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**Implementation of a Mindfulness Intervention to Increase Adolescent Resilience in an
After-school Program: A Quality Improvement Project**

by

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Paper submitted in partial fulfillment of the
requirements for the degree of

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Dedication

This manuscript is dedicated to my two sons, Griffin and Silas. You all are the highlights of my life and the reason for everything I do.

Acknowledgements

I would like to thank the staff at Hope Academy for Kids for welcoming me with open arms and supporting this project. I would also like to thank the members of my project committee, Dr. Galloway and Dr. Martens, for their guidance, support, and encouragement. Lastly, I would like to thank all the family and friends. I couldn't have done it without all the love and support.

Abstract

Background: Globally, fourteen percent of adolescents ages 10 to 19 years old suffer from mental health problems (World Health Organization, 2021). Resilience is a fundamental concept of the mental health promotion framework (CAMH, 2022). The WHO (2020) “Guidelines on Mental Health Promotive and Preventive Interventions for Adolescents” includes the recommendation that universal interventions to promote mental health and reduce mental disorders should include social and emotional learning (SEL), such as emotional regulation, mindfulness, stress management, problem solving, and interpersonal skills. Mindfulness-based interventions (MBIs) are one evidence-based method of accomplishing this goal (Sapthiang et al., 2018). **Purpose:** The purpose of this quality improvement (QI) project was to evaluate the implementation of a MBI in an afterschool program. The goal of the intervention was to increase resilience and mindfulness in the adolescent population at Hope Academy for Kids (HAFK), an afterschool program serving at-risk students. **Intervention:** Implementation of a six-session MBI, *Learning to BREATHE (L2B)*, in adolescents grades 9 through 12. Sessions took place on six consecutive Fridays after school at HAFK. **Methods:** Pre- and Post-program comparison of self-reported resilience and mindfulness. Resilience was measured using the Child and Youth Resilience Measure-Revised (CYRM-R). Mindfulness was measured using the Child and Adolescent Mindfulness Measure (CAMM). **Results:** The results revealed a statistically significant increase in self-reported resilience, with a moderate effect size. The results demonstrated a decrease in self-reported mindfulness. **Discussion:** Results of this project support use of the MBI Learning to BREATHE as a tool to increase adolescent resilience, and the feasibility of implementation of such programs in the afterschool program setting.

Keywords: Mindfulness, Mindfulness-based intervention, Universal prevention program, Adolescent, Resilience, Afterschool Program

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Implementation of a Mindfulness Intervention to Increase Adolescent Resilience in an After-school Program: A Quality Improvement Project

Globally, fourteen percent of adolescents ages 10 to 19 years old suffer from mental health problems (World Health Organization [WHO], 2021). Anxiety, depression, and behavioral disorders are leading causes of disability and illness in this population (WHO, 2021). Studies have shown that mental health problems in adolescents play a role in lower academic achievement, increased engagement in risky health behaviors, increased risk of suicide, and multiple other negative health outcomes, which often persist into adulthood (Dray et al., 2017). Adolescence is a formative time for developing habits crucial to mental well-being, including development of problem-solving, coping, interpersonal skills, and learning to manage stress and emotions (WHO, 2021). The successful development of such skills depends on the risk factors adolescents are exposed to and the availability of protective factors in their environment (Ostaszewski, 2020). Safeguarding access to mental health care, promoting psychological well-being, and fostering socio-emotional learning is critical for health and well-being into adulthood (WHO, 2021).

The promotion of mental health and prevention of psychological issues in youth is imperative (Banos et al., 2017). According to the WHO (2004), this includes developing strengths in order to decrease vulnerability to developing mental disorders (as cited in Banos, 2017). The WHO (2020) “Guidelines on Mental Health Promotive and Preventive Interventions for Adolescents” includes the recommendation that universal interventions to promote mental health and reduce mental disorders should include social and emotional learning (SEL), such as emotional regulation, mindfulness, stress management, problem solving, and interpersonal skills. It is considered unrealistic for mental health promotion and prevention to be the sole responsibility of clinical mental health professionals (Colizzi et al., 2020). Such

interventions can be delivered via a variety of platforms, including schools-based, community-based, after-school programs, health care centers, and digital media (WHO, 2020, 2021; Ostaszewski, 2020).

There are numerous dimensions to positive mental health, one being resilience (Murphey et al., 2013). Resilience is a fundamental concept of the mental health promotion framework (CAMH, 2022). The US Department of Health and Human Services (n.d.) has established the goal to “increase the proportion of children and adolescents who show resilience to challenges and stress” as a high-priority mental health Healthy People 2030 objective (para. 1). Today’s youth face stress in many life domains that may impair healthy mental development, however, resilience is a protective factor that can aid in the overcoming of adversity (Felver et al., 2018). Research demonstrates that higher resilience is positively related to fewer mental health issues, such as depression, anxiety, and other mental health symptoms (Mesman et al., 2021). After-school programs are a unique platform to promote mental health development, such as self-efficacy, resiliency, and emotional, behavioral, and cognitive competence (National Center on Afterschool and Summer Enrichment, 2021).

Problem

Anxiety, depression, and behavioral disorders are leading causes of disability and illness in the adolescent population (WHO, 2021). According to Tyler et al. (2017), inadequately or undertreated mental health issues in childhood affect not only the individual child and family, but can lead to considerable long-term negative consequences on healthcare, welfare, education, and juvenile justice systems. To address these problems, universal prevention measures are needed to increase resilience and mental health outcomes in adolescents.

Definition of Terms

Mental health. The WHO (2022) defines mental health as “a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community” (para. 3).

Resilience. According to the American Psychological Association [APA] (2020) resilience, also referred to as resiliency, is defined as “adaptation in the face of adversity, trauma, tragedy, threats or stress” (para. 4).

Adolescents. Adolescents are defined as persons ages 13 to 19 years.

Mindfulness. According to Kabat-Zinn, 2003, mindfulness is defined as “paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally” (p. 145).

Mindfulness Based Stress Reduction. Mindfulness Based Stress Reduction (MBSR) is the eight-week stress reduction program developed by Dr. Jon Kabat-Zinn and his team at the University of Massachusetts Medical Center’s Stress Reduction Clinic, based on mindfulness training.

Mindfulness-Based Interventions. Mindfulness-based interventions (MBIs) are programs designed to teach individuals to foster mindfulness and integrate it into their daily lives. (Shapiro et al., 2018).

Emotional regulation. According to the APA (n.d.), emotional regulation is defined as an individual’s ability to modulate emotions. Explicit emotion regulation involves conscious observation and utilization of techniques that recognize and target emotions and behaviors to increase positive outcomes (APA, n.d.).

Significance

As previously stated, according to the WHO (2021), fourteen percent of adolescents globally report mental health issues. Based on data from the National Comorbidity Survey

Adolescent Supplement, adolescent lifetime prevalence of mental disorders is estimated to be 49.5% in the U.S. (National Institute of Mental Health, 2022). Based on the 2015 National Survey of Drug Use and Health, 12.5% of adolescents self-reported symptoms consistent with a major depressive episode (Bitsko et al., 2018). Data shows that mood disorders increase almost two-fold during adolescence (Merikangas et al., 2010).

Adolescents with mental health concerns are vulnerable to stigmatization, academic problems, behavioral issues, physical illness, and social exclusion (WHO, 2021). Adolescents in low-income neighborhoods are increasingly exposed to stressors that compromise their psychological well-being, putting them at increased risk for deficits in self-regulation, poor academic achievement, and behavioral issues (Razza et al., 2021). Other threats to healthy mental development include bullying, childhood adversity, ethnic minority status, and parental psychopathology (Mesman et al, 2021).

State and Local Data According to Mental Health America (n.d.), in 2021, Kentucky ranked 19th in the United States (US) for prevalence of mental illness and access to mental health services. In regard to youth access to mental health services, Kentucky ranks 48th in the U.S. (Florell, 2018). In 2021, 13.61% of youth in Kentucky reported having at least one major depressive episode (MDE) in the past year. Of those youth, 49.3% did not receive care for their MDE (Mental Health America, n.d.). Regarding determinates of health, the poverty rate of children ages 5-17 years in Kentucky in 2017 was 24.9% (Child Welfare League of America, 2017). In Hardin County specifically, 21% of youth lived in poverty (Lincoln Trail District, Breckinridge, and Grayson County Health Departments, 2017). Mental health data in Hardin County is limited.

Internal Evidence Hope Academy for Kids (HAFK) serves at-risk, low-income children and adolescents in the Hardin County/ Elizabethtown, Kentucky area (HAFK, n.d.). HAFK collaborates with school staff and Family Resource Youth Service Coordinators in Hardin

County to assist with referrals and academic needs. According to Nelle Thomas, the founder and executive director (ED) of HAFK, their goal is to improve educational and social outcomes for at-risk students by pairing students with a volunteer mentor (N. Thomas, personal communication, September 9, 2020). Hope Academy employs a holistic approach, caring for academic, physical, emotional, and spiritual needs. The typical daily schedule begins after school with a snack, followed by 90 min homework (literacy, computer lab, math, etc.), dinner, faith lesson, and transportation home. Emotional support and provision for physical needs is provided on an individual basis by a team of volunteer staff.

In 2019, HAFK served 152 preschool to 12th grade students at the Elizabethtown campus, all of which qualified for free or reduced lunch and live at or below 130% of Kentucky poverty level (Thomas, 2020). Many students live in foster care, precarious situations, or have endured homelessness (N. Thomas, personal communication, September 9, 2020). Students are often dealing with frayed family structures, lack constituent role models, and are struggling academically (HAFK, n.d.). Serving a diverse population of students, the HAFK population consists of 40% were Hispanic, 36% Caucasian, 18% Black/ African American, 3% Asian, and 3% identify as other. Fifty-seven percent of students were female (Thomas, 2020). According to the ED, mental health concerns and stress are key issues for the adolescent population HAFK serves (personal communication, September 9, 2020).

Prior to project implementation, although HAFK did have a reference binder to help refer families to community resources, including mental health resources, HAFK did not have an existing policy or interventions for addressing mental health and wellbeing in its participants (Thomas, 2020). There is currently no screening or referral process, on site counselor, or educational program specific to mental health promotion. The key stakeholder identified this as a significant problem observed as she cares for students and confirmed increasing adolescent

resilience as a priority for the organization. A literature review was conducted to determine which evidence-based prevention measure would be best to implement in this setting to improve mental health outcomes, specifically increasing resilience in the adolescent population at HAFK.

Rationale for the Project

The data previously stated highlights the need for an intervention focused on mental health promotion and prevention measures at HAFK. Mental health is not only the lack of mental illness, but the presence of protective factors such as positive coping abilities, emotions, optimism, and the ability to positively interpreted reality (Diaz-Garcia et al., 2021). Adolescents in low-income situations are disproportionately subjected to negative stressors, leading to poor mental health outcomes (Razza et al., 2021). Prevention and promotion efforts for improving mental health outcomes should aim to strengthen resilience to adversity, increase emotional regulation, and decrease risk-taking behaviors (WHO, 2021).

Adolescence is an optimal period for targeting mental well-being and psychological functioning, as it is a time of developing psychological tools and habits (Blakemore & Mills, 2016). During this phase of life, emotions are heightened, and stress is a common and significant problem (Broderick, 2021). According to Learning to BREATHE (n.d.a),

“Adolescent brains are still under construction, and this is an active period for laying down neural pathways related to emotion management that can shape the course of adulthood. Many major mental illnesses have their onset in adolescence. While the trajectory of these illnesses is still unclear, promoting resilience at this life stage may reduce the risk of problematic outcomes for vulnerable individuals and strengthen the factors that promote mental health in general” (para. 1).

For this reason, even adolescents without clinical levels of mental health problems can benefit from programs that provide tools for strengthen healthy emotion and stress management (Broderick, 2021).

Prevention efforts have the potential to positively impact adolescent functioning, quality of life, while also reducing healthcare cost and need for intervention over time (Cree et al., 2019). According to Tyler et al. (2017), “not a single state in the country has an adequate supply of child psychiatrists, and 43 states are considered to have a severe shortage” (p. 1). There are also significant shortages of mental health practitioners nationwide (Tyler et al., 2017). Due to the shortage of mental health professionals, prevention programs require an interdisciplinary approach, including clinical healthcare, school, community, and digital based strategies to reach vulnerable youth: therefore, this quality improvement (QI) project proposed the implementation of a universal prevention program in an after-school program, seeking to decrease the burden on the healthcare system directly.

Current Knowledge

Current research reflects that resilience in adolescents is strongly associated with positive mental health and deserves a larger role in prevention programs (Mesman et al., 2021). This dynamic process of adaptation to stress is negatively associated with trauma, depression, and anxiety symptoms. As the experiences of stress and adversity are intrinsically emotional, programs including emotional regulation coping strategies enhance resilience outcomes (Kay, 2016; Mestre et al., 2017). Strategies to increase adolescent resilience in the literature have taken many forms, including online interventions, art and gardening programs, family centric interventions, and mindfulness programs. As a whole, resilience programs focus on increasing coping abilities, though tactics and outcome measures vary largely. The teaching of mindfulness is an approach integrated into a many successful programs, such as Learning to BREATHE and

Mindfulness in Schools (Banos et al. 2017; Las Hayas et al., 2019; Razza et al., 2021; Meiklejohn et al., 2012).

Mindfulness programs have been integrated into various settings, including schools, after-school programs, and clinical treatment settings. According to Sapthiang et al. (2018), incorporation of MBIs into academic settings is a cost-effective method of health promotion seeking to build resilience in adolescents, while also meeting national objectives for improving wellbeing. Mindfulness can effectively build resilience by improving emotional regulation, perceived stress, optimism, self-compassion, and life satisfaction, while also eliciting improvements in academic performance (Sapthiang et al., 2018).

