

Mindfulness Moments: Today and 4-Life Program for 4-H Camp Youth

Mariah K. Stollar Awan

Lafayette Catholic School System
mariahkstollar@gmail.com

Suzanna R. Windon

The Pennsylvania State University
sxx75@psu.edu

Abstract

This evaluation research addressed the gap in the stress management education literature related to short-term mindfulness programs for youth in non-formal educational settings. The Mindfulness Moments: Today and 4-Life program was adapted from existing curricula and delivered in Ohio and Pennsylvania during summer 2019. The purpose of the program was to help youth participants develop an understanding of the concept of mindfulness and instill a desire in them to apply mindfulness practices in their daily lives. Sixty-eight youth ages 10 to 18 participated in the program. We utilized a non-experimental study design, with a simple 1-group pretest posttest design. One portion of the survey instrument was posttest only. A new outcomes evaluation instrument was developed. This study demonstrated that program participation increased perceived knowledge of mindfulness and intention to apply mindfulness practices. The application of Pearson correlation showed there is a substantial significant relationship between desire to continue mindfulness practice and intention to practice mindfulness ($r = .62, p = .01$). Study results suggested that mindfulness program practitioners should first focus on helping youth learn the benefits of mindfulness in order to instill the desire among youth to practice mindfulness in daily life. Other recommendations for program practitioners and the evaluation instrument are discussed.

Key words: mindfulness, non-formal education, youth development, stress management, Extension education, program evaluation

Introduction

Youth today are experiencing stress and mental health challenges. In 2014, American teens reported unhealthy stress levels, and 31% of teens reported feeling overwhelmed (Bethune,



New articles in this journal are licensed under a Creative Commons Attribution 4.0 License. This journal is published by the [University Library System](#), [University of Pittsburgh](#) and is cosponsored by the [University of Pittsburgh Press](#). The Journal of Youth Development is the official peer-reviewed publication of the [National Association of Extension 4-H Youth Development Professionals](#) and the [National AfterSchool Association](#).

Mindfulness Moments: Today and 4-Life Program

2014). The author also found that 42% of teens felt they may not be doing enough to manage their stress. In concert, 59% of American teens feel stressed due to balancing out-of-school activities (Anderson et al., 2014). The authors also reported stress caused some teens to neglect responsibilities (40%) and to feel irritable (40%), overwhelmed (37%), tired (36%), and depressed (30%).

In the United States, 11.9% of youth reported suffering from at least one major depressive episode each year (Mental Health America, 2018). In 2010, Merikangas et al. conducted a national study among adolescents and found that 49.5% of participants were diagnosed with some type of mental disorder and 22.2% reported suffering from at least one severe mental impairment. The authors concluded that 1 in 4 to 5 youth will experience a mental disorder in their lifetime. Pennsylvania ranks sixth and Ohio ranks 13th when compared to other states (Mental Health America, 2018) for prevalence of mental health issues among youth.

Scholars urge that addressing mental health issues in children's early developmental stages should be a priority for global health's research agenda (Kieling, 2011). The increase in stress and mental health challenges among youth require youth educators and practitioners to address this issue. Educators across the United States agree that 21st century American youth need mental health prevention programs (Greenberg et al., 2003). Mindfulness programs for youth reduce mental health symptoms and stress for participants (Kuyken et al., 2013) and can also prevent anxiety (Carsley & Heath, 2018). As such, this paper presents an evaluation of the *Mindfulness Moments: Today and 4-Life* program that was adapted for youth ages 10 to 18 and delivered in a non-formal educational setting, 4-H camp, in Pennsylvania and Ohio in 2019.

Literature Review

Mindfulness Programs as a Stress Reduction Tool

Brown and Ryan (2004) defined mindfulness as a heightened level of awareness of the present reality that also helps individuals develop self-regulation skills. Jon Kabat-Zinn, a professor emeritus of medicine and creator of the Stress Reduction Clinic and the Center for Mindfulness in Medicine, HealthCare, and Society at the University of Massachusetts, emphasized that mindfulness programs teach people to be more aware of their inner and outer experiences, or to purposely pay attention (Kabat-Zin, 2012). According to Kabat-Zin (2012), mindfulness includes three important components: awareness, observation, and non-judgement. Mindfulness programs teach these components through mindfulness practices, which are exercises that are regularly applied to help emulate mindfulness. These practices may include

Mindfulness Moments: Today and 4-Life Program

breathing exercises, body scans, imagery exercises, progressive muscle relaxation, physical activities, and mindful eating (Powers-Barker et al., 2018).

In 1979, Kabat-Zin introduced his mindfulness-based stress reduction (MBSR) program at the University of Massachusetts Medical Center (Bodhi, 2011). The MBSR program and adapted variations of this program have been studied among adult populations. Chiesa and Serretti (2009) mentioned that mindfulness programs can aid adults in both clinical and community settings in reducing stress levels.

There are few studies of MBSR programming as a stress reduction program for youth (Sibinga et al., 2011). However, we will discuss results from mindfulness programming studies with youth in formal educational settings later in this paper. Moreover, there are limited studies related to mindfulness short-term programs for youth in non-formal education settings, which we discuss further in the text. Established national youth development programs, like the 4-H program, may be a suitable setting to conduct a youth mindfulness program evaluation. 4-H has few published studies on program evaluation of mindfulness in camping settings (Le, 2014; Lewis et al., 2020).

Positive 4-H Youth Development: Promoting Life-Skill Development

4-H is the nation's largest youth development program, serving almost 6 million youth in the United States (National 4-H Council, 2019). 4-H youth members are children and teens ages 5 to 19. In the context of 4-H, positive youth development is providing 4-H participants with programmatic experiences that will "increase the likelihood of enhanced wellbeing and optimal development" (Arnold, 2018, p. 141). Youth development involves providing both structured and unstructured experiences to help youth learn life skills (Houghton & DiLiello, 2009; Zeldin & Camino, 1999).

Seemiller's (2018) youth leadership competency model identified resiliency, self-understanding, and social-emotional learning as key elements for today's youth programs. Youth need structured programs to develop the life skills needed to face today's societal challenges outside of school and the academic year (Hill et al., 2015). There is not much documented impact for life-skill development as a result of involvement in youth development programs (Allen & Lohman, 2016), and more youth development program evaluations need to be shared among youth development and evaluation scholars.

Mindfulness Moments: Today and 4-Life Program

Stand-alone events in a 4-H youth development context have demonstrated effectiveness for promoting youth life-skill development (Hoffman, 2011). At past 4-H events, youth improved their self-perception (Leggette et al., 2013), learned about themselves and experienced personal growth (Bush et al., 2019; Schmitt-McQuitty, 2007), and learned to set goals and solve problems (Leggette et al., 2013; Schmitt-McQuitty, 2007). However, more research is needed to examine mindfulness programs in a 4-H program context, as few studies have explored this line of inquiry in a 4-H camp setting (Le, 2014; Lewis et al., 2020).

