

# Psychological Treatment for Adolescent Depression: Perspectives on the Past, Present, and Future

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The objective of this review is to summarise the evidence for mindfulness and acceptance approaches in the treatment of adolescent depression. The article begins by summarising the outcomes of three broad approaches to the treatment of adolescent depression — primary prevention, pharmacotherapy, and psychotherapy — in order to advocate for advances in treatment. With regard to psychotherapy, we restrict this to comparisons of meta-analytic studies, in order to cover the breadth of the outcome literature. In the second half of this article, we introduce the reader to mindfulness and acceptance-based psychotherapy, with a particular focus on Acceptance and Commitment Therapy (ACT) and the applicability with adolescents. We provide an overview of the philosophical arguments that underlie this approach to psychotherapy and consider how each of these might contribute to treatment approaches for adolescents with depression.

■ **Keywords:** adolescent depression, adolescent psychotherapy

Depression is a substantial health issue among adolescents. Epidemiological data from a large sample ( $N = 9,863$ ) of school-based young adolescents revealed depression rates of 18% overall, with considerably higher rates in females than males, 25% and 10% respectively (Saluja et al., 2004). Other studies have found rates of clinical depression among adolescents between 3% and 8% (Apter, Kronenberg, & Brent, 2005; Merry, McDowell, Hedrick, Bir, & Muller, 2004). Furthermore, depression rarely occurs without comorbid mental health problems, which can be as high as 40% to 95% (Parker & Roy, 2001). The most common co-occurring conditions are anxiety disorders, followed by disruptive behaviour disorders (Parker & Roy, 2001). Gender differences are evident, with rates similar for boys and girls until around the age of 13 to 15 years, when girls begin to show a disproportionate increase in depression (Hyde, Medullas, & Abramson, 2008; Merry et al., 2004). We know little about why this shift occurs, nor how girls and boys might respond differentially to prevention and treatment (Merry et al., 2004). Of most concern is that the experience of depression in adolescence increases the likelihood of recurrent depression in adulthood (Fergusson, Harwood, Ridder, & Beautrais, 2005; Keenan-Miller, Hamden, & Brennan, 2007) with a 40% cumulative probability of recurrent depression within

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two years and 70% within five years (Parker & Roy, 2001). Into adulthood, the long-term effects of depression are poor physical health, higher health care usage, and work impairment (Keenan-Miller et al., 2007). The burden of disease on society should not be underestimated.

Given the importance of this issue to the health of society, the purpose of this article is twofold. The first section examines the outcomes of three broad approaches to the treatment of adolescent depression — primary prevention, pharmacotherapy, and psychotherapy — in order to advocate for advances in treatments. With regard to psychotherapy, we will restrict this to comparisons of meta-analytic studies, in order to cover the breadth of the outcome literature. The second section aims to introduce the reader to mindfulness and acceptance-based psychotherapy, with a particular focus on Acceptance and Commitment Therapy (ACT) and its applicability to adolescents. We will provide an overview of two philosophical positions that underlie psychotherapy and consider how each of these might contribute to treatment for adolescents with depression.

## Treatment Evidence for Adolescent Depression

### *Effectiveness of Primary Prevention for Adolescent Depression*

With youth depression at unprecedented rates, researchers have turned their attention to the development and evaluation of new ways of teaching young people coping strategies via school-based screening or intervention programs (Horowitz, Garber, Ciesla, Young, & Mufson, 2007; Sheffield et al., 2006; Young, Mufson, Laura, & Davies, 2006). Prevention programs fall into two categories — universal or targeted (Mrazek & Haggarty, 1994). Universal programs are delivered in schools to all youths, frequently by teaching staff. Targeted programs are delivered to young people that have been screened and have high levels of risk. These programs are delivered in schools, usually in small group formats. Merry et al. (2004) conducted a Cochrane review of universal and targeted prevention programs for young people up to 19 years of age, where the participants were not in the clinical range for depression symptoms. The meta-analysis included 13 studies — nine using universal intervention and five using targeted interventions. For the universal interventions, the effect size was not significant ( $ES = -0.21$ , 95%CI  $-0.48, -0.06$ ). However, for targeted studies, Merry et al. reported positive treatment effects at posttreatment with an effect size of  $-0.26$  (95%CI  $-0.40$  to  $-0.13$ ). Only two studies included an active control group; both were universal PENN prevention programs (Pattison & Lynd-Stevenson, 2001; Shatter, 1997), and there was no evidence of effectiveness at post-treatment  $ES = -0.13$ , or at 12 months  $ES = 0.11$ . The review authors concluded that although the evidence for targeted programs was promising, there was insufficient evidence to support the use of targeted and universal programs to prevent the incidence of adolescent depression (Merry, 2007; Merry et al., 2004).

