

Acceptability and Efficacy of an Adapted School-Based Dialectical Behavioral Therapy Skills Group for Adolescents: A Qualitative Perspective

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Abstract

Adolescence is characterized by heightened emotion dysregulation, impulsivity, and engagement in high-risk behaviors, such as substance use, violence, and unprotected sexual activity. Dialectical Behavioral Therapy for Adolescents (DBT-A) is an evidence-based intervention that targets emotion regulation and impulsivity among adolescents, proven effective at decreasing high-risk behaviors. However, limited research exists on adolescents' perceptions of DBT-A, particularly in schools. The current study aimed to understand adolescents' perspectives on a DBT-A skills group delivered within urban high schools in a midwestern state. The study sample of 18 youth (mean age 14.7; 66.7% male; 38.9% Black) completed individual semi-structured qualitative interviews assessing their perspectives on the DBT-A skills group. Interview topics included the program's impact on youths' daily lives, risk-taking behaviors, skill acquisition, and general feedback about the group. Fifteen of the eighteen participants (86%) reported acceptability of the program, expressing that they enjoyed the content and would recommend the group to peers. Participants observed positive impacts on their daily lives, including self-reported enhanced ability to regulate their emotions, communicate with teachers, effectively adapt their mindsets and motivations, and make healthy relationship decisions. Additionally, some noted an increased feeling of connection to their peers following the group. Delivering the DBT-A skills group in schools was shown to have high rates of acceptability among youth and resulted in improved emotion regulation and reduced impulsivity. Further research is needed to assess long-term effects of this program and to identify best training practices for school staff to implement and sustain the program long-term.

Keywords

school-based, dialectical behavioral therapy, adolescents, impulsivity, youth perspectives, high-risk behaviors, emotion regulation

Introduction

Adolescence is a critical period marked by developmental changes, such as puberty, desire for independence, and identity development, which also coincides with more difficulty in regulating emotions and impulsivity.¹⁻³ These developmental changes are compounded with age-specific stressors (eg, peer relationships, unstable family life, disruptions in family life, income, occupational changes), which can increase vulnerability for youth engagement in risk-taking and high-risk health behaviors, such as substance use and risky sexual behavior.^{4,5} Various interventions have been developed to address these factors during adolescence, either by directly targeting behaviors, including substance use^{6,7}

and risky sexual behaviors⁸, or by targeting emotion regulation and impulsivity.²

One intervention that targets emotion regulation and impulsivity among adolescents and has been shown to also

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be effective at decreasing high-risk behaviors (i.e., substance use and sexual behavior among adolescents) is Dialectical Behavioral Therapy for Adolescents (DBT-A).^{9,10} DBT-A focuses on the acquisition of skills across 4 domains: mindfulness, emotion regulation, distress tolerance, and interpersonal effectiveness. Mindfulness skills center on increasing awareness of the current moment and working toward acceptance of the present, including accepting current thoughts and feelings. Emotion regulation skills aid in the identification of emotions and use of skills to regulate the occurrence and intensity of emotional states. Distress tolerance skills seek to teach effective coping strategies to ameliorate elevated levels of distress and crises without worsening current circumstances. Lastly, interpersonal effective skills help build and maintain healthy relationships with others, as well as maintain one's own self-respect.

Although DBT-A was originally developed and validated among clinical populations of adolescents who were diagnosed with mental health disorders and under the care of clinicians¹¹, there is emerging work examining the use of DBT-A in non-clinical settings for non-clinical adolescents. The developers of DBT-A published a manual in 2016 for the implementation of the DBT-A skills component for delivery in schools as either a universal or secondary intervention.¹² However, to date, few studies have been published on the feasibility, acceptability, or efficacy of school-based DBT-A programs for non-clinical adolescent populations.^{13,14} Among the studies conducted, findings indicate acceptability by participants of the school-based DBT-A skills groups. Yet these studies are limited in number and differ in important ways, including geographic location (Spain, United Kingdom, United States), age, and number of participants.^{13,15,16} Thus, more work is needed confirming the acceptability of the program among youth. Moreover, as highlighted by Gonzales and colleagues,¹⁷ a deeper understanding of adolescent's perspectives of the school-based DBT skills group can guide further tailoring of the intervention to be culturally-relevant to the needs of adolescents from diverse backgrounds.

