

Distribution Agreement

In presenting this thesis or dissertation as partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

Ashley Andrews

Date

Implementing a Mindful Yoga Program to Address Mental Health Challenges Among Atlanta
Public Schools (APS) students

By

Ashley Andrews

Master of Public Health

Prevention Science

Laura Gaydos, PhD

Committee Chair

Janelle Armstrong-Brown, PhD

Committee Member

Implementing a Mindful Yoga Program to Address Mental Health Challenges Among Atlanta
Public Schools (APS) students

By

Ashley Andrews

B.A, Albany State University, 2014

Thesis Committee Chair: Laura Gaydos, PhD

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree Master of Public Health in Prevention
Science
2021

Abstract

Implementing a Mindful Yoga Program to Address Mental Health Challenges Among Atlanta Public Schools (APS) students

By: Ashley Andrews

Adolescence is often viewed as a tumultuous period from a social perspective. Many students experience high stress during the middle school transitional period. In Georgia, over 40% of adolescents struggle to or are not able to access needed mental health treatment and counseling services. Mindfulness is derived from the practice of meditation and has been used to help students cope with stress and anxiety. The Holistic Life Foundation developed a 24-week mindful yoga curriculum that was piloted and implemented in after-school programs in Baltimore and surrounding neighborhoods. This proposal seeks to implement a pilot program using an adapted mindfulness curriculum in a community setting in the Atlanta metro area.

Implementing a Mindful Yoga Program to Address Mental Health Challenges Among Atlanta
Public Schools (APS) students

By

Ashley Andrews

B.A, Albany State University, 2014

Thesis Committee Chair: Laura Gaydos, PhD

A thesis submitted to the Faculty of the

Rollins School of Public Health of Emory University

in partial fulfillment of the requirements for the degree of Master of Public Health in Prevention
Science

2021

Chapter 1: Introduction

What is Mindfulness?

Mindfulness is defined as the intentional cultivation of moment-by-moment non-judgmental focused attention and awareness (Meiklejohn et. al, 2012). Mindfulness is also derived from Buddhist practices and is a form of meditation (Sapthiang, Gordon & Shonin, 2019). According to Beauchemin, Hutchins, and Patterson (2008), meditation is associated with many techniques based on a range of disciplines including meditation movement, manipulating breath, and sitting in silence (Matko & Sedlmeier, 2019). The practice of meditation falls into the category of mind-body medicine, which refers to a “collection of treatments that recognize the bidirectional nature of psyche and soma” (Beauchemin, Hutchins, & Patterson, 2008). A widely practiced approach within mind-body medicine is transcendental meditation. This technique typically uses a standard seven-step protocol involving regular and frequent sessions, sitting comfortably with eyes closed, consultation with a meditation instructor, and repetition of an individual mantra. In recent years, the practice of mindfulness has been implemented in academic settings such as universities and primary schools to help students with decision-making, grades, and concentration (Beauchemin, Hutchins, & Patterson, 2008).

Benefits of Mindfulness

Studies have shown that students living in urban settings who participate in mindfulness-based stress reduction (MBSR) experience less anxiety, improved coping, and respond better to academic stress (Sibinga et al., 2013). Findings from research conducted with adults, show that mindfulness-based programs, such as yoga and meditation, may have the potential to enhance regulatory capacities among chronically stressed youth (Mendelson, Greenberg, Dariotis, et al., 2010). Yoga, meditation, and other mindfulness practices are believed to enhance attention and

awareness which have beneficial effects on the ability to respond to stress without adverse psychological or physical outcomes (Mendelson, Greenberg, Dariotis, et al., 2010).

Holistic Life Foundation's Stress Reduction and Mindfulness Curriculum

The Holistic Life Foundation is a non-profit organization founded in December 2001 and based in Baltimore. The purpose of the stress reduction and mindfulness curriculum developed by the Holistic Life Foundation is to “empower students with tools and skills for peaceful conflict resolution, improved focus, and concentration, greater control, and awareness of thoughts and emotions, improved self-regulation, as well as stress reduction and relaxation” (Holistic Life Foundation, 2020).

Adaptations

The implementation of the existing intervention from the Holistic Life Foundation will be adapted for this proposal with regards to geographic location, implementing program partnerships, and duration. Demographically, the cities of Baltimore and Atlanta are comparable. According to the US Census population estimates (2019), both cities are believed to have a total population of over 500,000 people. More than 50% of each cities' population is African American. The percent of individuals in poverty is approximately 20% for both cities. Given the demographic and economic similarities of the cities, it is believed that an intervention implemented in Baltimore can be effectively implemented in Atlanta. For the purposes of the grant, the Holistic Life Mindful Yoga curriculum will be implemented with a similar target population in a community setting at the Atlanta YMCA Youth and Teen Development Center. Previous interventions were implemented in after-school settings. The curriculum will also be

modified from 24-weeks to 12-weeks. During the first pilot of the curriculum, researchers used this 12-week modified curriculum.

Potential Community Impact

Currently, existing mental health programs provided by the Georgia Department of Behavioral Health and Disabilities focus primarily on suicide prevention. While suicide is an extreme mental health outcome that will impact a relatively small percentage of adolescents, there is a need for mental health resources dealing with mild to moderate severity concerns. Given the lack of adolescent stress management and mental health resources for adolescents dealing with mild to moderate stressors, this program has the potential for significant community impact.

Chapter 2: Literature Review

Youth Mental Health

Depression and anxiety are two common disorders that begin during adolescence, usually before the age of 25 (Malla et al, 2018). According to the Georgia Student Health Survey (GSHS), almost half of all middle school students reported feeling depressed and nearly one-third reported intense anxiety (DBHDD, 2020). Youth often display signs of anxiety and challenges with impulse control before the age of 21. It is estimated that over half of mental disorders globally first occur before the age of 25 (Solmi M. et al, 2021). Students with a history of mood disorders are uniquely vulnerable to negative health outcomes during transitional periods, such as middle school.

Adolescents may experience difficulty navigating "multiple social roles from the limited and dependent roles of childhood and simultaneous formation of distinct identities" (Malla et al, 2018). Many students experience high stress during the middle school transitional period when youth are moving from childhood to adults. Stress among middle school students has greatly increased over the past decade. More teens have increased stress levels during the school year (APA, 2014); these levels exceed those of adults (APA, 2014).

Communities that traditionally experience racial and ethnic physical health disparities are also disproportionately impacted by mental health challenges. According to the National Survey on Drug Use and Health (2020), nearly 70% of black and Hispanic adults experience challenges accessing mental health services. Youth of color could significantly benefit from early mental health interventions given the potential access challenges likely to be experienced during adulthood. In African American communities, addressing mental health has historically been difficult due to underutilization (Lukachko, Myer, & Hankerson, 2015). Youth mental health

challenges are often left untreated in African American communities. Socioeconomic disparities and accessibility are contributors to the lack of mental health services received by this community (Radez, Reardon, Creswell, et al., 2021). Studies show that students that learn to cope with mental health strategies at early ages are often more well-rounded and experience easier transitions into adulthood (Radez, Reardon, Creswell, et al., 2021). Discrimination, including as it relates to police interactions, is also a common stressor of African American and Afro-Caribbean youth (Pachter, Caldwell, Jackson, & Bernstein, 2018) and has been associated with poor mental health outcomes among African American and Hispanic youth (Williams, 2018). Therefore, addressing adolescent mental health is key to the success of African American communities.

