

Headstand Yoga & Mindfulness School Program *KIPP Summit Academy* 2013-14 EVALUATION Report



**Philip R. Lee Institute for Health Policy Studies
University of California, San Francisco**

Evaluation Team

Leah Maddock, MPH

Sara Geierstanger, MPH

Sandy Ng, MPH

Abigail Gutmann-Gonzalez

Claire Brindis, DrPH

June 2014

Acknowledgements

The UCSF Evaluation Team would like to thank the 5th grade students, their teachers and the school administrators of KIPP Summit Academy in San Lorenzo for participation in this evaluation. KIPP Regional and National Research Departments, Katherine Priore (*Headstand Executive Director*), Adam Moskowitz (*Headstand Program Teacher*), and Beth Swibel (*Headstand Grant Writer*) provided valuable feedback and support throughout the project, and for helping to coordinate data collection efforts. Samira Soleimanpour provided vital feedback on the final draft of the report. Finally, we would like to sincerely thank the Dalio Foundation for providing the funding needed to conduct this work.

About IHPS

The Philip R. Lee Institute for Health Policy Studies (IHPS) at the University of California, San Francisco (UCSF) contributes to the solution of complex and challenging health policy problems through leadership in research, training, technical assistance, and public service. Our special competence lies in translating research across disciplines and fields to inform health policy. We undertake this work with a commitment to improve health and health care within local, state, national, and international communities and with a focus on improving the health of vulnerable populations.

<http://healthpolicy.ucsf.edu>

Table of Contents

- Background and Project Overview 1
- Previous Research: Impact of Yoga on Children..... 2
- Methodology..... 4
- Findings 5
 - Description of the Headstand Intervention..... 5
 - Student Reactions to the Headstand Classes..... 5
 - Impact of Headstand on Stress, Emotional Awareness and Empathy..... 8
 - Impact of Headstand on Handling Difficult Emotions 9
 - Impact of Headstand on Academics 10
 - Program Suggestions 12
- Summary of Findings 13
- Future Evaluation Recommendations 14
- References..... 15

Background and Project Overview

Founded in 2008, **Headstand** is a non-profit organization that *works to combat toxic stress in disadvantaged K–12 students through mindfulness, yoga, and character education*. They offer a unique research-based curriculum that blends yoga exercises with integrated educational theory and social and emotional learning. The objectives include increasing students' physical, stretching and breathing abilities, and decreasing student's obesity, stress, anxiety, and worry. Classes are taught during school hours throughout the 40-week school year. Focusing on economically disadvantaged communities, Headstand serves schools with Free and Reduced Lunch (FRL)¹ rates of 60% and higher. Currently, Headstand reaches 800 students at three schools in the San Francisco Bay Area, including KIPP Summit Academy, Mission Preparatory School, and Summit Denali, through classes that revolve around themes related to positive character concepts. Headstand's curriculum meets the California Department of Education Physical Education Standards.

Through hard work, high expectations, mutual respect, and discipline, we will all realize our highest potential and become agents of social change. - KIPP Summit Academy website

The three schools in which Headstand teaches are **Knowledge is Power Program (KIPP)** schools. KIPP is a network of public charter schools that currently teach 50,000 children in 141 schools throughout the country. These tuition-free, open enrollment, college-preparatory public schools in under-resourced communities help students develop the knowledge, skills, and character needed to succeed in college and the competitive world beyond.

KIPP Summit Academy opened in 2003 and currently serves 400 5th-8th grade students, 67% of whom qualify for the FRL program and 35% of whom are English Language Learners. Headstand began teaching yoga and mindfulness classes at the **KIPP Summit Academy** in San Lorenzo, California in 2008. With a “no excuses and no shortcuts” philosophy, KIPP Summit Academy fosters within its faculty, students and their families the desire, discipline, and dedication necessary to achieve a college education. School-wide test scores are very high compared with both the District and State averages.

Headstand requested an evaluation of the Headstand Program for 5th grade students at KIPP Summit Academy during the 2013-14 school year by an evaluation team from the **University of California, San Francisco (UCSF)**. The goal of the evaluation was to measure program satisfaction and the impact of the program on participants from the perspectives of the students, their classroom teachers, school administrators, and Headstand staff.



