



Hiding in Plain Sight: What School Psychologists Should Know about Single-session Interventions and Their Potential Utility in Schools

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Abstract

We are in the midst of a youth mental health crisis. Yet, many children and adolescents who need services do not have access to high-quality mental health care. This is especially true for low-income and economically marginalized families and youth of color. Schools offer an ideal setting in which children and adolescents can access services; however, limited resources (e.g., time and training) are frequently cited barriers to providing school-based mental health care. Single-session interventions (SSI; i.e., one-time psychologically and therapeutically based interventions designed to quickly address mental health issues) have the potential to increase access to high-quality school-based mental health services for children and adolescents. Therefore, the purpose of this literature review was to explore the evidence base of single-session interventions for youth to identify brief, empirically supported, and accessible mental health interventions that school psychologists could deliver in schools. Specifically, this review examines the evidence base for several single-session interventions designed for use with various clinical and nonclinical youth populations and concludes with a brief discussion of future directions for SSI research and practice in school psychology, including the use of SSIs in school settings to increase access to high-quality mental health care for children and adolescents that may otherwise not receive care.

Keywords School mental health · Single-session interventions · School psychologists · Children and adolescents

Mental health is a critical aspect of overall health, as it impacts nearly every aspect of a child's emotional and social well-being including their self-esteem, problem-solving abilities, social connection, academic performance, and resilience. Thus, mental health struggles among youth can have pervasive impacts on their daily lives both relationally and academically, making mental health a central issue for youth and all of those who support and care for them (Office of the Surgeon General, 2021). While there have been many valiant efforts within the field of child and adolescent psychology to reduce mental health problems, the rate of mental illness among youth has persisted and, in recent years,

has grown (Centers for Disease Control and Prevention, 2019). The percentage of children and adolescents who report struggling with mental health issues is increasing at an alarming rate. Both the number of school-age youth reporting hopelessness and those reporting making a suicide plan have increased by over 40% in the past decade (Centers for Disease Control and Prevention, 2019).

In a recent feature article, the American Psychological Association (APA) acknowledged these alarming increases as part of a larger national mental health crisis, citing that the work of psychologists is more important now than ever before (Abramson, 2022). However, compounding factors such as cost, location, scheduling, cultural stigmas, and increased demand have created a significant barrier to care for many struggling people and potential patients (Abramson, 2022). Many of the barriers have only become more difficult to contend with as a result of the ongoing COVID-19 pandemic (Abramson, 2022).

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Single-Session Interventions (SSIs)

In order to better serve the population at large, psychologists and researchers must begin to explore ways to break down or circumvent these obstacles (Abramson, 2022). One recently identified mechanism through which to address some of these barriers to care can be found within a growing body of research related to single-session interventions (SSIs). Single-session interventions are one-time psychologically and therapeutically based interventions designed to quickly address major areas of difficulty, related to depression, anxiety, body image, and a number of other common youth mental health issues. These stand-alone interventions are thought to be complete sessions of psychotherapy with a beginning, middle, and end that do not require future sessions in order to be effective (Bertuzzi et al., 2021). Not only do these interventions provide brief relief and optimize the likelihood of a client's growth, but in some cases, they appear to spur lasting change, as well as propel the idea that change is possible in one session (Abramson, 2022).

SSIs tackle a number of the logistical barriers to psychological care related to cost, time, and scheduling. The majority of studied SSIs have been delivered in online settings, further increasing their utility. Data suggests that even when extensive therapy is recommended by a mental health professional, many patients do not choose to return after their initial appointment for a wide variety of reasons (Hoyt & Talmon, 2014). Thus, SSIs not only provide an alternative to cost and time barriers to care, but they also address immediate patient needs rather than providing a longer course of treatment, which is characteristic of various widely used, evidence-based psychotherapies. This feature makes SSIs a more manageable approach to care for some patients, especially those who might be resistant to seeking treatment, and less susceptible to client attrition (Schleider et al., 2022). They have the potential to offer patients brief therapy options, as opposed to requiring them to attend a specific number of sessions. Scholars have argued that this may make them a more attractive form of therapy for those who are resistant or cannot dedicate the required resources to more comprehensive treatment (Dryden, 2018).

SSIs incorporate skills, information, and useful therapeutic strategies into one session rather than relying on the assumption that patients will return to subsequent therapy sessions.

Additionally, SSIs can be used as a "tide-over" measure for those seeking additional therapy while on waiting lists, thereby increasing their potential motivation for treatment and preventing the worsening of conditions (Schleider et al., 2022).

