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Lessons from Two States with Extension Programs for Managing Stress

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Recognizing the need for education that addresses social emotional and mental health issues faced by adults, Extension developed two different types of programs. Michigan State University (MSU) Extension developed the RELAX: Alternatives to Anger program (RELAX) to address anger management, and West Virginia University (WVU) Extension created Stress Less with Mindfulness (SLM) to build stress management skills among adults. At a national conference, the two states independently shared their programs' objectives and delivery implementation and then later cross-trained each other's Extension team. The research reported here shares the designs of both stress-reduction health programs and the results of a combined two-state SLM evaluation with 1,304 participants. The benefits of SLM included skill learning and practice. Recommendations for practice include state Extension services sharing curricula resources, training teams from each other's states, and jointly implementing evaluation protocols. Extension professionals looking for established programs that help people gain skills to promote emotional health and stress-reduction may consider implementing one of these community-based programs in their states.

Keywords: anger management, emotional health, mindfulness, stress reduction, community health program

Introduction

Extension family consumer science and health educators have long recognized the need to help individuals make health-related behavioral changes through increased ability to self-regulate responses to stress. Extension educators in two states decided to address stress-related health

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because each state was in need of research-based interventions. In the Gallup-Healthways Index (2018), Michigan scored 43 on Life Evaluation (U.S. mean: 46.8) and 25 on the Emotional Health indicator (U.S. mean: 78.6). West Virginia scored lower than the national mean (39.8) on Life Evaluation and slightly below the national mean (74.1) on the Emotional Health indicator.

Mental Health America (MHA) ranks states by the occurrence of mental illness in the population based on measures of prevalence and access to care. MHA ranked Michigan 17th overall and West Virginia 42nd out of 50 states and the District of Columbia (MHA, 2017). Moreover, Extension educators in both states recognized that stress and anger lead to higher levels of the stress hormone cortisol, which can have negative physical effects such as heart disease, high blood pressure, and diabetes (Kandhalu, 2013). Leaders from both states concluded they needed programs to address emotional and mental health, so Extension educators at Michigan State University (MSU) Extension developed and offered “RELAX: Alternatives to Anger” (RELAX) and Extension educators at West Virginia University (WVU) Extension developed and offered “Stress Less with Mindfulness” (SLM).

Descriptions of Two Extension Stress Management Health Programs

RELAX: Alternatives to Anger Program

RELAX was designed to give adult learners a way to deal with anger. The program goals are to help participants express emotions, navigate stress, resolve interpersonal conflict, take another’s perspective, feel capable and whole, and build skills to form and maintain satisfying relationships. The training is intended to be implemented as a series of four sessions that last 60 to 120 minutes each, for four weeks. The core concepts of RELAX include recognizing anger signals, empathizing with others, listening and hearing others, accepting anger, and learning to forgive the past and live in the present. RELAX is available as a face-to-face series in small or large group settings and as an online self-paced course offered through MSU Extension. The RELAX Parent Caregiver module was created from a demand for a one-time workshop on anger management with a focus on communicating with children and youth. In addition, a Spanish version of RELAX called *Relajarse* is available (Reck et al., 2019; Tiret et al., 2018).

Between 2013 and 2018, 3,060 adults in MSU Extension completed the RELAX four-week, face-to-face series. Program evaluation results demonstrated changes in behavior on the individual and group or program level (Pish et al., 2016). Improving communication skills was a significant outcome of the RELAX program, which showed how education could help individuals deal with toxic and persistent stress in daily life to support positive emotional health. Extension educators collected program evaluation data, and it was found that (a) 61% of participants reduced their frequency in yelling and screaming, (b) 62% worked hard to be calm and talk things through, (c) 61% talked things through until they reached a solution, and (d) 58% learned what triggered their anger at others.