Using qualitative research methods, the current study aimed to uncover perceptions of a 9-session school-based DBT-A skills group intervention delivered to students attending urban high schools in a midwestern state in the United States. The aims of this study were as follows:

1. Summarize participants' acceptance of the DBT-A intervention.
2. Summarize the impact of participation in the DBT-A intervention on youth's daily living within and outside the school setting.
3. Summarize the acceptability and impact of core components of the DBT-A intervention (ie, emotion regulation, distress tolerance, mindfulness, and interpersonal effectiveness).
4. Summarize the acceptability and impact of specific skills and techniques taught during the DBT-A intervention.

Methods

Recruitment and Procedures

The pilot intervention program, entitled "Going for Goals," was implemented in urban high schools in a midwestern state starting in 2018. Going for Goals was a nine-session program that met once a week at school during school hours. With assistance from the research team, school administrators drafted a list of students they believed would benefit from participating in the program. Markers used to identify potential eligible participants included student behavior record, poor academic performance, or otherwise described by the school administrators as an "at-risk youth."

In collaboration with school staff, research team members met with potential participants at their school to provide information on the program, review study procedures, risks, and benefits, and answer any questions. Since all participants were minors, consent from legal guardians was obtained by an IRB-approved opt-out consent procedure in which an IRB approved letter with detailed information about the program was sent to the legal guardians by school staff. Guardians were informed of the purpose and primary aims of the study and outlined a 2-week time period in which they could remove their child from the participant list. Guardians and participants had the opportunity to voluntarily withdraw from the study at any time. Active written assent was obtained from students before any research activities were conducted.

The DBT-A skills group intervention ran for 9-sessions, with sessions occurring once per week. Sessions were held in a conference room reserved at the school for the research team to use. See Zapolski et al.¹⁸ for more details on the intervention protocol.¹⁸ Upon completing the program, participants were offered \$10 to complete an individual qualitative interview with a trained research team member to better understand their perceptions of the program and gather feedback for quality improvement. Individual interviews were chosen over surveys to gain in-depth insights into each participant's unique experiences and perspectives regarding their participation in the intervention—information that would be difficult to capture through survey instruments.^{19,20} Interviews were also preferred over focus groups, as they allowed participants to share potentially sensitive information in a more private setting, which they might have been less comfortable disclosing in a group.^{21,22} Additionally, interviews were chosen over focus groups, as they provided greater flexibility in scheduling around participant's class schedule.

The semi-structured qualitative interviews were conducted approximately 1 to 3 months post-treatment with participants, between September 2018 and December 2019. An interview guide used for the participant interviews, which was co-designed by the research team. Trained members of the research team conducted the interviews with participants. To reduce potential bias, team members were not assigned to interview participants for whom they had direct involvement

with during the intervention delivery. Thus, no group facilitator interviewed participants from their own group. Interested participants provided verbal assent at the time of their interview.

Interviews were conducted either in-person, in a private room at school, or remotely through Google Voice calls. Each interview, lasting 15 to 30 min, was audio recorded for transcribing purposes. To protect confidentiality, participants was assigned a unique identification number, which were used for all data collection components. Interviewers took relevant notes during or after the interview, which were taken into consideration in the coding process. Audio files were transcribed using a secure, HIPAA-compliant service for analysis. All research procedures were approved by the university Institutional Review Board.

Participants

Students were recruited from high schools with high rates of free or reduced lunch recipients (63%), a median household income ranging from \$49,175 to \$62,829, and an average child poverty rate of 19%. Students at these schools identified as Black (37.5%), White (29.5%), Hispanic/Latino (24%), Multiracial (6%), and Asian (3%). Students in grade 9 through 11 were eligible for the program if they demonstrated language proficiency in English and were not concurrently receiving mental health services. School staff used purposive methods to identify students they believed would most benefit from participating in the group based on school disciplinary records, academic performance, and teacher and guidance counselor recommendations. The Family Educational Rights and Privacy Act (FERPA) laws restricted the researchers' access to these files. Following the implementation of the Going for Goals program, participants who attended a minimum of 6 out of the 9 sessions were eligible to participate in individual qualitative interviews with a research team member. Participants were reminded by group facilitators in the last session that interviews would be offered to those that met the attendance criteria—information that was originally presented to participants at the time of assent.