Impact of SARS-CoV-2 (COVID-19)

Throughout the SARS CoV-2 (COVID-19) pandemic, many individuals have experienced mental health challenges, more specifically, coping with the effects of social isolation due to mandated quarantines and social distancing limitations (Loades et al., 2020). It is hypothesized that the psychosocial effects of COVID-19 have disproportionately affected school-aged individuals (McKune et al., 2021). While little is known about the long-term impacts of COVID-19, many believe that increases in social isolation, changes to the delivery of counseling and therapeutic services, and significant impacts on daily life structure (i.e., work, school, recreational activities) have may have a role in the mental health challenges faced (Loades, Chatburn, Higson-Sweeney, Reynolds, et. Al., 2021).

Significance

Unaddressed mental health challenges faced by African American adolescents can have severe consequences. Previous research has shown that students that are unable to manage

mental health challenges are more likely to use drugs and alcohol. According to the results from the 2016 National Comorbidity Survey-Adolescent Supplement (2016), alcohol and drug abuse was highest among adolescents with prior anxiety disorders (17.3%) and behavior disorders (15.6%) (Conway et al., 2016). Additionally, students that do not learn to cope with stress and anxiety are more likely to practice physical violence or self-destructive behaviors (Conway et al., 2016). Studies have also linked students' inability to cope with mental health challenges to low educational attainment and lower unemployment rate in adulthood (Conway et al., 2016).

According to Malla et. al (2018), individuals with mental disorders have a shorter life expectancy than do members of the general population as well as higher comorbidity with concurrent, physical health problems. Further, suicide is one of the leading causes of youth death in the United States and the 3rd leading cause of death among youth ages 10-14, and the 2nd leading cause of death for youth ages 15-17 (Voices of Georgia's Children, 2021).

In Georgia, mental health prevention has historically focused on suicide prevention efforts. Suicide prevention is among one of the top priorities in addressing adolescent mental health by the Georgia Department of Behavioral Health and Developmental Disabilities. Despite increases in the concerning number of reported suicide attempts among this group, the most prevalent mental health needs are those around mild-moderate mental health issues. Therefore, school-based programming and youth mental health prevention efforts should target stress reduction and coping strategies that can be widely used.

Mental Health in Schools

Because mental health challenges result in so many adolescents needing help, it is important that interventions take place in locations where adolescents spend a large portion of their time to maximize access. To address the early onset of mental health disorders, schools should have

mental health interventions and programs in place; these interventions should promote, prevent, and intervene with youth experiencing mental health challenges. Teachers play an important role in combating mental health disorders in schools. Studies have shown that understanding teachers' perspectives can provide important information about contextual influences in students' experiences and can also be used to bridge the research to practice gap in school-based mental health practices (Fazel, Hoagwood, Stephan, & Ford, 2014).

Existing Programs/Interventions in Georgia

Approximately, 41% of youth ages 3-17 in Georgia struggle to or are unable to access needed mental health treatment and counseling services (Voices of Georgia's Children, 2020). In order to increase access to school-based programming, Georgia's Department of Behavioral Health and Developmental Disabilities (DBHDD) created the Georgia Apex Program which has been implemented in 430 schools across 100 counties (Voices, 2021). The primary goals of the Apex Program are to

- 1) Provide early detection of child and adolescent behavioral health needs,
- 2) Improve access to mental health services for children and youth, and
- 3) Promote increased coordination between Georgia's community mental health providers and local schools and school districts in their service areas.

This program has been most widely used by Georgia schools and promotes a multi-tiered approach to addressing adolescent mental health; tier 1: universal prevention by all school staff, tier 2: early intervention by counselors, social workers, and mental health, and tier 3: intensive intervention by mental health and clinical providers (DBHDD, 2020).

In addition to services like the Apex Program, recently, Fulton County completed a long-term initiative to expand partnerships with community mental health providers. This partnership

provides each school with a therapist on campus. In the Atlanta Public School (APS) district, educators are focused on the psychological and academic impact that the Covid-19 pandemic has had on their students (McCray, 2021).

While support for adolescent mental health and school-based mental health initiatives have increased over the years, programming has been primarily focused on counseling and clinical treatment and little effort has been invested into the exploration of alternate practices to address mental health amongst youth. Additionally, there are not enough accessible services and students who are most susceptible to losing access are racial/ethnic minorities. One alternative program that has been suggested to reach more students is training in mindfulness.

Therefore, this proposal, in response to the William T. Grant Foundation's Research Grants on Reducing Inequality, focuses on implementing the Holistic Life Foundation mindful yoga curriculum in Atlanta Public Schools in order to reduce stress and teach coping strategies to a greater number of students who would otherwise not have access to these services. The program will be implemented in-person practicing social distance guidance as well as virtually via Zoom.

Chapter 3: Methods

Funding Agency – William T. Grant Foundation

The William T. Grant Foundation was founded in 1938 to "support research that could contribute to human betterment and social progress." Currently, the two focus areas of this organization are to:

1. Reduce Inequity
2. Improving the Use of Research Evidence

The William T. Grant Foundation was chosen specifically to address the issue of mental health disparities because of their focus and commitment to supporting research that addresses inequity among young people between the ages of 5-25.

Grant Announcement

This grant announcement targets research grants on reducing inequality that aims to build, test, or increase understanding of programs, policies, or practices to reduce inequality in youth outcomes. Submission details and application guidelines for the Research Grants on Reducing Inequity can be found on the William T. Grant Foundation website at

<http://wtgrantfoundation.org>. Research grants submitted to the foundation must meet the following criteria:

- Identify a specific inequality in youth outcomes and show that the outcomes are currently unequal by engaging with the extant literature on the causes and consequences of inequality.

- Make a compelling case for the basis of inequality the study will address.
- Articulate how findings from your research will help build, test, or increase understanding of a specific program, policy, or practice to reduce the specific inequality that you have identified.

External Reviewers for Grant Proposal

The grant proposal was shared with three skilled external reviewers for their feedback. Each external reviewer was given two weeks to review the proposal in its entirety as well as a reviewer evaluation form via the Super Survey platform. An email was sent providing instructions on how to fill out the form and how to return their results. Reviewers' comments were collected and analyzed for incorporation into the grant. Reviews were not shared among reviewers, and each reviewer returned their information electronically to the researcher.

The following individuals served as expert reviewers for my grant proposal:

Laura M. Gaydos, PhD

Doctor of Philosophy in Health Policy and Administration—University of North Carolina,
Chapel Hill

Bachelor of Arts in Public Policy—Brown University

Associate Professor in the Department of Health Policy & Management and the Deputy Director
for the Executive MPH Program—Emory University, Rollins School of Public Health

Dr. Gaydos serves as my thesis chair and brings the necessary experience in qualitative research methods and program evaluation.

Janelle Armstrong-Brown, Ph.D., MPH

Doctor of Philosophy in Health Behavior and Health Education—University of North Carolina, Chapel Hill

Master's in Public Health— University at Albany, SUNY

Bachelor of Arts in Health and Society—University of Rochester

Research Public Health Analyst—RTI International

Dr. Armstrong-Brown serves as my thesis field advisor. Dr. Armstrong-Brown brings the necessary experience in qualitative research methods and program evaluation as well as a history of research in health disparities.

Rita K. Noonan, PhD

Doctor of Philosophy in Sociology—Indiana University

Leader of the Health Systems and Trauma Systems Branch in the Division of Unintentional Injury Prevention—Centers for Disease Control and Prevention (CDC)

Affiliated EMPH Professor—Emory University, Rollins School of Public Health

Dr. Noonan has the necessary experience in human behavior and behavior change to serve as a reviewer.

