

STUDENT PERCEIVED HELPFULNESS OF SCHOOL-BASED MENTAL HEALTH
SERVICES

by

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To the relentlessly curious

*"Man's mind cannot grasp the causes of events in their completeness,
but the desire to find those causes is implanted in man's soul."*

*War and Peace by Leo Tolstoy,
Translated by Aylmer Maude and Louise Maude*

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Ashley Elizabeth Muller

ABSTRACT

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Poor adolescent mental health in the United States has reached a crisis point (OSG, 2021). Due to this adolescent mental health crisis, schools have become the primary access point for students to receive mental health services (Ross et al., 2020). These school-based mental health services (SBMHS) are often assessed by outcome variables like teacher feedback and symptom change metrics (Foulkes & Stapley, 2022). Student perception outcome measures like perceived helpfulness may be beneficial to complement the current SBMHS evaluation literature (Morgan et al., 2020). To date, there have been no quantitative studies that explore student perceived helpfulness of SBMHS. The goal of this dissertation is to explore the student perceived helpfulness of SBMHS. In this study, I will assess five different types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. I will use a large national data set called *Monitoring the Future* to explore these five different types of SBMHS and student perceived helpfulness. The results of this study will add to the SBMHS literature and inform researchers and stakeholders on student perceived helpfulness of SBMHS.

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CHAPTER ONE

INTRODUCTION

The mental health of adolescents in the United States is a major concern of parents, adolescents, and society at large (Lopes et al., 2022; Office of the Surgeon General [OSG], 2021). Approximately 49.5% of adolescents meet the criteria for a mental health disorder at some point in their young lives (National Institute of Mental Health [NIMH], 2021). According to best estimates, these rates alarmingly continue to worsen (Gimbrone et al., 2022; Keyes et al., 2019; Mojtabai et al., 2016; Twenge et al., 2019). Researchers have identified some factors that have led to the sharp increase in poor mental health among adolescents, yet they still do not fully understand all the factors that have led to this increase (OSG, 2021). Certainly, one of the factors is that the developmental stage of adolescence has fundamentally changed in the previous generation (Benvenuti et al., 2023). Each generation faces unique challenges that affect mental health, but the past generation has seen particularly rapid changes in the lifestyle of adolescents (Benvenuti et al., 2023). Technological advances, social media, COVID-19, and increasing academic expectations have all changed the experiences and multiplied the stressors of adolescents (Benvenuti et al., 2023). It is crucial to rigorously study and analyze adolescents to find effective mental health treatments, especially given the worsening mental health of this population.

Given the mental health crisis for adolescents, effective mental health treatment for adolescents is essential. Mental health services struggle to meet the demand for mental health concerns, especially with adolescents (American Academy of Child and

Adolescent Psychiatry [AACAP], 2023). Due to this struggle to keep up, schools have become the frontline mental health care providers for adolescents, whether they are equipped or not (AACAP, 2023). Some people consider schools an appropriate and well-positioned place for adolescents to receive mental health services due to the ease of access for students (Ali et al., 2019; Ross et al., 2020). However, it is often challenging for schools to provide mental health services because schools are often understaffed, underfunded, and under-resourced for educational purposes, let alone mental health purposes (Kittelman et al., 2018). Funding has been flowing into school-based mental health services (SBMHS) (United States Department of Education, 2023), yet this funding is still inadequate. Furthermore, competing stakeholders are frequently in conflict about the way funds should be distributed (Hoover & Bostic, 2021). Schools struggle with these disjointed efforts and are often required to prioritize a select number of students who are in crisis instead of the mental health of all students (Kittelman et al., 2018). Due to these factors, SBMHS are likely not as effective as they could be if they had the proper resources and support (Kittelman et al., 2018). Clearly, there is a need to evaluate the effectiveness of SBMHS.

Evaluating SBMHS as a whole is a challenge due to the diverse services and resources offered by various SBMHS. Schools have little consistency across buildings, districts, cities, and states with regard to the available resources (Kittelman et al., 2018). Although the services offered by SBMHS are very diverse, researchers have attempted to study the effectiveness of SBMHS.

Studies have demonstrated that SBMHS can be effective in supporting adolescent mental health (Ross et al., 2020). However, current study methods have limitations,

including the size of studies, limited service comparison, and lack of student perspective (Bhide et al., 2018; Krause et al., 2021; Weisz et al., 2018). Even with these limitations, SBMHS have proven effectiveness in various domains. For example, studies have demonstrated the effectiveness of SBMHS in reducing substance use (Carney et al., 2011; Langley et al., 2010) and self-reported suicide attempts (Golberstein & Kronenberg, 2022) as well as improving adolescent health and well-being (Goldberg et al., 2018). Unfortunately, nearly all of these results have come from studies that have evaluated one school or class at a time (Bhide et al., 2018). There are limited studies that have evaluated SBMHS from a nationally representative sample, primarily due to the cost and other challenges of studying adolescents (Bonell et al., 2018).

Interestingly, while students are the intended beneficiaries of SBMHS, they are usually not asked what they think about the services (Foulkes & Stapley, 2022). Studies often prioritize educational metrics, teacher feedback, and other sources of data when evaluating SBMHS (Foulkes & Stapley, 2022). While these are also important metrics in evaluating the overall effectiveness and success of SBMHS, determining the helpfulness of SBMHS from the student perspective is often neglected.

Perceived helpfulness is a useful metric to evaluate SBMHS from the perspective of students (Morgan et al., 2020). Perceived helpfulness can be defined by the extent to which an individual believes they have attained personally meaningful goals through the course of treatment (Harris et al., 2024). Perceived helpfulness has been primarily used as an assessment tool with adult populations (e.g., Bruffaerts et al., 2022; Harris et al., 2022; Harris et al., 2024). However, perceived helpfulness can also be used to help evaluate SBMHS from the perspective of students.

Unfortunately, objective metrics like symptom change are often seen as superior to subjective measures of outcome, like perceived helpfulness (Harris et al., 2024). However, for student-centered care and in the rapidly changing environment of adolescence, subjective metrics like perceived helpfulness are strong metrics to evaluate different types of SBMHS (Edlund et al., 2015). Some of the advantages of assessing SBMHS with student perceived helpfulness are (a) direct assessment of a meaningful measure, (b) ease of administration of a brief and easy to understand question, (c) straightforward interpretation, and (d) perceived helpfulness is not impacted by limitations of symptom measurements, such as the challenges of quantifying mental health improvement (Edlund et al., 2015). Despite the advantages of perceived helpfulness as a measurement, there are no studies that analyze student perceived helpfulness of SBMHS.

In this study, I evaluated student perceived helpfulness of SBMHS. I focused on five types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. I initially analyzed the overall perceived helpfulness of all SBMHS together. Next, I followed that analysis by looking at the perceived helpfulness of each of the five specific SBMHS types to compare their perceived helpfulness to each other. Finally, I analyzed how sociodemographic characteristics interact with the perceived helpfulness of SBMHS. The combination of these analyses provided more insight into SBMHS on a nationwide scale. Analyzing student perceived helpfulness of SBMHS is timely due to the current adolescent mental health crisis.

Significance

The results of this dissertation study carry both practical and theoretical significance for SBMHS. Practical implications include resource allocation, tailored SBMHS, listening to student voices in SBMHS decision making, and more equity in service design and implementation. Theoretical implications include redefining the role of schools in child development, revising stigma and help-seeking behaviors, revisiting theories of equity, considering SBMHS and intersectionality, and redefining effectiveness measurements. I discuss these implications below.

The results of this dissertation study have practical significance. These results could help stakeholders determine how to allocate resources to SBMHS. Results from this dissertation can help guide data-driven choices for SBMHS service delivery prioritization. These results could also help guide schools to meet their district and individual student needs, depending on their student population. Another way this study could be practically significant is by informing practitioners how to tailor student services to meet individual student needs. If the results of this study demonstrate that certain populations perceive certain SBMHS to be more helpful, then these results imply that there is not a “one-size-fits-all” approach to SBMHS. This study could also encourage schools to consider student perspectives when making implementation decisions at both a school and individual level for SBMHS. If schools begin to highly value student perspectives on SBMHS, then students could be further involved in the creation and implementation of SBMHS. At the individual level, schools could consider more flexible models where students can select the SBMHS that resonates most with them. Finally, another way that this study could be practically significant is by providing equity in

service delivery models. If certain populations are consistently not finding a specific type of SBMHS to be helpful, then these services could benefit from being further explored or revised. In the interim, schools may want to consider how to best create more equitable services in their school.

The practical significance of this study is also connected to the theoretical significance of this study. The results of this study can contribute to the ongoing discussion of redefining the role of schools in a child's development. Some individuals believe that schools should only be resources for traditional education, while others believe that schools should provide a "whole-child" education. The results of this dissertation contribute to this discussion. Another area of theoretical significance as a result of this study is rethinking stigma and help-seeking behavior. If certain populations access SBMHS differently than other populations, then these differences will contribute to the literature on stigma and help-seeking. Another theoretical area of literature that could be revisited, depending on the results of this study, is SBMHS theories pertaining to equity. If certain populations report lower levels of perceived helpfulness for certain SBMHS, then theories of equity in those services could be expanded. Additionally, the results of this study pertaining to the socio-demographic characteristics of students and their perceived helpfulness of SBMHS may contribute to the theories of intersectionality. The final theoretical significance of this study pertains to utilizing a student-centered outcome measure. This study could contribute to the literature on user-centered mental health theory outcome measurements. This study could contribute to the research that expands effectiveness beyond symptom reduction. The results of this study are significant

for both researchers and stakeholders interested in understanding more about SBMHS and student perceived helpfulness.

Personal Meaning

This topic is significant to me for a few reasons. First, when I was in high school, I experienced mental health struggles. I struggled with my identity and my place in the world. I attended a small religious school that offered limited mental health resources. I was not familiar with any mental health disorders and did not know who to talk to about what I was feeling. My family was supportive, but I was scared to ask them for help, especially since we were underinsured. Since mental health was taboo to discuss in my religious upbringing, I relied on my peers for support. I struggled longer than I needed to because I did not receive professional mental health support. Furthermore, many of my peers and closest friends also struggled with mental health concerns. While most of my peers and I recovered from our mental health concerns in adolescence, unfortunately, some of my friends continue to struggle with mental health symptoms that began in their adolescence. These personal experiences led me to pursue a career where I could help individuals with their mental health.

Professionally, I am an outpatient mental health counselor who works with both adolescents and adults. I always say that seeing adolescents helps keep me young because they bring so much energy to my day, even on the hardest days. Treating adolescents in a community setting has given me a unique perspective on their mental health struggles in today's climate. Oftentimes, my adolescent clients complain of intense academic pressure, feeling misunderstood by parents, social media comparisons, and peer pressure. These adolescents report feeling pulled in multiple directions by wanting to find

themselves, do well in school, make their parents happy, and find belonging with friends. These conflicting goals can lead to mental distress that presents itself in different ways. This dissertation brings personal meaning to me in being able to advance the literature on adolescent mental health support.

Data and Data Analysis

I used a large data set called *Monitoring the Future* (MTF) for my dissertation study (MTF, 2025). This data set was nationally representative and holds data from the recent school years of 2021-2022 and 2022-2023. I used four total samples (Miech et al., 2023a, 2023b; Miech et al., 2024a, 2024b) from 8th, 10th, and 12th grade students across two years of data collection. I focused on five Likert scale questions that asked the students about the perceived helpfulness of different types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. I explored the data using a variety of quantitative analyses to answer the research questions below.

Rationale for Methodology

There are a few reasons for this methodological approach. Many studies that have evaluated SBMHS have been conducted on a small scale. These studies often looked at a single class or group of students within a school, implemented an intervention, and evaluated the results. While these studies are valuable in providing information about SBMHS, they miss out on the larger, sweeping picture of SBMHS nationwide. Since many of these studies look at a small group, they often do not compare different SBMHS to each other within the same population. Additionally, few studies look at student perspectives. The majority of studies rely on other subjective informants or objective

data. Finally, there are no identifiable studies that combine all of these factors: large-scale quantitative data that compares SBMHS with student perspectives.

Research Questions

- 1) Overall, how helpful do students find SBMHS?
- 2) How does perceived helpfulness vary as a function of SBMHS type?
- 3) What is the relationship between student characteristics (e.g., age, race) and the perceived helpfulness of SBMHS?

Goals for the Study

My goals for this study are to understand SBMHS better in a number of different ways. I hope that this study can inform researchers, school decision-makers, and stakeholders on SBMHS.

Organization of the Study

In Chapter 2 of this dissertation, I review the current literature on adolescent mental health, SBMHS, and perceived helpfulness. I then bring these concepts together to provide the necessary background for my study. In Chapter 3, I discuss the methodological approach I used in more depth. This will include more information on the data set, the data collection methods, and the secondary data analyses. In Chapter 4, I discuss the results of my analyses. In Chapter 5, I provide more context and explanations for the results found. I also discuss the limitations of the study and future directions for research.

CHAPTER TWO

LITERATURE REVIEW

Adolescent mental health is a critical issue in the United States. An estimated 49.5% of adolescents have had a mental disorder at some point in their lives (NIMH, 2021). Adolescents with mental health problems are more likely to experience a myriad of negative outcomes, including academic difficulties, poor decision-making, relationship issues, and physical health problems (Centers for Disease Control and Prevention [CDC], 2025). Notably, mental health concerns that are left untreated have been linked to negative outcomes in adolescents in the school setting, such as academic and behavioral problems, dropping out, and delinquency (Schulte-Körne, 2016). Research on helpful interventions for adolescents is needed to slow and reverse the alarming trends of the current adolescent mental health crisis.

One critical intervention that has emerged for student mental health is school-based mental health services (SBMHS) (Ross et al., 2020). A SBMHS is “any program, intervention or strategy applied in a school setting that was specifically designed to influence students’ emotional, behavioral, and/or social functioning” (Rones & Hoagwood, 2000, p. 224). Schools are the most common access point for children and adolescents to receive mental health services (Langley et al., 2010), and the utilization of SBMHS increased yearly from 2020 to 2022 (Stuenkel et al., 2023). Many different approaches and interventions are used as SBMHS, including counseling support, group counseling, mental health curriculum, check-ins, and mentoring (Marsh & Mathur, 2020). These approaches vary depending on the resources that the school has available (National

Center for Education Statistics [NCES], 2024b). There is no single standard for SBMHS, and not all students benefit from the same approach (Morgan et al., 2020). Evaluation of these programs and information about how different students respond to them are needed to determine the best ways to address adolescent mental health in schools.

There are numerous ways to evaluate SBMHS. Three different types of SBMHS evaluations are process, perception, and outcome data. Process data is about the creation and implementation of a program; perception data is about the attitudes, beliefs, and experiences of relevant stakeholders; and outcome data includes data points such as symptoms and effectiveness (Dafoe, 2018). SBMHS evaluation studies have primarily focused on faculty perception (e.g., Brewington & Kushner, 2020; Currier-Kipping et al., 2021; Sugizaki & Iida, 2023; Tavares et al., 2023) and outcome data (e.g., Lustig et al., 2022; Šouláková et al., 2019; van Loon et al., 2020). There have only been a few student perception studies of SBMHS. These studies have been limited to student perceptions of service utilization of school-based health centers (Gruber et al., 2021), perceptions of a mental health literacy (MHL) program (Ekornes, 2020), and perceptions of mental health by specific student populations (e.g., Katz et al., 2020; Liu et al., 2022; Tran et al., 2023). Additional studies examining student perceptions of SBMHS as a whole that also compare services with one another may be beneficial in understanding the student experience of SBMHS.

As one component of an evaluation of perception, perceived helpfulness is a construct that has been increasingly used as a measure to assess mental health service outcomes (e.g., Bruffaerts et al., 2022; Harris et al., 2024; Nierenberg et al., 2021; Stein et al., 2021). For example, one study investigated the perceived helpfulness of mental

health services that young adults received in adolescence (Morgan et al., 2020). The World Health Organization (WHO) World Mental Health (WMH) surveys (Harvard Medical School, 2024) have also utilized perceived helpfulness as a key data point in assessing mental health services for adults (e.g., Bruffaerts et al., 2022; Harris et al., 2024; Nierenberg et al., 2021; Stein et al., 2021). Researchers have identified perceived helpfulness as a strong complement to traditional outcome and effectiveness studies (Morgan et al., 2020).

Given the previous research on perceived helpfulness, evaluating student perceived helpfulness (as a component of student perception) is a potentially valuable strategy for assessing SBMHS. Indeed, one advantage of assessing the perceived helpfulness of SBMHS is the simplicity and brevity of this type of assessment (Edlund et al., 2015). Furthermore, the assessment of perceived helpfulness overcomes a weakness of symptom assessment. That is, a reduction or increase in symptoms may be due to extraneous factors, not the SBMHS (Krause et al., 2021; Perich & Andriessen, 2023). However, a measure of perceived helpfulness directly measures the student experience of SBMHS (Krause et al., 2021; Perich & Andriessen, 2023). Although student perception is fundamental to evaluating school-based assessment, and student perceived helpfulness can potentially yield valuable information about SBMHS, no studies to date have investigated student perceived helpfulness of SBMHS. Therefore, in this dissertation study, I investigated student perceived helpfulness of SBMHS.

Measuring student perceived helpfulness of SBMHS may provide valuable insights into SBMHS. Indeed, perceived helpfulness has been beneficial in understanding community mental health services (e.g., Bruffaerts et al., 2022; Harris et al., 2024;

Nierenberg et al., 2021; Stein et al., 2021). Therefore, when applied to SBMHS, understanding perceived helpfulness may lead to program designs that foster higher utilization, retention, and more effective services. Assessing perceived helpfulness could also enrich our conceptual understanding of the relationships between student experiences of SBMHS and particular features of SBMHS. These insights may provide guidance for the development of SBMHS and suggest research that would further clarify the types of programs that students find most helpful. In this regard, my investigation of the perceived helpfulness of SBMHS will answer the following research questions:

- 1) Overall, how helpful do students find SBMHS?
- 2) How does perceived helpfulness vary as a function of SBMHS type?
- 3) What is the relationship between student characteristics (e.g., age, race) and the perceived helpfulness of SBMHS?

Adolescent Mental Health

Poor adolescent mental health is a major issue facing both the world and the United States today. According to the World Health Organization (WHO, 2024) mental health problems are one of the largest disease burdens among adolescents globally. Due to the increase in adolescent mental health problems, recent years have seen an increased focus on adolescent mental health and well-being in the United States. The American Academy of Child and Adolescent Psychiatry (AACAP), American Academy of Pediatrics, and the Children's Hospital Association declared a national state of emergency in child and adolescent mental health in 2021 (American Academy of Pediatrics, 2021). Additionally, the Office of the U.S. Surgeon General (OSG) also released advisories on adolescent mental health in 2021 and 2023 (OSG, 2021). The OSG typically only focuses

on more traditional medical health concerns, which made this advisory especially noteworthy. The general public is also concerned; a recent KFF poll found that 55% of the public see adolescent mental health issues as a crisis in the United States (Lopes et al., 2022). Researching and understanding the causes, symptoms, and treatments for declining adolescent mental health are essential to reverse this concerning trend.

Mental health disorders among children and adolescents can be defined as “persistent symptoms that affect how a young person feels, thinks, and acts” (Office of the Assistant Secretary of Health [OASH], n.d., para. 2). An estimated 49.5% of adolescents have already met criteria for a mental health disorder at some point in their young lives (NIMH, 2021). Mental health disorders typically develop in childhood or adolescence with half of all mental health disorders in adulthood beginning by the age of 14 (Kessler et al., 2007). Like all of us, adolescents experience ups and downs in life and stressors that stem from family, relationships, school, and self-image that can lead to sadness, worry, and distress (OSG, 2021). These symptoms are often short-term and manageable without causing serious difficulties in functioning, but other times these symptoms progress to a diagnosable condition (OSG, 2021). Even if adolescents have manageable symptoms and do not meet full diagnostic criteria for a mental health disorder, they are also at increased risk for mental health impairment in adulthood (Copeland et al., 2015).

Proper diagnosis is the beginning of the process in treating adolescents’ mental health concerns. The widespread resource that mental health care providers typically utilize for diagnosis is the American Psychiatric Association’s (APA) Diagnostic and Statistical Manual 5th Edition (2013). Determining whether or not an adolescent meets

diagnostic criteria for a mental health disorder as opposed to whether they are simply reacting to normal stressors can be challenging (OASH, n.d.). Symptoms may not reach the necessary time threshold for diagnosis (typically six months since onset) or may not fit neatly into any single diagnosis (DeFosset et al., 2017). For example, if a student presents with racing thoughts and depressed mood, they may meet partial diagnostic criteria for two different diagnoses without meeting full diagnostic criteria for one disorder. Additionally, adolescents may meet diagnostic criteria for multiple disorders such as major depressive disorder, post-traumatic stress disorder, and a substance use disorder. Many adolescents go undiagnosed both due to these diagnostic complications and limited access to mental health services (WHO, 2024).

Risk Factors

Various risk factors have been identified that can contribute to poor adolescent mental health (WHO, 2024). Poor adolescent mental health is typically understood to be caused by numerous factors, including biological and environmental factors (OSG, 2021). The biological factors seem to be complicated by multiple genes that are not well understood but appear to be activated by experiences and environment (Cross-Disorder Group of the Psychiatric Genomics Consortium, 2013; Marshall, 2020; OSG, 2021). Since biological and environmental factors are often interrelated and may impact certain individuals more than others, it is challenging to isolate unique causes of mental health problems (OSG, 2021). Risk factors often compound each other; for example, an adolescent with a challenging family situation may be bullied as a result of that situation. Since there are numerous risk factors that contribute to poor mental health, below I

highlight some of the environmental risk factors that have been found to be associated with adolescent mental health problems.

There are several environmental factors that contribute to mental health challenges in adolescents. Some of these include societal prejudices, adverse childhood experiences (ACEs), and family distress (Doom et al., 2021; Hughes et al., 2017; Kalin, 2021; OSG, 2021; Trent et al., 2019; Williams, 2018). In 2021 and 2022, 17% of adolescents reported being emotionally abused by a parent and 15% of adolescents reported neighborhood violence (Lopes, 2022). Additionally, 21% of adolescents who reported living with a household member experiencing mental illness and 18% of adolescents reported living with a household member struggling with substance use (Lopes, 2022). These environmental risk factors are just a few examples of the many that can influence adolescent mental health.

Mental health and substance use issues can co-occur in adolescents (Halladay et al., 2022). The direction of this relationship is often multilayered, where mental health issues can lead to substance use, substance use leads to mental health issues, or both issues can be influenced by outside variables (Halladay et al., 2022). Adolescents who reported experiencing a major depressive episode in 2022 were more likely than peers to have used illicit drugs (26% vs 12%) (Panchal, 2024) and engaged in binge drinking (6% vs 3%) in the previous month. In 2022, 4% of adolescents reported both a past-year major depressive disorder and substance use disorder (Panchal, 2024). Unfortunately, these co-occurring conditions can be fatal; a recent report found that 41% of individuals aged 10-19 who died from a drug overdose had a previously documented mental health

condition (Panchal, 2024). Substance use is a significant concern when assessing risk factors for adolescent mental health concerns.

Bullying has also been associated with poor mental health outcomes in adolescents (Moore et al., 2017). Bullying has been connected with increased risk of mental health conditions, substance use, and suicidality (Halladay et al., 2022). In 2021 and 2022, 19% of adolescents reported being bullied during school and 22% reported being cyberbullied (NCES, 2024a). Adolescents who are already experiencing risk factors that could contribute to poor mental health are often the targets of bullying (NCES, 2024a). Minority adolescents are bullied at a higher rate than adolescents who belong to majority identity groups (NCES, 2024a). Cyberbullying also has been associated with depression and is reported by minorities and females at a higher rate (NCES, 2024a). LGBT+ adolescents report experiencing higher rates of bullying and cyberbullying compared to their non-LGBT+ peers (Gower et al., 2018). Bullying continues to be a concerning risk factor for poor adolescent mental health.

Unfortunately, the list of potential risk factors that contribute to poor adolescent mental health is incredibly lengthy. Trouble in the home, substance use, and bullying are just a few of the associated risk factors that have been identified (e.g., Doom et al., 2021; Halladay et al., 2022; Moore et al., 2017). Thankfully many adolescents who both experience and do not experience these risk factors never develop a mental health disorder. For the adolescents who do develop mental health disorders, it can be helpful to categorize their symptoms.

Internalizing and Externalizing Disorders

Two broad ways to categorize adolescent mental health disorders are internalizing disorders and externalizing disorders (Askari et al., 2021; Cosgrove et al., 2010; Nikstat & Riemann, 2020). Internalizing disorders are defined as “mental health symptoms that individuals express inwardly, such as anxiety, sadness, worthlessness, and withdrawal” (Keyes & Platt, 2023, p. 384). Externalizing disorders are defined as “problematic behavior related to poor impulse-control, including rule breaking, aggression, impulsivity, and inattention” (Samek & Hicks, 2014, p. 537). Both internalizing and externalizing symptoms have been associated with numerous negative outcomes in adolescents, such as substance use (Bhatia et al., 2020; Hopfer et al., 2013), suicide (Piqueras et al., 2019; Vander Stoep et al., 2011), overdose-related death (Border et al., 2018; Singh et al., 2019), and higher rates of incarceration (Cropsey et al., 2008) (Askari et al., 2021). Internalizing disorders tend to precede externalizing disorders (Askari et al., 2021; Ritakallio et al., 2007); however, this relationship can be bidirectional or a reinforcing relationship as well (Jarvers et al., 2022). For example, externalizing symptoms can lead to increased substance use (Cerdá et al., 2016; Miettunen et al., 2013), academic failure (Masten et al., 2005; Moilanen et al., 2010), or social skill deficits (Obradović et al., 2009), which can in turn lead to internalizing symptoms (Askari et al., 2021). Interestingly, internalizing disorders are on the rise in recent years in the United States (e.g., Gimbrone et al., 2022; Keyes et al., 2019; Mojtabai et al., 2016; Twenge et al., 2019), and externalizing disorders are on the decline (Askari et al., 2021). Since internalizing disorders are increasing in adolescents, I discuss their current impact below.