Of the 36 students who met the attendance threshold for interviews during the 2018 to 2019 academic school year, 18 (51.4 %) completed an individual qualitative interview. A majority of participants were in 9th grade (72.2%; $n=12$) and the remaining participants were in 11th grade ($n=5$). The mean age of youth who participated in the qualitative interviews was 14.7 ($SD=1.06$), with 66.7% ($n=12$) of those identifying as male. Of participants who disclosed their race, most identified as predominately Black (38.9%; $n=7$), with 3 youth identifying as Multiracial or "Other" (16.7%). Of those identifying as "Other" as their race, they self-described as: Latino, Mexican, and Hispanic. Six participants did not disclose their race. Regarding ethnicity, 50% ($n=9$)

participants identified as Hispanic/Latino. Lastly, 38% ($n=7$) of interview participants reported receiving mental health treatment within the last 12 months. Data was not collected on the remaining 18 eligible participants who declined to take part in the post-implementation interviews.

Measures

A post-program independent semi-structured interview was conducted to assess participant's experiences being in the program. An interview guide was used to conduct the interviews, which included 20 questions that were broken into four sections: impact, skills, process, and design. Questions from the Impact section included "What was your favorite thing about the group?," "How did the group impact you. at school?," and "Were there any negative consequences to doing the group? ". Questions from the Skills section included "Tell me about any skills you might have used from the group. How did you use them?," "What did you like most about the emotion regulation skills; Can you give me an example of when you used emotion regulation skills," and "What did you like least regarding the emotion regulation skills? ". Questions in the Process section included "How did you like having the group during school? Would you change that – like having it after school or in the summer?" and "How did you like the length of the group, right now it is 45 min once a week? Would you change it?". Questions from the Design Section included "Have you been in any other groups/programs related to decreasing or managing stress? How was it? Was the group/program at school or outside of school? How did this group compare to the Going 4 Goals group?".

Data Analysis

Data analysis contained elements of both conventional and directed content analysis. That is, we were interested in specific overarching categories (eg, favorite/least favorite part, most/least helpful, impact, what did you like about the skills/how skills were used) within each domain, and we identified topics that emerged from the text. This was conducted in 3 stages using a grounded theory approach²³ with a team of 4 coders. During the first stage of initial coding, the research team read all de-identified transcripts to gain an understanding of the data and variation across participants. After reviewing all the transcribed interviews, the team members individually identified emergent themes (ie, codes). The second stage involved the team comparing initial codes to reach a consensus for each code throughout several meetings. Constant comparative methods (ie, comparing codes, each participants' statements with their other responses and other participant's responses) were used throughout the process of creating initial codes. After the code list was assessed, finalized, and agreed upon, focused coding began in stage 3, during which researchers individually coded each interview

Table 1. Impact of DBT-A Skills Group on Youth's Daily Living N= 18.

How did group impact you?		
Key concept	n (%)	Representative quotes
Improved academics	10 (55.5%)	"It helped me like keep them up and like at least above a C." ". . .it helped, really helped me keep track of my grades. . ." "I started turning in more work on time, more than late."
Emotions	9 (50%)	". . .it helped control my emotions and stuff like that. Emotions, impulsivity, and stuff like that." ". . .yeah it helped a lot cause they taught you how to process and how to change the reactions."
Increased self-awareness	7 (38.8%)	"It made me like start thinking about stuff more, like what my goals are." "It would like make me go back in my head and be like . . . how [is] life going for me?" "I would say it taught me. . . you know that think before you do things and stuff like that."
Improved peer relationships	6 (33.3%)	"Well, they also showed me how to better care for my friends and show them that I cared about them."
Improved family relationships	6 (33.3%)	"It helped me connect with my siblings and my mom more."
Improve focus	3 (16.6%)	"They helped me like stay focused in class and stuff and get all my work and stuff done."
Better handle stress	3 (20%)	". . .they helped. . .handling stress in a certain way. . ."
Increased motivation	2 (13.3%)	"They motivated me a little bit more to do, to put my best effort [in] and to keep trying."

Note. Percentages may add up to surpass 100 because some participants stated more than one impact.

based on the defined codes with memos also written for each code. After coding was complete, the inter-rater reliability was assessed using Atlas.ti.²⁴ Inter-coder agreement alphas using Krippendorff's²⁵ alpha coefficient were produced to report the reliability of a valid code system and ranged from acceptable ($\alpha = .71$) to high ($\alpha = 1$), with a total alpha of $\alpha = .76$. Finally, discrepancies were resolved by meeting as a team and reaching a consensus; all results reported are based on consensus coding. Data saturation was achieved.