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A second meta-analysis on universal and targeted prevention programs was conducted across 30 studies (Horowitz & Garber, 2006). This review also found that targeted programs were more effective than universal programs. The effect size across 30 studies was  $-0.62$  to  $1.51$ , with a positive statistic indicative of a positive outcome. These reviewers also found that at follow-up, few studies had a genuine prevention effect and only targeted programs held promise.

Succeeding the Horowitz and Garber (2006) review, Merry (2007) reviewed the six subsequent trials that have been published between 2004 and 2006. Again, for

universal approaches there was little effect on long-term depression rates. Some studies have produced good effect sizes; for example, a universal intervention by Horowitz, Garber, Ciesla, Young, & Mufson (2007) achieved an effect size of 0.37 for CBT and 0.26 for IPT-A when compared with a no-intervention control; and at a targeted level achieved effect sizes of 0.89 for CBT and 0.84 for IPT-A. However, once again these results were not maintained at the 6-month follow-up. Further, at this universal and targeted level, the research continues to be hampered by weaknesses in methodology. Most important of these is using self-report questionnaires designed to measure clinical change for participants with symptoms that are predominately below the clinical range. Merry (2007) concluded that to prevent one case of depression, 10 adolescents need to receive targeted prevention. The authors drew parallels with outcomes in the medical literature, where 833 people need to be treated with antihypertensive to prevent one stroke victim, or 67 people who have survived a myocardial infarction must take aspirin to prevent one subsequent death (Merry, 2007). In this light, targeted prevention efforts are easily justified.

### ***Effectiveness of Pharmacotherapy Versus Psychotherapy for Clinically Depressed Adolescents***

The landmark study comparing CBT with pharmacological treatment is the Treating Adolescents Depression Study (The Treatment for Adolescents With Depression Study, 2005). TADS required a major investment — the study lasted 6 years, cost \$17 million dollars, and ran across 13 sites (Apter et al., 2005). Treatment outcomes were compared across four groups: combined CBT plus fluoxetine, fluoxetine alone, CBT alone, and pill placebo. TADS was delivered at tertiary medical centres and community clinics (Kratochvil et al., 2005). Participants were 327 adolescents aged 12 to 17 years with a primary DSM-IV diagnosis of major depressive disorder (March et al., 2007).

Effectiveness of this trial varies, depending on the method and time point examined. Effect sizes at 12 weeks on the Children's Depression Rating Scale comparing to CBT were 0.71 for combination therapy, and 0.48 for fluoxetine. By 18 weeks this was 0.55 for combination therapy, and 0.38 for fluoxetine, and by 36 weeks differences were negligible at 0.07 for combination therapy, and -0.01 for fluoxetine (March et al., 2007). Response rates show this same pattern. At 12 weeks 73% responded to combination therapy, 62% to fluoxetine, and 48% to CBT. At 18 weeks, response rates were 85% for combination therapy, 69% for fluoxetine, and 65% for CBT. At 36 weeks response rates were 86% for combination therapy, 81% for fluoxetine, and 81% for CBT (March et al., 2007). These rates of response revealed an increase in the effects of CBT over time such that by 36 weeks, the outcomes for all treatment modes were approximately equal. After 12 weeks of treatment, only 23% (102 of 439) of adolescents had reached remission (Kennard et al., 2006). Adolescents who were younger, less chronic, and more highly functioning, with reduced comorbidity and suicidality benefitted most from the treatment (Curry et al., 2006). Poorer outcomes were seen when complexity, severity and chronicity increased (Brent, 2006). The rate of adverse events was higher for the fluoxetine groups, with adverse events experienced by 11% in the fluoxetine group, 5.6% of the combination, 4.5% in placebo, and 0.9% of the CBT group (Emslie et al., 2006). Suicidality was twice as common in adolescents treated with fluoxetine alone than with the combination or CBT only (March, Silva, & Vitiello, 2006). The TADS authors concluded that combined treatment was better than CBT alone

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or fluoxetine alone (March et al., 2007). However, others have argued that the version of CBT used in this trial may have been too highly structured, perhaps reducing the capacity for experienced therapists to adapt the therapy to the needs of specific clients (Holon, Garber, & Shelton, 2005; Weersing, 2009).

### *Effectiveness of Psychotherapy for Clinically Depressed Youth*

Weiss, McCarty, and Valeri, (2006) examined 35 studies of treatment for child and youth depression published between 1980 and 2004. Participants were all under 19 years of age, and children were included in this analysis, but the majority of the studies included adolescents (80%). Weiss and colleagues found overall, psychotherapy provides small to medium improvements, with an effect size of 0.34 ( $SD = 0.40$ ) using weighted least squares method. The range of effects sizes was from  $-0.66$  to  $2.02$ . On average, after treatment adolescents were at the 63rd percentile of the control group (McCarty & Weisz, 2007). Follow-up assessment conducted within 2–3 months showed continued good outcomes ( $ES = 0.30$ ); however, follow-up data collected closer to one year showed no significant treatment effects. This failure to maintain effects at follow-up is the same pattern seen in prevention trials.

