

The Effects of Yoga & Mindfulness on Kids

Lindsey Schweigler

Dr.Borda Capstone Spring 2019

Abstract:

Yoga is a form of physical exercise that offers a variety of postures or movements called “asana” paired with breathing exercises “pranayama, practiced to create movement and space in the body, as well as reach a more relaxed state. We are seeing however that there are numerous additional benefits when it comes to introducing Yoga and Mindfulness to children. Children today are exposed to a number of stressors and emotionally draining experiences but don’t understand how to deal with them, by introducing yoga in schools we would be able to give students the tools to deal with daily life. The research reviewed show benefits for the body and mind, Yoga fosters respect, helps students better cope with stress, creates a better sense of well being, kids can acquire better self control, become more flexible, and more coordinated. The work examined showed the major success of some mindfulness programs that are already in place. The majority of the findings support the idea that adding mindfulness programs to the school day can improve the overall wellbeing of the students. There are unlimited possibilities to these programs and their potential to make a difference on the next generation.

Table of Contents

Introduction.....	3
Thesis	4
Methods	5
Review of Literature	7
Ansylsis	18
Conclusion.....	20
Bibliography of Sources.....	22

Intro :

Yoga in Schools: An in depth look at the Possibilities

Yoga is a practice all about YOU. It focuses on your body, and your breath, your abilities. It teaches patience, it teaches to breathe into the uncomfortable, and above all it teaches respect. The research reviewed in this paper gives us evidence to support yoga and mindfulness programs, evidence supporting development of children in mindfulness intervention programs in elementary school through high school. The research covers all ages and translates around the world. The benefits of Yoga and Mindfulness can be observed at all ages, however the younger student are when they receive the tools, the easier it should be for them to navigate life. Kids involved in mindfulness programs report improved mental health, Strong bodily awareness, and improved academic performance (Conboy). We even see kids that are better able to connect with their classmates, kids develop social skills as they work with a group in a non academic setting (Steiner) . We see the changes programs have had on students but also on teachers, teachers claim that using mindfulness tools in the classroom can help recenter a class and help the flow of the day (Folletto).

This paper looks to identify as many factors as possible, to support adding yoga and mindfulness programs into school districts nationally. With all the new pressures of being an child/adolescent in society today, is it possible that we can improve their overall well being of by simply teaching yoga and mindfulness in schools.

Thesis:

With all the new pressures of being an child/adolescent in society today, is it possible that we can improve their overall well being of by simply teaching yoga and mindfulness in schools.

Research Questions:

Are there schools that already have a Mindfulness and/or Yoga program in place? What is the structure of the program?

What are the results of Mindfulness & Yoga based interventions?

What do the kids/students report?

Methods Section:

We are living in a time where yoga and mindfulness are getting quite a bit of attention. As a result there are more researchers diving into studies surrounding mindfulness and yoga. To find the most accurate, supportive material for this paper, I started with database searches that first narrowed in on a few keywords like Yoga, Yoga Education, and Yoga in Schools. From there I combed through different studies and research reviews on the topic to best bring in the work that best supports the thesis, **With all the new and added pressures of being an child/adolescent in society today, can we improve students overall well being by introducing and teaching yoga and mindfulness programs in schools.**

To support this thesis, the research that would be most valuable was that of those whom have already implemented Yoga Programs into the school day. I was able to find work from a team of researchers that have dedicated their lives to years of research in the Yoga and Mindfulness intervention field (Dariotis 2015/2017). They had as many as 4 research articles published on the topic, and I found their work to be the most helpful in laying the groundwork. Through their study, we are able to learn things like how a mindfulness program impacts the daily life of a student, what they retain and how the teachers are or can be involved.

From there I picked the other 10 articles based in how I could relate them to the Dariotis study and specifically looked for studies that had different approaches to implementing Mindfulness & Yoga programs. I looked for articles across the country and not just

studies in one city, as well as studies that come from other countries, I was hoping to find articles that had strong research, but also resulted in happier, stronger, more self aware children. After doing the research, what became clear is that there are so many schools looking to add programs and looking for more research on how to better the programs in place.