The most prevalent internalizing adolescent mental health conditions are anxiety disorders and mood disorders (CDC, 2024). Anxiety disorders vary in diagnostic criteria and symptom presentation, but are primarily characterized by feelings of worry, excessive uneasiness, and fear (APA, 2013). Disorders in this category include the most common generalized anxiety disorder as well as post-traumatic stress disorder, social anxiety disorder, obsessive-compulsive disorder, and all phobias (APA, 2013). Mood disorders are characterized by feelings of despair and sadness, anhedonia, sleep and appetite disruptions, and loss of motivation (APA, 2013). The most commonly diagnosed disorder in this category is major depressive disorder (depression) along with bipolar disorder (APA, 2013). While these two categories of internalizing disorders are not fully encompassing, they are the most prevalent diagnoses in adolescents in the United States.

The process of researching and reporting internalizing mental health disorders of adolescents can be challenging. Varying procedures and approaches attempt to find the rate of these disorders, and these differences can affect the rates that are found (Navarro et al., 2020). Since sampling often takes place in schools or at clinics, vulnerable adolescents who have dropped out of school or do not receive mental health services are often not included in prevalence estimates (Navarro et al., 2020). Adolescents who meet criteria for comorbid conditions are also typically eliminated from treatment studies despite comorbidity being common in adolescents (Garber & Weersing, 2010). Finally, there are consequences related to who researchers ask about diagnosis or symptoms, such as mental health providers, adolescents, or parents. Each of these parties may report a different presenting concern or none at all when asked (Navarro et al., 2020). These

complications are important to consider whenever reviewing current rates of mental health conditions.

Although determining the prevalence of internalizing disorders can be challenging, studies have found some meaningful estimates. One study completed globally found that 20.5% of children and adolescents reported anxiety and 25.2% reported depression; however, this study utilized a variety of different types of studies through a meta-analysis to reach these statistics (Racine et al., 2021). Large scale adolescent studies in the United States that estimate adolescent anxiety symptoms since COVID-19 are limited. There are some studies examining depression that provide a meaningful estimate of its prevalence among adolescents (CDC, 2024; Mental Health America, 2024). In 2022, 15% of adolescents reported suffering at least one major depressive episode in the previous year (Mental Health America, 2024). In 2021, 42% of adolescents reported struggling with persistent feelings of sadness or hopelessness and 29% of high school students experienced poor mental health during the past 30 days (CDC, 2024). Internalizing conditions are highly comorbid with suicidality (Keyes & Platt, 2023), and suicide is the third leading cause of death among individuals aged 14 to 18 years (CDC, 2024). In 2021, 22% of high school students seriously considered attempting suicide sometime in the past year (CDC, 2024). The current rates of internalizing disorders are already concerning, and they worryingly continue to rise.

Trends

As noted above, internalizing disorders have been increasing in prevalence in recent years in adolescents (Gimbrone et al., 2022; Keyes et al., 2019; Mojtabai et al., 2016; Twenge et al., 2019), even before the COVID-19 pandemic exacerbated symptoms

across demographics (OSG, 2021). Internalizing symptoms, specifically major depressive episodes and generalized anxiety, have increased among all adolescents, but this increase has been steeper for girls (Askari et al., 2021; Mojtabai et al., 2016). Suicidality has also increased at a faster rate in girls than boys (Carretta et al., 2023). Girls have higher rates of suicidal thoughts and attempts, yet boys consistently demonstrate higher rates of death by suicide (Keyes & Platt, 2023). Another internalizing symptom outside of specific diagnoses, low self-esteem, has been increasing rapidly from 2010 and onwards among adolescent girls (Keyes et al., 2019). These increasing rates of internalizing symptoms are concerning, and researchers are trying to understand the relationship between internalizing and externalizing disorders.

The comorbidity between internalizing and externalizing symptoms remains high in adolescents (e.g., an adolescent diagnosed with both generalized anxiety disorder and oppositional defiant disorder) (Askari et al., 2021; Vergunst et al., 2023). Despite high comorbidities, the recent divergence in internalizing and externalizing trends suggests there could be new factors influencing the relationships (Askari et al., 2021). Since the relationship between internalizing and externalizing symptoms can be confounding, it is not clear if these externalizing behaviors are decreasing due to better processes in diagnosing internalizing symptoms, truly decreasing, or due to other factors (Askari et al., 2021). There are several possible explanations for the change in trend in internalizing and externalizing symptoms.

Internet Usage

One potential explanation for the worsening adolescent mental health crisis is the increased usage of internet technology in childhood and adolescence (OSG, 2021).

Internet technology is a tool that has drastically improved our lives in important ways through building communities, increasing access to information, and delivering needed resources (OSG, 2021). Research has supported that there are potential mental health benefits of responsible technology use (e.g., Haidt & Allen, 2020; Odgers & Jensen, 2020). However, there are also abundant negative messages and information that is not developmentally appropriate on the internet (Gimbrone et al., 2022). When internet technology is not monitored, it can lead to harmful results (OSG, 2021). The developmentally inappropriate messaging that children and adolescents can be exposed to on the internet includes climate change, poverty, politics, racial injustice, drug use, and explicit content (OSG, 2021). Research has found a link between exposure to these concepts and internalizing symptoms in adolescents (Gimbrone et al., 2022).

Research on the specifically harmful content or websites is difficult to gather, due to the rapid evolution of the internet space (Keyes & Platt, 2023). Studies examining the effects of internet usage on adolescent mental health are typically crude (Keyes & Platt, 2023). These studies often combine various types of media together and utilize limited measurement tools like time spent on social media or the internet, which limit the ability to identify nuance (e.g., Keyes & Platt, 2023; Vuorre et al., 2021). For example, both social media and the internet at large can be considered a space for adolescents. By merely measuring “time spent” on social media as the primary variable, it is difficult to impossible to detect the specific content that was consumed during the “time spent” (Keyes & Platt, 2023). Despite these limitations, one recent study did find that high school students reported time spent on social media was associated with increased internalizing symptoms (Moroney et al., 2022). Other research on the relationship

between social media use and internalizing symptoms is mixed and has been analyzed through a variety of literature reviews (Bozzola et al., 2022; McCrory et al., 2020; Verduyn et al., 2017; Vidal et al., 2020) and meta-analyses (Hancock et al., 2022; Ivie et al., 2020). At the very least, the downsides of spending excessive time on the internet or social media include less face-to-face interactions, sedentary lifestyles, and sleep disruptions (Keyes & Platt, 2023). Harmful internet usage appears to be connected to internalizing symptoms, and further evidence of this relationship can be found in their similar trends.

Gender differences also appear to be prevalent, with girls reporting more harmful effects of internet usage than boys (Keyes & Platt, 2023). The difference between girls and boys could potentially be due to girls' increased usage of social media platforms compared to boys (Keyes et al., 2019; Twenge, 2020). The negative messaging on social media can erode self-worth through comparison by adolescents feeling like they are not attractive, popular, smart, rich, skinny, or cool enough (OSG, 2021). Girls often feel the weight of these comparative social pressures more than boys (e.g., Hawes et al., 2020; Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019). This trend aligns with the sharp increase in internalizing symptoms for girls compared to boys (Askari et al., 2021; Mojtabai et al., 2016). Technology usage has become the norm for adolescents; unfortunately, it may be leading to more internalizing symptoms. This relationship is not yet fully understood, but signs seem to point toward internet usage being an influential factor in the increase of internalizing symptoms in adolescents.

COVID-19

Another potential explanation for the sudden increase in internalizing symptoms is the COVID-19 pandemic (OSG, 2021). The COVID-19 pandemic radically altered adolescents' routines, social lives, school attendance, and potentially their health and beliefs about safety (OSG, 2021). Many adolescents' lives were also affected by lack of mental health services and social services, loss of family income, food insecurity, or housing instability (OSG, 2021). Since many vital in-person interactions with supportive professionals, such as teachers, counselors, school counselors, doctors, and child welfare workers were limited or halted during the pandemic, vulnerable adolescents had fewer trustworthy adults to help identify signs of mental health decline (OSG, 2021).

Additionally, the estimates from June 2021 were that more than 140,000 children in the United States lost a parent or grandparent caregiver to COVID-19 related deaths (Hillis et al., 2021). The risk factors that contributed to worsening mental health during the pandemic include previous mental health symptoms (Osgood et al., 2021), living in an urban area or an area with a severe COVID-19 outbreak (Fitzpatrick et al., 2020), having caregivers who were frontline workers (Sugg et al., 2021), anxiety about COVID-19 (Nikolaidis et al., 2022), routine disruptions (Esposito et al., 2021; Hawrilenko et al., 2021; Verlenden et al., 2021), previous ACEs (Stinson et al., 2021), instability in finances, food, or housing (Patrick et al., 2020; Westrupp et al., 2021), and experiencing a pandemic related loss (Bergman et al., 2017). Demographic characteristics that were at higher risk during the pandemic include racial and ethnic minority adolescents (Hillis et al., 2021; Rogers et al., 2021), LGBTQ+ adolescents without support at home (Department of Education Office of Civil Rights, 2021), low-income adolescents (Dooley

et al., 2020), adolescents in immigrant households (Endale et al., 2020), and adolescents in the justice or welfare systems (Lawrence et al., 2021; Osgood et al., 2021; Robinson et al., 2017). Many adolescents belong to multiple categories of these vulnerable populations, potentially producing worse mental health outcomes (OSG, 2021).

The pandemic's long-term effects on adolescent mental health are not completely clear. The COVID-19 pandemic was not the first wide scale disaster that adolescents have faced in history. Increased distress symptoms are common during a crisis, yet the majority of adolescents are able to cope and do not develop mental health disorders (Goldmann & Galea, 2014). Some adolescents were able to thrive during the pandemic and reported more sleep, more time with key family members, less academic stress and bullying, and improved coping skills (OSG, 2021; Roy et al., 2021; Vaillancourt et al., 2021; Wright et al., 2020). Problematically, the pandemic's negative effects disproportionately impacted the adolescents who were the most vulnerable before the pandemic (Jones, 2021). More research is needed to continue understanding how the COVID-19 pandemic could have contributed to increased internalizing symptoms.

Outcomes of Poor Adolescent Mental Health

There are both immediate and long-term repercussions of poor adolescent mental health (Copeland et al., 2015; Haller et al., 2016). The immediate effects of poor adolescent mental health include loss of finances, poorer physical health, and less engagement in education (WHO, 2024). According to the National Healthcare Quality and Disparities Report (Agency for Healthcare Research and Quality [AHRQ], 2022), the economic burden of childhood and adolescent mental health disorders on families and society at large is enormous. The average total cost per episode for a childhood or

adolescent mental health episode was \$2,673 (AHRQ, 2022). Mental health and somatic health symptoms have also been highly correlated with each other (Dey et al., 2015; Luntamo et al., 2012; Potrebny et al., 2017). There is growing evidence that somatic symptoms such as joint, digestion, and autoimmune issues are often connected to poor mental health (Potrebny et al., 2017; van Geelen & Hagquist, 2016). Adolescents' academics can also suffer as a result of mental health concerns (Hosseinkhani et al., 2020). There appears to be a bidirectional relationship between poor academic performance and poor mental health (Van der Ende et al., 2016). Poor mental health has been associated with dropping out (Esch et al., 2014), academic underachievement (Pagerols et al., 2022), and behavioral problems in school (Van der Ende et al., 2016). Problematically, financial, physical, and educational deficits and symptoms can lead to even further complications on top of those already experienced due to poor mental health.

Mental health challenges experienced in adolescence can often persist into adulthood (Schlack et al., 2021). Longitudinal research has found that the majority of adolescents who experience a depressive episode will go on to experience at least one recurrent episode in adulthood (Fombonne et al., 2001). Even if mental health symptoms are addressed and successfully treated in adolescence, they can have long-term effects that are difficult to measure. Mental health symptoms during adolescence may lead to challenges reaching developmental milestones associated with the time period (Holsen & Birkeland, 2016). For example, an adolescent who struggles with depression may not build social relationships, apply themselves in school, or seek hobbies that could affect adult social support, socioeconomic status, and overall life satisfaction. Adolescent

mental health symptoms can continue to have long-term effects either with or without continued symptoms.

There are not many studies that have tracked internalizing symptoms and potential long-term outcomes; however, there are a few of these types of studies (e.g., Clayborne et al., 2019; Holsen & Birkeland, 2016; Jonsson et al., 2010). Depressive symptoms during adolescence have been connected to reduced educational and financial success, such as increased risk of not achieving educational achievement or unemployment later in life (Clayborne et al., 2019). Adolescent depression has also been associated with a lower probability of having graduated from college or university by age 30 (Jonsson et al., 2010) and lower annual household income at age 30 (Holsen & Birkeland, 2016). One meta-analysis also found adolescent depression associated with lower perceived social support and loneliness in adulthood (Clayborne et al., 2019). Mental health outcomes such as reduced life satisfaction at age 24 (Lewinsohn et al., 2003), age 30 (Holsen & Birkeland, 2016), and age 32 (Howard et al., 2010) have also been associated with internalizing symptoms in adolescence. According to a large-scale study in Germany, internalizing problems in childhood and adolescence have also been associated with a lower likelihood of being in a stable partnership in young adulthood (Schlack et al., 2021). Youth-reported internalizing symptoms have also been found to be positively correlated with health problems such as obesity and type 2 diabetes (Goodman & Whitaker, 2002) and negatively correlated with physical activity (Jamnik & DiLalla, 2019). Girls also have reported higher internalizing symptoms at baseline and more physical health problems in adulthood (Jamnik & DiLalla, 2019). Both the immediate and

long-term outcomes of poor adolescent mental health take a massive toll on individuals, families, and society.

The mental health of adolescents in the United States has necessarily come to the forefront of public health issues (WHO, 2024). There are various risk factors that contribute to poor adolescent mental health. Internalizing disorders specifically are increasing at a high rate across all adolescents, especially females (OSG, 2021; WHO, 2024). Unfortunately, poor adolescent mental health leads to a number of poor outcomes both immediately and long term across various domains including substance use, health, relationships, education, and socioeconomic status (WHO, 2024). Proper diagnosis, responsible reporting, improved access, and research-based treatments are all needed to address the current adolescent mental health crisis.

School-Based Mental Health Services

Adolescents' experiences at school are formative in their development (OSG, 2021). School is a crucial place where adolescents learn information and skills, build meaningful relationships, and begin to form an identity (OSG, 2021). On the other hand, adolescents can have negative experiences at school, such as not having their educational needs met, being bullied or isolated, or feeling academic pressure (OSG, 2021). Even if adolescents have largely positive experiences at school, they often bring challenges from their home lives to school as well (OSG, 2021). In April 2022, 69% of public schools reported that the mental health concerns of their students had increased (NCES, 2022). Schools are a unique mental health service environment, since their priority is educational attainment. Effective mental health services that are administered in the school setting must be part of the larger school ecosystem (National Association of

School Psychologists, 2021). School-based mental health services (SBMHS) can vary widely in structure but overall are defined as “any program, intervention, or strategy applied in a school setting that was specifically designed to influence students’ emotional, behavioral, and/or social functioning” (Rones & Hoagwood, 2000, p. 224). I discuss the history of SBMHS next.

History

Helping students’ social and emotional health was not always part of schools’ missions, but that has changed over time. In the early 1900s, nurses began to be placed in schools to help students in poor health be able to learn (Flaherty et al., 1996). Nurses working in schools continued to grow in popularity into the 1970s, which was a pivotal period for the expansion of other support services in schools (Flaherty et al., 1996). Section 504 of the *Rehabilitation Act* of 1973 mandated that students with a documented “physical or mental impairment that substantially limits one or more major life activities” (Hoover & Bostic, 2021, p. 38) were required to receive support. In 1975, the passage of the *Education for All Handicapped Children Act* (now known as *Individuals with Disabilities Education Improvement Act*, updated in 2004) began the process of officially establishing services and support systems for students with disabilities, including emotional disabilities (Flaherty et al., 1996). Although emotional support was not the primary focus of these actions, they were instrumental in beginning the process of introducing mental health support in schools.

The next decades focused on refining the best ways to support adolescent mental and physical health. The 1980s still largely relied on residential and institutional treatment for adolescent mental health care instead of communities and schools (Hoover

& Bostic, 2021). As a response to more adolescents needing services, the National Institute of Mental Health expanded their Child and Adolescent Services System Program to further partnerships with schools and the community (Hoover & Bostic, 2021). In the 1990s, school-based health centers (SBHCs) exploded in popularity, further cementing schools as a primary location for students to receive services beyond traditional education (Hoover & Bostic, 2021). In the early 2000s, the U.S. Surgeon General began naming teachers as frontline mental health workers for students' social and emotional health (Hoover & Bostic, 2021). While teachers are not trained mental health clinicians, there has been a growing number of resources designed specifically to help them be able to support their students' mental health (Hoover & Bostic, 2021). In 2015, only four states had adopted learning goals for students' social and emotional knowledge and abilities, and the number more recently expanded to at least 25 states (Hoover & Bostic, 2021). The COVID-19 pandemic led to even further expansion of initiatives for student mental health (OSG, 2021). While mental health treatment in schools used to be an afterthought, schools have now been forced into a prominent position to attempt to address mental health concerns of their students (Duong et al., 2020; Murphy & Kim, 2023). Mental health care is now fully entrenched as part of the mission of schools for their students, whether schools are equipped to handle these concerns or not.

The intention of implementation and expansion of SBMHS was not to replace or discourage community mental health resources and services, but rather to serve as a complement to these services. Unfortunately, many communities suffer from a shortage of available providers for mental health concerns of adolescents and families (AACAP, 2023). The adolescent mental health crisis is too heavy of a burden for one institution or

treatment avenue, and some consider schools to be a valuable resource due to their ease of access, ability to promote mental health practices to all students, and ability to address mental health issues related to the school environment (Hoover & Bostic, 2021). Mental health symptoms are likely to be recognized in a school setting, and some concerns are addressed and treated within the building (Hoover & Bostic, 2021). Schools have shifted from only focusing on educational attainment to a well-rounded approach that prioritizes the well-being of the student overall (Hoover & Bostic, 2021). The financial support for SBMHS comes from a variety of funding sources.

Funding

SBMHS are financially supported at the local, state, and national level. During the 2021-2022 school year, 57% of schools reported receiving funding for mental health services from local budgets, 52% from federal programs and grants, 37% from partnering organizations, and 32% from state programs (Panchal et al., 2022). Federally, schools receive funding through the U. S. Department of Education (USDE) and the Department of Health and Human Services (Panchal et al., 2022). Schools can also receive federal funding through Medicaid via students' Individualized Education Programs for eligible diagnostic and treatment services (Panchal et al., 2022). Medicaid has recently attempted to expand its reimbursable services in schools, yet many states report challenges with implementation (Hinton et al., 2023). State budgets tend to fund community mental health resources more than schools directly (Panchal et al., 2022). There is a large variety of approaches and funding available from the local school district level (Panchal et al., 2022). Federal funding outside of Medicaid has continued to grow in recent years (Panchal et al., 2022).

The United States federal government is investing in mental health services in schools at an ever-increasing rate. In 2022, the USDE announced the *Bipartisan Safer Communities Act* (BSCA) that intends to award more than \$188 million to “increase access to school-based mental health services and to strengthen the pipeline of mental health professionals in high-needs districts” and “tackle the mental health crisis in our school communities” (USDE, 2023, para. 1). The goal of these grants provided by the BSCA is to hire approximately 5,400 school-based mental health professionals and train an additional 5,500 other professionals (USDE, 2023). As part of this announcement, these grants became the first of a number of forthcoming awards over the next several years that will be the largest investment in school-based mental health services in United States history (USDE, 2023). The BSCA has attempted to provide funding for SBMHS in general as well as increase access to grants, reduce barriers for Medicaid billing in schools, and help implement school safety measures (USDE, 2023). Connecting these available funds to the schools and programs who could benefit most is an ongoing challenge.

Unfortunately, lower-income and rural schools continue to see disparities in their SBMHS offerings (Graves et al., 2023). When COVID-19 occurred and exacerbated the adolescent mental health crisis, the United States government responded with the *American Rescue Plan Act of 2021* (ARP). ARP made \$122.8 billion available nationally to support schools; however, lower-income and rural schools were less likely to use this funding toward SBMHS (Panchal et al., 2022). Lower-income and rural schools both tend to have more mental health disparities and struggle to provide sufficient SBMHS

(Graves et al., 2023). This double disparity increases the widening gap between well-funded and poorly funded schools concerning their students' mental health.

Despite the initiatives that support expanding SBMHS, schools struggle to sustain consistent SBMHS for students (Hoover & Bostic, 2021). During the 2021-2022 school year, 33% of schools reported that they strongly or moderately disagreed that they could provide adequate SBMHS to students in need (Panchal et al., 2022). Funding as a whole, the plan for funding, and the execution of the plan to create real change in students are all overarching challenges (Hoover & Bostic, 2021). Additionally, navigating delivery systems and reimbursement for services is a challenge since schools are still not widely accepted locations for reimbursable services for many mental health insurance companies (Hoover & Bostic, 2021). In the 2021-2022 school year, the two most commonly reported limitations for schools providing SBMHS were inadequate funding and limited access to mental health professionals (NCES, 2024b; Panchal et al., 2022).

Even when funding and resources are adequate, schools are often driven by competing and ever-changing priorities that are often both not informed by data and influenced by multiple stakeholders (Hoover & Bostic, 2021). Due to the competing stakeholders, schools often struggle to implement cohesive services, and the services end up disjointed and in isolation of a greater system (Stephan et al., 2015). Education and mental health systems have only recently become more integrated, and conflicting purposes and messaging within a school district can affect these services (Hoover & Bostic, 2021). Even if some schools and stakeholders believe that they should not be a primary resource to address mental health concerns, they are often forced into mental health treatment due to a lack of community health resources (AACAP, 2023).

Schools are a rapidly changing environment that handle complicated issues. Examples of these complicated issues include the COVID-19 pandemic, school tragedies such as mass violence or a loss in the school, and increases in a specific issue within the school such as bullying or substance use. The focus on school mental health often arises after a community catastrophe with the sudden urge to make schools safe and identify unsafe students (Hoover & Bostic, 2021). This rapid influx of funding and public interest is unfortunately typically unorganized, unsustainable, and therefore less effective (Hoover & Bostic, 2021). Once the public interest wanes, funding tends to dissipate and leaves these services unsupported financially (Hoover & Bostic, 2021). The bursts of funding and interest can also be frustrating for stakeholders pursuing consistent success in their SBMHS (Hoover & Bostic, 2021; Rosenberg, 2014). Despite the complications that schools face to provide cohesive and effective SBMHS, they remain an essential point of access for students with mental health concerns.

Access

All children in the United States are given the right to a free and public K-12 education (USDE, 2025). Students spend approximately 7 hours a day, 180 days a year, and 12 years of their lives in school. All of this time makes school one of the most common locations where children and adolescents spend their developmental years. Since students are so often in the building, some consider schools to be well-positioned to provide mental health prevention, screening, and treatment services. Schools have now become the most common access point for adolescent mental health (Ali et al., 2019; Ross et al., 2020). In 2021-2022, 96% of public schools reported offering at least one type of mental health service to their students (Panchal et al., 2022). Early identification

and treatment of mental health issues in childhood and adolescence seem to lead to better outcomes including higher academic achievement, better social relationships, more successful careers, and less psychological distress later in life (Stephan et al., 2015). Access to adequate mental health treatment in school could help address the adolescent mental health crisis.

The access to mental health specific providers and services varies widely from school to school. Some schools have SBHCs or mental health clinicians, while others may not even have a full-time school counselor (Fazel et al., 2014). In the 2021-2022 school year, 90% of public schools at all levels reported providing emotional support for students as a response to the COVID-19 pandemic (NCES, 2024b). These services include individual-based counseling or other interventions (84%), case management or coordinating mental health services (70%), and providing referrals for community providers (66%) (Panchal et al., 2022). Screening and other outreach interventions lag behind in availability, only 34% of schools offer these services (Panchal et al., 2022). Unfortunately, while screening and other preventative care remain best practice, these services are often the first to be cut due to their resource and logistical burden (Panchal et al., 2022). Additionally, 59% of public high schools in the 2021-2022 school year reported providing diagnostic mental health assessment and 38% reported mental health treatment within the school (NCES, 2024b). Rural and smaller schools tend to fare worse than public schools as far as access to diagnostic services in school: 38.5% of schools with less than 300 students provided these services compared to 63.1% of schools with over 1,000 students (NCES, 2024b). During the 2021-2022 school year, 17% of public schools reported offering telemental health services in some way (Panchal et al., 2022).

The use of telemental health skyrocketed during the COVID-19 pandemic and has continued to help reduce disparities for homebound, online, rural, or under-resourced schools (Panchal et al., 2022).

Key context to remember for all of the above statistics is that just because a school reports providing these services, it does not mean that schools are properly staffed, that the quality of services is high, or that the services are even implemented (Richter et al., 2022). Oftentimes SBMHS are implemented on a disjointed basis with limited resources and untrained staff providing services (Richter et al., 2022). For example, a school may say that they offer screening services, when in reality they send out a survey and do not follow up on the results. These factors can make SBMHS offerings look more complete than they actually are and can make finding legitimate data on the SBMHS offerings of schools challenging (Richter et al., 2022). More than anything, services are often influenced by the staff available.