A second meta-analysis using the Cochrane collaboration method was conducted on 27 studies between 1986 and 2004 (Watanabe, Hunot, Omori, Churchill, & Furukawa, 2007). In this review, the primary outcome measure was response to treatment, calculated as relative risk ('relative risk' [RR] is a ratio where 1 indicates no difference between treatment and control). There were 1744 participants involved within the 27 studies. Twenty-five of these studies were included in the meta-analysis discussed above by Weisz et al. (2006). Eligible participants were aged between 6 and 18 years, and studies were included if they used annualised or structured psychotherapy and had a comparison group (no treatment, waitlist, attention-placebo or treatment-as-usual). Excluded were nondirective therapies, such as counselling, family therapy, art therapy, and psychodrama. The ratio of clinic-referred participants was omitted but the review notes that a majority of participants were from schools (54%). Twenty-five studies investigated cognitive behavioural therapy (CBT), two interpersonal therapy (IPT), three behaviour therapy (BT), one study used problem-solving training (PST) and one used supportive therapy. Only 3 of the 27 studies used a comparison group described as treatment-as-usual or usual care.

In this meta-analysis the authors concluded that the relative risk was 1.39 in favour of psychotherapy (Watanabe et al., 2007). The results showed that half of the participants (49.6%) had responded to psychotherapy (450 of 907), while 34.8% of participants in the control conditions had improved (267 of 767). The number needed to treat was 4.3 when compared with no treatment controls. That is, 4.3 cases need to be treated to prevent one case of depression. Once again, improvements did not continue through to follow-up. For the treatment-as-usual studies ( $n = 3$ ) there were no significant differences between treatment (CBT/CT) and control conditions but dropout was significantly higher. For the attention-placebo studies ( $n = 8$ ), outcomes favoured psychotherapy ( $RR = 1.48$ ) with no significant difference in dropout. Finally, for the waitlist studies ( $n = 17$ ) results favoured psychotherapy ( $RR = 2.00$ ) and again there were no significant differences in dropout. In summary, approximately half the adolescents responded to psychotherapy, while a third of the control group responded. Passive control groups will show stronger effects for psychotherapy. Treatment-as-usual was equivalent, although with a higher dropout the finding is ambiguous.

Klein, Jacobs, and Reinecke (2007) also used effect size analysis but restricted their comparison to adolescents with a diagnosis of depression. In contrast, the above meta-analyses of Weisz et al. (2006) and Watanabe et al. (2007) allowed milder symptoms of depression. The review included 11 RCTs of CBT, required random assignment, a comparison group, and a diagnosis of depressive disorders. CBT was defined as an intervention that promotes emotional and behavioural change by teaching adolescents to change thoughts, thought processes, and behaviours. All 11 studies included in the review (Klein et al., 2007) had been included in the meta-analysis of Weisz et al. (2006). The post-treatment effect size was 0.53 ( $SD = 0.15$ ). To evaluate the effects at follow-up, Klein et al., used a consistent 6-month lag and they found an overall effect size of 0.59 ( $SD = 0.23$ ) in favour of psychotherapy. This contrasts with the results from Weisz et al. and Watanabe et al. and indicates that long-term effects continue for clinically depressed youth up to 6 months. The outcomes of psychotherapy for clinical depression at 12 months remain unclear.

### *Mechanisms of Change*

Although CBT and IPT-A have shown effectiveness, to date further examination of how therapies works is needed. Unfortunately, studies using mediational analyses for adolescent depression treatments are few (only three could be found for this review) and the results are contradictory. Kolko, Brent, Baugher, Bridge, and Birmaher (2000) re-examined data from a trial that compared CBT, systematic-behavioural family therapy, and nondirective supportive therapy and found no significant mediational effects for the treatment types at post-treatment or the 2-year follow-up. Kaufman (2005) analysed group CBT against a life-skills comparison program (tasks included completing job application forms, renting an apartment, and so on) and found that change at post-treatment on depression symptoms was mediated by change in automatic thoughts but not dysfunctional attitudes; again, there was no treatment effect at the 6- or 12-month follow-up and therefore no mediation at follow-up. In contrast, Ackerson and colleagues (Ackerson, Scogin, McKendree-Smith, & Lyman, 1998) examined the mediation effects of a bibliotherapy compared to a waitlist control and found that changes in depression were mediated by reductions in dysfunctional thoughts, but not in automatic thoughts.

