

# Mindfulness Based Interventions for Youth

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Published online: 21 February 2014  
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**Abstract** Application of mindfulness based interventions for youth is growing exponentially within clinical and educational settings. Proponents emphasize benefits in reduction of a wide range of psychopathology including internalizing and externalizing disorders, as well as enhancement of functioning and skills in attentional focus and concentration, emotion regulation, social and academic performance, adaptive coping, frustration tolerance, self-control, and self-esteem. Findings to date are encouraging, though research design reflects the nascent nature of the field and continues to be insufficient to confirm treatment efficacy or mechanisms of change. This article is aimed at providing the clinical practitioner with a review of the current state of the field with regard to application of mindfulness for youth, placing it in context of the broader history of the CBT movement. Specifically mindfulness based stress reduction, mindfulness based cognitive behavioral therapy, acceptance and commitment therapy, and dialectical behavior therapy treatments for youth are critically reviewed, and mindfulness as a technique and as a unifying mechanism of action in “third-wave” youth psychotherapies discussed. Developmental considerations are highlighted, and the application of mindfulness as a universal preventative health measure versus tertiary treatment intervention examined, with consideration for future directions.

**Keywords** Mindfulness · Psychotherapy · Child · Adolescent

## Introduction

Mindfulness has become a cultural buzzword in the past decade, showing up in more than a thousand popular books, websites, and magazines, in addition to

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scholarly articles. Once considered to be a “fringe” approach (Kabat-Zinn 2011) the effectiveness of mindfulness based interventions for improving mental health and well-being in adults is now well documented, with a recent meta-analysis identifying 209 empirical studies with overall effect sizes in the moderate range (Khoury et al. 2013). Despite this volume of work, understanding of the mechanistic action of mindfulness treatments lags due to multiple definitions, lack of standard measures, competing opinion about formal meditation versus skills-based applications, and disagreement regarding the relationship between mindfulness and traditional cognitive behavioral therapy. Applications to youth are even further underdeveloped. Despite calls for youth treatments to be developmentally sensitive, the historic pattern of extending adult treatment downward has persisted, albeit with increasingly greater sensitivity to developmental adaptations. Mindfulness is no exception, as it expanded from adult approaches only in the last decade, resulting in a relatively limited youth empirical base. Uniquely, however, there are some reasons to argue that mindfulness based approaches are even better suited to youth than adults (Goodman 2005; Kabat-Zinn 1990). Moreover, youth-specific mindfulness prevention programs are developed to meet the needs and utilize the resources of the educational system (Mindful Schools 2011). Nevertheless, the abstract nature of mindfulness constructs and the potentially complex cognitive processes involved raise questions regarding efficacy for youth and whether the same process mechanisms apply across the lifespan.

## Historical Context

Within the psychotherapy literature mindfulness is considered to be part of the broader theoretical orientation of Behaviorism. Arising in the earlier part of the twentieth century in reaction to existing psychodynamic approaches, Behaviorism sought scientific objectivism and unbiased truth through observation and measurement. Learning and conditioning were seen as a means to shift dysfunctional patterns of responding and targeted external behaviors, eliminating the individual’s private experiences (i.e., thoughts and feelings). Multiple meta-analyses found that behavioral treatments are highly efficacious for youth (Kazdin et al. 1990; Weisz et al. 1987, 1995, 2006). However, effect sizes range widely and suggest that as a whole, nearly a quarter of youth fail to respond to treatment (Weisz et al. 2006). Efforts to enhance efficacy and frustration with the focus on external behavior alone led to a “second wave” in the mid-century where the focus shifted to internal experiences, specifically thoughts. CBT approaches posited that problem behaviors would decrease or be transformed following a change in dysfunctional and distorted thinking patterns (Hayes 2004). CBT enhanced the menu of available treatment options particularly for internalizing disorders such as anxiety and depression in youth, and despite concerns that youth cognitive capacity might limit effectiveness of interventions, are well validated (APA 2006; Seligman and Ollendick 2011). With treatment effects falling in the moderate to large range, the effectiveness of psychotherapy for youth is no longer debated. However, even with large effect sizes, a sizeable number of youth are not receiving or responding to treatment. Further,

meta-analysis suggests that despite specificity for some disorders, overall CBT does not outperform other approaches for youth mental health problems (Spielmanns et al. 2007) and the specificity of cognitive change elements as the active change ingredient remains uncertain (see, Hofmann and Asmundson 2008).

