

# Impact of a mindfulness-based stress reduction program from the perspective of adolescents with serious mental health concerns

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**Background:** While studies on mindfulness-based stress reduction (MBSR) for youth have recently emerged, there is a shortage of research on how adolescents from clinical populations experience MBSR. The purpose of this qualitative study was to explore the impact of MBSR from the subjective perspective of adolescents with serious mental health concerns. **Method:** Adolescents ( $n = 28$ ) from a residential treatment center participated in an adapted 8-week MBSR program in which they learned a range of mindfulness skills and were encouraged to apply the skills to their everyday lives. At the end of the program and at a 3-month follow-up, the youth participated in semistructured interviews in which they were asked to describe the impact of the program from their perspectives. Basic interpretive qualitative analysis methods were used to code the data and to group the codes into higher level themes. **Results:** Six main themes were found, including improved mood, enhanced relationship to self, increased self-control, improved problem-solving, awareness of the present, and enhanced interpersonal relationships. **Discussion:** Results from this study suggest that the MBSR program was perceived as beneficial both in the short-term and follow-up in several aspects of emotional, cognitive, and interpersonal functioning.

## Key Practitioner Message

- The small number of existing studies on mindfulness-based stress reduction (MBSR) have shown promising results with youth. However, there is limited knowledge of the experience of MBSR for youth in treatment for mental health concerns.
- This study addresses the need for qualitative research on how adolescents from clinical populations experience and perceive MBSR.
- Participants who completed an inpatient MBSR program perceived the program to be helpful in improving mood, self-concept, self-control, problem-solving, interpersonal relationships, and awareness of the here-and-now.

**Keywords:** Mindfulness; adolescence; mental health; psychotherapy; qualitative methods

## Introduction

Across several countries, regions, and historical cohorts, prevalence rates of mental health issues among adolescents have been consistently high (Jaffee, Harrington, Cohen, & Moffitt, 2005). Longitudinal studies following children over time have reported that by the age of 15–16 years, more than one-third of youth are diagnosable with at least one mental disorder (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Kim-Cohen et al., 2003). Moreover, it appears that adolescent mental health problems have increased in recent years (Bor, Dean, Najman, & Hayatbakhsh, 2014). This highlights the crucial need for more effective mental health interventions for youth. Mindfulness, a relative newcomer to the mental health field, offers promise as one such

intervention. Shapiro, Carlson, Astin, and Freedman (2006) describe mindfulness as involving three interrelated components: The first component, *intention*, refers to the desire to practice mindfulness, as a means of meeting evolving goals. *Attention*, the second component, is a focused awareness of immediate experience. Lastly, *attitude* refers to a compassionate and open stance toward one's experience. Stated more simply, mindfulness means paying attention to one's experience in the present moment, intentionally and without judgment (Kabat-Zinn, 1994).

Several mindfulness-based interventions (MBIs) have been developed to promote mindfulness, with mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1994) being one of the most widely recognized and researched. MBSR is a psychoeducational and experiential program

initially developed for treating stress related to medical conditions (Kabat-Zinn, 2003). Its use has since been expanded to include a wide range of psychological and physical concerns (Baer, 2003). MBSR programs typically consist of 8–10 weekly group sessions led by an instructor with formal training and experience in MBSR. Among the practices taught include: mindful breathing, walking, and eating meditations; body scan; yoga; and other guided activities designed to foster openness, awareness, and focused attention to moment-to-moment experience (Burke, 2010; Kabat-Zinn, 2003). Participants are also encouraged to bring mindful awareness to everyday activities outside of group sessions and are invited to discuss their experiences in the group setting (Burke, 2010).

To date, most research on MBIs has focused on adult populations. However, there has been a growing interest in the application of MBIs for youth. Among the issues targeted by MBIs for adolescents include depression (Ames, Richardson, Payne, Smith, & Leigh, 2014), stress and anxiety (Bluth, Roberson, & Gaylord, 2015), substance abuse (Bayles & Villalobos, 2015), attentional problems (Haydicky, Wiener, Badali, Milligan, & Ducharme, 2012), and threats to physical health (Sibinga et al., 2011). Mindfulness programs have also been integrated into school settings (Viafora, Mathiesen, & Unsworth, 2015).