Challenges with Evidence-based Treatments and Community-based Care

Though evidence-based treatments and comprehensive care for mental health issues are common in clinical settings, many evidence-based interventions require a significant investment of time and other resources from patients who may have limited resources. Researchers have also noted the challenges in scaling up evidence-based mental health treatments to meet the current mental health needs of youth (Abramson, 2022). Common barriers to accessing care in community include lack of perceived need, inconvenience and/or difficulties with scheduling, stigma, financial burden, fear of judgement and/or racism, shortage of clinicians, and mistrust of service providers especially for those with minoritized identities and youth from low-income or rural backgrounds (Abramson, 2022; Castro-Ramirez et al., 2021; Vidourek et al., 2014). Additionally, the majority of available mental health treatments have been studied with Western educated, industrialized, rich and democratic (WEIRD) populations thereby limiting their generalizability for use with other individuals (Henrich et al., 2010; Rad et al., 2018).

Continuum of Mental Health Care and Study Aims

In recognizing the continuum of mental health care, services can range from one-time interventions (i.e. SSIs) to other brief, time-limited treatments (i.e., solution-focused brief therapy or interpersonal psychotherapy) to longer and more intensive services such as outpatient therapy, day treatment programs, partial hospitalization, and residential treatment facilities or care delivered in hospital settings. It is important for school-based mental health professionals to be knowledgeable about the options for mental health care, so they can help to meet the growing mental health needs of the students they serve.

For these reasons, a thorough investigation regarding the mechanisms and effectiveness of SSIs is warranted to promote an empirically supported, public health response to the devastating rates of mental health difficulties among youth. The purpose of this literature review was to explore the evidence base of single-session interventions for youth to inform future research and identify empirically supported, brief, and accessible mental health interventions to address the youth mental health crisis in school settings. Specifically, this review examines the mechanisms and effectiveness of single-session interventions for various clinical and nonclinical youth populations and concludes with a discussion of future directions for SSI research and practice,

including the expanded use of SSIs in school settings to increase access to high-quality mental health care for children and adolescents that may otherwise not receive care.

Method

In approaching our review of the literature, we were guided by the 2020 PRISMA checklist (e.g., specifying eligibility criteria, information sources and search strategies). However, we did not endeavor to conduct a systematic review that would include all available literature on SSIs including “grey literature” (i.e., theses, dissertations, abstracts/conference proceedings, and other grey literature sources). Our primary aim was to conduct a literature review of peer-reviewed journal articles to bring together information on SSIs to provide an overview of the available empirical literature for practicing school psychologists. We believe that literature reviews serve as an important first step in perusing a topic for further study and can help professionals to get an idea of the current state of the science available and provide context for practice and research.

The researchers identified eligible studies for inclusion in this review using the following criteria: (a) published in peer-reviewed journals; (b) published from 2000 to 2023; (c) treatment studies or meta-analyses focused on SSIs; and (d) focused on school age youth. Information sources included the PsychInfo, PubMed and Google Scholar databases. Search strategies included (a) using variations of the following keyword combinations: *single session intervention(s)*, *child and/or adolescents*, and *mental health and intervention/treatment*, (b) working with a research librarian to identify alternate strategies and refine the search strings, and (c) ancestral searching which involved reviewing the references from studies that met inclusion criteria. After the screening process was complete, the researchers assessed each article for quality including evidence of its relevance, reliability, validity, and applicability consistent with prevailing guidance.

Results

Current Research Regarding Single-Session Interventions (SSIs)

SSIs and Youth and Adolescents with Mental Health Issues

While the field of single-session therapy as a whole is ripe for empirical study, the general question of “is single-session therapy effective” is quite broad and difficult to tackle conceptually. Thus, much of the research produced within

the field of psychology thus far is in the form of studies looking at whether specific single-session interventions are effective for ameliorating a predetermined set of psychological symptoms. These specific studies, as well as limited number of meta-analyses produced based on their findings will be discussed in the following section.