Darigg Brown, Ph.D., MPH

Doctor of Philosophy in Biobehavioral Health—Pennsylvania State University

Master's in public health in Behavioral Science and Health Education—Saint Louis University

Bachelor of Science in Environmental Health—University of Georgia

Research Public Health Analyst—RTI International

Dr. Brown. provides the necessary expertise in program evaluation and qualitative research to serve as a reviewer.

Courtney Bonner, PhD

Doctor of Philosophy in Clinical Psychology—University of Memphis

Master's in psychology—University of Memphis

Bachelor of Science in Psychology—Florida A&M University

Research Public Health Analyst—RTI International

Dr. Brown provides the necessary expertise in program implementation and mental health needed to serve as a reviewer. Dr. Bonner also has significant research experience serving populations that experience racial/ethnic disparities.

Human Subjects

The proposed research will use human subjects during implementation. However, because this is a program evaluation, this study is exempt from IRB review. Parental consent will be obtained for students' participation in this program.

Chapter 4: Incorporation of Reviewer Comments

Reviewer 1: Reviewer 1 did not complete the Grant Proposal Thesis External Review Feedback survey but provided feedback via email. Reviewer 1's feedback primarily focused on clarifying the adaptations and the planned evaluation

Comment 1: But what were the population demographics in this study? Are you saying the original program was designed and evaluated on other populations, meaning not African Americans? This is important information.

Responses to comment 1: I added more detail about the specific population demographics included in the original pilot study to help clarify the rationale for demographics included in this study on page 29, paragraph 2: *Previous pilot program in Baltimore city schools was implemented in elementary school with 5th and 6th grade students. Over 90% of students included in the previous study were African American (Dariotis et. al., 2016).*

Comment 2: This is a second adaptation (implementing in a community setting). I think very important to be clear on what adaptations you're making. These two adaptations – population/audience and setting – are dramatic enough that you need to study the program's effectiveness. That's really what you're doing in this study.

Response to comment 2: I included more details on why I made these specific adaptations and my anticipated outcome based on the previous study on pages 25 and 26, paragraphs 2 and 3: *For this grant, we will plan to implement this adapted curriculum in a community setting, which will provide access to students who are attending in-person school or participating in hybrid/online learning. Demographically, the cities of Baltimore and Atlanta are comparable. According to the US Census population estimates (2019), both cities are believed to have a total population of over 500,000 people. More than 50% of each cities'*

population is African American. The percent of individuals in poverty is approximately 20% for both cities. Additionally, offering this program in a community setting will increase students access to mental health program for many students. Given the social, demographic, and economic similarities between Baltimore and Atlanta communities, it is hypothesized that an intervention implemented in Baltimore can be effectively implemented in Atlanta.

Comment 3: Strongly recommend evaluating the implementation of the program (see article by Proctor – I’ll send it to you), as well as the programmatic outcomes of interest. For example, is your adaptation able to reach the target population? Is it feasible to administer in this new setting? Are there obstacles to your implementation – logistical, political, other? If you don’t study the implementation as well as the outcome, you won’t know how to interpret the findings.

Response to comment 3: I reviewed the article provided but I did not choose to address this comment. I think evaluating the implementation of the program given the adaptation would be a great approach for a different funder. Given the time needed to make this change and funder priorities, I thought it was more important to focus on the potential outcomes and community impact of the proposed program.

Reviewer 2: Reviewer 2 completed the Grant Proposal Thesis External Review Feedback survey via supersurvey.com as well as provided additional comments in the attached grant proposal. Reviewer 2 responded “Agree” to the following statements: The submission is responsive to the call for proposals and The PI makes a compelling case that the proposed research /project / program is necessary. Reviewer 2 answered “Neither agree nor disagree” to the statement: The proposal is well thought out and theoretically sound. Reviewer 2 responded “Disagree” to the

statement: The PI makes a compelling case that the research team will be able to accomplish the proposed activities with the resources and time allocated.

Comment 1: While I think the rationale for the study is clear, I think the submission would have benefited from a more compelling discussion of the inequities related to mental health among African American youth. Specifically, the submission could have included literature highlighting the structural reasons for increased stress among this population and lack of mental health care access.

Response to comment 1: In the “Project Narrative” section of the grant proposal, I added more detail about mental health challenges specifically impacting African Americans and their transition from youth to adulthood on page 27, paragraph 3: *Communities that traditionally experience racial and ethnic physical health disparities are also disproportionately impacted by mental health challenges (Interian, Lewis-Fernández, & Dixon, 2013). According to the National Survey on Drug Use and Health (2019), nearly 70% of African American adults experience challenges accessing mental health services. In African American communities, addressing mental health has historically been difficult (National Alliance on Mental Illness, 2017). Socioeconomic disparities and accessibility are contributors to the lack of mental health services received by African American communities (Interian, Lewis-Fernández, & Dixon, 2013). Studies show that students who learn stress reduction and coping strategies at early ages are often more well-rounded and experience easier transitions into adulthood (Washington, 2009).*

Comment 2: I think the inclusion of some theory could have improved this aspect of the proposal. The socioecological model or the minority stress theory may have been helpful theories to leverage in this proposal.

Response to comment 2: I identified the Mental Health and Well-being Socio-Ecological Model as an appropriate theoretical framework to include in this grant. The model in context of the grant is explained on page 29, paragraph 1: *In implementing the Holistic Life Foundation's Stress Reduction and Mindful Yoga Curriculum, we are addressing mental health and well-being at the individual and organizational levels. The program will teach students how to appropriately respond to stress as well as coping strategies. In regard to local partnerships, we plan to partner with community organizations such as the YMCA to implement the curriculum.*

Comment 3: I think it is clear that this work is needed. I would recommend including more statistics on the rates of mental health disorders/ elevated stress among African American youth and explicitly discussing how this stress impacts physical health and academic achievement.

Response to comment 3: Due to limited word counts in the "Description of Project" and "Project Narrative" sections, I was limited in the amount of supporting evidence that could be included. However, I added additional details to the "Project Narrative" section to address this comment on page 28, paragraphs 2 and 3: *According to the National Survey on Drug Use and Health (2019), nearly 70% of African American adults' experience challenges accessing mental health services. In African American communities, addressing mental health has historically been difficult (National Alliance on Mental Illness, 2017).*

Comment 4: There is not a timeline of activities or a description of the research team.

Response to comment 4: I included a timeline and research team description as a part of the appendices on page 42.

Comment 5: This is a wonderful and well-thought-out project. With a few additions, I think it could be very competitive.

Response to comment 5: I would like to thank reviewer 2 for their thoughtful feedback and I have addressed their comment in my final grant proposal.

Reviewer 3: Reviewer 3 completed the Grant Proposal Thesis External Review Feedback survey via supersurvey.com as well as provided additional comments in the attached grant proposal.

Reviewer 3 responded “Agree” to the following statements: The submission is responsive to the call for proposals, The proposal is well thought out and theoretically sound, and The PI makes a compelling case that the proposed research/project/program is necessary. Reviewer 2 answered “Strongly agree” to the statement: The PI makes a compelling case that the research team will be able to accomplish the proposed activities with the resources and time allocated.

Comment 1: The proposal should make a stronger statement about the existing inequities that exist among African American youth when it comes to recognizing and addressing their stressors and mental health needs. Also, some of the sampling and analytic methods need to be firmed up to ensure a rigorous evaluation method.

