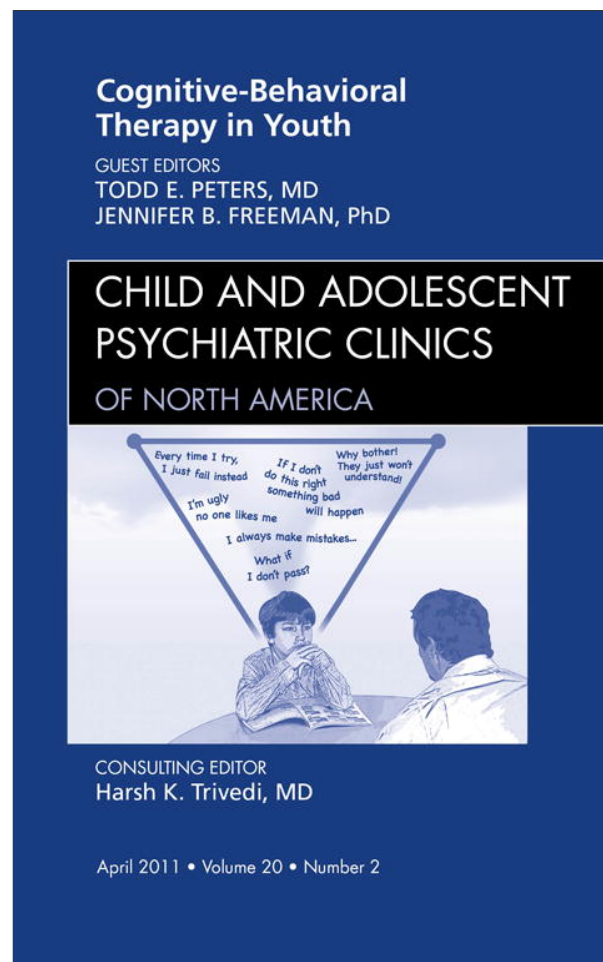


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Acceptance and Commitment Therapy (ACT): Advances and Applications with Children, Adolescents, and Families

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KEYWORDS

- Acceptance and commitment therapy • Acceptance
- Commitment • Behavior therapy • Children • Parents

THE CONCEPTUAL FRAMEWORK OF ACCEPTANCE AND COMMITMENT THERAPY

Acceptance and commitment therapy (ACT; pronounced “act,” not A-C-T) is a “third-wave” behavioral therapy that has attracted a great deal of empirical attention in its use with adults. A growing body of literature has supported its effectiveness across a broad array of psychiatric disorders and behavioral health issues. A recent meta-analysis¹ summarizes domains in which ACT has been shown to be useful, although the literature is still young.² Although this literature is rapidly expanding, in concert with other acceptance and mindfulness-based approaches, work with children, teens, and families is still in its infancy. Thus, herein the authors provide an overview of ACT and its theoretical underpinnings, describe assessment, therapy, and its adaptations with children, and provide a review of its evidence base to date.

ACT AND THE COGNITIVE-BEHAVIORAL TRADITION

ACT is a part of the cognitive-behavioral tradition, and yet is distinct from it in several ways. To appreciate those differences, it is important to consider how

The authors have nothing to disclose.

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Child Adolesc Psychiatric Clin N Am 20 (2011) 379–399

doi:[10.1016/j.chc.2011.01.010](https://doi.org/10.1016/j.chc.2011.01.010)

1056-4993/11/\$ – see front matter © 2011 Elsevier Inc. All rights reserved.

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both ACT and cognitive-behavioral therapy (CBT) developed. ACT and other third-wave approaches, such as functional analytical psychotherapy (FAP),^{3,4} dialectical behavior therapy (DBT),⁵ and mindfulness-based stress reduction (MBSR)⁶ arose in part out of a fundamental gap between the heuristic value of “second-wave” CBT approaches and their links to basic cognitive science.¹ CBT, in turn, was a response to a behavioral analytical perspective that did not adequately address human cognition in its theory of psychopathology, nor in its technology for behavior change. Thus, CBT was born of the clinical literature as a means to account for cognitive variables as treatment targets to foster symptom reduction in specific diagnostic entities such as major depressive disorder.⁷ CBT models posit that behavioral change follows cognitive change, and treats thoughts as causal agents. Techniques that arose clinically (rather than empirically), such as addressing cognition through appealing to logic, cognitive restructuring, thought stopping, and using Socratic questioning, became tools in the therapeutic armamentarium. Symptom reduction, or helping individuals *feel* better through reduction of anxiety, depression, anger, and other intense, sustained emotions, as well as their related cognitions and behaviors, are explicit treatment goals.

While CBT makes conceptual sense, some argue that it has two major shortcomings. First, the links between CBT’s therapeutic techniques with basic cognitive science are tenuous, at best.¹ Second, the tenet that cognitive change is necessary for behavioral change has garnered little support, at least in terms of treatment targeting depression.^{8–10} Although CBT has a robust empirical base and has been shown to be efficacious in treating a variety of psychiatric disorders both in children and adults, treatment components targeting cognition explain little variance in outcomes over and above those targeting behavior.^{9,11} Thus, it is not clear what cognitive techniques add over and above behavior therapy.^{12,13} Moreover, it is not clear what the mechanisms of action may be, separate from purely traditional behavioral treatment components.

ACT differs from CBT in terms of its underlying philosophy of science and its scientific goals, as well as its theoretical and conceptual links to basic science of language and cognition. At its heart, ACT constitutes what has been called a “functional contextual” approach to human behavior. Whereas cognitive-behavioral models are mechanistic (stimuli enter, behavior ensues, consequences arise, and the cycle repeats), a core assumption of ACT’s philosophy is that psychological events are ongoing, and best viewed within a situational and historical context. Said another way, it is meaningless (not to mention impossible) to isolate a behavior (including cognition) outside of its context. Thus, ACT assumes that (1) behaviors can have different functions for an individual in different domains, (2) different behaviors can belong to similar functional classes, and (3) behavioral change is best accomplished through manipulation of contextual factors that contain it. Contextual “meaning” that organizes behavior arises from one’s learning history, and more specifically, language processes, described later.