Results

Aim 1. Youth Acceptability of the Adapted School-Based DBT-A Skills Group

All participants (n=18) reported enjoying being a member of the program. Additionally, 7 participants (38.8%) noted the importance of having a place to talk and be heard (n=7; 38.8%). For example, 1 participant stated, "*My favorite thing about it was. . .we was just open in that group and we could share what we needed to share. Like say something that's on our mind heavy at school.*" Participants also enjoyed being able to engage socially with other group members (n=6; 33.3%), with some noting that they had the opportunity to meet students they otherwise may not have met. One participant elaborated on this, reporting that their favorite part was "*meeting the new people. . .It's always nice to meet new people. They can be nice. . . expand your friend group.*" Two participants voiced dissatisfaction with the program due to the requirement of completing baseline surveys, which were notably part of the program evaluation

rather than the intervention itself. Refer to Table 1 for more exemplar quotes.

Aim 2. Impact of DBT-A Skills Group on Youth's Daily Lives

The skills group also positively influenced students' academic performance, with most participants (n=11; 61%) reporting improved grades and increased motivation to complete their assignments. Seventy-two percent (n=13) of students also reported that the program had a positive impact on their emotions by helping them learn how to identify and process emotions more effectively while also considering the consequences of their reactions. One participant mentioned they enjoyed learning skills to cope with their stress and difficult emotions, with another student sharing, "*It gave me more things to do to calm myself down when I'm angry.*" Additionally, participation in the group increased the self-awareness of participants as they felt more present and aware of their experiences through observing their thoughts, emotions, and behaviors.

At the beginning of the program, each participant set 1 academic and personal SMART (specific, measurable, attractive, realistic, time-bound) goal and then evaluated their progress during the fifth session and at the end of the group. As many of the personal goals participants set for themselves centered on relationships, participants reported improved relationships with their friends, classmates, teachers, and family members due to participation in the program. According to 1 participant, applying the skills they learned in the group setting created the opportunity for them to connect

with a teacher with whom they had previously had a contentious relationship with, leading to improved relationships with other school staff as well. Lastly, 5 students (27.7%) mentioned the safe and confidential nature of the group as helpful and even reported that listening to other people share their experiences fostered a sense of belonging and decreased isolation. Exemplar quotes can be found in Table 1.

Aim 3. Youth Perspective on DBT-A Core Components (Mindfulness, Emotion Regulation, Distress Tolerance, and Interpersonal Effectiveness)

Specifically, regarding the 4 skills taught in the DBT-A program, 66.6% (n=12) of the participants shared that they used the mindfulness skills outside of group. For example, many participants applied these skills to their relationships by being present within the current moment, which enabled them to establish stronger connections with others. Mindfulness skills were found to help participants become aware of others' emotions and their actions toward them. One participant said, *"I try to be mindful of . . . people's space or what I'm saying around other people, just due to the bullies and everything or just stuff that I don't try to insult people."* Additionally, most participants reported that mindfulness skills helped them to become more self-aware. These skills helped participants become more cognizant of their thoughts and feelings, which in turn created opportunities for them to react differently across situations and consider the consequences of their actions. One of the specific practices that 3 separate participants listed was the mindful breathing exercise, which they said helped them calm themselves when experiencing intense emotions. Mindfulness also prevented them from dwelling on negative thoughts by focusing on the present moment rather than judging their thoughts and emotions. One participant expressed that they wished that more time was spent discussing mindfulness and applying skills.

Regarding emotion regulation skills, most participants reported that they were able to identify their emotions and experiences and face them using their skills. This was especially true when it came to intense emotions. Two-thirds of participants (n=12) reported that they appreciated learning emotion regulation skills and were able to provide examples of how they were used or how they helped them. Although some participants spoke more generally, one shared that emotion regulation skills helped them identify their emotions after the loss of a family member, which then helped them to become more open and communicate their grief with their family. The participant reported that applying the skills they learned helped them cope with their grief. A few students shared that their ability to name their emotions and understand how they also influence thoughts, body sensations, and behaviors, among other factors, helped them calm down and methodically think through their actions. Another student

reported that when they used the emotion regulation skills, it helped them increase their awareness of their experiences and realize that they were not doing as well as they typically did; *"I'm just a pretty happy dude most of the time. But they had helped me realize I'm not as good as I usually am. Let's try and fix that."*

After learning about emotions and how to regulate them, distress tolerance skills were used to cope with intense emotions, with 50% (n=9) of the participants expressing favor for using them in some way in their own lives. Utilizing self-soothe skills, in which participants were taught how to use their senses to alleviate distress, was especially beneficial in situations where their emotions were elevated. Several participants reported applying the Wise Mind ACCEPTS skills to help distract themselves in times when they were distressed from experiencing intense emotions. Therefore, distress tolerance skills aided them in getting through the experience without exacerbating their emotions, enabling them to be more effective at achieving their goals. Some participants expressed that these skills were applied and helpful when they were "overloaded" with stress. Distress tolerance skills, such as taking a break and distracting themselves when stressed, helped students to relax and perform better when returning to the task at hand. Participants noted finding the TIPP (Temperature, Intense exercise, Paced breathing, and Progressive muscle relaxation) and IMPROVE (Imagery, Meaning, Prayer Relaxation, One thing in the moment, Vacation, Encouragement) skills particularly beneficial for managing distress.