Response to comment 1: As mentioned in previous comments, due to limited word counts in the "Description of Project" and "Project Narrative" sections, I address specific stressors and mental health needs of the African American community on page 27, paragraph 1: *Adverse mental health challenges, particularly stress, are a major issue among African American students (Williams, 2018) and have been exacerbated during the COVID-19 pandemic due to school closures (Hoffman & Miller, 2020). Stress is also one of the primary mental health challenges students face particularly during transitional periods such as the middle school years (Goldstein, Boxer, and Rudolph, 2015). Therefore, it is necessary to provide these students with*

stress reduction and mental health resources during this period. Additionally, the data analysis plan is address on page 35, paragraph 1: To address our proposed research question of whether implementing a mindful yoga curriculum will improve the stress among middle school students in Atlanta Public School (APS) school district, we will look at the following key measures:

- 1. Utilization: Data from registration and attendance logs will be used to collect this measure and track attendance and program completion.*
- 2. Changes in Daily Stress level: Self-reported data from SNRS-11 question on attendance logs will be analyzed in Excel. Descriptive statistics (mean, median, range) will be used to report and track students' level of stress over time.*
- 3. Changes in Perception of Stress and Anxiety: Data collected from the PSS assessment tool will be analyzed to collect this measure. The 10-question PSS assessment will be given to students and scored.*
- 4. Program Experience: Interviews and focus groups will be coded using NVivo. Interviewers will develop a codebook and double code all interviews and focus groups to establish inter-rater reliability (IRR). We will also analyze transcripts to gather emerging themes. We will utilize memos to address questions that come up or to call out potential themes in the transcripts. To resolve coding disagreements, we will schedule weekly calls/meetings? during the coding/analysis phase.*

Comment 2: The proposal should avoid umbrella terms like "vulnerable populations" and be specific about the targeted populations and the populations on which you are basing your hypothesis. Also, more background on the inaccessibility of mental health services for African American youth should be included so as to make a more solid

argument for the use of this particular curriculum and the anticipated outcomes the researcher will see.

Response to comment 2: To address this comment I removed "vulnerable populations" and highlighted youth inaccessibility to mild to moderate mental health resources in the "Project Narrative" on page 28 paragraph 3: *According to the National Survey on Drug Use and Health (2019), nearly 70% of African American adults' experience challenges accessing mental health services. In African American communities, addressing mental health has historically been difficult (National Alliance on Mental Illness, 2017). Socioeconomic disparities and accessibility are contributors to the lack of mental health services received by African American communities (Interian, Lewis-Fernández, & Dixon, 2013).*

Comment 4: Additional information about the recruitment and retention of students. The PI plans to engage African American APS students, but the school district is quite large. It is assumed that she will recruit from only predominately Black middle schools, but she does not state that. Her sample is framed as the entire school district. Furthermore, she mentions socioeconomic disparities as a contributing factor to the lack of mental health services in African American communities. But it is unclear whether the communities/schools she is recruiting from are considered low SES. Also, depending on students to use public transport voluntarily to get to the program site is ambitious, especially without providing any sort of reimbursement. There is no mention of incentives.

Response to comment 4: To address reviewer 3's comment, I added additional details about the recruitment strategy and which schools I would target in the APS district on

page 33, paragraph 2: *We will partner with the Atlanta Young Men's Christian Association (YMCA) to recruit at least 50 students to participate in the stress reduction and mindfulness program. We will recruitment students from Martin Luther King Jr. Middle school; this school is located on the bus route of the YMCA. We will also advertise program details in local business such as Family Dollar, located within 1 mile of the YMCA. I also revised my initial position and created a transportation incentive for students to encourage attendance on page 32, paragraph 1: Students will also be provided a \$50 transportation incentive for participating in the program.*

Comment 5: I think the study is very plausible. Providing clarity on the items identified will strengthen the proposal.

Response to comment 5: I would like to thank reviewer 3 for their thoughtful feedback and I have addressed their comment in my final grant proposal.

Chapter 5: Grant Proposal

Brief Description of the Project

Adverse mental health challenges, particularly stress, are a major issue among students across the US. Many of these challenges have been exacerbated during the COVID-19 pandemic due to school closures (Hoffman & Miller, 2020). Notably, mental health and adversity do not impact all students equally. Studies suggest that mental health challenges are particularly prevalent among African American students who experience disproportionate burdens of low socioeconomic status, discrimination, and racism (Williams, 2018). Stress is also one of the primary mental health challenges students face particularly during transitional periods such as the middle school years (Goldstein, Boxer, and Rudolph, 2015). Given these disparities among adults, it is reasonable to hypothesize that African American students also experience disproportionate burdens/disparities. Therefore, it is necessary to provide students with stress reduction and mental health resources during this period.

Studies suggest that mindfulness may provide one means of alleviating stress among students (Lemay, Hoolahan, & Buchanan, 2019). Additionally, studies show that students who learn stress reduction and coping strategies at early ages are often more well-rounded and experience easier transitions into adulthood (Washington, 2009). The primary research question seeks to explore if implementing a mindful yoga curriculum will reduce the stress levels among middle school students in the Atlanta Public School (APS) district. With this grant, we will implement this adapted curriculum in a community setting, which will provide access to students who are attending in-person school or participating in hybrid/online learning and increase access to mental health resources.

This proposal seeks to implement and evaluate an adapted version of the Holistic Life Foundation’s stress reduction and mindfulness curriculum (Holistic Life Foundation, 2021) to provide access to mental health and stress management programs to African American students. Historically, this program has been implemented in an afterschool setting within Baltimore public schools. Demographically, the cities of Baltimore and Atlanta are comparable. According to the US Census population estimates (2019), both cities are believed to have a total population of over 500,000 people. More than 50% of each cities’ population is African American and the percent of individuals in poverty is approximately 20% for both cities.

Given the social, demographic, and economic similarities between Baltimore and Atlanta communities, it is hypothesized that an intervention implemented in Baltimore can be effectively implemented in Atlanta. This proposal includes a pilot of the adapted program and a mixed-methods evaluation to better understand the key stressors that impact students' mental health as well as provide resources to help them cope with stress.

Project Narrative

According to Malla and colleagues (2018), adolescence is often viewed as a tumultuous period from a social perspective. Adolescents experience difficulty navigating “multiple social roles from the limited and dependent roles of childhood and simultaneous formation of distinct identities” (Malla et al, 2018). Many students experience high stress during the middle school transitional period between childhood and adulthood. Stress among middle school students has greatly increased over the past decade (Pascoe, Hetrick, & Parker, 2020) Moreover, teens have increased stress levels during the school year; these levels exceed those of adults (APA, 2014).