Randomized clinical trials (RCTs) on the use of MBIs with clinical adolescent samples have yielded promising results. Although few in number, such studies suggest that MBIs may help improve internalizing and externalizing symptoms in youth (Biegel, Brown, Shapiro, & Schubert, 2009; Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008; Haydicky et al., 2012). For example, Biegel et al. (2009) conducted an RCT to test the effects of an 8-week MBSR intervention program for youth. The sample included 102 adolescents (ages 14–18) who were current or past patients at a psychiatric outpatient unit. Participants were randomly assigned to either the MBSR group or a treatment-as-usual group (i.e. continuation of psychotherapy and/or psychotropic medicine) and were followed 3 months after program completion. Results showed that there were significantly greater reductions in anxiety, depression, somatization, sleep difficulties, and number of diagnoses in the MBSR group compared to the controls. The MBSR group also showed increased self-esteem and improvements in global functioning. In another study, Bögels et al. (2008) found that youth (ages 11–17) who participated in an 8-week MBSR outpatient program at a community mental health center showed improvements in internalizing and externalizing symptoms compared to controls. These effects were maintained at the 8-week follow-up.

Although RCTs such as the above are essential for testing the effects of mindfulness on adolescents with mental health issues, there has been a shortage of qualitative research on how adolescents themselves view mindfulness. Himmelstein, Hastings, Shapiro, and Heery (2012) called for qualitative research in the area when they stated: 'Mindfulness researchers have primarily focused on RCTs to validate mindfulness-based programs as evidence-based, but have left out an important aspect that is a key foundation to mindfulness: the subjective state' (p. 236). As psychotherapy researchers have argued, qualitative research on participants'

perspectives of therapy is crucial for effective implementation of clinical treatments (Hodgetts & Wright, 2007; Maracek, 2003).

In general, the few qualitative studies on MBSR for youth that have emerged in the literature have focused on nonclinical populations or on adolescents with physical health issues. For example, Sibinga et al. (2011) interviewed 10 adolescents (13–21 years old) to explore their experiences of a 9-week MBSR program for human immunodeficiency virus-infected and at-risk youth. The data were analyzed for salient themes using content analysis. Findings suggested that participants had primarily positive perceptions of the program, with MBSR being regarded as beneficial for interpersonal relationships, school achievement, and physical health. Participants also reported continued use of MBSR techniques following program completion. Himmelstein et al. (2012) interviewed 23 adolescent males (ages 14–18) about their experiences of a 10-week mindfulness-based program held at the juvenile detention center where the youth were incarcerated. Participants reported improvements in well-being, self-regulation, and self-awareness, as well as a more accepting attitude toward the treatment program. Similarly, the themes of improved well-being, emotion regulation, and program satisfaction were found in Broderick and Metz's (2009) interviews with a nonclinical sample of 120 females (ages 17–19) who participated in a 10-week mindfulness curriculum at their school. Overall, research on MBIs with adolescents has yielded promising results. However, existing research is in its infancy, and there is a need for additional research investigating specific types of MBIs with adolescents from clinical populations. Furthermore, qualitative research is needed in order to understand adolescents' experiences of mindfulness and to help inform MBIs that are tailored to the needs of youth. The purpose of the current qualitative study was to investigate the impact of an 8-week MBSR program for adolescents with serious mental health concerns, based on the subjective perspectives and experiences of the youth involved. Emphasis was on how the program impacted the youth both in the short-term and in their everyday lives after program completion.

## Method

### Participants

Participants were 28 adolescents (14 males, 14 females; 26 identified as White/Caucasian and two as Métis/Aboriginal) aged 12–17 years ( $M = 14.2$ ,  $SD = 1.26$ ) recruited from a Canadian residential treatment facility for youth with psychological, behavioral, and emotional concerns. The adolescents were a subset drawn from a larger group of youth who participated in a separate RCT related to this project. Selective sampling helped ensure diversity in the sample (e.g. range of ages, gender, mental health concerns). Prior to recruitment, approval for the study was obtained from the Research Ethics Board at the University of Alberta. Legal guardians provided informed consent for the adolescents to participate in the study, while the participants themselves provided written assent.