The first major comprehensive review of the extant literature related to SSIs consisted of clinical overviews, program descriptions, case presentations, and a few uncontrolled outcome studies, given a lack of methodological rigor at the time (Bloom, 2001; Campbell, 2012). Findings indicated that SSIs were somewhat effective for various psychological difficulties, and interpersonal conflicts in youth and adults (Bloom, 2001). During the early 2000s, there was limited growth in the research base of SSIs, with most studies focusing on limited one-time experimental data and brief narrative literature reviews that indicated the efficacy of SSIs (Campbell, 2012; Schleider & Weisz, 2017). Additionally, a meta-analysis conducted by Weisz and colleagues (2015) found that the number of specified sessions in a treatment protocol demonstrated no relation to the effectiveness of the treatment, suggesting that more sessions do not necessarily equate to better treatment. This can be understood as a crucial first step towards what eventually evolved into the development of single-session interventions. Though most of the research focused on SSIs within the field of psychology has been based on individual studies, Schleider and Weisz (2017) conducted a meta-analysis to explore the efficacy of single-session interventions on the psychiatric problems of youth. Specifically, this meta-analysis explored the effects of SSIs on specific phobias, disruptive behavior disorders, and overall dysfunction, assessing whether and to what extent, SSIs are effective, and whether their effectiveness varies as a function of various factors (e.g., youth problem type, demographic factors, prevention versus treatment programs, youth-versus parent-focused programs, etc.)

In this study, the researchers used a weighted, random-effects meta-regression model to test the overall effect of SSIs compared with control conditions across the results of 299 randomized control trials (RCTs). The mean effect size resulting from this analysis was 0.32 and the probability that a youth receiving SSI would fare better than a youth in a control group was 58%. Effect sizes were shown to be larger when compared to no treatment controls (0.46) rather than active controls (0.14), which is somewhat expected. Additionally, effect sizes decreased in follow-up conditions exceeding 13 weeks, suggesting short-term utility. However, given the logistical difficulties and current experience of many patients facing long waiting lists, this should not be used to discount the importance of SSIs, but rather inform how they should be utilized. It is possible that SSIs may serve as the complete, necessary therapy experience for

some while serving only as a “band-aid” until more comprehensive treatment is available for others.

Schleider and Weisz (2017) also found that effects were consistent independent of youth diagnostic status, suggesting the effectiveness of SSIs in youths with both psychiatric disorders, as well as subclinical problems. The researchers concluded that the lack of distinction between the groups suggests that SSIs might be a gateway to reach youth and stave off the development of diagnosable psychological difficulties by addressing issues before they reach a point of detrimental impairment.

In terms of types of mental health difficulties, the researchers found the largest effect sizes for youth with anxiety (0.56) and conduct problems (0.54) Schleider and Weisz (2017). They found that SSIs addressing youth depression and eating disorders showed promising, yet statistically insignificant overall effect sizes, suggesting areas for further research. Effect sizes were weakest in the studies testing SSIs for youth with substance abuse (> 0.1), though it is worth noting that very few studies explored this particular area of disorder. Schleider and Weisz (2017) hypothesized this may be attributed to a cyclical pattern in which the studies conducted produce limited and underwhelming results, thereby deterring further research in the area. Regarding the differences in effect sizes among different disorders, the researchers cited the use of concrete therapeutic strategies and the early onset of anxiety and conduct problems as possible mediating factors for effect size, as these have been linked to treatment success. Additionally, Schleider and Weisz (2017) hypothesized that younger children have not had the same amount of time to solidify maladaptive patterns, possibly making them more malleable to a shorter intervention, which is critical in terms of when these interventions may have the most impact. Finally, they believed that lower effect sizes related to depression, eating disorders, and substance use could be explained by their relation to motivational difficulties that may require more intensive intervention engagement than SSIs can offer.

Regarding intervention type and target population, Schleider and Weisz (2017) found the largest effect size (0.74) for youth-focused cognitive-behavioral approaches (CBT), which is of particular importance to researchers and practitioners, as this indicates a solid framework within which SSIs can be developed. Findings indicated no difference in effect size when comparing self and therapist administered SSIs, which has implications for increasing access for those who may not be particularly comfortable meeting with a therapist due to personal beliefs or societal expectations. Taken together, these findings highlight the potential benefits of SSIs and create an empirical foundation for broader research to explore how and for whom SSIs can have a lasting positive impact.