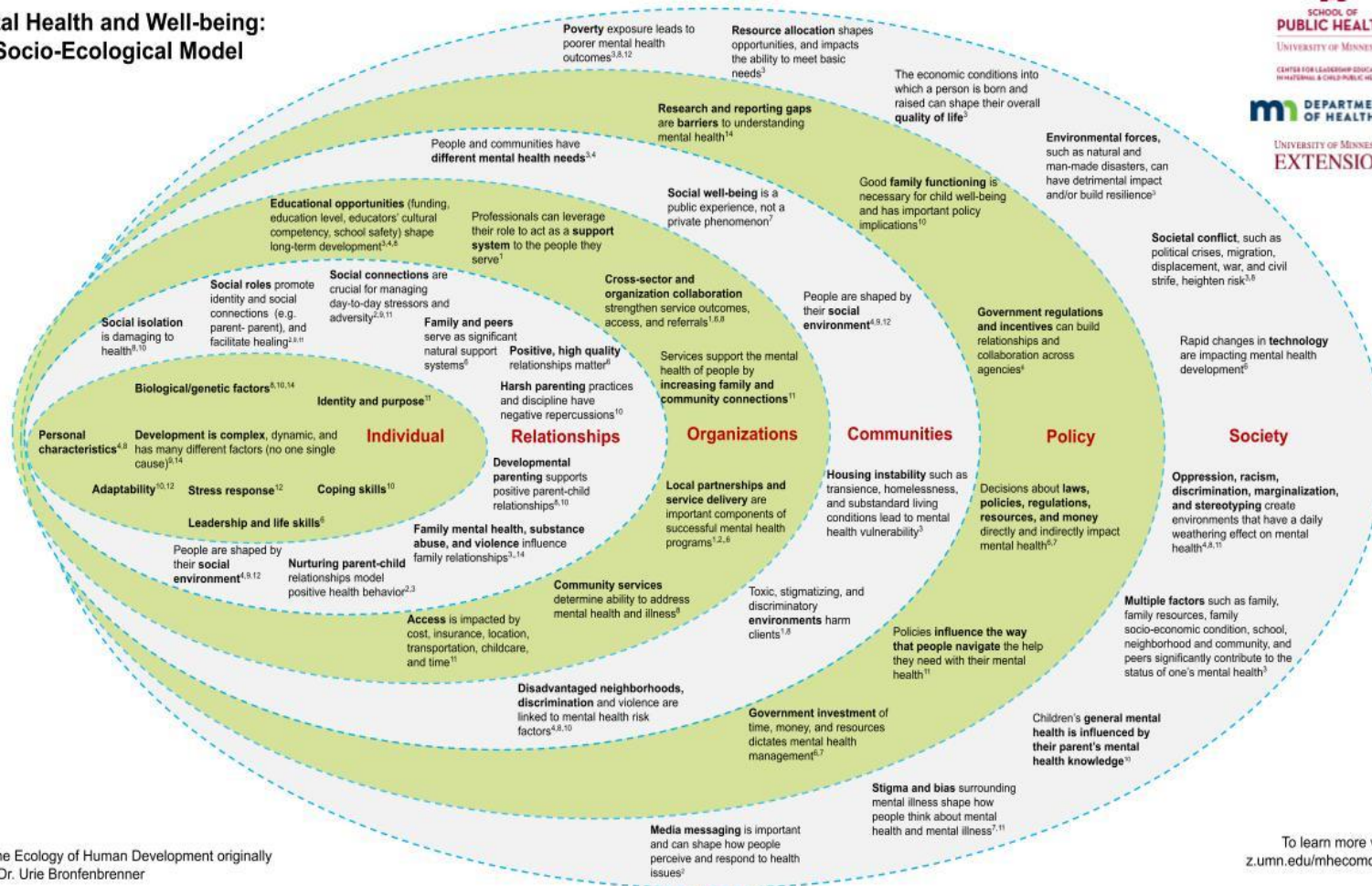
Communities that traditionally experience racial and ethnic physical health disparities are also disproportionately impacted by mental health challenges (Interian, Lewis-Fernández,

&Dixon, 2013). According to the National Survey on Drug Use and Health (2019), nearly 70% of African American adults experience challenges accessing mental health services. In African American communities, addressing mental health has historically been difficult (National Alliance on Mental Illness, 2017). Socioeconomic disparities and accessibility are contributors to the lack of mental health services received by African American communities (Interian, Lewis-Fernández, & Dixon, 2013).

The Mental Health and Well-being Socio-Ecological Model (see Figure 1 below) helps us identify strategies to promote healthy behaviors and development. In implementing the Holistic Life Foundation's Stress Reduction and Mindful Yoga Curriculum, we are addressing mental health and well-being at the individual and organizational levels. The program will teach students how to appropriately respond to and cope with stress. In regard to local partnerships, we will partner with community organizations such as the YMCA to implement the curriculum. By addressing mental health issues, the program will provide much-needed community services to middle school students. Finally, the program will improve access to services for students by providing free programming and a transportation incentive for students to attend.

Figure 1: Mental Health and Well-being A Socio-Ecological Model

**Mental Health and Well-being:
A Socio-Ecological Model**



Based on the Ecology of Human Development originally created by Dr. Urie Bronfenbrenner

To learn more visit z.umn.edu/mhecomodel

Meditation and yoga have been used to help reduce stress as well as help individuals practice positive coping mechanisms (Lemay, Hoolahan, & Buchanan, 2019). Teaching these practices to African American students could help to increase healthy behaviors and development.

The purpose of the stress reduction and mindfulness curriculum developed by the Holistic Life Foundation is to “empower students with tools and skills for peaceful conflict resolution, improved focus, and concentration, greater control, and awareness of thoughts and emotions, improved self-regulation, as well as stress reduction and relaxation” (Holistic Life Foundation, 2020). The Holistic Life Foundation partnered with Johns Hopkins Bloomberg School of Public Health and The Prevention Research Center at Pennsylvania State University to conduct a randomized clinical study of the program among students from four Baltimore schools. Results of the trial showed that students who participated in this program had positive responses to stress and involuntary stress reactions (Mendelson et. al., 2010). Therefore, implementing this evidence-based program in the Atlanta Public Schools (APS) district can help to improve students’ success in stress reduction and coping with mental health challenges among African American students.

Goals and Objectives

The primary goal of this grant proposal is to *reduce mental health disparities among African American middle school students in the APS school district as well as increase access to mental health and stress reduction programs through the implementation of the Holistic Life mindful yoga curriculum*. To achieve this goal, the program will implement the following objectives:

- Objective 1: Adapt the Holistic Life’s Foundation’s mindful yoga curriculum to be implemented in a community setting.
 - Activity 1a. Identify program adaptations (i.e., location, population, timeline)
 - Activity 1b. Adapt program based on identified needs.

- Activity 1c. Recruit 6-8th grade APS school district students.
- Activity 1d. Train paraprofessionals and counselors to teach the adapted Holistic Life Foundation Mindful Yoga Curriculum
- Activity 1e. Implement the Holistic Life Foundation Mindful Yoga Curriculum
- Objective 2: Evaluate the program. To achieve this objective, we will complete the following activities:
 - Activity 2a: Develop and implement a pre/posttest assessment to be given to students at the start and end of the 12-week program. We will use the pretest assessment to gather baseline data on students' perception of stress and current stressors and the posttest to identify changes in their perception of stress and stressors upon program completion. The Perceived Stress Scale (PSS) will be given to students as a pre and post-test assessment of stress.
 - Activity 2b: Measure daily stress and perception of stress using validated adolescent stress assessment. The Stress Numerical Rating Scale (SNRS-11) will be used to capture participants' level of daily stress.
 - Activity 2c: Conduct process evaluation using registration, attendance, assessment data to measure program completion. We will look at program utilization by comparing data from program registration and attendance logs.
 - Activity 2d: Conduct focus groups with parents and with a subset of participants to gather insights on their children's ability to cope with stress after completing the mindful yoga program.
 - Activity 2e: Conduct in-depth interviews with program implementers at the end of the 12-week program to learn about their experience implementing this program.

Implementation Plan

We will partner with the Atlanta Young Men's Christian Association (YMCA) to recruit at least 50 students to participate in the stress reduction and mindfulness program. We will recruit students from Martin Luther King Jr. Middle school; this school is located on the bus route of the YMCA. We will also advertise program details in local business such as Family Dollar, located within 1 mile of the YMCA. The previous pilot program in Baltimore city schools was implemented in elementary school with 5th and 6th grade students. Over 90% of students included in the previous study were African American (Dariotis et. al., 2016). In future iterations of the program, the Holistic Life Foundation implemented the curriculum with elementary and middle school students in an after-school settings, similar to what we propose here.