Primary diagnoses of the participants included Oppositional Defiant Disorder or Conduct Disorder (50%), Attention Deficit and Hyperactivity Disorder (50%), Anxiety Disorders (39%), Depressive Disorders (26%), and Reactive Attachment Disorder (21%). Most participants (86%) met the diagnostic criteria for at least two mental disorders (DSM-IV-TR; American Psychiatric

Association, 2000); and many also displayed several symptoms of diagnosable disorders but did not meet the full diagnostic criteria. Additionally, parent-child relational problems were present in 39% of cases.

### Procedure

All participants completed an 8-week MBSR program administered to three consecutive groups. The program was adapted from an MBSR program for at-risk urban youth (Sibinga et al., 2008) and facilitated by two instructors with formal training in MBSR and extensive professional experience in the mental health field. Weekly classes lasted 2 hr each and consisted of didactic instruction, experiential exercises and practice, group discussion, and self-reflection. Main activities included instruction and practice of formal MBSR meditations (e.g. mindful eating, sitting meditation, walking meditation, body scan, loving-kindness meditation); instruction in informal mindfulness practice, especially the breathing break or 'three-breaths break', which involves pausing (especially during stressful situations) to take three mindful breaths; and yoga. The program also included psychoeducational components such as the discussion of the qualities of mindfulness, recognition of choice points and consequences of actions, the stress-response cycle, and mindful communication. In addition, participants were each given an MBSR workbook (Kane, Magyari, Stewart, & Sibinga, 2009) and CDs that contained material and meditations covered in class.

### Data collection and analysis

Within 2 weeks of MBSR program completion, participants individually took part in face-to-face semistructured interviews about their experiences of the program. Interviews began with general questions to help establish rapport and then moved to specific questions about the participants' experiences and perspectives of the MBSR program (e.g. 'What was the MBSR program like for you?', 'What if anything changed or improved for you since completing the MBSR program?'). Attempts were made to maintain a conversational tone during the interviews and to allow for additional questions to emerge depending upon participants' responses. Interviews lasted an average of 35 min and were audio-recorded and transcribed verbatim. Participants were later asked to review the transcripts for accuracy and to note any aspects of the data that participants felt needed clarification or revision. Approximately 3 months after the initial interviews, follow-up telephone interviews were conducted in which participants were asked to comment on the impact of the MBSR program from their perspective (e.g. 'Are there parts of the program that have stuck with you or are especially important to you?', and 'Have you noticed anything change or improve in your life, and if so what do you think helped bring about these changes or improvements?'). Both the initial and follow-up interviews were conducted by graduate students with training in conducting qualitative research interviews with adolescents. Prior to data collection, the interview protocol was piloted with three program completers in addition to the 28 participants in the current sample, and interview questions were refined.

Qualitative data analysis relied upon basic interpretive qualitative inquiry methodology and thematic analysis methods (Braun & Clarke, 2006; Merriam, 2002). These approaches have been used extensively in qualitative psychotherapy research aimed at generating in-depth and contextualized understanding of participants' experiences and perspectives. In this study, relevant segments of the interview transcript (i.e. words, phrases, sentences, and passages germane to the research question) were first coded at a low level of conceptual abstraction, based on the meaning of the data. The resulting codes were then analyzed for similarities and differences and grouped into higher level themes. Throughout analysis, the context of the data was carefully considered. The qualitative data analysis software ATLAS.ti 6.0 (Scientific Software, Berlin, Germany) was used to assist with data management and retrieval. Peer reviews, audit trails, and memos (i.e. notes on ideas, questions, and assumptions as well as methodological and analytical decisions) were

maintained throughout the research process, as a means of maximizing the trustworthiness of the findings.

## Results

Six main themes appeared in the initial and follow-up data. Table 1 shows the number and percentage of participants for each theme. Each theme is described below and is accompanied by direct participant quotations from the interviews.

### Improved mood

A major theme that appeared throughout participants' accounts was the positive influence of the MBSR program on mood. Participants were consistent in their mention of how MBSR decreased levels of anxiety and stress, leaving them feeling 'calmer', 'relaxed', 'less worried' and 'less stressed', both generally and in specific situations. For example, the following participant described how she experienced less anxiety related to academic performance:

At school it helps me because if I'm getting stressed out about a big test or something, I just kind of calm myself down, do the mindful breathing and stuff.