Youth development theories guide the development of 4-H programs, and Perkins's (2009) theory guided program development in the present study. The six Cs of community youth development and four asset categories model (Perkins, 2009) served as the guiding framework for the *Mindfulness Moments: Today and 4-Life* program for 4-H Camp Youth. The program promoted the following asset categories from Perkins's work: physical development (good health habits), intellectual development (good mental health, good emotional self-regulation, good coping skills, sense of autonomy), and psychological and emotional development (good mental health, good emotional self-regulation, good coping skills).

Mindfulness Programs for Youth in Formal and Non-formal Educational Settings

In formal educational settings (or school settings), mindfulness programs often include at least one of the following common components: breath awareness, working with thoughts and emotions, psychoeducation, application of mindfulness to daily life, group discussion, body-scan, home practice, kindness practice, body-practices (such as yoga), and mindful movement (Burke, 2009; Zenner et al., 2014). Improved soft skills as a result of these programs included improved academic performance (Franco Justo et al., 2011), improved social skills (Joyce et al., 2010; Napoli et al., 2005), increased emotional regulation (Schonert-Reichl & Lawlor, 2010; White, 2012), and improved behavior (Schonert-Reichl & Lawlor, 2010).

Mindfulness programs have been highly evaluated in formal educational settings, and sparsely evaluated in non-formal educational settings, or community settings, to teach youth stress reduction. In formal settings, mindfulness programs have shown many benefits for youth, namely reducing stress and anxiety among participants (Bluth et al., 2015; Broderick & Metz, 2009; Franco Justo et al., 2011; Mendelson et al., 2010; Metz et al., 2013; Napoli et al., 2005; Potek, 2012; Schonert-Reichl & Lawlor, 2010; White, 2012) and improving mental health and behavior for program participants (Broderick & Metz, 2009; Flook et al., 2010; Mendelson et al., 2010; Noggle et al., 2012; Schonert-Reichl & Lawlor, 2010). Other benefits related to managing thoughts included reduced rumination on negative thoughts (Mendelson et al., 2010), reduced

Mindfulness Moments: Today and 4-Life Program

occurrence of intrusive thoughts (Mendelson et al., 2010; Metz et al., 2013) and reduced emotional arousal (Mendelson et al., 2010). Finally, youth mindfulness programs have decreased negative effect or outlook (Broderick & Metz, 2009; Schonert-Reichl & Lawlor, 2010), improved executive control (Biegel & Brown, 2010), and reduced depression (Joyce et al., 2010) among participants.

In non-formal educational settings, mindfulness programs for youth have demonstrated a variety of benefits for participants, including reduced stress and increased strategies to deal with stress, improved ability to pay attention, increased self-compassion, and higher life satisfaction (Bluth et al., 2015). Other shown benefits include improved balance, increased self-awareness, and reduced negative behaviors due to stress (Berger & Stein, 2009). Community mindfulness programs in a camp context resulted in a reduction in anxiety for youth (Liehr & Diaz, 2010) and a reduction in stress levels (Le, 2014). Lewis and colleagues (2020) found that adults are more likely than youth to feel ready to implement mindfulness in the future after learning about mindfulness in a camp setting. However, there are few studies in the literature that examined mindfulness for youth in camp settings.

We found and reviewed four long-term mindfulness programs in non-formal settings. Our review of programs did not present any short-term mindfulness program curricula for youth. We chose the only two long-term 4-H youth mindfulness curricula available, another available Extension curricula for adults, and a widely cited formal mindfulness curriculum to help better understand existing mindfulness curricula for youth and guide adaptation and development of the program. We will now describe each of the programs in greater detail. The lead researcher did not thoroughly examine more programs due to having limited time to complete her graduate degree and lack of funds to purchase and review more curricula. The review proved to provide a sufficient foundation for the project.

One of the most widely cited youth mindfulness curricula available is Learning to BREATHE (Broderick & Frank, 2014). The Learning to BREATHE curriculum is a long-term mindfulness program for youth ages 14 to 18 that is comprised of several weeks of instruction. The long-term program includes the following mindfulness components: Body Awareness, Understanding and Working with Thoughts, Understanding and Working with Feelings, Integrating Awareness of Thoughts, Feelings, and Bodily Sensations, Reducing Harmful Self-judgements, and Integrating Mindful Awareness into Daily Life. Through this program, participants gain mindfulness skills from their teachers or other trained practitioners to better handle their emotions.

Mindfulness Moments: Today and 4-Life Program

The second program reviewed was GEMS (Get Experience in Mindfulness). GEMS was developed for 4-H youth ages 10 to 19 (Banks & Bercaw, 2018). The program focuses on the following units: Intentions and Goal Setting, Awareness and Attention, Self-care: Stress Reduction & Relaxation, Communication and Relationships, and Gratitude and Acceptance. Each unit takes 45 minutes to 1 hour. The program is designed to be taught over 5 weeks. Program participants gain mindfulness skills to better manage stress and set goals to practice mindfulness in the future. County 4-H Extension educators or program assistants teach the program.

The third mindfulness curriculum reviewed was another 4-H curriculum, called Yoga for Kids (Washburn & Copeland, 2014). The program is for youth ages 5 to 19. Yoga provides health benefits for people of all ages. Yoga uses "breath, physical postures or poses and mindfulness to help strengthen and calm the body and mind" (Nickels, 2015). The curriculum training involves learning floor poses (43 in all), yoga games, breathing exercises, and guided relaxation techniques. These activities can be adapted into short-term programs or programs taking place over several weeks. Trained 4-H educators and volunteers deliver the training to youth at 4-H clubs, at schools, or in community settings.

The fourth reviewed curriculum, the Ohio State University (OSU) Mindful Wellness curriculum, was developed by OSU Extension. This program was developed and taught to adults in community settings. Units of instruction include Introduction to Mindfulness, Mindful Foundations, Mindful Breathing, Mindful Living, and Mindful Eating (Powers-Barker et al., 2018). The program is designed to be five 1-hour workshop sessions delivered over 5 weeks. Family and Consumer Science Extension educators are trained to deliver the curriculum.

The literature suggests that a short-term mindfulness program may be an effective way to help address youth stress-management challenges, however, more studies need to be done in this area. In this study, a short-term mindfulness program refers to a 2-hour mindfulness program taught 1 day or 2 days back-to-back in 1-hour increments. There were only two Extension studies identified that tested and evaluated a short-term mindfulness program for 4-H youth (Le, 2014; Lewis et al., 2020). Le's (2014) study evaluated a mindfulness program taught at a 4-H camp for military kids. However, the curriculum components were not presented in the study or available online. Study results did indicate the mindfulness program taught youth strategies to better manage stress. Lewis and colleagues' (2020) study assessed a mindfulness Extension program for both children and adults in a camp setting. Study results showed that

Mindfulness Moments: Today and 4-Life Program

adults felt more confident than youth participants that they may be able to incorporate mindfulness principles in their daily lives.