Due to discrepancies in resources and size, staffing models vary largely across schools (Panchal et al., 2022). School counselors are the most commonly reported staff, but they are both ill-equipped and outside of their scope of practice to offer extensive mental health services (Zabek et al., 2023). The American School Counseling Association (ASCA, 2023) recommends that school counselors spend 80% of the day on direct or indirect services to students and 20% of the day on program planning and school support. These direct services include implementing academic achievement programs, helping students manage emotions and build interpersonal skills, and assisting students plan for postsecondary options (ASCA, 2023). Schools typically fall far short of the recommended ratios of both school counselors (250:1) and school psychologists (500:1)

(Panchal et al., 2022). School counselor ratios in the United States range from Vermont (171:1) up to Arizona (645:1) with the average ratio in the United States being at least 385:1 (ASCA, 2024). Worryingly, school social workers perform even worse when it comes to ratios (School Social Work Association of America [SSWAA], 2022). School social workers are recommended to also maintain a 250:1 ratio, yet no states are believed to reach this number, although reporting is inconsistent (SSWAA, 2022). Other mental health providers in schools can be district-employed licensed mental health professions (reported by 68% of schools) and external mental health employees (51%) (Panchal et al., 2022). Responding to increased mental health concerns as a result of the pandemic, 67% of public schools reported that they increased mental health services to students; however, only 41% of schools reported hiring new staff members to focus on student mental health (Panchal et al., 2022). Staffing shortages are usually driven by budget constraints and a shortage of school mental health workers for hire (Panchal et al., 2022). Staffing shortages often lead to students' needs being unidentified and services being inadequate (Panchal et al., 2022).

SBMHS are implemented for all students; however, some students seem to benefit more than others. Underinsured, underprivileged, and minority adolescents are less likely to have access to reliable mental health services, and these students rely heavily on schools to receive treatment (Hoover & Bostic, 2021; Saloner, 2017; Stempel et al., 2019). Many adolescents in these categories either do not receive mental health services outside of schools at all or are commonly swept up by the juvenile justice system to attempt to manage mental health symptoms (Hoover & Bostic, 2021; Rawal et al., 2004). Schools are also an essential intervention point because many students do not attend their

first mental health visit when referred to a community provider (e.g. Gonzalez et al., 2009). Students identify familiarity and convenience as reasons to attend services provided at their school compared to services through community mental health or a hospital (Larson et al., 2017; O’Leary et al., 2014). Offering students access to SBMHS is an essential step for students to receive these services. The next step is to ensure that the services available are utilized.

Utilization

SBMHS utilization has been increasing year over year for the past several years (Stuenkel et al., 2023). One study showed that at the SBHCs they studied, students were more likely to visit for mental health reasons both as a first time visit and recurring visit year over year from 2018 to 2021 (Stuenkel et al., 2023). One meta-analysis on self-reported mental health treatment in adolescence found that 7.3% of the sample reported receiving SBMHS, 7.3% received treatment in outpatient settings, and treatment at all other settings were under 2% (Duong et al., 2020). A similar pattern was found in adolescents with elevated mental health symptoms, with 22.1% serviced by SBMHS, 20.6% in outpatient settings, and other settings accounting for less than 10% each (Duong et al., 2020). Some populations are more likely to utilize SBMHS than others.

Adolescents who tend to utilize SBMHS more are those who come from families with lower socioeconomic status, receive state insurance, are adolescents of color, and are females (Locke et al., 2016; Murphy & Kim, 2023). Examining utilization patterns can help further understanding of SBMHS.

Adolescents seek SBMHS for certain presenting concerns more than others. One study found three different profiles of students who sought services at school: no specific

reason listed (51%), depression (42%), and multiple endorsements (depression, relationships, school problems, etc.) (7%) (Murphy & Kim, 2023). The “no specific reason listed” group could be a result of non-identification with survey categories or an inability to identify specific issues (Murphy & Kim, 2023). Generally, these profiles align with a previous nationwide study that found students cited depression (20%), problems at school (14%), problems with friends (12%), breaking rules (12%), and problems at home (9%) as their primary reasons for seeking SBMHS (Ali et al., 2019). A different study reported that students cited depression (44.1%), feeling afraid or tense (23.8%), problems at school (22.8%), attempting suicide (17.0%), problems with friends (16.0%), breaking the rules (13.9%), and problems with family (12.0%) (Murphy & Kim, 2023).

Differences occur across studies depending on the composition of the samples, who determines the presenting concern (the mental health clinician or student), or the options available for presenting concern selection. Utilization can also vary based on symptoms that present themselves in school.

Internalizing and externalizing symptoms are often identified and addressed differently in schools, leading to different utilization patterns. Students who are referred to SBMHS also may be more likely to demonstrate externalizing symptoms, since these behaviors are typically easier or necessary for school staff to identify (Farahmand et al., 2011; Murphy & Kim, 2023). Adolescents with externalizing symptoms that cause disruptions in classes are more likely to have mental health issues addressed in school (Ali et al., 2019). Internalizing symptoms are typically more challenging for school staff to identify (Askari et al., 2021). Problematically, externalizing symptoms are decreasing and internalizing symptoms are increasing, leading to schools who rely on externalizing

symptoms for detection of mental health challenges to fall short of meeting student needs (Askari et al., 2021).

Despite SBMHS oftentimes being available for adolescents, they are still not always utilized (Fazel et al., 2014). While SBMHS overall have been recognized as reducing barriers for access (Langley et al., 2010), adolescents still identify some barriers that prevent utilization. According to one study, students identified confidentiality, stigma, and lack of connection as barriers to accessing SBMHS (Liu et al., 2022). Self-stigma obtained from parents, culture, or society at large toward mental health issues can dissuade students from utilizing services at school (Hoover & Bostic, 2021). Students may be concerned about reaching out for services if they are concerned it could affect their reputation or academic standing (Hoover & Bostic, 2021; Rössler, 2016). Parents have noted that a lack of information and negative stigma associated with mental health issues can be barriers for their children when determining whether to reach out for services (Clement et al., 2014; Hansen et al., 2021; Murphy & Kim, 2023). Additionally, mental health issues have unfortunately been inappropriately used to exclude students from regular school environments and rightfully damaged both parents' and students' trust in the system (Bowman-Perrott et al., 2011; Hoover & Bostic, 2021). Hispanic students are less likely to access SBMHS, especially if they come from a non-English speaking family (Kim et al., 2011). This lack of trust is likely due to both mistrust in the system and a lack of education around mental health (Kim et al., 2011). Residing in the Southern United States also makes it less likely that an adolescent seeks mental health services in both school and community settings, where mental health treatment is more

stigmatized (Ali et al., 2019). Services must be utilized for them to be effective. Beyond utilization, there are other components that influence the effectiveness of SBMHS.

Effectiveness

Students who participate in SBMHS tend to improve across a number of different outcome variables (Ross et al., 2020). Effect sizes for SBMHS are often small but can add up to a meaningful impact (Foulkes & Stringaris, 2023). Studies have found that SBMHS have been linked to reduced substance use (Carney et al., 2011; Langley et al., 2010), reduced self-reported suicide attempts (Golberstein & Kronenberg., 2022), and improvement in adolescent overall health and well-being (Goldberg et al., 2018). Evidence also supports positive outcomes on academic achievement outcomes such as test scores, attendance, and grades (Kase et al., 2017). The effectiveness of SBMHS often depends on certain programmatic features.

Numerous factors contribute to the success of a SBMHS such as the student attendance, relationship with provider, stakeholder buy-in, and intervention provider (DeFosset et al., 2017; Golberstein & Kronenberg, 2022). One individual program effectiveness study demonstrated that students who attend more services with a school-based mental health provider improved compared to those with less attendance (Ross et al., 2020). Adolescents have reported that the quality of the relationships with school personnel and if they believed their treatments would be efficacious were contributing factors to SBMHS's perceived success (DeFosset et al., 2017). Stakeholder buy-in is consistently central to successful SBMHS for funding and school culture (Goodman & Sanders Thompson, 2017; Richter et al., 2022). These stakeholders can include administrators, mental health clinicians, educators, students, and families (Richter

et al., 2022). Interestingly, some evidence supports that third-party interventions have been superior to those delivered by school staff when treating adolescents (Foulkes et al., 2024; Werner-Seidler et al., 2017). This relationship still requires further exploration. Effectiveness of interventions and SBMHS overall can also depend on having a framework. I discuss the most popular SBMHS framework and some of its common interventions below.

Multi-Tiered Systems of Support

There are numerous approaches to SBMHS; however, the predominant approach is known as Multi-Tiered Systems of Support (MTSS) (Goodman-Scott & Ockerman, 2019). MTSS can be defined as “comprehensive frameworks that provide individualized support to students through a tiered system of evidence-based interventions” (Nitz et al., 2023, p. 1). MTSS is not a specific set of interventions or approaches, but rather is best understood as the overall umbrella where services are organized (Goodman-Scott & Ockerman, 2019). Walker et al. (1996) applied a three-tiered system of support to the educational setting for the first time, borrowing from the Institute of Medicine. In 2015, the *Every Student Succeeds Act* (ESSA) was passed to make MTSS the standard operating procedure across schools to promote uniformity and improve interventions (ESSA, 2015). Although ESSA did not make MTSS mandatory at the federal level, funding opportunities were made available for schools who implemented the system (Goodman-Scott & Ockerman, 2019). Additionally, some states have mandated the use of MTSS, especially in elementary schools (e.g., Michigan’s Multi-Tiered Systems of Supports, 2020). MTSS relies on structural functions such as efficient district and school teamwork, evidence-based and data-driven decision-making processes, and systems for

continually refining plans and interventions (Hoover & Bostic, 2021; McIntosh & Goodman, 2016). MTSS applies to educational, behavioral, and mental health goals; however, I will focus on the application to mental health goals.

Mental health services in MTSS can include school-wide mental health curriculum and initiatives, traditional individual and group therapy, supporting and training school staff on student mental health, providing resources for community mental health support, parent training, and initiatives to reduce mental health stigma (Murphy & Kim, 2023). These interventions are best understood in the tiered system that MTSS provides. The three tiers that comprise MTSS are *universal and primary prevention* (Tier 1), *indicated or secondary prevention* (Tier 2), and *intensive or tertiary prevention* (Tier 3) (Goodman-Scott & Ockerman, 2019). Students can move up and down the tiers at any time depending on their assessments, and may be in different tiers across mental health and education (Hoover & Bostic, 2021). I discuss the three tiers and mental health interventions within each of them below.

Tier 1

Tier 1 services are the most inclusive tier and should ideally extend to 100% of the student population (August et al., 2018). These services are expected to assist 80% to 90% of students at a sufficient level (August et al., 2018). Tier 1 services are focused on both building social and emotional skills and screening for any potential need to escalate the student to Tier 2 services (Goodman-Scott & Ockerman, 2019). Tier 1 services can be implemented at the school, grade, or class level (Hoover & Bostic, 2021). Popular interventions at this level include social-emotional learning (SEL) interventions, which are defined as programs designed to increase students' social and emotional knowledge,

awareness, and skills (August et al., 2018). A specific example of a Tier 1 intervention is periodic depression screening questionnaires distributed to students. Tier 1 services are implemented across almost all schools, and studies have been conducted on their effectiveness.

Studies on Tier 1 interventions have found moderate effectiveness (e.g., Abry et al., 2013; Durlak et al., 2011; Tyson et al., 2009). SEL programming has been connected to increased academic test scores (Durlak et al., 2011), lowered depression rates (Tyson et al., 2009), improved social skills with peers (Abry et al., 2013), reduced unwanted behaviors (Bradshaw et al., 2009), and anxiety and depression prevention (Calear & Christensen, 2009; Neil & Christensen, 2009) (Hoover & Bostic, 2021). Another meta-analysis on Tier 1 whole-school interventions found small but significant improvements in social and emotional adjustment, behavioral adjustment, and internalizing symptoms (Goldberg et al., 2018). This study found no improvement in academic achievement (Goldberg et al., 2018). Unfortunately, this meta-analysis also found that just over half of the studies included met the criteria for a strong quality assessment (Goldberg et al., 2018). The studies that were deemed weak or moderate possessed significantly larger effect sizes (Goldberg et al., 2018). A qualitative study found that some students reported universal SBMHS interventions to be relaxing, enjoyable, helpful, enlightening, and useful (Bannirchelvam et al., 2017; Foulkes et al., 2024; Garmy et al., 2015; Skryabina et al., 2016). Educators perceive anti-bullying policies to be effective, but overall results are mixed on whether bullying policies reduce bullying (Hall, 2017). Bullying policies specifically intended to protect Queer adolescents do seem to be effective at reducing harassment (Hall, 2017). While there are numerous

types of Tier 1 interventions, one specific Tier 1 intervention implemented in most schools is mental health curriculum.

Mental Health Curriculum.

Mental health curriculum (MHC) is one of the most popular Tier 1 interventions at all levels of public school (August et al., 2018). MHC are interventions that help increase mental health literacy (MHL), which is defined as “knowledge and beliefs about mental disorders which aid their recognition, management, or prevention” (Jorm et al., 1997, p. 183). MHC typically fall into one of two categories: MHC that address a specific condition or gap (e.g. depression, social skills) or that lower stigma and provide knowledge about mental health or emotions in general (McLuckie et al., 2014). MHC can be taught by school mental health clinicians or integrated into preexisting classes by teachers (August et al., 2018). Multiple states require MHC to be taught in schools (Hoover & Bostic, 2021). Examples of common state requirements for curriculum content are understanding how to acquire strong mental health, decreasing mental health stigma, improving self-efficacy around mental health, and psychoeducation about mental health disorders and potential treatments (Hoover & Bostic, 2021).

Several studies have analyzed MHC effectiveness in schools. A randomized controlled trial (RCT) depression education program demonstrated a statistically significant higher level of depression literacy compared to waitlist controls (Swartz et al., 2017). A block RCT of 6th grade students divided students into three groups: a mental illness anti-stigma MHC, contact with two adults with mental illness, or printed materials/no intervention controls (DuPont-Reyes et al., 2020). The MHC was reportedly more effective both immediately and long term at minimizing violence than the contact

and control groups (DuPont-Reyes et al., 2020). Another study analyzed a K-12 MHC implemented in two groups: one group fully online and one group hybrid (dos Santos et al., 2022). Results demonstrated positive effects from both groups; however, the hybrid group demonstrated improved marks on decision-making, internalizing symptoms, and academic achievement compared to the fully online group (dos Santos et al., 2022). Another study evaluated surveys of students who attended a mental health course taught by their teachers (Mcluckie et al., 2014). Students' MHL and attitude towards mental health significantly improved and was maintained after two months (Mcluckie et al., 2014).

Some effectiveness results of MHC have been mixed (McCurdy et al., 2024). One multi-year study measuring the effectiveness of a mindfulness-based program with adolescents found improvement in internalizing symptoms (McCurdy et al., 2024; Vohra et al., 2018), whereas a similar study found no improvement (Kuyken et al., 2023). An RCT involving middle school girls that compared a mindfulness-based intervention to control for six weeks found no significant improvement in primary coping skills (McCurdy et al., 2024). A meta-analysis on school-based stress prevention programs found no significant stress reduction (Feiss et al., 2019). One established evidence-based MHC in Canada called *The Guide* (Kutcher, 2009) has been shown to improve MHL and decrease stigma in both the short term and long term (Mcluckie et al., 2014; Kutcher et al., 2015; Wei et al., 2022). These results should be taken with some caution though, since all 27 published articles are at moderate to high risk for bias (Warford, 2019). Additionally, the primary authors (Kutcher or Wei) appear on all papers regarding *The Guide's* effectiveness (Warford, 2019). Other recent reviews on MHC have found that

school-wide interventions have failed to show the expected improvements and made a minimal impact on academic achievement and student well-being (e.g. Durlak et al., 2011; Goldberg et al., 2018). Despite mixed results on the effectiveness of Tier 1 interventions, MTSS operates as though most students are sufficiently serviced at this level.

Tier 2

Students who are either not showing progress in Tier 1 services or have been flagged by screening are escalated to Tier 2 services (Goodman-Scott & Ockerman, 2019). These services typically include 10% to 20% of students in a school (Nitz et al., 2023). Students who meet the criteria for Tier 2 services may be experiencing mental health distress or are at risk of developing mental health concerns (Hoover & Bostic, 2021). The goal of these interventions is to close the gap toward the expected functioning or reduce the risk of a student developing a mental health disorder (August et al., 2018). Tier 2 services are often executed through small groups or brief individual interventions (August et al., 2018). Common content of these small groups includes topics that intend to increase a student's MHL or SEL (August et al., 2018). The brief individual interventions tend to focus on making connections with students more than treating their specific mental health concern directly (Sottolare & Blair, 2023). For example, a Tier 2 intervention might include a social skills development group for students who report feeling isolated, have been flagged as at risk through screening, or identified by a teacher.

Tier 2 interventions have not been adopted as quickly at the high school level compared to the elementary and middle school levels to this point (Flannery et al., 2014; Kittelman et al., 2018). These lower rates of adoption could be due to the multiple

differences between the elementary and high school settings including (a) the size of the school (students, classes, and physical size); (b) the independent systems that operate within a school, making coordination more challenging; (c) the school culture and its potential focus on academics over social and behavioral skills; and (d) the developmental and age differences (Flannery et al., 2014; Kittelman et al., 2018). High schools are often under-resourced and understaffed along with competing priorities, which leads to only the implementation of Tier 1 interventions as available and Tier 3 in severe situations without the implementation of Tier 2 (Kittelman et al., 2018).

Despite challenges implementing Tier 2 interventions in high schools, some studies have found them to be effective (e.g., Lindsey et al., 2019; Tyrer et al., 2014). One established Tier 2 intervention titled the *Coping Power Program* has been effective at reducing aggressive behavior, drug misuse, and delinquency for at-risk students (Lochman & Wells, 2002). Other Tier 2 interventions with demonstrated effectiveness include those targeting students at-risk for developing mental health concerns such as students from low-income urban settings (Tyrer et al., 2014) and racial minority groups (Lindsey et al., 2019). One RCT that combined MHL and dialectical behavior skills for developmentally disabled students found that student-reported measures of self-concept, coping skills, and social support all improved (Katz et al., 2020). One massive meta-analysis included over 213 targeted school-based SEL programs for students across all grade levels (Durlak et al., 2011). The study found that there was a significant improvement in social-emotional skills and academic performance compared to control groups (Durlak et al., 2011). Another large meta-analysis found that SBMHS had a moderate effect on reducing psychological distress, yet these results were primarily found

in studies with programs that had a targeted population and intervention (van Loon et al., 2020). I discuss three of the most common Tier 2 interventions below.

Check-Ins.

Check-ins are a popular Tier 2 intervention at the elementary and middle school level, and they are growing in popularity at the high school level (Sottolare & Blair, 2023). Check-ins refer to a variety of different types of brief formal or informal meetings with students (Sottolare & Blair, 2023). Check-ins are implemented primarily when the student's disruptive behavior or mental health concerns could be improved by specific expectations for appropriate behavior, reliable adult attention and feedback, increased structure, and improved collaboration among student, school, and home (Filter et al., 2007; Hawken et al., 2011; Sottolare & Blair, 2023). The evidence-based practice called Check-in/Check-out (CICO) is widely used with over ten thousand schools and 4.6 million students utilizing the CICO-SWIS tracking database (Sottolare & Blair, 2023). There are four components to CICO: (a) students check-in with a designated adult in the morning to receive their daily report card (DRC) and review the day's expectations, (b) students receive feedback throughout the day from teachers and other school staff, (c) students check-out at the end of the school day with their designated adult and review their DRC, and (d) either the DRC or a summary of it are sent home for a family member to review, sign, and return (Sottolare & Blair, 2023; Weber et al., 2019). Evaluating the effectiveness of this widely utilized intervention is critical.

There are limited studies that have evaluated the effectiveness of CICO. One review completed by Hawken et al. (2014) studied CICO across elementary and secondary schools. This study found that the median effect sizes for elementary schools

were larger than those for secondary schools (Hawken et al., 2014). These results indicate that CICO may be more effective for younger students; however, Drevon et al. (2018) found that CICO in elementary and high schools seemed to be similarly effective. When asked about implementation in their school, 82% of high school CICO coordinators either *agreed* or *strongly agreed* with continued implementation (Kittelman et al., 2018). Of the same CICO coordinators, 78% responded that they made modifications to the typical CICO protocol to better meet the needs of their students. Some of these modifications included changing the DRC, adjusting academic supports, changing the check-in and check-out process, altering or eliminating feedback to parents, and promoting more student involvement in the process (Kittelman et al., 2018). A specific modified version of CICO for high school students (CICO-Secondary) attempts to maintain the main features of CICO while emphasizing self-regulation through electronic DRCs, student and teacher training, self-evaluations, and electronic messaging with parents or guardians (Kittelman et al., 2023). CICO-Secondary has been found to lead to improved student academic engagement (Kittelman et al., 2023). One RCT analyzed CICO-Secondary (Flannery et al., 2024). Although there was not enough power due to the sample to make any conclusions, they found small to moderate effect sizes in student attendance and teacher ratings of student behavior (Flannery et al., 2024). Even with CICO implemented, it is often unclear how qualified the administering staff are who are involved in the intervention. Both CICO and CICO-Secondary are potentially promising Tier 2 interventions that require more research. Another popular Tier 2 intervention is mentoring.

Mentoring.

Mentoring programs are Tier 2 interventions that are commonly administered both inside and outside of schools (Busse et al., 2018). While there is no single accepted definition of mentoring, the three general core elements are the mentor being a person with more experience than the mentee, the mentor focusing on the growth and development of the mentee through guidance or instruction, and a social or emotional bond (Busse et al., 2018; DuBois & Karcher, 2005). Mentorships can be either formal or informal; formal pairings are typically studied and implemented as an intervention in schools (Busse et al., 2018). Traditional mentoring relationships consist of one adult and one child, yet there are a variety of types of mentoring relationships. Mentoring programs can vary by type of mentor (peer, school staff, volunteer adult, etc.), structure (formal, informal, time-limited, group, etc.), setting (school, community, internet, etc.), and program purpose (mental health, educational, social, etc.) (Busse et al., 2018; Luo & Stoeger, 2023). Although mentoring programs were originally created to support at-risk students, all students (including high-achieving and gifted students) can also benefit from targeted mentoring programs (Luo & Stoeger, 2023). School-based mentoring programs often focus on social-emotional health (e.g., developing a healthy and supportive relationship with a mentor for an at-risk student) or future career goals (e.g., gifted science student paired with science teacher) (Luo & Stoeger, 2023). Some of the benefits of school-based mentoring compared to community-based mentoring are ease of access, convenience and comfort at a central location, and integration into the school schedule for increased adherence and consistency (Luo & Stoeger, 2023).

Traditional, peer, group, and informal mentoring relationships in schools have all demonstrated some effectiveness (e.g., Green et al., 2022; Werntz et al., 2023). Across all mentoring formats, a strong mentoring relationship tends to be associated with positive outcomes (Werntz et al., 2023). Looking at traditional mentoring pairs, an RCT utilizing the evidence-based *Speaking to the Potential, Ability, and Resilience Inside Every Kid* (SPARK) adolescent mentoring program with high school students from four high schools (Green et al., 2022). The SPARK group improved in their MHL, resilience, communication, and problem solving-skills compared to the control group (Green et al., 2022). Peer mentoring programs with an older or more experienced student mentoring a young or less experienced student can be effective with proper training, support, and oversight (Akinla et al., 2018). While mentoring is typically conducted one-on-one, group mentoring has recently been studied (Kuperminc et al., 2019; Plourde et al., 2017). Two studies utilized a group mentoring program called *Project Arrive* that worked with 9th grade students who were identified as high dropout risk in a school-based mentoring program (Chan et al., 2019; Kuperminc et al., 2019). The mentored students performed better in a number of areas compared to matched controls; these improvements included more credits by the end of the school year, increased school time by the end of ninth grade (Chan et al., 2019), higher levels of reported school belonging, more reported peer relationships, and improved problem solving skills (Kuperminc et al., 2019). Informal mentoring has also demonstrated positive outcomes (Aguayo et al., 2021). One study asked students if they had one teacher or adult in their school they could talk to and feel safe (Aguayo et al., 2021). The students who responded *yes* reported lower odds of

suicidal ideation, planning, and attempts (Aguayo et al., 2021). These studies have shown that when executed correctly, mentoring can be a successful intervention.

Despite some studies with demonstrated effectiveness, there are still concerns about school-based mentoring programs. Some of these concerns are if the programs are minimally effective, not effective, and multicultural appropriate (Heppen et al., 2017; Jones et al., 2022; Luo & Stoeger, 2023). Mentoring programs often fail to demonstrate anything more than minimal effect sizes despite their popularity and potential (Luo & Stoeger, 2023). This gap between the actual and potential outcomes of mentoring is referred to as the “mentoring paradox” (Luo & Stoeger, 2023, p. 3072). Some potential reasons for this paradox described in the literature are lack of appropriate planning, training, and implementation of programs; lack of adherence to evidence-based or best practices; and a lack of oversight and quality assurance overall (Luo & Stoeger, 2023). Similarly to CICO, individuals offering mentoring may not be adequately trained (Luo & Stoeger, 2023). These services are oftentimes not administered by trained mental health professionals (Luo & Stoeger, 2023). Additionally, many mentoring programs tend to support minority identity mentees, yet are led by majority identity mentors (Jones et al., 2022). One qualitative study examined the experience of White mentors discussing race with their Black mentees (Jones et al., 2022). Results showed that some mentors found the discussion of race uncomfortable, and others did not find race relevant to the mentor-mentee relationship (Jones et al., 2022). If majority mentors do not discuss race in an appropriate manner with their minority mentees, they could be causing unintentional harm through microaggressions and misunderstandings (Jones et al., 2022). While this study was completed with community and not school mentors, the implications for the

mentor-mentee relationship still hold. Finally, Heppen et al. (2017) conducted a study on a structured mentoring program with at-risk 8th and 9th grade students who were randomly assigned to receive mentorship for three years or be in a control group. At the conclusion of the study, there were no statistically significant differences between the mentoring group and control group on measures of engagement, academic progress, dropout rates, or graduation rates (Heppen et al., 2017). Outside of group mentoring programs, another Tier 2 group intervention offered in schools is group counseling.