The few meditational studies have led researchers to use alternative methods of comparison. In a recent review of the mechanisms of action among depression treatments, Weersing, Rozenman and Gonzalez (Weersing, 2009) attempted to look beyond the few studies that have used formal mediational analysis by using descriptive outcomes from 16 trials, and found that CBT, IPT-A, and family therapy all had effects on cognitive processes. Finally, in a crude comparison of those studies that used changed cognitions and those that did not emphasise cognitive change, Weisz et al. (2006) found nonsignificant but larger effect sizes for therapies that did not emphasise cognitive change ( $ES = 0.47$ ,  $n = 13$ ) than those that did focus on changed cognitions ( $ES = 0.35$ ,  $n = 31$ ). This suggests equally robust results from noncognitive efforts, albeit with a rather crude measure. In summary, the above results show that we do not have sufficient information on the processes or differences among therapies.

### *Summary of Treatments for Adolescent Depression*

Overall, cognitive behaviour therapy for adolescents has had a major impact from prevention through to treatment, but there is room for improvement. With regard

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to universal prevention, the research shows positive short-term effects but no measurable long-term effects. Universal work is particularly hampered by methodological issues, including the use of clinical outcome measures to assess change in predominantly nonclinical samples. At clinical levels of symptoms, the outcomes show small-to-medium effects for psychotherapy in predominately laboratory-based trials, with smaller effect sizes observed in clinical trials conducted in service settings. With regard to psychopharmacology, the outcomes are positive in the short-term but over time are equivalent to psychotherapy, with less chance of adverse effects. A major challenge is to demonstrate the effectiveness of psychotherapies as they are disseminated into real world clinical services. Fortunately, cognitive behavioural approaches are not stagnant and there is continued growth in cognitive and behavioural treatments, particularly those that incorporate mindfulness and acceptance.

### **Advancing Psychotherapy with Mindfulness-Based Approaches**

Mindfulness-based therapies include Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999), Dialectical Behaviour Therapy (Linehan, 1993), and Mindfulness-Based Cognitive Therapy (Segal, Teasdale, & Williams, 2004). In this review we aim to highlight ACT and its philosophical and theoretical foundations. ACT grew from a theory of verbal behaviour called Relational Frame Theory (Hayes, Barnes-Holmes, & Roche, 2001) and underpinned by the philosophical assumptions of functional contextualism (FC). It is important to provide an overview at this foundational level in order to examine the potential contribution to psychotherapy. So we begin with an overview of functional contextualism (the philosophy), then briefly describe RFT (the behavioural theory), then discuss ACT as a therapeutic approach, and finally present the empirical research to date. Our purpose is to highlight how this basic knowledge and applied treatment approach might build upon prevention and treatment work for adolescents.

#### ***Functional Contextualism: The Philosophical Foundation of ACT***

Functional contextualism (Hayes, 1993) is a philosophical position which allows the reader see the foundations of ACT treatment development. It is perhaps easiest to understand by contrasting it with a mechanistic approach, frequently used to explain aspects of cognition.

From a mechanistic philosophical perspective, healthy functioning is the absence of pathological thinking. Cognitions are often described using the metaphor of a computer or machine — when something goes wrong there is a ‘part’ to be fixed in order to make the ‘whole’ (person) function effectively. For example, Beck argued that ‘schema are cognitive structures within the mind’ (Beck, 1995, p. 166) and these hold the core beliefs. Thus cognitions such as ‘I must win’ can be labelled as false beliefs, automatic thoughts, or defective schema (Persons, 2001). Using this approach, a therapist attempts to teach replacement of faulty or irrational cognitions with new more rational ones such as ‘I would like to win’ (Bach & Moran, 2008, p. 33). Furthermore, thoughts can be viewed as causes of feelings or behaviours — irrational thoughts lead to negatively evaluated feelings and dysfunctional behaviour. When thoughts become more rational it is presumed that feelings and behaviour will also improve. A mechanistic model is clearly evident in depression theories; for example, Beck’s vulnerability model argues that in depression there are negative schemas of the self, world and future (Weersing & Brent, 2006).

A mechanistic approach to depression treatment in adolescence might aim to correct the 'parts' that need to be improved, for example, using Socratic questioning to evaluate the validity of thoughts (Beck, 1995).

ACT literature overtly describes a functional contextual approach as essential to its development (Hayes, Luoma, Bond, Masudam, & Lillis, 2004; Hayes, Masuda, Bieestt, Luoma, & Guerro, 1996). The underlying premise is that of pragmatism; thus, there is no 'right' solution — only solutions that work. The subject matter is the 'act-in-context', which considers behaviour along with stimuli and consequences as a whole unit. 'We wish to understand whole organisms interacting in and with a historical and situational context ... a psychological act-in-context cannot be explained by an appeal to actions of the various parts of the organism involved in the interaction' (Hayes, Strosahl, & Wilson, 1999, p. 18), so there are no 'parts' akin to schema or false beliefs that need to be evaluated or fixed in order to get the 'whole' (person) working properly (Bach & Moran, 2008). Thoughts are not viewed as causes of behaviours or emotions. Instead, thoughts are viewed as covert behaviours, which like overt behaviours are elicited by environmental events, given the unique history of the individual; and the unit of analysis becomes the environment–environment relationship. Put simply, behaviours (both covert and overt) are understood in the context in which they occur (Ciarrochi, Robb, & Godsell, 2005). With the act-in-context as the subject matter, suffering can be seen as either normal or problematic, and health is not defined by an absence of suffering.