¹ Eligibility for the National Free and Reduced Lunch Program is based on family income levels.

Previous Research: Impact of Yoga on Children

Research on the impacts of yoga on youth is part of an emerging field that to date has produced mixed evidence due to methodological limitations. There have been four recent peer-reviewed articles that assess published literature on the impacts of yoga on children. The first review examined yoga on *quality of life and physical outcome measures*ⁱ, another evaluated evidence for *clinical applications of yoga*ⁱⁱ, and another summarized studies that evaluated *yoga as an effective intervention for youth with health problems*.ⁱⁱⁱ Overall these reviews concluded that the research show positive benefits of yoga as a therapeutic intervention with very few adverse effects. However, methodological limitations, such as lack of randomization methods, lack of consistency of measurements across studies, small sample sizes, withdrawal/dropouts, and lack of details regarding the yoga intervention prevent strong conclusions from being drawn.

The most recent review summarized research on *contemplative practices* (generally defined as yoga and mindfulness practices) with children and youth.^{iv} Similar to the other reviews, the authors concluded that, “*meditation and yoga may be associated with beneficial outcomes for children and youth, but the generally limited quality of research tempers the allowable conclusions. Well-designed experimental studies that are grounded in developmental theory and measure multiple indicators of change must fully test the efficacy of such interventions.*”

This evaluation report describes 12 new primary research articles that were published since these reviews were published. We queried PubMed/Medline, Psych Info, Google, and ERIC using the term “yoga” in conjunction with: *youth, children, learning readiness, attention control, juvenile justice, social and emotional school readiness, attention control, juvenile justice, self-discipline, academics, and self-discipline*. The inclusion criteria were student participants under age 18, study conducted in the United States, intervention included a focus on yoga; and published in a peer-reviewed journal in or after 2012.

- Through a pilot study, Benavides et al sought to determine the effect of a modified Ashtanga yoga program consisting of three classes a week on 14 predominately Hispanic children, ages 8–15 who were at risk for developing type 2 diabetes. After the 12-week program, the average **weight loss was two kilograms** and **anxiety symptoms improved**, but the results on **self-esteem were mixed**.^v
- Through a pilot study, Berger et al compared 4th and 5th grade, predominantly Hispanic students, living in Bronx, New York who received either Yoga one hour per week (n=39) or a non-yoga program (n=32) for 12 weeks. Although there were **no significant differences in global self-worth and perceptions of well being**, children participating in yoga reported using **fewer negative behaviors in response to stress** and had **better balance** than the comparison group.^{vi}
- Gould et al randomly assigned 55 primarily African American 4th and 5th grade students from four urban public elementary schools to receive a 12-week yoga-inspired mindfulness program during school hours four days a week or a wait-list control condition. Sessions lasted for 45 minutes and included yoga-based physical activity, breathing techniques, and guided mindfulness practices. Youth with lower baseline depressive symptoms had higher **reductions in problematic stress responses** than youth in the control group. However, the authors caution that the sample size was very small.^{vii}
- Khalsa et al randomly assigned 121 Caucasian students to either regular physical education classes (n=47) or to 11 weeks of yoga sessions (n=74) based upon the Yoga Ed program over a single semester. Yoga participants showed **improved measures of anger control and fatigue/inertia**. Most outcome measures exhibited a pattern of worsening in the control group over time, whereas changes in the yoga group over time were either minimal or showed slight improvements. These preliminary

results suggest that implementation of yoga is feasible in a secondary school setting and has the potential of playing a protective or preventive role in maintaining mental health.^{viii}