In Pennsylvania and Ohio, there was no existing curriculum available for teaching mindfulness in a 4-H camp setting. There also was no existing mindfulness curriculum for a short-term program in a 4-H camp setting. In concert, few studies have examined the effects of mindfulness programming for youth outside of school and after-school settings. Therefore, the authors of the present study adapted a research-based program on mindfulness, which was adapted, implemented, evaluated, and studied in a 4-H non-formal educational setting.

Description of the Mindfulness Moments: Today and 4-Life Program

The *Mindfulness Moments: Today and 4-Life* program was adapted from existing curricula (Banks & Bercaw, 2018; Broderick & Frank, 2014; Powers-Barker et al., 2018; Washburn & Copland, 2014). The authors learned that no short-term mindfulness program curriculum for Pennsylvania and Ohio 4-H programs existed (Epley, personal communication, June 5, 2019; Stackhouse, personal communication, January 14, 2019). The *Mindfulness Moments: Today and 4-Life* program was delivered in Pennsylvania and Ohio during summer 2019 to 4-H youth at three study sites.

The purpose of the *Mindfulness Moments: Today and 4-Life* program is to help youth develop an understanding of mindfulness concepts and instill a desire in them to practice mindfulness practice in daily life. The program components and program component descriptions can be viewed in Table 1. Program components were chosen based on research on mindfulness practices in formal educational settings (or school settings), which usually included at least one of the following common components: breath awareness (Mindful Breathing), working with thoughts and emotions (Everyday Mindfulness, Guided Imagery), psychoeducation (Define Mindfulness), application of mindfulness to daily life (My Mindfulness Practice), kindness practice (Define Compassion, Loving Kindness, Mindfulness & Compassion in Leadership), body-practices (such as yoga [Setting an Intention]), and mindful movement (Movement Practice) (Burke, 2009; Zenner et al., 2014). The *specific, measurable, achievable, relevant, and timely* (SMART) goals component of the program was added because writing a goal down causes it to be more likely to be achieved (Gardner, 2015). The short-term program involves a 2-hour workshop where an instructor guides 10 to 30 youth ages 10 to 18 through each of the program components.

Mindfulness Moments: Today and 4-Life Program

Table 1. Mindfulness Moments: Today and 4-Life Program Components

Program component	Program component description
Define mindfulness	Discuss with youth to define the concept of mindfulness
Setting an intention	Guide youth to choose a word or phrase to guide their mindfulness practice for the day(s) (ex. <i>joy, learn, discover, peaceful, relax</i>)
Mindful breathing	Teach youth deep breathing techniques
Guided imagery	Read youth a short story using calming imagery
Movement practice	Lead youth through posture mindfulness practices
Everyday mindfulness	Lead youth through a sensing mindfulness practice
Define compassion	Discuss with youth to define the concept of compassion
Loving kindness	Lead youth through a loving-kindness meditation script
Mindfulness & compassion in leadership	Discuss with youth how what they learned today may present in their real lives (i.e., at home, school 4-H, in their communities, etc.)
SMART goals	Work with youth to complete a worksheet to set goals for how they will apply mindfulness practices in the future
My mindfulness practice	Instruct youth to draw and describe how they plan to apply mindfulness in the future, using the provided worksheet (<i>The worksheet has a box where youth can draw what mindfulness practice means to them. Then, lines are provided where youth can write and explain their drawing.</i>)

The program was guided by five learning objectives. The 1st hour of the program focused on two objectives: Understand the concept of mindfulness and apply mindfulness concepts by completing guided activities, such as mindful movement, deep breathing, and other meditation exercises. The 2nd hour of the workshop focused on the following objectives: Analyze and reflect upon how they can apply mindfulness in their daily lives, understand how the concepts of mindfulness and self-awareness relate to leadership concepts, and discuss how to apply and set SMART goals to implement mindfulness and leadership concepts at home (i.e., personal practice, through cultivating relationships, through 4-H club work, community work, etc.).

This paper presents an evaluation of the *Mindfulness Moments: Today and 4-Life* program participants' outcomes in non-formal education settings. Specifically, the paper investigates outcomes related to participants' knowledge change, intention, and desire to apply mindfulness practices in daily life. This paper applies an outcomes-based evaluation approach.

Methods

The purpose of this quantitative study was to evaluate the *Mindfulness Moments: Today and 4-Life* program that was adapted and delivered in Pennsylvania and Ohio 4-H camps, among youth ages 10 to 18 years. The following evaluation questions guided the present study:

1. Does participation in the mindfulness program increase perceived knowledge of mindfulness?
2. Do program participants intend to apply mindfulness practices in daily life?
3. How does desire to continue mindfulness practice relate to intention to practice mindfulness?

Study Design

To address the evaluation questions, a simple one-group pretest posttest design and posttest only design was utilized for this non-experimental study. The evaluation design chosen for the *Mindfulness Moments: Today and 4-Life* program was outcomes-based, as the primary goal of the study was to determine if there was preliminary evidence to support participant increase in knowledge of mindfulness and intention to apply and learn more about mindfulness (Institute of Museum and Library Services, n.d.). A survey methodology was used to answer the evaluation questions. This study used a convenience sample, a non-probability sampling method that uses study participants based on being easily available (Patton, 2002). The results are not generalizable beyond Pennsylvania and Ohio 4-H members because a convenience sample was utilized from youth who elected to participate in selected sites. This study was approved as exempt research per Penn State University's Institutional Review Board and did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Study Sites

Pennsylvania and Ohio 4-H state leaders and camping specialists helped select sites for this program. There were three sites selected for program delivery in Pennsylvania and Ohio. The Pennsylvania 4-H Junior Leadership conference in State College, Pennsylvania was selected as the first program site. 4-H Camp Kanestate in Spruce Creek, Pennsylvania and Camp Hervida in Waterford, Ohio were the other study sites. The first study site was urban and the second two were rural. However, the majority of study participants were from rural areas.

Participant Recruitment

Selected sites' 4-H camp coordinators requested parents complete consent forms that allowed youth to participate in the study. Also, study participants completed assent forms prior to the

Mindfulness Moments: Today and 4-Life Program

program in order to participate in program and program evaluation, per Penn State University's Institutional Review Board's policy for youth older than 10 years old.