Depression, from a functional contextual approach, is described by Zettle (2007, 2008) as arising from, and being maintained by: (a) ruminating in order to try to figure out and 'get rid of' unwanted thoughts and feelings; (b) unsuccessful attempts to avoid unwanted thoughts and feelings that lead to limited activity and a decrease in opportunities for positive reinforcement; (c) fusion with negative self-evaluations, that is, seeing thoughts as describing reality rather than as mere thoughts; (d) lacking a clear sense of values and/or behaving excessively to please others while not attending to one's own desires; (e) living in the regretted past and dreaded future rather than in the present moment where vitality might be experienced; and (f) avoiding failure or even fear of failure which leads to avoiding goal attainment. Each of these points would of course be analysed functionally for any given individual.

Therefore, treatment for adolescent depression using a functional contextual approach relies on understanding the function of the adolescent's behaviour, in their present environment, given their unique history. The goals of functional contextualism are to describe, predict, and influence behaviour. The target of change in treatment informed by functional contextualism is the function of thoughts — the thoughts themselves may or may not change. The function of thoughts is changed through experiential activities, each aimed at targeting the dysfunctional behaviours stated in the preceding paragraph, points (a) through (f). From a functional approach, thoughts and feelings are not viewed as irrational content to be gotten rid of or changed, and are instead viewed as events to be observed and appreciated as natural outcomes of one's unique history. Successful working is the outcome goal, and this is achieved when the individual attains valued living and achieves desired goals — and which may or may not include having unwanted thoughts and feelings (Bach & Moran, 2008).

We will now turn to a clinical example to clarify the approach that we are describing. We will use the example of an adolescent girl presenting with depressed mood; she has a history of being bullied on the school bus and moves schools to

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avoid the bullies (as we progress with this clinical example we will examine Table 1). From an FC view, the therapist would examine the adolescent's behaviour within its context, in order to understand the functions of her problem behaviours, in this case within the context of the schools. The therapist might explore her behaviour patterns with peers and how her behaviour may function to help her avoid unwanted private experiences, perhaps to avoid emotional hurt. From an FC perspective, thoughts and feelings might be considered psychological content, and thoughts would not be considered as causes of her behaviour.

### *Relational Frame Theory as the Theory Underpinning ACT*

The theory of human language and cognition upon which ACT is built is entitled Relational Frame Theory (Hayes, Barnes-Holmes, & Roche, 2001; Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004). A thorough explanation of RFT as a theory of language and cognition is beyond the scope of this paper (for a detailed theoretical discussion of RFT the reader should refer to Blackledge, 2003; Hayes et al., 2001). However, it is important be clear that ACT as a therapeutic model arose from RFT. Key points are: (a) both RFT and ACT assume a functional contextualist philosophy, (b) RFT has its roots in Skinnerian operant conditioning, and the core principles of reinforcement, punishment and extinction are applicable, and (c) RFT builds on operant conditioning by adding a newly argued principle for verbal behaviour — that of 'arbitrarily applicable derived relational responding' (Hayes et al., 2001). In this term, relational responding refers to the capacity to 'relate' stimuli as a generalised operant shaped by historical environmental experiences. The term 'derived' refers to the capacity to infer from facts or premises as opposed to direct experience (Bach & Moran, 2008). For instance, an adolescent might learn to avoid peers that are dressed in 'Goth' style, through a history of being told that 'Alternative looking people are bad' and having a direct history of interacting with other 'bad' things, rather than through a direct experience of contact with someone who dresses in 'Goth' style. And the term 'arbitrarily applicable' means that stimuli are related based on social convention or verbal history, rather than on formal properties or 'thingness' of the stimuli. For instance, a girl is named Anne based entirely on social whim; while she is labelled a 'girl' and '1.6 metres tall' based on her formal/physical characteristics.

The above discussion of FC and RFT is included to provide the reader with an orientation to ACT and to attest that ACT is a therapy arising from sound scientific reasoning where the function of the act-in-context is central (Hayes et al., 1999). We now turn to a review of ACT and developing it for use with adolescents.