The fourth core skill taught within the Going for Goals program was interpersonal effectiveness. Over half of the participants (n=10) reported that they liked learning about interpersonal skills and applied them to their relationships in several ways. Overall, many participants reported that interpersonal effectiveness skills helped them improve their relationships after learning and applying the positive communication techniques taught in the program. Interpersonal effectiveness skills helped some students learn to advocate for themselves and talk to others when they needed help. Specifically, a few participants utilized these skills to become more aware of their body language and what it may convey to others. One participant shared that these skills helped them be more respectful when having a difficult conversation with someone. Exemplar quotes can be found in Table 2.

Aim 4. Impact of Specific DBT-A skills on Youth Daily Living

The fourth aimed focused on understanding the impact of specific skills or techniques presented in the DBT-A program on the youth's daily living. Mindfulness skills (eg, mindful breathing and mindful eating) were mentioned as the most helpful by 8 participants (44%). Other participants (n=7; 38.8%) specifically mentioned skills they liked from the distress tolerance "crisis survival toolkit" activity. This exercise

Table 2. Acceptability and Impact of DBT-A Core Components N= 18.

Mindfulness skills		
Key concept	n (%)	Representative Quotes
Awareness of thoughts/feelings	11 (61.1%)	Helped me ". . .think about things that we never really thought about." "I used [to] get angry back with the teacher even though I was the one who was causing things."
Improved relationships	9 (50%)	"It just helped me connect with my parents. . ."
Breathing	3 (16.6%)	". . .breathing in and out. . .it works when I'm angry." Using breathing techniques to help calm down: "When I got into a fight with my mom, I went to my room and I calmed myself down."
Increased focus	2 (11.1%)	Helped me ". . .think and focus on one thing real."
Emotion regulation skills		
Coping with intense emotions	10 (55.5%)	". . .they help to identify what that is and like, accept it and like, you know control it." "It helped me get through a lot, like most of the stuff [referring to difficult times]"
Identifying/facing emotions	6 (33.3%)	I am better able "to identify and deal with [my] emotions." "It taught me how to better understand myself and what I'm feeling, and how my feeling. . ."
Generally helped manage emotions	5 (27.7%)	"It was helpful. . .helped with my emotions."
Distress tolerance skills		
Generally helped manage distress	6 (33.3%)	". . .they taught you how to handle the bad stress. . . and not [keep it] bottled all up in anger."
Used ACCEPTS (Activities, Contributing, Comparisons, Emotions, Pushing away, Thoughts, Sensations) Skills	5 (27.7%)	"Usually what I do to get rid of stress is watch TV or spend some alone time myself and stuff like that."
Used self-soothe skills	3 (16.6%)	"When the teacher started yelling at me for no reason, I just got the stress ball out of my book bag and started squeezing it." "She gave us stress balls. Like if we were mad or anything, we could just like squeeze that and take like the pain away and stuff."
Used TIPP skills	2 (11.1%)	"I calmed myself down. . . I did breathing ex- exercises."
Interpersonal effectiveness skills		
Improved communication	10 (55.5%)	Working on "how to be a good speaker and communicate with them." "I learned to talk more to people about my emotions and not having to go through stuff alone."
Self-awareness in relationships	5 (27.7%)	In difficult conversations "[I could] remain positive and be respectful and stuff like that." Awareness of body language: ". . .that taught me how to pay attention to others. . .like what they were doing and stuff like light body gestures, light gestures and stuff like that."
Generally improved relationships	3 (16.6%)	". . .helped me have more positive relationships."

Note. Percentages may add up to surpass 100 because some participants stated more than 1 impact.

instructed students to make a list of personalized coping strategies to refer to later when in a heightened emotional state. One participant found the take-home practices helpful in applying the skills out of session. Moreover, another participant stated that they kept their handouts and worksheets at home after the program was complete to refer to later to help them cope with distressing situations at home.