Group Counseling.

Group counseling is another common Tier 2 intervention (August et al., 2018). There are different types of groups such as psychoeducational (e.g., social skills training), counseling, and support (August et al., 2018). Some components that help groups be successful are collaborative approaches, adequate training, and groups that fit within the school curriculum (Asadi & Mede, 2024). Group counseling can encourage adolescents to build skills such as peer relationship skills, empathy, vulnerability, and social skills (Koçak & Çelik, 2022). When adolescents are able to relate to other adolescents with similar concerns, they can feel more belonging and less isolation (Koçak & Çelik, 2022).

School-based group counseling has had mixed effectiveness outcomes. Group counseling in schools has been found to help students develop positive identities and self-esteem, increase academic achievement, decrease school burnout, and build both emotional well-being and peer relationships (Banat et al., 2020; Koçak & Çelik, 2022). They have also been found to be effective at reducing parent-adolescent conflict (Haddad et al., 2018) and reducing trauma-related mental health harms (Bhatt et al., 2023). Not all results have been positive though; in one study, CBT group therapy was not effective at

reducing students' anxiety scores (Taspinar et al., 2017). Additionally, less studies that examine the effectiveness of school-based groups are being created than before (Steen et al., 2022). Reasons for this drop in research could include ethical issues around group work with students, small effect sizes in research, or the challenges of facilitating large scale group interventions with rigorous research designs that meet evidence-based standards (Steen et al., 2022). Since less studies are being completed that evaluate the effectiveness of school-based group counseling interventions, conclusions on their effectiveness are limited.

Diversity, equity, and inclusion are key to consider when implementing a school-based group, since disadvantaged groups are more likely to be harmed in a group setting (Beasley et al., 2023). Unfortunately, according to one study, only about 52% of school group leaders considered power, privilege, and intersectionality in school group implementation (Beasley et al., 2023). School counselors who identify as Black or African American are more likely to consider these characteristics when leading their groups (Beasley et al., 2023). While school groups can be harmful for minority adolescents if power and privilege are not considered, school groups can instead be helpful when conducted correctly (Craig, 2013). In one study, an eight-session psychoeducational small group with Black high school students increased self-efficacy (Havlik et al., 2020). In another study, Queer youth reported improved self-esteem after an affirmative school-based group counseling intervention (Craig, 2013). There are already limited studies on school-based group counseling effectiveness, and unfortunately there are even less studies on counseling groups with minority students. Further research

is needed to gain a more complete understanding of the effectiveness of all Tier 2 interventions at the high school level including CICO, mentoring, and group counseling.

Tier 3

Students who either decline or do not demonstrate the necessary progress in Tier 2 services are then escalated to Tier 3 services (Goodman-Scott & Ockerman, 2019). When Tier 1 and Tier 2 interventions are effective, around 5% of students should need to receive Tier 3 services (Nitz et al., 2023). Tier 3 interventions are the most intensive services for students who show high risk factors and low protective factors with severe mental health, behavioral, and/or functional impairments (Goodman-Scott & Ockerman, 2019; Hoover & Bostic, 2021). These students typically either have chronic needs or have experienced a crisis (August et al., 2018). While schools are certainly not an appropriate setting for the most severe mental health concerns and cannot serve as a replacement for intensive mental health care, they will still often have these struggling students in attendance (Hoover & Bostic, 2021). These interventions are typically individualized and specialized (August et al., 2018). An example of a Tier 3 intervention is regular one-on-one therapy with a school-based mental health clinician.

Tier 3 interventions tend to have less of an evidence base due to their individuality depending on the student and their needs (Hoover & Bostic, 2021). Tier 3 interventions have been successful at reducing psychological stress for students affected by trauma (Kataoka et al., 2011; Hoover, 2018), substance use (Benningfield et al., 2015), and social anxiety (Masia-Warner et al., 2005). One review examining RCTs of SBMHS designed to reduce anxiety or depression found small effect sizes for both programs post-intervention (Werner-Seidler et al., 2017). Smaller effects were sustained at

12-month follow-up for both anxiety and depression reduction (Werner-Seidler et al., 2017). Unfortunately, the authors of the review reported that the quality of the studies reviewed was poor (Werner-Seidler et al., 2017). Individual counseling is the most common Tier 3 intervention (August et al., 2018).

Individual Counseling.

Individual counseling is a Tier 2 or Tier 3 intervention utilized in SBMHS (August et al., 2018). The intervention can be Tier 2 or 3 depending on the treatment plan for the student (August et al., 2018). Brief, time-limited, and less frequent individual counseling sessions meet the criteria for a Tier 2 intervention, whereas lengthy sessions that are frequent for a longer period of time meet the criteria for a Tier 3 intervention (August et al., 2018). Individual counseling in schools tends to not have a strong literature base since the effectiveness of individual counseling outside of schools with adolescents has a rich literature base (e.g., Crowe & McKay, 2017; Eckshtain et al., 2020; Rith-Najarian et al., 2019).

Many studies evaluating effectiveness of individual counseling as a SBMHS compare it to group counseling interventions. A Taiwanese school-based intervention comparison between individual and group interventions found that adolescents in the individual counseling group were more likely to quit smoking compared to the group intervention, although both helped in quitting (Chang et al., 2024). In a small single high school study, individual CBT counseling was found to be superior to a group counseling intervention in forgiveness for students who were victims of bullying, but did not demonstrate any improvement in understanding bullying (Darimis et al., 2022). One study looked at solution-focused brief therapy (SFBT) school-based interventions in a

review to see the effectiveness (Franklin et al., 2023). This review found that students who received SFBT were significantly improved compared to students in waitlist control; however, the students who received SFBT were not significantly different from students who received treatment as usual (Franklin et al., 2023). Another study comparing group and individual counseling in a community sample when treating adolescent anxiety disorders found that there were no significant differences between the two treatment types (Guo et al., 2021). The literature is still largely supportive of individual counseling as a SBMHS intervention; however, these mixed results should be considered when making implementation decisions.

Summary

While some studies evaluating MTSS have found the services to be effective, many schools struggle to implement the system due to resistance to change, difficulties applying the theory to practice, or lack of information or resources (Goodman-Scott & Ockerman, 2019). MTSS can also be more challenging in schools with a high at-risk population, where higher tier services may be overburdened and staff are unavailable for lower tier services. Additionally, MTSS relies on an efficient and effective system that works as a whole. When schools are underfunded, under-resourced, and understaffed, various tiers can break down which renders the entire system ineffective. Even when we have statistics on the prevalence of certain mental health interventions, it is still unclear who is providing these services and if they are meeting the standards of a mental health treatment. The only way to assess if services are being implemented properly is through an appropriate evaluation process.

Evaluation

An important component of SBMHS implementation is the evaluation process. Proper evaluation is required to determine if a service or intervention is effective, ineffective, or even harmful. The *American School Counseling Association (ASCA) Ethical Standards for School Counselors* Code A.3.d. encourages school counselors to “review and use school and student data to assess and address needs...” (2022, p. 3). There are varied approaches to SBMHS evaluation. One of the components that researchers must consider is study design. With regard to study design, randomized controlled trials (RCTs) have often been considered to provide the most comprehensive findings of SBMHS (Bhide et al., 2018). However, there are multiple problems with RCT methodologies. Aside from study design, other notable variations in SBMHS evaluation include the outcome variable studied (e.g., symptom change, functioning, perception, etc.) and the source of the data (e.g., student, teacher, parent, etc.). I discuss issues related to RCT methodologies and study design, outcome variable studied, and the source of the data below.

RCT Methodologies and Study Design

RCTs have often been considered the gold standard for clinical trials and offer many strengths for research (Bhide et al., 2018). An RCT can be defined as a “prospective, comparative, quantitative study/experiment performed under controlled conditions with random allocation of interventions to comparison groups” (Bhide et al., 2018, p. 380). RCTs are typically rigorous and robust, yielding high-quality evidence for researchers and stakeholders (Bhide et al., 2018). Due to their perceived usefulness,

RCTs are a commonly used study design in evidence-based SBMHS research; however, there are drawbacks to consider (Bhide et al., 2018).

Two concerns with RCTs are the type of control groups used (i.e., passive vs. active) and the durability of effects. Passive controls require no intervention from the researchers and are oftentimes waitlist controls or non-intervention groups. Active controls use an alternative treatment. Given that passive controls are non-treatment groups, it is not surprising that studies using passive controls typically result in SBMHS demonstrating a higher degree of effectiveness than studies using active controls (i.e., an accepted treatment) (Karlsson & Bergmark, 2015). That is, when SBMHS are compared to no-treatment SBMHS they are likely to show higher effectiveness than when they are compared to an alternative treatment (Karlsson & Bergmark, 2015). This difference between active and passive controls becomes particularly problematic when RCTs are compiled into meta-analyses or reviews. These compilations often treat studies with passive controls the same as studies with active controls. Whether RCT studies are compiled into meta-analyses or not, it is important for researchers and theorists to consider how active and passive controls impact effectiveness findings about SBMHS (Karlsson & Bergmark, 2015). Another concern with RCTs is the durability of effects (Gutman & Schoon, 2015; Morgan et al., 2020). RCTs typically examine effects over a short period of time, and the long-term effects are not always known. This flaw becomes even more pronounced with a rapidly developmentally changing population like adolescents (Morgan et al., 2020; Rith-Najarian et al., 2019). Studies deemed low quality by meta-analysis authors typically suffer from high rates of dropout or do not report any

results post-intervention (Goldberg et al., 2018; Barry et al., 2013). Both of these concerns merit consideration when evaluating RCTs.

There are also additional concerns about RCTs with SBMHS specifically. Adolescents may be excluded from mental health RCT studies due to suicidality or co-morbidity to meet the RCT standards of rigorous control (Morgan et al., 2020). Some evidence for clinical trials suggests that 40% to 60% of adolescents with depression are excluded from clinical trials for antidepressants or psychotherapy (Blanco et al., 2017; Morgan et al., 2020). While we do not have the data for adolescents excluded from SBMHS RCTs, the likelihood that SBMHS RCTs often exclude potential participants should be considered. Another concern about RCTs is that cluster RCTs (i.e., assigning one school or class to one condition and another matched school or class to the other condition) are often utilized in a school setting. These studies struggle to meet the more rigorous standards of the true intention of an RCT: randomizing and evenly distributing both known and unknown factors between the control and intervention groups (Frieden, 2017).

Even if the study is a true RCT and not a cluster RCT, there are still several limitations to consider when reviewing the results. One of the limitations of these designs is the generalizability to other samples or situations (Frieden, 2017; Morgan et al., 2020). RCTs are often conducted under strict experimental conditions that are dissimilar to how the interventions may normally be administered in a school setting (Morgan et al., 2020). Each school and class has unique culture, students, staff, and context leading to additional limits in generalizability (Fazel et al., 2014). Therefore, the results of an RCT study may not generalize to other SBMHS. Finally, RCTs also may not be appropriate for the

ever-changing school setting (Frieden, 2017). The high costs and long period of time that RCTs take to implement may not be an efficient way to gather information on SBMHS (Frieden, 2017). Research necessarily lags behind clinical innovations, but the fast-paced and reactive nature of schools makes these waits even more apparent (Frieden, 2017). When schools are in emergency states due to the most recent crisis (e.g., COVID-19, school shootings, vaping), RCTs struggle to keep up.

Problematically, journal publications and researchers are often biased toward RCTs. This bias leaves little room for quicker, more cost-effective, larger, and potentially more generalizable studies to be published (Frieden, 2017). Since SBMHS research relies on RCTs, these RCTs are often compiled into meta-analyses. Oftentimes, non-RCT study designs are excluded from meta-analyses (Yao et al., 2023). Meta-analyses can also perpetuate other issues with evaluation, such as poor research methods, incomplete reporting, and publication bias (Yao et al., 2023). Small studies tend to demonstrate larger effect sizes, which can lead to more challenges when determining true effectiveness (Driessen et al., 2015). Meta-analyses may not be appropriate for treatment recommendations, since they take broad and heterogeneous groups of problems and outcome measures (Weisz et al., 2018). Trends identified by these meta-analyses may not be generalizable or helpful when making school or individual intervention decisions (Weisz et al., 2018). Eliminating all other study designs from meta-analyses has been criticized since it restricts the data to only one type of study (Frieden, 2017). Ultimately, no study design is perfect, but publishing RCTs over other study designs creates gaps in the literature.

Outcome Variable Studied

The common outcome variables studied have shaped the SBMHS literature to this point. Hoagwood et al. (1996) proposed a conceptual model for children and adolescent mental health treatment outcomes that include the five domains of symptoms, functioning, consumer perspectives, environments, and systems (Hoagwood et al., 1996). The most common primary outcome of interest in general mental health and SBMHS treatment studies has been symptom reduction (Becker et al., 2011). In this regard, one review found that nearly all RCTs assessing childhood and adolescent behavioral and emotional problems included at least one outcome measure of symptoms (Becker et al., 2011). The implications of this finding are that adolescent functioning, perceptions, environments, and systems are studied far less frequently than symptom reduction. This finding makes it challenging to draw conclusions about adolescent functioning or perceptions regarding SBMHS (Becker et al., 2011). While symptom reduction is a key outcome variable, other outcome variables also have merit and should be studied.

Multiple outcome measures are not typically measured against each other, but a recent study in England analyzed multiple types of outcome data (Krause et al., 2021). This study analyzed a large sample of adolescents with moderate to severe anxiety and/or depression symptoms (Krause et al., 2021). The study compared results of measures assessing internalizing symptoms, functioning, and progress towards self-defined goals (Krause et al., 2021). Adolescents who reported improved symptoms without functional improvement were observed in 24.0% of the sample (Krause et al., 2021). On the other hand, 34.8% of adolescents reported meaningful goal progress, but not statistically significant symptom improvement (Krause et al., 2021). Overall, 64.5% of cases had

discrepancies when all three domains were considered (Krause et al., 2021).

Improvement was the highest in the goal progress domain (69.9%) and lowest in the functioning domain (28.9%) (Krause et al., 2021). Improvement was observed across all three domains in only 15.6% of the cases (Krause et al., 2021). This study demonstrates the challenges that researchers and stakeholders face when determining appropriate outcome measures and how to assess meaningful change across multiple dimensions.

The acceptance of symptom change as the primary or sole indicator of treatment efficacy has real world implications (Becker et al., 2011). Researchers and stakeholders may be relying too heavily on one type of outcome measure (Weisz et al., 2018).

Evidence-based practice (EBP) is considered the gold standard for MTSS, and these EBP studies often solely assess symptom reduction (Becker et al., 2011). If only symptom reduction is analyzed, then some results may be overestimated, underestimated, or missed entirely (Becker et al., 2011). The precedent of symptom reduction as the primary and most meaningful outcome for SBMHS neglects other important facets to overall SBMHS outcomes.

Source of the Data

Evaluation can be complicated with adults, and even more so with children and adolescents (Brookman-Frazee et al., 2006). One of these challenges is the established discrepancies between adolescents' and parents' reports regarding both symptom and functional improvement (Brookman-Frazee et al., 2006). When key sources conflict about the change experienced, it can make evaluating treatment effectiveness challenging.

Multiple studies have evaluated the impact that source of the data can have on results. One recent meta-analysis that reviewed factors contributing to adolescent mental health outcomes found “informant” was a strong moderator showing significant effects with both posttreatment and follow-up analyses (Weisz et al., 2018). Adolescents and parents tend to report larger effects than teachers, but this can depend on the study design, measure, target problem, treatment, and control conditions (Weisz et al., 2018). For example, the authors found a strong informant effect on outcomes in adolescent depression treatment, but no significant informant effect on outcomes in adolescent anxiety treatment in the studies they reviewed (Weisz et al., 2018). Interestingly, Weisz et al. (2018) found more effects involving informants than any other moderator they studied. This study is consistent with other studies that show that informant agreement is modest at best on measures of adolescent functioning and mental health (De Los Reyes et al., 2015; Weisz et al., 2018). Another recent meta-analysis that analyzed adolescent depression treatment outcomes found that one of the moderators of the results was adolescent self-reported outcomes compared to parent reports (Eckshtain et al., 2020). Adolescents reported more improved outcomes compared to parent reports (Eckshtain et al., 2020). These studies demonstrate just one of the challenges of selecting an informant: that they often do not agree on the improvement or changes in adolescent mental health and functioning.

Adolescents may also report unique experiences compared to parents or teachers who are asked to assess treatment outcomes (DeFosset et al., 2017). One qualitative study asked adolescents with a history of truancy and mental health concerns about their experiences with SBMHS (DeFosset et al., 2017). These students reported both

internalizing and externalizing symptoms, but less than half were able to identify specific diagnoses or used clinical terms (DeFosset et al., 2017). These students also reported that the quality of the relationship with school staff and perceived efficacy of services affected the trajectory of their treatment (DeFosset et al., 2017). In one study some students reported that they liked a mindfulness intervention, but other students did not like the exercise in a classroom setting (Miller et al., 2023). Similarly, another study found that a school-based yoga intervention made several adolescent males uncomfortable and scared of being judged by classmates (Conboy et al., 2013). These SBMHS may be effective at other places or for some students, but if they are making students uncomfortable or socially unacceptable, then they are likely inappropriate (Foulkes & Stapley, 2022). These unique responses likely would not have been found through asking other informants about the students' change or experiences.

Other Problems with Evaluation

Both MTSS and other SBMHS models rely on rigorous EBP to support students effectively; however, these evaluation methods are often lacking. As discussed above, EBP focuses heavily on symptom change for outcome measures (Becker et al., 2011). If symptoms are the only outcomes monitored, EBP can be considered from the lens of “evidence-based for what purpose?” (Becker et al., 2011, p. 454). If we want to consider evidence of students' experiences, then some studies may need to look different than typical EBP (Becker et al., 2011). Unfortunately, other outcomes are difficult to measure to meet the standard of EBP, since there are limited measures that meet the rigorous standards (Becker et al., 2011). Both expanding the definition of EBP and validating

additional measures could encourage more multidimensional and variety in outcome measurements.

While there has been a proliferation of studies on SBMHS, some setbacks in the field are due to poor reporting, poor research methods, and inadequately powered studies (Werner-Seidler et al., 2017). These shortcomings can lead to confusion on the implementation or efficacy of an intervention, causing uncertainty about the utility for a specific school or student. For example, due to journal sanctioned word limits and poor reporting, the description and key details about program administration are often omitted (Anderson et al., 2018). One example of an omission is a description of the contextual factors in the school that could have led to unique results (Anderson et al., 2018). ASCA Code A.3.d. states the importance of considering diversity when assessing and servicing adolescents: “Review and use school and student data to assess and address needs, including but not limited to data on strengths and disparities that may exist related to gender, race, ethnicity, socioeconomic status, disability and/or other relevant classifications” (ASCA, 2022, p. 3). The lack of description over sample procedures and participant characteristics can limit generalizability (Anderson et al., 2018). Sample characteristics can impact effectiveness of certain interventions, since age, gender, SES, and race/ethnicity have all been found to impact effectiveness (Feiss et al., 2019; van Loon et al., 2020). Participant characteristics can be particularly challenging when determining efficacious interventions for minority adolescents. Demographic differences are often not adequately powered or able to be detected when studies are small in size. These omissions can lead to challenges when determining if an intervention is

appropriate for either implementation or comparison to other similar studies (Anderson et al., 2018).

Two other challenges with studying effectiveness of SBMHS are fidelity and the burden of data collection. Researchers and stakeholders must find the balance between fidelity (by keeping the intervention structured) and adaptability (by tailoring the intervention to the context) (Richter et al., 2022). Research protocols tend to require a strict adherence to the desired implementation procedure; however, real-world implementation often consists of adaptations to treatments (Richter et al., 2022). Additionally, study descriptions often do not include the hypothesized mechanism that led to successful change or improvement (Anderson et al., 2018). This concept being omitted could lead to adaptations made to interventions that harm the fidelity of the intervention. Another facet of SBMHS evaluation to consider is the burden of data collection. The additional burden that data collection can place on school staff, partnering agencies, and researchers can be overwhelming (Kang-Yi et al., 2023). The burden of collecting meticulous data with fidelity on top of an already full caseload can create challenges for school staff. A lack of transparency around fidelity and the burden of data collection are both troublesome with evaluation of SBMHS.

As can be a problem with all clinical efficacy trials and studies, publication bias can skew the overall literature base (Morgan et al., 2020). An analysis of grants distributed to fund psychological treatments found that trials without the desired significant result tend to not reach publication (Driessen et al., 2015). Positive and significant results are more likely to be published, resulting in an inflation of the overall effect when meta-analyses are completed (van Loon et al., 2020). Publication bias can be

even more problematic with SBMHS, since they rely heavily on an evidence base for their implementation decisions.

Summary

Conducting evaluations and collecting outcome data are essential for strengthening SBMHS (Krause et al., 2021). ASCA Code A.14.e. asserts the importance of comprehensive evaluation: “Use multiple data points, both quantitative and qualitative whenever possible, to provide students and families with complete and accurate information to promote students’ well-being” (ASCA, 2022, p. 6). Outcome data guides decision-making about services offered, utilization of funds, and stakeholder priorities (Krause et al., 2022). To be able to make these informed decisions, pertinent and reliable measures and administration protocols must be used and followed (Krause et al., 2022).

Stakeholders and researchers should understand the complexities and limitations of SBMHS evaluation, so as not to come to hasty conclusions based on limited evidence (Brookmen-Frazee et al., 2006). At the very least, alternative approaches to gathering data on adolescent outcomes from SBMHS are warranted (Wolpert, 2013). The most popular approach for SBMHS research tends to be an RCT evaluating symptom change and then compiled into meta-analyses. This approach is valuable, yet can benefit from complementary approaches such as perception studies and alternative measures. One best-practice recommendation is to triangulate RCT data with other data, such as service satisfaction and perceptions (Wolpert, 2013). RCT data taken in isolation misses the larger context (Wolpert, 2013).

Stakeholders wanting to commit to strong outcome monitoring are still often left with more questions than answers on how to proceed (Krause et al., 2022). Treatment and

outcome mechanisms overall are not well-understood, leading to challenging decisions for researchers and stakeholders (Krause et al., 2022). Selecting the most appropriate measurements, administration procedures, and analysis procedures still is unclear. Additionally, stakeholders often hold conflicting agendas on the highest priority outcomes to even monitor when it comes to adolescent functioning and mental health in schools (Stephan et al., 2015). The lack of a straightforward answer or process can be confusing and frustrating when evaluation of SBMHS depends on who you ask, what you ask, how you ask it, and what question you are trying to answer. That being said, the more data that we have on the adolescent mental health crisis, the more we can find ways to improve the lives of adolescents (Brookman-Frazee et al., 2006). A useful outcome measure that is often overlooked when evaluating programs and interventions is perceived helpfulness.

Perceived Helpfulness

Client perspectives are increasingly studied by mental health researchers. Client perspectives provide clients' point of view on outcomes. This data often results in a richer understanding of outcomes than information about symptom change in isolation (Harris et al., 2024). One type of client perspective research approach, which is growing in popularity, is perceived helpfulness. Perceived helpfulness can be defined by the extent to which an individual believes they have attained personally meaningful goals through the course of treatment (Harris et al., 2024). Perceived helpfulness is a self-report measure that allows direct assessment of user perspectives (Edlund et al., 2015). As previously discussed, the majority of studies on treatment effectiveness utilize measures that focus on symptom change (Bruffaerts et al., 2022). Although perceived helpfulness

does not directly measure effectiveness via symptom change, assessing perceived helpfulness is a meaningful outcome measure (Harris et al., 2020), which, unfortunately, has been relatively understudied. However, because of its potential utility in epidemiological studies, some studies have been conducted (e.g., Bruffaerts et al., 2022; Harris et al., 2022; Harris et al., 2024).

Perceived helpfulness of both mental health and physical health treatments has been associated with a number of positive outcomes. Perceived helpfulness of treatment has been associated with greater healthcare utilization (Kuramoto-Crawford et al., 2015), treatment retention (Colman et al., 2014), and duration of treatment (Lorenzo-Blanco & Delva, 2011) (Harris et al., 2020). Trust in healthcare providers and reduced stigma have been found to be associated with perceived helpfulness of treatment (Henking et al., 2023). Based on these findings, perceived helpfulness appears to be a meaningful metric when assessing therapeutic change (Harris et al., 2020).

Overview of Perceived Helpfulness

Overall, researchers still largely struggle to understand the exact mechanisms that underlie therapeutic change (Weisz et al., 2018). Perception studies have investigated the relationship between perception variables and therapeutic change (Harris et al., 2020). In this regard, perceptions of therapeutic alliance, consumer expectations, and perceptions of obstacles to participating in treatment have all been found to have small to moderate associations with therapeutic change (Ankuta & Abeles, 1993; Harris et al., 2020; Kazdin & McWhinney, 2017). Patient perspectives can offer additional information outside of symptom reduction and daily functioning (Harris et al., 2020). Without robust consumer

perspectives, the opportunity to further explore and understand therapeutic interventions may be missed (Weisz et al., 2018).

Investigating perceived helpfulness of programs and interventions has proven to be a useful research approach. Perceived helpfulness could be particularly useful when successful treatment may require both symptom reduction and patient buy-in (Harris et al., 2020). Burgeoning evidence also finds that perceived helpfulness is connected to engagement and treatment adherence (Harris et al., 2020; Lorenzo-Blanco & Delva, 2011). Lack of adherence to treatment recommendations may lead to reduction in services, which can in turn lead to various quality of life and mental health struggles (Harris et al., 2020; Harris et al., 2024). As noted above, there are multiple constructs related to client perception of treatment. It is important to distinguish perceived helpfulness from these other variables, particularly satisfaction.