Half of participants also indicated that the MBSR program helped them reduce feelings of anger:

[Before MBSR] anger was a problem, of course. And then after MBSR, it felt like an issue I still needed to work on, but it wasn't as bad.

While most participants found that MBSR reduced negative affect, approximately one quarter of participants also mentioned an increase in positive affect as well (e.g. being 'happier'). For some, this perceived change was related to positive thinking and a more positive outlook in general. For example, participants shared how MBSR help them 'think positive', 'look at everything positively', and 'put different thoughts in my mind [rather] than the bad thoughts'.

### Enhanced relationship to self

In most cases, a perceived benefit of the MBSR program was that it enhanced participants' self-concept and improved how participants related to themselves. As participants experienced positive results from applying MBSR skills to their lives, they began to feel 'proud',

**Table 1.** Main themes, with number and percentage of participants where each theme was present in the initial and follow-up interviews

Theme	No. of initial (n = 28)	% Initial	No. of follow-up (n = 24)	% Follow-up
Improved mood	26	92.7	14	58.3
Enhanced relationship to self	25	89.3	14	58.3
Increased self-control	24	85.7	19	79.2
Improved problem-solving	23	82.1	18	75.0
Awareness of the present	23	82.1	12	50.0
Enhanced interpersonal relationships	21	75.0	18	75.0

'positive', 'better', and 'good' about themselves. For example, one participant recalled the sense of pride that came from constructively defusing an argument with her mother:

My mom raised her voice a little bit but I stayed calm. Like, usually when she raises her voice, I tend to raise my voice back, but I stayed calm and I talked through it instead of yelling and she was very proud of me for that, and I was extremely proud of myself.

In approximately half of the interviews, participants viewed MBSR as instrumental in increasing self-confidence, with one participant describing MBSR as 'a big confidence booster'. For some participants, MBSR was also seen as bringing about enhanced self-understanding, self-reflectivity, and a positive way of talking to oneself:

I find it easier to understand myself now... Before, I never understood why I was always angry or why I was so depressed. But once you start getting in touch with your body and your emotions, you understand yourself a lot better.

### *Increased self-control*

From participants' perspectives, the MBSR program was instrumental in increasing their self-control. Most participants viewed MBSR as having a positive impact on their ability to control physical and verbal aggression:

[I'm] sort of thinking about stuff before I do it... I tend to break stuff and just keep on going in a rage, and now I just take a couple of breaths when I am mad, think about it and how I can do it differently, and go from there.

Several participants indicated that MBSR helped them control feelings and behaviors associated with hyperactivity and impulsivity. One girl explained:

When you're all worked up and full of emotions, you act on impulse pretty much. And you don't understand why you're doing things. But then when you either do the deep breathing, or the body scan, or just sitting and thinking, it just helps you as a person a lot.

More than one-third of participants reported an improved ability to concentrate and pay attention, especially in their schoolwork. Echoing the words of many others, one girl asserted:

It really helps me because now I can sit down and do my work mindfully, and I can focus and get through the class.

### *Improved problem-solving*

Closely related to increased self-control was the theme of improved problem-solving. Most participants believed that MBSR helped them gain an expanded repertoire of problem-solving skills, which allowed for more constructive behaviors. Participants described themselves as having a greater ability to recognize choices and to consider the potential consequences of alternative courses of action.

I was really upset one day because I got sent out of gym, and I used the breathing break. I sat there with my legs crossed on my table, thinking now what are the outcomes of having a spaz attack because you got sent out of gym, and what are the outcomes of just sitting here and waiting?

Almost half of participants experienced themselves as becoming more likely to confront their problems rather

than avoiding them. One participant described how mindfulness helped her break a pattern of alternating between passivity and aggression:

Someone [in the treatment center] was making rude gestures to me and I took that mindfully, like, I was mindful of what I needed. Like, I need him to stop so I went to the staff here and they said that they'll do something about it and that really helped. 'Cause usually I would just leave it alone and it'll escalate and then I would do something that would get me in trouble. But actually, I just told the staff and it just went away.

Breaking old patterns was often accompanied by openness to experimenting with new ways of thinking and behaving. Participants explained that MBSR helped them 'look at things with an open mind', 'step out of my comfort zone', and 'give [new things] a shot'.