Participants

4-H youth ages 10-18 years who attended 4-H camp at study sites had the option to sign up for the *Mindfulness Moments: Today and 4-Life* program. Participants' parents signed consent forms and youth participants signed assent forms prior to program delivery, with an additional adult witness present. Descriptive statistics allowed the researchers to develop a study participant profile. The average study participant was a 12-year-old female who holds a 4+ years 4-H membership. The average study participant sometimes viewed themselves as a leader, considered themselves religious, was new to mindfulness, and lived on a farm. They were involved in church, after-school programs, and volunteering, but not additional extracurricular activities. They felt supported by family and friends, but not by the church or adults who lead youth organizations.

Instrumentation

The evaluation instrument was comprised of 23 items. The pretest evaluation items included items 1 through 7 and the posttest evaluation items included items 17 through 32. The instrument was partially adapted from a previous community mindfulness evaluation instrument (Roeser, 2019). The summary of the evaluation instrument is presented in Table 2. Seven experts participated in the face and content validity of the instrument, among them were a 4-H Extension educator, a 4-H program coordinator, two Extension specialists in 4-H youth development, four faculty with expertise in survey methodology and youth development program evaluation, and a graduate student in Extension education.

Table 2. Summary of The Evaluation Instrument

Construct	Variable measured	Scale	Cronbach alpha	Total items
Perceived knowledge of mindfulness	Perceived knowledge of mindfulness ^a	5-point Likert scale from 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	.88 (pre) .87 (post)	7 pre 7 post
Intention to apply mindfulness practices in daily life	Intention to apply mindfulness practices in daily life ^b	3-point Likert scale: 1 (<i>definitely won't use</i>), 2 (<i>maybe will use</i>), 3 (<i>definitely will use</i>)	.83	5
Desire to learn more about mindfulness	Desire to learn more ^b about mindfulness	5-point Likert scale from 1 (<i>strongly disagree</i>) to 5 (<i>strongly agree</i>)	.87	2

^a Items developed by the researcher.

^b Items adapted from Roeser's (2019) work.

Perceived Knowledge of Mindfulness

The construct *perceived knowledge of mindfulness* was measured by items 1 through 7. These seven pretest and posttest items were developed from Kabat-Zinn's (2012) concept of mindfulness and components of mindfulness and the program objectives. These items helped to determine youths' change in perceived knowledge of mindfulness. The questions were measured on a 5-point Likert agreement scale. Increase in ratings from pretest to posttest indicated youth understanding of concepts. Example items are "I can define mindfulness" and "I know how mindfulness relates to leadership."

Intention to Apply Mindfulness Practices in Daily Life

The construct *intention to apply mindfulness practices in daily life* was measured through items 24-28. These five items were adapted from Roeser's (2019) community mindfulness program evaluation instrument. The five items measure youth intent to apply mindfulness practices after the program. The items list the practices, for example, "breath awareness" and "loving-kindness practice," and youth were instructed to rate how likely they were to use the concepts as a result of program participation. The items utilized a 3-point Likert scale labeled 1 (*definitely won't use*), 2 (*maybe will use*), and 3 (*definitely will use*).

Mindfulness Moments: Today and 4-Life Program

Desire to Learn More About Mindfulness

The construct *desire to learn more about mindfulness* was comprised of two newly developed items, items 29-30, in the instrument. The two items, "I want to learn more about mindfulness" and "I want my friends to learn more about mindfulness" were rated on a 5-point Likert agreement scale.

Data Collection

Data were collected via paper-and-pencil surveys provided to program participants at the beginning and conclusion of the *Mindfulness Moments: Today and 4-Life* program. Participants completed the pre-program evaluation before completing the 2-hour mindfulness program. After the 2-hour program, participants completed the posttest. Surveys were collected at the completion of the program. Collected data were transferred into SPSS software version 25 for statistical analysis.

Data Analysis

A paired sample *t*-test was utilized to determine if there was preliminary evidence to support that participation in the mindfulness program increased perceived knowledge of mindfulness before and after the program. Descriptive statistics were utilized to determine whether or not there may be evidence to suggest program participants intended to apply mindfulness practices in daily life. An application of Pearson's correlation test was used to determine if there may be initial evidence showing a relationship between desire to continue mindfulness practice and intention to practice mindfulness. The independent and dependent variables were treated as interval data. Davis's (1971) conventions were utilized to determine the magnitude of the relationships between variables. These conventions are presented in Table 3.

Table 3. Describing the Magnitude of Correlations with Davis' (1971) Conventions

Magnitude of Correlation Coefficient	Description
1.00	Perfect association
.70 or higher	Very strong association
.50 to .69	Substantial association
.30 to .49	Moderate association
.10 to .29	Low association
.01 to .09	Negligible association

Note. Adapted from Davis, J. A. (1971). *Elementary survey analysis*. Prentice-Hall.

Findings

Question 1: Does participation in the mindfulness program increase perceived knowledge of mindfulness?

The paired samples *t*-test provided evidence to suggest that on average, youth increased perceived knowledge of mindfulness for each item when both pretest and posttest mean scores were examined. The *t*-test also showed that the overall mean score for all posttest items increased when compared to the pretest item scores. Results of the paired samples *t*-tests, for item-by-item comparisons and overall pretest and posttest comparisons, showed a significant ($p < .01$) relationship between pretest and posttest scores for all items. Means and standard deviations for pretest and posttest perceived knowledge of mindfulness items are shown in Table 4. Paired samples *t*-test results for perceived knowledge of mindfulness are shown in Table 5. The results give initial evidence to suggest that participation in the mindfulness program increased perceived knowledge of mindfulness for youth participants. For pretest overall mean values, normality assumptions were met. The results suggest that participation in the mindfulness program increased perceived knowledge of mindfulness for youth participants.

Table 4. Means and Standard Deviations for Pretest and Posttest Perceived Knowledge of Mindfulness

Item	Pretest		Posttest	
	M	SD	M	SD
I can define mindfulness.	2.98	1.15	4.31	.732
I can name the 3 main components of mindfulness.	2.14	.90	4.15	.83
I could do a mindfulness practice on my own.	2.50	1.21	4.20	.91
I can set a SMART (specific, measurable, achievable, relevant, timely) goal related to mindfulness.	2.92	1.19	4.25	.87
I know how mindfulness relates to leadership.	2.97	1.21	4.08	.84
I think it's important to practice mindful living.	3.53	1.12	3.97	1.00
I can explain why it is important to practice mindful living.	2.77	1.07	3.89	1.06
Overall mean	2.87	.82	4.13	.69

Note. Participants rated perceived knowledge of mindfulness using a 5-point, Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Results are significant at the .01 level of significance.