SSIs and Non-Suicidal Self-Injury (NSSI)

While some studies have investigated youth anxiety and depression as outcomes of specific SSIs, other researchers have focused on the use of SSIs to treat non-suicidal self-injurious (NSSI) behavior. Although some may think that self-injurious thoughts and behaviors (SITBs) are too severe to be addressed through brief treatment as a single-session intervention, one recent study seems to indicate that SSIs may have some benefit with regard to this type of symptomatology (Dobias et al., 2021). Identifying effective intervention for the treatment of SITBs is particularly important given its prevalence amongst adolescents and their association with distress and in some cases, future suicidal behavior. Generally speaking, the body of research regarding existing interventions for SITBs has resulted in ineffective and largely inaccessible treatment plans (Dobias et al., 2021), which have been attributed to a number of factors including, but not limited to, high rates of attrition, and low engagement. Among adolescents who recently attempted suicide, more than 25% did not attend their scheduled outpatient sessions after an emergency department discharge, and another 10% of adolescents attended only a single session (Granboulan et al., 2001). Thus, the exploration of SSIs for the treatment of SITB seemed to be a logical next step in the progression of research within this area, especially given that these behaviors have been found to be associated with high rates of attrition and most often emerge during adolescence (Nock et al., 2013), which is a developmental period particularly well-suited for brief interventions that promote youth autonomy. For example, youth-initiated, web-based SSIs circumvent the “parent gatekeeper effect,” which refers to the idea that many adolescents go without mental health care due to the absence of parental support or fear of judgement (Dobias et al., 2021). Self-directed SSIs for SITBs have the potential to mitigate the effects of stigma and the variety of difficult emotions associated with these thoughts and behaviors, including self-hatred, while also providing anonymity and empowerment (Dobias et al., 2021).

To test the effects of a self-directed online SSI designed to target and reduce NSSI and suicidal ideation SSI, Dobias and colleagues (2021) conducted a nationwide randomized control trial ($N = 565$) testing the short-term utility and 3-month follow-up effects of Stopping Adolescent Violence Everywhere (Project SAVE). To this author’s knowledge, this study represents the first large-scale RCT to assess a self-guided SSI versus an active control for adolescents engaging in self-injury. The intervention sought to normalize and de-stigmatize feelings of self-hatred, while also empowering youth to formulate alternative coping strategies. The researchers evaluated the effectiveness of the intervention by measuring the adolescents’ frequency of

NSSI in both groups three months following the intervention, as well as the likelihood of future NSSI immediately.

following the intervention, and the frequency of suicidal ideation three months later. Additionally, the study examined whether Project SAVE improved participants' desire to stop non-suicidal self-injury and self-hatred. Finally, they evaluated the impact and acceptability of the intervention by measuring the adolescents' quantitative feedback and intervention completion rates.

Over 75% of participants completed the intervention, far higher than any other noted intervention, and adolescents generally rated the intervention as acceptable. Taken in tandem, this demonstrates the feasibility of an SSI with this population. Compared to the control, Project SAVE predicted significantly greater desires to stop future NSSI post-intervention, as well as significant reductions in self-hate (-0.35) from pre-to postintervention. However, the intervention did not influence the perceived likelihood of engaging in future NSSI compared to the control, and no differences emerged in 3-month SITBs by intervention condition. Overall, this intervention produced short-term improvements in clinically relevant domains, which is crucial given the volatility of SITBs, and was found to be highly acceptable to adolescents. Further, this study provides some initial support that SSIs have utility for treating more severe forms of youth psychopathology and researchers should not shy away from exploring whether SSIs may have benefit with "more extreme" behaviors that patients demonstrate (Dobias et al., 2021).

SSIs and Non-Clinical Populations

Several studies have also explored the broad effects of single-session interventions with non-clinical populations. Bu and Duan (2019) investigated positive cognitive interventions for students in their first year of university, given college students' risk for increased negative.

behavior and decreased mental health and well-being. The researchers developed a single-session intervention that drew from a combination of CBT and positive psychology, focusing specifically on character strengths, which have been found to be significantly associated with self-esteem, self-efficacy, subjective well-being, and psychological well-being (Bu & Duan, 2019).

These authors posited that other approaches to addressing this turbulent time in the life of adolescents failed to account for their strengths, resources, and abilities by primarily focusing on specific diagnoses and pathology (Bu & Duan, 2019). The intervention utilized the "aware-explore-apply" framework, adapted from Niemec (2013), which guided students through identifying their strengths, connecting their strengths to deeper meaning, and setting goals as

to how they can use their strengths. Overall, findings indicated the single-session intervention had favorable effects in decreasing participants' negative emotions as measured by the Depression-Anxiety Stress Scale (DASS-21) one week and three months following the intervention. (Bu & Duan, 2019). Additionally, participants' level of "thriving" as measured by the Brief Inventory of Thriving (BIT) appeared to improve one week following the intervention, but gains diminished by the three-month follow-up timepoint. The researchers hypothesized this could be explained by the unmeasured self-practice of the intervention activities in the lapsed time (Bu & Duan, 2019). However, these results are consistent with the pattern of short-term gains, rather than long-term benefits found in the aforementioned SSI meta-analysis (Schleider & Weisz, 2017).

