-1139. RCT (N = 80) showing that a three-hour ACT intervention reduces rehospitalization by about 50% over a 4 month follow-up as compared to treatment as usual with seriously mentally ill inpatients. Process of change fit the model but would be very much unexpected outside the model. A one year follow up is being written up (still significantly different at one year)

2003


2004


7. Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasецki, M. M., Rasmussen-Hall, M. L., & Palm, K. M. (2004). Acceptance theory-based treatment for smoking cessation: An initial trial of Acceptance and Commitment Therapy. *Behavior Therapy, 35*, 689-705. RCT (N = 76) comparing ACT to nicotine replacement therapy (NRT) as a method of smoking cessation. Quit rates were similar at post but at a one-year follow-up the two groups differed significantly. The ACT group had maintained their gains (35% quit rates) while the NRT quit rates had
Mediation analyses show that ACT works through acceptance and response flexibility.

8. Hayes, S. C., Bissett, R., Roget, N., Padilla, M., Kohlenberg, B. S., Fisher, G., Masuda, A., Pistorello, J., Rye, A. K., Berry, K. & Nicolls, R. (2004). The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors. *Behavior Therapy, 35*, 821-835. RCT (N = 93) found that a one day ACT workshop produces greater decreases in stigmatization of clients by therapists and greater decreases in therapist burnout than an educational control and (or some comparisons) than multicultural training. Mediational analyses fit the model.

9. Hayes, S. C., Wilson, K. G., Gifford, E. V., Bissett, R., Piasecki, M., Batten, S. V., Byrd, M., & Gregg, J. (2004). A randomized controlled trial of twelve-step facilitation and acceptance and commitment therapy with polysubstance abusing methadone maintained opiate addicts. *Behavior Therapy, 35*, 667-688. A large randomized controlled trial was conducted with polysubstance abusing opiate addicted individuals maintained on methadone. Participants (n=114) were randomly assigned to stay on methadone maintenance (n=38), or to add ACT (n=42), or Intensive Twelve Step Facilitation (ITSF; n=44) components. There were no differences immediately post-treatment. At the six-month follow-up participants in the ACT condition demonstrated a greater decrease in objectively measured (through monitored urinalysis) opiate use than those in the methadone maintenance condition (ITSF did not have this effect). Both the ACT and ITSF groups had lower levels of objectively measured total drug use than did methadone maintenance alone.

2005 – 2009 (N = 19)


2007

14. Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D. & Geller, P. A. (2007). A randomized controlled effectiveness trial of Acceptance and Commitment Therapy and Cognitive Therapy for anxiety and depression. *Behavior Modification, 31(6)*, 772-799. 101 heterogeneous outpatients reporting moderate to severe levels of anxiety or depression were randomly assigned either to traditional CT or to ACT. 23 junior therapists were used. Participants receiving CT and ACT evidenced large and
equivalent improvements in depression, anxiety, functioning difficulties, quality of life, life satisfaction and clinician-rated functioning. “Observing” and “describing” one’s experiences mediated outcomes for those in the CT group relative to those in the ACT group, whereas “experiential avoidance,” “acting with awareness” and “acceptance” mediated outcomes for those in the ACT group.


16. Lappalainen, R., Lehtonen, T., Skarp, E., Taubert, E., Ojanen, M., & Hayes, S. C. (2007). The impact of CBT and ACT models using psychology trainee therapists: A preliminary controlled effectiveness trial. *Behavior Modification, 31*, 488-511. Randomized controlled study in which 14 student therapists treat one client each from an ACT model or a traditional CBT model for 6-8 sessions following a 2 session functional analysis. Participants with any normal outpatient problem were included, mostly anxiety and depression. At post and at the 6 month follow up ACT clients are more improved on the SCL-90 and several other measures. Greater acceptance for ACT patients; great self-confidence for CBT patients. Both correlated with outcomes, but when partial correlations are calculated, only acceptance still relates to outcome.


protocols with women who had been diagnosed and treated for breast cancer. No differences at post but at a one year follow up ACT is significantly better in anxiety, depression, and quality of life.


2008

20. Lundgren, T., Dahl, J., Yardi, N., & Melin, L. (2008). Acceptance and Commitment Therapy and yoga for drug-refractory epilepsy: A randomized controlled trial. *Epilepsy & Behavior, 13*, 102–108. 18 participants from India with EEG-verified epilepsy diagnosis with drug-refractory seizures were randomized to ACT or yoga (12 hours of Rx both individual and group) and followed for 1 year. ACT reduced seizures more than yoga but both improved quality of life (ACT more on the WHOQOL-BREF; yoga more on the SWLS).


willingness to use evidence-based pharmacotherapy. *Journal of Consulting and Clinical Psychology, 76,* 449-458. RCT (N = 59) comparing ACT to psychoeducation in preparedness to learn from a workshop on pharmacotherapy. Good outcomes (d of around .85) on willingness to refer and actual referrals for agonist and antagonist treatment, mediated by increased psychological flexibility and decreased believability of barriers to referring.