### *Awareness of the present*

From the perspective of participants, MBSR brought about increased awareness of feelings, thoughts, sensations, and actions in the here-and-now. As one participant stated,

I was more mindful of what I was doing, aware of what I'm doing as soon as I'm doing it and not 20 minutes after.

Through awareness of the present moment, participants found that they were better able to cope with stressful situations. A number of participants described how MBSR heightened their awareness of internal sensations and external stimuli:

[When] I go for a walk... I'm really in touch with what's around me, and I look at details more, like if there's any different kinds of plants, like, what they are, if there's any holes in the ground... if there's any animals.

Some participants noted that they became better able to read and respond constructively to social cues:

[Mindfulness helped with] noticing what other people are feeling, so like, if they're angry I can just back away from them... I just notice more now, more of their body language.

### *Enhanced interpersonal relationships*

The majority of participants indicated that the MBSR program helped improve their relationships with other people. Enhanced relationships were typically experienced as decreased interpersonal conflict, especially with family members:

The MBSR helped me with the coping skills and everything. It started improving relationships in my family as well because whenever I got angry with my family, I started yelling and just ranting. But now I've got all these new things to try and now I'm actually talking instead of yelling.

Most of the youth also described themselves as becoming more considerate or empathetic toward others, partly as a result of increased calmness:

The breathing technique... calms me down, makes me look at things in a different point of view. Like when you're mad, you tend to just look at things from your own way. When I'm sorta calm and relaxed, I look at the other person's view and my view.

For over one-third of participants, the MBSR program helped them become more open and nondefensive in their interpersonal interactions:

Before MBSR I would not be able to talk to my parents at all about things. But now that I went to MBSR, it felt like I'm a little bit closer to my parents and I could get through things by talking to them. It feels like I have a lot more trust in my parents, and they trust *me*.

Nondefensiveness was apparent in some participants being more willing to apologize and take responsibility for their own part in negative interactions.

### *Three-month follow-up*

As can be seen in Table 1, all major themes that arose in initial interviews re-appeared in at least half of the 3-month follow-up interviews. Although no new themes were evident at follow-up, the context in which the existing themes were embedded had shifted. Participants had been discharged from the residential treatment center, were living full-time with their families, and were attending their regular schools. Thus, participants had the opportunity to apply the skills they had learned in the MBSR program to their everyday lives. The most commonly reported techniques used by participants were breathing breaks/three-breath breaks, followed by pausing to recognize choice points and assess consequences of actions. Mindful walking, mindful eating, body scans, and yoga were also mentioned, although to a significantly lesser extent. In addition, it appeared that MBSR techniques were being employed primarily on an 'as-needed' basis in response to stressful events; and mention of MBSR being incorporated into routine practice was uncommon.

The themes of increased self-control, improved problem-solving, and enhanced interpersonal relationships appeared most often in the context of participants' accounts of using MBSR to reduce reactivity and aggression with family members. Several participants also found MBSR techniques helpful in defusing conflict with friends and classmates. The decision to control aggressive impulses was typically aided by participants' assessment of the potential consequences of their actions. Approximately a quarter of participants believed that the MBSR program helped to control hyperactive behaviors or distractibility.

In the remaining three themes (i.e. improved mood, enhanced relationship to self, and awareness of the present), participants most commonly reported decreased feelings of anxiety, stress, and anger; greater awareness of emotions and behaviors; and increased self-confidence and self-understanding. As at post-test, participants experienced themselves as 'calmer', 'not as angry', and 'more relaxed'. Many participants described a greater awareness of their feelings and behaviors as they occurred in the here-and-now, as well as insight into their own roles and needs in social interactions. In follow-up interviews, it was also apparent that many participants felt increased self-confidence as they successfully applied MBSR skills to their lives.

## **Discussion**

Findings of this study suggest that from the perspective of youth with serious mental health issues, MBSR had a positive impact on several aspects of psychological functioning. Participants consistently recalled instances of using mindfulness skills to cope with difficult situations. Throughout the data, participants described how

they paused to reflect on their feelings and behaviors, recognized choice points, assessed potential consequences of alternative courses of action, and chose to behave in a nonaggressive manner. As a result of their new behaviors, participants were experiencing greater harmony in their relationships with others. Participants also perceived improvements in mood and in how they viewed and related to themselves. These results are consistent with quantitative studies indicating that MBIs may be of benefit for youth who present with externalizing behaviors and mood disorders (Biegel et al., 2009; Bögels et al., 2008; Haydicky et al., 2012; Zoogman, Goldberg, Hoyt, & Miller, 2015).