All the research looked at for this paper helps create a big picture of how we can create and implement Yoga and Mindfulness programs into schools. By using the research we can see areas that were strong like involving parents and teachers too (Conboy) and see how we can improve on them even more. We can also take questions that came up, like “who will be best fit as an instructor, Yoga teachers, volunteers or school teachers?” and continue to look for the best answers. If we apply the successes of each of the studies looked at, it's possible to create programs that are even more successful and on a larger scale.

Literature Review:

Yoga in Public Schools

Important for the purpose of this paper, was credibility of sources. The information in this paper has the ability to change the education system. If we are looking to create change then the teachers have to be just as knowledgeable on the subject. What is fascinating is that there has been a number of years, time and money dedicated to researching the Benefits of Yoga based mindfulness intervention programs in Maryland. This study was carried out by a team of 6 researchers and they have dedicated much of the last 5-7 years to this work.

The Dariotis (2015) article is a detailed look at the skills and content that students learned in a 16 week mindfulness intervention program. The study looks to identify the skills students retained and how they utilize the program skills like breathwork and poses or asana.

The data in this study was collected from 22 fifth and sixth grade students and 9 Teachers. The study took place in an urban community in Maryland with high crime and poverty rates. Students participated in hour long Yoga classes twice a week for 16 weeks. The Holistic Life Foundation, a non profit organization, had instructors that were trained in a mindfulness program lead the classes. To measure the data the researchers looked at test scores before and after as well as conducted interviews with the students, teachers and parents. There were a few leading ideas that developed. Researchers saw that kids were able to retain the information like poses and breathwork, but could also understand how the breathwork can translate into their daily lives. The youths also reported "keener emotional appraisal of themselves and others" (Dariotis 2015 p.89). Last the researchers found that students and teachers were reporting that the program

skills positively impacted the stress level of the youth. The Dariotis study shows us how positive the effects of adding a mindfulness intervention program into the school day can positively impact the students, teachers and even classroom dynamics.

The Dariotis (2017) article is a continuation of the previous study. It looks at how implementing a 16 week Yoga Program in 3 urban public schools presented changes and challenges, it looks at how we can improve on programs.

Dariotis (2017) is an extension of the 2015 work, Although not clearly stated if they are using the same 3 schools, the researchers again use schools that are Public schools in low income, urban areas that are exposed to crime, and poverty. The researchers go back into schools to identify how the staff and students feel about the short and long term effects of this program. A major issue identified in Dariotis (2017) is the program is delivered by an outside entity. A community non profit, The Holistic Life Foundation, came in to conduct the program and there were many communication issues. There were issues if the instructor was traveling, sometimes the school teachers wouldn't get the memo and would send students to an empty room. The school teachers also wanted to be involved, but at the time there was also little updates on individual progress of students in the program, making it hard for teachers to lend a hand, advise, or help students grow further. Teachers said in the future they would like to see a collaborative relationship from HLF with teachers.

The work done by this team of researchers is perhaps the most in depth on the Topic of yoga in school systems. The two works were published just 2 years apart and highlight the importance of studying yoga and mindfulness programs. They highlight many positive effects of adding

mindfulness based yoga programs in schools, as well as offers insights for how we can improve on existing programs so we can better help the next generation of students.

Yoga in Elementary - High School

There are never more resources available to us than when we are in school. From the first day to our last, there is never a place again where there are more books, teachers, and knowledge. The following articles are a look at the potential benefits of Yoga programs in Elementary and High school.

Bazzano (2018) is the more recent study of the 2, conducted in 2018, this study is an in depth look at Yoga and mindfulness on Elementary school student and teachers. The study was conducted in New Orleans, Louisiana and similarly to other studies, the data was collected at a public school in a low income area. This study was conducted on a group of third graders that screened positive for symptoms of anxiety. There were 20 students participating in the yoga based mindfulness intervention and a control group of 32 that were receiving care as usual. Different than the Dariotis 2015 article, teachers led this program. The school teachers were able to participate in two professional development sessions on bringing mindfulness into the classroom. The teachers were in favor of the program but we see that there were barriers. Many reported that they are expected to present so much academic material, that they don't feel that they have time for bringing mindfulness and yoga into the day. While others reported not being confident enough themselves, or in the Yoga program, to teach yoga and mindfulness skills.