Use of an empirically validated mindfulness-based program curriculum in a group setting is recommended for building resilience (Meiklejohn et al., 2012; Sapthiang et al., 2018; Dimick et al., 2016). Learning to BREATHE (L2B) is one MBI and universal prevention program developmentally appropriate for adolescents (Broderick, 2021). Largely based on MBSR by Jon Kabat-Zinn (1990), L2B offers a promising strategy for enhancing adolescent resilience and overall wellbeing (Felver et al., 2018; Bluth et al., 2016; Metz et al., 2013; Schussler et al., 2020; Fung et al., 2018; Eva and Thayer, 2017).

Project Purpose

The purpose of this QI project was to evaluate the implementation of an MBI in an afterschool program. The specific intervention goal was to increase resilience and mindfulness in the adolescent population at HAFK.

Environment

HAFK, formerly Mission Hope for Kids, serves at-risk youth at three campuses, Elizabethtown, Radcliff, and Leitchfield. This QI project took place at the Elizabethtown campus, with potential to expand to all 3 campuses in the future.

Purpose

The goal of the youth program at HAFK is to equip students 6th to 12th grade for life after high school by focusing on the development of leadership and communication skills and confidence building. The holistic approach of HAFK takes many forms. With a focus on education, students receive academic assistance, including help with homework, access to a computer lab, and literacy lessons. HAFK also focuses on building supportive relationships and fostering social skills, by pairing students with a volunteer mentor who provide emotional support. As previously mentioned, HAFK also cares for physical and spiritual needs and family support. To reduce the barriers of attendance, HAFK provides transportation for students.

Specific Aims As previously stated, the purpose of this QI project was to evaluate the implementation of a MBI in an afterschool program. The intervention goal was to increase resilience and mindfulness in the adolescent population at HAFK. Specifically, the evidence-based universal prevention L2B program was implemented for the adolescent students grades 9 through 12. The aim of the project was the following objective: Among adolescent students in an after-school program (P), would implementation of a mindfulness-based intervention program (I) over 6 sessions (T) increase self-reported resilience (O) compared to students without any MBI program experience (C). The purpose of this project aligned with the mission of HAFK “to nurture and restore hope to at-risk children by providing educational, emotional, physical and spiritual support to help them reach their potential and find their purpose in life as one community locks arms and works together” (HAFK, n.d.a). By implementing this mindfulness-based intervention into the yearly curriculum, HAFK can measurably assist in building resilience in adolescents and strengthen protective factors prior to adulthood (Sapthiang et al., 2018). HAFK is also specifically addressing the Healthy People 2030 objective to “increase the proportion of children and adolescents who show resilience to challenges and stress” put forth by

the US Department of Health and Human Services (n.d.). Lastly, according to the Collaborative for Academic, Social, and Emotional Learning (2022), L2B meets criteria as a social emotional learning supportive program, focusing on intrapersonal competence.

Principles

As ED of all operations at HAFK, Nelle Thomas was the key stakeholder in this project. Nelle oversees programs for grades preschool through 12th and plays an active role in all aspects of HAFK, including the budget, volunteer recruitment, and building local partnerships. Without the support of the ED, this project would have come to a halt. The ED was actively involved in the needs assessment at HAFK for this project. Throughout planning, evidence was presented for her approval, including implementation of the L2B program and funding of the project. Proof of approval can be viewed in Appendix U.

The youth coordinator manages the youth program and oversees the volunteer staff. The high school mentor works directly with the high school students, aiding in academic rotations and implementing the curriculum. As these staff members have close relationships with the students, they assisted in getting students excited to actively participate in the intervention. The youth coordinator and high school mentor were educated on the benefits of the intervention and the potential positive outcomes. Outline of the curriculum and project processes, including assessment of outcome measures, specifics of the MBI intervention, and strategies to continue this program at HAFK in the future were presented to them prior to project implementation. These staff members were also asked to complete the staff questionnaire after conclusion of the program.

One strength favoring successful implementation of this project at HAFK was that the organization is an independent nonprofit program, giving leaders increased flexibility and autonomy in the care provided and projects implemented. Financial and ethical accountability is

upheld by budget and operations statement transparency to HAFK's many donors. As HAFK is an after-school program, and not a healthcare organization, there is no research committee or internal review board for which the project was subject to review by. All decisions for the project were run through the ED, who reported the budget allocation and project details to HAFK Board of Directors and donors. Sole responsibility for literature review and data synthesis for this project were the responsibility of the Doctor of Nursing Practice (DNP) student facilitator.

Processes

Change processes must be straightforward and methodical to be implemented effectively. The timeline for this QI project is available in Appendix H. As HAFK does not have an electronic record, all documentation was done via paper. Individual files were created for each student and included the following: pre-and post-intervention Child and Youth Resilience Measure-12 (CYRM-12), pre- and post- intervention Child and Adolescent Mindfulness Measure (CAMM), and student questionnaire. These measures are available for review in the Appendix L and M. As the target sample size for this project was 12 students, all scoring of quantitative data and analysis of qualitative post-assessments was the responsibility of the DNP project student facilitator. Facilitation of the L2B sessions at HAFK was performed by the DNP student. Proof of facilitator training is included in Appendix C.

People

To be significant long-term, mindfulness must be integrated into the daily practices of the organization (Broderick, 2021). According to Broderick (2021), "an attitude of openness and flexibility is essentially important when working with adolescents. Mindfulness is offered as an invitation to experience with greater skill and clarity whatever is occurring" (p. 21). L2B offers an organized way to introduce mindfulness to students that they can begin to incorporate into their daily lives in imaginative ways. Student active participation was critical to the success of

this project, as their mental health is the focus of the intervention. Participation was a potential barrier to this project if students were skeptical or did not see the benefit of the curriculum. The potential for opposition is higher when group facilitators are unfamiliar to the students (Broderick, 2021). HAFK has established a culture among its students that promotes excitement for learning and growth, as well as a safe space for emotional growth and support. With buy-in from the ED and trusted high school student mentor, and the youth coordinator, the success of the project was more likely. Secondly, to address the unfamiliarity of the DNP student project facilitator, prior to project implementation, the facilitator volunteered time at HAFK on two Fridays of the Fall 2022 semester to become familiar with the students.

As a small nonprofit organization, HAFK has a limited number of paid staff and volunteers. A barrier to long term success of the program for years to come will be the lack of paid staff at HAFK to continue implementation in the coming years. To teach L2B, it was recommended that the facilitator was trained in MBSR, an engage in an intensive training on the L2B curriculum. The DNP student facilitated the L2B curriculum for this project and has agreed to continue implementing the program on a volunteer basis for 3 consecutive years. The ED at HAFK has denied desiring a written contract for this. The long-term plan will be for HAFK to secure funding through grants and donors for a part time academic manager or social worker who can become trained and facilitate L2B in the future, as well as coordinate expansion to other HAFK campuses.

Performance

HAFK analyzes student academic performance using four indicators: median grade equivalent scores, report cards, progress reports, and attendance (Thomas, 2020). Biannually, HAFK mentors file student progress reports that address attendance, homework, attitude, and behavior. Prior to implementation, there was a lack of performance indicators in place to

determine resilience and mindfulness changes. Having short, intermediate, and long-term goals in place to measure objectives is necessary to track performance and improvements in desired outcomes. These measurable objectives and outcomes can be viewed in Appendix D.

Facilitators for Project Implementation

The primary facilitator for this project was the DNP student, with assistance from the staff youth mentor at HAFK. To be equipped to facilitate L2B, the facilitator received the following training through Davis Behavioral Health: an 8-week Mindfulness Based Stress Reduction course (Davis Behavioral Health, n.d.a) and the comprehensive Learning to Breathe Training (Davis Behavioral Health, n.d.b). Proof of certification is available in Appendix C.

Barriers to Project Implementation

Budget was a major consideration in this project, as HAFK is a nonprofit organization who receives funding through grants and various donors. The budget for the project can be viewed in Appendix I. Hope Academy agreed to fully fund the project, including cost of facilitator training. The DNP student facilitator will continue to facilitate the program once a year at HAFK for the next three years.

A second barrier to implementation was parental consent for student participation. Parents sign all consents for the year in May for participation the following school year. Explanation of the program and consent for participation in the L2B program were included in consent forms in May 2022 and kept in the student files by HAFK until program implementation in Spring of 2023. Passive parental consent was sent out with students in January 2023. Parents had one week to return the form to HAFK if they now wished for their student to not participate in the program at this time. The passive consent is available in Appendix J.

As previously stated, student participation and engagement were necessary for the project to be successful. If the students did not actively participate in the measurement process of

resilience and mindfulness, scores could be skewed. Secondly, if students are not open to fully engage in the mindfulness program, significant changes in levels of resilience could not be achieved. Though student attendance could be a barrier, HAFK has a strict attendance policy which limits absenteeism among its students. MHKF also provides student transportation, limiting the number of absences.

Feasibility

As previously stated, cost was major factor in this project and could hinder the feasibility of long-term continuation of the program. Cost of facilitator trainings were established in the budget and deemed feasible, according to the ED of HAFK. Program inputs, such as use of the HAFK facility, time, and supplies were discussed. Time for the program was preplanned into the calendar to not take way from focus on academic time for the students. This process will continue in the coming years of implementation.

Sustainability

In subsequent years, the L2B program can be implemented without pre- and post-program measurement of resilience and mindfulness. This will decrease budgeting for printing of measures and time for the two days required for measurement. Expansion of the program would involve having L2B implemented at all HAFK locations and implementing mindfulness-based interventions that are developmentally appropriate for other age groups at HAFK.

Literature Review

Methods

A systematic literature search was performed using PUBMED, Cumulative Index for Nursing and Allied Health (CINAHL), and PsychINFO database. On January 25, 2022 the search was performed using the keywords adolescent, teen, youth, resilience, resiliency, intervention, health promotion, primary prevention, and universal prevention. The following MESH Boolean

string was used for the search: (((("Adolescent"[Mesh]) AND "Resilience"[Mesh]) AND "Health Promotion"[Mesh]) OR "Primary Prevention"[Mesh]). Articles were initially limited to sources published within the last five years and in the English language.

PUBMED initially produced 2602 articles, which were then limited to adolescents 13-18 years, clinical trials, meta-analysis, RCT, reviews, and systemic review. After this, 336 articles remained. An equivalent search in CINAHL elicited 1089 initial articles, which narrowed to 207 with further limiting to adolescents 13-18 years, academic journals, and published in the USA. The search was repeated in PsycINFO, producing 1742 new articles, that were further limited to 33 after narrowing to adolescents, academic journals, and inclusion of resilience as a major heading. Thirteen additional sources were identified through examination of article references, which once added, bore a total of 589 articles for abstract review. After duplicates were removed, the search was narrowed to 67 articles during abstract review for detailed consideration. Study methods and results were further evaluated, leaving 22 articles. Of these articles 15 were removed for poor quality or not being generalizable to the population and setting of the project. The remaining 7 articles were appraised for the current literature synthesis. The PRISMA search model for this search, including details on search limiting, is available in Appendix A (Page et al., 2021).

Once mindfulness-based interventions were identified as evidence-based intervention of interest for the current project, a secondary literature search was performed using PUBMED, CINAHL, and PsycINFO databases. On February 24, 2022, the secondary search was performed using the keywords adolescents, teens, youth, mindfulness, mindfulness-based stress reduction, mindfulness-based interventions, resilience, resiliency, community-based, school-based, and afterschool. The following MESH Boolean string was used: (((("Adolescent"[Mesh]) AND "Resilience"[Mesh]) AND "Mindfulness"[Mesh]).

PUBMED initially produced 19 full text articles, which were then limited in the same manner as the previous search, leaving 16 remaining articles. An equivalent search in CINAHL produced 925 initial articles, which was narrowed to 68 articles with limiting to adolescents 13-18 years, academic journals, and published in the USA. Repeating the search in PsycINFO, produced 2588 new articles, that were further limited to 20. Through examination of article references, five additional articles were added, bearing a total of 109 articles for abstract review. During abstract review, the search was narrowed to 23 articles for detailed consideration. Study methods and results were further evaluated, leaving 16 articles. Of these, 11 articles were removed for poor quality or lack of generalizability. The persisting 5 articles were appraised for the current literature synthesis. The PRISMA search model for this search is available in Appendix B (Page et al., 2021).

Search of studies on the specific L2B program demonstrated a large number of articles. The research base on L2B was narrowed to articles measuring resilience directly or indirectly via emotional regulation or perceived stress. Six articles with L2B as the intervention were included in this review. After accounting for overlap in articles found between topics, a total of 16 articles are included in the current synthesis.

Synthesis of the Literature

Resilience

As previously stated, the literature reflects that resilience is positively associated with mental health and wellbeing (Mesman et al., 2017). While there is no one universally accepted definition of resilience, there are definitions that are thematically similar (Diaz-Garcia et al., 2021; Garcia-Parra et al., 2021). Mesman et al. (2021) defines resilience as “a multisystemic process of successful adaptation or recovery in the context of risk or a threat” (p. 587). Diaz-Garcia et al. (2021) suggests that resilience is a dynamic, changeable, variable process of

adaptation, regardless of traumatic threats. According to Garccia-Parra et al. (2021), resilience can be interpreted as an individual's ability to positively respond despite challenges and threats and is not a static quality but depends on processes such as coping strategies and personality factors.