There were some techniques reported by participants as least helpful. The most frequently cited techniques were related to mindfulness but were only reported as least helpful by 3 out of the 18 participants interviewed. These participants stated that two of the mindful practices, *Observing a Penny* and *Snap, Crackle and Pop*, were not helpful but rather "annoying" and "confusing," respectively. *Observing*

Table 3. Specific Intervention Skills/Techniques Impact on Daily Lives N= 18.

What did you find most helpful about being a part of group?		
Key concept	n (%)	Representative Quotes
Mindful practices	9 (50%)	<p>“We'd close our eyes, and then she was talking to us. . .And then another activity that we did was, we'd do this number game and we can't. . . point at each other, but we'd have to count all the way up to like, 20 or something.”</p> <p>“It was one morning when we sat and we did some breathing exercises.”</p> <p>“ . . .we did some fun activities, especially the one with the, with the fruit. It's pretty good.”</p>
TIP skills (temperature, intense exercise, paced breathing)	3 (16.6%)	“ . . .the one where you're about to get mad and then. . .you know take deep breaths and calm down before you do whatever again.”
IMPROVE skills (imagery, meaning, prayer, relaxation, one thing in the moment, vacation, encouragement)	1 (5.5%)	“The most helpful activity, like, throughout the whole group, where the one where she's telling you to close your eyes, and then picture you're on a vacation.”
Take home practice	1 (5.5%)	“ . . .they had us do like papers like every Wednesday. . . .”
Self-soothe skills	1 (5.5%)	“ . . .we used our senses, senses and we felt them”
What did you find least helpful about being a part of group?		
Key concept	n (%)	Representative Quote
Mindfulness practices	3 (16.6%)	“That penny one. . .was annoying.”
Take home practice	1 (5.5%)	“ . . .they had us do like little homework that nobody was really doing.”
Emotion Regulation Skills	1 (5.5%)	“I think the emotional ones. How to identify emotions. I mean they were useful but . . .they were the least useful. I guess then, I'm just usually a pretty happy [person].”

Note. Percentages may surpass 100 because some participants stated more than one helpful or least helpful aspect.

a Penny is a practice, where participants practiced observing and not judging an experience, and *Snap, Crackle and Pop* involved practicing being present and focusing on 1 task at a time. However, these responses were in the minority (n=3), as most participants (n=12; 66.6%) reported that they found some aspect of the overall Going for Goals program helpful. Additional exemplar quotes can be found in Table 3.

Discussion

Engagement in high-risk behaviors among adolescents is common.²⁶ For instance, in 2021, only 52% of sexually active high school students reported using condoms during their last sexual encounter, and one in seven students reported lifetime use of illicit substances, which includes the use of cocaine, inhalants, heroin, methamphetamines, hallucinogens, or ecstasy.²⁶ These high-risk behaviors are closely linked with the leading causes of death for adolescents.²⁶ To address these concerning statistics, interventions have been developed targeted at addressing high-risk behaviors among adolescents, including risky sexual behaviors^{8,27,28} and substance use.^{29,30}

To date, there is a small body of research conducted assessing the feasibility, acceptability, and efficacy of implementing DBT-A skills groups in schools to reduce

engagement in high-risk behaviors among adolescents.^{13–16} This body of literature is limited by not only the small number of studies that have been conducted on this topic, but also the geographic location and youth populations included within the studies. Thus, to add to this body of literature, the current study aimed to access the acceptability and impact of a 9-session school-based Dialectical Behavioral Therapy for Adolescents (DBT-A) skills group, entitled *Going for Goals*, conducted with youth attending a public high schools within a metropolitan city in the midwestern United States. *Going for Goals* was implemented to reduce risk for adolescent substance use and other high-risk behaviors by teaching students key skills in mindfulness, emotion regulation, distress tolerance, and interpersonal effectiveness. Study participants reported high levels of acceptability of the *Going for Goals* group, noting that they enjoyed the overall conceptualization and format of the group. In addition to acceptability, participants reported that they appreciated and valued the group because it provided a space where youth could share their experiences, feel heard, and be treated as equals.

The social component of the intervention was also valued, as it allowed participants to interact with other students and expand their friend groups. Participants expressed satisfaction with learning coping skills to manage their stress and emotions. These findings highlight the importance of providing a

supportive and inclusive environment for adolescents, where they can develop the skills to navigate challenges and build healthy relationships. Of the core components of the DBT-A intervention (i.e., mindfulness, emotion regulation, distress tolerance, and interpersonal effectiveness), mindfulness skills were particularly valued by participants, whom reported using mindfulness to improve their relationships, increase self-awareness, and manage intense emotions. Additionally, emotion regulation skills were found to be helpful for participants in identifying and labeling emotions and further discerning connections between those emotions, their thoughts, behaviors, and the potential consequences of their actions. Moreover, distress tolerance skills provided participants with strategies to manage stress. In doing so, the participants were able to cope with their emotions effectively and mitigate unfavorable outcomes. Lastly, interpersonal effectiveness skills improved their communication and relationship-building abilities. Thus, these findings suggest that each of the core components of DBT-A is relevant and valuable for adolescents in school-based settings.