Aimed at addressing these limitations, mindfulness based approaches are now the so-called “third wave” shift in Behaviorism. Resulting from the integration of Eastern Philosophy into Western medical science, mindfulness based approaches are sometimes viewed as an evolution of CBT, involving continued focus on internal experience with a new emphasis on how one relates to it—acceptance vs change (Claessens 2010; Kabat-Zinn 2011). The programmatically developed third-wave youth interventions are: mindfulness based stress reduction (MBSR), mindfulness based cognitive behavioral therapy for children (MBCT-C), acceptance and commitment therapy (ACT), and dialectical behavior therapy for adolescents (DBT-A). These mindfulness-based approaches differ from traditional CBT in their emphasis on *understanding* and altering the *functionality* of thoughts, feelings, and behaviors, as opposed to directly changing the *content* of these experiences (Hayes and Greco 2008). Notably each arose out of efforts to treat chronic conditions that were historically considered intractable—chronic pain, illness, recurrent depression, chronic suicidality, borderline personality disorder, where the promise of rapid or lasting change had seemingly failed. Although all third wave treatments share a common core of mindfulness and acceptance based elements, a theoretical divide exists between those that involve traditional meditative practice (MBSR and MBCT) and those that deconstruct mindfulness into micro-skills based psychological and behavioral interventions (ACT and DBT). Several complexities result: (1) The literature is marked by separate efforts at integration and consolidation, with MBSR, MBCT, and related approaches that include a structured meditation practice often being examined together at the exclusion of integrated approaches such as ACT and DBT which are examined individually; (2) mechanistic questions regarding the function of a formal meditation practice versus deconstructed elements of mindfulness remain unanswered; (3) further complicating this picture, some leaders in the field reject the portrayal of mindfulness as a “third wave” arguing that mindfulness is merely an extension of existing CBT principles, compatible and complementary, as opposed to radically different (see Hofmann and Asmundson 2008).

## Mindfulness Definitions

There is no singular definition for mindfulness; however, the most oft cited is that of Jon Kabat-Zinn, founder of MBSR and father of the mindfulness integration movement in psychotherapy. Kabat-Zinn (1994) defined mindfulness as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (p. 4). This core definition is utilized in MBSR, MBCT, and ACT. Mindfulness within the DBT model takes its own definition “the intentional process of observing, describing, and participating in reality nonjudgmentally, in the moment, and with effectiveness” (Dimidijan and Linehan 2003; Kabat-Zinn 1994,

p. 230). This definition appears heavily overlapping with the former, with shared emphasis on consistency in regard to present moment, nonjudgmental stance, and intentionality. However, additional emphasis on differential attending in a manner that is effective is aimed at combatting a core BPD feature of impulsivity; the meaningfulness of this distinction mechanistically is unclear.

Mechanistically, three primary elements define mindfulness: attitude, attention, and intention (Shapiro et al. 2006). A mindful attitude is defined as one that is nonjudgmental, accepting, trusting, curious, and patient (Bishop et al. 2004; Kabat-Zinn 1990; Shapiro et al. 2006), while attention is directing focus, sustaining attention, and being able to switch attention between stimuli. Mindful intention, then, emphasizes the conscious effort to be mindful in attitude and attention (Bishop et al. 2004; Burke 2010). However, the way in which these elements are achieved varies across the four treatments both with regard to intervention technique and desired outcome. The models differ in their stated purpose: MBSR to enhance psychological wellbeing (Cullen 2011); MBCT to prevent depression relapse through changing well-ingrained depressive cognitive patterns (Segal et al. 2002); ACT to increase psychological flexibility so as to improve ability to act toward values (Harris 2009); DBT to enhance emotion regulation, behavioral self-control, and distress tolerance in the service of obtaining a life worth living. These differing goals also point toward different treatment outcome targets.

## Assessment

Whereas primary outcome measures for BT and CBT have been symptom reduction, mindfulness researchers are shifting toward more holistic outcomes such as quality of life. This is in keeping with the purported goal of adaptively relating to (often aversive) stimuli, despite the continued presence of psychological distress. Notably these outcomes also correspond to more collectivist versus individualistic strengths, such as behavioral changes in social relatedness, empathy, and self-compassion (Bogels et al. 2008; Brown and Ryan 2003; Mindful Schools 2011; Saltzman and Goldin 2008) perhaps reflecting in part the Eastern traditions from which they emerged. Moreover, these societal vs individualist benefits may have contributed to the rise of mindfulness in the public health prevention realm beginning to be established in school settings (Mindful Schools 2011). Kabat-Zinn (2011) originally conceived MBSR as a method for public health, and an antithetical solution to the over stimulated and rapid-pace Western lifestyle and a digital age that leaves individuals increasingly out of touch with their sense of being (i.e., emotions, thoughts, sensations; Kabat-Zinn 2005). However, for MBCT and MBSR, symptom reduction continues to be a main outcome measure (Saltzman and Goldin 2008). In ACT symptom reduction is seen as a beneficial side effect of improved psychological flexibility and overall wellbeing and is not considered a requirement in order to attain better psychosocial functioning (Coyne et al. 2011), creating a discrepancy in outcome measurement targets. Similarly, in DBT central to the dialectical concept is that distressing symptoms may continue to exist while patients engage in effective methods to reduce self-harming behaviors (MacPherson et al.