Satisfaction and perceived helpfulness are similar measures for patient perspectives on treatment, yet there are several meaningful differences (Harris et al., 2024). Satisfaction can be defined as “whether the services received are seen by the patient as adequate and delivered as expected” (Harris et al., 2024, p. 2). While all of the components that comprise satisfaction are still unclear, key features appear to be met expectations and an adequate interpersonal level of care (Gill & White, 2009; Harris et al., 2024; Kupfer & Bond, 2012; Lindberg et al., 2019). Despite not having clear conceptual underpinnings, consumer and patient reports of satisfaction have been widely utilized in commercial and health sectors (Junewicz & Younger, 2015). In contrast to satisfaction, perceived helpfulness is the degree to which, from the recipient’s point of view, a recipient of services has undergone meaningful change as a result of treatment

(Harris et al., 2024). That being said, one study found that predictors of satisfaction and perceived helpfulness strongly overlapped (Harris et al., 2024). Perceived helpfulness seems to be a more specific construct than satisfaction (Mourelatou et al., 2019). Both concepts provide helpful evaluations of service experience, yet capture slightly different outcomes (Harris et al., 2024). Unsurprisingly, then, perceived helpfulness seems to be related to actual helpfulness.

The association between perceived helpfulness and actual helpfulness is not well understood (Harris et al., 2024). There is no real measure to capture “actual helpfulness,” since helpfulness could refer to multiple dimensions of outcome, such as symptom reduction, functional improvement, or other measures (Harris et al., 2024). However, perceived helpfulness and actual helpfulness are most likely overlapping constructs (Harris et al., 2024). Despite not fully understanding the relationship between perceived helpfulness and actual helpfulness, perceived helpfulness is valuable and often associated with meaningful outcomes (Harris et al., 2024). Given the above overview and the connection of perceived helpfulness to actual helpfulness, perceived helpfulness is undoubtedly a useful and meaningful outcome measure.

Perceived Helpfulness and Mental Health Treatment

The majority of studies have explored perceived helpfulness of mental health treatment with adult populations in community settings. Some studies have evaluated the perceived helpfulness of unique mental health services such as peer mental health workers (Banfield et al., 2022), mental health websites (Perich & Andriessen, 2023), mental health information distribution (Graham et al., 2017), and self-help treatment for depressive symptoms in South Korea (Shin et al., 2014). Other studies have evaluated

perceived helpfulness of more traditional mental health treatments utilized with unique populations such as divorced individuals (Colman et al., 2014), adult sexual assault survivors (Starzynski & Ullman, 2014), and incarcerated mothers (Koons-Witt et al., 2021). There have also been large studies that have utilized international data sets to determine whether socioeconomic, psychosocial, and country-level factors could predict multiple outcomes, including perceived mental health treatment helpfulness (Henking et al., 2023).

One large international data set that has explored perceived helpfulness of mental health treatment was created by the World Health Organization (WHO). The WHO conducts a large set of epidemiological surveys worldwide on the treatment of mental health and substance use disorders called the World Mental Health (WMH) surveys (Harris et al., 2024). These surveys span 24 countries ($N = 112,507$), including the United States (Harris et al., 2024). Nine of the surveys in these countries are considered nationally representative, and the remainder are representative of selected regions (Harris et al., 2024). Mental health diagnoses are determined by utilizing a fully structured diagnostic interview called the WHO's Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) (Harris et al., 2024; Harvard Medical School, 2024). Studies have generally demonstrated appropriate concordance between the CIDI 3.0 and blinded clinical reassessments (Gomila, 2021; Harris et al., 2024). Several types of mental health diagnoses are included in this study such as mood, anxiety, and substance use disorders (Harvard Medical School, 2024). One section on the WMH surveys is about the perceived helpfulness of mental health services received in the past.

Multiple studies have used the data on perceived helpfulness from the WMH surveys. One study investigated the perceived helpfulness of treatment for individuals with a social anxiety disorder (Bruffaerts et al., 2022). The overall percentage of individuals who reported receiving treatment they perceived to be helpful for their social anxiety disorder was 65.1% (Bruffaerts et al., 2022). A similar study assessed the perceived helpfulness of treatment for individuals with a specific phobia (de Vries et al., 2021). Of these participants, 47.5% of individuals reported receiving treatment they perceived to be helpful for their specific phobia (de Vries et al., 2021). Another study utilized all of the WMH survey data on any adult with mental health disorders who had seen a mental health provider in the previous year (Harris et al., 2024). This study compared the rates of perceived helpfulness to satisfaction with the provider (Harris et al., 2024). Mental disorder type was not related to satisfaction, but some mental health disorders were associated with lower perceived helpfulness (Harris et al., 2024). Another study utilized this data set to evaluate perceived treatment helpfulness for mania/hypomania and associated depression (Nierenberg et al., 2021). Of the individuals who reported mania/hypomania, 63.1% reported that they received treatment they perceived to be helpful (Nierenberg et al., 2021). These studies demonstrate that perceived helpfulness is becoming a valuable and widely used construct to assess mental health service quality and outcomes.

Overall, both the WMH survey studies and other large-scale studies provide the most complete picture of perceived helpfulness that we have. These studies have demonstrated that first treatments received are often not perceived as helpful and persistence is key to receiving helpful treatment (Harris et al., 2024). Adults report

receiving helpful treatment with any given provider 20% to 30% of the time (Bruffaerts et al., 2022; Harris et al., 2020; Harris et al., 2022; Harris et al., 2024). In adult populations, some studies have reported that about half to two thirds of people report that their mental health provider that they saw in the previous year helped them *a lot* or *extremely* (Harris et al., 2024). Similarly across another number of studies, individuals who have received mental health treatment in the previous month report that treatment was at least somewhat helpful 55% to 85% of the time (Alang et al., 2020; Colman et al., 2014; de Vries et al., 2021; Edlund et al., 2015; Kuramoto-Crawford et al., 2015). Perceived helpfulness can vary due to treatment factors like treatment received and provider seen as well as individual factors such as age, SES, and mental diagnosis (Harris et al., 2024). These relationships have not been fully explored and may help provide more information about outcomes and treatment decisions.

Perceived Helpfulness Ratings of Different Groups

Mental health treatments appear to be perceived as more helpful among certain populations. Females, older individuals, married individuals, and individuals with higher education have all been identified as groups that have perceived mental health treatments to be more helpful (Bruffaerts et al., 2022; Harris et al., 2022; Harris et al., 2024). Increased perceived helpfulness associated with older age aligns with previous research on appraisals of mental health treatment and life satisfaction improving with age (Harris et al., 2022; Harris et al., 2024). One study found that individuals in the richest quartile of their country were more likely to perceive treatment as being very helpful (Henking et al., 2023). In another study, individuals who had experienced childhood adversities were

more likely to report a low level of perceived helpfulness (de Vries et al., 2021). The reasons for these associations are unclear.

There have been some interesting results pertaining to multiple diagnoses and the perceived helpfulness of mental health treatment. Adults with two or more anxiety disorders were more likely to report finding treatment helpful compared to adults with one diagnosed anxiety disorder (de Vries et al., 2021). Similarly, in high-income countries, having three or more diagnosed mental health disorders was associated with being “helped a lot” by services compared to those with less diagnosed mental health disorders (Harris et al., 2020). These findings should be taken with some caution though, considering that individuals with multiple comorbidities have a higher rate of being institutionalized or homeless (Subedi & Ghimire, 2022). Therefore, response and sampling biases have likely influenced these results.

Adolescents

While perceived helpfulness of mental health treatments has largely been studied with adult populations, several studies (e.g. Edlund et al., 2015; Morgan et al., 2020; Platell et al., 2020) have assessed adolescent perceived helpfulness and mental health treatment. One study in Australia asked young adults retroactively what mental health treatments were helpful to them in their adolescence (Morgan et al., 2020). The sample reported that self-help strategies were as helpful as professional treatments (Morgan et al., 2020). All treatments showed varied perceived helpfulness across respondents, indicating that no single treatment is suitable for everyone. (Morgan et al., 2020).

Another study explored perceived helpfulness of mental health treatment among adolescents in Australia (Platell et al., 2020). This study specifically looked at two

groups: those who considered reaching out to mental health services but had not done so and those who previously received mental health services but discontinued services (Platell et al., 2020). Adolescents who previously received mental health services and discontinued had a less favorable perception of service helpfulness (Platell et al., 2020). One study asked adolescents to rank issues that they thought mental health services would be the most helpful for (Platell et al., 2020). “Someone has tried to hurt themselves” (p. 1778) was the top answer overall. On the other hand, adolescents considered mental health treatment to be of little or no help for “Someone has been stealing things” and “Someone has been destroying things not belonging to them” (Platell et al., 2020, p. 1778). Behaviors like stealing can be indicative of mental health concerns, yet adolescents may not be aware of the connection (Platell et al., 2020).

Another study explored perceived helpfulness of counseling and medication for major depressive episode treatment in a national sample of adolescents (Edlund et al., 2015). The researchers conducted secondary data analysis on the National Survey on Drug Use and Health (Edlund et al., 2015). The sample for this study consisted of adolescents who had at least one major depressive episode in the previous year who reported receiving counseling services during that time (Edlund et al., 2015). For adolescents who received counseling without any medication, the breakdown of reporting was 10% *extremely helpful*, 22% *helped a lot*, 25% *helped some*, 24% *helped a little*, and 20% *not at all helpful* (Edlund et al., 2015, p. 1064). Clinical trial outcomes have often had higher rates of perceived helpfulness compared to the rates observed in this study (Edlund et al., 2015). This study demonstrates the potential gap between clinical trials and community treatment.

Some populations of adolescents have had significantly different levels of perceived helpfulness pertaining to mental health treatments than other groups. In one study, adolescents with more parental support and less than two delinquent behaviors in the past year were more likely to perceive treatment as helpful than those with less parental support or more than two delinquent behaviors (Edlund et al., 2015). Similarly, amongst adolescents who previously participated in but dropped out of treatment, the adolescents considered disadvantaged were less likely to perceive the treatment as helpful (Platell et al., 2020). Concerningly, disadvantaged adolescents are more vulnerable to mental health concerns, yet they find services less helpful and engage in treatment less (Edlund et al., 2015; Platell et al., 2020). That being said, two disadvantaged groups reported higher levels of perceived helpfulness (Platell et al., 2020). These two groups were those who lived in a household with a single caretaker (Platell et al., 2020) and those who identified as LQBTIQ (Platell et al., 2020). Both adolescents in a single caretaker household and those that identify as LQBTIQ have a higher prevalence of mental health disorders; therefore, these positive results are promising for some groups of disadvantaged adolescents (Platell et al., 2020). On the other hand, other disadvantaged groups have found mental health services to be less helpful, and more work needs to be done to support their mental health (Platell et al., 2020).

There are unique factors to consider when exploring the perceived helpfulness of mental health treatments with adolescents. In the adolescent population, stigma and negative beliefs towards mental health can influence the perceived helpfulness of mental health interventions (Yap et al., 2010). In one Australian study, adolescents who believed mental health disorders were personal weaknesses more than illnesses were less likely to

believe that mental health interventions could be helpful (Yap et al., 2010). Some other studies (e.g., Platell et al., 2020; Ross et al., 2020) have also found that adolescents' negative beliefs about professional mental health assistance can lead to treatment drop-out or negatively impact willingness to seek help. Even once adolescents have received mental health services, these beliefs may not change (Platell et al., 2020). One study demonstrated that previous participation in mental health treatment did not improve perceived helpfulness of receiving mental health services (Platell et al., 2020), although other studies found that previous contact did improve perceived helpfulness (Bonabi et al. 2016; Dunbar et al. 2018). These mixed results suggest that previous experiences with mental health providers have the potential to impact perceived helpfulness of treatment, but this relationship is not clear (Platell et al., 2020). Poor previous experiences with mental health treatment can lead to disengagement in services and less likelihood to pursue services in the future (Platell et al., 2018; Platell et al., 2020).

Studies have begun to identify sociodemographic characteristics in both adults and adolescents that are associated with perceived helpfulness of various mental health treatments (e.g. Bruffaerts et al., 2022; Edlund et al., 2015; Harris et al., 2024; Morgan et al., 2020). These studies have been valuable in guiding future research and treatment recommendations with certain populations. While some studies have been conducted on adolescents and their perceived helpfulness of mental health treatments, there remains a large gap in the literature with adolescents and their perceived helpfulness of SBMHS.

Perceived Helpfulness and SBMHS

There is not a single quantitative study that has explored the perceived helpfulness of SBMHS. Therefore, a quantitative exploration of student perceived helpfulness related

to SBMHS programs could be uniquely enlightening for understanding SBMHS outcomes. Overall, perception measurements like perceived helpfulness can complement traditional measures of symptom change and functioning (Harris et al., 2024). There are several advantages to adolescent reported perceived helpfulness when assessing SBMHS: (a) this measure allows direct assessment of a variable that is likely meaningful to adolescents; (b) questions about perceived helpfulness are brief, easy to administer, and easy to understand; (c) the results are straightforward to interpret; and (d) the measure does not face the same limitations as symptom measures, such as determining how to handle comorbidities or struggling to quantify overall mental health improvement (Edlund et al., 2015).

Perceived helpfulness of SBMHS could have major implications for informing treatment decisions. Unhelpful treatment can potentially drain resources, increase the time students suffer with problems, and dampen students' desire to pursue treatment in the future (de Vries et al., 2021). The more that a treatment is perceived to be helpful, the fewer wasted mental health provider contacts will be made (Colman et al., 2014). Studies are often narrowly focused on symptom change, whereas individuals may be more concerned about other variables, such as functioning or relationships (de Vries et al., 2021). Perceived helpfulness measures take variables that are meaningful to students into account, not just symptoms. In this regard, student buy-in and engagement are essential to long-term service engagement, and perceived helpfulness may increase engagement (Ross et al., 2020). Mourelatou et al. (2019) theorized that perceived helpfulness may lead to increased family involvement in treatment, creation of more effective interventions, and improved outcome monitoring. Perceived helpfulness could be a

valuable construct when assessing and personalizing mental health treatments in the future (Mourelatou et al., 2019).

Perceived helpfulness draws from the perspective of students. Researchers have begun calling for student perspectives to be researched and considered when making SBMHS decisions (Foulkes & Stapley, 2022). However, all of the responses to this call for more student perspective research have been qualitative studies with small samples (e.g., DeFosset et al., 2017; Liu et al., 2022; Spencer et al., 2020). These qualitative studies, although limited, can provide information on the perceived helpfulness of SBMHS. I discuss the results of these studies below.

Some qualitative studies have explored student perspectives of SBMHS. Adolescents in England were asked about their perceptions of SBMHS (Spencer et al., 2020). These students reported desiring more consistent and in-depth mental health education, more individualized support, and more training for teachers (Spencer et al., 2020). Another qualitative study on student perspectives of SBMHS focused on the Asian American experience of SBMHS (Liu et al., 2022). These students identified confidentiality, stigma, and lack of connection as barriers in SBMHS (Liu et al., 2022). Students also noted that coping strategies, programs to improve MHL, stronger connections with school mental health providers, and normalizing help seeking would be helpful (Liu et al., 2022).

One qualitative study explored the perceived helpfulness of SBMHS with adolescents who had a history of truancy and mental health concerns (DeFosset et al., 2017). Only a portion of the students felt that they had their mental health needs adequately addressed in school (DeFosset et al., 2017). In this study, the students reported

that their beliefs regarding the efficacy of SBMHS affected their engagement and response (DeFosset et al., 2017). Several of these students reported feeling like there was “nothing anyone could do” (p. 7) to help them. However, not all students held these beliefs, and these students were motivated to reach out and persist with available services (DeFosset et al., 2017). The students deemed three traits of SBMHS the most valuable for their growth: relationships with service providers, coping skills for emotional regulation, and feeling understood and cared for by providers (DeFosset et al., 2017). These students also highlighted stigma as a deterrent to reaching out to SBMHS, a finding that aligns with other research about SBMHS (DeFosset et al., 2017). Additionally, there were deficits in MHL as evidenced by inaccurate beliefs and students' struggles to define and describe the mental health symptoms they experienced (DeFosset et al., 2017). While some of these students described positive experiences with SBMHS, most of the descriptions were negative (DeFosset et al., 2017). These studies have been helpful to provide information about student perceptions of SBMHS, but, as noted above, there have not been any quantitative studies exploring perceived helpfulness and SBMHS.

Exploring the relationship between student perceived helpfulness and SBMHS can be a valuable addition to the literature. Researchers (e.g. Foulkes & Stapley, 2022) have been calling for more student perception research. Perceived helpfulness is an established construct that has not yet been fully explored with SBMHS. Perceived helpfulness of SBMHS has only been studied using qualitative methods (e.g., DeFosset et al., 2017; Spencer et al., 2020). Quantitative studies of perceived helpfulness of SBMHS are more generalizable, can explore relationships of perceived helpfulness with other

variables, and ask different types of questions than qualitative research. Furthermore, the current adolescent mental health crisis makes this research all the more timely.

My Study

In this dissertation study, I explored the relationship between student perceived helpfulness and SBMHS. I used data from the *Monitoring the Future* (2023) nationwide data set. The primary goals of this study were to explore the following: (a) overall, how helpful students find SBMHS; (b) how perceived helpfulness varies as a function of program type; and (c) the relationship between student characteristics and perceived helpfulness.

CHAPTER THREE

METHODS

I conducted this study to explore the student perceived helpfulness of school-based mental health services (SBMHS). I utilized four data sets (Miech et al., 2023a, 2023b; Miech et al., 2024a, 2024b) from the *Monitoring the Future* (MTF) study to explore these variables. The MTF study is a large national study that surveys adolescents each year on a variety of topics (MTF, 2025). This data set provided the data needed to explore students' perceived helpfulness of SBMHS during both the 2021-2022 (referenced moving forward as 2022) and 2022-2023 (referenced moving forward as 2023) school years across students in 8th, 10th, and 12th grade.

I used a pre-existing data set for a number of reasons. First, the large sample size increased the statistical power, and a sample of this magnitude is difficult to establish. Second, this large data set allowed for more complex modeling. I was able to add more nuance and explore more relationships due to the size of the data set. Third, pre-existing data research saves time and resources. Collecting data is resource heavy, including participant burden, and pre-establishing data sets reduces these burdens. Finally, this data is available for other researchers to reproduce or further the relationships I explored here.

A quantitative approach was the most appropriate method considering the large amount of numerical data. I explored the overall student perceived helpfulness of SBMHS, the perceived helpfulness of five individual types of SBMHS, and how perceived helpfulness varied by year of data collection, grade, race and ethnicity, sex, and parent education level. The three research questions I explored are listed below:

Question 1: How helpful do students find SBMHS?

Question 2: How does perceived helpfulness vary as a function of SBMHS type?

Question 3: What is the relationship between student characteristics (e.g., age, race) and the perceived helpfulness of SBMHS?

Description of the Data Set

The *Monitoring the Future* (MTF) project is a large national study conducted in the United States. MTF began in 1975 to “study the changes in the beliefs, attitudes, and behavior of young people in the United States” (MTF, 2025, para. 1). The results of MTF are also beneficial to policymakers to track progress toward public health goals and monitor trends in substance use (MTF, 2025). The White House Strategy on Drug Abuse utilizes the MTF results to monitor trends and rates in adolescent substance use and opinions (MTF, 2025). MTF also provides an open-use data set for researchers to utilize in a variety of ways for their projects. The MTF project is primarily funded by research grants from the National Institute on Drug Abuse through the National Institute of Health (MTF, 2025). The project is based at the Survey Research Center in the Institute for Social Research at the University of Michigan (MTF, 2025).

MTF is divided into two complementary studies: the Main study and the Panel study (MTF, 2025). The Main study surveyed students in 8th, 10th, and 12th grade (MTF, 2025). The study began with 12th grade students in 1975 and added 8th and 10th grade students in 1991 (MTF, 2025). Generally, the procedures for the 8th and 10th grade samples closely followed those for the 12th grade samples (MTF, 2025). On the other hand, the Panel consisted of a subsampling of each graduating class of the Main study from the 12th grade cohorts. These selected participants complete a survey every two

years from ages 19 to 30 and then every five years after the age of 35 (MTF, 2025). My study will use data exclusively from the MTF Main study, which is where I will focus now.

Some of the measures included in the MTF survey come from long-established questionnaires, and some others have been developed for MTF specifically (Kloska et al., 2024b). These questions were developed through a process of “question writing, pilot testing, pretesting, and question revision or elimination” (Kloska et al., 2024b, p. 12). MTF personnel have found that nearly all estimates have confidence intervals of $\pm 2\%$ or smaller (Kloska et al., 2024a, 2024b).

The MTF Main survey covered a wide range of topics (Kloska et al., 2024b). Although substance use was covered the most in-depth, numerous content areas were inquired about, including opinions about sex roles and family, population concerns, religious views, opinions on major social institutions, race relations, happiness, personality variables, and deviant behavior (Kloska et al., 2024b). The 8th and 10th grade surveys were the same as each other but differed slightly from the 12th grade survey (Kloska et al., 2024a). Many of the key questions were the same across both survey types, but there were fewer questions about opinions and attitudes in the 8th and 10th grade survey (Kloska et al., 2024a). To consider reading level and comprehension as well as value of data, the 8th and 10th grade questionnaires were typically 10% to 20% shorter than the 12th grade questionnaire (Kloska et al., 2024b).

Forms

To cover the wide range of topics effectively, the questionnaire content was divided into forms (Kloska et al., 2024b). For the 12th grade surveys, there were six

forms (Kloska et al., 2024b). Each student was randomly assigned a form in equal proportion, and each student completed one form (Kloska et al., 2024b). Roughly one third of the questionnaire form was composed of key variables that were on all forms (Kloska et al., 2024b). These key variables included all demographic information and some key measures of substance use (Kloska et al., 2024b). The 8th and 10th grade survey also consisted of forms, but they had a different structure (Kloska et al., 2024a). There were four total forms for these grade levels, but the forms were broken up into one third, one third, one sixth, and one sixth of the sample (Kloska et al., 2024a). The length of the questionnaire depended on the survey form. The vast majority of students were able to complete the survey in a 45-minute class period (Kloska et al., 2024b).

My data set for analysis came from six forms across the two years of data collection. I included Forms 2, 3, and 4 from the years 2022 and 2023 for 8th and 10th grade students, as well as Forms 3, 4, and 6 from the years 2022 and 2023 for 12th grade students. I have selected these forms since they asked about the perceived helpfulness of SBMHS. Table 3.1 details the breakdown of the number of students across forms, grades, and years.

Table 3.1*Participant Distribution by Forms, Grades, and Year of Data Collection*

Year	Form	Grade			Total
		8th	10th	12th	
2022	2	3,276	3,918	N/A	
	3	1,640	2,061	1,593	
	4	1,693	1,970	1,633	
	6	N/A	N/A	1,664	
	Total	6,609	7,949	4,890	19,448
2023	2	2,091	2,807	N/A	
	3	1,044	1,411	1,264	
	4	1,040	1,438	1,258	
	6	N/A	N/A	1,251	
	Total	4,175	5,656	3,773	13,604
Grand Total		10,784	13,605	8,663	33,052

Note. Sections of both the 8th and 10th grade cohort and 12th grade cohort completed forms titled Form 3 and Form 4, but these are different forms from each other.

Participants of the Full MTF Study

Each of the surveys was administered to separate, nationally representative samples of students in 8th, 10th, and 12th grade (Kloska et al., 2024a, 2024b). The data from the students for the MTF Main study were collected in the spring of each school year (Kloska et al., 2024b). The project aimed for about 100 schools and 10,000 students in each grade, yet has fallen short of these numbers since COVID-19 (MTF, 2025). The participants were identified through stratified sampling.

Sampling Procedures

The sampling procedure was a three-stage process to achieve a representative sample of the 48 contiguous United States (Kloska et al., 2024b). Stage 1 consisted of

selecting varied geographical areas. The MTF project used primary sampling units that were created by the Sampling Section of the Survey Research Center for their interview studies (Kloska et al., 2024b). Stage 2 involved selecting one or more schools in each geographical area, with the probability of selection proportional to the size of the school (Kloska et al., 2024b). In large metropolitan areas, multiple high schools were often included (Kloska et al., 2024b). The majority of other sampling areas had one high school sampled (Kloska et al., 2024b). Occasionally, selected schools declined participation; in this case, a replacement school similar to the originally selected school was chosen (Kloska et al., 2024b). Stage 3 was the selection of classes within each school (Kloska et al., 2024b). Each school was allowed up to 350 student participants (Kloska et al., 2024b). For smaller schools, the typical procedure was to include every student from the relevant grade in the data collection (Kloska et al., 2024b). For larger schools, the sample of students was selected through two possible procedures: random sampling of entire classrooms or another random method that was deemed unbiased (Kloska et al., 2024b). If a large school requested that all 12 grade students be surveyed, then MTF complied (Kloska et al., 2024b). The MTF team conducted sample weighting when data were analyzed to find unequal probabilities of selection through any of the sampling stages (Kloska et al., 2024b). The process for developing the MTF sample and the procedures utilized to gather the information are more thoroughly described by Kloska et al. (2024b).

Generalizability

The primary generalizability limitation of the MTF sample is that it does not include adolescents who have dropped out or are not in traditional schools (Kloska et al., 2024b). The MTF project estimates that this excludes somewhere between 6% and 20%

of each age cohort (Kloska et al., 2024b). This invisible portion of adolescents can possess characteristics that significantly differ from students who have remained in traditional high schools (Kloska et al., 2024b). Research on this dropout population is essential to understand the complete picture of both SBMHS and adolescents at large (Kloska et al., 2024b). MTF advises that they assess the active school attending population and not the entire population of adolescents (Kloska et al., 2024b).

The primary reason that students missed the questionnaire was school absence at the time of data collection (Kloska et al., 2024b). Students with higher absenteeism also tend to score differently on certain variables, thus potentially introducing bias to the sample (Kloska et al., 2024b). The estimated percentage of students or parents who refused to participate was around 2% of the sample field (Kloska et al., 2024b). In 2022, questionnaires considered completed were received from 86% of the 8th grade sample, 84% of the 10th grade sample, and 75% of the 12th grade sample (Miech et al., 2024). In 2023, completed questionnaires were received from 80% of 8th grade students, 85% of 10th grade students, and 72% of 12th grade students (Miech et al., 2024). Both absenteeism and dropout rates are lower in 8th and 10th grade compared to 12th grade, which tends to lead to higher completion rates (Miech et al., 2024).