The study used a number of tests and scales to measure the outcome. The students received and ITT or Intent to treat analysis, then were measured on the Pediatric Quality of Life or PedsQL scale. The study found that there are noticeable emotional improvement in children involved in the mindfulness intervention. There was also a significant physical, psychosocial, and social change in students that participated. Teachers that were interviewed after the study reported ways they felt Yoga and Mindfulness intervention can help in the classroom, like helping kids self regulate, helping students be calm, helping the teachers emotional environment, and improving the overall classroom climate, a trend we also saw in the Dariotis 2015 article.

Conboy (2013) looks at a Yoga program in the high school setting. The program was offered in place of a semester of Physical Education in a public high school in Western Massachusetts. The program contained 32 lesson plans that would be completed in class, but also at home with a curriculum that emphasized; Postures, Breathing, deep relaxation and meditation. Those involved in the study took yoga daily in school plus, there was also parent and student assignment to take home. To measure the results of the program the researchers set up interview processes. There was a parent study packet that went home prior to the start of the program, there was an interview form that students filled out a week after the program ended and then the week after that trained yoga and mindfulness professionals went into the schools and conducted 10-15 minute interviews, face to face and one on one. Interviews with the students that participated showed that there were multiple benefits like improved athletic performance and increased bodily awareness and improved mental health. They also stated that tools learned in yoga helped them at times like taking tests, during competitions, at stressful times and/or when going to bed. Many students found that the program had a large impact on

their mental health, they reported benefits that contributed to sleep regulation, stress regulation, and reduced interest in substances. Important to this study is the location. Different from many other studies, it was conducted in rural western Massachusetts, also not far from the Kripalu Center for Yoga, who helped create the program and put it in place. Kripalu is an incredible resource but many of the other schools are working with nonprofits and have no budget. Further research may reveal if this school had more positive results due to having such a knowledgeable yoga schools at their disposal.

Bazaano (2018) and Conboy (2013) are similar because they identify how movement can change the school day for the better. They both have great results in seeing the effects of the program. They work together to show just how beneficial Yoga can be if we introduce it from elementary through High school. With this research we are seeing benefits of mindfulness and yoga intervention that surpass the individual, classroom environment is so important and we are seeing potential to positively help change how teachers transition and foster a positive classroom environment. Bazzano (2013) pointed out the obstacles of a practice in a school environment, like teacher confidence and while there is adjustments to be make to improve that program, the Conboy (2018) study highlights how getting parents involved and asking students to practice Yoga and mindfulness at home can grow their practice and the benefits. While a 1st grade may not be able to practice the same way as a 9th grader does at home, there are definitely ways to adapt a program similar to the Conboy (2013) study at the elementary level which can help better facilitate the environment.

Yoga in Physical Education

Across the country students are required to take Physical Education. An hour or so a day set aside for movement. However sports are not always the best way to facilities a learning environment. P.E classes can experience gender divides and ability ranges in different units. Also young kids leave gym worked up and excited rather than relaxed and prepared to transition to the next activity. Yoga offers an alternative to activity to student that maybe otherwise inclined to sit on the sidelines.

Both of these studies about Yoga and mindfulness interventions were published in 2018, It seems as though the curiosity about Yoga interventions is growing and the more research in the field, the closer we can be the seeing an actual change in school systems to implement mindfulness regularly.

Knothe (2018) was published to expand on teachers knowledge on the benefits of Yoga lesson and and how adding mindfulness in a Physical Education class can change overall mood in students. The article offers some first step suggestions on implementing yoga into schools, through physical education. They outline a sample class or educators and they remind educators where to focus. Current models for P.E. classes are based around team sports and working on skills like sportsmanship, rules of the game and physical and cognitive abilities.

However teaching Yoga is more about physical fitness, body awareness and mindfulness.

Knothe (2018) reminds us that like with all P.E units, when teaching yoga there may be some students that are not interested but different than other units you may see that many males may not be as interested, yoga is not for everyone. However many females may be more inclined to choose yoga over other units. The article reminds the reader, It's important to make sure all kids have an opportunity to shine and to have them complete task you know they are comfortable with just like with other gym units or school subjects. The article concluded with

reminding us once more that the benefits of Yoga and mindfulness intervention are things like academic and personal growth.