### *Acceptance and Commitment Therapy for Adolescent Depression*

ACT is a therapy that aims to increase psychological flexibility, which is 'the ability to contact the present moment more fully as a conscious human being, and to change or persist in behaviour when doing so serves valued ends' (Hayes et al. 2006). There are six core processes used to develop flexibility and six parallel processes, which are conceptualised as contributors to psychopathology. The ACT therapist would begin with a functional assessment of the presenting problems. The therapist would then conceptualise which pathological behaviours are most evident, and decide the most appropriate ACT process to begin treatment. In Table 1 the six process of psychopathology are shown as avoidance, cognitive fusion, and so on, while the six ACT process are often shown as beginning with acceptance, then cognitive

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**TABLE 1**  
 Core Process in Acceptance and Commitment Therapy and an Example of ACT for an Adolescent

Psychopathology — psychological inflexibility	ACT process — to develop psychological flexibility	Explanation of ACT techniques	An adolescent therapeutic example
Avoidance	Acceptance	Using experiences to demonstrate how to accept, expand, or make room, for difficult emotions	With the therapist, adolescent role-plays the passengers on the bus metaphor (Hayes et al., 1999). Acting out her life as a bus, her difficult thoughts are seen as akin to passengers, and attempts to throw the passengers (thoughts) off the bus or change them are futile. Instead she would role-play successful driving of her life bus, while taking the passengers with her.
Cognitive Fusion	Cognitive Defusion	Alter the function of thoughts by using novel experiences to expand the way thoughts are framed	Experience her thoughts as 'thinking' by engaging her in experiential activities to show how thinking is not experience; for example, saying 'I can't pick up this pen' while picking up a pen (Bach & Moran, 2008).
Living in the past, or Fearing the future	Being present	Mindfulness exercises to experience living in the present moment	Practice experiencing a regular activity with full awareness of external and internal sensations, for example walking mindfully, breathing mindfully and so on.
Self-as-content	Self-as-context	Gaining perspective on the self as the context for experience	Facilitate a mindful exercise using the chessboard metaphor (Hayes et al., 1999), where her negative and positive thoughts and feelings are played out as black and white chess pieces, the content 'I am a loser' is merely one chess piece but she is the chessboard which holds all the pieces, that is, she is the context for all experience.

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**TABLE 1 CONTINUED**  
 Core Process in Acceptance and Commitment Therapy and an Example of ACT for an Adolescent

Psychopathology — psychological inflexibility	ACT process — to develop psychological flexibility	Explanation of ACT techniques	An adolescent therapeutic example
Lack of values clarity, compliance, avoidant tracking	Values	Values work in ACT seeks to make overt what is important in life. For adolescents, this may be contrasted with complying with adult or peer group expectations	Use clay to make a metaphorical model that represent important living; for example, she might make hands to demonstrate friendship, and a book for learning. Experiencing that the models can be easily lost if hidden away or they can be overt motivators for committed action toward valued living.
Impulsivity, inaction, or avoidant behaviour	Committed action	Standard behaviour change techniques	Behavioural activation methods, including committed small steps, setting goals, skills training, and homework.

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defusion, and so forth. ACT can begin with any of these six processes, depending on clinical judgment. While each process can be described as discrete, in practice there is much overlap during treatment. To highlight the approach for adolescents, we will continue with our clinical example from above, of an adolescent girl who has bullying concerns. Each step described is also laid out in Table 1. A brief discussion of each step follows.

With regard to avoidance versus acceptance, ACT assumes that avoidance is a key factor in psychological problems. Avoidance is empirically established (Foa, McNally, Steketee, & McCarthy, 1991; Zinbarg, Barlow, Brown, & Hertz, 1992) and is evident when an individual is unwilling to remain in contact with difficult private experiences and takes steps to avoid the contexts in which they occur (Hayes et al., 1999). The ACT approach aims to foster willingness to experience these difficult thoughts and feelings, and to take steps toward life goals even though these difficulties may be present. It assumes that acceptance is the alternative to avoidance. The adolescent would be engaged in a variety of experiences that aim to demonstrate that avoiding or trying to escape from unwanted thoughts and feelings narrows life. During treatment the adolescent is encouraged to make room for difficult thoughts and feelings. In Table 1, the metaphor of 'passengers on the bus' is used in a role-play. The process requires using the client's experiences to contact the costs of avoidant behaviour and to contingently shape acceptance behaviours.

With regard to cognitive fusion and defusion, ACT assumes that thoughts and feelings are contextually controlled and therefore difficult to dismantle. An individual cannot subtract content from his/her history. An individual who has had the thought 'I am a loser' cannot have the experience of never having had that thought. In some contexts that thought may arise given his/her history of responding; for instance, the thought 'I am a loser' may show up whenever she does poorly on an exam or is teased by friends. The ACT therapist would not attempt to stop difficult cognitions or override them with positive thinking. Instead therapeutic techniques would be aimed at lessening their power over overt behaviour through acceptance and defusion, by living more in the present, and by creating change through experience (Bach & Moran, 2008, p. 78). For instance, a therapist working with the adolescent who has the thought 'I am a loser' might use experiential exercises to demonstrate the futility of trying to control thoughts and feelings. Alternatively they might explore how trying to avoid this unwanted thought and accompanying feelings leads the adolescent to avoid spending time with friends, thus trying to avoid unwanted thoughts, but also avoiding opportunities for positive reinforcement. The therapist might also point out that the adolescent can interact with her peers even while having the thought 'I am such a loser'.