Another limitation to the generalizability of results is that the sample may not quite reach representativeness for several reasons (Kloska et al., 2024b). The MTF project highlights four reasons why this could be the case (Kloska et al., 2024b). First, the schools' right to decline participation could introduce bias (Kloska et al., 2024b). Second, questionnaire data were not always received by the full student population, which could also introduce bias (Kloska et al., 2024b). Third, validity could be impacted by both

conscious and unconscious distortions of answers by students (Kloska et al., 2024b). Fourth, the accuracy of estimates could be influenced by limitations in sample size or design (Kloska et al., 2024b). Overall, the MTF team is confident that their data was close to representative, but these factors are worth considering.

Another potential limitation affecting generalizability is the risk of bias being introduced by self-report data (Kloska et al., 2024b). This concern is higher with less socially desirable variables, such as substance use, and is less likely to be a concern with the variables used in my study; however, there are still concerns with self-report data (Kloska et al., 2024b). One concern with self-report data is that Black respondents have a greater than average tendency to select extreme answer categories on attitudinal scales (Kloska et al., 2024b). Student participants were also allowed to skip questions they did not feel comfortable answering (Kloska et al., 2024b). This missing data could influence results (Kloska et al., 2024b). I considered these potential biases in my results. Self-report data overall is still considered largely valid data (Kloska et al., 2024b). Additionally, since I am interested in perceived helpfulness, there is no other way to ask the question besides self-report data. MTF maintains strong construct validity, and the data align with studies utilizing other methods (Kloska et al., 2024b).

Process for Obtaining Data Set

I found this data set through a search on the Inter-university Consortium for Political and Social Research (ICPSR) website. Most of the data for the Main MTF study is open access; I applied for the restricted-use data set to receive access to more in-depth demographic data.

Restricted-Use Data

To gain access to all of the specific race and ethnicity data, I applied for and received access to the restricted-use cross-sectional data sets for 2022 and 2023. To protect the confidentiality and identity of students, the restricted-use data set contains variables such as state, zip code, specific race and ethnicity data, and other potentially identifying variables. Applying for this restricted-use data was a three-step process. For step one, I submitted the necessary information and a signed Restricted Data Use Agreement on the ICPSR website. This necessary information included contact information, a project summary, a list of data sets requested and how they will be used, a data security plan, CVs for users accessing the data management system, and IRB documentation. Step two involved ICPSR reviewing the application for modifications. For step three, approval was granted, and I obtained access to the data management system.

Creating the Primary Sample

The data set that I received access to from ICPSR consisted of all forms across 8th, 10th, and 12th grade students in the data collection years 2022 and 2023. Since I only wanted to utilize three of these forms for each year of data collection, I proceeded to merge the target forms into one large data set. Once I had this data set, I created my own race and ethnicity variable, combining the ten dichotomous race and ethnicity questions into a single variable. These ten questions asked “How do you describe yourself? Select all that apply.” The options for these questions are further described in this section. All demographic variables used are also listed in Appendix A. I combined these questions

into a single variable; if participants selected more than one category, then they were placed in an eleventh category titled *Multiracial/Multiethnic*.

Missing Data Analysis

Next, I conducted a missing data analysis on my data set. This step was critically important since participants in this sample were adolescents who had the option to skip questions they did not feel comfortable answering. To check the missingness of the data, I conducted a series of chi-square analyses and independent sample *t* tests. These tests were utilized with each of the five questions about perceived helpfulness of SBMHS that I analyzed for my research questions, along with various sociodemographic variables. The five perceived helpfulness questions are listed in Appendix B.

To determine the missingness of the five target questions about perceived helpfulness of SBMHS, I divided the answers of *not helpful at all*, *a little helpful*, *somewhat helpful*, *quite helpful*, and *extremely helpful* into *not missing* and the responses of *not offered*, *don't know/not applicable*, and any system-missing responses into *missing*. I did this because I only analyzed responses 1 to 5 in some of my later analyses, where I convert the answers to a scale. The results of the overall missingness are detailed in Table 3.2. In this table, I list the question (column 1) and the missing percentage (column 2).

Table 3.2

Frequencies and Percentages of Missingness of Responses to Perceived Helpfulness of SBMHS Questions

Question	Missing
Counseling support (Q1)	48.7%
Group counseling (Q2)	65.7%
Mental health curriculum (Q3)	60.3%
Check-ins (Q4)	58.3%
Mentoring (Q5)	59.9%

Group counseling (Q2) had the highest rate of missing data, followed by mental health curriculum (Q3), mentoring (Q5), check-ins (Q4), and counseling support (Q1). While these missing data rates may seem high, these rates are not unexpected, since *not offered* and *don't know/not applicable* were also included in the missing category.

I next conducted a series of chi-square analyses to assess the level of missing data for each of the perceived helpfulness of SBMHS questions with the following variables: year of data collection, grade, sex, school region, non-MSA/MSA, father education level, mother education level, school type, religion, population density, and first language. These questions and response options are listed in Appendix C. Cross-tabulation (or, alternately, chi-square analysis) uses categorical predictors and outcomes, comparing the observed frequency of each cell to the expected frequency under the assumption of no relationship. In this analysis, the overall result concerning whether there is a relationship between predictor and outcome is tested by the chi-square test statistic. In addition, the likelihood of there being more or less in any given cell of the cross-tabulation is tested with the standardized adjusted residual. This statistic is considered significant if it is

greater than 1.98 (hence more in the cell than predicted by chance) or less than -1.98 (hence fewer in the cell than predicted by chance). In this analysis, the argument for significance for both the chi-square and the standardized adjusted residual was set at $p < .05$.

I conducted an independent sample t test analysis to analyze the missingness of age. The t test analysis examines the difference observed between the means of two groups compared to the combined variability across these groups (the standard error of the mean). As such, this analysis determines whether the size of the difference between the two groups' means is larger than could reasonably be expected to occur by chance given the amount of variation in this measure across the entire sample. For this analysis, a probability level of $p < .05$ was used to argue for significance.

The level of missing data for all variables had some significant outcomes aside from population density and first language. The chi-square is summarized in Table 3.3. I list the variables I assessed (column 1), a short summary of the missingness (column 2), and indicate which questions were statistically significant (column 3).

Table 3.3*Summary of Significant Results from Missing Data Analysis*

Variable (df)	Summary of Notable Missingness	Significant?
Year of administration (1)	2022 missing more than 2023	All five questions
Grade (2)	8th grade missing more than 12th grade	Q1 and Q2
Sex (3)	Male missing more than female	All five questions
School region (3)	Q1 and Q4 South missing more than Northeast and Midwest Q5 West missing more than Midwest	Q1, Q4, and Q5
Non-MSA/MSA (1)	MSA missing more than non-MSA	Q2
Father education level (6)	See Appendix D	All five questions
Mother education level (6)	See Appendix D	All five questions
School type (1)	Public missing more than private	Q1, Q4, and Q5
Religion (2)	None missing more than Western	All five questions
Race and ethnicity (10)	Q1, Q2, and Q3 Asian American missing more than expected	Q2 and Q3
Age	Q1, Q4, and Q5 Younger missing more than older, Q2 Older missing more than younger	All except Q3
Population density	N/A	Not significant
First language	N/A	Not significant

The variables that had significant differences between missing and non-missing on all five questions were year of administration (2022 missing more than 2023), sex (male missing more than female), father education level (see Appendix D), mother education level (see Appendix D), and religion (none missing more than Western). The variables that had significant differences between missing and non-missing on at least one question were grade (counseling support and group counseling, 8th grade missing more than 12th grade), school region (counseling support and check-ins, South missing more than Northeast and Midwest; mentoring, West missing more than Midwest), non-MSA/MSA

(group counseling, MSA missing more than Non-MSA), school type (counseling support, check-ins, and mentoring; public missing more than private), race and ethnicity (group counseling, mental health curriculum, and mentoring; Asian American missing more than other groups), and age (all except mental health curriculum, younger missing more than older; group counseling older missing more than younger). The implications of the missing data are discussed in Chapter 5.

Removal of Outliers

Finally, I ran the descriptive statistics for the variables that I planned to use in my main analysis to assess for outliers. The scale variable of age had no notable outliers; however, 169 students selected all ten race and ethnicity categories. I decided to exclude these students from the main sample to increase confidence in my data set. The 32,883 participants remaining at the end of this process created my main sample. For the rest of this chapter and the entirety of Chapter 4, this is the sample that is utilized.

Sample Characteristics

This sample of 32,883 participants served as the primary sample for the data analyses conducted to address my research questions for Chapter 4. I ran analyses to examine the descriptive characteristics of this sample. I explored the frequencies for the year of administration (2022 or 2023), grade level (8th, 10th, or 12th), sex (male, female, other, or prefer not to answer), race and ethnicity, and parent education level. Parent education level questions were given the following introduction: “The next three questions ask about your parents. If you were raised mostly by foster parents, stepparents, or others, answer for them. For example, if you have both a stepfather and a natural father, answer for the one that was the most important in raising you.” After the

introduction, the questions were phrased as, “What is the highest level of schooling your father/mother completed?” Table 3.4 further describes these frequencies and percentages. Table 3.4 lists the variable names (column 1) and percentages of the total for each response (columns 2 and 3).

Table 3.4*Frequencies and Percentages of Participants by Variable*

Variable	Percent
Year of Administration	
2022	58.8%
2023	41.2%
Grade	
8 th	32.7%
10 th	41.1%
12 th	26.3%
Sex	
Male	45.8%
Female	42.8%
Other	1.6%
Prefer not to answer	3.8%
Missing	6.1%
Race and Ethnicity	
Multiracial/Multiethnic	16.8%
Black or African American	10.0%
Mexican American or Chicano	7.6%
Cuban American	1.0%
Puerto Rican	0.9%
Other Hispanic or Latino	6.5%
Asian American	3.4%
White (Caucasian)	44.8%
American Indian or Alaska Native	0.7%
Native Hawaiian or Other Pacific Islander	0.3%
Middle Eastern	0.9%
Missing	7.0%
Parent Education	Father Education Mother Education
Completed grade school or less	3.6% 2.8%
Some high school	8.8% 5.8%
Completed high school	20.0% 15.1%
Some college	10.0% 12.4%
Completed college	20.6% 27.6%
Graduate or professional school after college	12.3% 17.6%
Don't know, or does not apply	17.1% 11.3%
Missing	7.5% 7.5%

The sample consisted of slightly more students from the data collection year 2022 compared to 2023. The most common grade level of the students was 10th grade, followed by 8th grade, and then 12th grade. The survey did not ask participants about

gender identity and only asked about self-identified sex. Of the sample, slightly less than half of the students identified as male, followed by slightly fewer who identified as female; less than 2% identified as other, and less than 4% selected prefer not to answer. White was by far the largest race and ethnicity category, followed by Multiracial/Multiethnic, Black or African American, and Mexican American or Chicano. All other race and ethnicity variables were under 7% of the sample. The most common answer for both father education and mother education level was *completed college*. Father education level received the response *don't know, or does not apply* almost 6% more than mother education level. The mean reported age of participants was 15.96 years at the time of data collection, with a minimum of 10.17 years, a maximum of 23.08 years, and a standard deviation of 1.60 years.

Data Analysis

I focused on five questions from the MTF questionnaire, along with the relevant demographic data presented above, for my statistical analysis. The five questions I utilized were all created by the MTF team to assess the perceived helpfulness of school-based mental health services (SBMHS). Each of the five questions had the prompt, “During the current school year, how helpful have the following been, if provided by your school?” These five questions asked about counseling support, group counseling, mental health curriculum, “check-ins” or informal one-on-one meetings between students and school staff, and mentoring. There were seven possible responses and scores to each of these questions: 1 = *not helpful at all*, 2 = *a little helpful*, 3 = *somewhat helpful*, 4 = *quite helpful*, 5 = *extremely helpful*, 7 = *not offered*, or 8 = *don't know/not applicable*.

The statistical analysis began with the analysis for Research Question 1: “How helpful do students find SBMHS?” The first analysis I completed was a factor analysis utilizing a principal component analysis with varimax rotation to assess the loading of all five SBMHS questions. Factor analysis is a method used to assess the variability among observed, correlated items with the goal of identifying a potentially lower number of underlying constructs. For example, among 10 items, there may be as few as one and as many as 10 different underlying constructs being measured. Principal components analysis (PCA) estimates an eigenvalue solution to the multivariate equation suggested by the matrix made up of the survey items as variables. PCA retains potential groupings for any eigenvalue greater than 1. The analysis then conducts a mathematical shift to maximize the variance between the retained solutions by re-estimating the vectors as orthogonal. The results of this analysis provide two critical pieces of information: (a) the number of underlying constructs measured by the items tested, and (b) the association (a correlation coefficient) between each item and that underlying construct. The second piece of information provides the text correspondence to the unmeasured construct, which is needed to create a new name for the construct.

Next, I created a variable to measure overall perceived helpfulness. I created this variable in two steps. First, I created a score for each of the students by finding the mean for all SBMHS that each individual reported participating in. For some students this may have only been one SBMHS, for others it may have been all five SBMHS. Second, I ran a mean analysis on this new overall perceived helpfulness variable for all students who reported the helpfulness of at least one SBMHS.

The next set of analyses was conducted to address Research Question 2: “How does perceived helpfulness vary as a function of SBMHS type?” To begin this assessment, I examined the five perceived helpfulness questions regarding the different types of SBMHS and divided the answers into a view on helpfulness, service not offered, don’t know/not applicable, and missing. I then divided the answers for each SBMHS type into *not helpful*, compared to *helpful*, and reported the percentages in each category. I also constructed a continuous scale, similar to that used to create an overall perceived helpfulness score. For these items, I converted responses 1 through 5 to a scale and removed the other responses.

I then conducted a mean analysis on each of these five variables. Finally, I conducted a repeated measures ANOVA using the five perceived helpfulness questions to account for within-subjects variability. This analysis examines the difference observed between the means of the repeated measures compared to the combined variability across all time-points or repetitions (the standard error of the mean), with the covariance of the shared association taken into account. As such, this analysis determines (a) whether the size of the difference between the repeated means was larger than could reasonably be expected to occur by chance given the association of the same people being measured at all times, and (b) whether the change corresponded significantly with different change patterns (linear, quadratic, cubic, and higher order curves). In addition, it tested whether there were significant differences between groups, first across all measurements and then whether the pattern of change differed significantly by group. For these analyses, I used the standard alpha level of .05 to argue for significance

The next set of analyses was conducted to answer Research Question 3: “What is the relationship between student characteristics (e.g., age, race) and the perceived helpfulness of SBMHS?” I began by conducting a series of one-way ANOVA analyses. This analysis compares the size of differences observed among means between groups (the mean square distance between groups) with the difference of each observation from its group mean observed within each group (the mean square distance within groups). As such, this analysis determines whether at least one group differs significantly from any of the others. If the F test identified significant differences overall, I further examined the individual contrasts between groups in a post-hoc comparison using the Fisher Least Squares Distance (LSD) test.

I also used t tests to analyze student characteristics in relation to the overall perceived helpfulness score. The t -test analysis examines the difference observed between the means of two groups compared to the combined variability across these groups (the standard error of the mean). As such, this analysis determines whether the size of the difference between the two groups' means is larger than could reasonably be expected to occur by chance given the amount of variation in this measure across the entire sample. For this analysis, a probability level of $p < .05$ was used to determine significance.

To examine how sociodemographic characteristics interact with perceived helpfulness of SBMHS, I dummy coded all categorical variables and conducted a correlation analysis. A correlation provides an estimate of the relationship between two variables, testing whether, on average, a unit change in one variable is consistently related to a change in the other variable. This determination is made by comparing the

covariance shared between the two variables in the analysis, as measured by the cross-product of the sum of the distances of each data point to its mean, to the combined sample variances of each variable in the analysis. As such, the correlation can theoretically range from negative one (a perfect inverse relationship) to positive one (a perfect relationship). The test of significance tests the likelihood of observing the given correlation when the actual relationship is zero.

Finally, I conducted a multiple regression analysis to construct a model that assessed the contribution of each factor. This analysis builds on the correlational association between these continuous and dichotomous variables and uses calculus to solve the least-squares-distance estimation to find the best fitting line minimizing the distance between all observed points. The model for the analysis is given by the equation: $(\text{OUTCOME}) = B_0 + B_1(\text{VAR1}) + B_2(\text{VAR2}) + B_3(\text{VAR3}) + \{\text{ETC}\} + E$. As such, this analysis provides these critical points of information: (a) the strength of association (R) and its related amount of variance explained by the XX predictors in the model (R^2); (b) the estimated linear relationship between OUTCOME and VAR1 after taking VAR2 and VAR3 into account (B_1); (c) the estimated linear relationship between OUTCOME and VAR2 after taking VAR1 and VAR3 into account (B_2); (d) the estimated linear relationship between OUTCOME and VAR3 after taking VAR1 and VAR2 into account (B_3). Multiple regression analysis provides each estimate with an associated significance to determine the extent to which the observed estimate could have occurred by chance. For this analysis, I use the standard alpha level of .05 to argue for significance.

Summary

In this chapter, I described the methods I used for this study to explore student perceived helpfulness of SBMHS. This study was completed using data from the *Monitoring the Future* data set from the data collection years of 2022 and 2023. After outliers were identified and removed, the total sample included 32,883 participants across 8th, 10th, and 12th grade. The three research questions sought to explore the perceived helpfulness of SBMHS overall, the perceived helpfulness of different types of SBMHS, and the perceived helpfulness of SBMHS when considering different student characteristics. I utilized a variety of quantitative analyses to explore these questions. The results of these analyses are detailed in Chapter 4.

CHAPTER FOUR

RESULTS

In this chapter, I report and summarize the results of the data analyses used to explore the three research questions described in Chapter 3. To address these research questions, I used data from six forms across two years of data collection from the *Monitoring the Future* (2023) nationwide cross-sectional data set to explore the relationship between student perceived helpfulness and school-based mental health services (SBMHS). I utilized five questions from this data set that ask about the perceived helpfulness of different types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. These questions and various sociodemographic variables are analyzed to explore relationships. This chapter is organized according to the research question being addressed.

Research Question 1: How Helpful Do Students Find SBMHS?

To analyze how helpful students find SBMHS overall, I conducted a factor analysis. In order to test if there were shared underlying constructs or "factors" for the group of survey items, I ran a principal components factor analysis with varimax rotation. I conducted this factor analysis with all five perceived helpfulness of SBMHS questions asking about counseling support, group counseling, mental health curriculum, check-ins, and mentoring. The answer options for each question were 1 = *not helpful at all*, 2 = *a little helpful*, 3 = *somewhat helpful*, 4 = *quite helpful*, 5 = *extremely helpful*, 7 = *not offered*, or 8 = *don't know/not applicable*. The first five answer choices were converted to a scale, and the latter two options were removed. The score range for the five questions

was from 1 to 5. Table 4.1 lists the results of this factor analysis. Column 1 lists the question, and column 2 lists the factor loadings for each of those questions.

Table 4.1

Factor Loadings for Perceived Helpfulness of SBMHS

Question	Component 1
Counseling support	.944
Group counseling	.957
Mental health curriculum	.960
Check-ins	.957
Mentoring	.945

All five factors loaded onto one variable. The Kaiser-Meyer-Olkin (KMO) measure verified sampling adequacy, $KMO = .92$. Bartlett's test of sphericity was significant as well. The five components explained 90.7% of the variance. This variable was titled Perceived Helpfulness of SBMHS.

Since all of the factors loaded onto one component, I created a combined perceived helpfulness score. I created this score by taking the mean of each of the five questions for all respondents who answered at least one question. The total number of participants who had a value for this composite was 19,160. I then ran a normality analysis on the perceived helpfulness score. The results of the normality analysis are listed in Table 4.2. Column 1 lists the parameter, and column 2 lists test statistic values.

Table 4.2*Normality Statistics for Perceived Helpfulness of SBMHS*

Parameter	Value
<i>N</i>	19,160
Skewness	0.179
<i>SE</i> of Skewness	0.018
Kurtosis	-1.235
<i>SE</i> of Kurtosis	0.036
Kolmogorov-Smirnov	0.137, $p < .001$

The Kolmogorov-Smirnov test was statistically significant. When I observed the plot, there were peaks near the low and high ends of the range and a dip in the middle. This pattern is common among Likert scales answered 1 through 5. The skewness was .178, and kurtosis was -1.235. I consider the lack of normality in my further analysis, although ANOVA is appropriately robust against this violation.

Finally, I conducted a mean analysis on the overall perceived helpfulness. The mean was 2.87 with a minimum of 1.00, a maximum of 5.00, and a standard deviation of 1.37.

Research Question 2: How Does Perceived Helpfulness Vary as a Function of SBMHS Type?

Next, I assessed how perceived helpfulness could vary as a function of SBMHS type. To answer this question, I looked at the five individual perceived helpfulness questions. I divided the answers into a view on helpfulness, service not offered, don't know/not applicable, and missing. The results are detailed in Table 4.3. Column 1 lists

the SBMHS service type, and columns 2 through 5 list the percentages of the responses in the four different categories for each question.

Table 4.3

Reported Availability of SBMHS

SBMHS Type	Percent of students who reported...			
	a view on service helpfulness.	service was not offered.	don't know/ N/A.	no answer.
Counseling support	51.3%	7.6%	25.7%	15.4%
Group counseling	34.3%	15.6%	34.4%	15.7%
Mental health curriculum	39.7%	13.6%	30.7%	16.0%
Check-ins	41.7%	13.5%	29.1%	15.7%
Mentoring	40.0%	12.4%	31.8%	15.8%

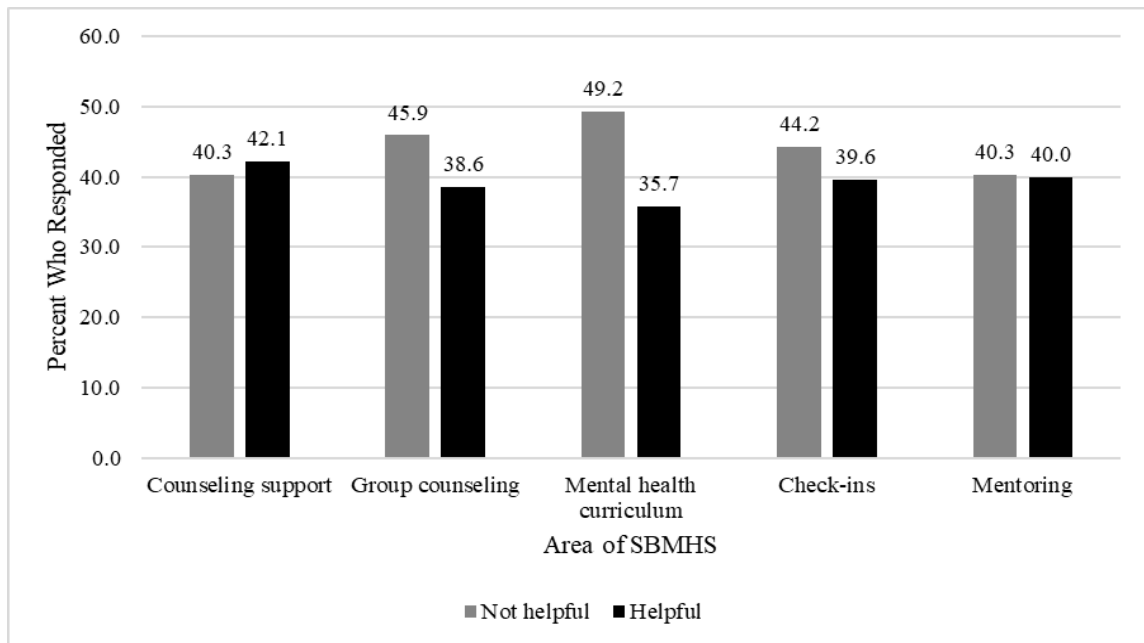
Counseling support received the highest rate of *a view on service helpfulness* followed by check-ins, mentoring, mental health curriculum, and group counseling. Group counseling received the highest rate of *service was not offered* followed by mental health curriculum, check-ins, mentoring, and counseling support.

Next, I assessed the students who found services helpful compared to those who did not find services helpful for each SBMHS type. I combined responses of *not at all helpful* and *a little helpful* to create a *not helpful* category. Similarly, I combined responses of *quite helpful* and *extremely helpful* to create a *helpful* category. All other responses were omitted. The full response table for each of the questions is displayed in Appendix E. Figure 4.1 shows the results of these analyses below. The x-axis is the

SBMHS type, the y-axis is the percentage in each category, and the bars represent the categories of not helpful and helpful.

Figure 4.1

Distribution of Students' Views of Helpfulness of SBMHS (From Those Who Responded)



Mental health curriculum had the highest *not helpful* rate, followed by group counseling, check-ins, mentoring, and counseling support. Counseling support had the highest *helpful* rate, followed by mentoring, check-ins, group counseling, and mental health curriculum.

To analyze the results from a quantitative perspective, I converted responses 1 through 5 to a scale and omitted answers 7 and 8 as well as missing values. Table 4.4 details the descriptive statistics of each of the perceived helpfulness questions utilized as

scale questions. Column 1 lists the question, column 2 lists the sample size, column 3 lists the mean, and column 4 lists the standard deviation.

Table 4.4

Descriptive Statistics of Perceived Helpfulness of SBMHS Questions

Question	<i>n</i>	<i>M</i>	<i>SD</i>
Counseling support	16,856	3.05	1.47
Group counseling	11,281	2.89	1.55
Mental health curriculum	13,043	2.79	1.52
Check-ins	13,715	2.95	1.51
Mentoring	13,163	3.01	1.49

Note. The minimum value was 1 and the maximum value was 5 for all five questions.