Resilience measures also vary in the literature, with studies using both direct resilience measures, and resilience factors such as emotional regulation, perceived stress, coping, hope, and self-regulation, quality of life, and wellbeing (Diaz-Garcia et al., 2021). Direct measures commonly used in the adolescent population include the Connor-Davidson Resilience Scale, the Child and Youth Resilience Measure, and the Social-Emotional Assets and Resilience Scales, among others (Mesman et al., 2021; Felver et al., 2018). Allen et al. (2016) operationalized resilience by indirectly measuring children's strengths and difficulties, coping, and hope. In the same vein, Razza et al. (2021) measured resilience by means of self-regulation and self-compassion. And yet another study by Schussler et al. (2020) looked at measures of emotional regulation, stress, self-compassion, and social connectedness. Sapthiang et al. (2018) suggests using a well-established psychometric scale for resilience building interventions.

There is also diversity in resilience building tactics among resilience programs. Garcia-Parra et al. (2021) found in a systemic review that there are many resilience building models, but that an interdisciplinary approach enhances resilience in vulnerable youth with diseases and disabilities. The review supports implementation of programs to strengthen resilience in clinical, educational, and community settings. Allen et al. (2016) demonstrated the feasibility of implementing a resilience program in the after-school setting, utilizing the group discussion-based Resilience and Coping Intervention, decreasing adolescent difficulties with emotions. Though some state the potential for online interventions for resilience promotion, recent reviews

demonstrate that the effects of internet-based interventions are not significant overall and there continues to be need for more long-term studies (Diaz-Garcia et al., 2021; Banos et al., 2017).

Mindfulness

Mindfulness-based interventions (MBIs) are integrated into many resilience programs and demonstrate a promising approach to increasing resilience (Las Hayas et al., 2019; Meiklejohn et al., 2012; Razza et al., 2021; Dimick et al., 2016). Mindfulness is most often defined as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, as cited in Dimick et al., 2016; Razza et al., 2021; Meiklejohn et al., 2012). MBIs support resilience through fostering emotional regulation, self-compassion, impulse control, self-regulation, and more (Razza et al., 2021). As with resilience, it is recommended to use a validated measure of mindfulness to evaluate outcomes (Sapthiang et al., 2018), with the Child and Adolescent Mindfulness Measure (CAMM) and the Mindful Attention Awareness Scale for Adolescents being the most widely used (Meiklejohn et al., 2012). The CAMM demonstrates acceptable reliability and validity in both healthy and clinical adolescents and is discussed further in the outcomes measures section to come. Findings from Sapthiang et al. (2018) demonstrate that MBIs offer a cost-effective method to resilience enhancement in adolescents in academic settings.

The literature suggests use of a manualized MBI program as feasible in academic and afterschool settings (Sapthiang et al., 2018; Dimick et al., 2016). Sapthiang et al. (2018) lists the following empirically validated programs: L2B, Mindfulness in Schools curriculum, Mindfulness Education programme, and Meditation Awareness Training. Dimick et al. (2016) provides recommendations for integration of MBIs into academic settings, suggesting that MBIs can be incorporated into all three levels of the multi-tiered behavioral support system. Universal

prevention programs such as L2B incorporate MBSR, which has demonstrated stress reduction in many settings and populations (Meiklejohn et al., 2012).

Throughout the literature, authors provide recommendations for future program success. According to Van Gordon et al. (2017), though delivery methods and design are important to MBI effectiveness, the importance of MBI facilitators being “soaked in meditation” cannot be overlooked (as cited in Sapthiang et al., 2018). Razza et al. (2021) suggests the need for not only self-reported measures, but inclusion of more objective target outcomes, such as incorporating teacher or parent reported measures. Meiklejohn et al. (2012) provides many suggestions from the literature, including establishing a theoretical base for program implementation, using developmentally appropriate validated outcome measures, and ensuring fidelity of implementation, and establishing feasibility prior to implementation.

Learning to BREATHE

Learning to BREATHE is one empirically validated MBI suggested throughout the literature as a universal prevention strategy for fostering resilience and overall wellbeing in adolescents (Meiklejohn et al., 2012; Dimick et al., 2016; Sapthiang et al., 2018). In a randomized control study, according to Felver et al. (2018), L2B demonstrated significant effects on adolescent psychosocial resilience. Adolescents who received the L2B intervention reported stable levels of psychosocial resilience long term compared to the control group who self-reported a significant decline over time (Felver et al., 2018). Schussler et al. (2020) found that during qualitative interviews, students cited stress management strategies as a major benefit of the program. Results from the systematic case study indicated L2B did not significantly decrease quantitative measures of stress, but that all students noted that L2B helped them in coping with stress (Schussler et al., 2020). Four studies demonstrated the positive effects of L2B on perceived stress (Eva and Thayer, 2017; Metz et al., 2013; Fung et al., 2019; Bluth et al., 2016).

Of these studies, two also demonstrated positive effects of the intervention on student emotional regulation (Metz et al., 2013; Fung et al., 2018). The body of literature displays the use of L2B in diverse populations, including low-income Hispanics, students at high risk of school failure, and suburban public-school students across the United States. According to Broderick (2021), the program has been feasibly implemented in many settings, including schools and afterschool programs.

Theoretical Background

According to the Modeling and Role Modeling Theory (Erikson et al., 1983), all people are holistic with interaction between mind, body, and spirit, have need for self-esteem and dignity, and can develop, adapt, cope, and heal (Society for the Advancement of Modeling & Role-Modeling (SAMRM), 2022). The desired outcome of interaction is to increase sense of wellbeing hope, and projection of self (SAMRM, 2022). According to the SAMRM (2022), the aim of interventions are to make certain that people have access to resources required to manage and cope with stressors as they develop. Within the theory, role modeling can be summarized as the process in which the nurse nurtures and aid the individual in the maintenance and promotion of health (Petiprin, 2020). According to Petiprin (2020), role modeling involves accepting the individual unconditionally as they are, and planning interventions uniquely based on their individual characteristics and needs. The structure of the project intervention aligns with the theoretical principles of the Modeling and Role Modeling Theory, seeking to treat students as holistic beings with a need for fostering of wellness and stress management skills in a structured yet flexible manner (Broderick, 2021).

Conceptual Model

The Model for Improvement is used to effectively implement change projects, providing a simple and systematic approach to testing change in organizations (Institute for Healthcare

Improvement, 2022). This QI framework utilizes three foundational questions to guide improvement processes by setting aims, establishing measures, and choosing interventions. In addition to these three questions, the Plan-Do-Study-Act (PDSA) cycle (Appendix E) is then applied to cyclically continue to analyze, study, and improve the change process (Langley et al., 2009). Multiple PDSA cycles may be necessary after initial implementation to heighten success prior to finalization. This QI project addressed the three major questions of the Model for Improvement as follows:

1. What are we trying to accomplish?
 - a. The aim of this QI project was to increase resilience and mindfulness among adolescents at an after-school program.
2. How will we know that the change is an improvement?
 - a. Pre-and post-program assessments demonstrated differences in self-reported resilience and mindfulness. Resilience and mindfulness were expected to increase post-intervention, demonstrating an improvement produced by the program change.
3. What change can we make that that will result in improvement?
 - a. The mindfulness-based intervention, *Learning to BREATHE*, was implemented with the aim to increase adolescent resilience and mindfulness at HAFK.

PDSA Cycle

Plan

In this stage, need for intervention is established based on internal evidence using tools such as a site needs assessment and a fishbone diagram (Appendix F). Aims and measurable outcomes (Appendix D) of the QI project can then be formed, grounded in an evidence-based literature review. After establishing need for primary prevention and resilience in the adolescent

population, it was predicted that implementation of a mindfulness-based intervention would increase resilience in adolescents in an after-school program setting.

Systematically planning the QI project prior to facilitation was critical to successful implementation and longevity. A logic model provided a visual description of connections between aims and outcomes of project (Appendix G). Key change agents were identified, a timeline and budget established, and plan for data collection formulated. Barriers to change were also identified.

Another consideration was training necessary for project implementation. For facilitation of this project, the DNP student received the following training prior to implementation: an 8-week Mindfulness Based Stress Reduction live course through Davis Behavior Health in March 2022 and a 3-day live workshop through Davis Behavior Health for facilitators of the *L2B* program in July 2022. Ethical considerations such as consent were also considered prior to implementation and will be reviewed. All aspects of the project were approved by key stakeholders for the site.

Do

The *L2B* program curriculum was delivered over six sessions on consecutive Friday nights at MHKF to the adolescent population grades 9-12. To ensure aims and outcomes were met, students were screened pre- and post-intervention to assess changes in resilience and mindfulness. One month after the end of the program, students were also surveyed via a student questionnaire to assess use of learned mindfulness-based techniques and perceptions of the program. Staff and youth mentors for the adolescent population at HAFK were also surveyed to assess objective behavior change in students, as well as perceptions on feasibility of continuation of the project at HAFK in the future on a yearly basis.

Study

Data from the self-reported assessment measures and questionnaires were analyzed to determine if implementation of the change produced the desired outcomes. The QI team assembled to discuss strengths and weaknesses of the project, as well as conclude if further action needs to be taken to continue to improve processes. The DNP student facilitator met with Nelle Thomas, ED of HAFK at program completion to discuss data findings and staff feedback.

Act

The goal of additional cycles is to refine the current processes to ensure objectives and outcomes are being met. It is also at this that point the team should decide if the change can be permanently implemented, and if the change can be implemented on a larger scale. In the case of this project, that would be expanding implementation to all HAFK locations.

Intervention

The mindfulness-based intervention L2B was delivered to adolescents at HAFK grades 9 through 12 in group form. This six-session universal prevention program was delivered over the course of six consecutive weeks, with one session being delivered every Friday, as this is when the adolescent group meets at HAFK. No sessions were skipped due to school closer or inclement weather. Each manualized L2B session was delivered over approximately 60-75 minutes. Though L2B curriculum can be delivered in a range from six to 18 sessions, the six-session curriculum was chosen in collaboration with HAFK executive director and youth coordinator as it most fit with the HAFK schedule and student availability. This also aligns with recommendations from the program author that no more than two sessions a week should be offered to allow for time student practice between sessions (Broderick, 2021). The HAFK high school mentor was present for each session as observer and participant, to minimized resistance to a facilitator who was new to the group.

According to Broderick (2020), the overarching aim of L2B “is to encourage the development of awareness and compassion and help students bring more mindfulness into their lives” (p. 7). This evidence-based mindfulness program incorporates concepts of Mindfulness Based Stress Reduction by Kabat-Zinn (1990) into a curriculum appropriate for group and classroom settings. Through integration of mindfulness practices into adolescents’ daily lives, the program is intended to strengthen emotional regulation and attention, teach stress management skills, cultivate emotions such as gratitude and compassion for others (Learning to BREATHE, n.d.b).

Each L2B session is based on one of six core themes associated with the word BREATHE. The themes are as follows: body, reflections, emotions attention, tenderness, and habits for a healthy mind (Broderick, 2021). Each session includes the following format:

1. Short review from previous lesson, mindfulness practice, introduction into the weeks theme, and facilitator presentation of curriculum materials
2. Group activities and discussions based on that week’s theme
3. Formal mindfulness practice and conclusion, including a weekly reminder on the importance of personal mindfulness practice outside of the group setting.

Mindfulness techniques taught over the course of the program included body scan, mindful eating, three mindful breathes, mindful walking, mindful listening mindfulness of thought and emotions, and loving-kindness and gratitude. For a detailed review of the content, refer to the published Learning to BREATHE manual (Broderick, 2021). Each student was equipped with a L2B student workbook, which includes space for journaling and references to mindfulness practices. Students were highly encouraged to participate in group sessions and complete workbook material on days L2B was not in session but had no consequences or marginalization for lack of participation.

Sessions one and two took place in the high school meeting area at HAFK. As the importance of flexibility is emphasized by Broderick (2021), to make the environment calmer, quieter, and more conducive to mindfulness practices, sessions three through six occurred in the HAFK racquetball court, which had room for students to sit or lie down in a circle, away from interruption. Based on L2B author recommendation, chairs, blankets, yoga mats, and pillows were available to students for comfort and relaxation (Broderick, 2021).

Measurement

Outcome Measures

Consent and Participation

As previously stated, one identified barrier to participation for this project was receiving parental consent for all students. Active parental consent for participation in the L2B program was obtained along with all other MHKF consents in May 2022 for the 2022-2023 school year. Consent for participation in the program also included consent to participation in all questionnaires and surveys for data collection. Prior to program implementation in January 2023, passive consent was sent home with students and parents had one week to return the form to HAFK if they desired their student not to participate in the L2B program or surveys (Appendix J). Each student also provided verbal assent prior to program onset. To ensure student privacy, after consent and assent were received, each student was assigned a participation number. Instead of the student's name on questionnaires, the student number was displayed. To be included in assessment data, students must have participated in at least five out of the six L2B sessions, and complete both pre- and post-program assessments. To track student participation in program sessions, the facilitator has created a participation tracker (Appendix K). This document was filled out each week by the program facilitator documenting student attendance.

Resilience

The outcome of resilience was measured using the Child and Youth Resilience Measure (CYRM-R) (Jefferies et al., 2018) (Appendix L). This self-reported measure assesses social-ecological resilience and has two versions: child (ages 5-9) and youth (ages 10-23) (Resilience Research Centre, 2018 [RRC]). The measure is based on the social-ecological construct definition of resilience defined as follows:

"In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways" (Unger, 2008, 2011, as cited in RRC, 2018).