Stress Less with Mindfulness Program

Mindfulness is an effective treatment in decreasing anxiety and depression (Hofmann et al., 2010) and reducing stress symptoms (Galla et al., 2015). Meta-analytic review of controlled studies of mindfulness-based programs has shown widespread emotional and medical benefits in primary care populations (Demarzo et al., 2015) and for individuals without a prior interest in meditation. In 2009, after studying the University of Massachusetts program, a Family Life Specialist at WVU Extension began working on mindfulness health educational materials that could be used by Extension professionals in community-based programs. The result was a five-module curriculum titled Stress Less with Mindfulness (SLM). Many of the concepts taught in SLM are based on training developed by Kabat-Zinn (2003). The SLM program objectives include identifying personal stress and learning mindfulness techniques such as breathing, movement, eating, walking, and other ways to calm the mind and body (Smith & Nichols, 2020).

Implementation of Extension Stress-Related Health Programs in Two States

Partnership Between Extension in Michigan and West Virginia

In 2013, staff from MSU Extension and WVU Extension met at a national conference and discussed the benefits of each stress reduction program. This resulted in an evolving partnership with the Social Emotional Health team of MSU Extension and the Family Relationship team at WVU Extension. A decision to implement SLM in Michigan was made because SLM concepts complimented the concepts in the existing RELAX program but moved beyond anger control by training participants in mindfulness skills. A description of the complementary concepts follows.

Cortisol is a hormone released when humans are stressed, angry or afraid (Kandhalu, 2013). Cortisol has negative physical effects such as increasing or worsening chronic conditions, including heart disease, high blood pressure, and diabetes. RELAX teaches the effects of cortisol and suggests ways to calm down and de-stress.

SLM also taught about cortisol but provided a deeper understanding and outlined practical ways to implement mindfulness practice into everyday life as a way of managing stress (Manenschijn et al., 2013; Schoorlemmer et al., 2009). In addition, SLM presented five lessons, each with details on using mindfulness techniques to reduce stress, including breathing (Kabat-Zinn, 2015), mindful movement (Hanh & Vriezen, 2008), mindful eating (Bays, 2017), walking (Jung, 2014), thought surfing (Kabat-Zinn & Hanh, 2009), being kind to your mind (Hanson, 2009), and laughter (White & Winzelberg, 1992).

The concept of awareness was taught in both RELAX and SLM. People can learn to manage their anger by becoming aware of their physical reactions to anger and then applying calming techniques (Peirce et al., 2013). RELAX helped participants become aware of personal anger triggers. This concept was taught in SLM by using mindfulness as a way to practice being aware,

in the present moment, with a non-judgmental attitude (Kabat-Zinn, 2015). In addition, both programs included walking as a proven way to calm down (Jin, 1992; Kaye, 2000). RELAX taught that not everything that makes one angry is in one's control and suggests ways to change thinking. SLM went deeper into learning about what can and cannot be controlled with facilitated discussions on acceptance (Forsythe & Eifert, 2007). RELAX taught about eating as a response to stress and elevated cortisol levels (Adam & Epel, 2007; Groesz et al., 2012). SLM has an entire lesson on how to eat mindfully and more slowly as a way to interrupt stress eating (Bays, 2017). Finally, an introduction to forgiveness was addressed in RELAX lesson four, focusing on steps to forgiving (Luskin, 2003). SLM introduced the practice of mindful thought-surfing, which can decrease thought rumination and increase interpersonal forgiveness (Karremans et al., 2019; Rusting & Nolen-Hoeksema, 1998).

Although both programs focus on stress management concepts and complement each other, the research reported here focused on the collective evaluation results for the SLM programs implemented in two states to provide evidence for other Extension units to consider implementing health programs for managing stress in their states. There was insufficient data collected from WVU Extension on RELAX to include in this research. The significant amount of SLM data collected from both states provided an opportunity to combine results.

