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SCHOOL BASED YOGA INTERVENTION FOR CHILDHOOD STRESS MANAGEMENT

Townshend, VT

Erica Marden

October-November 2014

Mentors: Dr. Maurice Geurts

PROBLEM IDENTIFICATION

- ▶ Childhood stress can have immediate and long-term negative impacts on physical health, mental health, school performance, self-esteem, and relationships^{1,2}
- ▶ Children face increasing stresses at school beginning at younger ages with the curricular demands on standardized testing and larger class sizes
- ▶ For children in rural communities there are fewer resources available as recreational and therapeutic outlets for healthy stress reduction
- ▶ Extracurricular activity involvement also puts significant financial and time burdens on families
- ▶ Children in Townshend and Jamaica often have to travel 30-40 minutes to Manchester or Brattleboro VT for activities not offered by the local schools

PROBLEM IDENTIFICATION

- ▶ There is a particular need to provide children in rural areas with tools to manage stress that can be incorporated into the school day and require few resources
- ▶ Yoga is an excellent school-based activity that has proven benefits on physical and emotional health for both students and teachers^{3,4}
- ▶ School-based yoga has shown to be effective at improving children's sense of wellbeing and reducing self-perceived levels of stress^{3,4}
- ▶ An added benefit of yoga is that it can be practiced individually at home without requiring any special equipment

PUBLIC HEALTH COSTS

LOCAL CONSIDERATIONS

- ▶ While the long term cumulative effects of childhood stress are difficult to assess yoga and mindfulness techniques have been shown to help manage a variety of other childhood conditions⁵
 - ▶ Conditions such as ADHD, Anxiety, Depression, Autism, Conduct Disorder account for a substantial economic burden
- ▶ Rural communities are at a particular disadvantage because there are fewer psychiatric and community resources available
- ▶ Local costs in Townshend and Jamaica VT are particularly dominated by transportation costs and time to see specialists in Bennington and Brattleboro
 - ▶ Time spent on travel and specialist visit is ~3.5 hours
 - ▶ Roundtrip cost in gas to go to Bennington, VT getting 25mpg is ~\$12.48 + parental cost of loss of a workday

PUBLIC HEALTH COSTS⁵

NATIONAL ESTIMATED COSTS PER CHILD PER YEAR

▶ ADHD:

- ▶ Health and mental health care: \$460 to \$3,140
- ▶ Education: \$2,360 to \$13,190
- ▶ Crime and delinquency/justice system: \$280 to \$8,380
- ▶ Family lost productivity: \$150 to \$850
- ▶ Social services: \$45-190

▶ Stress, Anxiety and Depression:

- ▶ Health and mental health care: \$150 to \$1,970
- ▶ Family care: \$90
- ▶ Education, reduced productivity and school absences: \$1,680 to \$1,790
- ▶ Social care: \$49 to \$1,120

COMMUNITY PERSPECTIVE

Interview 1: [Name Withheld]-1st and 2nd grade teacher at Jamaica Elementary School, VT

1. What types of stresses do children face during the school?

>> Our required curriculum means that the **daily schedule is quite demanding** which can be overwhelming especially for younger students. Larger class sizes can also be difficult for some children who are more sensitive to **environmental stressors**.

2. Do you think children would benefit from yoga and mindfulness incorporated into the school day?

>> Absolutely, I have always wanted to try doing yoga with one of my classes but have never done it. I personally love going to the community yoga classes at Grace Cottage and I know a Kindergarten teacher in a neighboring district incorporates yoga into some of her lesson plans. **Some kids will come to school with a lot on their minds from stress at home** which can make it challenging for them to have a successful day at school. Also the **kids love having anything new or different to look forward to** during the day

COMMUNITY PERSPECTIVE

Interview 2: [Name Withheld]-Community yoga instructor at Village Yoga in Newfane, VT

1. What do you see as the major health benefits of yoga for adults and children?

>> “There are so many that I could name but I think that the major ones that I focus on are **building strength, flexibility, balance, mindfulness and body awareness.**”

2. Do you see a role for yoga in schools?

>> “Absolutely, I think expecting children to learn by only reading books and taking tests is not going to get us to a better place. We **need to give kids tools to become more aware of what they are feeling and an opportunity to express it.** I think **yoga and meditation can open children's minds to absorb so much more.**”

3. What health challenges do people in rural Vermont communities face?

>> “I think **access is a large limitation in these areas.** In the **winter months there is a lot of being indoors** and that can lead to obesity, malnutrition and depression.”