The scale includes two subscales, which measure personal resilience and caregiver/ relational resilience. For this QI project, the CYRM-R youth 5-point scoring system simplified language measure was used. The decision aid provided in the user manual was used to guide the decision on the most appropriate version of the tool to use for the age and literacy level of the population at HAFK. Included are 17-items utilizing a 5-point Likert scale with answers from "not at all" to "a lot" to statements such as "I feel supported by my friends" (Jefferies et al., 2018). Higher CYRM-R scores indicate features associated with more resilience (RRC, 2018). The current revised version of this tool was validated in 2018 with a high internal reliability and consistency, as demonstrated by an overall Cronbach's alpha of 0.87 (Jefferies et al., 2018). The tool is available in 30 languages and has been used a variety of contexts, including studying resilience in adolescents from welfare homes and disadvantaged communities (Satapathy et al., 2022; Russell et al., 2021).

Mindfulness

The Child and Adolescent Mindfulness Measure (CAMM) was used to measure the outcome of mindfulness (Greco et al., 2011) (Appendix M). This 10-item trait mindfulness instrument is appropriate for ages 10 to 17 years and utilizes a 5-point Likert scale from “never true” to “always true”. The items are reversely scored and summed, such that high CAMM scores signify greater mindfulness (Goodman et al., 2017). According to Greco et al. (2011), items on the CAMM are based on mindfulness conceptualizations proposed by authors of the KIMS, an assessment tool which assesses mindfulness facets in adults. The following three facets were included in the CAMM, excluding *describing* due to the developmental level of respondents: *observing*, *acting with awareness*, and *accepting without judgement* (Greco et al., 2011).

The CAMM is a validated instrument which demonstrated acceptable internal reliability with a Cronbach’s alpha of 0.81 (Greco et al., 2011). The instrument positively correlated with mindfulness, wellbeing, quality of life, social skills, self-regulation, self-esteem, effortful control, and academic competence (de Bruin et al., 2011; Greco et al.; 2011, de Bruin et al.; 2014, Vinas et al.; 2015, Kuby et al., 2015, as cited in Goodman et al., 2017). It has been validated in a many non-clinical contexts, including low-income racial minority adolescents and urban dwelling youth (Prenoveau et al., 2018; Wang et al., 2018).

Change in Behavior

Long term outcomes for this QI project included student behavior change and use of learned mindfulness-based techniques in the future. To measure these outcomes, one month after end of L2B, students reported satisfaction with the program, ability to cope with stress and regulate emotions, amount of current use of the mindfulness techniques, and intent to use of MBSR techniques in the future. Students self-reported via an administered Student Questionnaire

(Appendix N). HAFK staff involved in the program also reported observed behavioral changes in the program population via a Staff Questionnaire (Appendix O).

Process Measures

Fidelity is defined as the degree to which interventions abide by a program standard or model (James Bell Associates, 2022). According to James Bell Associates (2022), fidelity preserves elements of a program model that render it effective. Programs are more likely to be successful when fidelity is retained. To ensure fidelity in program implementation, the program facilitator filled out an L2B Fidelity Checklist for each session to assess content coverage (Broderick, 2021). The HAFK youth mentor present for L2B sessions also filled out a checklist. These were compared to ensure agreement. These checklists were used with permission from the author of *L2B*. An example is included in Appendix T.

Permissions for Use

Approval for use of the L2B curriculum was gained by the author Patricia Broderick (Appendix P). Additionally, approval for use of the CYRM-R and CAMM measures were both obtained for use in this QI project (Appendix Q & R).

Data Collection

All data collection and analysis for this QI project was performed by the DNP student facilitator. Using a pre-post-test design, the outcomes were assessed using measures previously described. Testing was performed the week prior and two weeks following program implementation. Post-test assessment had to be deferred by one week due to Hardin County school closure for inclement weather. Four weeks following the program, students and staff reported on measures such as continued use of mindfulness practices and program feasibility using the student questionnaire and staff questionnaire. No names or identifiable data was asked on these questionnaires.

To ensure confidentiality of the students, each student was assigned an identifier number that will be written on each instrument prior to administration. The key linking student ID number and name was stored in a password protected Exel spreadsheet on the facilitator's computer, which is also password protected. Each student had file consisting of the consent form and all paper questionnaires, using the ID number for identification. These files were stored in a locked file folder.

Analysis Plan

Data analysis for this project primarily aimed to answer the following question: is there a significant difference in resilience and mindfulness pre- and post- mindfulness program implementation? The independent variable was the L2B program. Dependent variables included resilience and mindfulness. All data was summed and analyzed by the DNP student facilitator using SPSS software version 29.0.0.0. Two separate paired t tests were used to test for significant differences in mean scores for resilience and mindfulness from pre- and post-program. Magnitude of effect was analyzed by calculating Cohens d. Descriptive statistics data on the sample were analyzed for frequency and central tendency. Qualitative data from the student and staff questionnaires were analyzed for common themes using content analysis methods (Columbia University, 2023). A summary of all variables is included in Appendix S.

Program Evaluation

After all data was analyzed, outcomes were compared to the performance outcomes set prior to project implementation. The primary outcomes of change in resilience and mindfulness were measured against the expectation that mean scores will improve by at least 10%. Secondary outcomes of student reported use of learned mindfulness practices were also assessed. Lastly, student and staff satisfaction and program feedback were analyzed to assist the program team in making necessary changes to continue the mindfulness intervention in the future at HAFK.

Ethical Considerations

This QI proposal was submitted to the University of Louisville Institutional Review Board (IRB) for approval prior to project implementation. IRB requirements were closely abided by. Additionally, this project and use the HAFK name has been approved by Nelle Thomas, ED (Appendix U).

Dissemination

Dissemination of results of this QI project will occur in August 2023 in poster presentation form at the University of Louisville School of Nursing and Research Showcase. At HAFK, results will be presented in PowerPoint presentation form to stakeholders in Fall 2023. To update HAFK's major donors and affiliates, a brief will be sent out in a newsletter by the ED of HAFK with collaboration with the DNP student facilitator of the project.

Results

Sample and Demographics

Of the 14 HAFK students eligible for the intervention, consent and verbal assent was received by all, making the consent rate 100%. Prior to implementation, one student dropped out of HAFK. One student was excluded from final data due to missing two L2B sessions. This student was allowed to continue to intervention but excluded from the final data analysis. Lastly, one student was excluded from the final data due to English being their second language. This student required translation of the L2B material and questionnaires. Due to potential for compromise of fidelity of L2B material during translation, this student was excluded from final data. These exclusions left a final sample size of N=11 for data analysis. The final participation tracker is available in Appendix K.

Of the final sample population, eight were female (72.7%) and three were male (27.3%). As for grade distribution, the sample included seven 9th graders (63.6%), three 10th graders

(27.3%), and one 11th grader (9.1%). No 12th graders were represented in the sample. Age ranged from 14-17 years, with one 14-year-old, seven 15-year-olds, two 16-year-olds, and one 17-year-old. None had any formal previous mindfulness experience. Table 1 illustrates the demographic results.

Table 1

Background Characteristics

		n	%
Gender	Female	8	72.7%
	Male	3	27.3%
Grade	9th	7	63.6%
	10th	3	27.3%
	11 th	1	9.1%
	12 th	0	0%
Age	14	1	9.1%
	15	7	63.6%
	16	2	18.2%
	17	1	9.1%

Resilience and Mindfulness

Two paired samples t tests were performed to analyze changes in mean resilience and mindfulness, as reflected from pre-test post-test CYRM and CAMM assessments. Tables 2-4 reflect results of this statistical analysis. Results of this project indicate a statistically significant change increase in mean resilience (CRYM) scores from pre intervention (M= 65.00) to post intervention (M= 69.27). A paired sample t-test revealed a t-statistic of 2.17, with df=10 (p= 0.50). The effect size was medium with a Cohen's d of -.547. There was a decrease in mean mindfulness (CAMM) scores from pre-intervention (M=19.09) to post-intervention (M=17.09).

The paired sample t-test revealed that this change was change was not significant ($t=.913$), with $df=10$ ($p=.191$).

Table 2

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CAMM1	19.09	11	6.610	1.993
	CAMM2	17.09	11	7.661	2.310
Pair 2	CYRM1	65.00	11	7.937	2.393
	CYRM2	69.27	11	7.837	2.363

Table 3

Paired Samples Test

		t	df	Significance One-Sided p	Two-Sided p
Pair 1	CAMM1 - CAMM2	.913	10	.191	.383
Pair 2	CYRM1 - CYRM2	-1.814	10	.050	.100

Table 4

Paired Samples Effect Sizes

			Standardizer ^a	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	CAMM1 - CAMM2	Cohen's d	7.266	.275	-.334	.872
		Hedges' correction	7.875	.254	-.308	.804
Pair 2	CYRM1 - CYRM2	Cohen's d	7.811	-.547	-1.172	.101
		Hedges' correction	8.465	-.505	-1.081	.093

Student Long Term Questionnaire

Of the eleven students eligible for inclusion in the final sample data, all eleven participated in the long-term student questionnaire. Results from the Student Questionnaire are illustrated in Table 5. Most students reported being either strongly satisfied (27.3%) or strongly satisfied (54.5%) with the L2B program. Of the final sample, the majority reported that they cope with stress somewhat better than before (72.7%) and two reported coping much better than before (18.2%). Over half of the participants reported being somewhat more in control of their emotions (54.5%) and one reported feeling much more in control than before (9.1%). When asked “do you intend to use mindfulness practices you learned in the program in the future”, 90.9% of the sample stated “Yes”. Most participants reported having used learned mindfulness techniques outside of the L2B setting (81.3%). When asked about how often they use mindfulness techniques they learned during the program, the distribution was as follows: only in L2B class (18.2%), once a week (36.4%), about 2-5 times per week (27.3%), and every day of the week (18.2%). Lastly, the top favorite mindfulness practices reported by participants were Eating Mindfully and Mindfulness of Thoughts.

Table 5

Frequency Tables

1. Overall, how satisfied are you with the L2B program?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	1	9.1	9.1	9.1
	Neither satisfied nor dissatisfied	1	9.1	9.1	18.2
	Satisfied	3	27.3	27.3	45.5
	Strongly Satisfied	6	54.5	54.5	100.0
	Total	11	100.0	100.0	

2. Overall, describe how you feel you cope with stresses in life now compared to before the L2B program.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difference	1	9.1	9.1	9.1
	I cope somewhat better	8	72.7	72.7	81.8
	I cope much better than before	2	18.2	18.2	100.0
	Total	11	100.0	100.0	

3. Overall, describe your ability to be in control of your emotions during difficult situations in life NOW compared to before the L2B program.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difference	4	36.4	36.4	36.4
	Somewhat more in control	6	54.5	54.5	90.9
	I feel much more in control than before	1	9.1	9.1	100.0
	Total	11	100.0	100.0	

4. Do you intend to use mindfulness practices you learned in the program in the future?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No-Do not intend to use learned mindfulness	1	9.1	9.1	9.1
	Yes- Intend to use learned mindfulness	10	90.9	90.9	100.0
	Total	11	100.0	100.0	

5. Have you used any of the mindfulness practices learned in the program outside of the L2B program setting?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No- Have not used	2	18.2	18.2	18.2
	Yes- Have used	9	81.8	81.8	100.0
	Total	11	100.0	100.0	

6. How often do you practice mindfulness outside you learned in the L2B program?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Only in L2B class	2	18.2	18.2	18.2
	Once a week	4	36.4	36.4	54.5
	About 2-5 times per week	3	27.3	27.3	81.8
	Every day of the week	2	18.2	18.2	100.0
	Total	11	100.0	100.0	

Qualitative Data

Two open ended qualitative questions were included on the Student Questionnaire. Participants were given the opportunity to give suggestions for making the mindfulness program better in the future at HAFK. Of the eleven participants, eight replied. Three participants suggested changing nothing. Three participants proposed more activities and exercises. One student suggested shorter lessons, and another recommended more mindful eating. Secondly, they were asked if they had any suggestions for bringing mindfulness into everyday activities at Hope Academy, of which seven students responded. No common themes were identified among responses. One student recommended letting the kids breathe before starting weekly group time to help them pay more attention.

Staff Questionnaire

The Staff Questionnaire was distributed to the ED, the Highschool Youth Coordinator, and the High School youth Mentor at HAFK. All staff returned responses, making the response rate 100%. When staff were asked “what changes have you observed in students behaviors” and “what changes have you observed in students abilities to adapt to and handle stress or stressful life events since implementation of the L2B program”, responses can be categorized into individual and group focused responses. Individual responses focused on student specific

observations. Responses included “they are happier”, “kind to themselves”, “are more appreciative of things”, and have “improved coping skills”. Responses focused on the sample group as a whole included that the group has “gotten closer” and “are spending more time together as a group”. One staff member stated she witnessed a student current another kindly. All responses were categorized as positive.

When asked if the program was feasible to continue yearly at HAFK, 100% of respondents answered “YES”. When asked if mindfulness practices should be incorporated into everyday operations and culture at HAFK, 100% of staff again responded “YES”.

Fidelity

Fidelity checklists were filled out after 100% of the L2B sessions by both the student facilitator and one HAFK staff member that was present for the session, but not involved in L2B facilitation. The data indicated there was agreement between all for 100% of the sessions. Regarding all mandatory content, the intervention was implemented with 100% fidelity. The facilitator abided by all trauma informed curriculum suggestions during implementation.

Discussion

Summary

The overarching purpose of this project was to evaluate the implementation of a mindfulness-based intervention (MBI) in an afterschool program to increase resilience and mindfulness in the adolescent population at HAFK. The results of this QI project demonstrated that students receiving the L2B intervention had statistically significant improvements in self-reported resilience. This result corresponds with anticipated effects of the project intervention and is congruent with existing literature (Felver et al., 2018).