ACT’s core scientific goal is to provide an account of human behavior, including private events, linked with a technology of prediction and change. Thus, ACT uses a pragmatic, rather than ontological truth criterion—that is, it is more interested in how behavioral responses “work” for an individual rather than addressing behaviors as a symptom of a diagnostic entity. Moreover, thoughts and emotions are understood and addressed differently than in CBT: ACT is more interested in the contextual events that regulate and organize cognitions and link them with one another, than in the nature and development of cognitions themselves.¹ Because behavior is thought to be a function of its contingencies, one can change behavior through direct manipulation of maintaining contextual factors.

Similarly, with regard to cognition, an ACT therapist tends to be more interested in its *process*, or *function* (ie, how it *works* for an individual) rather than its *content* (ie, the *nature* of one's thoughts). An excellent example of this involves the work by Borkovec and colleagues¹⁴ on worry. These investigators argued that the process of worry had particular functions for individuals with generalized anxiety disorder, namely the short-term avoidance of unpleasant physiological responses.¹⁵ In the longer term, however, engagement in worry precluded exposure to and emotional processing of unwanted psychological events, and may prevent individuals from developing clear, concrete plans for coping with their stressors. The *content* of the worry (ie, *what* people worry about) was far less relevant than the *process* of worrying. Thus, an ACT therapist might explore how a particular stream of thought might work for an individual, and address this in functional analytical terms (eg, what does an individual gain or lose from engaging in this behavior? What function does this behavior serve?).

As one might guess, this philosophical framework has implications for the conceptualization and assessment of psychopathology. Primarily, as mentioned above, ACT focuses on the function of behavior rather than its topography. However, in considering what “works” for a given person, one must also ask the question, “for what?” In other words, ACT is most interested in what individuals value, and how effectively their behaviors support those values. Symptom reduction is not necessarily a goal from an ACT perspective. Or said another way, ACT is more interested in helping individuals lead valued lives than in helping individuals feel less anxious, depressed, and so forth. Symptom reduction is a side effect that is often observed once individuals start to progress through treatment and do things that matter to them. Thus, the metric by which psychological health is judged is broadened from symptom reduction to include how the individual as a whole organism is functioning with respect to valued domains. This may sound like a radical idea, until we begin to consider questions such as, “When you are less depressed, what would you be *doing*? How would things be different?” Progress, then, is measured in terms of how well one is living the life that one wants.

To summarize, the ACT model of behavioral change involves the manipulation of contextual variables on which behavior it depends. This idea is not a new one. In fact, it harkens to the very beginnings of behaviorism and applied behavior analysis. What is new is that ACT is deeply rooted in a basic science of language and cognition, or relational frame theory (RFT).

THE ROLE OF RFT AND LANGUAGE LEARNING PROCESSES IN BEHAVIOR

Possibly the most important feature of ACT is that it is grounded in a theory of language and cognition, RFT.¹⁶ RFT is a functional analytical approach that accounts for the development of language and higher cognition in terms of learned generalized patterns of relational responding referred to as arbitrarily applicable relational responding (AARR). The simplest example of an arbitrary relation is the relation of coordination between words and their referents, which children begin to learn at around the age of 2 years. RFT proposes that AARR is acquired on the basis of a unique history of reinforcement, often provided by the human verbal community. Continued exposure to the socioverbal environment produces increasingly complex patterns of AARR including more extensive relations of coordination as well as relational patterns other than coordination including distinction, opposition, comparison, and so forth.¹⁷

The earliest and simplest form of AARR that is learned is the ability to respond to the symmetrical relations between words and objects. For example, a child may be

taught to orient toward a particular object in the presence of a novel word in the context of an interaction, such as the following. A mother might say, “Where is the fire truck?” When the child looks at the fire truck, the mother responds, “Good boy!” This interaction may be represented as follows: Hear Name A—Orient toward Object B. The child may also be taught to produce the name or an approximation of the name in the presence of the object: [Fire truck shown to Child] “What is this?” [Child: “Fire truck”], “Good boy!” (See Object B—Produce Name A). Initially, the child must be explicitly taught each such symmetrical relation (ie, A–B; B–A). However, according to RFT, after a child has received a sufficient number of exemplars of bidirectional training in this relational response, eventually generalization occurs, so that contextual cues, such as “is” or the object-naming context itself, become sufficient to instantiate derived symmetrical relational responding with novel word-object combinations. In other words, at this point in time the child need be taught in only one direction (ie, either “name-object”, or “object-name”) and can then derive in the other direction (ie, “object-name”, or “name-object”, respectively). To build on this example, a toddler might learn that the spoken words “fire truck” refers to a photo of a fire truck, and then derive that the printed words “fire truck” refer to the photo and the spoken words. Thus, the earliest and most basic form of AARR is also the earliest and most basic form of language (ie, reference).

RFT research has also identified, and investigated, several other forms of arbitrarily applicable relations, or relational frames, in addition to the relations of coordination. These relations include those of “opposition”,^{18–21} “distinction”,¹⁹ “comparison” (eg, more than, less than),^{22,23} “hierarchy”,²⁴ “analogy”,^{25,26} “temporal relations”,^{23,27} and “deictic relations”.²⁷

According to RFT, all examples of this phenomenon possess the following 3 characteristics: mutual entailment (ie, the fundamental bidirectionality of relational responding), combinatorial entailment (ie, to a derived stimulus relation whereby 2 or more stimulus relations mutually combine), and transformation of stimulus functions, which refers to the transformation of psychologically relevant functions of a stimulus in accordance with the underlying derived relation in a given context.¹⁶ The last of these 3 is particularly important from a psychological point of view, as it explains the power of language to change the meaning of stimuli. For instance, on hearing the words “fire truck,” or seeing a photo of a fire truck, a child might experience a mental image of a fire truck speeding down the street, and some of the associated excitement.

In addition to these 3 main properties, AARR is always in accordance with relations between stimuli, which are determined, not by the physical characteristics of the stimuli involved but by additional, arbitrary contextual cues. Said another way, the meanings and psychological functions of elements in a particular relational frame are conferred by the context in which they are learned and, as such, are arbitrary. Contextual cues themselves are those features of the environment that predict reinforcement for a certain form of AARR.^{28–30}

According to RFT, AARR and the transformation of stimulus functions provide us with a behavioral model of human language and cognition. Language and cognitive processes are associated with many psychopathologies,³¹ and RFT provides an account of how these processes are learned. The contextually controlled relational nature of language as articulated by RFT suggests that rather than attempting to change aversive content, we should instead attempt to change the context in which aversive content occurs. ACT is a treatment package that has been designed to directly break down the literal hold that AARR has on human behavior.