Counseling support achieved both the most participant responses and the highest mean score. Group counseling had the fewest participant responses and second lowest mean score. Mental health curriculum had the second fewest participant responses and the lowest mean score. Both check-ins and mentoring fell in the middle of responses.

I then conducted a repeated measures ANOVA with the five perceived helpfulness questions to properly account for the within-subjects variability. The results of the repeated measures analysis showed significant differences between the mean perceived helpfulness of each of the five types of SBMHS ($F_{(4,19155)} = 204.2, p < .001$). Table 4.5 shows the SBMHS type (column 1), mean perceived helpfulness score of each SBMHS reported by the sample (column 2), the standard deviation (column 3), and which

post-hoc comparisons showed significant differences in pair-wise comparisons (column 4).

Table 4.5

Differences in Perceived Helpfulness Between Different SBMHS

Question	<i>M</i>	<i>SD</i>	Significantly different from
Counseling support	3.16	.016	All other types
Group counseling	2.96	.016	All other types
Mental health curriculum	3.00	.016	All other types
Check-ins	3.05	.016	All other types
Mentoring	3.09	.016	All other types

These results revealed that participants had the highest perceived helpfulness scores for counseling support; however, all means were very close.

Research Question 3: What Is the Relationship Between Student Characteristics and the Perceived Helpfulness of SBMHS?

For the next analysis, I explored how student characteristics may be associated with the perceived helpfulness of SBMHS. I began with a series of one-way ANOVA analyses, followed by a series of *t* tests, a correlation analysis, and multiple regression analyses.

Impact of Background Characteristics on Perceived Helpfulness

I conducted a series of one-way ANOVA analyses to determine group differences in response to the overall perceived helpfulness of SBMHS. I conducted one of these ANOVA analyses for the overall perceived helpfulness metric with each of the following

variables: year of data collection, grade, sex, race and ethnicity, father education level, and mother education level. The year of data collection was not significant and was removed from further analyses.

The one-way ANOVA results showed significant differences in perceived helpfulness of SBMHS between participants who differed in grade level ($F_{(2,19157)} = 29.88$, $p < .001$). Table 4.6 shows the grade (column 1), mean level of perceived helpfulness for each group (column 2), as well as each group's standard deviation (column 3), and which post-hoc comparisons showed significant differences in pair-wise comparisons (column 4).

Table 4.6

Differences in Perceived Helpfulness Between Different Grade Levels

Grade	<i>M</i>	<i>SD</i>	Significantly different from
8th	2.98	1.41	All other groups
10th	2.85	1.37	8th grade
12th	2.79	1.33	8th grade

These results revealed that 8th grade students had significantly higher perceived helpfulness scores than both 10th and 12th grade students; however, 10th and 12th grade students did not have significantly different perceived helpfulness scores of SBMHS from each other. Table 4.7 shows the effect sizes associated with each comparison. The difference observed for each group (compared to 8th grade students) is shown in the second column as a portion of the overall standard deviation.

Table 4.7

*Effect Size Comparison of Perceived Helpfulness of SBMHS
Between Students in 8th Grade Compared to Older Grades*

Grade	Effect size difference from 8th grade
10th	-.10
12th	-.14

The perceived helpfulness score difference between 8th and 12th grade students was larger than 8th and 10th grade students; however, both differences were quite small.

The one-way ANOVA results showed significant differences in perceived helpfulness of SBMHS between participants who differed in their identified sex ($F_{(2,19130)} = 122.81, p < .001$). Table 4.8 shows the sex, mean of perceived helpfulness for each group (column 2), each group's standard deviation (column 3), and which post-hoc comparisons showed significant differences in pair-wise comparisons (column 4).

Table 4.8

Differences in Perceived Helpfulness Between Different Reported Sexes

Sex	<i>M</i>	<i>SD</i>	Significantly different from
Male	3.04	1.39	All other groups
Female	2.74	1.33	Other
Other	2.70	1.43	Female

These results revealed that students who identified as male had significantly higher perceived helpfulness scores from both students who identified as female and other; however, students who identified as female and other did not have significantly different perceived helpfulness scores of SBMHS from each other. Table 4.9 shows the effect sizes associated with each comparison. The difference observed for each group (compared to male students) is shown in the second column as a portion of the overall standard deviation.

Table 4.9

Effect Size Comparison of Perceived Helpfulness of SBMHS Between Students Who Reported as Male Compared to Other Sexes

Sex	Effect size difference from male
Female	-.22
Other	-.25

The perceived helpfulness score difference between students who identified as male and students who identified as other was slightly larger than male and female; however, both differences were small.

The one-way ANOVA results showed significant differences in perceived helpfulness of SBMHS between participants who differed in their race and ethnicity ($F_{(10,18326)} = 7.176, p < .001$). Table 4.10 shows the race and ethnicity (column 1), mean of perceived helpfulness for each group (column 2), each group's standard deviation

(column 3), and which post-hoc comparisons showed significant differences in pair-wise comparisons (column 4).

Table 4.10

Differences in Perceived Helpfulness Between Different Race and Ethnicity Groups

Race and ethnicity	<i>M</i>	<i>SD</i>	Significantly different from
Multiracial/Multiethnic (1)	2.83	1.36	2, 3, 6
Black or African American (2)	3.01	1.38	3, 7, 8
Mexican American or Chicano (3)	3.04	1.36	1, 7, 8
Cuban American (4)	2.86	1.37	No other groups
Puerto Rican (5)	2.90	1.40	No other groups
Other Hispanic or Latino (6)	2.96	1.38	1, 8
Asian American (7)	2.86	1.33	2, 3
White (Caucasian) (8)	2.81	1.36	2, 3, 6
American Indian or Alaska Native (9)	2.79	1.31	No other groups
Native Hawaiian or Other Pacific Islander (10)	2.71	1.53	No other groups
Middle Eastern (11)	2.90	1.41	No other groups

Participants who identified as Mexican American or Chicano reported the highest perceived helpfulness scores. These scores were also significantly higher than participants who identified as Multiracial/Multiethnic, Asian American, and White. White had significantly lower perceived helpfulness scores than participants who identified as Black or African American, Mexican American or Chicano, and Other

Hispanic or Latino. Participants who identified as Cuban American, Puerto Rican, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and Middle Eastern were not significantly different from any other groups. Table 4.11 shows the effect sizes associated with those who significantly differed from White. The difference observed for each group (compared to White students) is shown in the second column as a portion of the overall standard deviation.

Table 4.11

Effect Size Comparison of Perceived Helpfulness of SBMHS Between Students Who Reported as White Compared to Other Races and Ethnicities

Race and ethnicity	Effect size difference from White
Black or African American	.15
Mexican American or Chicano	.17
Other Hispanic or Latino	.11

Students who identified as Mexican American or Chicano had the largest difference from those who identified as White followed by Black or African American and Other Hispanic or Latino. All effect-size differences were small.

The one-way ANOVA results showed significant differences in perceived helpfulness of SBMHS between participants who differed in their reported father education level ($F_{(6,19042)} = 38.849, p < .001$). Table 4.12 shows reported father education level (column 1), mean of perceived helpfulness for each group (column 2), each group's

standard deviation (column 3), and which post-hoc comparisons showed significant differences in pair-wise comparisons (column 4).

Table 4.12

Differences in Perceived Helpfulness Between Different Father Education Levels

Father education level	<i>M</i>	<i>SD</i>	Significantly different from
Completed grade school or less	3.17	1.37	All groups except don't know, or does not apply
Some high school	2.99	1.40	All other groups
Completed high school	2.87	1.38	All other groups
Some college	2.77	1.35	Completed college and Graduate or professional school after college
Completed college	2.74	1.32	Completed college and Graduate or professional school after college
Graduate or professional school after college	2.72	1.33	Some college and completed college
Don't know, or does not apply	3.11	1.41	All groups except completed grade school or less

These results revealed that students who answered *completed grade school or less* had significantly higher perceived helpfulness scores than all groups except for those who answered *don't know, or does not apply*. Students who answered *don't know, or does not apply* were significantly higher than all other groups except students who reported that their father completed grade school or less. Students who answered *some high school* and *completed high school* had significantly different scores than all other groups. Students who answered *some college*, *completed college*, and *graduate or professional school after college* all had significantly lower scores than the other groups, but not from each other. Table 4.13 shows the effect sizes associated with one of the comparisons. The

difference observed for each group (compared to students who marked *completed grade school or less*) is shown in the second column as a portion of the overall standard deviation.

Table 4.13

Effect Size Comparison of Perceived Helpfulness of SBMHS Between Students Who Answered Completed Grade School or Less for Father Education Level Compared to Other Groups

Father education level	Effect size difference from <i>completed grade school or less</i>
Some high school	-.13
Completed high school	-.23
Some college	-.29
Completed college	-.31
Graduate or professional school after college	-.33

The perceived helpfulness score difference between *completed grade school or less* increased as the father's level of education increased. All effect sizes are considered small but significant.

The one-way ANOVA results showed significant differences in perceived helpfulness of SBMHS between participants who differed in their reported mother education level ($F_{(6,19069)} = 36.33, p < .001$). Table 4.14 shows mother education level, mean of perceived helpfulness for each group (column 2), each group's standard deviation (column 3), and which post-hoc comparisons showed significant differences in pair-wise comparisons (column 4)

Table 4.14*Differences in Perceived Helpfulness Between Different Mother Education Levels*

Mother education level	<i>M</i>	<i>SD</i>	Significantly different from
Completed grade school or less	3.16	1.41	All groups except some high school and don't know, or does not apply
Some high school	3.04	1.39	All groups except completed grade school or less and completed high school
Completed high school	2.95	1.40	All groups except some high school
Some college	2.81	1.35	All groups except completed college and graduate or professional school after college
Completed college	2.75	1.32	All groups except graduate or professional school after college
Graduate or professional school after college	2.78	1.35	All groups except some college and completed college
Don't know, or does not apply	3.17	1.43	All groups except completed grade school or less

These results revealed that students who answered *completed grade school or less* for their mother education level had significantly higher perceived helpfulness scores than all groups except for those who answered *some high school* and *don't know, or does not apply*. Students who answered *don't know, or does not apply* were significantly higher than all other groups except students who answered *completed grade school or less*.

Students who answered *some high school* had significantly different scores than all other groups except for all groups except *completed grade school or less* and *completed high school*. Students who answered *completed high school* had significantly different answers than all groups except for those who answered *some high school*. Students who answered *some college* were significantly different from all groups except *completed college* and *graduate or professional school after college*. Students who answered *completed college*

had significantly different answers than all groups except for those who answered *graduate or professional school after college*. Students who answered *graduate or professional school after college* had significantly lower scores than all groups except *some college* and *completed college*. Table 4.15 shows the effect sizes associated with *don't know or does not apply*. The difference observed for each group (compared to students who marked *don't know or does not apply*) is shown in the second column as a portion of the overall standard deviation.

Table 4.15

Effect Size Comparison of Perceived Helpfulness of SBMHS Between Students Who Answered Don't Know, or Does Not Apply for Mother Education Level Compared to Other Groups

Mother Education Level	Effect size difference from <i>don't know, or does not apply</i>
Some high school	-.10
Completed high school	-.16
Some college	-.26
Completed college	-.31
Graduate or professional school after college	-.28

The perceived helpfulness score difference between *don't know, or does not apply* increased as the mother's level of education increased until a slight drop at *graduate or professional school after college*.

Age and Perceived Helpfulness of SBMHS

I conducted a correlation analysis to assess the relationship between age and perceived helpfulness of SBMHS. Table 4.16 shows the variable (column 1) and correlation for both the overall perceived helpfulness and each of the five questions (column 2).

Table 4.16

Correlations of Overall Perceived Helpfulness and Five Sub-Questions with Age

Variable	<i>r</i>
Overall perceived helpfulness	-.04*
Counseling support	-.03*
Group counseling	-.06*
Mental health curriculum	-.07*
Check-ins	-.05*
Mentoring	-.05*

Note. * $p < .001$

These results showed a small negative relationship between age and perceived helpfulness of SBMHS. This relationship indicates that as age increased, the perceived helpfulness of SBMHS slightly decreased. For the individual SBMHS, all correlations were also significant in an inverse direction, with mental health curriculum being the strongest and counseling support being the weakest; however, all correlations were very small.

Impact of Relationships Among Background Characteristics on Perceived Helpfulness

To examine the relationships among grade, age, sex, race and ethnicity, father education level, and mother education level with perceived helpfulness of SBMHS, I used Ordinary Least Squares (OLS) multiple regression analysis. I conducted a regression analysis for both perceived helpfulness overall and each of the sub-questions. Appendix F shows the results of the multivariate analysis that examined the relationship between the students' overall perceived helpfulness of SBMHS and each of the SBMHS types with the set of 16 variables described above. The combination of the original 16 predictors accounted for 2.6% of the overall variance in overall perceived helpfulness of SBMHS. Reverse stepwise regression was used to reach the final model of nine predictors. Seven variables (Multiracial/Multiethnic, Cuban American, Puerto Rican, Asian American, American Indian or Alaskan Native, Native Hawaiian or Other Pacific Islander, and Middle Eastern) were unrelated and not included in the final model. The nine predictors then accounted for 2.5% of the overall variance in overall perceived helpfulness of SBMHS. The final model revealed a very small but significant outcome ($F = 41.94, p < .001$). For the individual SBMHS types, between six and eight predictors were retained for the final models. Mental health curriculum had the largest *R*-square value followed by group counseling, mentoring, check-ins, and counseling support. All *R*-square values were very small but significant ranging between 1.8% and 3.4% of the overall variance.

Summary

This chapter explored the results of a variety of analyses that assessed the perceived helpfulness of SBMHS. This chapter explored how helpful students find

SBMHS overall, how perceived helpfulness varies as a function of SBMHS type, and the relationship between student characteristics and perceived helpfulness of SBMHS. In the following chapter, I discuss the implications of these results for SBMHS theory and practice as well as recommendations for future research.

CHAPTER FIVE

DISCUSSION

The purpose of this dissertation is to explore the student perceived helpfulness of school-based mental health services (SBMHS). SBMHS are “any program, intervention or strategy applied in a school setting that was specifically designed to influence students’ emotional, behavioral, and/or social functioning” (Rones & Hoagwood, 2000, p. 224). I explored SBMHS because adolescent mental health is a critical issue facing the United States today (NIMH, 2021). SBMHS have become essential in adolescent mental health treatment, since schools are the most common access point for children and adolescents to receive mental health services (Langley et al., 2010). Despite their widespread administration, research on SBMHS has generally been limited to studies that have investigated symptom change, with minimal research on other types of outcome criteria (Bhide et al., 2018; Krause et al., 2021; Weisz et al., 2018). To assess SBMHS from a different perspective, I explored student perceived helpfulness as an alternative outcome measure. Perceived helpfulness is a rising construct to measure and assess mental health service outcomes (e.g., Bruffaerts et al., 2022; Harris et al., 2024; Nierenberg et al., 2021; Stein et al., 2021), yet it has not been used to assess SBMHS. Therefore, the goal of this study was to examine a variety of SBMHS types in relation to student perceived helpfulness. This investigation resulted in three research questions:

- 1) Overall, how helpful do students find SBMHS?
- 2) How does perceived helpfulness vary as a function of SBMHS type?

- 3) What is the relationship between student characteristics (e.g., age, race) and the perceived helpfulness of SBMHS?

To analyze these three research questions, I used a previously collected data set from *Monitoring the Future* (2023). The 32,883 participants in my subsample answered demographic questions as well as five Likert scale questions about the perceived helpfulness of five different types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. I discuss my research findings, the relationship between my findings and the relevant literature, theoretical and practical implications, limitations, and recommendations for future research.

Summary of Findings

There were several findings from this study. Consistent with previous research on SBMHS, the effect sizes for my results were quite small; however, the findings are still meaningful (Foulkes & Stringaris, 2023). The results from the three research questions and their corresponding analyses are further detailed below. I also integrate my findings with the relevant literature.

Research Question 1: How Helpful Do Students Find SBMHS?

My first research question inquired about how helpful students find SBMHS overall. I initially conducted a factor analysis to determine the relationship among the five questions about the five types of SBMHS: counseling support, group counseling, mental health curriculum, check-ins, and mentoring. All five factors loaded strongly, implying that there was a strong relationship among the variables. This finding was not unexpected, since I predicted that intervention itself would matter more than intervention characteristics. A little over 58% of my sample had attended at least one SBMHS. This

finding aligns with the research that schools have become the most common access point for adolescents to receive mental health services (Ross et al., 2020). Interestingly, my finding that 58% of students received mental health services is much higher than the 7.3% found in a previous meta-analysis (Duong et al., 2020). This gap could be due to method differences, years of data collection, different definitions of SBMHS, or other factors; however, it is still an interesting difference. The previous research that 96% of schools report offering at least one type of service shows that there may still be a gap between access and utilization (Fazel et al., 2014).

When I observed the graph of the overall perceived helpfulness score, there were peaks at both tails. This finding aligns with other research on Likert scale assessments on perception studies that extreme answers are common (Sullivan & Artino, 2013). When I conducted a mean analysis, I found that the overall mean for individuals who received at least one service was 2.87. This result means that students overall landed slightly below the somewhat helpful answer on average. While students were on average below the *somewhat helpful* answer, the peaks at both ends of the distribution signaled that students often had extreme responses to SBMHS: either they responded *not helpful at all* or *extremely helpful*. This finding fits with the literature that while many adolescents are receiving help, many other students remain searching for meaningful help for their mental health challenges (e.g., McCurdy et al., 2024; Platell et al., 2020; Taspinar et al., 2017).

Results From Research Question 2: How Does Perceived Helpfulness Vary as a Function of SBMHS Type?

My second research question asked how student perceived helpfulness varies as a function of SBMHS type. Of all the SBMHS types, counseling support received the highest total number of ratings from students on perceived helpfulness. Following counseling support were check-ins, mentoring, mental health curriculum, and group counseling. The purpose of this study was not to determine accessibility and utilization of SBMHS; however, my initial results provide some insight from a student perspective into these areas. These results are surprising considering the structure of multi-tiered systems of support (MTSS). MTSS is the primary framework for SBMHS (Goodman-Scott & Ockerman, 2019). The MTSS model expects that 100% of students are serviced by Tier 1 services, 10% to 20% serviced by Tier 2, and 5% to 10% by Tier 3 (August et al., 2018). According to my results, 39.7% reported receiving Tier 1, while percentages for Tier 2 and 3 services ranged between 34.3% and 51.3%. Continuing with the deviations from the MTSS model, students responded *service not offered* between 7.6% for counseling support and 15.6% for group counseling. This result suggests wide availability of services of all tiers of MTSS, perhaps higher than the literature reports. There may be alternative explanations for these findings, such as respondents could have been confused about what the questions were asking or what each of the terms meant. That being said, students had very similar missing percentages across all five questions, increasing the reliability of the results of each of the five. Even if some confusion is the case, these percentages remain noteworthy.

Next, I assessed the helpfulness of individual SBMHS types by creating *not helpful* and *helpful* categories. I combined the responses of *not at all helpful* and *a little helpful* to create the *not helpful* category. I also combined responses of *quite helpful* and *extremely helpful* to create the *helpful* category. The *not helpful* category outpaced the *helpful* category in all services except for counseling support. For adults, previous research has shown that they report receiving helpful treatment 47% to 85% of the time (Alang et al., 2020; Bruffaerts et al., 2022; Colman et al., 2014; de Vries et al., 2021; Edlund et al., 2015; Kuramoto-Crawford et al., 2015). In the same adult studies, participants reported that they received helpful treatment with any given provider 20% to 30% of the time (Bruffaerts et al., 2022; Harris et al., 2020; Harris et al., 2022; Harris et al., 2024). My methods were slightly different from these studies since the participants in my study were asked about their impression of services overall, compared to whether individuals had ever received helpful treatment. Despite these differences, my results slightly lag behind other research on helpful treatment. My results are in line with previous research on adolescent mental health treatment services received by community providers without medication (Edlund et al., 2015). This previous study used a similar Likert scale as the one used in my study, and 32% of adolescents reported treatment to be helpful compared to 44% who reported it as not helpful (using the same response coding as I did in this study) (Edlund et al., 2015). These results demonstrate that adolescents may find it more challenging to find helpful treatment overall, whether in schools or the community. Additionally, school and community help may be quite similar in regard to the perceived helpfulness from adolescent clients.

Counseling support had the highest reported perceived helpfulness in my study. Counseling support within a school could mean many different things, such as individual counseling, guidance counseling, or other support services provided by a community counselor in the school or a school counselor. Counseling support being the highest rated SBMHS type was not surprising given that previous research has shown individual counseling to be preferable to group counseling interventions in schools (e.g., Chang et al., 2024; Darimis et al., 2022). No matter how students defined counseling support when answering the questions, research supports that counseling support is impactful in schools (Ross et al., 2020).

Mentoring and check-ins were the second and third highest rated SBMHS types in my study. Mentoring has many different types of categories and formats. Interestingly, over 40% of my sample gave a report on the helpfulness of mentoring, even though it is considered a Tier 2 intervention and not utilized on a wide basis. Mentoring research has demonstrated mixed results (Chan et al., 2019; Heppen et al., 2017; Jones et al., 2022; Kuperminc et al., 2019; Luo & Stoeger, 2023), yet the standard deviation remains in line with the other SBMHS. This similar standard deviation demonstrates that mentoring was not any more polarizing than other SBMHS types. Check-ins were the next highest scoring SBMHS type. They were also the second most reported intervention, demonstrating that they have grown in popularity at the middle and high school level.

The second lowest perceived helpfulness score was group counseling. The previous literature on group counseling as a SBMHS also contained mixed results (Banat et al., 2020; Koçak & Çelik, 2022; Taspinar et al., 2017). Previous research reports that fewer group counseling studies have been created in recent years (Steen et al., 2022).

While group counseling was the lowest reported SBMHS of my sample, 34% of my sample still reported a view on its perceived helpfulness. This finding demonstrates a concerning development that, while less research is being conducted on group counseling as a SBMHS type and there are mixed results, the service is still being utilized widely in schools. Furthermore, ineffective group counseling can be particularly harmful to minority populations if the group leader is not sensitive to diversity issues (Beasley et al., 2023). According to my results, group counseling as a SBMHS is in a worrying position.

Mental health curriculum (MHC) received the lowest mean score of perceived helpfulness out of all the SBMHS types. MHC is reportedly one of the most popular Tier 1 interventions (August et al., 2018), yet MHC was the second least common service reported by my sample. The reason these rates are lower than expected could be a combination of students not being familiar with the terminology of MHC, it being integrated into their regular school curriculum without their recognition, outdated curriculum, or MHC not being offered as often as schools report. No matter the reason, students reported MHC to be less helpful than other SBMHS types.

Research Question 3: What Is the Relationship Between Student Characteristics and the Perceived Helpfulness of SBMHS?

My third research question analyzed the relationship between student characteristics and perceived helpfulness of SBMHS. The first student characteristic that I analyzed was grade level. Interestingly, 8th grade students reported higher perceived helpfulness scores on average than 10th and 12th grade students. There is no previous research that has compared perceived helpfulness or effectiveness scores of SBMHS on a large scale across grade levels; therefore, my finding is a new contribution to SBMHS

research. Students in 10th and 12th grade were not significantly different from each other, although 10th grade students did have slightly higher scores than 12th grade students. Similar to grade level, younger age was also associated with higher reported perceived helpfulness.

The next student characteristic that I explored was reported sex. My study found that students who identified as male reported significantly higher perceived helpfulness scores than students who identified as female or other. Worryingly, female adolescents have been reporting worse mental health symptoms than male students recently, with the trend only worsening (NCES, 2024a). My results also contradict previous adult research that females report treatments to be more helpful (Bruffaerts et al., 2022) and access these services at a higher rate (Locke et al., 2016; Murphy & Kim, 2023). Similarly, the adolescents who reported their sex as other may identify as LGBTQ+. LGBTQ+ adolescents are also at increased risk for mental health concerns and did not report SBMHS to be as helpful as male students (NCES, 2024). This finding potentially aligns with the literature that LGBTQ+ adolescents reach out to services at a higher rate than their peers (Department of Education Office of Civil Rights, 2021), yet potentially contradicts previous research that LGBTQ+ students find services more helpful (Hall, 2017; Platell et al., 2020). Adolescents who identified as female and those who identified as other were not significantly different in their perceived helpfulness ratings, although female students reported a slightly higher score.

Race and ethnicity was another student characteristic that I analyzed in relation to perceived helpfulness of SBMHS. Students who identified as Mexican American or Chicano and Black or African American were the only groups to be over the *somewhat*

helpful average. The finding that Mexican American or Chicano students reported the highest perceived helpfulness was surprising. Previous research found that Hispanic students were less likely to access SBMHS and more likely to be mistrustful of these service providers (Kim et al., 2011). My finding shows that this may not be the case for Mexican American or Chicano students as a whole. Black students finding services helpful does align with the limited previous research on SBMHS and the population (Havlik et al., 2020). That being said, research has shown that Black respondents are more likely to select extreme answers on attitudinal scores (Kloska et al., 2024b). The standard deviation of Black students in my study is in line with other populations, signifying that this bias may not be directly relevant in my research, yet must be considered. The race and ethnicity groups with the lowest mean scores in my sample were Native Hawaiian or Other Pacific Islander, American Indian or Alaskan Native, and White. I could not find any research on the perceived helpfulness of SBMHS on Native Hawaiian or Other Pacific Islander or American Indian, or Alaskan Native populations. The finding of White students being on the lower side of perceived helpfulness of SBMHS was somewhat surprising. White students were expected to be on the higher side due to the role that race, privilege, and power can play in mental health services overall (Feiss et al., 2019; van Loon et al., 2020). That being said, other research has shown that minority adolescents seem to utilize and benefit from SBMHS, potentially at a higher rate than majority students (Locke et al., 2016; Murphy & Kim, 2023). Asian American students fell nearly in the middle of the other race and ethnicity groups. Previous qualitative research on this population found that Asian American students were hesitant to utilize SBMHS due to a variety of barriers (Liu et al., 2022). My missing data analysis

found that Asian American students reported a view on service helpfulness significantly lower than all other groups. According to my results, this population tended to find services helpful at an average rate, yet may be accessing them at a significantly lower rate.