Unexpectedly, students simultaneously demonstrated a decrease in self-reported mindfulness. This 10.5% decrease in mean CAMM scores may be attributed to students being

more mindful and engaged during post-intervention assessments, therefore demonstrating more emotional awareness in their self-reported answers. The result could also be the impact of a small sample size. Having to postpone post-intervention assessment by one week could be an attributing factor. Lastly, in the at-risk population HAFK serves, the six-week version of L2B may not have provided necessary “dosage effects” of MBI to elicit significant changes in mindfulness scores (Felver et al., 2018).

Results of the long-term Student Questionnaire indicated that the majority of students demonstrated long-term use of learned mindfulness techniques one month after the intervention. Secondly, most students indicated intent to continue use of learned mindfulness techniques in the future. Most of the students self-reported coping somewhat better to much better than prior to the intervention. Lastly, the vast majority of students self-reported feeling somewhat more to much more in control of their emotions after the L2B intervention.

Results of this quality improvement project contribute to existing literature on the use of MBIs to increase adolescent resilience in a nonclinical setting. By evaluating effects on the 6-session Learning to Breathe program on self-reported resilience and mindfulness, results of this project add to the evidence base of use of L2B to increase resilience. Results of this project demonstrate the feasibility of incorporating Social Emotion Learning interventions into after school programs. The relatively low budget and time constraints required to implement this mindfulness intervention is favorable for non-profit and school-based providers seeking to implement interventions to increase resilience, impacting Healthy People 2030 objectives (US Department of Health and Human Services, n.d.).

Limitations

This project had several limitations. First, the sample size (n=11) was small, therefore not generalizable to the overall population. The sample was comprised of no 12th graders. Lastly,

sample was not equally distributed in terms of gender (72.7% female). Long term evaluation took place one month after the intervention, limiting generalization of Student Questionnaire data. Adherence to suggested L2B home practices what not measure in this sample. Future projects should address measurement of student adherence to home practice, which may skew intervention effectiveness. This project also relied solely on self-reported measures of resilience and mindfulness, a limitation noted in previous literature (Felver et al., 2018).

Project Continuation

This QI project demonstrated feasibility in the afterschool setting and is sustainable to continue at HAFK in the future. Per verbal agreement between the student facilitator and the HAFK director, this project will be continued by the student facilitator for another 2 years, allowing for HAFK to allocate a staff member to be trained in facilitation. In pre- and post-intervention assessment of resilience and mindfulness should be continued to evaluate consistency of results. Long term assessment should be extended to assess if changes are sustained across time. The project facilitator recommends implementation of the program at other HAFK locations in the same population to ensure consistency of results.

The student project facilitator suggests HAFK incorporate mindfulness into everyday culture and operations. Ways this could occur include allowing students a few minutes to breathe and have a brief mindfulness practice prior to start of group time, mindful eating exercise during snack time, and creating a mindfulness corner for students to have a safe place to practice mindfulness if they are feeling stressed. Planning of Spring 2024 implementation will occur in Fall of 2023 at HAFK, and will be addressed by the student facilitator, the HAFK ED, and Youth Coordinator.

Conclusion

Mindfulness based interventions demonstrate promising results in the literature for improving resilience in the adolescent population. Learning to Breathe (L2B) is one such MBI that supports resilience and exhibits feasibility in after school and school-based settings. Increasing adolescent resilience can positively impact mental health outcomes in the future. Universal prevention efforts like L2B decrease mental health issues and increase access to mental health interventions in the nonclinical setting, with the potential to decrease the mental health burden on the healthcare system. Results of this quality improvement project contribute to the body of literature on use of MBIs to address adolescent resilience and supports use of Learning to BREATHE as a feasible intervention in the after-school setting.

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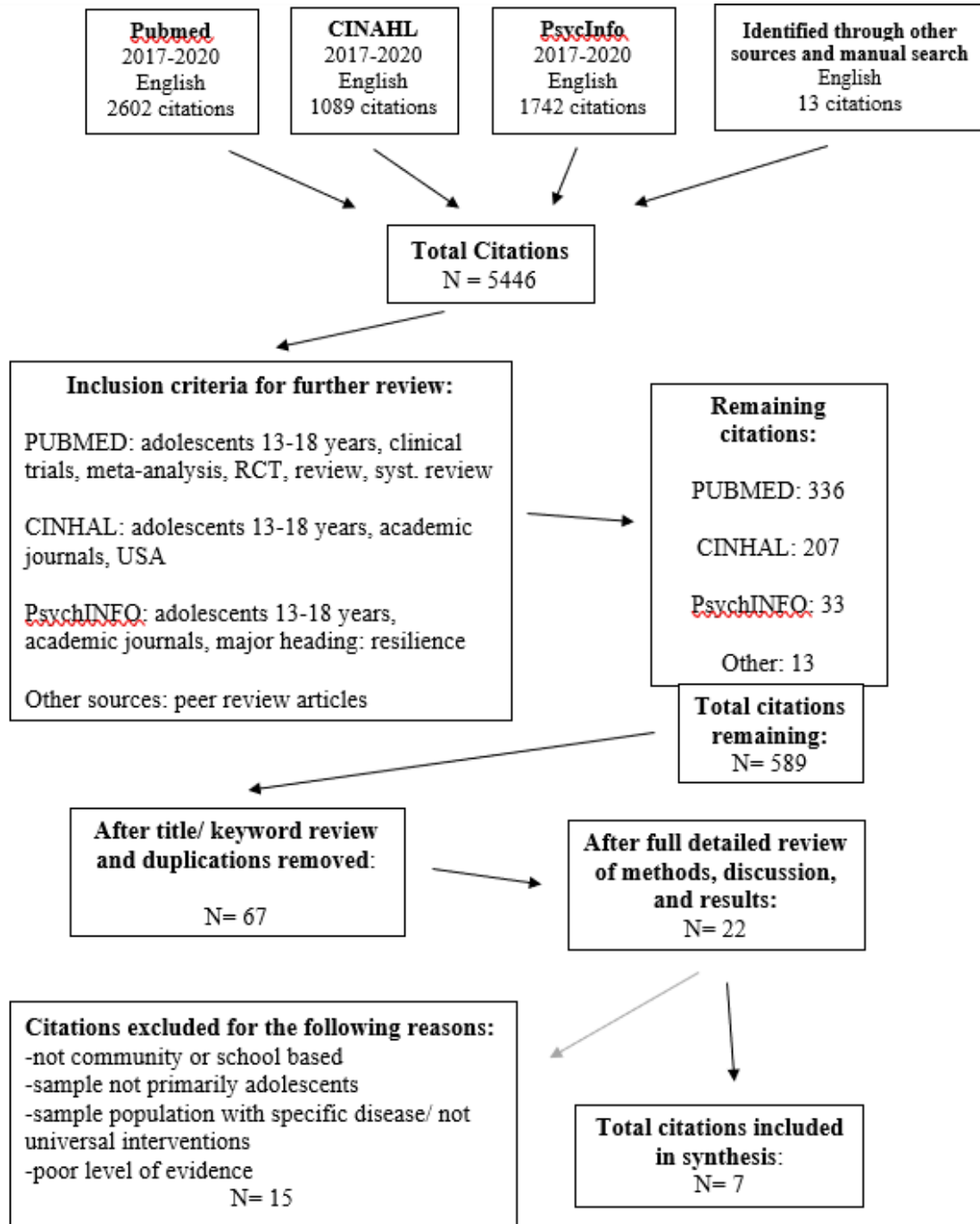
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Appendix A

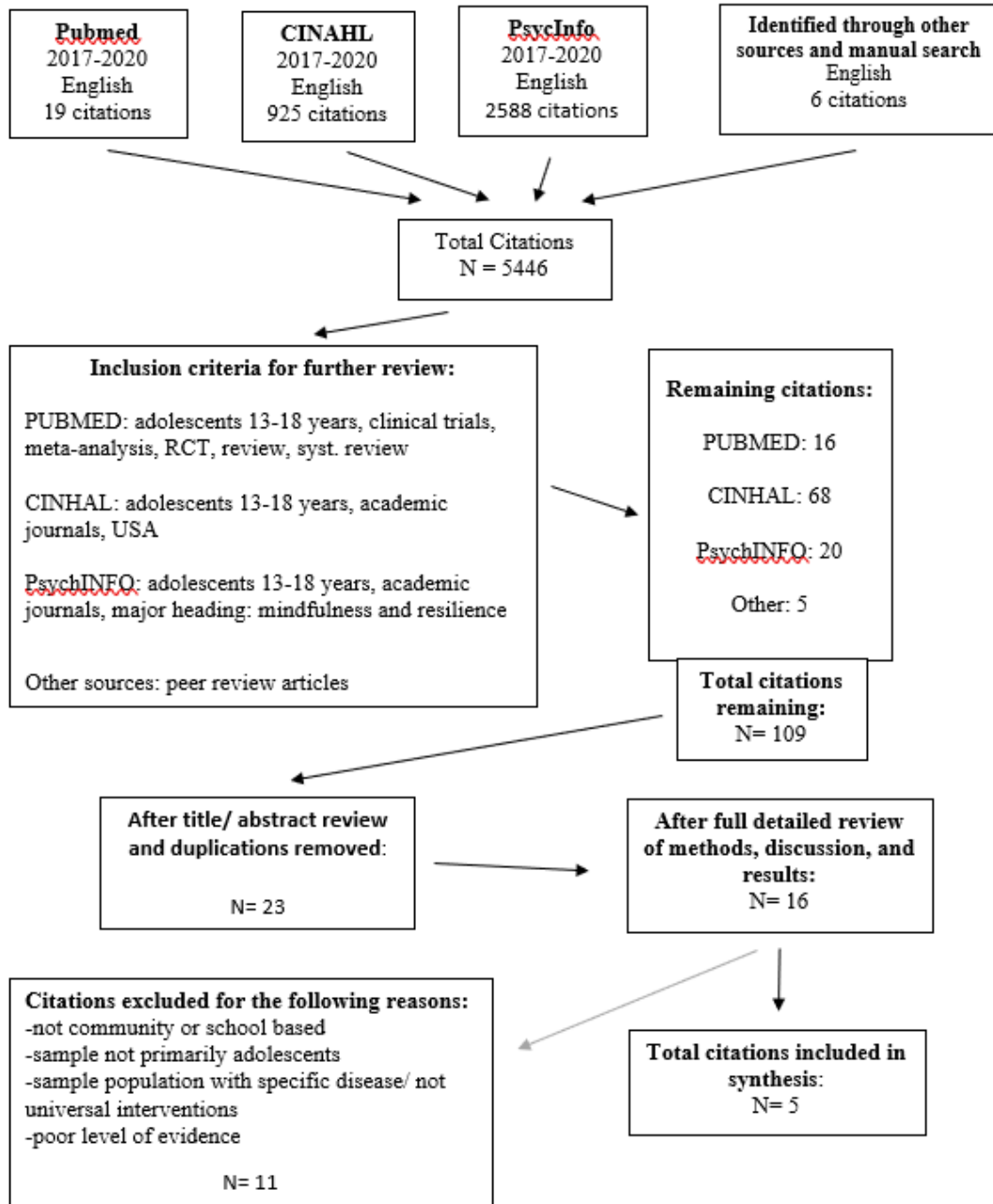
PRISMA Chart- Resilience



Appendix A: PRISMA Chart for original resilience literature search

Appendix B

PRISMA Chart- Mindfulness



Appendix B: PRISMA Chart for secondary Mindfulness literature search

Appendix C

Facilitator Training Certificates



Appendix C: Facilitator Mindfulness-Based Stress Reduction Certificate

Appendix C (continued)