THE ACT/RFT MODEL OF PSYCHOPATHOLOGY

An ACT/RFT model of psychopathology assumes that humans encounter pain, trauma, and loss, and that these experiences are part of life. However, *suffering* arises through the interaction of language processes with direct contingencies that create an unhelpful persistence and singular focus on managing or minimizing pain that precludes engagement in behavior toward valued domains. This end result is called psychological inflexibility, and is thought to arise from weak, ineffective contextual control over associative learning processes. As such, the ACT model of psychopathology is bound tightly to the processes described by RFT.

To illustrate these processes, consider a child who wants to feel less anxious. His peers and his parents may tell him not to worry about things, or that he's a "baby," when he shows fear. Thus he comes to understand, through a social context, that anxiety is bad, and should go away. Consequently, he begins to work very hard at not being anxious. He avoids situations that are anxiety-provoking, although it constrains his behavior and limits his opportunities to approach and thus extinguish his anxiety. However, the anxious thoughts persist. Next, perhaps he tries to not think about them, or to distract himself from them, or to replace them with coping thoughts. At the same time, he continues to attend to and struggle with those thoughts, which, through language learning processes, come to be related with the perceived effectiveness of his cognitive coping strategies. He attends more and more selectively and intensely to routing them out. However, after that fails to work, he begins to wonder what is wrong with himself that he cannot make them go away—and begins to think he might be broken, flawed, and a failure. Thus his anxiety is intensified.

This process so described illustrates two elements that ACT posits are central to the development and maintenance of psychopathology. The first is cognitive fusion, which in technical terms refers to "excessive or improper regulation of behavior by verbal processes"; specifically, derived relational networks.^{1,32} In more general terms, this refers to the tendency to experience one's own thoughts and beliefs as literal or true. For example, a teen who misperceives an unintentional slight as having hostile intent might experience the thought, "I am a loser," as an accurate reflection of his or her own self-worth. When fused with one's own cognitive content, an individual is unable to contact *actual* environmental contingencies, and consequently is less likely to respond in effective, adaptive ways. Because verbal or cognitive elements are treated as *real*, an individual may become engaged in a pervasive pattern of avoidance of such elements.

Attempts to change, minimize, or otherwise control unwanted psychological experiences is termed experiential avoidance, and is the second element targeted by ACT.^{33,34} This avoidance, in limited doses or used in the short term without excessive personal costs, is not a problem in and of itself. For example, children who use distraction to help tolerate immunizations may benefit from this strategy.³⁵ However, when individuals demonstrate excessive reliance on managing cognitive or verbal experiences, this is thought to contribute to the development of maladaptive behavioral repertoires. Exclusive reliance on experiential avoidance draws attention inward, toward the goals of managing unmanageable psychological events, and thus precluding attention to other, more meaningful pursuits. In this way, it may contribute to functional impairment across a broad range of diagnostic entities.

ACCEPTANCE AND COMMITMENT THERAPY COMPONENTS

The overarching goal of ACT is to foster psychological flexibility so that individuals may pursue goals in meaningful or valued domains. ACT targets experiential

avoidance and cognitive fusion as toxic processes, and empowers individuals to engage in valued behaviors. Said simply, the core question in ACT is as follows: given a distinction between you and the things you are struggling with and trying to change, are you willing to experience those things, fully and without defense? Toward this end, ACT targets 6 psychological processes that it seeks to strengthen, and these may be divided into acceptance and mindfulness-based and behavior change processes (Fig. 1).¹

Acceptance and Mindfulness Processes

Cognitive defusion can be conceptualized as deliteralization of thoughts; in other words, it refers to the process through which an individual comes to understand that his thoughts are merely verbal events rather than actual events. In contrast to CBT, which attempts to alter the *content* of one's thoughts, ACT attempts to alter the *function* of one's thoughts through changing how an individual interacts with them. For example, rather than a thought being perceived as a literal truth and serving as antecedents to avoidance, an individual might say, "I am having the thought that..." Experienced in this way, an individual might gain flexibility in choosing from a broader range of behaviors, even in the presence of a previously feared or avoided thought. Although cognitive defusion approaches address the context in which the thought is experienced, the experience of thoughts may change nonetheless. If certain cognitions are attached to physiological arousal or emotional discomfort, some of those functions may be diminished (although this is not an explicit therapeutic goal). This makes sense, given that data show that we cannot *unlearn* what we have learned. Some useful tools used for defusion include Titchner's repetition exercise, which involves the repetition of a word until the speaker experiences it as simply an auditory

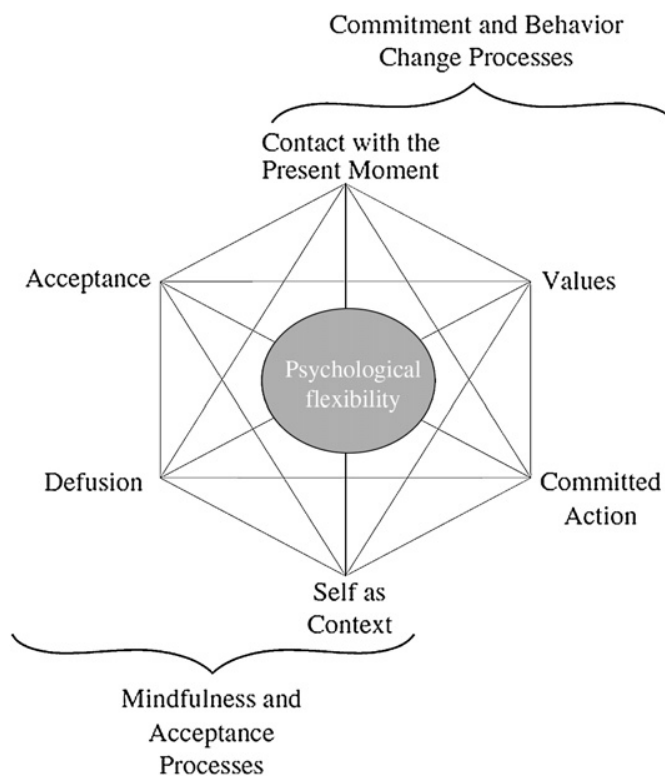


Fig. 1. The hexaflex model of the psychological processes ACT targets. (From Hayes S, Luoma J, Bond F, et al. Acceptance and commitment therapy: model, processes and outcomes. Behav Res Ther 2006;44:1–25; with permission.)