2013). In order to be evaluated within the existing Evidenced Based framework, however, comparable outcome measures must exist. By definition, these are currently based on symptom reduction for an expected target of an intervention and a case to shift this practice to other types of empirical assessment of change may be necessary (Chorpita et al. 2011).

In addition to examining outcomes from these approaches, efforts to understand the role of mindfulness within them and their mechanistic methods of change will invariably require a way to measure acquisition of mindfulness skills. In this vein, efforts are aimed at developing measures of the ways that children and adolescents relate to distressing phenomena, including measures of mindfulness (Brown and Ryan 2003; Greco and Baer 2006), acceptance (West et al. 2007; Wilson and Groom 2002), experiential avoidance (Greco et al. 2005), and emotion regulation skills attainment (Gratz and Roemer 2004). Although obtaining mindful awareness skills is theoretically meaningful to all four treatment approaches, there is no consistency or gold standard measure across the interventions. Moreover, all measures currently in use are self-report. As noted by Kazdin (1994) it is tenuous to assume self-report accurately reflects underlying changes in attention, acceptance, and other mindfulness traits. Though these critiques are valid, the alternative is currently unclear, as a measure of mindfulness, whether self-report or otherwise, is extremely difficult to quantify. Mere engagement in mindfulness exercises, whether seated or movement-based meditation practice, or other present moment mindfulness skills, is insufficient grounds to assume the participant is achieving a specific cognitive state. MRI or other neurophysiological measures may ultimately be necessary to ascertain that youth (or adults for that matter) are actively engaged in a meditative activity.

## Developmental Appropriateness

Although skills that require attentional control, focus, and cognitive concentration are sometimes thought challenging for youth, studies support the notion that even children as young as four are often well engaged (Burke 2010). Moreover, increasingly there are arguments that children are predisposed to benefit from mindfulness based approaches even more than adults. Some clinicians using mindfulness based techniques note that many qualities of youth such as being open, ready to learn, and creative, lend themselves well to mindfulness training and the cultivation of the Buddhist “beginner’s mind” (Goodman 2005; Kabat-Zinn 1990). Acceptance and mindfulness techniques are particularly suited for children and adolescents given the emphasis on metaphor and experiential exercises. By grounding these practices in concrete exercises, such as eating or walking meditation, the concept of mindfulness becomes practical and accessible through experience. Across the therapeutic techniques of ACT, DBT, MBCT and MBSR, developmental adjustments were made for teaching mindfulness techniques at various ages. There are also other general considerations for working with children and adolescents from a mindfulness framework, including issues of peer relationships and individuation, parental participation, and cultural influences (Hayes and Greco 2008).

Mindfulness clinicians note that the use of creative metaphors and experiential exercises is well suited for the level of cognitive processing of children at age eight and younger (Greco et al. 2005). At this age, children are less literal and use magical thinking to make sense of the world, yet they are capable of manipulating language and symbols (Devany et al. 1986; Lipkens et al. 1993). This developmental stage lends itself well to actively engaging in less directive and more creative experiential exercises, such as observing bodily sensations during walking meditation. ACT clinicians note that children might have an advantage over adults in that they are less confined by verbal rules and rigid behavioral repertoires, often related to psychopathology (Greco et al. 2005). With MBSR, Saltzman and Goldin (2008) also note the importance of making mindfulness exercises fun and engaging, such as with the Thought Parade exercise in which children are instructed to watch their thoughts go by as if they were watching a parade.

At younger ages, child patients are just beginning to develop a sense of self-worth and identity, but are unable to take another's perspective. They are often limited in their conceptualization of time, reporting that they have *always* felt a certain way. Additionally, they might experience emotions as present or not, without gradations, and behaviors might be based on immediate reward or punishment, rather than more sophisticated moral reasoning (Hayes and Greco 2008). Given these developmental considerations, mindfulness techniques are best taught with concrete instructions, for limited time periods, involving physical movement and discussion of the differing feelings or thoughts that arise throughout an exercise (Hayes and Greco 2008).