2009


women. *Appetite, 52*, 396–404. RCT (N = 62) with dieting obese women randomly assigned to 4 2-hr ACT sessions or to wait list; at 6 mo. better exercise (p , .05), and for those applying the workshop, better weight loss as reflected by BMI differences (0.96 relative to controls, equivalent to 2.32 kg, p < 0.5).

28. Wicksell, R. K., Melin, L., Lekander, M., & Olsson, G. L. (2009). Evaluating the effectiveness of exposure and acceptance strategies to improve functioning and quality of life in longstanding pediatric pain - A randomized controlled trial. *Pain, 141*, 248-257. Small RCT (n = 32) comparing a brief ACT intervention (10 individual sessions) to multidisciplinary treatment plus amitriptyline (MDT) for chronic pediatric pain. Treatment continued in the MDT condition during the 3.5 and 6.5 month follow-up, which complicated comparisons at follow-up assessments due to more sessions for MDT, but results showed substantial and sustained improvements for the ACT group. When follow-up assessments were included, 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 differences in favor of the ACT condition were also seen in fear of re/injury or kinesiophobia, pain interference and in quality of life.

2010 – present (through August of 2011) – N = 20

2010


30. Flaxman, P. E., & Bond, F. W. (2010). Worksite stress management training: Moderated effects and clinical significance. *Journal of Occupational Health Psychology, 15*, 347-358. RCT (N = 311) of ACT vs. wait list. ACT worksite intervention found to be particularly effective for workers with above average levels of psychological distress. Following ACT, 69% of initially distressed workers improved to a clinically significant degree.


35. Smout, M., Longo, M., Harrison, S., Minniti, R., Wickes, W., & White, J. (2010). Psychosocial treatment for methamphetamine use disorders: a preliminary randomized controlled trial of cognitive behavior therapy and acceptance and commitment therapy. *Substance Abuse, 31*(2), 98-107. RCT (N = 104) showing that ACT is no more effect than CBT in retaining or treatment methamphetamine users.

coming in a separate study (AAQ worked as mediator; processes of change even at session 5 worked but outcomes were not different until later.

2011


38. Brinkborg, H., Michanek, J., Hesser, H., & Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. *Behaviour Research and Therapy, 49*, 389-398. RCT examining ACT for stress and burnout in social workers (n = 106) ACT significantly decreased stress and burnout, and increased general mental health compared to a waiting list control among the 2/3 who were stressed at baseline. Among participants with high stress, a substantial proportion (42%) reached criteria for clinically significant change.


mental health: a randomized controlled trial. *Psychological Medicine, 11*, 1-11. RCT (N = 376) of an early intervention study for mild to moderate depression using ACT self-help with or without heavy email support. Reductions in depression, anxiety, fatigue, experiential avoidance and improvements in positive mental health and mindfulness; sustained at follow up.


44. Weineland, S., Arvidsson, D., Kakoulidis, T., & Dahl, J. (2011). Acceptance and commitment therapy for bariatric surgery patients, a pilot RCT. *Obesity Research and Clinical Practice*. RCT (N = 39) of ACT (two individual sessions plus internet) vs. TAU for patients who underwent bariatric surgery examining emotional eating, body dissatisfaction and quality of life. Good outcomes. Follow up and mediation to be reported in later study.


2012 probably


51. Luoma, J. B., Kohlenberg, B. S., Hayes, S. C. & Fletcher, L. (in press). Slow and steady wins the race: A randomized clinical trial of Acceptance and Commitment Therapy targeting shame in substance use disorders. Journal of Consulting and Clinical Psychology. RCT (n = 133) of 6 hr group ACT vs TAU in the treatment of shame in SUD during 28 day in patient program. At post, smaller decreases in shame in ACT; at follow up, larger decreases, more Rx involvement, and reduced substance use in ACT.
52. Rost, A. D., Wilson, K. G., Buchanan, E., Hildebrandt, M. J., & Mutch, D. (in press). Improving psychological adjustment among late-stage ovarian cancer patients: Examining the role of avoidance in treatment. Cognitive and Behavioral Practice. RCT (N = 31; 47 originally but the rest died or entered hospice care) comparing ACT and traditional CBT approaches to women coping with end-stage gynecological cancer. Nice outcomes; dominantly in favor of ACT.


55. Folke, F., Parling, T., & Melin, L. (in press). Acceptance and Commitment Therapy for depression: A preliminary randomized clinical trial for unemployed on long-term sick leave. Cognitive and Behavioral Practice. Small (N = 34) RCT of ACT (1 individual session; 5 group sessions) versus TAU for unemployed individuals on sick leave suffering from depression. Lower level of depression and higher level of quality of life and general health in ACT.