experience—a jumble of sounds—rather than experiencing its meaning.³⁶ Other tools that may be useful with children and teens are described elsewhere.^{37,38}

Acceptance is an alternative to experiential avoidance, and comprises awareness and compassionate acceptance of unpleasant material without any attempts to alter or avoid it. In the case of chronic physical pain, an ACT therapist might draw a client's attention to it, or ask her to deliberately notice its quality, rather than distracting herself from it. This approach differs from a CBT model in that psychological health is conceptualized as effective or appropriate emotion regulation, and that symptom reduction must occur in order for individuals to attain better psychosocial functioning. That being said, some cognitive-behavioral models appear to have shifted in a direction similar to ACT. In a parallel literature that has grown from emotion science, some have begun to posit emotion avoidance as a core process in anxiety and depression.^{39–42} Generally speaking, in this model anxiety is conceptualized as “anxious apprehension,” which is evoked by “cues or propositions” that may or may not be within an individual's awareness. Anxious apprehension results in a shift to an “internal, self-evaluative state,” as an attempt to manage or cope with unpleasant affect.³⁹ Thus, anxious and depressed individuals are thought to have difficulties with emotion regulation, and thus newer treatment models, such as the Unified Protocol for Youth,⁴² seek to foster better emotion regulation as an explicit treatment goal. However, ACT differs in that it attempts to foster acceptance in the context of pursuing valued ends, rather than for emotion regulation (or symptom reduction) in and of itself.

Present moment awareness is defined as ongoing, nonevaluative awareness of psychological and environmental events as they occur on a moment-to-moment basis. Rather than individuals rely on experiential avoidance and try to dismiss or minimize particular experiences, the goal of present moment awareness is that individuals be in direct, continuous contact with their worlds. This approach is thought to foster more behavioral flexibility, and thus more effective responses to actual, rather than internal, events. CBT approaches do not explicitly address or target this component. Within an ACT treatment package, therapists use exercises in which children are taught to focus their attention on particular aspects of situations. Another useful clinical tool involves discrimination training, in which children and teens are taught to discern when they are “in the moment,” versus when they have become “hooked” by their thoughts and are “in their heads.”

Self as context refers to the awareness that the self is distinct from and more than the sum total of thoughts. The self is experienced as a constant, unchanging perspective from which one can observe thoughts, emotions, and external experiences as they come and go. RFT accounts for the development of perspective taking theory of mind and empathy in terms of deictic relations (ie, I-YOU, HERE-THERE, and NOW-THEN).^{1,43} Understanding the self as a “context” through which thoughts, emotions, and physiological responses arise and ultimately pass gives some distance and perspective, reduces attachment to one's experiences, and promotes behavioral flexibility. CBT does not necessarily target these processes, although one could argue that cognitive restructuring techniques presuppose a stable self separate from the content of one's thoughts. Tools commonly used to promote self as context include experiential exercises. For example, a therapist might ask a child to imagine himself in a safe place, noticing strong emotions as they pass like storm clouds.

Values refer to domains of importance to individuals. Values are not goals that can be attained, but are rather guiding principles that are thought to motivate sustained and complex chains of behavior.⁴⁴ Because behaviors are enacted in the service of values, these behaviors themselves may come to have some of the rewarding psychological properties of the valued domain. For example, a child may value “being a good

soccer player.” The nature of “being a good soccer player” may change across situations—perhaps the child makes a good pass during one game, or a few goals in another, or is integral in defending the goal. Behaviors that might lead to these include practice, attending to one’s team mates, following the coach’s directions, or showing bravery in the face of bigger, rougher, more aggressive children on the field. However, the child will not necessarily achieve the goal of “being a good soccer player” and simply disengage from these behaviors.

CBT does not focus explicitly on valued or meaningful domains, but does address engaging in pleasurable activities or events, yet still within the rubric of symptom reduction. Reduction of functional impairment is an explicit goal, but differs from the goals of ACT in that therapeutic “work” is targeted to remove an aversive outcome (eg, anxiety, depression) rather than to gain a desired outcome (eg, playing soccer well). This notion makes sense, as behavioral literature has demonstrated better sustainability in behaviors that are emitted in the service of earning rewards rather than avoiding unpleasant experiences.

Contextual functional analysis, in which children and teens explore what they care about, and how effectively they engage in “valuing” with respect to those domains, is a key ACT technique. Young people can also be taught to identify behaviors that move them in valued directions versus away from these directions. Also, it can be very useful in tailoring treatment to individual children to write specific behaviors from their own repertoires on cards, and ask children to sort them into separate piles of leading toward or leading away from a valued domain. Of course, it is important to highlight to children that different behaviors can have different functions across different contexts, so sorting should be revisited so children learn to understand how their behaviors “work” in particular settings.

ACT is also very explicit in its goal of fostering *committed action* in the service of one’s valued goals. This is consistent with some forms of CBT that focus more exclusively on behavior, for example, behavioral activation.⁴⁵ Fostering committed action is a broad grouping of techniques that can include skills acquisition, exposure, shaping, goal setting, and so forth. Of importance, children are asked to commit to these behavioral goals—in other words, to “say yes and mean it.” When individuals engage in committed action in the service of their values, they are typically brought into contact with previously avoided psychological experiences. To make a “commitment” to continued engagement in these behaviors implies willingness to have those experiences, and to persist in one’s behaviors, even in the face of psychological discomfort. This is a cornerstone of the ACT model of psychological flexibility—to continue to pursue valued ends in the face of discomfort. It also lies at the heart of the difference between ACT and CBT, which holds that reduction of psychological discomfort is the primary goal, and is necessary to reduce functional impairment. CBT addresses this from a somewhat different perspective, namely, in terms of maintenance and relapse prevention. Specific therapeutic tools include making behavioral contracts, making public commitments (within and outside the context of therapy), and engaging others as a “team” to support the child or teen in his or her commitment to engage in valuing.