For older children and adolescents, mindfulness techniques can involve greater abstraction and cognitive complexity than young child interventions, but may still require modification from adult applications. These patients think more abstractly, are exploring a sense of self across various roles and relationships, and are exercising their independence. Language adjustments continue to be applicable, such as discussing how one can get 'hooked' by thoughts and stuck 'in their head' (Coyne et al. 2011; Saltzman and Goldin 2008) as a way to describe cognitive fusion in ACT or decentered observation of thoughts in MBSR and MBCT. DBT clinicians also note the importance of using stories, metaphors, and examples that relate directly to the young patient's life, thereby grounding mindfulness exercises in relatable events (Miller et al. 2006). In addition to global adaptations of mindfulness to youth, the authors have made unique structural modifications to their studies. For instance, DBT-A specifies the role of family in treatment (e.g., consultation to the patient), adds new specific skills and concepts (e.g., middle path), and reduces treatment length (16 weeks vs 1 year; MacPheson et al. 2013; Miller et al. 2006). Other notable youth themes across these approaches are integration of peer and parental relationships, identity and individuation, and the pervasive nature of modern technology in the teen patient's life (Nelson and Nelson 2010). For therapies conducted in a group setting, such as MBCT and MBSR, the social learning aspect provides an opportunity for adolescents to model and learn from peers as they explore the practice of mindfulness. Finally, the radical nature of the core processes of acceptance and the reversing of experiential avoidance is often antithetical to messages youth receive at home or at school. Often young patients

learned from their parents and peers to avoid talking about or experiencing painful thoughts or emotions, rather than accept the full range of the human experience. Thus mindfulness-based therapists need particularly to attend to the therapeutic alliance and foster patient willingness to try new experiential techniques (Hayes and Greco 2008).

## Empirical Evidence for Mindfulness with Youth

As noted, the empirical evidence for mindfulness with youth is difficult to integrate across the four core third-wave approaches, as most researchers differentiated those approaches with a formal meditation practice (e.g., MBSR, MBCT) from those with behavioral and cognitive mindfulness skills application alone (e.g., DBT, ACT). The most thorough reviews to date (Burke 2010; Harnet and Dawe 2012), examined 39 studies of meditative based mindfulness intervention for youth (including MBSR, MBCT, modifications of MBSR or MBCT, and unspecified mindfulness based approaches), excluding DBT-A and ACT. Few of these studies were RCT's, so none of the four approaches is able to achieve APA status as well-established at this time. Moreover, the collection of studies is insufficiently rigorous to meet standard criteria for formal meta-analysis. The authors reviewing these studies noted a wide range of effects from non-significant ( $d = -0.02$ ) to large ( $d = 1.5$ ), though overall findings were mostly positive and significant.

For MBSR empirical evidence is moderate to strong for a wide range of adult disorders, including perceived stress in patients with cancer, depression, anxiety, multiple sclerosis, chronic pain, fibromyalgia, disordered eating, and post traumatic stress disorder (Cullen 2011). For children and adolescents, the literature on MBSR is still developing. Four randomized controlled trials conducted on the efficacy, feasibility, and acceptability of MBSR in youth clinical samples were conducted (Biegel et al. 2009, outpatient psychiatric and stress; Bootzin and Stevens 2005, substance abuse and sleep; Gregoski et al. 2011). An additional MBSR study aimed at preventing depressive relapse in youth is under way (Kuyken et al. 2010).

MBCT-C was first empirically examined by Semple and colleagues in 2005 in a feasibility study including five anxious children. Significant symptom reduction led to two small additional open trials of 25 school aged youth (Bogels et al. 2008) and 14 adolescents (Lee et al. 2008). Significant effects were found for a wide variety of outcomes, including internalizing and externalizing problems, attention, happiness, self-control, and attunement. Semple et al. (2010) conducted the first RCT of MBCT-C with 25 clinic-referred children, ages 9–13, from low-income, inner-city families. Youth treated with MBCT-C evidenced more significant reductions in anxiety and inattention than waitlist control, though there were no post-treatment differences in behavior problems.

As with the other three approaches, there is a greater empirical base for ACT with adults than for ACT with children and teens. The American Psychological Association considers ACT an empirically validated treatment with “Modest Research Support” for adults with depression, mixed anxiety, OCD, and psychosis, and “Strong Research Support” for chronic pain (APA 2006; Arch et al. 2013).