SLM Program Series

From 2013 to 2017, the combined participation in the SLM series in Michigan and West Virginia was 3,760 adults (Table 1) at 83 locations. Attendees included a variety of audiences such as employees, early childhood providers, school-age educators, parents, and caregivers. At MSU Extension, the program was implemented as adult community education and as professional development at worksites, senior centers, and substance use disorder treatment facilities. In West Virginia, SLM was primarily offered as a worksite wellness program.

Table 1. Number of SLM Series Participants in Michigan and West Virginia by Year

Year	Michigan Participants	West Virginia Participants	Total Participants
2013	--	153	153
2014	322	164	486
2015	375	613	988
2016	461	593	1,054
2017	707	372	1,079
All years	1,865	1,895	3,760

Demographic characteristics of program participants in Michigan and West Virginia included self-reported information on their age category, gender, race, ethnicity, and educational level (Table 2). Most participants were women, White, and college-educated; however, there was some variability across demographic characteristics. Collectively this information shows a typical audience reached over several programming years.

Table 2. Program Participant Demographic Characteristics for Michigan and West Virginia

Variables	Michigan (%)	Number of Participants (N)	West Virginia (%)	Number of Participants (N)
<u>Gender</u>				
Women	72	774	87	309
<u>Race and Ethnicity</u>				
Hispanic or Latino	2.5	19	2	6
American Indian	1.5	12	2	5
Asian	2	15	5	17
Black, African American	9	71	6	20
White, Caucasian	85	643	87	308
<u>Age</u>				
Less than 30 years	25	199	11	38
31 to 40 years	18	142	19	68
41 to 50 years	17	119	21	75
51 to 60 years	20	162	31	113
61 to 70 years	13	112	16	59
Over 70 years	7	57	2	5
<u>Educational Level</u>				
High School	26	165	29	78
Some College/Associates	34	209	14	38
College degree	40	250	57	153

Note. Missing data was removed from the calculation of percentages.

Methods

In both states, participants were asked to complete a retrospective evaluation survey on the last day of the program. When completing the survey, participants were told to think back to before they participated in SLM and indicate whether they were knowledgeable of the seven mindfulness-related tasks on a Likert-type scale (1 = *strongly disagree*; 2 = *disagree*; 3 = *agree*; 4 = *strongly agree*). Then, on the same scale, participants were asked to indicate their disagreement/agreement regarding whether they practiced the seven tasks at the end of the program.

The seven survey items matched the SLM program objectives and included (a) I was able to identify three mindfulness tools to help me manage stress, (b) I was able to identify my personal stress barometers, (c) I was able to use mindful breathing to calm myself in the face of stress, (d) I was able to practice mindful movement as a way of calming the mind and body, (e) I was able to use mindful awareness when I am eating, (f) I was able to describe how mindfulness perspective can change my reaction to daily stressors, and (g) I was able to be more positive about dealing with stress in my life by using mindfulness tools. Using the Likert-type rating scales, a mean score was calculated for each objective (before/now) to compare and provide

evidence of program effectiveness. Outcomes were classified as knowledge or behavior as a way to describe the benefits of the program for participants.

In three open-ended questions, participants described what they will do differently as a result of participating in the SLM program, what they liked or disliked about the program, and provide a final comment. A census sample was attempted by administering the survey to all participants at each SLM location in both states. A total of 1,304 participants from MSU Extension and WVU Extension completed evaluation surveys for a 34.6% response rate. State evaluators entered the data into databases. Participant completion of evaluation surveys was voluntary. For this paper, all data were entered into two SPSS data files to analyze results by state.

SLM Program Evaluation Results

Descriptive analyses indicated participants perceived that they learned about mindfulness and increased their capacity to practice mindfulness skills. As seen in Table 3, positive outcomes from the before/now responses indicate that participants reported increased knowledge and/or changed behavior on all objectives. For example, before attending SLM, 31% of participants reported that they were able to use mindful awareness when eating, and after the program, this increased to 93.5%. Likewise, 51.1% agreed that they were able to use mindful breathing to calm themselves in the face of stress before the program, and 97% reported they could do this after the program, for a 47.3% increase in agreement. The two highest increases in agreement were related to behavioral impacts, that is, the use of mindful awareness when eating and practicing mindful movement as a way of calming the mind and body.