More recent work has simplified the ACT “hexaflex” conceptual model to a “triflex” model,⁴⁶ which is somewhat more streamlined and can help aid young people in understanding these processes and how they work together to form a whole. In this model, children and teens are invited to “open up, be present, and do what matters.” One common misconception about ACT is that it is esoteric, and too complex to use with children. On the contrary, because ACT therapists rely more on experiential techniques and metaphors than on psychoeducation and rational arguments, it may

actually be more readily used with children—even younger children—than CBT (Fig. 2).⁴⁶ However, the research base of ACT with children, teens, and families is still emerging.

RESEARCH BASE OF ACT WITH CHILDREN, TEENS, AND FAMILIES

Recent work has explored the role of experiential acceptance, mindfulness, and emotion awareness with adolescents.^{47–49} In a year-long longitudinal study with a sample of 776 10th graders, prosocial tendencies were positively associated with “Acting with Awareness” (engaging fully in one’s current activity with undivided attention), emotional awareness, and experiential acceptance, and all 3 variables uniquely predicted increases in well-being over the year, suggesting that these variables play a causal role in adolescent well-being.⁴⁷ In a study of 85 gay, lesbian, and bisexual youth in the 6th to 11th grades, psychological inflexibility and self-criticism jointly mediated the relationship between victimization, specifically verbal abuse and symptoms of depression.⁴⁸ This suggests that psychological inflexibility, in concert with self-critical thoughts, may help explain how verbal abuse confers risk of depression in lesbian, gay, bisexual, and transgender teens. McCracken and colleagues⁴⁹ found that greater self-reported acceptance was associated with less distress and disability, although not lower pain ratings, in a sample of 122 adolescents with severe chronic pain. Acceptance accounted for unique variance in distress, disability, and developmental and family functioning. Taken together, these studies suggest that the ACT-based constructs experiential avoidance, acceptance, and mindfulness are potentially important in adolescent well-being.

There has also been some indirect support that child or teen reliance on experiential avoidance, conceptualized as avoidant coping, has been linked with poor

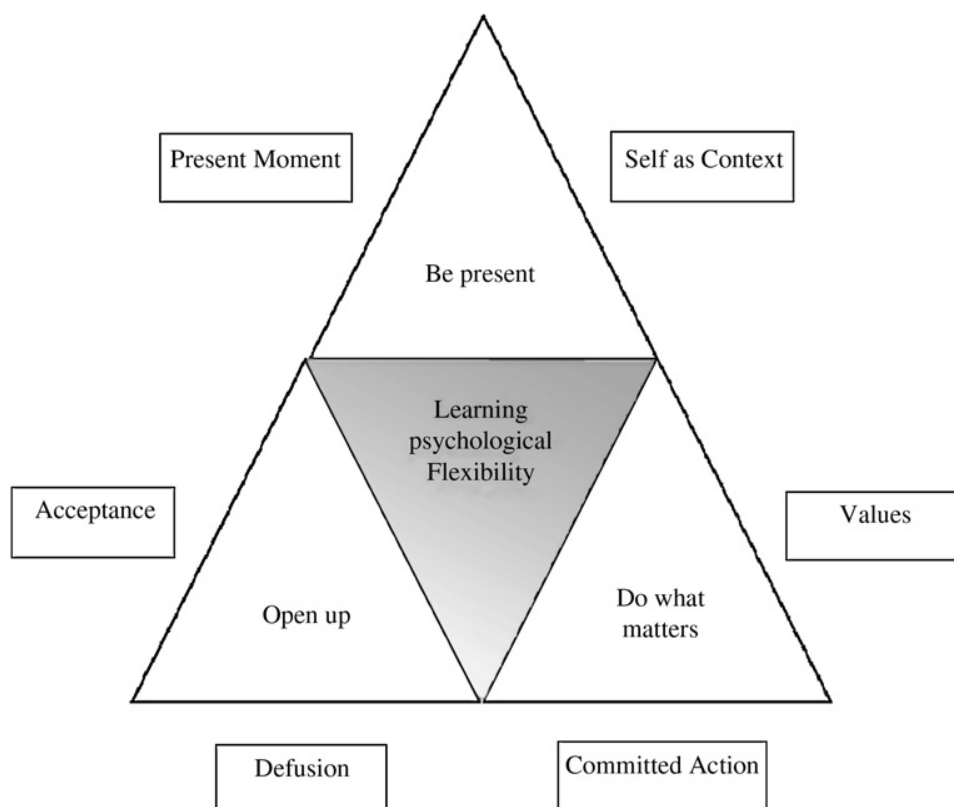


Fig. 2. Core ACT processes expressed as a triflex. (From Harris R. ACT made simple: an easy-to-read primer on acceptance and commitment therapy. Oakland (CA): New Harbinger Publications; 2009. p. 13; with permission.)

outcomes.^{50–55} Strategies to cope with traumatic thoughts or memories have been associated with increased posttraumatic stress symptoms in urban children.⁵⁶ In addition, experiential avoidance has been linked with particular disorders. For example, in adult survivors of childhood sexual abuse, experiential avoidance mediated the relationship of childhood abuse and psychological distress⁵⁷ and substance abuse⁵⁸ in adulthood. Data from adolescents on worry,⁵⁹ chronic health issues,⁶⁰ and parent-child interaction showed that anxious children⁶¹ with avoidance of thoughts or emotions was linked with poor psychological health. One recent theoretical article described the role of experiential avoidance in the development of childhood anxiety disorders.⁴¹