Faterson (2018) points out how in today's day and age there is interest from kids in Yoga. A group of girls in a Boulder, Colorado high school started a Yoga club that eventually spread to be in the PE program in 14 of the districts schools, there is a school in New Haven, Connecticut that requires students to take yoga 3 times a week, which they all, including the principal enjoy. Faterson (2018) tells us of a school in Des Moines, Iowa, that added Yoga intervention as well as a few other changes to school culture and saw increased test scores by 20%. Faterson (2018) points out once more, all the benefits of Yoga like assisting neuromuscular development, increased strength and flexibility, improved posture, balance, body awareness, blood circulation, digestion, promotes sleep and relaxation, it stimulates auditory processing and responsiveness and improves focus. Perhaps most importantly students report a stronger sense of well being.

Knothe (2018) and Faterson (2018) give us a detailed look at the growing number of schools that are currently working on Yoga and Mindfulness intervention programs. Knothe (2018) reminds us that it's easy to get a Yoga program started if you start in Physical Education. There are opportunities to add mindfulness programs for students without changing their schedules or worrying about budget issues. Schools can start small, adding Yoga into the likely year long P.E syllabus would be a great start. Some of the hardest years of our lives are those spent going through school, there are countless stressors, and challenges that kids are presented with, so shouldn't we present them with the tools to deal with it? You can't treat anxiety with a math problem. There is so much growing research in the Yoga Mindfulness field and the best way to get answers and to get more schools started, is to look to the schools already doing it.

Yoga and Health : Eating Disorder and Behavioral & Emotional Disorder Prevention

We practice yoga to create a stronger body and mind. The mind is a delicate thing, especially in adolescence and it's very easy for preteens to get lost when it comes to handling themselves and their emotions. Eating disorders and Emotional disorder are more common than ever, but through the research presented, we can identify ways yoga can help.

Steiner (2013) and Cook-Cottone (2017) are studies that look at how introducing Yoga and Mindfulness can potentially reduce the risk factors in developing certain disorders.

Cook-Cottone (2017) looks at a yoga based eating disorder prevention program targeting middle school girls and Steiner (2013) looks at how we can introduce Yoga to help children with emotional and behavioral disorders.

Cook-Cottone (2017) looks at a 14 week program designed to decrease risk factors associated with Eating disorders and to bolster self care. The program was administered to girls only, in 5th & 6th grade. There were over 125 girls participating in the study, about 40 of them were part of the control group not receiving any yoga or mindfulness intervention. Researchers were looking to reduce trends that often predispose girls to developing eating disorders or ED, body dissatisfaction, self objectification, and Internalization of media ideals but also how to be present with their bodies in a positive manner, to also teach them to make decisions based on what is best for their body and mind. After completing the program, participants showed a decrease in drive for thinness, body image dissatisfaction and also an increase in self care practices, when compared to the controlled group. The researchers also saw relationships grow within the

subjects due to having a common interest in Yoga. A large limitation with this trial was the administration. There was a bit of red tape when it came to things like surveying the participants, finding time after school to hold the program and willingness of administration to find an appropriate control group. However, part of the hesitation of administration was to protect the students. One important factor of this study to note is that there is no data on Males participation in the study if there was any, especially since Cook-Cottone (2017) notes that 10% of the male population currently struggles with eating disorders.

Steiner (2013) was conducted to see the potential positive effects of Yoga classes in a school setting. Similarly to Cook-Cottone (2017) noting that at least 3-5% of adolescent girls struggle with eating disorders and the number seems to be rising, Steiner notes that students with Emotional and Behavioral Disorders (EBD) are on the rise. This study looked at 37 students with EBD and how the program affected them. They were put into groups of 7-10 and participated in yoga classes twice a week for 3.5 months. The sessions were taught by certified yoga instructors and Attendance for the program was 90% each session, impressive for any school programs. Teachers completed pre and post interventions assessments that identified factors like adaptive behavior problem behaviors and classroom attention. Teachers reported improved attention, improved adaptive skills, reduced depressive symptoms and reduced internalizing symptoms.

Steiner 2013 and Cook-Conttone (2017) remind us that although children are in school to learn, there are a number of personal, emotional obstacles that affect them everyday. We have to be smarter about how we approach education. Teaching Yoga in school has the potential to teach life skills that can create better, smarter, stronger, happier kids.