Table 3. Percent of Participants Who Agreed or Strongly Agreed on the Before and Now/After Retrospective Survey Statements and the Percentage Increase for Each Program Objective

Outcome	Program Objective	Before: % Agree or Strongly Agree	After: % Agree or Strongly Agree	% of Increase in Agreement
Behavior	I was able to use mindful awareness when I am eating	30.9	93.5	66.9
Behavior	I was able to practice mindful movement as a way of calming the mind and body	31.1	93.7	66.8
Knowledge	I was able to describe how a mindfulness perspective can change my reaction to daily stressors	34.8	96.4	63.2
Knowledge	I was able to identify three mindfulness tools to help me manage stress	36.2	97.5	62.9
Behavior	I was able to be more positive about dealing with stress in my life by using mindfulness tools	38.6	96.7	60.1

Outcome	Program Objective	Before: % Agree or Strongly Agree	After: % Agree or Strongly Agree	% of Increase in Agreement
Knowledge	I was able to identify my personal stress barometers	44.9	95.7	53.1
Behavior	I was able to use mindful breathing to calm myself in the face of stress	51.1	97.0	47.3

Means for each survey statement (program objective) were calculated, and the difference between the before mean and the now/after mean was calculated and tested for significance with a *t*-test (Table 4). Although the difference in means scores for all objectives was at least 1.0, one knowledge gain rose to the top of the list, identifying three mindfulness tools to help manage stress. The next two greatest gains were behavioral, practicing mindful movement to calm the mind and body, and being more positive about dealing with stress by using mindfulness tools.

Table 4. Before and After Mean Scores and the Difference

Outcome	Program Objective	Before Mean	After Mean	Difference	t	N
Knowledge	I was able to identify three mindfulness tools to help me manage stress	2.25	3.55	-1.305*	-51.150	1,267
Behavior	I was able to practice mindful movement as a way of calming the mind and body	2.14	3.42	-1.275*	-47.962	1,219
Behavior	I was able to be more positive about dealing with stress in my life by using mindfulness tools	2.29	3.55	-1.267*	-48.130	1,266
Behavior	I was able to use mindful awareness when I am eating	2.10	3.36	-1.263*	-46.331	1,206
Knowledge	I was able to describe how a mindfulness perspective can change my reaction to daily stressors	2.22	3.47	-1.255*	-49.177	1,252
Knowledge	I was able to identify my personal stress barometers	2.37	3.46	-1.096*	-44.975	1,267
Behavior	I was able to use mindful breathing to calm myself in the face of stress	2.47	3.42	-1.069*	-40.847	1,254

Note. Results of comparing means as a paired sample. * $p < .000$.

Open-ended survey replies were compiled and categorized into themes, as is common in qualitative content analysis (Hsieh & Shannon, 2005). Two evaluators reviewed 1,426 statements across all surveys, using techniques such as pawing or eye-balling and marking similar comments with different colored markers, and then organizing them into patterns or themes

(Ryan & Bernard 2000). As seen in Table 5, nine main themes emerged about what participants plan to do after taking the program: practice mindful breathing, become more aware of one's environment and life stressors, practice mindful eating, laugh more, practice mindful walking or movement, relax more, teach and share skills, practice techniques and incorporate techniques into daily life. Mindful breathing was the technique that was mentioned most often. Twenty-eight comments were coded as "other," as they did not fit a theme or were often personalized goals.