4. What other forms of mindfulness can be helpful for stress reduction particularly in a rural setting where there are not a lot of resources available?

>> “Meditation is another area that I focus on just as much as the movement. It is very important for people to be able to sit still for a period of time to give their mind a rest and to give their bodies an opportunity to feel. **The great thing about meditation is you don't need anything special to do it.** You just need to have some discipline for sitting still.”

INTERVENTION

- ▶ I developed and taught two yoga lessons to the 1st and 2nd grade class at Jamaica Village School
- ▶ Each lesson was 30 minutes long and incorporated aspects of yoga, meditation, and breathing self-awareness
- ▶ The yoga sequences were based on Hatha yoga teachings but adapted for children
 - ▶ Used animal names for poses instead of traditional Sanskrit
 - ▶ Used the classroom speakers to play soft instrumental music
 - ▶ Focused on mindful breathing throughout and provided dedicated periods of meditative reflection
 - ▶ Discussed how internal feelings can manifest as physical ailments and how important it is to recognize emotions
 - ▶ Incorporated individual and group work to keep it calming but also fun

INTERVENTION

- ▶ Lesson Plan #1-attached
- ▶ Lesson Plan #2-attached
- ▶ Some example poses included⁶:

Balloon Breath:

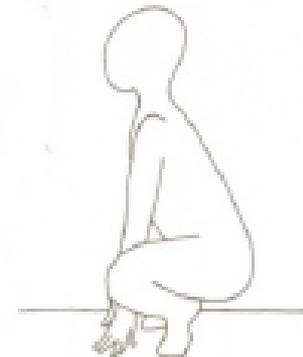


Tree Pose

Shoulder twists and rolls:



Frog Pose



RESPONSE

- ▶ Lesson 1:
 - ▶ Full participation by all students
 - ▶ Incredibly positive reaction by all the kids
 - ▶ Select quotes:
 - ▶ “It made me feel strong, I could feel my muscles”
 - ▶ “I felt really relaxed”
 - ▶ “ I liked tree pose and child pose”
 - ▶ “Can you come back?”
 - ▶ Teacher was very impressed with how engaged the class was particularly during the meditative silent poses
 - ▶ “We all LOVED it”

RESPONSE

- ▶ Lesson 2:
 - ▶ Students very excited for second lesson
 - ▶ Peering out of classroom door when I entered the school and quickly rushed to get into crossed-legged seated pose on the rug
 - ▶ “She’s in the building!”
 - ▶ Select quotes:
 - ▶ “It made me feel sleepy, I will sleep so well tonight”
 - ▶ “I feel calm”
 - ▶ “Last time after you left, the three of us [points to herself and two other girls] did yoga during our choice time”
 - ▶ “Can you move here so we can do this forever?”

EVALUATION OF EFFECTIVENESS

- ▶ Evaluating effectiveness based on 4 areas:
 - ▶ Participation
 - ▶ 100% participation during both lessons
 - ▶ Many volunteers during pre-lessons when questions were posed to the group
 - ▶ Focus/Engagement
 - ▶ Students' were persistent about holding poses even if they briefly lost balance
 - ▶ Stayed quiet during periods of mediation and mindful breathing exercises
 - ▶ Student Response
 - ▶ Incredibly positive and eager to do more yoga
 - ▶ Teacher Response
 - ▶ Surprised at how quiet the student were able to be during long 5 min meditation poses
 - ▶ Felt that the students were calmer after the lessons
- ▶ Overall both yoga lessons were extremely successful if judged by the kids' enthusiasm, ability to quietly meditate, focus during poses, and positive responses
- ▶ Students also expressed a desire to continue practicing poses on their own
- ▶ Limitations included only being able to do 2 lessons and not gathering direct quantitative survey data

RECOMMENDATIONS FOR FUTURE

- ▶ Continue providing opportunities for stress reduction for school aged children
- ▶ Ideally work with a community yoga studio, such as Village Yoga in Newfane or Grace Cottage Hospital's Community Health Yoga Series, to offer a workshop for rural teachers to learn some basic poses and breathing techniques to do with their classrooms
- ▶ Offer teacher refresher courses once a semester so they continue to learn new poses and strategies to incorporate into their classrooms
- ▶ Gather quantitative data from students rating how their emotional state and overall mood is affected by consistent yoga incorporation in the classroom

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