In a related study, Duan and Bu (2019) conducted an RCT to investigate the efficacy of a similar character-strength-based cognitive SSI on enhancing adaptability in a population of university freshmen. Participants ($N=38$) were randomly divided into intervention and control groups, with those in the intervention group engaging in a 90-minute SSI. The intervention consisted of four activities following a CBT model (two activities linked to cognition and two to behavior) that were related to character strengths and goals. Those in the intervention group showed a significant increase in well-being, as measured by the BIT, as well as a significant reduction in anxiety and depression, both post-intervention and at the one-week follow-up (Duan & Bu, 2019). However, stress levels appeared to only be impacted at the follow-up, suggesting that SSIs may have latent effects (Duan & Bu, 2019). Manipulation checks were performed in order to verify that results were due to the intervention rather than other compounding factors.

Overall, this particular SSI appeared to quickly reduce negative affect and elevate well-being in this population, though the results should be interpreted with caution as no long-term measures were utilized, and the sample size was relatively small. Taken together, the results of these two studies suggest that single sessions may be well-suited for helping college students quickly enhance their well-being, which may be beneficial during times of rapid adjustment such as transitioning between school settings or developmental life stages. Furthermore, the single-session model used in these studies emphasizes goals and the strategies chosen by clients themselves, which may be particularly attractive for youth and adolescents as it satisfies their common desire for self-sufficiency and to solve problems independently (Birlleson et al., 2000).

SSIs and Growth Mindset

In addition to delivering SSIs to young adults transitioning to college, another area that has garnered research attention is the study of growth mindset SSIs. Simply stated, a growth mindset is the belief that personal capabilities are malleable, while a fixed mindset conceptualizes such traits as set. Growth mindset is highly linked to the strengths-based intervention previously described (Duan & Bu, 2019). A growth mindset framework promotes a positive, problem-solving, rather than a helpless response, to setbacks. Traits associated with fixed mindsets, as opposed to growth mindsets, have been found to correlate with higher levels of internalizing and externalizing symptoms of psychopathology in adolescents (Romero et al., 2014). This intervention differs from many other SSIs within the field as it does not directly target depressive or anxious symptoms but rather some of the core cognitive beliefs linked to both areas of impairment (Schleider & Weisz, 2017).

When SSIs use the growth-mindset framework they present a unique, mechanism-targeted approach to reducing youth psychopathology (Schleider & Weisz, 2016). To examine the impact of SSIs using the growth-mindset framework, Schleider and colleagues (2016) conducted an RCT with a sample of children ages 12–15 ($N=96$) who were experiencing or at risk for internalizing problems to test whether growth-mindset SSIs reduced known risk factors for anxiety and depression in youth. The 30-minute intervention was delivered remotely and consisted of an introduction to the concept of neuroplasticity, testimonials from older students, common questions and misconceptions related to the topic, and an exercise in which participants were asked to write about the new information they had learned. When compared to a supportive therapy control, the digital growth-mindset intervention appeared to strengthen adolescents' perceived control and growth mindset mentality. Additionally, those in the SSI group demonstrated a quicker return to their baseline stress level on lab-based social stressor tasks, suggesting that growth mindsets and perceived control were linked with faster recovery from stressful situations for these youth. This study has important implications for youth mental health care as it represents (to the authors' knowledge) the first empirical investigation of a growth mindset intervention that yielded intervention effects for young people at risk for and/or already experiencing clinically significant internalizing difficulties (Schleider et al., 2016).

Although early research demonstrated the promise of SSIs in the prevention and treatment of youth psychopathology, findings indicated that the effects of such interventions did not endure over time and demonstrated greater benefits for those struggling with anxiety as compared to those with depression or comorbid issues (Schleider & Weisz, 2017).

In order to further investigate the potential benefit of SSIs over time with a sample of high-risk youth, Schleider and Weisz (2018) examined a brief (i.e., 30 min), self-administered growth mindset SSI with adolescents between the ages of 12–15 ($N=96$). Participants were considered to be high risk for psychopathology and symptomatic if they met one of three criteria; an elevated T-score on the Revised Child Anxiety and Depression Scale- Parent Version (RCADS-P), receiving school-based accommodations (Individualized Education or 504 Plan) for anxiety or depression-related symptoms or had sought treatment for anxiety and/or depression within the past 3 years. Exclusion criteria included psychosis, intellectual disability, pervasive developmental/autism spectrum disorder, and suicidal ideation leading to hospitalization or attempts within the past year. Eligible participants were randomly assigned to receive the brief, computer-guided growth mindset intervention or a supportive therapy control related to emotional expression.