The impact of the Going for Goals group on participants' daily lives was evident in several areas, including emotional awareness, academic performance, and interpersonal relationships. For example, the skills group significantly influenced participants' emotional well-being. Three participants stated that learning distress tolerance skills like TIPP (Temperature, Intense exercise, Paced breathing, and Progressive muscle relaxation) and IMPROVE (Imagery, Meaning, Prayer, Relaxation, One thing in the moment, Vacation, Encouragement) helped lower levels of stress in their daily lives, even outside of school. By learning emotion regulation skills, participants were better equipped to identify and face their emotions, leading to improved self-awareness and the ability to respond to emotional situations more adaptively. Moreover, the acquisition of effective communication skills with peers, family members, and school staff increased participants' self-esteem, gave them the ability to cultivate healthy relationships, and helped them resist negative influences such as peer pressure, all while effectively expressing their needs and opinions.

The skills group also positively influenced students' academic performance, with participants reporting improved grades and increased motivation to complete their assignments. Tracking progress on their SMART goals helped participants practice goal setting, monitoring their progress, and problem-solving and adjusting their strategy if needed to achieve their goals. Despite none of the participants listing goal setting as their favorite or most helpful aspect, identifying SMART goals likely played a part in impacting their grades among other domains they reported improvements in.

Regarding academic performance, some participants reported an increase in positive interactions with teachers and school administrators after practicing interpersonal effectiveness skills learned through the program. Building positive relationships with school staff can foster a supportive environment conducive to learning that may contribute to

improved academic performance and higher grades. Positive interactions can also mitigate impulsive or disruptive behavior by fostering a sense of respect, trust, and cooperation between students and school staff, leading to fewer disciplinary actions at school and may also generalize to interactions youth have with adults at home or outside of school. The intervention also had positive effects on participants' relationships with their peers and family members. Participants reported improved communication skills and a greater sense of connection with others. These findings highlight the potential of the DBT-A skills group to promote positive development, relationship quality, and well-being among adolescents.

Specific skills that may have been particularly helpful, as noted by the participants, were the mindfulness activities, such as mindful breathing and mindful eating. These practices helped participants stay present, calm themselves down, and focus on the task at hand. Almost all participants ($n = 14$; 77%) highlighted and reported continued use of these strategies to help decrease the impact of strong emotions. However, a few participants ($n = 2$; 11%) found certain mindfulness practices less helpful or confusing.

Limitations and Considerations

It is important to acknowledge the limitations of this study. The sample size was small, and the participants were from the same school district located in the midwestern United States, which limits the generalizability of the findings. Additionally, the study relied on self-report measures, which may have been subject to bias.³¹ Future research should aim to replicate these findings with larger and more diverse samples using a combination of self-report measures, objective assessments such as report cards, or collateral data from teachers or caregivers.³¹ Third, interviews were completed one to three months post-intervention. This may have impacted participants' ability to recall certain aspects of the program. Lastly, there is the potential for interpretive bias, by imposing our team's own interpretation on participant's words or over-interpreting statements made by participants. We utilized standardized procedures when conducting our coding analysis, which was also based from theory to minimize this potential bias.

There are also special circumstances that future research needs to consider before replicating this study. When working with schools and their staff, it is important to note that extensive and thoughtful planning is of utmost importance before the intervention begins. Preexisting school events or requirements like club meetings, state-mandated testing, and e-learning days must be taken into consideration when organizing the logistics for the DBT-A groups. Furthermore, overall administrator and teacher buy-in and understanding of what the DBT-A program is based on and what and how students are identified is also critical. We found that without proper school-wide introduction of the program, some teachers were confused, while others did

not provide encouragement that their students to attend every session due to miscommunications between administrators and teachers.

Effective communication with students is also essential. The district where the study groups were implemented did not have a mass communication system accessible to the research team to send students reminders about the time and location of their group sessions. This occasionally led to delayed session start times, limiting group discussion and causing group leaders to feel rushed to cover all content. The research team primarily relied on email for most research activities, discovering that this method is neither preferred nor frequently used by adolescents. Considering alternative ways to remind students of their group sessions, survey deadlines, and interview appointments is crucial.