Two facilitators will be trained to implement the Holistic Life curriculum. Classes will be offered twice a week, Tuesdays and Thursdays for 12 weeks at the YMCA Youth and Teen Development Center. Each session will last approximately 45-minutes. Transportation will not be provided to students through the program. However, the YMCA location is on a bus route for three APS district middle schools. Students will also be provided a \$50 transportation incentive for participating in the program. All participants will be screened based on the following eligibility criteria:

1. Age: Students between the ages 11-13
2. Education: students in grades 6-8 in an APS school
3. Race: African American
4. Parental consent to participate in the program

Pretest. Prior to the first session, students will be given the Perceived Stress Scale (PSS) assessment to gather baseline insight into their stress levels. The PSS is a 10-question stress assessment tool used to assess how individuals experience stress related to various situations. The assessment will be administered online via Survey Monkey. Students may also complete the assessment on an iPad at the beginning of the first session if they do not have home or mobile device internet access.

Currently, the curriculum developed by the Holistic Life Foundation is implemented both in-person and virtually. Students will be provided the option to participate in in-person or online sessions via Zoom. Students who participate in in-person sessions will be able to complete the assessment using iPads as well. Students participating virtually will be required to complete the assessment before receiving login details for the program.

The key components of the intervention are “centered on yoga-based physical activity, breathing techniques, and guided mindfulness practices” (Dariotis, 2011). During each session, students will be taught yoga-inspired postures and movements including bending, stretching, and fluid movement. The exercises were selected to train program participants on strategies to use their breath to center and calm themselves.

Post-test. Students will be given this questionnaire again at the end of the 12-week program to measure changes in daily stress levels, perception of stress and anxiety, and the overall experience in the program.

Evaluation Plan

Data Collection Methods

Students will be required to register for the program before implementation; program attendance will be tracked for each session using student sign-in logs. Registration information

will capture students' demographic data (Name, Age, School, Grade, Race/Ethnicity).

Attendance logs will capture demographic data (Name, Date) as well as a behavioral question rating the students' stress level that day. Participants will be asked: "On a scale of 0 to 10, with 0 being no stress and 10 being worst stress possible, what number best describes your level of stress right now." The single-question assessment is modeled after the validated single-point assessment of pain, the NRS-11 (Karvounides et al, 2016).

Students will complete the PSS assessment as a pre and post-test measure. Unique identifiers will be assigned to each student in order to match pre and post-test surveys during the analysis phase. Both the SNRS and PSS assessments were validated for adolescents and adults.

At the end of the 12-weeks, focus groups will be conducted with parents and students to gather insights into their knowledge and experience with stress reduction and experience in the program. Semi-structured interviews will also be conducted with the two program facilitators. We will hold at least two parent and two student focus groups with 3-7 participants each. Focus groups will be conducted in person and interviews will be conducted virtually using Zoom. Focus groups and interviews will be recorded, and field notes will be taken by the interviewer. Facilitator interview questions will explore the following key areas:

1. Background in mental health
2. Success and challenges implementing the program with students
3. Perceived benefits of intervention for students

Parent focus group questions will explore the following key areas:

1. Knowledge of stress reduction resources
2. Social and environmental contributors of stress
 - a. Stressors at home

3. The impact of COVID-19 on stress level
4. Perceived benefits and challenges of intervention for students

Student questions will explore the following key areas:

1. Social and environmental contributors of stress
 - a. Stressors at home
 - b. Academic stressors
2. The impact of COVID-19 on stress level
3. Benefits and challenges of participation in the program

Data Analysis Plan

To address our proposed research question of whether implementing a mindful yoga curriculum will improve the stress among middle school students in Atlanta Public School (APS) school district, we will look at the following key measures:

1. Utilization: Data from registration and attendance logs will be used to collect this measure and track attendance and program completion.
2. Changes in Daily Stress level: Self-reported data from SNRS-11 question on attendance logs will be analyzed in Excel. Descriptive statistics (mean, median, range) will be used to report and track students' level of stress over time.
3. Changes in Perception of Stress and Anxiety: Data collected from the PSS assessment tool will be analyzed to collect this measure. The 10-question PSS assessment will be given to students and scored.
4. Program Experience: Interviews and focus groups will be coded using NVivo.

Interviewers will develop a codebook and double code all interviews and focus groups to establish inter-rater reliability (IRR). We will also analyze transcripts to gather emerging

themes. We will utilize memos to address questions that come up or to call out potential themes in the transcripts. To resolve coding disagreements, we will schedule weekly calls/meetings? during the coding/analysis phase.

Conclusion

Providing mental health and stress reduction programs to students is key to helping them cope with stress effectively. Meditation is widely practiced in school-based and afterschool settings globally. Existing research suggests that mindful meditation is positively associated with stress reduction, improved grades, and social skills (Beauchemin, Hutchins, Patterson, 2008). Implementing this program will provide students that experience a lack of mental health resources access to much-needed stress reduction resources.

Appendices

Appendix 1: Facilitator Interview Guide

Thank you all for agreeing to participate in this discussion. Today, we will be discussing your experience implementing the Holistic Life 12-week mindful yoga curriculum at the YMCA Youth and Teen Development Center. Your insights will help us to better understand the impact of a program like this on students.

Your responses to these questions will be kept confidential to the extent possible. We will not use any identifying information in future publications or reports.

Do you have any questions before we get started?

To get started I would like to learn more about you.

I. Tell me a little about your background.

Probe: Have experience working with students? Implementing mental health programs?
Years in the field?

Now, I would like to learn about some of the successes and challenges you experienced while implementing the program.

II. What would you say was the greatest success of implementing the pilot program?

III. What would you consider to be the great challenge to implementing the program?

Now I would like to learn about the overall impact of the program.

IV. What do you feel is the great benefit of a program like this for students?

V. Please tell me about any changes you've noticed in students' behavior since implementing this program.

We're about to wrap up today's discussion. I want to thank you for giving me this time to chat with you.

VI. Before we end, can you share a few suggestions or improvements you would like to see if this program is implemented again?

Appendix 2: Parent Focus Groups Moderator Guide

Thank you all for agreeing to participate in this discussion. Today, we will be discussing your child's experiences while participating in the 12-week mindful yoga program at the YMCA Youth and Teen Development Center. Your insights will help us to better understand the impact of a program like this on students.

Your response to these questions will be kept confidential to the extent possible. We will not use any identifying information in future publications or reports.

Do you have any questions before we get started?

I would like to learn more about the things you believe contribute to stress your child experiences.

- I. What do you believe is the greatest source of stress for students?

Now, I would like to learn how the pandemic has contributed to your stress.

- II. Probe on job loss, illness, death, etc.
- III. Did you experience additional stress due to virtual or hybrid learning?
 - a. If so, please describe how you felt your child adjusted to this transition.
 - i. Probe: Did you notice any challenge with your child maintaining focus?
 - b. Did you experience additional stress due to virtual or hybrid learning?

So, let's talk about the mindful yoga program and your children's experience with the curriculum.

- IV. Tell me about the existing stress reduction or mental health resources you used prior to your child participating in this program.
- V. What do you feel is the greatest benefit for students participating in this program for your child?
- VI. What do you feel was the biggest challenge for students participating in this program?

We're about to wrap up today's discussion. I want to thank you all for giving me this time to chat with you.

- VII. Before we end, can you share a few suggestions or improvements you would like to see if this program is implemented again?

Appendix 3: Student Focus Groups Moderator Guide

Thank you all for agreeing to participate in this discussion. Today, we will be discussing your experiences while participating in the 12-week mindful yoga program at the YMCA Youth and Teen Development Center. Your insights will help to inform and changes and improvements to this program for future students.