Student-reported father education level was another student characteristic that I assessed. This variable is often used as a general guide for student-reported socioeconomic status. My results showed that students who reported that their father completed grade school or less or *don't know, does not apply* reported scores that were above the *somewhat helpful* average. This result was not surprising considering that previous studies have shown that students with lower SES tend to utilize and benefit from SBMHS (Locke et al., 2016; Murphy & Kim, 2023); however, some studies have been mixed on this result (e.g., Edlund et al., 2015). The groups with the lowest reported perceived helpfulness scores were *graduate or professional school after college* and *completed college*. This finding is interesting since some research has shown that adults with higher education tend to benefit from mental health services at a higher rate (Harris et al., 2022; Harris et al., 2024).

Student-reported mother education level presented similar results to father education level. My results showed that students who reported that their mother completed grade school or less or *don't know, or does not apply* reported the highest two scores of perceived helpfulness average. Similarly, the two lowest scores on SBMHS perceived helpfulness for mother education level were *completed college* and *graduate or professional school after college*. Mother education level is a unique variable that is often associated with SES, but not to the extent of father education level (Putnick et al., 2024).

Mother education level appears to have a more complicated social and educational dynamic than father education level (Putnick et al., 2024). The meaning of this finding is not entirely clear.

To try to control for other factors, I also conducted a regression analysis to isolate the student characteristics listed above. The predictor categories associated with lower perceived helpfulness when isolated were father education level and mother education level. The predictor categories associated with higher perceived helpfulness when isolated were age, grade, identifying sex as female, identifying sex as other, identifying as Black or African American, identifying as Mexican American or Chicano, and identifying as Other Hispanic. The parent education level findings identified in previous analyses held when isolated. The findings for Black or African American and Mexican American or Chicano also held from previous analyses. The previous findings for age, grade, and identified sex flipped once other variables were controlled. Other Hispanic was a new finding in the regression analysis and not previous analysis; however, the impact was very small. Furthermore, previous research on adolescent mental health treatment shows various perceived helpfulness scores for services even within the same identity group (Morgan et al., 2020). This research was consistent with my findings and demonstrates that within group differences and unique characteristics make a difference in how helpful a service is perceived for a given individual.

Theoretical Implications

The findings from the research detailed above have meaningful theoretical implications, such as the role of schools in child and adolescent mental health, redefining effectiveness measures, MTSS overall, and the role of demographic and individual

differences in perceived helpfulness of SBMHS. The overarching theoretical question for SBMHS is how much of a role schools should play in student mental health. Schools inevitably must contend with the mental health concerns of students since they are such a big part of students' lives. Yet, how schools conceptualize their role in student mental health is essential to their conceptualization of education overall. My findings do not provide clear answers on how to proceed with this complicated question, but my findings do provide further insight into how students perceive the helpfulness of SBMHS.

Another theoretical implication of my results is the potential to redefine effectiveness measures and study designs. Journals heavily favor randomized controlled trials (RCTs) for publication, yet these studies are only one method of assessing outcomes. Symptom reduction is the primary outcome assessed in both RCTs and similar studies, although other outcome measures matter outside of just symptom reduction. For SBMHS research specifically, students are not often the source of the data unless symptom reduction is being studied. My study demonstrates that student perception studies are a meaningful way to enrich the understanding of the theoretical framework of SBMHS approaches.

My study also provides information that can have theoretical implications for multi-tiered systems of support (MTSS). My study showed that for the Tier 1 service of mental health curriculum (MHC) that I evaluated, students reported low engagement and low perceived helpfulness. Multiple factors could be influencing this result, such as unawareness or confusion over what MHC is, implementation in the normal school day by regular teachers, or lack of implementation by schools. This shows that Tier 1 may not be as effective or widely used as MTSS recommends. The most helpful service reported

by students was the service commonly administered as Tier 2 or 3 services in counseling support. Similarly, mentoring was the second most helpful service and is viewed as a Tier 2 intervention. Mentoring has primarily been utilized in schools in two different formats: connecting children to a potential career path mentor or connecting underprivileged children to a strong adult presence. The results from my study show that mentoring may be beneficial beyond the traditional models, since mentoring rates were higher than expected, and students reported the second highest perceived helpfulness scores. These findings could encourage reconsideration of the MTSS protocol.

Some of the notable demographic findings and non-findings with the perceived helpfulness of SBMHS also have theoretical implications. Unexpectedly, students who identified as male reported higher perceived helpfulness of SBMHS than groups who did not identify as male. This finding is concerning, considering that individuals who do not identify as male generally have worse mental health than those who identify as male (NCES, 2024a). Additionally, students with lower grade levels and ages reported higher perceived helpfulness of SBMHS. Stakeholders and researchers may want to consider alternative theoretical approaches to reach these groups who do not report as high levels of perceived helpfulness.

Another implication as a result of my findings is the impact that individual differences have on perceived helpfulness of SBMHS. Some groups reported higher levels of perceived helpfulness of SBMHS, and these differences should be considered for theoretical implications. That being said, there were no large differences within these groups. This finding demonstrates the importance of intersectionality, individual differences, and other non-quantifiable factors on the perceived helpfulness of SBMHS.

Practical Implications

There are several practical implications of my research, including resource allocation, service implementation, equity in service design, MTSS, and SBMHS evaluation. One of the practical implications of my findings is the consideration of resource allocations for SBMHS. The five types of SBMHS were all relatively similar in their student reported perceived helpfulness scores. Similarly, all services demonstrated some helpfulness, yet none provided high levels of perceived helpfulness. The primary goal of SBMHS is to help support students' mental health. Unfortunately, according to the students from my study, SBMHS do not seem to be as helpful as one would hope or expect. According to my results, many different types of SBMHS certainly help some students; however, their helpfulness is limited overall. These findings again force reconsideration of the school's role in student mental health. Previous research has also found that third party mental health providers in schools may provide more favorable results (Foulkes et al., 2024; Werner-Seidler et al., 2017). Reconsidering SBMHS delivery models may be worthwhile to support students' mental health as much as possible, whether that is within the school walls, partnering with other organizations and agencies, or other viable alternatives.

My results also showed that there were relatively high standard deviation scores across each of the groups, signifying that some students found a service to be extremely helpful, and other students found the same service to not be helpful at all. These findings show that the type of SBMHS does not seem to matter to students when taken as a large group, but seems to matter more at the individual level. The recommendation based on

this finding is to tailor SBMHS at an individual level and offer opportunities for students to pick their SBMHS as often as possible.

While all services were relatively similar in their reported perceived helpfulness scores, there were still meaningful and significant differences among the five types of SBMHS analyzed. The order of the perceived helpfulness for the five groups (from highest perceived helpfulness to lowest) was counseling support, mentoring, check-ins, group counseling, and mental health curriculum. Schools and stakeholders could consider prioritizing the implementation of the services that students found the most helpful (i.e., counseling support and mentoring). Expanding counseling support is much more challenging considering the resources available; however, partnering with local organizations, advocating for expanded state health insurance coverage at the school level, and supporting funding for individual counseling support in schools may increase availability. Expanding mentoring services specifically to support student mental health may be more possible, since it does not rely on hired school personnel. Proper training and vetting of mentors are key steps in the process. Furthermore, since group counseling was rated the second lowest in perceived helpfulness by the students, ideally only students who request group counseling should be included in groups. Group counseling offers a lighter resource burden to schools; however, the trade-off seems relatively high considering the widespread low scores in my study. Schools could consider these adjustments to SBMHS implementation.

Another practical implication from this study is working toward equity in design service and implementation. While there were no massive differences in demographic groups among various populations, there were still noticeable differences across most

demographic categories. Some of the groups who reported lower perceived helpfulness were older students, students in higher grades, students who did not report as male, Native Hawaiian or Other Pacific Islander, and American Indian and Alaskan Native. Being mindful that these groups may face higher barriers and report lower perceived helpfulness can help stakeholders structure more equitable SBMHS.

Multi-tiered systems of support (MTSS) are the most popular conceptualization model for SBMHS delivery. My findings indicate that students report MTSS is not being implemented as intended. This finding could be a result of student interpretation; however, it is worth considering that MTSS may not be implemented as designed. MTSS may be a valuable framework for student mental health overall, yet allowing diversification within schools based on student needs and preferences may be more helpful.

Finally, evaluation for SBMHS could be readjusted based on my findings. Assessing SBMHS through a student perspective measure, like perceived helpfulness, captures a different portion of outcome than traditional symptom change measures or RCTs. More studies could be conducted that analyze SBMHS through this perspective and other alternative approaches.

Limitations

This study has several limitations, including a lack of precise information about services, ambiguous terminology, reliance on self-report data, the wording of certain demographic questions, and missing data. The primary limitation is the lack of information about the services that students are reporting on. While it is often the nature of large-scale quantitative studies, there is limited information gathered from the students.

There is no assurance of who is providing the services and their qualifications, the quality of service, how often students engaged in the services, if they were required to engage in services, etc. This valuable information is missing and limits the conclusions that can be drawn about the services.

Further, some of the terminology in the questions is vague. Counseling support, for example, can be interpreted to mean a counselor on site who is supportive overall, individual counseling from a school counselor or other clinician on site, guidance counseling from school counselor regarding classes or careers, or any combination of these types of interventions. Mental health curriculum faces a similar limitation as far as the services that students included in this answer. While check-ins, mentoring, and group counseling appear clearer, there still may have been confusion from students on what qualified for these service types.

Another limitation of this study was relying solely on self-report data. Perceived helpfulness is a perception variable that can only be assessed through self-report. This variable was not problematic since the goal of the study was to assess student perceptions; however, other variables relied on student reports including whether they ever participated in any of the SBMHS listed, identified sex, race and ethnicity, age, and mother and father education levels. Grade was the only primary demographic variable that was collected by the survey administrators. These self-report variables could be subject to misremembering, misidentifying, misunderstanding, or intentionally inaccurate answers.

Another limitation is the structure of the questions about sex, race, and ethnicity. The study only asked about identified sex and not gender identity. Gender identity is an

essential demographic variable that I was not able to analyze with the questions asked on the questionnaire. Similarly, the questions on race and ethnicity were restricted to ten questions about individual race and ethnicity categories, where students had the option to mark if they identified with a given category. To use this variable in my research, I combined each of these questions into a single question. If students identified as a member of more than one category, they were recorded as Multiracial/Multiethnic. This category may not be an appropriate fit for the respondents and is a limitation of this study design.

Another limitation of this study is the missing data. Students were not required to answer the questions, and some students were more likely to skip questions about SBMHS. I combined the answers of *not offered*, *don't know/not applicable*, and any system missing into my *missing* category. I chose to do this since these students were the participants who did not offer a rating on the SBMHS type and were therefore excluded from my scale data. Some of the following groups fell into the *missing* category more than their counterparts: 2022 data collection year missing more than 2023, 8th grade missing more than 12th grade, male missing more than female, South region missing more than Northwest and Midwest, MSA missing more than Non-MSA, public school missing more than private, no religion missing more than Western religion, and Asian American missing than other race and ethnicity groups. Previous research has shown that students located in the Southern United States are more likely to feel stigmatized for reaching out for mental health treatment (Ali et al., 2019). The missing data aligns with this previous research. Other groups with missing data may also be due to stigma or other

reasons. The missing data must be considered when drawing conclusions from the results of this study.

Recommendations for Future Research

There are several recommendations for future research based on the results from this study, including further quantitative research on my findings, qualitative research on subgroups, research on service providers, research on student primary presenting concerns, research on other variables that could influence perceived helpfulness, and research on MTSS. Further quantitative research on some of my findings could be beneficial. Specifically, further exploration on grade level, sex, and SBMHS type could add richness to my findings. Research specifically on the groups with missing data could help provide appropriate representation. Counseling support and mentoring were the two highest rated SBMHS, according to the students. Further quantitative or qualitative research on these studies could help guide decision-making on SBMHS implementation. Further research on demographic characteristics and each SBMHS type could also add more to my findings beyond the research I conducted on overall perceived helpfulness.

Another recommendation for future research is to conduct more qualitative research on SBMHS. Several populations could benefit from follow-up studies based on my results, including female students, various grade levels, various race and ethnicity categories, and Queer students. Specific race and ethnicity categories could include Native Hawaiian, Other Pacific Islander, and American Indian or Alaskan Native, since these groups reported the lowest overall perceived helpfulness scores. Additionally, qualitative data on the different types of SBMHS from student perspectives could be beneficial. For example, it may be helpful to know the reasons students preferred

counseling support or mentoring. Furthermore, more information on how students define some of the hard to define terms in my study, like “counseling support” and “mental health curriculum,” could guide my results. Finally, qualitative analysis on students' perceptions and experiences of SBMHS types and their ideal service implementation strategies could guide stakeholders. Qualitative studies that follow my similar line of research can add more depth to my findings.

Further analysis of who is providing services and how they are structured could help guide researchers and stakeholders. My research does not provide this key information to make implementation decisions on who should be providing services in SBMHS. For example, previous research has shown that same-race mentoring pairs may have different relationships than non same-race mentoring pairs (Jones et al., 2022). Furthermore, while my research was able to demonstrate some general data on service utilization, it is unclear whether students accessed these resources as little as once or as often as weekly. Researching provider variables and service type variables is highly recommended before altering SBMHS.

Another recommendation for future research is to investigate how students' primary presenting concerns impact SBMHS helpfulness. Some students who receive SBMHS may participate to increase overall knowledge of mental health concerns, yet the majority of students participate in higher tier services due to specific presenting concerns. Students with internalizing concerns, externalizing concerns, or a combination of both may experience SBMHS types differently. Additionally, analysis of obligatory SBMHS compared to voluntary SBMHS could also be beneficial. Certain SBMHS types may be more helpful for certain presenting concerns or obligatory SBMHS.

Continued research overall on MTSS is also recommended. The implementation, helpfulness, and effectiveness of MTSS should continue to be assessed. The biggest question that researchers and stakeholders are continuing to pursue is the role of schools in student mental health. To address this question, a wide variety of continued research on this topic area is needed.

Summary

This study on the perceived helpfulness of SBMHS built on and extended the current SBMHS and perceived helpfulness literature. This study found that the average perceived helpfulness score for SBMHS was below the *somewhat helpful* category. Students rated the helpfulness of SBMHS types (from most to least helpful) as counseling support, mentoring, check-ins, group counseling, and mental health curriculum. Perceived helpfulness appears to be a meaningful measure to assess SBMHS from a student perspective. Continued research on SBMHS and the role of the school in student mental health is recommended.

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APPENDIX A

DEMOGRAPHIC QUESTIONS

What is your sex?

- 1 = "Male"
- 2 = "Female"
- 3 = "Other"
- 4 = "Prefer not to answer"

How do you describe yourself? (Select one or more responses.)

- A. Black or African American
- B. Mexican American or Chicano
- C. Cuban American
- D. Puerto Rican
- E. Other Hispanic or Latino
- F. Asian American
- G. White (Caucasian)
- H. American Indian or Alaska Native
- I. Native Hawaiian or Other Pacific Islander
- J. Middle Eastern

The next three questions ask about your parents. If you were raised mostly by foster parents, stepparents, or others, answer for them. For example, if you have both a stepfather and a natural father, answer for the one that was the most important in raising you.

What is the highest level of schooling your father completed?

- 1 = "Completed grade school or less"
- 2 = "Some high school"
- 3 = "Completed high school"
- 4 = "Some college"
- 5 = "Completed college"
- 6 = "Graduate or professional school after college"
- 7 = "Don't know, or does not apply"

What is the highest level of schooling your mother completed?

- 1 = "Completed grade school or less"
- 2 = "Some high school"
- 3 = "Completed high school"
- 4 = "Some college"
- 5 = "Completed college"

- 6 = "Graduate or professional school after college"
- 7 = "Don't know, or does not apply"

Information on the calculation for respondent age in months

This variable indicates the respondent's (Rs) age in months at base year, modal age 14 (8th grade) or 16 (10th grade). The response options available for *year* of birth change every two years in the surveys, making it difficult to determine age without a lot of coding. To facilitate calculating (approximate) age at base year, a variable is created that represents "Rs age in months." This variable is derived from the year of administration variable, respondent's self-reported birth year and birth month variables, and the survey date of administration. (Note: if respondent information for birth month is missing, April is assumed).

If date of administration and birth month variables indicate the same month, it is not included in the total sum of months. The resulting number can then be used as a close approximation to the respondent's age in months at the time of the base year survey.

In what year were you born? (8th grade survey)

- 1 = 19 or more years before survey
- 2 = Survey year – 18
- 3 = Survey year – 17
- 4 = Survey year – 16
- 5 = Survey year – 15
- 6 = Survey year – 14
- 7 = Survey year – 13
- 8 = Survey year – 12 or fewer years before survey

In what year were you born? (10th grade survey)

- 1 = 21 or more years before survey
- 2 = Survey year – 20
- 3 = Survey year – 19
- 4 = Survey year – 18
- 5 = Survey year – 17
- 6 = Survey year – 16
- 7 = Survey year – 15
- 8 = Survey year – 14 or fewer years before survey

In what year were you born? (12th grade survey)

- 1 = 23 or more years before survey
- 2 = Survey year – 22
- 3 = Survey year – 21
- 4 = Survey year – 20
- 5 = Survey year – 19
- 6 = Survey year – 18
- 7 = Survey year – 17
- 8 = Survey year – 16 or fewer years before survey

In what month were you born?

- 1 = January
- 2 = February
- 3 = March
- 4 = April
- 5 = May
- 6 = June
- 7 = July
- 8 = August
- 9 = September
- 10 = October
- 11 = November
- 12 = December

APPENDIX B

PRIMARY ANALYSIS QUESTIONS

During the current school year, how helpful have the following been, if provided by your school?

- Counseling support
- Group counseling
- Mental health curriculum
- "Check ins" or informal one-on-one meetings between students and school staff
- Mentoring

Participants were presented the following choices for each of the above service questions.

- 1 = "Not at all helpful"
- 2 = "A little helpful"
- 3 = "Somewhat helpful"
- 4 = "Quite helpful"
- 5 = "Extremely helpful"
- 7 = "Not offered"
- 8 = "Don't know/not applicable"

APPENDIX C

ADDITIONAL DEMOGRAPHIC QUESTIONS FOR MISSING DATA ANALYSIS

Year of administration *(Not self-report, determined by survey administration)*

- 2022
- 2023

Grade *(Not self-report, determined by survey administration)* 8th grade

- 10th grade
- 12th grade

Region of the country, based on Census categories, in which respondent's school is located. *(Not self-report, determined by survey administration)*

- 1 = Northeast
- 2 = Midwest
- 3 = South
- 4 = West

MSA: Metropolitan Statistical Area as defined for the US Census, a county or group of contiguous counties (or, in New England, Consolidated Metropolitan Areas) that contain at least one city of 50,000 inhabitants or more. (Known as "Standard Metropolitan Statistical Area" in the 1970 census.) *(Not self-report, determined by survey administration)*

- Non-MSA
- MSA

School-level Population density *(Not self-report, determined by survey administration)*

- 1 = Large self-rep SMRA
- 2 = Other not self-rep SMSA
- 3 = Non-SMSA

What was the first language you spoke when you were a child? (Mark only one circle.) *(Self-report)*

- 1 = English
- 2 = Spanish
- 3 = Other

What is your religious preference? *(Self-report) (Respondents could only select one)*

- *Sorted into Western for my analysis*
 - Baptist
 - Churches of Christ
 - Disciples of Christ

- o Episcopal
 - o Lutheran
 - o Methodist
 - o Presbyterian
 - o United Church of Christ
 - o Other Christian
 - o Unitarian Universalist
 - o Catholic
 - o Jewish
 - o Latter Day Saints
- *Sorted into Eastern for my analysis*
 - o Eastern Orthodox
 - o Muslim
 - o Buddhist
 - o Other Religion
- *Missing responses were coded into None*

APPENDIX D

MISSING DATA FROM FATHER EDUCATION AND MOTHER EDUCATION

Father education level

- Q1 *Don't know, or does not apply* missing more than expected
- Q2 *Completed grade school or less* missing less than expected, *some high school* missing less than expected, and *completed college* missing more than expected
- Q3 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected
- Q4 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected
- Q5 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected

Mother education level

- Q1 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected
- Q2 *Completed grade school or less* missing less than expected, *completed high school* missing less than expected, and *completed college* missing more than expected
- Q3 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected
- Q4 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected
- Q5 *Graduate or professional school after college* missing less than expected, *don't know, or does not apply* missing more than expected

APPENDIX E

RESPONSES TO PERCEIVED HELPFULNESS QUESTIONS

Response Percentages of Perceived Helpfulness of SBMHS Questions

	Q1	Q2	Q3	Q4	Q5
Not at all helpful (1)	10.5%	9.6%	11.4%	10.2%	9.0%
A little helpful (2)	10.1%	6.2%	8.1%	8.2%	8.0%
Somewhat helpful (3)	9.0%	5.4%	6.3%	6.7%	6.7%
Quite helpful (4)	9.4%	4.9%	5.2%	6.7%	6.7%
Extremely helpful (5)	12.1%	8.3%	8.6%	9.9%	9.7%
Not offered (7)	7.6%	15.6%	13.6%	13.5%	12.4%
Don't know/not applicable (8)	25.7%	34.4%	30.7%	29.1%	31.8%
Missing	15.4%	15.7%	16.0%	15.7%	15.8%
Total	100%	100%	100%	100%	100%

Note. $N = 32,883$ for all questions.

APPENDIX F

MULTIPLE REGRESSION ANALYSIS TABLE

Final Multiple Regression Models for Predicting Measures of Perceived Helpfulness of SBMHS

Predictors	Overall perceived helpfulness	Counseling support	Group counseling	Mental health curriculum	Check- ins	Mentoring
Father education	-.05***	-.05***	-.07***	-.07***	-.05***	-.04***
Mother education	-.04***	-.04***	-.04**	-.05***	-.04***	-.03**
Age	.07*		.09**	.10**		.08*
Grade	-.11***	-.03**	-.17***	-.18***	-.06***	-.14***
<i>Sex (compared to male)</i>						
Female	-.12***	-.09***	-.12***	-.12***	-.10***	-.12***
Other	-.02*			-.02*		
<i>Ethnicity (compared to White)</i>						
Multiracial/Multiethnic						
Black/African American	.04***	.03**	.03**	.04***	.03***	.04***
Mexican American/ Chicano	.04***	.04***	.05***	.05***	.04***	.04***
Cuban American						
Puerto Rican						
Other Hispanic	.02*	.02*	.03*			
Asian American						
American Indian or Alaska Native						
Native Hawaiian/ Other Pacific Islander						
Middle Eastern						
<i>Adjusted R-square</i>	.025***	.018***	.033***	.037***	.022***	.025***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. No number indicates the measure was not retained in the final model.

Standardized coefficients (β) are reported.

APPENDIX G

INSTITUTIONAL REVIEW BOARD APPROVAL

Date: June 13, 2025

Study #: IRB-FY2025-407

Study Title: Perceived Helpfulness of School-based Mental Health Services

Submission Type: Initial

IRB Decision: Exempt

Research Team:

Ashley Muller

James Hansen

Todd Leibert, Julia Smith, Rebecca Vannest

Based on applicable federal regulations, the above referenced study has been determined to be Exempt, with the following categories:

Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met: (i) The identifiable private information or identifiable biospecimens are publicly available; (ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects; (iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or (iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Findings: IMPORTANT

Please note that research cannot begin until the Data Use Agreement has been issued by Inter-university Consortium for Political and Social Research (ICPSR) and approved by Domenic Luongo, OU's Director of Research Compliance and Integrity. At that time, a modification must be submitted with the approved document attached to the submission.

Notes for Researcher(s):

This submission contains the following document:

- Data Collection Tool/Spreadsheet

Permission from Research Site(s):

Please note the following:

- This IRB exemption determination letter means that this research has met one or more of the federal criteria for exemption per 45 CFR 46.104- Exempt Research.
- Before the research is initiated, permission to conduct research at a given site must be obtained from all research locations listed in the IRB submission. You must keep copies of all such permission letters for your files.
- It is the responsibility of each researcher to follow all applicable policies and procedures of any outside institution where the research will be conducted.

Modifications:

Any changes to this exempt project must be reviewed by the IRB prior to initiation by submitting a MODIFICATION request. Do not collect data while the changes are being reviewed. Data collected during this time cannot be used in research.

Record Retention:

Exempt projects will be retained by the IRB office for three years after the last action on the project.

You are approved to start the research. Please retain a copy of this notification for your records.

If you have any questions, please contact the IRB office.

Thank you.

The Oakland University IRB

APPENDIX H

INSTITUTIONAL REVIEW BOARD MODIFICATION APPROVAL

Date: August 5, 2025

Study #: IRB-FY2025-407

Study Title: Perceived Helpfulness of School-based Mental Health Services

Submission Type: Modification

IRB Decision: Exempt

Research Team:

Ashley Muller

James Hansen

Todd Leibert, Julia Smith, Rebecca Vannest

The IRB has reviewed the Modification submission related to the above referenced study and determined that the changes listed below do not affect the exemption status of the study. The Modification submission is Approved and the study remains Exempt per federal regulations.

The approved modifications are the following:

- Providing a copy of the Restricted Data Use Agreement for Restricted Data in the Virtual Data Enclave (VDE) from the Inter-university Consortium for Political and Social Research (ICPSR).

Please retain a copy of this notification for your records.

This letter can also be found in Cayuse under the Letters tab in the Submission Details page.

If you have any questions, please contact the IRB office.

Thank you.

The Oakland University IRB