There is actually a small but robust literature on experiential avoidance in parents, and links with both parent and child emotional and behavioral functioning. In a sample of mothers with infants in a neonatal intensive care unit (NICU), experiential avoidance partially mediated the relationship between NICU-related stress and adjustment difficulties.⁶² In mothers of preschool-aged children, as maternal empathic awareness decreased so did behaviorally measured parenting sensitivity, while mothers reported higher levels of depression and child behavior problems.⁶³ In a high-risk sample of 145 low-income, diverse, urban mothers, experiential avoidance was associated with maternal distress, maladaptive parenting practices, and child behavior problems. Further, experiential avoidance mediated the relationship between maternal depression and parenting stress.⁶⁴ In a similar sample (N = 74), mothers reporting higher levels of experiential avoidance also reported more depression, feeling less control in their parenting role, and describing more internalizing problems in their preschoolers.⁶⁵ In parents of adolescents, parental experiential avoidance significantly predicted inconsistent discipline, poor monitoring, and parental involvement, which in turn predicted adolescent behavior problems.⁶⁶ Links between parental experiential avoidance and parental distress have also been found in parents of children with autism⁶⁷ and anxiety disorders.⁶⁸

Murrell and colleagues,⁶⁹ in an experimental RFT study, have shown that distressed parents have difficulty deriving relations between negative child behaviors and positive parenting words. This inflexibility in formation of stimulus classes is important because it suggests a role for language learning processes in the development and maintenance of impaired parenting. Specifically, parents may have difficulty responding to contingencies that contradict their previous experiences with their children. For example, parents may have difficulty using planned ignoring in response to mild disruptive behaviors, when in the past they may have engaged in punitive, or alternately, acquiescent parenting behaviors. This, in turn, may explain why parents of disruptive children have a difficult time learning and performing this technique in a consistent way, across challenging situations.

Taken together, these studies generally support ACT's conceptual model in children, adolescents, and parents. The studies provide a foundation for applied work, and suggest that targeting basic processes such as experiential avoidance and cognitive fusion are a reasonable next step in the literature. One key endeavor in moving forward is the development of measurement tools to address ACT-relevant constructs in younger populations and families.

ACT APPLIED RESEARCH BASE: ASSESSMENT AND TREATMENT

Assessment

Although there is significant research to support the assessment of ACT-based constructs such as experiential avoidance, fusion, and mindfulness in adults, work

with children and adolescents is still emerging. Given that acceptance, mindfulness, and experiential avoidance are complex constructs, efforts to adapt extant measures, as well as create developmentally appropriate and sensitive measures for use with children, have lagged behind the adult literature. However, a small but growing body of literature has identified assessment tools that have shown some promise. Although a thorough review of recent work on assessment has been published elsewhere,⁷⁰ a handful of measures with the strongest empirical base for children and adolescents are briefly described here. Although these measures are promising, replication across samples, as well as testing these with diverse samples, are necessary next steps.

Measures of Acceptance and Mindfulness

The Child Acceptance and Mindfulness Measure (CAMM)⁷¹ is a measure of children's awareness and acceptance of their own private events or internal experiences. The CAMM uses a Likert scale with higher scores linked to greater levels of awareness, attention, and acceptance. Evaluation for the CAMM was implemented with 606 public middle-school students as participants. The mean age of participants was 12.8 years with 62% of the population made up of girls. Empirical analysis of the results found that the CAMM has robust internal consistency ($\alpha = 0.82$) and acceptable concurrent validity.^{70,71}

The Mindful Thinking and Action Scale for Adolescents (MTASA) (West A, Sbraga T, Poole D. Measuring mindfulness in youth: development of the mindful thinking and action scale for adolescents. Central Michigan University; unpublished data) was initially implemented in a sample made up of 163 children and adolescents with a mean age of 15.7 years and ranging in age from 11 to 19. The MTASA is a measure consisting of 32 items designed to assess mindful awareness in child and adolescent populations ranging in age from 11 to 19 years. Factor analysis yielded data on 4 factors: healthy self-regulation, active attention, awareness and observation, and accepting experience; and internal consistency ranged from 0.63 to 0.85 across the subscales. Strengths of this measure include its accessibility to younger populations, as well as inpatient or incarcerated youths.

The Chronic Pain Acceptance Questionnaire (adolescent version CPAQ⁴⁹) was adapted from the Chronic Pain Acceptance Questionnaire,⁷² an established measure used to assess willingness to experience chronic pain in adults. It is a 20-item measure composed of 2 subscales, pain willingness and activity engagement, and was initially implemented in a sample of 122 youths aged 10 to 18 years (mean 15.2 years) referred for pain management services at a tertiary care pain treatment center in the United Kingdom. "Pain willingness" comprises items tapping tendency to avoid or suppress pain, and "activity engagement" includes items measuring activity despite the experience of pain. Items are designed with a Likert-type scale of 0 to 4. Internal consistency was adequate (subscale α s = 0.86 for activity engagement, and 0.75 for pain willingness; 0.87 total score). Validity analyses suggest good psychometric properties.⁴⁹

Values

Valuing is a core component of ACT, and involves engaging in behaviors that are consistent with domains of importance. The Personal Values Questionnaire (PVQ)⁷³ and Social Values Survey (SVS)⁷⁴ assess effectiveness in the pursuit of personal goals in child and adolescent populations. The PVQ evaluates valued domains in adolescents and adults across 9 areas: social relationships/friendships, family relationships, romantic relationships, recreation/leisure/sport, spirituality/religion, work/career, physical health, and community involvement. Respondents rate items on a 1 to 5 Likert

scale regarding how important each domain is, how successful they are at pursuing their values, why pursuit of these values are important (eg, to avoid undesired outcomes, or to work toward desired outcomes), how personally meaningful the domain is, and how strong is their desire to improve adherence to their valued pursuits. The SVS is similar, but focuses more on intrinsic versus extrinsic motivations for interpersonal relationships. Although not yet published, preliminary data suggest that youths reporting more intrinsic motivations experience more joy and less sadness, whereas those reporting more extrinsic motivations experience more hostility.⁷⁵

Experiential Avoidance/Psychological Inflexibility

The Avoidance and Fusion Questionnaire for Youths (AFQ-Y)⁷⁶ is a 17-item self-report measure developed for use with children, and modeled after the Acceptance and Action Questionnaire (AAQ),³⁴ to assess psychological inflexibility.⁷⁷ The questionnaire identifies psychological inflexibility as the presence of experiential avoidance, cognitive fusion, and behavioral ineffectiveness when faced with unpleasant emotions and situations. Respondents rate items on a Likert scale with low scores indicating greater psychological flexibility. The AFQ-Y was administered to 1369 children divided across 5 samples, with ages ranging from 9 to 17 years. Population was made up of approximately 45% boys and 55% girls with 80% identifying as Caucasian. Analysis found that both versions of AFQ-Y had good internal consistency ($\alpha = 0.90\text{--}0.93$) and convergent validity.⁷⁷