Yoga Around the world

Yoga is a culture all by itself, the origins of yoga take us to India about 3000 BC. It is most definitely not an American practice or unique to the United States in anyway. There are likely schools all over the world teaching Yoga daily, and without the pressures of common core, teachers around the globe have been able to create classroom environments where they can easily teach mindfulness during the school day. Folleto (2016) and Nanthakumar (2018) give us a look at Yoga education programs and research outside of the United States.

Nanthakumar (2018) is a review article that is looking to convince the audience that incorporating yoga in the school day can benefit students in Malaysia. The students are exposed to so much technology and there are such high expectations of them that Nanthakumar (2018) tells us how students in Malaysia are suffering from more stress and anxiety than ever. He believes that adding yoga and mindfulness will reduce and help manage stress, anxiety and other negative emotions. The conclusions of his findings was that there are ways to overcome their emotional stressors by implementing restorative postures, pranayama (breath exercises) and pratyahara (withdrawal of the senses) or meditation. Nanthakumara also points out how it is a cost effective for way for schools to help deal with stress and anxiety.

Folleto (2016) was a study conducted in Brazil. It included 16 children from the 1st grade of a public school. The goal was to assess the children's motor abilities and social behaviors before,

during and after mindfulness interventions. At the end of the study, researchers saw significant and positive changes in overall motor abilities scores (balance, flexibility and strength) and in social behavior. Parents even reported seeing students implementing what they learned in school at home. Notable in the results of this study were that all kids accepted the yoga program, there were no dropouts, kids who refused to participate or parents that pulled them. It would be curious to find out if this has anything to do with age, This wasn't the case for many of the American studies, many of which took place much later than 1st grade.

Nanthskumara (2018) and Folleto (2016) show us how implementing yoga and yoga research is happening all around the world. Seeing what works in some countries and what doesn't in others can only help us better understand what the possibilities are for helping foster the most positive educational environments possible and to create a happier and more mindful future generation.

Analysis:

With all the new and added pressures of being an child/adolescent in society today, can we improve students overall well being by introducing and teaching yoga and mindfulness programs in schools.

After looking at all the research, there is a strong correlation between implementing Yoga and Mindfulness programs in schools and improved overall wellbeing. The research tells us that no matter the age, income, gender, or location, yoga and mindfulness practices help. The research covered students in elementary, middle and high school, reminding us that these skills can help in a variety of ways at different stages of life.

We were also able to see the differences in the benefits of programs in areas that are financially stable, as well as low income areas, and how the programs can vary. In Dariotis (2015), we saw how students in a low income area struggle to feel supported. Parents aren't involved in their yoga & mindfulness intervention, nor are school teachers. In Conboy (2013), we see how a very different intervention program includes parents and staff. Although both Both studies had similar results. Students that added Yoga and mindfulness to their routine perform better in the classroom, have an easier time focusing, as well as report having a keener sense of awareness for their bodies.

Research pertaining to the development of children/ adolescents is powerful. The research reviewed can influence school boards to make changes to their curriculums or on an even larger scale can end up a nationwide movement. There is such a push for students to perform academically, through the research presents, it's important for leaders in education to do their part in keeping bodies as healthy as minds.

The research looked at for the point of the paper was in line with the hope that Yoga can make a positive difference for children. The researchers all come from different backgrounds in science, medicine and education. The research was conducted and published so audience can learn about the possibilities of what adding a yoga practice can do. The studies were thoroughly conducted spanning across age groups and in different places around the worlds.

Conclusion

The literature presented above has been key in creating an argument for introducing yoga and mindfulness interventions into schools. The research proves that not only is there a need for yoga and mindfulness interventions in schools but there is evidence supporting the benefits. Adding Yoga and Mindfulness interventions in schools will help create kids that have an easier time understanding, listening, breathing through difficult moments, coping with stress or loss and understanding our bodies and emotions. Kids report feeling better inside their own bodies, stronger and more connected through yoga and mindfulness. Yoga and Mindfulness intervention can impact how teachers and students interact with each other and the overall classroom environment.

The hope is that once students are introduced to a Yoga and Mindfulness approach, they will continue to use those skills throughout their daily life and into adulthood. Yoga would be second nature, decision making wouldn't be so difficult, people would feel more connected to their community.