Future Directions

The findings of this study contribute to the growing body of literature on the feasibility and acceptability of delivering DBT-A in school settings.^{9,13,32–35} Moreover, the positive feedback from participants regarding the intervention's impact on their daily lives underscores the potential of DBT-A to address the unique challenges faced by adolescents during this critical period of development.³³ By understanding the perspectives of youth who participated in the school-based DBT-A skills group, the intervention can be further tailored to enhance its acceptability and efficacy.

Long-term implication of the DBT-A intervention is teaching adolescents skills that can aid in effectively regulating their emotions and coping through stressful situations, which in turn can result in reductions in impulsive behaviors and increases in resiliency. Moreover, by being more effective in managing emotions and impulse control, adolescents may have greater levels of focus and engagement when interacting with others, which could result in improved academic and healthier relationships. Yet, to date longitudinal studies examining these outcomes at multiple timepoints post-intervention completion are scarce. Given that youth are typically in the same school building for several years during high school, this provides the opportunity to test long-term effects of the DBT-A skills group on adolescent skill development (ie, emotion regulation, distress tolerance, mindfulness, and interpersonal effectiveness skills), impulsivity, academic performance, health and well-being months to years post-intervention completion.

Future research can also build from the current study by exploring the feasibility and efficacy of DBT-A in diverse populations and settings. To date, studies have examined the feasibility of delivering school-based skills groups in different countries,^{33,34} among youth in low-income schools,³² rural communities,⁹ and alternative schools.¹⁰ Yet, the total number of studies published is small, requiring more research to confirm the generalizability of DBT-A skills groups across

settings and populations. Moreover, given the diversity of experiences, cultural adaptations to the DBT-A protocol may be needed to make the content more inclusive, with culturally appropriate examples and teaching techniques.³⁶ Such adaptations could also include culturally relevant topics such as discrimination based on race/ethnicity, gender identity, and sexual orientation. Finally, the ultimate goal of this work is to make the DBT-A skills group accessible and sustainable within schools; thus, work is needed to train school staff in DBT-A³⁷ and the delivery of DBT-A skills groups.

Conclusion

Based on the study findings, delivering the DBT-A skills group in school settings is feasible and adolescents who participate enjoy the program with high rates of acceptability. Moreover, findings show promise of the DBT-A skills group delivered in schools in helping adolescents learn skills to increase emotion regulation, decrease impulsivity, and reduce the risk of negative health outcomes. Adolescents in our study reported positive lifestyle changes related to their participation in school-based DBT-A groups, as well as positive changes in their interpersonal relationships. These findings are promising, yet the body of literature on DBT-A in schools is small.

Additional research is needed to confirm the positive impact of DBT-A across school settings and student demographics. Additionally, longitudinal follow-up with participants is needed to determine if the program's effects persist beyond intervention completion. To achieve sustainable DBT-A skills groups in schools, studies are needed that explore optimal methods for training school staff to effectively implement the DBT-A program to fidelity. Engaging with school staff and teacher to collaboratively develop solutions is critical for sustainability of school-based DBT-A skills programs and providing important skills that can aid in reducing engagement in high-risk behaviors among adolescents.

Author Contributions

MacKenzie Whitener, MPH, Indiana University School of Medicine: MacKenzie Whitener contributed to this manuscript by the following: Research study implementation, data collection, data analysis, writing, editor, reviewer. PhD, Indiana University Indianapolis School of Science: Shirin Khazvand contributed to this manuscript by the following: Research study implementation, data collection, data analysis, writing, editor, reviewer. Ian Carson, MS, Indiana University Indianapolis School of Science: Ian Carson contributed to this manuscript by the following: Research study implementation, data collection, data analysis, writing, editor, reviewer. Anna Martin, BS, Indiana University School of Medicine: Anna Martin contributed to this manuscript by the following: Writing, editor, reviewer. Michelle Salyers, PhD, Indiana University Indianapolis School of Science: Michelle Salyers contributed to this manuscript by the following: Co-investigator of research study, development of concept, design, data analysis and

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author, Tamika Zapolski, upon reasonable request.

Declaration of Conflicting Interests

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Ethical Approval and Informed Consent Statements

The study was approved by the Institutional Review Board at Indiana University (IRB# 1610685795) on September 28, 2018. Respondents reviewed assent document and provided written signature before starting interviews. Consent documents were sent to participant's guardian, with an opt-out procedure approved for guardian consent.

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