56. Bethay, S., Wilson, K. G., Schnetzer, L., Nassar, S. (in press). A Controlled Pilot Evaluation of Acceptance and Commitment Training for Intellectual Disability Staff. Mindfulness. Small (n = 34) RCT of 3 3-hour group trainings. Participants were randomly assigned to receive either 9 hours of Applied Behavior Analysis training or 9 hours of ACT plus Applied Behavior Analysis. Between group differences were observed only for participants who reported that they had been consistently applying the techniques they had learned. In addition, ACT group participants with higher levels of psychological distress at pretest showed decreased psychological distress from pretest to follow-up when compared to their control group counterparts. A concurrent decrease in the believability of burnout-related thoughts was observed in the ACT group from pretest to follow-up, relative to the control group.

57. Arch, J., Eifert, G. H., Davies, C., Vilardaga, J. P., Rose, R. D., & Craske, M. G. (in press). Randomized clinical trial of cognitive behavioral therapy (CBT) versus acceptance and commitment therapy (ACT) for mixed anxiety disorders. Journal of Consulting and Clinical Psychology. A randomized trial with mixed anxiety disorders (N = 128) comparing 12 sessions of ACT v. gold standard CBT both including behavioral exposure. Positive outcomes for both through 12 mo F-up but in blind clinical interviews (from the ADIS). ACT participants improved more in clinical severity from post to follow up than CBT (that is a very large effect: d = 1.33). Among completers their end-state clinical severity ratings were much better (d = 1.03) as well. Better improvement for ACT in psychological flexibility.
(medium effect for completers: $d = .59$) for ACT. At follow up there was better quality of life for CBT (small effect: $d = .43$).

58. Biglan, A., Layton, G. L., Backen Jones, L., Hankins, M. & Rusby, J. C. (in press). The value of workshops on psychological flexibility for early childhood special education staff. Topics in Early Childhood Special Education. Small ($N = 42$) RCT of ACT workshops vs. wait list for early childhood special educators. At pretest, measures of experiential avoidance and mindful awareness showed significant relationships to reports of depression, stress, and burnout. The intervention reduced staff members’ experiential avoidance, increased teachers’ mindful awareness and valued living, and improved teachers’ sense of efficacy.

59. Jensen, K. B., Kosek, E., Wicksell, R., Kemani, M., Olsson, G., Merle, J., Kadetoff, D., & Ingvar, M. (in press). Treatment with Cognitive Behavioral Therapy increases pain-evoked activation of the prefrontal cortex in patients suffering from chronic pain. Pain. This is the very first RCT to do pre - post fMRI assessments in the psychosocial treatment of chronic pain. ($N = 43$; all female; all w/ Fibromyalgia). The title and paper talks about CBT and just says ACT is a form of that, but it is an ACT study. The control is a wait list. 12 weekly group sessions and 3 mo f-up. Better outcomes on depression, anxiety, and self-reported global change (activity limitation, symptoms, emotions, quality of life).

60. Jeffcoat, T. & Hayes, S. C. (in press). A Randomized Trial of ACT Bibliotherapy on the Mental Health of K-12 Teachers and Staff. Behaviour Research and Therapy. 236 primary and secondary school teachers with a waitlist control using an ACT self-help book. Participants showed significant improvement in psychological health. Significant preventive effects for depression and along with significant ameliorative effects for those in the clinical ranges of depression, anxiety and stress. Follow up general mental health, depression, and anxiety outcomes were related to the manner in which participants used the workbook and to post levels of psychological flexibility.

62. Mo’tamedi, H., Rezaiemaram, P., Tavallaie, A. (2012). The Effectiveness of a Group-Based Acceptance and Commitment Additive Therapy on Rehabilitation of Female Outpatients With Chronic Headache: Preliminary Findings Reducing 3 Dimensions of Headache Impact. Headache: The Journal of Head and Face Pain. doi: 10.1111/j.1526-4610.2012.02192.x. A small RCT (n=30) with a medical treatment as usual control condition. Chronic tension type of headache (63%) and chronic migraine without aura (37%) were the headache types reported by the participants. Data analyses indicated the significant reduction in disability (F[1,29] = 33.72, P < .0001) and affective distress (F[1,29] = 28.27, P < .0001), but not in reported sensory aspect of pain (F[1,29] = .81, P = .574), in the treatment group in comparison with the control group. Consistent with other ACT pain studies
This graph contains a cumulative record of the randomized clinical trial on Acceptance and Commitment Therapy through June 20, 2012 (including articles in press).
How to learn more about ACT

The association for contextual behavioural science

This is the main organization for ACT. It has a webpage with lots of clinical resources and announcements of upcoming events.

http://www.contextualpsychology.org/

ACT listserves

There are two internet groups, the international group, and the Australian and New Zealand group. These provide a forum for people to discuss ACT and to announce upcoming events.

International list server
acceptanceandcommitmenttherapy-subscribe@yahoogroups.com

Australian and New Zealand List server
acceptanceandcommitmenttherapy_ANZO-subscribe@yahoogroups.com