Appendix C (continued): Facilitator Learning to BREATHE certificate

Appendix D

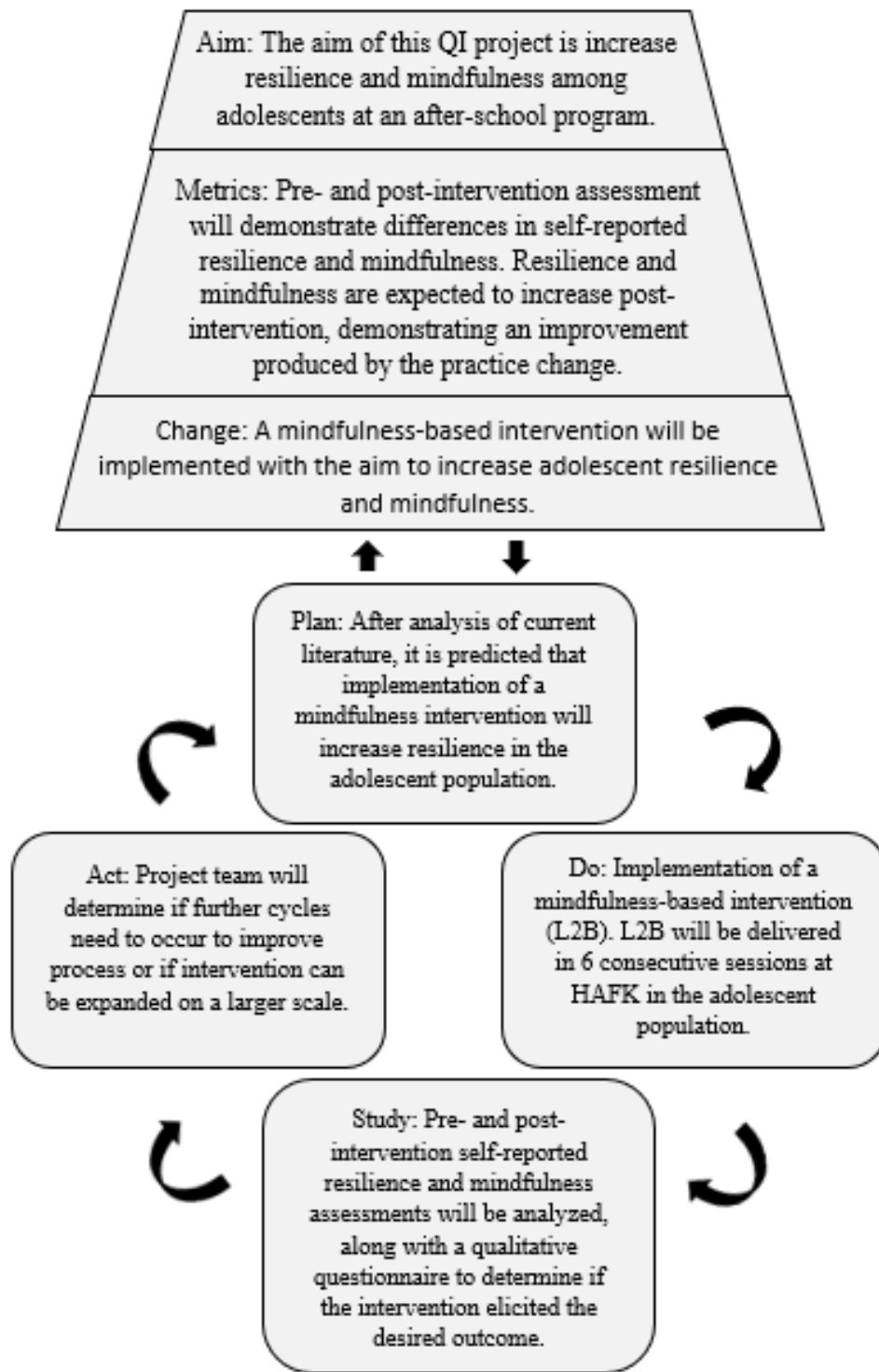
Smart Objectives and Outcomes

SMART Objectives:	Outcome Measurements:	Project results:
<p>SHORT TERM GOALS: Intervention implementation</p> <ul style="list-style-type: none"> i. In January 2023, 90% of parents of students grade 9-12 at Hope Academy for Kids (HAFK) will consent to student participation in a mindfulness-based intervention. ii. From January 2023 to April 2023, a mindfulness-based intervention will be administered to 90% of adolescent students grade 9-12 at HAFK. 	<ul style="list-style-type: none"> i. 90% of parents will sign written consent for student participation in a mindfulness- based intervention at HAFK. ii. On the third through eighth Friday of the spring school semester for Hardin County Schools, six consecutive 45-minute <i>Learning to BREATHE</i> sessions will be performed per the L2B curriculum to students grade 9-12 at HAFK. Attendance will be taken for each session to ensure student participation in all 6 sessions. 	<ul style="list-style-type: none"> i. Objective Met. ii. Objective met.
<p>INTERMEDIATE GOALS: Student outcomes</p> <ul style="list-style-type: none"> i. After completion of <i>Learning to BREATHE</i> intervention, HAFK students will demonstrate a 10% or greater improvement in resilience measures. ii. After completion of <i>Learning to BREATHE</i> intervention, HAFK students will demonstrate a 10% or greater improvement in mindfulness measures. 	<ul style="list-style-type: none"> i. Pre- and Post- intervention assessment of self-reported resilience will be measured using the Child and Youth Resilience Measure (CYRM). ii. Pre- and Post- intervention assessment of self-reported mindfulness will be measured using the Child and Adolescent Mindfulness Measure (CAMM). 	<ul style="list-style-type: none"> i. Objective met. ii. Objective NOT met.
<p>LONG TERM GOALS: Change in behavior</p> <ul style="list-style-type: none"> i. By end of project period, 25% of students will self-report use of learned mindfulness-based techniques outside of the <i>Learning to BREATHE</i> session setting. ii. By end of project period, 25% of students will self-report intent to continue to use learned mindfulness-based techniques outside of the L2B session setting. 	<ul style="list-style-type: none"> i. In April 2023, students will fill out a self-reported questionnaire. 25% of students will report practicing learned mindfulness-based techniques in a real-life situation. ii. In April 2023, students will fill out a self-reported questionnaire. 25% of students will report intent to continue use of mindfulness-based techniques in a situation outside of the L2B session setting. 	<ul style="list-style-type: none"> i. Objective met. ii. Objective met.

Appendix D: Smart objectives and outcomes for the QI project

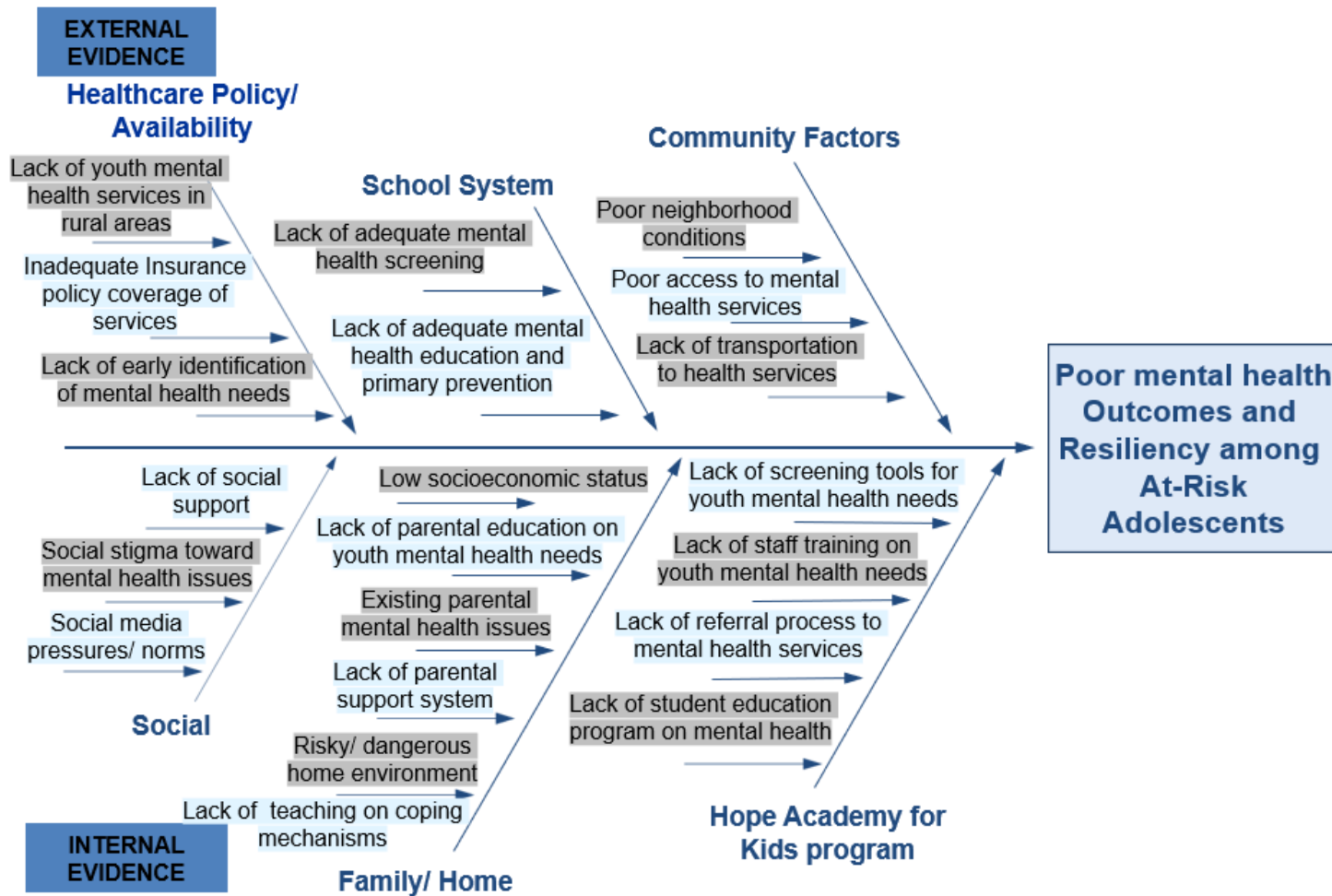
Appendix E

PDSA Cycle



Appendix E: Model for Improvement PDSA Cycle (Langley et al., 2009)