Comparatively, the research literature on ACT with children and adolescents is limited, though initial findings are encouraging. The majority of studies on the effectiveness and feasibility of ACT for children and adolescents are applications of chronic pain treatment (Gauntlett-Gilbert et al. 2013; O'Brien et al. 2008; Wicksell et al. 2009); however, several studies also examined sexual risk behavior (Metzler et al. 2000), anorexia nervosa (Heffner et al. 2002; Merwin et al. 2010, in press), and externalizing disorders (Twohig et al. 2008). Only three of these studies are RCT's (Wicksell et al. 2009; Metzler et al. 2000; Hayes et al. 2011). A large RCT for youth with anxiety is also under way in Australia (Swain et al. 2013). All three completed RCT studies were with quite small samples and produced medium effect sizes supporting the superiority of ACT to TAU (Hayes et al. 2011) or multidisciplinary treatment with medication (Wicksell et al. 2009).

Similar preliminary findings exist for DBT-A. DBT is considered a well-established treatment for adults with borderline personality disorder, with more than 9 RCTs to date. There is additional evidence that DBT may be an effective treatment for adults with depression (Harley et al. 2008; Lynch et al. 2003, 2007) eating disorders (Hill et al. 2011; Safer et al. 2010, 2001; Telch et al. 2001) attention-deficit/hyperactivity disorder (Hirvokoski et al. 2011) and bipolar disorder (Van Dijk et al. 2013). Evaluations of the adolescent adaptation, DBT-A, are sparse. There are currently no published RCTs of DBT-A, though there are two in progress (Groves et al. 2012). Two quasi-experimental studies demonstrated that DBT resulted in greater reductions in suicidal ideation, non-suicidal self-injury, urges to self-harm, and other BPD symptoms relative to TAU; however, no random assignment of patients was involved (Katz et al. 2004; Miller et al. 2006; Rathus and Miller 2002). Numerous open-trials of DBT also demonstrated post treatment reductions in suicidality, self-harm, and BPD symptoms (Katz et al. 2004; Rathus and Miller 2002), though there was no comparison group limiting causal conclusions. DBT-A has also been adapted to treat a wide variety of disorders in which emotion dysregulation is the common feature (MacPheson et al. 2013). Open trials evaluated the use of DBT to treat youth with a history of suicide attempt (Katz et al. 2004; Rathus and Miller 2002), oppositional defiant disorder (Nelson-Gray et al. 2006), bipolar disorder (Goldstein et al. 2007), binge eating disorder (Safer et al. 2007), anorexia nervosa and bulimia nervosa (Salbach-Andrae et al. 2008). Additionally, there is evidence of improvement in symptomatology following DBT-A with juvenile offenders (Shelton et al. 2011; Trupin et al. 2002).

Although both DBT-A and ACT have core underpinnings in mindfulness, they are multifaceted treatments. At this time there are no additive or dismantling studies that assess whether the mindfulness components are the active change mechanisms in these approaches. This lack of mechanistic studies is expectable given that youth mindfulness models are largely developed within the past decade and must be rigorously evaluated as a whole before mechanistic studies can be undertaken. Nevertheless, there is ultimately a need for mechanistic knowledge of these approaches. Future studies might be expected to assess the degree to which youth became more mindful or are able to demonstrate mindful qualities of attention before and after treatment. To create viable comparisons between ACT, MBSR, and MBCT, common mindfulness measures will need to be developed and used across

the treatments. Notably there are currently no head to head trials of any of the four core mindfulness based approaches for youth, nor are there even direct comparisons to traditional CBT at this time.

## Summary and Future Directions

A stance of cautious enthusiasm toward mindfulness based approaches for youth is appropriate. This enthusiasm is buffered not only by the philosophical values that mindfulness brings to youth treatment (focus on wellness vs pathology; enhancement of present moment satisfaction; socially beneficial outcomes such as empathy and compassion), but is suggested by a sizeable number of studies of MBSR, MBCT-C, DBT-A, and ACT for youth published in a relatively brief period of time that have shown positive findings. Further, there is demonstration that even young children can effectively engage in mindfulness, and each of the four models are adapted to youth developmental needs. However, of the existing studies supporting the use of mindfulness based interventions for youth, only 19 represent RCTs (4 ACT; 2 DBT-A; 4 MBSR; 2 MBCT; and 7 mindfulness meditation not specific to these approaches). Of these, four are in progress with no outcome results yet, leaving a total of 15 completed RCTs, only eight of which involved one of the four formal approaches. Many of these studies involve non-clinical populations and small sample sizes. Kabat-Zinn (2011) rightly stated that the field in its enthusiasm over the potential promise of mindfulness should not get ahead of the data. In sum, mindfulness based approaches for youth continue to represent an emerging area in the field, one with much potential promise. As detailed by others, next steps will involve amassing a larger body of evidence based on large, well-controlled trials, before more nuanced questions can be examined regarding mechanisms of change, the role of mindfulness skills vs formal meditative practice for youth, and the mindfulness dose–response relationship.

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