Following the intervention, participants who received the growth mindset intervention experienced significantly greater improvements in parent-reported depression (effect size = 0.6) and anxiety (0.28), as well as in self-reported depression (0.32) and perceived behavioral control (0.29). The participants in the intervention group also experienced more rapid improvements in parent-reported depression, youth-reported depression, and perceived behavioral control across the follow-up period, compared to the control group. These findings have important implications for extending growth mindset interventions beyond clinical populations (Schleider & Weisz, 2016) to high-risk youth experiencing subclinical symptoms of depression, and to a lesser degree, anxiety (Schleider & Weisz, 2018). Reduced symptomatology and perceived behavioral control remained consistent at the nine-month follow-up, which suggests long-term benefits of SSIs for this population. Though the study demonstrated insignificant immediate effects related to self-reported anxiety, at the nine-month follow-up the effect size for this group improved (0.33), suggesting a previously undocumented latency effect for SSIs (Schleider & Weisz, 2018).

A follow-up study utilizing the same intervention data sought to investigate whether pre- to-post-intervention shifts after the growth mindset SSI matched the researchers' hypotheses of how and why internalizing symptoms were reduced (Schleider et al., 2019). Previous literature had demonstrated a correlation between participants' immediate mental health gains and longer-term related outcomes, however, how these concepts are intricately linked remained unclear.

Thus, the researchers sought to clarify predictors of SSIs effectiveness to better understand the likelihood of who might benefit from standalone SSIs, compared to those

that may require supplemental treatment. To examine these relationships, the researchers compared perceived behavioral (primary) and emotional (secondary) control in the participants to shifting mindsets. The results of this secondary data analysis indicated that large immediate increases in participants' behavioral control predicted more significant declines in their depressive symptoms during various time points, while immediate increases in emotional control predicted declines in anxiety symptoms. Additionally, findings indicated that immediate changes in growth personality mindsets did not predict subsequent symptoms in either category. These results suggest that immediate shifts in specific target areas, rather than internalization of overall broader concepts, may predict longer-term symptom reductions following an SSI for youth anxiety and depression (Schleider et al., 2019). While this study cannot completely explain how and why a growth mindset intervention is effective for youth with anxiety and depression in the long term, it helped to articulate some of the necessary components, specifically behavioral and emotional change, for creating a lasting impact with SSIs.

A related study conducted by Schleider and colleagues (2020) explored how growth mindset SSIs may offer an avenue through which coping can be taught and setbacks (e.g., peer rejection, academic struggles, and psychological distress) can be conceptualized in a positive, approachable manner as adolescents' mindsets shape their cognitive interpretations and responses (Paunesku et al., 2015). The researchers hypothesized that this type of intervention could be a key strategy for improving adolescents' internal locus of control and mitigating various psychological symptoms related to maladaptive cognitive biases (e.g., depression anxiety, conduct problems), which are particularly important during the adolescent developmental period (Short & Spence, 2006). Thus, Schleider and colleagues (2020) tested a growth mindset single-session intervention among female adolescents ($N=222$) presenting with depressive symptoms, social anxiety symptoms, and conduct problems in order to assess how it impacted their cognitive biases and overall symptomology. Schleider et al. (2020a) chose to conduct this study by utilizing participants from four rural, low-income high schools in the southeastern United States as of way of working with a population to whom SSIs may be particularly relevant, as they face both financial and geographic barriers to care. Participants were randomly assigned to receive either the growth mindset SSI or a brief, computer-based active control related to healthy sexual behaviors (HEART). When compared to adolescents in the control condition, students in the intervention group demonstrated greater reductions in depressive symptoms from baseline to a four-month follow-up; however, these improvements were modest. The growth mindset SSI was found to have no

significant effect on social anxiety symptoms nor conduct problems. In fact, conduct issues increased in participants across conditions during the study period. While the impact on depressive symptoms was considered to be modest, it is important to acknowledge that this is a brief, free, self-administered intervention, making it a good option for many young people who cannot access mental health care for a multitude of reasons such as geographical barriers, resource constraints, availability of providers and cultural factors. Findings from this study lend additional support to the body of literature indicating that growth mindset SSIs can reduce depressive symptoms in adolescents, which is crucial given that depression continues to be a leading cause of youth illness and disability. Furthermore, this study is the first (to the author's knowledge) to observe such an effect within a rural sample, and in doing so, has important implications for improving access to care in historically under resourced rural communities.