In the next step, Table 1 shows how ACT contrasts the suffering that arises when an individual spends more time thinking about the past or fearing the future — living in their heads — than living in the present moment. This is most evident with worrying and rumination. ACT attempts to help individuals experience the present so they can contrast this as a different experience to worry and rumination over the past or future. A range of mindfulness techniques would be used, many adapted from other mindfulness work (e.g., see Hayes, 2004; Kabat-Zinn, 2005; Segal et al., 2004). In the present example, a simple mindful exercise is constructed with the adolescent's input, and with regular practice facilitates experiencing the world directly. This direct experience would be reinforcing and therefore become contingently controlled.

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The process, entitled 'self-as-content versus self-as-context', can be confusing for people trying to understand the ACT model. Self-as-content describes the conceptualised self, which is evident in the descriptors, labels, and images that an individual constructs. For example, 'I am right', or 'I am worthless'. The ACT model purports that when one is too attached to these conceptualisations they take on a regulatory role, reducing flexibility and inhibiting behaviour (Hayes et al., 2006). ACT approaches this by using experiences that help an individual to gain perspective on this process and to experience their 'self' as the context in which all thoughts and behaviours arise. In other words, their thoughts come and go, but they are not their thoughts. In the example shown in Table 1, a mindfulness exercise is used where the adolescent imagines that her thoughts and other 'content' are black and white chess pieces, but she is the chess board — unchanging and able to hold all the experiences, thoughts and feelings (metaphor adapted from Hayes et al., 1999).

Values work is the heart of ACT (Bach & Moran, 2008). Eliciting deep-seated values can provide the motivation needed for behaviour change and build willingness to experience unwanted thoughts and feelings that might accompany valued action. The model purports that lack of valued living, unclear values, excessive pliance, or avoidant tracking are all evidence of psychological inflexibility. These behaviours share a commonality in that they all pull the client away from behaviour that is self-fulfilling. For example, an individual that shows excessive pliance would behave in socially expected ways in order to please the peer group, rather than behaviour that is personally meaningful. For adolescents, pleasing peers is particularly pertinent. The ACT therapist would help the client make overt what is truly important in their life and to have them engage in behaviours that serve what they value most. However, asking an adolescent a question such as 'What do you really care about?' can easily lead to a blank stare (this can happen with adults too!) or a socially expected response. So once again, an experiential exercise is used to help them express what is most important to them. These exercises aim to elicit what is important in their lives, rather than what they expect the therapist wants to hear. In our example in Table 1 we have used clay, and the adolescent is asked to make symbols of things in life that they value, these models can be quite powerful and become visual aids when goal setting. Values create meaning and direction in life.

The final process shown in Table 1 is committed action, which includes behavioural activation, skills training, exposure, and other techniques common to many behaviour therapies. ACT purports that individuals who are psychologically inflexible behave impulsively, have difficulty taking goal-directed action, and fail to keep commitments or avoid setting goals at all. The ACT therapist would use an individual's values as the reason to commit to action. From there basic behavioural interventions would be used, including small action changes, setting goals, and weekly homework.

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In summary, we have attempted to show how ACT can be adapted for adolescents and that it can add value to current treatments for depression. ACT aims to develop psychological flexibility and so the approach used is flexible. The starting point depends on the clinical issue presented. A range of techniques would be used, each aimed at using experiences to contingently control behaviour. Table 1 serves only to demonstrate one example; the interested reader is encouraged to view the many practical texts (Bach & Moran, 2008; Greco, Blackledge, Coyne, & Ehrenreich, 2005; Hayes et al., 1999; Strosahl & Robinson, 2008; Zettle, 2007).

**Behaviour Change**

### *Effectiveness of Acceptance and Commitment Therapy*

The majority of ACT therapeutic trials have been with adults and it presents very new territory for adolescent therapeutic work. There are some promising outcomes using ACT with adolescents, although in the typical pattern there is a lag, so we will first consider a brief overview of the larger body of work using ACT with adults.

ACT reviews have shown that for adults, this treatment can achieve positive long-term outcomes for depression, anxiety, psychosis, chronic pain, work stress, stigma and burn-out (Hayes et al., 2006; Hayes, Bissett et al., 2004). In the 2006 review (Hayes et al., 2006), across 21 studies the weighted mean effect size was 0.66 at post-treatment ( $N = 704$ ) and this was maintained at follow-up with an effect size of 0.66 ( $N = 519$ ). The effect sizes of 0.48 ( $N = 456$ ) are large when compared with active well-specified controls at post-treatment, and they remain large at follow-up 0.63 ( $N = 404$ ) suggesting good maintenance and continued improvement (Hayes et al., 2006). When compared with waitlist conditions, treatment-as-usual, or placebo, the effect size is large at post-treatment, 0.99 ( $N = 248$ ) and again this is maintained at follow-up, 0.71 ( $N = 176$ ). With regard to depression, the first ACT trial (ACT was initially called comprehensive distancing) was a comparison of ACT and CT with adults (Zettle & Hayes, 1986). The results were superior for ACT, showing an effect size at post-treatment of 1.28 ( $N = 18$ ) and this continued through to the 3-month follow-up with an effect size of 0.92 (Hayes et al., 2006). A second trial of group ACT therapy for depression also compared ACT and CT and found both treatments produced similar positive outcomes (Zettle & Rains, 1989). Although these results are for adults, they attest to the positive outcomes being shown for ACT, and demonstrate that the treatment gains are maintained. Of interest is the finding that effect sizes have improved from post-treatment to follow-up in two studies (Hayes, Bissett et al., 2004; Zettle & Rains, 1989).