Table 5. Paired Samples T-Test Results for Perceived Knowledge of Mindfulness

Item	<i>M</i> difference	<i>SD</i>	<i>df</i>
I can define mindfulness.	-1.328	1.22	63
I can name the 3 main components of mindfulness.	-2.015	1.19	64
I could do a mindfulness practice on my own.	-1.703	1.48	63
I can set a SMART (specific, measurable, achievable, relevant, timely) goal related to mindfulness.	-1.323	1.38	64
I know how mindfulness relates to leadership.	-1.108	1.32	64
I think it's important to practice mindful living.	-.446	1.16	64
I can explain why it is important to practice mindful living.	-1.123	1.36	64
Overall pretest posttest difference	-1.256	.97	62

Note. Participants rated perceived knowledge of mindfulness using a 5-point, Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Results are significant at the $p < .01$ level.

Question 2: Do program participants intend to apply mindfulness practices in daily life?

The results of descriptive data analysis showed that, on average, participants intend to maybe use or definitely use what they learned in the *Mindfulness Moments: Today and 4-Life* program. Mean scores for items related to intention to apply mindfulness practices items and intention to apply mindfulness practices overall ($M = 2.30$, $SD = .52$) are shown in Table 6. The normality assumptions were met. The results suggest that participation in the program influenced participants' intention to apply mindfulness practices after the program.

Table 6. Descriptive Statistics for Participants' Intention to Apply Mindfulness Practices

Item	<i>M</i>	<i>SD</i>
Breath awareness	2.52	.62
Posture practice	2.02	.70
Loving-kindness practice	2.26	.67
Awareness of senses	2.43	.71
Setting SMART goals	2.28	.70
Overall	2.30	.52

Note. Participants rated intention to apply mindfulness practices using a 3-point, Likert-type scale: 1 (*definitely won't use*), 2 (*maybe will use*), and 3 (*definitely will use*).

Question 3: How does desire to continue mindfulness practice relate to intention to practice mindfulness?

The results of the Pearson correlation coefficient test showed a substantial association and significant relationship between desire to continue mindfulness practice and intention to practice mindfulness ($r = .62, p = .01$). Davis' (1971) conventions were utilized to examine the magnitude of the relationship between variables. Table 7 shows the relationship between variables.

Table 7. Bivariate Correlation Between Desire to Continue Mindfulness Practice and Intention to Practice Mindfulness

Measure	Desire to continue mindfulness practice	Intention to practice mindfulness
Desire to continue mindfulness practice		.615* ($n = 65$)
Intention to practice mindfulness	.615* ($n = 65$)	

* $p < .01$, 2-tailed.

Discussion

This study makes a unique contribution to the study of youth mindfulness program development, implementation, and evaluation in a non-formal educational setting. The literature related to formal educational mindfulness programs is substantial. However, there is a lack of short-term and non-formal mindfulness programs and program evaluations for youth audiences. Mindfulness education for youth in non-formal educational environments is an emerging area of study (Greenberg & Harris, 2012), and youth participants' voices will be important for practice and research as this field moves forward.

Through a program evaluation, this study sought to evaluate the initial outcomes of the *Mindfulness Moments: Today and 4-Life* program. The program focused on introducing youth to the concept of mindfulness and also showed the connection between mindfulness and leadership principles. The program taught youth mindfulness practices and guided them to set SMART goals for applying mindfulness practices after the program. Study participants were 4-H members ages 10 to 18 years who signed up for the *Mindfulness Moments: Today and 4-Life* program at the 4-H Junior Leadership Conference in State College, Pennsylvania; 4-H Camp Kanestate in Spruce Creek, Pennsylvania; and Camp Hervida in Waterford, Ohio. Participants completed a paper-and-pencil survey with pretest and posttest questions to address the evaluation questions.

Mindfulness Moments: Today and 4-Life Program

The majority of participants in this study indicated that they intend to maybe use or definitely use the mindfulness practices they learned from the program. This aligns with previous research, which indicated that the majority of youth will apply what they learned from a mindfulness program after the program conclusion. In concert, this aligns with the program intention of fostering physical development and good health habits for youth through the program (Perkins, 2009). Kuyken et al. (2013) found that 61% of participants applied mindfulness practices two or more times after receiving a mindfulness program at school. Broderick and Metz (2009) conducted a pilot study of the Learning to BREATHE program and found that 65% of participants were applying mindfulness concepts outside of the formal program. However, most mindfulness program evaluations did not ask if youth were applying or intended to apply mindfulness practices in their daily lives after program completion.

The results of this initial program evaluation found a substantial significant relationship between intention to apply mindfulness practices and desire to learn more about mindfulness ($r = .615$, $p = .01$). The results suggest youth who intend to apply mindfulness practices after the program are more likely to desire to learn more about mindfulness, which may indicate the beginnings of a sense of autonomy and intellectual development in the context of mindfulness as a youth life skill (Perkins, 2009). The research indicated that on average, youth intend to apply what they have learned about mindfulness ($M = 2.30$ on a 3-point Likert-scale). The majority of participants want to learn more about mindfulness. However, youths' intention to apply what they learned may have been impacted by the youth being excited about mindfulness due to having recently experienced the program and response shift bias (Howard, 1980).

Mindfulness studies in formal education settings confirm that mindfulness programs are effective in reducing stress and anxiety among youth participants (Bluth et al., 2015; Broderick & Metz, 2009; Franco Justo et al., 2011; Mendelson et al., 2010; Metz et al., 2013; Napoli et al., 2005; Potek, 2012; Schonert-Reichl & Lawlor, 2010; White, 2012). Studies of youth mindfulness programs in formal educational settings also reported improved mental health and behavior for program participants (Broderick & Metz, 2009; Flook et al., 2010; Mendelson et al., 2010; Noggle et al., 2012; Schonert-Reichl & Lawlor, 2010), which may indicate better ability for youth to manage stress as well. Most of these studies used a pretest–posttest design, in which tests were distributed immediately before the program began and immediately after the program ended. However, these studies and the present study lacked a follow-up after several weeks, which would help to better determine whether or not there were lasting effects of the program.

Mindfulness Moments: Today and 4-Life Program

We found results suggesting that a short-term mindfulness program may increase youth knowledge of mindfulness. The results of this study align with previous findings that youth mindfulness program participants in formal settings improved mental health and coping skills (Biegel & Brown, 2010; Franco Justo et al., 2011; Joyce et al., 2010; Napoli et al., 2005; Mendelson et al., 2010; Metz et al., 2013; Potek, 2012; Schonert-Reichl & Lawlor, 2010; White 2012). In concert, youth mindfulness programs in community settings have aided youth participants by reducing stress (Bluth et al., 2015; Jee, 2015), increasing their ability to pay attention (Bluth et al., 2015), and reducing occurrence of negative behaviors due to stress (Berger & Stein, 2009).