SSIs and School-Based Applications

As noted earlier, SSIs are particularly relevant in the current climate of mental healthcare as they circumvent many barriers to care, such as cost and transportation burdens, and create a mechanism through which access to psychological care may become more equitable (Abramson, 2022). For many youths, their initial (and in many cases only) interactions with mental healthcare occur in the school setting (Schleider et al., 2020a). Not only do schools provide a natural setting in which mental health professionals can reach a large number of youths, but they also serve as the only accessible point of care in many rural, urban, and low-income communities (Schleider et al., 2020). Additionally, many students report stressors that are related to school-based experiences, and providing interventions in a natural setting (i.e., where students typically spend the majority of their time and experience these stressors) may allow for greater impact and generalizability (Shapiro et al., 2016). Finally, the brief nature of SSIs makes them particularly well-suited for school-based treatment given the limited time and resources schools often have to contend with in delivering mental health services. Therefore, it is important to explore how cost-effective, brief interventions for youth, such as SSIs, may be effectively implemented in school settings.

To explore the feasibility and acceptability of an adolescent-targeted, school-based SSI that employed CBT and mindfulness techniques, Shapiro and colleagues (2016) examined the effects of an intervention consisting of four key components: decreasing stigma, psychoeducation, coping skills, and follow-up with students in the ninth grade ($N=565$).

Participants completed a variety of instruments related to their experiences of stress, including current levels and strategies for management, as well as surveys related to their satisfaction and understanding of the intervention program. Prior to the intervention, approximately one-third of the participants reported moderate to high-stress levels, and nearly all students reported limited use of stress reduction strategies. It is also interesting to note that many students endorsed wanting to learn more about stress management and furthering their skills, outlining a need for this type of intervention. Following the intervention, 80% of participants rated the program as “good” or “excellent” and reported a high understanding of the material and willingness to use the strategies taught in session (Shapiro et al., 2016), providing initial support for the use of SSIs in the school setting. Interestingly, female students reported higher levels of satisfaction with the program, which may be something to consider in future design of SSIs.

Another school-based study conducted by Mio and Matsumoto (2018) utilized a large sample ($N=465$) in Japan and found similarly promising results. The researchers delivered a cognitive-behavioral therapy-based 50-minute SSI, designed to target reducing participants’ irrational beliefs, a known factor in both youth anxiety and depression. Students in the intervention group indicated that the intervention not only significantly reduced their irrational beliefs, but also increased their self-esteem. Again, these findings lend support for the feasibility and utility of SSI programs in schools, both to target specific mental health issues and promote universal mental health. However, given that this and other SSI studies were conducted outside of the U.S., future research should examine their effectiveness with samples of U.S. students.

Though most school-based SSIs examined as part of this review were tailored toward general stress management or universal health promotion, several studies have examined specific mental health issues. For example, Diedrichs and colleagues (2015) evaluated an adapted version of the “Dove Confident Me” intervention, which is a 90-minute SSI designed to address issues related to body image for adolescents of all genders. Though body image issues are a common mental health issue experienced in adolescence (Al Sabbah et al., 2009; Lock, 2015) and there is a substantial research base in this area (Lock, 2015; Stice et al., 2007), few of the most promising evidence-based interventions have been used in school settings (Linardon et al., 2019). To address this need, the researchers investigated whether a 90-minute, teacher-led version of the Dove Confident Me intervention helped to promote a healthy body image for students. The students in the sample ($N=1,495$) consisted of children ages 11–13 years, enrolled in school in Southern England. Following the intervention, participants reported

improvements related to negative affect, dietary restraint, eating disorder symptoms, awareness of sociocultural pressures, and life engagement. However, effect sizes were small to medium (0.19–0.76) and were not maintained at follow-up (Diedrichs et al., 2015). Additionally, there were no significant differences at post-intervention or follow-up, in the areas of body satisfaction, appearance comparisons, teasing, appearance conversations, and self-esteem (Diedrichs et al., 2015). Overall, results appeared to be more beneficial among female-identified students when compared to male-identified students. Taken together, this study highlights both the strengths and potential limitations of SSIs. Specifically, as was demonstrated in the case of highly anxious individuals and those struggling with substance abuse, SSIs may not be appropriate for every clinical population as a standalone treatment. However, by exploring for whom SSIs are and are not effective, researchers and practitioners can better develop effective and acceptable interventions to increase access to high-quality mental health care while also considering SSIs as adjunct treatments when clinically indicated.