There is still room or more research to be done, comparing programs and what does and doesn't work in each school. There is also room for growth with how the programs are implemented, like are school teachers the best voice or is it volunteers that are certified in Yoga and Mindfulness. The only way to test out if a program is, different, better or able to make a difference is to try it. Overall, the research above shows that it is possible that we can improve the overall well being of children by teaching yoga and mindfulness in schools.

As a yoga teacher, I was influenced by my previous training to complete this research. Working in the classroom with children for the last 5 years has showed me all the things that this research sets out to prove. There are plenty of skeptics out there people who believe yoga has a religious connection or that mindfulness is silly and that you can't treat disorders with a mindfulness practice. However this paper proves that Yoga and Mindfulness have the power to heal, and help foster growth in children.

References & Sources

Bazzano AN, et al. “Effect of Mindfulness and Yoga on Quality of Life for Elementary School Students and Teachers: Results of a Randomized Controlled School-Based Study.” *Psychology Research and Behavior Management, Vol Volume 11, Pp 81-89 (2018)*, 2018, p. 81. *EBSCOhost*, ezproxy.purchase.edu:2048/login?url=http://search.ebscohost.com/login.aspxdirect=true&db=edsdoj&AN=edsdoj.f8fdda9d307d4514b3daa468ee0a3ce5&site=eds-live.

Conboy, Lisa A., et al. “Clinical Article: Qualitative Evaluation of a High School Yoga Program: Feasibility and Perceived Benefits.” *Explore: The Journal of Science and Healing*, vol. 9, May 2013, pp. 171–180. *EBSCOhost*, doi:10.1016/j.explore.2013.02.001.

Cook-Cottone, Catherine, et al. “A Controlled Trial of a Yoga-Based Prevention Program Targeting Eating Disorder Risk Factors among Middle School Females.” *Eating Disorders*, vol. 25, no. 5, Oct. 2017, pp. 392–405. *EBSCOhost*, doi:10.1080/10640266.2017.1365562.

Dariotis, Jacinda K., et al. "A Qualitative Evaluation of Student Learning and Skills Use in a School-Based Mindfulness and Yoga Program." *Mindfulness*, no. 1, 2016, p. 76. EBSCOhost, doi:10.1007/s12671-015-0463-y.

Dariotis, Jacinda K., et al. "A Qualitative Exploration of Implementation Factors in a School-Based Mindfulness and Yoga Program: Lessons Learned from Students and Teachers." *Psychology in the Schools*, vol. 54, no. 1, Jan. 2017, pp. 53–69. EBSCOhost, doi:10.1002/pits.21979.

FATERSON, JIM. "POSITIONING YOGA IN SCHOOLS: Programs Offer Academic, Physical, and Mental Benefits for Students and Teachers Alike." *Principal Leadership*, vol. 18, no. 5, Jan. 2018, pp. 38–43. EBSCOhost, ezproxy.purchase.edu:2048/login?url=<http://search.ebscohost.com/login.aspx?direct=true&db=ue&AN=127254666&site=eds-live>.

Júlia C Folleto, et al. "The Effects of Yoga Practice in School Physical Education on Children's Motor Abilities and Social Behavior." *International Journal of Yoga*, Vol 9, Iss 2, Pp 156-162 (2016), no. 2, 2016, p. 156. EBSCOhost, doi:10.4103/0973-6131.183717.

Megan Knothe & Ismael Flores Martí (2018) Mindfulness in Physical Education, *Journal of Physical Education, Recreation & Dance*, 89:8, 35-40, DOI: 10.1080/07303084.2018.1503120

To link to this article: <https://doi.org/10.1080/07303084.2018.1503120>

Nanthakumar, Chandra. "Review: The Benefits of Yoga in Children." *Journal of Integrative Medicine*, vol. 16, Jan. 2018, pp. 14–19. *EBSCOhost*, doi:10.1016/j.joim.2017.12.008.

Steiner, Naomi, et al. "Yoga in an Urban School for Children with Emotional and Behavioral Disorders: A Feasibility Study." *Journal of Child & Family Studies*, vol. 22, no. 6, Aug. 2013, pp. 815–826. *EBSCOhost*, doi:10.1007/s10826-012-9636-7.