Previous research also demonstrated that youth experienced a reduction in stress as a result of participating in the mindfulness program in non-formal youth settings, including a camp setting (Frauman, 2011; Gillard et al., 2011; Le, 2014; Liehr & Diaz, 2010). Moreover, mindfulness may be useful for staff training in a camp setting as well (Gillard et al., 2011). Our study supported Le's (2014) and Lewis and colleagues' (2020) findings that mindfulness programming in a 4-H setting helps youth learn skills to manage stress.

Limitations

The research results were limited to the convenience sample of Pennsylvania and Ohio 4-H youth who attended 4-H camp sites participating in the study, so results are not able to be generalized across all Pennsylvania 4-H youth and Ohio 4-H youth or all Pennsylvania and Ohio youth. In concert, there have been few studies assessing teaching mindfulness in non-formal educational settings. However, no instrument existed in the literature to measure outcomes of a short-term mindfulness program for youth in a non-formal educational setting. Therefore, this study was exploratory in nature and results cannot be completely conclusive. We also acknowledge there are limitations related to the evaluation design. We used single sample pre-post design due to limited time for the lead author, who was a master's student at the time of data collection, to complete her academic program. However, we think this design can be useful as a starting place for the newly adapted curriculum, and hope others will apply our study contributions to studies with multiple sites, and if possible, randomization in data collection.

Lessons Learned

We learned several lessons in our study that we would like to share with future practitioners. First, using the SMART goals worksheet at the end of the program was very a valuable component because it allowed participants to have a tangible record of their mindfulness goal

Mindfulness Moments: Today and 4-Life Program

setting. It also helped the researcher to better understand which mindfulness practices youth intended to use. Second, the program facilitator should be aware of the number of participants in the program. The researcher found groups of 15 to 20 to be most manageable. However, without an assistant, it was difficult to help participants with goal setting and completing the evaluation instrument in groups larger than 20. Youth camp counselors and adult 4-H volunteers helped to address this issue by being debriefed on how to set SMART goals and properly complete the evaluation instrument before the program. This also could have been addressed by training a co-instructor. Third, the introductory nature of the 2-hour program allows us to believe that lower scoring items on the evaluation instrument may inform which areas in future 4-H mindfulness curriculum require more attention. The lowest values for knowledge change were "I think it's important to practice mindful living." ($M = 3.97$) and "I can explain why it is important to practice mindful living." ($M = 3.89$). Future programming may want to spend more time defining the importance of mindfulness and emphasizing mental, emotional, and physical health benefits of practicing mindfulness.

The program practitioners should also consider the physical environment of the program. Whether the program is held indoors or outside, a yoga mat or towel is needed for youth to be able to comfortably sit and lie down during the meditation components of the program.

Finally, the program practitioners should practice mindfulness themselves prior to the program. This will aid practitioners in guiding youth discussion about their experiences with each of the mindfulness practices. In addition, children will be more likely to want to learn and practice mindfulness if they notice the instructor's passion for it (Shonin and Van Gordon, 2015).

Future Directions and Recommendations

Due to lack of literature, more research is needed on the effects of short-term mindfulness programs in non-formal educational settings, especially in 4-H camp settings. More short-term youth mindfulness programs should be conducted and evaluated, particularly in non-formal educational settings. Existing mindfulness programs should develop program evaluations and report the findings to help scholars and practitioners advance youth mindfulness and stress reduction program development, implementation, and evaluation. Mindfulness program practitioners should consider Greenberg and Harris' (2012) recommendations about the importance of "developing a more rigorous scientific base" (p. 164) for youth mindfulness programs by examining study design, developmental appropriateness, clarity of description of the programs or activities, and frequency and intensity of program and activities. The curriculum and evaluation for this program is available upon request from the authors for

Mindfulness Moments: Today and 4-Life Program

educational use only. Practitioners interested in implementing the present program and evaluation should correspond with the lead author.

There are rarely opportunities to follow up with children an extended period after they have completed a mindfulness program, but future studies should consider doing so if it is feasible. In 2012, Potek conducted a follow-up assessment within 7 weeks and 14 weeks after a long-term mindfulness program was delivered to youth participants. Potek found that anxiety symptoms and stress were reduced among youth participants. Inability to follow up with participants was a limitation of the present study. More longitudinal studies are needed to determine whether or not youths' intention to continue to practice mindfulness will remain after short-term exposure to a mindfulness program.

Because the sample of the program study was small and not random, Pennsylvania and Ohio 4-H and similar youth organizations should repeat the program next summer with a larger, randomly selected population of youth. Camps and study sites could be randomly assigned as to receiving the program or having to serve as the control by taking a stratified sample. More study sites and random sampling would help to further validate study findings and program participant outcomes. In addition, implementing this program in various youth settings, such as educational and community settings or via virtual platforms, would help validate the feasibility and utility of the program for audiences beyond Extension.

Finally, because the long-term goal would be to teach youth to use mindfulness to manage stress, future practitioners could provide a follow-up program focused on teaching youth to apply mindfulness techniques to manage stress specifically. In this program, limited time allowed only for introducing youth to the topic and giving them a chance to try mindfulness practices.

Conclusion

The study results suggest that participation in the short-term mindfulness program increased perceived knowledge of mindfulness for youth participants. The results also suggest that participation in the program influenced participants' intention to apply mindfulness practices after the program. In concert, preliminary evaluation data for this program found that there was a substantial significant relationship between desire to continue mindfulness practice and intention to practice mindfulness.

Mindfulness Moments: Today and 4-Life Program

The results of this study showed that in order to better understand the changes in behaviors as a result of short-term mindfulness programs like the *Mindfulness Moments: Today and 4-Life* program, more follow-up studies should be conducted to help better determine the long-term impacts of this program. Again, the program curriculum is available upon request from the authors for educational use. Broderick and Metz (2009) and Mendelson and colleagues (2010) also noted that long-term follow up studies could help determine if participants are retaining and applying mindfulness practices to manage stress. Due to lack of literature, this study may offer preliminary guidance to similar organizations looking to implement and evaluate short-term mindfulness programs. However, additional similar studies with random sampling should be conducted to help further validate the method and findings of the present study. More randomized studies of short-term mindfulness programs in non-formal educational settings will help to advance literature and participant outcomes for youth mindfulness and stress management programming.