Experiential Avoidance in Parents

The Parental Acceptance and Action Questionnaire (PAAQ)⁷⁸ was also developed based on the AAQ, and evaluates parents' experiential acceptance, and action tendencies in the context of their relationship with their children. It is a 15-item measure and, like previous measures, listed has been adapted from the AAQ.^{34,79} Items use a 7-point Likert scale, and respondents rate how much each item describes them. The PAAQ was investigated using 154 children (90 females, 64 males) who were diagnosed with anxiety disorders based on DSM (*Diagnostic and Statistical Manual of Mental Disorders*) criteria and their parents (148 mothers, 119 fathers) as participants. The test was administered to parents along with other self-report measures designed to target adult experiential avoidance, psychopathology in the parent, affective expression, and parental control behaviors. Factor analysis of the PAAQ resulted in a two-factor solution broken into Inaction and Unwillingness. The PAAQ possessed a moderate temporal stability, $r = 0.68\text{--}0.74$, with fair internal consistency across the subscales ($\alpha = 0.64\text{--}0.65$). The clinical application of PAAQ was also supported by the measures ability to predict a significant amount of variance in the rated levels of child anxiety between the parent and the clinician.⁶⁸

Treatment

Despite the accruing evidence from ACT/RFT research on basic processes, as well as the development of several measures for use with children, treatment adaptations with children have lagged behind. Most are single-case or small-sample, uncontrolled studies, although recent work has included some larger, randomized controlled trials. Given the developing state of this literature, any inferences regarding the efficacy of ACT with children and teens are premature. However, the results of these studies are generally consistent, and suggest that ACT is a feasible and acceptable treatment for young people that may offer an alternative to strictly behavioral and cognitive treatment models.⁸⁰ Moreover, due to ACT's attention to context and because it is based on principles rather than being bound to particular diagnostic entities, it may serve as

a flexible intervention applied across a host of issues germane to children, teens, and families. It is certainly an exciting approach that merits further research.

Anxiety and Depression

There are 2 published case studies describing ACT for children with clinically significant anxiety. Heffner and colleagues⁸¹ report using ACT to successfully reduce school refusal, maintained at 2-year follow up, of an 11-year-old male. Using an ACT protocol of 8 individual and 4 family sessions, Morris and Greco⁸² reported a reduction of social anxiety and increased school attendance. With regard to nonclinical populations, one recent study reports the use of ACT with an 18-year-old moderately mentally retarded female experiencing obsessive thoughts and symptoms of anxiety.⁸³ After 17 sessions of ACT adapted for her developmental level, the client reported less experiential avoidance and more social confidence, and returned to school. In addition, her parents reported that she was calmer, and that her anxiety “episodes” were shorter in duration. Gains were maintained at 4-month follow-up. The investigators note that adapting ACT for individuals with disabilities was challenging, although results from this case study suggest their potential feasibility. In one group design in an open trial, ACT was shown to reduce anxiety associated with chess performance in a nonclinical population of adolescents.⁸⁴

In a recent randomized controlled trial with 38 clinically referred adolescents of mean age 14.9 years (SD = 2.55), with 73.6% in the clinical range for depression, compared an ACT treatment adapted for teens with a treatment as usual (TAU) condition (Hayes L, Boyd CP, Sewell J. Acceptance and commitment therapy for the treatment of adolescent depression: a pilot study in a psychiatric setting. Under review.). Participants in the ACT condition reported significantly lower depression levels than those in the TAU group, and actually showed some further improvement from post-treatment to 3-month follow up. Both groups showed significant improvement in global functioning, although on clinical measures only the ACT group made gains. The investigators caution that small sample size limited inferences that may be drawn from this study, although they suggest that results support a larger, more rigorous clinical trial with clinically depressed teens.

Chronic Pain

Wicksell and colleagues⁸⁵ used an ACT protocol in a case study with a 14-year-old girl who was diagnosed with idiopathic generalized pain, and who had missed all 60 days of school in the 2 months before treatment. Treatment included 10 individual sessions, resulting in a reduction in emotional avoidance and marked gains in school attendance, with no absences through the 6-month follow up. Functional disability and pain were reduced at posttreatment and eliminated at 6-month follow-up. In a later uncontrolled pilot study using ACT for teens with chronic pain,⁸⁶ improvements in functional ability, school attendance, catastrophizing, and pain were observed and retained at both the 3- and 6-month follow-up. Greco⁸⁷ used an ACT protocol for 15 teens with functional abdominal pain recruited from a pediatric gastroenterology clinic. Treatment consisted of 12 to 14 sessions with the adolescents, and 2 to 5 parenting sessions. Participants reported significant increases in quality of life, and significantly decreased functional disability posttreatment and at 1-month follow-up. In addition, adolescents reported reduced somatic complaints and internalizing symptoms at 1-month follow-up.

In a small randomized controlled trial with 32 adolescents severely disabled by chronic pain, Wicksell and colleagues⁸⁸ compared the efficacy of ACT to a multidisciplinary treatment (MDT) including the use of amitriptyline. In 10 sessions, the ACT

treatment focused on reducing functional impairment and enhancing quality of life through fostering participants' ability to engage in valued activities in the context of chronic pain and associated distress. Results suggested that teens in the ACT condition had significantly improved functioning compared with the MDT group, and that these gains were maintained at 3.5- and 6.5-month follow-up. Specifically, compared with MDT participants, ACT participants reported significantly improved functional ability, fear of reinjury, pain interference, and quality of life. These preliminary findings suggest that ACT may be a useful approach for youth with severe chronic pain conditions.

Anorexia Nervosa

To date, there is only one published case study describing ACT with eating disorders in adolescents. Heffner and colleagues⁸¹ integrated ACT with traditional CBT and family interventions to treat a young 15-year-old Caucasian girl with anorexia. Over the course of the 14-session therapy and 4 follow-up sessions, the investigators note a reduction in anorectic symptoms and drive for thinness. In addition, the client increased to normal weight range over the course of treatment and follow-up. However, despite her gains on other measures she still displayed clinical levels of body dissatisfaction at termination.