Conclusion

To date, research has shown that single-session interventions may serve as a viable option in meeting the mental health needs of youth by offering brief, accessible supports, which may be particularly important for reducing mental health disparities for marginalized youth. This modality of intervention provides a time and cost-effective alternative to extensive psychotherapy and can be utilized to address multiple clinical and subclinical mental health issues for youth in a variety of settings, especially in school settings where time for individual therapy is often extremely limited. Though originally thought to have only short-term implications, recent research has indicated that these interventions may have longer, and even latent effects that have not been previously identified (Schleider & Weisz, 2018). However, even if simply utilized for short-term gains and as “boosters” in periods of transition, these interventions provide relief and ameliorate mental health symptoms in both general and clinical populations of youth and adolescents (Bu & Duan, 2019; Schleider & Weisz, 2017). Promising results have been demonstrated for youth struggling with anxiety, depression, conduct disorders, and eating disorders to various degrees (Schleider & Weisz, 2017; Schleider et al., 2020a; Diedrichs et al., 2015; Fu et al., 2015). It appears that interventions based on CBT principles, growth mindset, and the exploration and application of personal strengths translate well into SSIs, though further exploration regarding content is warranted (Duan & Bu, 2019; Schleider & Weisz,

2018; Schleider et al., 2020a; Shapiro et al., 2016; Schleider et al., 2016). Additionally, SSIs provide a cost-effective, time-limited approach to mental healthcare that increases access for many who have not engaged or have struggled to remain engaged in treatment for various reasons. These same factors also make SSIs particularly adaptable to the school setting, which has the potential to scale up evidence-based interventions and, in doing so, increase access to a greater number of youths who would benefit from treatment (Bu & Duan, 2019; Mio & Matsumoto, 2018; Shapiro et al., 2016; Schleider et al., 2020a). In learning more about SSIs, school psychologists (and other school-based mental health professionals) have the potential to expand access to high-quality mental health services in schools, which is consistent with increasing calls to support students holistically and engage in equitable practices to reduce longstanding educational and mental health disparities.

Limitations and Future Directions

This review represents an important first step in expanding school psychologists' knowledge of research focused on SSIs and highlights their potential utility in addressing youth mental health issues in schools. Although findings underscore the potential value of SSIs in overcoming common barriers to mental health care, it is important to note the limitations of the current evidence base and this review. First, many of the studies reviewed demonstrated small to moderate treatment effects, lacked duration of positive effects post-intervention, and were not conducted in the U.S. Another potential limitation includes the risk of bias, such as selection bias and publication bias in the studies reviewed. For example, Owens notes that "it is often preferable to publish studies which have demonstrated statistically significant results even though studies with results that do not demonstrate statistical significance may be very clinically significant, and thus important to the findings of a systematic review, especially for clinical providers" (2021, p. 71). Third, because the current study was not a systematic review, it is possible that existing literature focused on SSIs with youth in school settings was not included in this review.

These limitations could be addressed by future researchers conducting systematic reviews adhering to PRISMA guidelines, including the use of quality assessment tools to assess studies for quality and bias. To our knowledge, a systematic review of the effectiveness of SSIs for youth with common mental health disorders has not yet been conducted. This would represent an important contribution to the literature in alignment with a recent systematic review focused on the effectiveness of SSIs for adult common mental health disorders (Kim et al., 2023) and help to expand

our current knowledge about the outcomes associated with providing SSIs to school age youth.

Furthermore, given the potential of SSIs to increase access to much-needed youth mental health care and, thus, create more equitable school-based mental health services, future researchers should investigate youth mental health outcomes and the feasibility and acceptability of SSIs delivered exclusively in school settings. Specifically, the development and pilot testing of SSIs grounded in CBT principles to treat adolescent anxiety and conduct problems should be expanded given previous research demonstrating the largest treatment effects for these types of SSIs. Additionally, issues of cost-effectiveness, type of modality (e.g., telehealth, face-to-face individual and/or group delivery), and comparisons to treatment-as-usual represent important issues for future researchers to consider. For example, Schleider and colleagues (2020) suggest that the future of SSIs may lie in web-based SSIs, as these have demonstrated promising results, provide easy scalability, and may reach those who have been previously resistant to mental health treatment. It is important for school psychologists to expand their knowledge and training related to brief, evidence-based mental health interventions like SSIs to find new ways to meet the ever-increasing mental health needs of youth and work toward equitable educational and mental health outcomes for *all* youth.

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