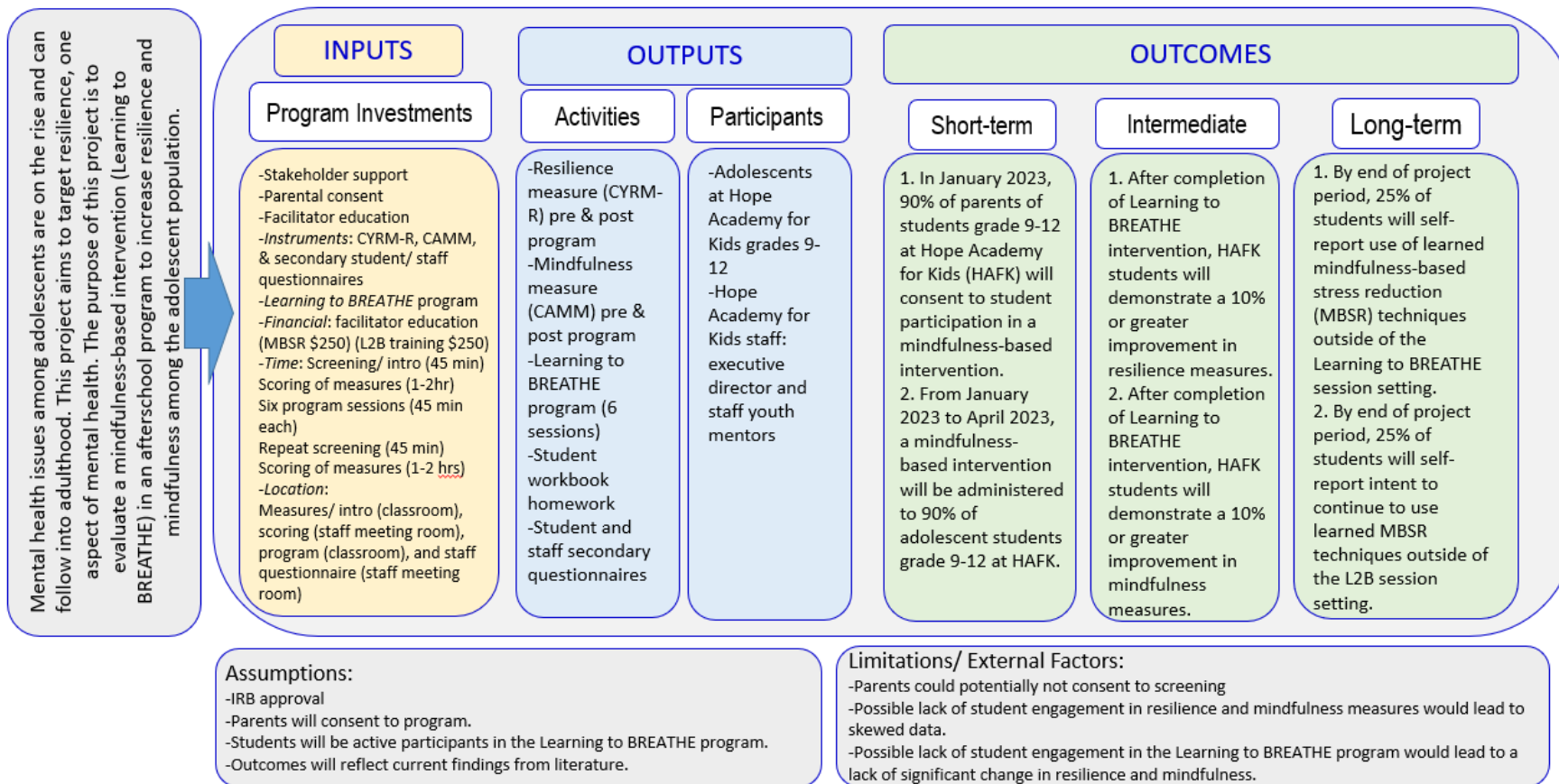
Appendix F
Fishbone Diagram



Appendix F: Fishbone Diagram

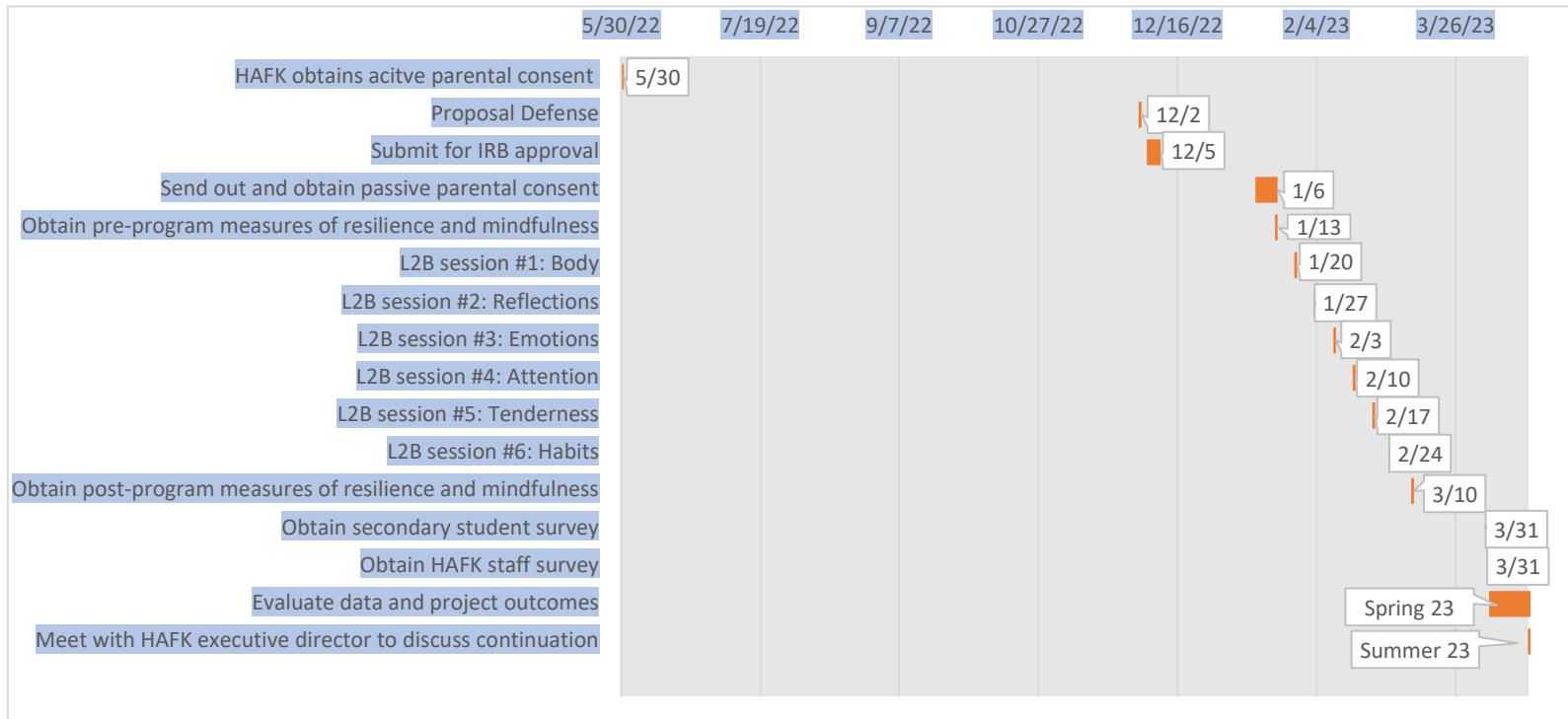
Appendix G
Logic Model

Logic Model: Evaluation of Implementation of a Mindfulness Intervention to Increase Adolescent Resilience in an After-school Program: A Quality Improvement Project



Appendix H

Gantt Chart



Appendix H: Gantt Chart project timeline

Appendix I
Project Budget

Activities	Expenses (\$)	
	Item Cost	Total
Email to Executive Director of HAFK for project approval	0	0
Facility fees (paid by HAFK as part of monthly rent - for time for project)		
Facility rented by HAFK for \$150/4hr day (37.5/hr)	37.5 x 3 hours	112.5
1. Screening time (3 hours over 3 sessions)	37.5 x 1 hours	37.5
2. Scoring time (1 hr)	37.5 x 6 hours	225
3. Learning to BREATHE program time (six 1 hr sessions)		
Classroom for student screening	0 (Facility provided)	0
Classroom for Learning to BREATHE program	0 (Facility provided)	0
Office for scoring screening tools	0 (Facility provided)	0
Facilitator Mindfulness Based Stress Reduction Training	250 (via Davis Behavioral Health)	250
Facilitator Learning to BREATHE training	350 (via Davis Behavioral Health)	350
Copies for screening students (15 current students grades 9-12)		
-Child and Youth Resilience Measure	0.19 x 15 students= 2.85	2.85
-The Child and Adolescent Mindfulness Measure	0.19 x 15 students= 2.85	2.85
Copies for secondary questionnaires		
-Student Questionnaire (2 pages)	0.19 x 15 students x 2 pages= 5.7	5.7
-Staff Questionnaire (1 page) to 4 staff members	0.19 x 4 staff= 0.76	0.76
Fidelity Checklists (2 copies per session)	0.19 x 2 copies x 6 sessions	2.28
Copies of student workbooks (each workbook 30 pages per student)	0.19 x 30 x 15 students	85.5
Student supplies: <i>(based on current prices on Amazon.com, subject to change)</i>		
1. Pencils (pack of 36)	1. 5.99	5.99
2. blue stickers for 3 mindful dots	2. 5.79	5.79
3. index cards (pack of 100)	3. 3.29	3.29
4. large chart paper	4. 10.72	10.72
5. pack of white construction paper	5. 3.99	3.99
6. dried raisins	6. 5.99	5.99
7. napkins (pack of 250)	7. 5.99	5.99
8. meditation bell	8. 13.97	13.97
9. name tag stickers (pack of 100)	9. 3.65	3.65
10. roll of blue painters' tape	10. 5.79	5.79
11. letter paper and envelope set (pack of 30)	11. 10.99	10.99
Time for DNP student to facilitate Learning to BREATHE, screening, scoring, and analyzing data	0 <i>(If charging an APRN in the future, \$648 (\$54/hr for 12 hours))</i>	0
Time (total 9 hours for education assistance with screening and program facilitation) paid Youth Coordinator	15 per hour x 9 hrs	135
Time (total 2.5 hours for education assistance with screening and program facilitation) 2 unpaid volunteer staff	0	0
Copyright for Child and Youth Resilience Measure, Child and Adolescent Mindfulness Measure, and use of Learning to BREATHE materials * permission granted without fees	0	0
Total expenses:		\$1,286.10
Potential losses in revenue:	-Supply costs -Payment for paid employees	
Potential gains in revenue:	-Improved quality of services -Improved student quality of life and coping skills -Opportunities for grants and increased funding in future for HAFK.	

Appendix I: Proposed project budget

Appendix J

Consent Form

PASSIVE Parental Permission Form

Project Title: Implementation of a Mindfulness Intervention to Increase Adolescent Resilience in an After-school Program

Principal Facilitator: Katie Thomas, BSN, RN

Project Purpose

Your student is being asked to participate in a quality improvement project at Hope Academy for Kids titled "Implementation of a Mindfulness Intervention to Increase Adolescent Resilience in an After-school Program" This project is being conducted by Katie Thomas, a student in the Doctorate Nurse Practitioner program at the University of Louisville. We are writing to ask if you give your permission for your student to participate in the program and pre- and post-program surveys. We will also ask your student if he or she agrees to participate in the project.

Mindfulness awareness practice has been shown to have positive effects on physical and emotional health and is a promising approach to increasing resilience in adolescents. The purpose of the project is to evaluate the implementation of a mindfulness-based intervention. The intervention goal is to increase resilience and mindfulness in the adolescent population (grades 9 through 12) at Hope Academy for Kids.

Project Procedure

Your student will participate in a 6-session curriculum called "Learning to BREATHE". The class will take place at Hope Academy for Kids from January 13th to March 3rd.

The program lasts for 6-weeks. In each session your student will do different activities and mindfulness practice that make the attention stronger. Mindfulness practice uses the breath to help focus attention. Your student will also learn ways to keep his or her mind focused.

If your student is in the program, we will ask your student to fill out some questionnaires that ask about different things in his or her life. For instance, there are questions about handling stress and about emotions.

We will ask your child to do the questionnaires three different times. The first time will be the week before your student starts the program. The second time will be one week following the last program session. The 3rd time will be 1 month after the second questionnaire. Each of these three assessments will take place at Hope Academy for Kids and will take about 30 minutes. Staff at Hope Academy also fill out a questionnaire about how your student is behaving and handling stress. This will not affect how he or she is treated by the Hope Academy staff.

We will also get some information from Hope Academy on your student, including his or her gender and grade level.

All your student's answers on the questionnaires, as well as information from their records, will be private. We will code them with a code number (no names) to help keep them private.

Project Risks

This study involves only minimal risks. There is a very small risk that your student may find it distressing to fill out the questionnaires. If this should happen, your student is free not to answer any questions or do any tasks that make him or her uncomfortable. In previous studies, students have not tended to find the questionnaires or tasks distressing.

Project Benefits

We hope that the program will be enjoyable for your student and will also have positive effects on his or her emotional health. Student will learn valuable tools for reducing stress and improving overall mental wellbeing. This class has been held many times before in a variety of settings, and adolescents have had a lot of fun.

Participation is Voluntary

Your student does not have to be in the program, *and you are free not to give your consent if you are not comfortable with the program*. It will not affect your student's status at Hope Academy for Kids in any way if he or she does not participate. In addition, if your student participates in the program, he or she can choose to leave the program at any time with no penalty.

If you have any questions about the program at any time, you can contact Nelle Thomas (Executive Director at Hope Academy for Kids) or Katie Thomas (Mindfulness Program Facilitator). If you have questions about your child's rights in this program or specifics about questionnaires, please reach out.

If you DO NOT want your student to take part in the survey, check the box, sign and date the form and return the form to Hope Academy for Kids no later than January 13th, 2023. Signature and return of this form will dismiss your student from program and questionnaire participation.

**If you have no objection to your student taking part in the program and surveys, you should do nothing with this form. Please keep one copy of this form for your records.*

Katie Thomas, BSN, RN
University of Louisville
502-418-2862
Kdthom22@louisville.edu

Student Name: _____

[] **I DO NOT** give permission for my student to participate in the mindfulness program or questionnaire involved.

Parent/ Guardian Name (Printed): _____

Parent/ Guardian Signature: _____

Phone Number: _____ Date: _____

Appendix K

Participation Tracker

Participant ID #	Intro/ Pre-program measures	L2B session #1	L2B session #2	L2B session #3	L2B session #4	L2B session #5	L2B session #6	Post-program measures	Secondary student survey	Include in Data analysis	Reason for exclusion
001	X	X	X	X	X	X	X	X	X	YES	
002	X	X	X	X	X	X	X	X	X	YES	
003	X	X	X	X	X	X	X	X	X	YES	
004	X	O	X	X	X	O	X	X	X	NO	Absent for 2 sessions
005	X	X	X	X	X	X	O	X	X	YES	
006	X	X	X	X	X	X	X	X	X	YES	
007	X	X	X	X	X	X	X	X	X	YES	
008	X	X	X	X	X	O (1/2)	X	X	X	YES	
009	X	O	X	X	X	X	X	X	X	YES	
010	X	X	X	X	O (1/2)	X	X	X	X	NO	Spanish speaking, required translator
011	X									NO	Dropped out of Hope Academy
012	X	X	X	X	X	X	X	X	X	YES	
013	X	X	X	X	O	X	X	X	X	YES	
014	X	X	X	X	X	X	X	X	X	YES	

Appendix K: Student program participation tracker

Appendix L

Child and Youth Resilience Measure



Child & Youth Resilience Measure-Revised (CYRM-R)

CYRM-R						
To what extent do the following statements apply to you? There are no right or wrong answers.						
		Not at all [1]	A little [2]	Somewhat [3]	Quite a bit [4]	A lot [5]
1	I get along with people around me	1	2	3	4	5
2	Getting an education is important to me	1	2	3	4	5
3	I know how to behave/act in different situations (such as school, home and church)	1	2	3	4	5
4	My parent(s)/caregiver(s) really look out for me	1	2	3	4	5
5	My parent(s)/caregiver(s) know a lot about me (for example, who my friends are, what I like to do)	1	2	3	4	5
6	If I am hungry, there is enough to eat	1	2	3	4	5
7	People like to spend time with me	1	2	3	4	5
8	I talk to my family/caregiver(s) about how I feel (for example when I am hurt or sad)	1	2	3	4	5
9	I feel supported by my friends	1	2	3	4	5
10	I feel that I belong/belonged at my school	1	2	3	4	5
11	My family/caregiver(s) care about me when times are hard (for example if I am sick or have done something wrong)	1	2	3	4	5
12	My friends care about me when times are hard (for example if I am sick or have done something wrong)	1	2	3	4	5
13	I am treated fairly in my community	1	2	3	4	5
14	I have chances to show others that I am growing up and can do things by myself	1	2	3	4	5
15	I feel safe when I am with my family/caregiver(s)	1	2	3	4	5
16	I have chances to learn things that will be useful when I am older (like cooking, working, and helping others)	1	2	3	4	5
17	I like the way my family/caregiver(s) celebrates things (like holidays or learning about my culture)	1	2	3	4	5

Appendix L: Child & Youth Resilience Measure-Revised (Jefferies et al., 2018)

Appendix M

Child and Adolescent Mindfulness Measure

Child and Adolescent Mindfulness Measure (CAMM)

We want to know more about what you think, how you feel, and what you do. **Read** each sentence. Then, circle the number that tells **how often** each sentence is true for you.

	Never True	Rarely True	Sometimes True	Often True	Always True
1. I get upset with myself for having feelings that don't make sense.	0	1	2	3	4
2. At school, I walk from class to class without noticing what I'm doing.	0	1	2	3	4
3. I keep myself busy so I don't notice my thoughts or feelings.	0	1	2	3	4
4. I tell myself that I shouldn't feel the way I'm feeling.	0	1	2	3	4
5. I push away thoughts that I don't like.	0	1	2	3	4
6. It's hard for me to pay attention to only one thing at a time.	0	1	2	3	4
7. I get upset with myself for having certain thoughts.	0	1	2	3	4
8. I think about things that have happened in the past instead of thinking about things that are happening right now.	0	1	2	3	4
9. I think that some of my feelings are bad and that I shouldn't have them.	0	1	2	3	4
10. I stop myself from having feelings that I don't like.	0	1	2	3	4

Appendix M: Child and Adolescent Mindfulness Measure (Greco et al., 2011)

Appendix N

Student Questionnaire

Mindfulness Program Student Questionnaire

Instructions: Please pick the response that best fits your experience over the course of the Learning to BREATHE program experience.