Table 5. Actions Participants Plan to Do by Theme

Themes from Open-Ended Survey Questions	# of Comments	% of Total Comments
Practice mindful breathing	366	26
Become more aware of my environment and the stressors in my life	332	23
Practice mindful eating	214	15
Laugh more or use humor to relieve stress	201	14
Practice mindful walking/movement	128	9
Relax more	82	6
Teach and/share skills	31	2
Practice techniques/incorporate them into life	31	2
Practice meditation	13	1
Total comments	1,426	100

Note. Twenty-eight comments were coded as "other," as they did not fit a theme (2%).

As seen in Table 5, participants who entered the program unfamiliar with the practice of using mindful awareness while eating gained appreciation for this activity by the time they finished the program. Their comments reflect different ways in which participants approached this new practice: "I use lunch time (without working) to come back to earth and enjoy food." "I think and rethink eating as an experience." "I mindfully eat without looking at [my] phone."

Changes in behavior shared by participants, such as mindful walking and movement, were illustrated by the following comments: "I have incorporated more mindful movement." "I walk more and with intention."

Participants indicated they were going to be more aware of stressors in their lives and deal with them more positively. Participants acknowledged that a simple thing like laughter helps relaxation. Comments illustrate this: "I find laughter resources and use them." "I find as many excuses as possible for humor that can be shared." "I teach others to laugh." "I laugh at myself."

Participants said that they were planning to use other mindfulness tools to deal more positively with stress by adding more relaxation time to their day. "I will slow down and use mindfulness training." "I will be aware of stress triggers and react differently." "I will be in the moment and be aware of surroundings." "I will not get upset with myself when feeling sad or emotional."

Other relaxation techniques included taking time out of workdays to relax and be more mindful and creating a space to practice mindfulness.

SLM: One-Time Workshops as an Unexpected Outcome of the Partnership

Though the preferred method to teach SLM was by offering a five-week series of lessons, many partners and stakeholders requested one-time presentations. MSU Extension adapted the SLM series format into individual one-time presentations, which offer partners/sponsors the opportunity to choose one or more presentations from the SLM series (Table 6). MSU Extension offered one-time workshops as a result.

Since 2014, 3,890 adults have participated in one-time presentations in Michigan. The most popular lessons requested are: “Begin with the Breath,” which teaches the basic tools of mindfulness, and “Laughter is Good Medicine.” “Mindfulness with Children” targets parents and caregivers in a one-time workshop. This new module authored by MSU Extension was adapted from SLM series materials. Mindfulness with Children is often requested at national trainings and conferences.

Table 6. Stress Less with Mindfulness One-Time Participants in Michigan

Lesson	Number of Participants
Begin with the Breath	1,220
Mindfulness with Children	1,176
Laughter is Good Medicine	628
Be Kind to Your Mind	369
Mindful Eating	345
Mindful Movement/Thought Surfing	152

Limitations

The evaluation of the SLM series program was done in real-life community settings. Evaluators used a census sample; that is, all participants were invited to complete evaluation surveys. A retrospective survey design allowed participants to reflect on what they knew or felt prior to participating in the training and compare that with what they knew or felt at the end of the training. The retrospective survey design is used to address problems with traditional pre/post-designs related to respondents not being familiar with terms or concepts prior to participating in an educational experience (Pratt et al., 2000). Conversely, this design does not measure actual observed change; rather, it is intended to measure participant perception of change that is self-reported. This is a potential limitation because self-reported information can have social desirability bias where people tend to overrate positive qualities and under-rate negative behaviors either consciously or unconsciously (Paulhus, 2002).

Discussion

We found that participants in SLM showed an increase in their knowledge of mindfulness skills, were able to identify stress cues, and gained an understanding of how mindfulness can help them deal with everyday stress. Participants also showed behavior impacts related to mindfulness by increasing their capacity to practice mindfulness skills such as mindful breathing, mindful eating, and mindful movements. Finally, participants showed an increase in being more positive about dealing with stress by incorporating these mindfulness techniques.