In adult studies, the underlying principles of ACT have been demonstrated in correlational meta-analysis across 32 studies with 6,628 participants (Hayes et al., 2006). In this analysis psychological flexibility, as measured in ACT using the Acceptance and Action Questionnaire, was associated with improved quality of life and life outcomes. Psychological flexibility has also been correlated with lower levels of mental ill-health (Bond & Bunce, 2000, 2003; Donaldson-Feilder & Bond, 2004); and longitudinally, greater levels of acceptance predict better mental health one year later (Bond & Bunce, 2003). Mediation analysis to test the process of change in ACT treatment work is beginning to show that ACT processes mediate the changes seen in therapy. For example, using the Hayes and Zettle (1986) data on depression to test for mediation, Hayes et al. (2006) found that the believability of depressive thoughts taken mid-treatment were predictive of significantly different treatment outcomes for ACT when compared with CT. Whether ACT can deliver anything new to adolescents will remain unanswered, but the above suggests that there is a different process to be tested.

ACT research for adolescents is preliminary but encouraging. Empirical work on psychological inflexibility in adolescents (two samples,  $N = 513$  and  $N = 675$ ) has shown that inflexibility is positively correlated with clinical measures of anxiety, somatisation, and behaviour problems; and negatively correlated with quality of life, social skills and academic competence (Greco, Lambert, & Baer, 2008). With regard to treatment studies, Wicksell and colleagues trialled ACT on adolescents with chronic pain across two studies, a randomised controlled trial (Wicksell, Melin, Lekander, & Olsson, 2009) and an earlier pilot study (Wicksell, Melin, &

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Olsson, 2007) and found that ACT treatment resulted in significant improvements in functional ability, pain intensity, and pain-related discomfort. Adolescents treated with ACT reported less catastrophising and lowered perceived pain (Wicksell et al., 2009), providing some encouragement toward pursuing ACT as a treatment for depression. In the school setting, an RCT comparing ACT to passive control with adolescents has reported significantly improved outcomes up to two years later on measures of stress and psychological flexibility (Livheim, 2004). Finally, the first author of this present work has under review two publications showing promising results using ACT with adolescents experiencing depressive symptoms in two settings, a clinical population treated in community health, and an early intervention program in schools.

## Conclusion

Epidemiological data implies that depression in adolescence continues to be a significant problem in developed countries and that little headway has been made in reducing its prevalence at a population level. In schools, prevention efforts have shown promising results at post treatment, but the effects have been difficult to sustain over time. With regard to clinical treatments for adolescent depression, psychotherapy continues to show positive effect sizes and CBT remains the recommended front-line treatment for mild-to-moderate depression, with psychopharmacology used for nonresponders and severe depression. Despite this strong evidence, mediational and moderations studies are needed to demonstrate how the therapy works and on whom. Dissemination studies are also needed to demonstrate the effectiveness of psychotherapy in real-world settings (Roberts, Lazicki-Puddy, Puddy, & Johnson, 2003). So long as there are large numbers of non-responders new interventions are needed for those who fail to respond to existing treatments.

Acceptance and Commitment Therapy may be a valuable approach for working with adolescents. ACT has philosophical foundations that emphasise the function of behaviours, and is based on a theory of verbal behaviour that continues to be tested in laboratory studies. ACT as a therapeutic approach aims to increase psychological flexibility. ACT does not specifically target symptom reduction, although symptoms often do decrease following treatment (Hayes, et al., 2006). Psychological flexibility is the capacity to be in contact with the present moment while changing and/or persisting in behaviour consistent with chosen values. Recent ACT outcome and mediational studies, albeit with adults, suggests that psychological flexibility can be a target of treatment, that it can show positive outcomes that are maintained at follow-up, and in some studies the effects continue to grow over time (Hayes, Bissett et al., 2004). Thus, it seems appropriate to consider if ACT can be useful for prevention and treatment work with adolescents. Perhaps psychological flexibility can provide an alternative to self-esteem building often used in prevention work. This seems critical given the alarming rise in the prevalence of adolescent depression and that a greater vulnerability in cognitive development co-occurs with the identity formation phase of adolescence.

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