References

- Allen, B. S., & Lohman, B. J. (2016). Positive youth development life skills gained at the Iowa 4-H youth conference. *Journal of youth development, 11*(1), 62. <http://dx.doi.org/10.5195/JYD.2016.434>
- Anderson, N. B., Belar, C. D., Breckler, S. J., Nordal, K. C., Ballard, D. W., Bufka, L. F., Bossolo, L., Bethune, S., Brownawell, A., & Wiggins, K. (2014). *Stress in America: Are teens adopting adults' stress habits?* American Psychological Association. <https://www.apa.org/news/press/releases/stress/2013/stress-report.pdf>
- Arnold, M. E. (2018). From context to outcomes: A thriving model for 4-H youth development programs. *Journal of Human Sciences and Extension, 6*(1), 141-160. <https://www.jhseonline.com/article/view/653>
- Banks, B., & Bercaw, S. (2018). GEM (get experience in mindfulness): *An awareness and acceptance stress management program for ages 10 & up*. National 4-H.
- Berger, D. L., & Stein, R. E. (2009). Effects of yoga on inner-city children's well-being: A pilot study. *Alternative Therapies in Health and Medicine, 15*(5), 36-42. <https://search.proquest.com/docview/204838431?pq-origsite=gscholar>
- Bethune, S. (2014). Teen stress rivals that of adults. *American Psychological Association, 45*(4), 20. <https://www.apa.org/monitor/2014/04/teen-stress>
- Biegel, G., & Brown, K. W. (2010). *Assessing the efficacy of an adapted in-class mindfulness-based training program for school-age children: A pilot study*. [White Paper]. <http://www.mindfulschools.org/pdf/Mindful%20Schools%20Pilot%20Study%20Whitepaper.pdf>

Mindfulness Moments: Today and 4-Life Program

- Bluth, K., Roberson, P. N., & Gaylord, S. A. (2015). A pilot study of a mindfulness program for adolescents and the potential role of self-compassion in reducing stress. *Explore, 11*(4), 292-295. <https://doi.org/10.1016/j.explore.2015.04.005>
- Bodhi, B. (2011). What does mindfulness really mean? A canonical perspective. *Contemporary Buddhism, 12*(01), 19-39. <https://doi.org/10.1080/14639947.2011.564813>
- Broderick, P. C., & Frank, J. L. (2014). Learning to BREATHE: A program to foster mindfulness in adolescence. *New Directions for Youth Development, 2014*(142), 31-44. <https://doi.org/10.1002/yd.20095>
- Broderick, P. C., & Metz, S. (2009). Learning to BREATHE: A pilot trial of a mindfulness curriculum for adolescents. *Advances in School Mental Health Promotion, 2*, 35-46. <https://doi.org/10.1080/1754730X.2009.9715696>
- Brown, K. W., & Ryan, R. M. (2004). Perils and promise in defining and measuring mindfulness: Observations from experience. *Clinical Psychology: Science and Practice, 11*(3), 242-248. <https://doi.org/10.1093/clipsy.bph078>
- Burke, C. A. (2009). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child and Family Studies, 19*(2), 133-144. <https://link.springer.com/article/10.1007/s10826-009-9282-x>
- Bush, S. A., Grove, B. B., Johnson, J. C., Price, T. T., & Seibel, M. M. (2019). Cultivating innovative teen-leadership programming: Building evidence of impact. *Journal of Leadership Education, 18*(2), 1-17. <http://dx.doi.org/10.12806/V18/I2/R1>
- Carsley, D., & Heath, N. L. (2018). Effectiveness of mindfulness-based colouring for test anxiety in adolescents. *School Psychology International, 39*(3), 251-272. <https://doi.org/10.1177%2F0143034318773523>
- Chiesa, A., & Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *The Journal of Alternative and Complementary Medicine, 15*(5), 593-600. <https://doi.org/10.1089/acm.2008.0495>
- Davis, J. A. (1971). *Elementary survey analysis*. Prentice-Hall.
- Flook, L., Smalley, S. L., Kitil, M. J., Galla, B. M., Kaiser-Greenland, S., Locke, J., Ishijima, E., & Kasari, C. (2010). Effects of mindful awareness practices on executive functions in elementary school children. *Journal of Applied School Psychology, 26*, 70-95. <https://doi.org/10.1080/15377900903379125>
- Franco Justo, C., Mañas, I., Cangas, A. J., & Gallego, J. (2011). Exploring the effects of a mindfulness program for students of secondary school. *International Journal of Knowledge Society Research (IJKSR), 2*(1), 14-28. <https://doi.org/10.4018/jksr.2011010102>
- Frauman, E. (2011). Incorporating the concept of mindfulness in informal outdoor education settings. *Journal of experiential education, 33*(3), 225-238. <http://dx.doi.org/10.1177/105382590113300303>

Mindfulness Moments: Today and 4-Life Program

- Gardner, S. (2015). Study focuses on strategies for achieving goals, resolutions. *Dominican scholar press releases, communication and media relations*.
<https://scholar.dominican.edu/cgi/viewcontent.cgi?article=1265&context=news-releases>
- Gillard, A., Roark, M. F., Nyaga, L. R. K., & Bialeschki, M. D. (2011). Measuring mindfulness in summer camp staff. *Journal of Experiential Education*, 34(1), 87–95.
<https://doi.org/10.1177/105382591103400107>
- Greenberg, M. T., & Harris, A. R. (2012). Nurturing mindfulness in children and youth: Current state of research. *Child Development Perspectives*, 6(2), 161-166. <https://doi.org/10.1111/j.1750-8606.2011.00215.x>
- Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychologist*, 58(6-7), 466.
<https://doi.org/10.1037/0003-066X.58.6-7.466>
- Hill, E., Milliken, T., Goff, J., Clark, D., & Gagnon, R. J. (2015). Development and implementation of CARE now: A university, municipal recreation department, and public school collaborative model. *Journal of Park and Recreation Administration*, 33(3). <https://doi.org/10.1037/0003-066X.58.6-7.466>
- Hoffman, K. J. (2011). Projects in a day develop life skills in at-risk after school youth. *Journal of Youth Development*, 6(2), 87-94. <http://jyd.pitt.edu/ojs/jyd/article/view/191>
- Houghton, J. D., & DiLiello, T. C. (2009). Leadership development: The key to unlocking individual creativity in organizations. *Leadership & Organization Development Journal*, 31(3), 230-245.
<https://doi.org/10.1108/01437731011039343>
- Howard, G. S. (1980). Response-shift bias: A problem in evaluating interventions with pre/post self-reports. *Evaluation Review*, 4(1), 93–106. <https://doi.org/10.1177/0193841X8000400105>
- Institute of museum and library services. (n.d.). *Outcomes based evaluation basics*.
<https://www.imls.gov/grants/outcome-based-evaluation/basics>
- Jee, S. H., Couderc, J., Swanson, D., Gallegos, A., Hilliard, C., Blumkin, A., Cunningham, K. Heinert, S. (2015). A pilot randomized trial teaching mindfulness-based stress reduction to traumatized youth in foster care. *Complementary Therapies in Clinical Practice*, 21(3), 201-209.
<http://dx.doi.org/10.1016/j.ctcp.2015.06.007>
- Joyce, A., ETTY-Leal, J., Zazryn, T., and Hamilton, A. (2010). Exploring a mindfulness meditation program on the mental health of upper primary children: A pilot study. *Advances in School Mental Health Promotion*, 3(2), 17-25. <https://doi.org/10.1080/1754730X.2010.9715677>
- Kabat-Zinn, J. (2012). *Mindfulness for beginners: Reclaiming the present moment—and your life*. Sounds True.