In addition, approximately one-third of participants believed that the MBSR program helped improve their attention and concentration. This echoes existing research pointing to the possible benefits of MBIs for adolescents with attention deficit and hyperactivity disorder (ADHD) (Haydicky et al., 2012; Zylowska et al., 2008). Regardless of whether improvements in attention were specifically noted, the generally positive changes reported by participants (at least half of whom had been diagnosed with ADHD or showed related symptoms) adds to the literature suggesting that MBSR may be well tolerated by adolescents with attentional deficits (Haydicky et al., 2012; Zylowska et al., 2008).

With respect to perceived improvements in mood, the vast majority of participants found that the MBSR program helped to reduce anxiety and stress. This is perhaps not surprising given existing research showing MBSR to ameliorate anxiety in youth (Biegel et al., 2009; Bluth et al., 2015). An interesting finding is that, compared to reports of decreased anxiety, relatively few participants mentioned feeling 'happier' or 'less depressed' as a result of the program. A possible explanation for this finding is that the number of participants diagnosed with depression were fewer in number than those with anxiety-related disorders. Another explanation may be found in MBSR's heavy emphasis on stress reduction, compared to other approaches, most notably Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), which more specifically target depression. Whether adolescents with clinical depression might respond more favorably to MBCT than MBSR could be investigated in future research.

One of the strengths of this study was its inclusion of follow-up interviews. The study suggests that most participants continued to use MBSR concepts and skills and experienced associated benefits 3 months after program completion. In other words, it appeared that participants transferred what they had learned as inpatients to their post-treatment environments. These results are consistent with those obtained in other MBI studies with clinical adolescent populations (e.g. Biegel et al., 2009; Bögels et al., 2008). Based on the participants' accounts, it appears that the youth in this study practiced MBSR skills primarily when confronted with a challenging situation. In addition, few participants indicated at follow-up that they had been engaging in a formal daily practice of mindfulness. These findings raise the question of whether mindfulness was regarded more as a problem-solving tool to be utilized mainly during difficult situations than as a more regular practice. Such a possibility is not necessarily cause for concern, especially given the substantial benefits reported at the 3-month follow-up. However,

additional research is needed to investigate whether perceived benefits are sustained in the longer term. It might also be worth exploring the use of MBSR 'booster' sessions, perhaps in community outpatient settings or schools, as a potential means of maintaining gains.

A number of limitations of this study should be noted. As is typically the case with qualitative research aimed at understanding subjective participant perspectives, the findings are not meant to be generalized to other populations. Generalization, in the statistical sense of the term, is left to RCTs with clinical adolescent groups. In this study, to reflect real-world heterogeneity in adolescent mental health facilities, participants with a variety of diagnoses were included in the analysis. However, it was unclear how the findings might differ based on specific diagnoses. Future studies could explore the use of specific MBIs in more homogenous groups. Furthermore, all but two participants self-identified as White/Caucasian. More research on the use of MBSR and other MBIs with youth from culturally and ethnically diverse backgrounds is needed. As is often the case with research involving participant self-reports, social desirability may have influenced participants' accounts of their experiences of the MBSR program. In the future, it could be helpful to include interviews with youth's parents and teachers, as this could provide alternative perspectives that would help triangulate the data. In addition, interviews conducted 6–12 months post-treatment and beyond might provide a fuller picture of the long-term impact of the MBSR program.

## Conclusion

This study heeds the call for more research on adolescents' perspectives on mindfulness. It is one of the first to show how adolescents in clinical settings experience MBSR as helpful for managing a range of psychological, emotional, and behavioral issues. Through showing the specific contexts in which youth have applied mindfulness skills to their everyday lives, this research adds an important dimension to the existing literature. The current research also contributes to knowledge on how youth with serious mental health concerns apply MBSR skills in the long-term. Based on the perspectives of the participants in this study, it appears that MBSR provides youth with valuable tools for coping with challenges and changing their lives for the better.

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