Your response to these questions will be kept confidential to the extent possible. We will not use any identifying information in future publications or reports.

Do you have any questions before we get started?

I would like to learn more about the things that cause you all stress. Please tell me...

- I. What would you consider to be your greatest source of stress?
Probe: School? Home?
- II. Before the program, how did you cope with the stress?

Now, I would like to learn how the pandemic has contributed to your stress.

- III. Probe on job loss, illness, death, etc.
- IV. How many of you guys participated in virtual or hybrid learning? You can raise your hand.
 - a. Please tell me about your experience coping with this transition to virtual learning.

So, let's talk about the mindful yoga program you all participated in.

- V. What do you feel is the greatest benefit of participating in this program?
 - a. Did you find the resources provided useful?
Probe: breathing techniques, meditation, yoga poses
 - b. Are there any additional resources you would like to have?
- VI. What do you feel was the greatest barrier to your participation in this program?

We're about to wrap up today's discussion. I want to thank you all for giving me this time to chat with you.

- VII. Before we end, can you share a few suggestions or improvements you would like to see if this program is implemented again?

Appendix 3: Proposed Research Team Description

Research teams will be select based on a combination of educational background and professional experience. Facilitators will be individuals with experience working with student populations such as counselors, teachers and paraprofessionals.

Title	Education	Field of Study	Years of Experience	Previous Experience	Salary
Principal Investigator	PhD or Masters	Psychology, Sociology, Public Health, or Social Science	5+	The Principal Investigator will have professional experience implementing grant initiatives as well as proven history of mange grant funding.	\$60,000
Lead Facilitator	BA/BS	Psychology, Sociology, Public Health, or Social Science	3+	Lead Facilitator will have experience working with students as well as a demonstrated background in mental health and/or prevention.	\$27,000
Facilitator	BA/BS	Psychology, Sociology, Public Health, or Social Science	1+	Facilitator will have at least one year of experience working with students and educational background in mental health.	\$23,000

Appendix 4: Implementation Timeline

Implementation Timeline		
Activity	Description	Time Needed to Achieve
Project Start up		2 weeks
Staffing		4 weeks
Training		2 weeks
Recruitment		3 weeks
Pretest Administration	Students will be given a pretest assessment at the start of implementation. Findings from this will help track individual outcomes during the 12-week program.	First day of Implementation
Mindful yoga and stress reduction curriculum	Facilitators will work with students to implement program curriculum. Students will 45-minutes sessions twice a week during this period.	12 weeks
Stress Assessment question	Students will be asked to complete a one-question stress assessment during each session. Finding from this assessment will help to track students daily stress levels.	12 weeks
Posttest Administration	A mobile unit will need to be obtained for this intervention.	Last day of Implementation
Focus groups	Focus groups with be conducted with students and parents. Findings from these groups will inform evaluation outcomes.	Within 30 days of completing pilot program
Interviews	Interviews with be conducted with program staff. Findings from these interviews will inform evaluation outcomes.	Within 30 days of completing pilot program
Report	An evaluation report will be delivered to the William T. Grant Foundation. Report will detail program outcomes, success, challenges, and overall implementation activities.	Within 90 days of completing pilot program

References

- 2019 National Survey on Drug Use and Health: African Americans. SAMHSA.gov. (n.d.). Retrieved December 7, 2021, from <https://www.samhsa.gov/data/report/2019-nsduh-african-americans>.
- Albrecht, N. (2014). Wellness: A Conceptual Framework for School-based Mindfulness Programs. *The International Journal of Health, Wellness, and Society*, 4(1), 21–36. <https://doi.org/10.18848/2156-8960/CGP/v04i01/41087>
- Albrecht, N. J., Albrecht, P. M., & Cohen, M. (2012). Mindfully Teaching in the Classroom: A Literature Review. *Australian Journal of Teacher Education*, 37(12), 1–14. <http://ro.cu.edu.au/ajte/vol37/iss12/1>
- American Psychological Association. (2014). Teen stress rivals that of adults. Monitor on Psychology. Retrieved December 7, 2021, from <https://www.apa.org/monitor/2014/04/teen-stress>.
- Beauchemin, J., Hutchins, T. L., & Patterson, F. (2008). Mindfulness Meditation May Lessen Anxiety, Promote Social Skills, and Improve Academic Performance Among Adolescents With Learning Disabilities. *Complementary Health Practice Review*, 13(1), 34–45. <https://doi.org/10.1177/1533210107311624>
- Black/African American. NAMI. (n.d.). Retrieved December 7, 2021, from <https://www.nami.org/Your-Journey/Identity-and-Cultural-Dimensions/Black-African-American>.

- Conway, C. C., Rutter, L. A., & Brown, T. A. (2016). Chronic Environmental Stress and the Temporal Course of Depression and Panic Disorder: A Trait-State-Occasion Modeling Approach. *Journal of Abnormal Psychology, 125*(1), 53–63.
<https://doi.org/10.1037/abn0000122>
- Conway, K. P., Swendsen, J., Husky, M. M., He, J. P., & Merikangas, K. R. (2016). Association of Lifetime Mental Disorders and Subsequent Alcohol and Illicit Drug Use: Results From the National Comorbidity Survey-Adolescent Supplement. *Journal of the American Academy of Child and Adolescent Psychiatry, 55*(4), 280–288.
<https://doi.org/10.1016/j.jaac.2016.01.006>
- Dariotis, J., Mendelson, T., & Blanchard, J. (n.d.). (issue brief). Yoga Brief. Holistic Life Foundation. Retrieved December 7, 2021, from <http://hlfinc.org/wp-content/uploads/2013/03/Yoga-Brief.pdf>.
- Dariotis, J.K., Mirabal-Beltran, R., Cluxton-Keller, F. et al. A Qualitative Evaluation of Student Learning and Skills Use in a School-Based Mindfulness and Yoga Program. *Mindfulness 7*, 76–89 (2016). <https://doi.org/10.1007/s12671-015-0463-y>
- Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools 1: Mental health interventions in schools in high-income countries. *The lancet. Psychiatry, 1*(5), 377–387. [https://doi.org/10.1016/S2215-0366\(14\)70312-8](https://doi.org/10.1016/S2215-0366(14)70312-8)
- Georgia Department of Behavioral Health and Developmental Disabilities. (2020, July 23). *Georgia Apex Program*. <https://dbhdd.georgia.gov/georgia-apex-program>

- Goldstein, S. E., Boxer, P., & Rudolph, E. (2015). Middle School Transition Stress: Links with Academic Performance, Motivation, and School Experiences. *Contemporary School Psychology, 19*, 21–29. <https://doi.org/10.1007/s40688-014-0044-4>
- Hoffman, J. A., & Miller, E. A. (2020). Addressing the Consequences of School Closure Due to COVID-19 on Children’s Physical and Mental Well-Being. *World Medical and Health Policy. https://doi.org/10.1002/wmh3.365*
- Interian, A., Lewis-Fernández, R., & Dixon, L. B. (2013). Improving Treatment Engagement of Underserved U.S. Racial-Ethnic Groups: A Review of Recent Interventions. *Psychiatric Services, 64*, 212–222. <https://doi.org/10.1176/appi.ps.201100136>
- Karvounides, D., Simpson, P. M., Davies, W. H., Khan, K. A., Weisman, S. J., & Hainsworth, K. R. (2016). Three Studies Supporting the Initial Validation of the Stress Numerical Rating Scale-11 (Stress NRS-11): A Single Item Measure of Momentary Stress for Adolescents and Adults. *Pediatric Dimensions, 1*(4), 105–109. <https://doi.org/10.15761/PD.1000124>
- Lemay, V., Hoolahan, J., & Buchanan, A. (2019). Impact of a Yoga and Meditation Intervention on Students' Stress and Anxiety Levels. *American journal of pharmaceutical education, 83*(5), 7001. <https://doi.org/10.5688/ajpe7001>
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M. N., Borwick, C., & Crawley, E. (2020a). Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *Journal of the American Academy of Child and Adolescent Psychiatry, 59*(11), 1218–1239.e3. <https://doi.org/10.1016/j.jaac.2020.05.009>