Merwin and colleagues⁸⁹ have developed an ACT-based family intervention for anorexia nervosa. The intervention targets families with high expressed emotion, as these tend not to fare well in traditional CBT for anorexia. Treatment consists of 20 sessions, 16 of which separate parents and teens, and 4 that are conjoint. Teens participate in an ACT protocol, while parents are taught skills from an ACT-based perspective to help extinguish their children's anorectic behaviors and reinforce alternatives. To date, a feasibility study and small open trial are under way, and preliminary data are promising.

Psychosis

There is one case study published in Spanish, describing the use of ACT with a 17-year-old male diagnosed with schizophrenia and experiencing ego-dystonic auditory hallucinations.^{90,91} Although the client was receiving antipsychotic medication, there was no reduction in auditory hallucinations. He was treated with ACT twice per week for 9 weeks. At posttreatment, the investigators reported a 40% reduction in hallucinations, and therefore reduced his antipsychotic medication. He maintained gains until 7 months posttreatment, at which point he experienced a personal crisis and his dosage of antipsychotic medication increased.

Parenting Interventions

Coyné and Wilson⁹² described ACT used in conjunction with Parent-Child Interaction Therapy (PCIT)^{93,94} for a 6-year-old male with severe aggression and noncompliance that had resulted in an extended suspension from school. PCIT is an in vivo parent training protocol used to teach parents appropriate child-directed behavior, as well as to teach effective behavior management skills for children with externalizing difficulties. ACT components were used as a way to reduce the psychological barriers that would restrict new skill acquisition. For example, mindfulness and defusion procedures were incorporated with the planned ignoring and other components of the PCIT. Treatment continued for approximately 3 months. At both termination and 1-year follow-up, overt behavioral outcomes included a decrease in the child's levels of aggression and noncompliant behavior and an increase in his mother's appropriate

management behavior, as well as her own pursuit of valued activities. The mother also reported better relationship quality and greater competence in her parenting skill.

In a small open trial, Blackledge and Hayes⁶⁷ designed a 2-day, 14-hour group experiential ACT workshop for 20 parents of children with autism. These investigators observed a significant, but modest, decrease in parent distress at 3-month follow-up, with larger gains in parents reporting clinical levels of symptomatology. Avoidance and fusion were similarly reduced from baseline to follow-up, and results suggested that fusion mediated the relationship between treatment and symptom reduction. To date, the authors are aware of at least 3 other ongoing studies in very early stages exploring the use of ACT with parents of young children (preschool-aged) and elementary school-aged children.

At-Risk Youth: Prevention

There is only one reported study describing the use of ACT for prevention. Metzler and colleagues⁹⁵ conducted a randomized controlled trial for adolescents to prevent sexually transmitted diseases (STDs). Three hundred and thirty-nine diverse adolescents (aged 15–19 years) were recruited from STD clinics and randomized into treatment and “usual care” control conditions. The treatment group received a 5-session intervention that integrated ACT components into a social-cognitive approach targeting safe sex skills and responsible decision making in that domain. At 6-month follow-up, there were no differences across the 2 groups in terms of frequency of STD infections. However, the treatment group reported significantly fewer risky sexual behaviors (ie, sexual contacts with strangers, nonmonogamous partners, use of alcohol or marijuana before engaging in intercourse), and more acceptance of emotions. In addition, those in the treatment group were able to suggest more safe-sex alternatives than the control group in response to a videotaped sexual situation role play.

SUMMARY

ACT is a third-wave CBT that targets experiential avoidance and cognitive fusion as core elements of psychopathology. ACT harnesses several therapeutic techniques that specifically target these processes, and as its overarching treatment goal seeks to promote psychological flexibility in the pursuit of a meaningful, valued life, in the presence of psychological or physical pain. Although ACT is a part of the cognitive-behavioral tradition, it constitutes an extension to this literature in terms of its philosophy (functional contextualist vs mechanistic), in how it addresses cognition (changing the context giving rise to cognitions rather than the content of cognitions), and in its evidence base (links of hypothesized processes contributing to psychopathology as well as its treatment techniques to basic cognitive science; namely, RFT). In addition, it differs in terms of its tendency to rely on experiential rather than didactic therapeutic tools, and its more holistic view of psychological health as effectively engaging in behaviors consistent with values, even in the presence of great pain, rather than focusing on reduction of symptoms and functional impairment. As such, ACT constitutes an important advance in cognitive-behavioral treatment, and holds promise as a potentially useful treatment for youth populations.

ACT has several strengths, and its evidence base with adults is rapidly expanding. Across several studies and with a variety of clinical issues, ACT has performed as well as, if not better than, comparison treatments, including CBT. In addition, there are several studies suggesting that the proposed mechanisms of treatment—reduction in experiential avoidance and cognitive fusion—account for variance in treatment

gains. With regard to children, there are several studies linking these constructs with psychosocial outcomes in children, teens, and parents; this is exciting given the relative age of this literature. However, there are clear areas for growth in applications with children, adolescents, and families.

First, as with any emerging treatment literature, the rigor of applied studies with youth populations varies: other than a handful of single-case studies, some small-sample open trials, and a few preliminary randomized controlled trials, ACT with youth is still a work in progress. Larger samples, randomized controlled trials that compare ACT with gold standard treatments, as well as careful investigation of mediators, moderators, and mechanisms of treatment, are much needed. In addition, very few reported studies—both in the adult and the child literature—specifically investigate ACT with diverse, underserved samples. Work exploring the feasibility and acceptability of ACT, as well as its efficacy, would strengthen its evidence base. Although several measures tapping ACT constructs have been developed for adults and children, replication across different samples would strengthen this body of work.

In recent years there has been unparalleled growth in the area of developmental psychopathology, and cognitive and affective neuroscience. Specifically, several constructs similar to those addressed in ACT, namely, emotion regulation and emotional intelligence, have begun to garner empirical attention. In addition, clearer links between child development and ACT treatment techniques would facilitate tailoring this approach to younger children. Translational work linking ACT with the developmental psychopathology literature would be an exciting avenue to explore.

ACKNOWLEDGMENTS

The authors would like to acknowledge Steven Hayes, Amy Murrell, and Rhonda Merwin for their helpful comments and suggestions on the manuscript.

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