1. Overall, how satisfied are you with the L2B program?	Strongly dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Strongly satisfied
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Overall, describe how you feel you cope with stresses in life now compared to before the L2B program	I cope much worse than before	I cope somewhat worse	No difference	I cope somewhat better	I cope much better than before
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Overall, describe your ability to in control of your emotions during difficult situations in life NOW compared to before the L2B program.	I feel much less in control than before	Somewhat less in control than before	No difference	Somewhat more in control	I feel much more in control than before
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Do you intend to use mindfulness practices you learned in the program in the future?	NO	YES
	<input type="radio"/>	<input type="radio"/>

5. Have you used any of the mindfulness practices learned in the program outside of the L2B program setting?	NO	YES
	<input type="radio"/>	<input type="radio"/>

6. How often do you practice mindfulness outside you learned in the L2B program?	Only in the L2B class	Once a week	About 2-5 times a week	Every day of the week	Other: (Leave answer below)
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other: _____

7. Which practice learning during the L2B program do you find the most useful? (Circle your response)

- a) Body scan
- b) Three Mindful Breathes
- c) Eating Mindfully
- d) Mindfulness of Thoughts
- e) Mindfulness of Feelings
- f) Mindful Movement and/or Mindful Walking
- g) Loving Kindness
- h) Compassion for Self and Others (Person Just Like Me)
- i) Session Group Discussions

8. What suggestions (if any) do you have to make the mindfulness program at Hope Academy better in the future?

9. What suggestions (if any) do you have for bringing mindfulness into everyday activities/ curriculum at Hope Academy?

Appendix O

Staff Questionnaire

Mindfulness Program Staff Questionnaire

1. What changes (if any) have you observed in students' behaviors since implementation of the L2B program?

2. What changes (if any) have you observed in students' abilities to adapt to and handles stress or stressful life events since implementation of the L2B program?

3. Is the L2B program feasible to continue yearly at HAFK in the future?
No ___ Yes ___ Why/ why not?

4. Should mindfulness practices be incorporated into everyday operations / culture at HAFK?
No ___ Yes ___ Why/ why not?

5. Suggestions for integration of mindfulness into everyday operations/ culture at HAFK:

6. Suggestions for continuation of the L2B program at HAFK in the future:

Appendix O: Post- mindfulness program staff questionnaire

Appendix P

Approval for Use of L2B

 Reply
  Reply all
  Forward
  Archive
  Delete
  Set flag

From: Trish Broderick <broderickl2b@gmail.com>
Sent: Saturday, February 19, 2022 2:52:43 PM
To: Thomas,Katie Diane <katie.thomas@louisville.edu>
Subject: Re: L2B training and program questions

CAUTION: This email originated from outside of our organization. Do not click links, open attachments, or respond unless you recognize the sender's email address and know the contents are safe.

Hi Katie,

This sounds good, and you do have my permission to use the curriculum for your project. I need to ask that you do not make copies of the curriculum for distribution per New Harbinger's fair use policy.

I've looked for my parent permission samples, but these are the only ones I can find on short notice. Will they work for you? You certainly may adapt these for your purposes.

Best of luck to you!
Warmly,
Trish

On Fri, Feb 18, 2022 at 4:07 PM Thomas,Katie Diane <katie.thomas@louisville.edu> wrote:

Good afternoon,

As previously stated, I am planning a quality improvement project at Mission Hope for Kids in Elizabethtown, KY implementing the Learning to BREATHE program to improve adolescent resilience. This project will occur in spring 2023. I am a doctorate nurse practitioner student. I will be facilitating the program. I will be receiving training through Davis Behavioral Health, taking the MBSR course in March 2022 and the L2B teacher course in July 2022.

Upon completion of these courses, I am requesting official permission to use the L2B second edition curriculum in this project. If you would like more information, I can send you my project proposal at the end of April.

Secondly, I would like to inquire if you all have any sample consent forms for use of the L2B program? Thank you.

Katie Thomas, BSN, RN
DNP student
University of Louisville

Get [Outlook for Android](#)

Appendix P: Approval from author for use of L2B curriculum and consent adaptation

Appendix Q

Approval for Use of the CYRM-R

Re: Use of the CYRM-R youth for a quality improvement project



Resilience Research Centre <rrc@dal.ca>
10:22 AM



To: Thomas, Katie Diane

CAUTION: This email originated from outside of our organization. Do not click links, open attachments, or respond unless you recognize the sender's email address and know the contents are safe.

Hi Katie,

Unfortunately, we no longer use that form. However, the project manager suggested there are sample forms that appear to be appropriate for students in the US at the following link::
<https://irb.ucsf.edu/consent-and-assent-form-templates>

You have permission to use the CYRM-R Youth version for your assessment.

Thank you,
Paul McGuinness
Operations Manager

Resilience Research Centre

School of Social Work

Dalhousie University

6420 Coburg Road

P.O. Box 15000

Halifax, NS, Canada B3H 4R2

(902) 494-3050

www.resilienceresearch.org

Appendix Q: Approval from the Resilience Research Centre for use of the CYRM-R

Appendix R

Approval for Use of the CAMM

AMERICAN PSYCHOLOGICAL ASSOCIATION LICENSE TERMS AND CONDITIONS

Mar 01, 2022

This Agreement between Katie Thomas ("You") and American Psychological Association ("American Psychological Association") consists of your license details and the terms and conditions provided by American Psychological Association and Copyright Clearance Center.

The publisher has provided special terms related to this request that can be found at the end of the Publisher's Terms and Conditions.

License Number	5257771283080
License date	Feb 28, 2022
Licensed Content Publisher	American Psychological Association
Licensed Content Publication	Psychological Assessment
Licensed Content Title	Assessing mindfulness in children and adolescents: Development and validation of the Child and Adolescent Mindfulness Measure (CAMM).
Licensed copyright line	Copyright © 2011, American Psychological Association
Licensed Content Author	Greco, Laurie A.; Baer, Ruth A.; Smith, Gregory T.
Licensed Content Date	Sep 1, 2011
Licensed Content Volume	23
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Type of Use	Manner not listed
Requestor type	Academic institution
Portion	Measure, scale or instrument
Portions	APPENDIX A Child and Adolescent Mindfulness Measure

Appendix R: Approval from the APA for use of the CAMM

Appendix S

Summary of Project Variables

Variable	Level of Measurement	Use	Measurement	Evaluation Plan
Identifier/ ID #	Nominal	Identifier		
Age	Ratio	Descriptive	Age in years	-Frequency -Central tendency
Gender	Nominal	Descriptive	(1=Male or 2=Female)	-Frequency
Grade	Ordinal	Descriptive	(1=9 th , 2=10 th , 3=11 th , 4= 12 th)	-Frequency -Central tendency
Previous Mindfulness experience	Nominal	Descriptive	Self-reported (1=yes or 2=no)	-Frequency
<i>Learning to BREATHE program</i>		Independent variable		
<i>Resilience</i>	Interval	Outcome/ Dependent variable	Pre-/ Post-intervention CRYM-R summed score	-Paired t test
<i>Mindfulness</i>	Interval	Outcome/ Dependent variable	Pre-/ Post-intervention CAMM summed score	-Paired t test
Program satisfaction	Ordinal	Descriptive	Post-intervention Likert scale 1=strongly dissatisfied 5=strongly satisfied	-Frequency -Central tendency
Ability to cope with stress post-program	Ordinal	Descriptive	Post-Intervention Likert scale 1= much worse 5=much better	-Frequency -Central tendency
Ability to control emotions post-program	Ordinal	Descriptive	Post-program Likert scale 1=much worse 5=much better	-Frequency -Central tendency
Self-reported intent to use learned mindfulness practices	Nominal	Outcome	1=No 2=Yes	-Frequency
Self-reported use of mindfulness practices	Nominal	Outcomes	1=No 2=Yes	-Frequency
Self-reported use of learned mindfulness practices	Ordinal	Outcome	Post-intervention Likert scale 1=Only in L2B class 4=every day of the week	-Frequency -Central tendency

Most useful learned mindfulness practice	Nominal	Descriptive	Post-intervention 1= body scan 2= Three Mindful Breathes 3=Eating mindfully...	-Frequency
Suggestions for the mindfulness program in the future	Qualitative	Descriptive	Students report suggestions for future program use	-Qualitative analysis of common themes
Suggestions for bringing mindfulness into everyday activities at HAFK	Qualitative	Descriptive	Student reported	-Qualitative analysis

Staff observed changes in student behavior	Qualitative	Descriptive	HAFK staff report observed changes in student behavior	-Qualitative analysis of common themes
Staff observed changes in student ability to handle stress	Qualitative	Descriptive	Staff report observed changes in student resilience	-Qualitative analysis
Staff feedback on feasibility of program in the future	Nominal	Descriptive	Staff-reported 1= not feasible 2= feasible	-Frequency
Staff reported feedback on if mindfulness should be incorporated into everyday operations at HAFK	Nominal	Descriptive	Staff-reported 1=yes 2=no	-Frequency
Staff reported suggestions for integrating mindfulness into everyday operations at HAFK	Qualitative	Descriptive	HAFK staff report suggestions for how mindfulness can be integrated into the everyday operations and culture at HAFK	-Qualitative analysis of common themes
Staff reported suggestions for continuation of L2B at HAFK	Qualitative	Descriptive	Staff reported suggestions for continuing the L2B program in the future	-Qualitative analysis

Appendix S: Summary of level of measures, use, measurement, and evaluation plan of data

Appendix T

Fidelity Checklist

Learning to Breathe	Fidelity Checklists	
L2B Fidelity Checklist: B Theme		
Domain 1. Planning, Organization, and Coverage of Session Curriculum	Score	Notes
<ul style="list-style-type: none"> The setting is conducive to the class (e.g., room is simple and neatly arranged; chairs are arranged in a circle; yoga mats or cushions may be available, etc.). 		
<ul style="list-style-type: none"> Materials are prepared in advance to facilitate the flow of the lesson (e.g., handouts and writing materials are available and easily accessible). 		
<ul style="list-style-type: none"> Class follows a three-part structure (begins with mindfulness practice, includes activities and discussion, and ends with mindfulness practice). 		
<ul style="list-style-type: none"> Individual elements of the lesson are taught in the correct order so that the logic of the lesson develops in a meaningful way. 		
<ul style="list-style-type: none"> Activities and practices are presented clearly, accurately, and in accordance with the instructions in the curriculum. Teacher demonstrates an understanding of the lesson themes and the rationale for each. 		
<ul style="list-style-type: none"> ✓ <i>Introduction and rationale for program</i> 		
<ul style="list-style-type: none"> ✓ <i>Introductory class practice (for any B lessons that follow the first session, as there is no introductory mindfulness practice in the very first lesson)</i> 		
<ul style="list-style-type: none"> ✓ <i>Class guidelines and poster letter</i> 		
<ul style="list-style-type: none"> ✓ <i>Mindful listening activity</i> 		
<ul style="list-style-type: none"> ✓ <i>Definition of mindfulness with discussion of elements: paying attention on purpose, in the present moment, and without judgment</i> 		
<ul style="list-style-type: none"> ✓ <i>My Mindful/Mindless Life (workbook page)</i> 		
<ul style="list-style-type: none"> ✓ <i>Eating Mindfully (or Sense Doors, etc.)</i> 		
<ul style="list-style-type: none"> ✓ <i>Basic breath awareness</i> 		
<ul style="list-style-type: none"> ✓ <i>Body Scan</i> 		
<ul style="list-style-type: none"> ✓ <i>Homework discussion</i> 		
<ul style="list-style-type: none"> ✓ <i>Mindfulness in My Life (home practice)</i> 		
<ul style="list-style-type: none"> ✓ <i>Three Dots</i> 		
<ul style="list-style-type: none"> ✓ <i>Person Just Like Me: B Theme</i> 		
<ul style="list-style-type: none"> Extraneous concepts, ideas, or activities of personal interest are not introduced, but the teacher may include relevant personal examples of the themes. 		

Appendix T: Example of L2B Fidelity Checklist (Broderick, 2021)

Appendix U


Approval Letter from Hope Academy for Kids

The screenshot shows an email client window titled "Katie Thomas- DNP project approval - Message - Mail". The email is from Nelle Thomas (nelle@missionhopeforkids.org) dated 9/4/2022 2:13 PM. The subject is "Re: Katie Thomas- DNP project approval". The body of the email contains a red "CAUTION" bar, a greeting "Dear Ms Thomas:", and a paragraph of approval text. A quoted section from a previous email by Katie Thomas (katie.thomas@louisville.edu) dated Sep 3, 2022 is also visible. The Windows taskbar at the bottom shows the time as 3:20 PM on 9/5/2022.

Katie Thomas- DNP project approval - Message - Mail

← Reply ← Reply all → Forward 📁 Archive 🗑 Delete 🚩 Set flag ⋮

Re: Katie Thomas- DNP project approval

 **Nelle Thomas** <nelle@missionhopeforkids.org>
9/4/2022 2:13 PM

To: Thomas, Katie

CAUTION: This email originated from outside of our organization. Do not click links, open attachments, or respond unless you recognize the sender's email address and know the contents are safe.

Dear Ms Thomas:

You have approval to move forward. We are excited about this project and partnership for future projects.

On Sat, Sep 3, 2022 at 2:45 PM Thomas, Katie <katie.thomas@louisville.edu> wrote:

Good afternoon,

Attached is the proposal for the evidence based project at Mission Hope for Spring 2022 including the timeline, research, facilitator certifications, etc. I look forward to working with you in the coming months. Please let me know if you have any concerns or if I have approval to move forward. Thank you.

-Katie Thomas
UofL DNP student

Sent from Mail for Windows

Type here to search Rain... 3:20 PM 9/5/2022

Appendix U: Approval from HAFK executive director for project