Mindfulness Moments: Today and 4-Life Program

- Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., Rohde, L.A., Srinath, S., Ulkuer, N., Rahman, A. (2011). Child and adolescent mental health worldwide: Evidence for action. *The Lancet*, 378(9801), 1515-1525. [https://doi.org/10.1016/S0140-6736\(11\)60827-1](https://doi.org/10.1016/S0140-6736(11)60827-1)
- Kuyken, W., Weare, K., Ukoumunne, O. C., Vicary, R., Motton, N., Burnett, R., Cullen, C., Hennely, S., & Huppert, F. (2013). Effectiveness of the Mindfulness in Schools Program: Non-randomized controlled feasibility study. *The British Journal of Psychiatry*, 203(2), 126-131. <https://doi.org/10.1192/bjp.bp.113.126649>
- Le, T. N. (2014). Mindfulness-based adventure camp for military youth. *Journal of Extension*, 52(2), 1-10. <https://archives.joe.org/joe/2014april/a5.php>
- Leggette, H., Lawrence, S., Merten, K., & McGuill, P. (2013). Perceived impact of the 2011 Texas 4-H roundup on participants' development of life skills. *Journal of Extension*, 51(3). <https://www.joe.org/joe/2013june/rb1.php>
- Lewis, K. M., Iaccopucci, A. M., & Soule, K. E. (2020). Engaging teens and adults in mindfulness: The University of California 4-H mindfulness retreat. *Journal of Extension*, 58(4), v58-4iw4. https://archives.joe.org/joe/2020august/pdf/JOE_v58_4iw4.pdf
- Liehr, P., & Diaz, N. (2010). A pilot study examining the effect of mindfulness on depression and anxiety for minority children. *Archives of Psychiatric Nursing*, 24(1), 69-71. <http://dx.doi.org/10.1016/j.apnu.2009.10.001>
- Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and preliminary outcomes of a school-based mindfulness program for urban youth. *Journal of Abnormal Child Psychology*, 38, 985–994. <https://doi.org/10.1007/s10802-010-9418-x>
- Mental Health America. (2018). *Ranking the states*. <http://www.mentalhealthamerica.net/issues/ranking-states>
- Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the national comorbidity survey replication—Adolescent supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(10), 980-989. <https://doi.org/10.1016/j.jaac.2010.05.017>
- Metz, S. M., Frank, J. L., Reibel, D., Cantrell, T., Sanders, R., & Broderick, P. C. (2013). The effectiveness of the learning to BREATHE program on adolescent emotion regulation. *Research in Human Development*, 10(3), 252-272. <https://doi.org/10.1080/15427609.2013.818488>
- Napoli, M., Krech, P. R., and Holley, L. C. (2005). Mindfulness training for elementary school students. *Journal of Applied Scholarship Psychology*, 21, 99-125. https://doi.org/10.1300/J370v21n01_05
- National 4-H Council. (2019). What is 4-H? *National 4-H council*. <https://4-h.org/about/what-is-4-h/>
- Nickels, J. (2015, April 12). Yoga curriculum helps youth achieve optimal overall health. *Enid News & Eagle*. https://www.enidnews.com/news/yoga-curriculum-helps-youth-achieve-optimal-overall-health/article_81232ed8-de3f-11e4-b498-6facd0de735c.html

Mindfulness Moments: Today and 4-Life Program

- Noggle, J. J., Steiner, N. J., Minami, T., & Khalsa, S. B. S. (2012). Benefits of yoga for psychosocial well-being in a US high school curriculum: A preliminary randomized controlled trial. *Journal of Developmental & Behavioral Pediatrics, 33*(3), 193-201.
<https://doi.org/10.1097/DBP.0b013e31824afdc4>
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work, 1*(3), 261-283.
<https://doi.org/10.1177%2F1473325002001003636>
- Perkins, D. F. (2009). Community youth development. In J. J. Wood & J. Hine (Eds.), *Work with young people*, pp. 104-113. SAGE.
- Potek, R. (2012). *Mindfulness as a school-based prevention program and its effect on adolescent stress, anxiety and emotion regulation*. (Doctoral dissertation). New York University.
- Powers-Barker, P., Carter, S., & Worthington, T. (2018). *Mindful wellness curriculum*. Ohio State University Extension.
- Roeser, R. (2019). *Kaveri group parent perceptions of workshops*. [Unpublished survey].
- Schmitt-McQuitty, L. (2007). Encouraging positive youth development with youth leadership summits. *Journal of Youth Development, 1*(3), 72-79. <http://dx.doi.org/10.5195/JYD.2007.375>
- Schonert-Reichl, K. A., & Lawlor, M. S. (2010). The effects of a mindfulness-based education program on pre-and early adolescents' well-being and social and emotional competence. *Mindfulness, 1*(3), 137-151. <https://doi.org/10.1007/s12671-010-0011-8>
- Seemiller, C. (2018). A competency-based model for youth leadership development. *Journal of Leadership Education, 17*(1), 56-72. <http://dx.doi.org/10.12806/V17/I1/R1>
- Shonin, E., & Van Gordon, W. (2015). Practical recommendations for teaching mindfulness effectively. *Mindfulness, 6*(4), 952-955. <https://doi.org/10.1007/s12671-014-0342-y>
- Sibinga, E. M., Kerrigan, D., Stewart, M., Johnson, K., Magyari, T., & Ellen, J. M. (2011). Mindfulness-based stress reduction for urban youth. *The journal of alternative and complementary medicine, 17*(3), 213-218. <https://doi.org/10.1089/acm.2009.0605>
- Washburn, L., & Copeland, L. (2014). *4-H yoga for kids*. University of Arkansas Extension.
- White, L. S. (2012). Reducing stress in school-age girls through mindful yoga. *Journal of Pediatric Health Care, 26*, 45-56. <https://doi.org/10.1016/j.pedhc.2011.01.002>
- Zeldin, S., & Camino, L. (1999). Youth leadership: Linking research and program theory to exemplary practice. Research and practice: Completing the circle. *New Designs for Youth Development, 15*(1), 10-15. <https://eric.ed.gov/?id=EJ583161>
- Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based programs in schools—A systematic review and meta-analysis. *Frontiers in Psychology, 5*, 603.
<https://doi.org/10.3389/fpsyg.2014.00603>