- Loades, M. E., Vitoratou, S., Rimes, K. A., & Chalder, T., (2020b). Assessing Functioning in Adolescents With Chronic Fatigue Syndrome: Psychometric Properties and Factor Structure of the School and Social Adjustment Scale and the Physical Functioning Subscale of the SF36. *Behavioural and Cognitive Psychotherapy*, 48(5), 546–556. <https://doi.org/10.1017/S1352465820000193>
- Lukachko, A., Myer, I., & Hankerson, S. (2015). Religiosity and Mental Health Service Utilization Among African-Americans. *The Journal of nervous and mental disease*, 203(8), 578–582. <https://doi.org/10.1097/NMD.0000000000000334>
- Malla, A., Shah, J., Iyer, S., Boksa, P., Joobar, R., Andersson, N., Lal, S., & Fuhrer, R. (2018). Youth Mental Health Should Be a Top Priority for Health Care in Canada. *The Canadian Journal of Psychiatry*, 63(4), 216–222. <https://doi.org/10.1177/0706743718758968>
- Matko, K., & Sedlmeier, P. (2019). What Is Meditation? Proposing an Empirically Derived Classification System. *Frontiers in psychology*, 10, 2276. <https://doi.org/10.3389/fpsyg.2019.02276>
- McCray, V. (2021, March 22). Atlanta schools tackle pandemic's mental health toll on students. *AJC*. Retrieved December 7, 2021, from <https://www.ajc.com/news/atlanta-news/atlanta-schools-tackle-pandemics-mental-health-toll-on-students/VVLNNUMAHNCZVAQG3TZ5FG575A/>.
- McKune, S.L., Acosta, D., Diaz, N. et al. Psychosocial health of school-aged children during the initial COVID-19 safer-at-home school mandates in Florida: a cross-sectional study. *BMC Public Health* 21, 603 (2021). <https://doi.org/10.1186/s12889-021-10540-2>

- Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., Frank, J., Burke, C., Pinger, L. et al. (2012). Integrating Mindfulness Training into K-12 Education: Fostering the Resilience of Teachers and Students. *Mindfulness*, 3, 291–307.
<https://doi.org/10.1007/s12671-012-0094-5>
- Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and Preliminary Outcomes of a School-Based Mindfulness Intervention for Urban Youth. *Journal of Abnormal Child Psychology*, 38, 985–994.
<https://doi.org/10.1007/s10802-010-9418-x>
- Mindfulness Research, Yoga Research. Holistic Life Foundation. (n.d.). Retrieved December 7, 2021, from <https://hlfinc.org/research/>.
- Pachter, L. M., Caldwell, C. H., Jackson, J. S., & Bernstein, B. A. (2018). Discrimination and Mental Health in a Representative Sample of African-American and Afro-Caribbean Youth. *Journal of Racial and Ethnic Health Disparities*, 5(4), 831–837.
<https://doi.org/10.1007/s40615-017-0428-z>
- Pascoe, M., Hetrick, S.E. & Parker, A.G. (2020) The impact of stress on students in secondary school and higher education, *International Journal of Adolescence and Youth*, 25:1, 104-112, DOI: 10.1080/02673843.2019.1596823
- Radez, J., Reardon, T., Creswell, C., Lawrence, P. J., Evdoka-Burton, G., & Waite, P. (2021a). Why Do Children and Adolescents (Not) Seek and Access Professional Help for Their Mental Health Problems? A Systemic Review of Quantitative and Qualitative Studies. *European Child and Adolescent Psychiatry*, 30, 183–211. <https://doi.org/10.1007/s00787-019-01469-4>

Radez, J., Reardon, T., Creswell, C., Orchard, F., & Waite, P. (2021b). Adolescents' Perceived Barriers and Facilitators to Seeking and Accessing Professional Help for Anxiety and Depressive Disorders: A Qualitative Interview Study. *European Child and Adolescent Psychiatry*. <https://doi.org/10.1007/s00787-020-01707-0>

Sapthiang, S., Gordon, W. V., & Shonin, E. (2019a). Mindfulness in Schools: A Health Promotion Approach to Improving Adolescent Mental Health. *International Journal of Mental Health and Addiction*, *17*, 112–119. <https://doi.org/10.1007/s11469-018-0001-y>

Sapthiang, S., Gordon, W. V., & Shonin, E. (2019b). Health School-based Mindfulness Interventions for Improving Mental Health: A Systematic Review and Thematic Synthesis of Qualitative Studies. *Journal of Child and Family Studies*, *28*, 2650–2658. <https://doi.org/10.1007/s10826-019-01482-w>

Sibinga, E. M. S., Perry-Parrish, C., Chung, S. E., Johnson, S. B., Smith, M., & Ellen, J. M. (2013). School-based Mindfulness Instruction for Urban Male Youth: A Small Randomized Controlled Trial. *Preventive Medicine*, *57*(6), 799–801. <https://doi.org/10.1016/j.ypmeed.2013.08.027>

Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Salazar de Pablo, G., Shin, J., Kirkbride, J. B., Jones, P., Kim, J. H., et al. (2021). Age at Onset of Mental Disorders Worldwide: Large-Scale Meta-Analysis of 192 Epidemiological Studies. *Molecular Psychiatry*. <https://doi.org/10.1038/s41380-021-01161-7>

Suicide prevention. Georgia Department of Behavioral Health and Developmental Disabilities. (n.d.). Retrieved December 7, 2021, from <https://dbhdd.georgia.gov/bh-prevention/suicide-prevention>.

Supporting Children’s Mental Health In Georgia Schools: How Three School-Based Mental Health Providers Serve Students. Voices for Georgia's Children. (n.d.). Retrieved December 7, 2021, from <https://georgiavoices.org/supporting-childrens-mental-health-in-georgia-schools/>.

Tellhed, U., Daukaantaite, D., Maddux, R. E., Svensson, T., & Melander, O. (2019). Yogic Breathing and Mindfulness as Stress Coping Mediate Positive Health Outcomes of Yoga. *Mindfulness, 10*, 2703–2715. <https://doi.org/10.1007/s12671-019-01225-4>

Twenge, J. M., & Joiner, T. E. (2020). U.S. Census Bureau-Assessed Prevalence of Anxiety and Depressive Symptoms in 2019 and During the 2020 COVID-19 Pandemic. *Depression and Anxiety, 37*(10), 954–956. <https://doi.org/10.1002/da.23077>

Washington TD. Psychological stress and anxiety in middle to late childhood and early adolescence: manifestations and management. *J Pediatr Nurs.* 2009 Aug;24(4):302-13. doi: 10.1016/j.pedn.2008.04.011. Epub 2009 Mar 13. PMID: 19632507.

Williams D. R. (2018). Stress and the Mental Health of Populations of Color: Advancing Our Understanding of Race-related Stressors. *Journal of health and social behavior, 59*(4), 466–485. <https://doi.org/10.1177/0022146518814251>