We also found that participants perceived that the SLM program improved their knowledge and use of mindfulness techniques. On a retrospective questionnaire, participants indicated that they could identify three mindfulness tools to help manage stress, identify personal stress barometers and describe how a mindfulness perspective can change reactions to daily stressors. Participants who took part in the SLM series reported they were able to identify the four mindfulness tools taught: mindful breathing, mindful eating, mindful walking/movement, and laughter/humor. Participants reported being more knowledgeable of mindfulness techniques and using them more often in their daily lives (Basso et al., 2019; Demarzo et al., 2015).

Mindful breathing was a practice that participants reported knowing more about when they began the program; therefore, showing the lowest percentage of change; however, mindful breathing was the skill most participants said they would continue to practice. Two mindfulness skills—mindful eating and mindful walking and movement—showed the greatest increase in agreement over the course of the SLM program because they were likely new concepts for many participants (Frayn et al., 2018; Kerin et al., 2019). Participant comments reflected different ways in which individuals intend to practice mindful eating after they leave the program. In addition to the stress-reduction benefits of mindful eating, we assumed that the technique might have many other health benefits. For example, individuals who practiced mindful eating center their thoughts on the food itself, slowing down and enjoying every bite. This technique might lead to healthier food choices and slower eating patterns. Learning about mindful walking and movement (Demarzo et al., 2015; Teut et al., 2013) was a key program outcome.

Participants seemed to enjoy knowing that a simple thing like incorporating humor and laughter into one's day can help with relaxation. By using mindful laughter, participants perceived that they were adding more relaxation time to their day (Galla et al., 2015; Hofmann et al., 2010). By using laughter and the other mindfulness techniques, participants reported being able to relax more and better enjoy life with family and friends (Hofmann et al., 2010; Jimenez et al., 2010). They indicated that, from now on, they were going to be more aware of stressors in their lives and deal with them more positively (Hede, 2010; Mora-Ripoll, 2011). Another important benefit of SLM was that participants wanted to share the techniques with others (Grossman et al., 2004; Kabat-Zinn, 2003). Some of the participants were teachers or administrators at organizations that want to help their employees adopt mindfulness techniques to lower health risks.

Conclusion

Benefits of the Partnership

Two state Extension teams recognized the need to address mental/emotional health needs in their states. Independently, they each developed a program: MSU Extension developed the RELAX program, and WVU Extension developed the SLM program. Before partnering with WVU Extension, MSU Extension evaluated the RELAX program and found that participants improved the communication skills essential for dealing with toxic and persistent stress in daily life. Specifically, RELAX participants said that they reduced yelling and screaming, improved their ability to stay calm, talked things through and reached a solution, and improved their ability to recognize the triggers that made them angry. MSU Extension offered SLM to participants to add mindfulness techniques to the suite of programs designed to improve stress management. The result of the partnership between MSU Extension and WVU Extension was that a formal evaluation of SLM was conducted with a larger and more varied audience than would have been possible if WVU Extension had done it on its own. The evaluation results showed that, based on the perceptions of participants, the program makes individuals more knowledgeable of mindfulness tools, which led to practice of the skills. Our data confirm that both RELAX and SLM programs were effective; however, a randomized control-treatment design study would be necessary to establish cause and effect.

Implications for Practice and Evaluation

The most important implication for practice is that there is value in state Extension services sharing curricula resources, training teams from each other's states, and jointly implementing evaluation protocols. Although not the purpose of this study, each state could have analyzed the data separately and reported differences by state and/or target audiences—work site, referral, and community. Additionally, the partnership allowed MSU Extension to adapt the delivery method (series) of the content to five separate workshops in order to make the program more accessible to new audiences. It was also able to strengthen the anger management education it was already providing by adding stress management to its program portfolio.

Future efforts should focus on more systematic ways to easily share multi-state data through a collective database (Hardison-Moody et al., 2011; Payne & McDonald, 2015; Schmieder et al., 2018). Further, research could be done to test the efficacy of RELAX and SLM with unique audiences and with individuals who participate in both programs.

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