- Koenig et al compared predominantly African American and Hispanic elementary school students with autism spectrum disorder (ASD) who received a daily 16-week Get Ready to Learn (GRTL) classroom yoga program (n=24) with a control group (n=22) who engaged in their standard morning routine. Intervention students showed significant **decreases in teacher ratings of maladaptive classroom behavior**, compared with the control participants.^{ix}
- Conboy et al interviewed 26 9th and 10th grade students after they received a semester of yoga classes at a rural public high school. Students enjoyed the classes overall, many felt a **greater kinesthetic awareness and stress reduction**. Most thought yoga could reduce interest in the use of drugs and alcohol and improve relationships with family and peers. Although most males sensed peer pressure against practicing yoga, most students wanted to continue yoga and would continue if it were offered in school.^x
- Ghahremani et al examined the impact on 14-18 year old low-middle income, primarily Hispanic high school students, who participated in the Youth Empowerment Seminar (YES!) during their physical education classes (n=327) compared with a control group (n=118) who received their usual physical education classes. The YES! program included psychosocial education and yoga-based practices, including breathing exercises and meditation. Compared with the control group, YES! participants reported **less impulsive behavior** after the program, potentially protecting them from harmful coping behaviors.^{xi}
- Hagins et al conducted a randomized controlled pilot study of 6th grade students compared the effects of yoga (n=15) compared to a physical education class (n=15). There were **no significant differences on blood pressure, heart rate, or behavioral stressor tasks** (mental arithmetic and mirror tracing tasks). The lack of significant differences may be due to the yoga intervention failing to focus on stress management and/or the stressor tasks not adequately capturing attenuation of stressor response.^{xii}
- Hainsworth et al conducted a study at a large children's hospital to examine the impact of eight weekly, 75-minute yoga classes on seven 11–16 year old, primarily Caucasian youth, with a history of headaches longer than three months. The families found the yoga intervention to be acceptable and most participants reported that the **yoga helped their pain and sleep**. All respondents indicated that they would use yoga again for pain and would recommend yoga to other families for pain management.^{xiii}
- Steiner et al conducted a non-randomized study of 37 4th and 5th grade students to examine the feasibility of a school-based yoga program for children with emotional and behavioral disorders (EBD). The yoga intervention focused on breathing, poses, relaxation, and meditation two times per week for 3 months. The program had very high attendance rates and 80% of respondents described being very satisfied with the intervention. Teachers reported significantly **improved attention in class and adaptive skills** and **reduced depressive, behavioral, and internalizing symptoms**.^{xiv}
- Frank et al examined the impact of Transformative Life Skills program, a yoga-based social emotional wellness program, on 49 students attending an alternative education school in an urban inner-city school district. Participants demonstrated significant **reductions in anxiety, depression, and global psychological distress**. Significant reductions in rumination, intrusive thoughts, physical arousal, and emotional arousal were reported as well.^{xv}

- Sieverdes et al conducted a pilot study to assess 7th grade students who were randomly assigned to a school-based Hatha yoga program (n=14) or attention control music or art class (n=14). **Reduced blood pressure** from pre- to post-intervention was greater for the yoga group. The authors conclude that a reduced sympathetic nervous system (SNS) drive may be an underlying neuro-hormonal pathway improved through yoga and they recommend a large-scale efficacy/effectiveness randomized clinical trial.^{xvi}

As evidenced by the number of recent studies, there is growing interest in examining the impact of yoga on children. Again, although the results are promising and generally point to positive impacts, there remain methodological problems, including lack of randomization, high rates of withdrawal/dropouts, small sample sizes, and lack of details about the intervention.

Methodology

For the Headstand Program Evaluation, UCSF conducted the following data collection activities after obtaining approval from Headstand, KIPP National and Regional Research departments, and the UCSF Committee on Human Research.

The **Pre/Post Survey** assessed psychosocial indicators (e.g., *stress, anxiety, self-control, focus, calm, relationships with others, self-esteem*), readiness to learn and character strengths. The *Post Survey* also asked participants about their satisfaction with the program. UCSF administered the *Pre-Survey* to 72 5th grade students (12 students or their parents declined to participate) at KIPP Summit Academy (September 2013), after obtaining parental consent and student assent during the first two weeks of Headstand classes. The *Post-Survey* was administered to 66 5th grade students in May 2014 during the final weeks of Headstand classes.² More than half of the respondents were female at both pre (64%) and post (59%) survey. At the time of the *Pre-Survey*, four out of five students (83%) were 10 years old. Nearly half (43%) identified as Latino, 20% Asian, and 36% White or Other.³

The Headstand Teacher collected **Student Attendance** for each 5th grade student throughout the 2013-2014 school year and provided the de-identified data to UCSF for analysis. Before each session, the Headstand Teacher stated the intended activities for the class on the **Activity Log**. Once the session ended, he indicated if each activity was completed as planned, or was not completed and why, or was completed with modifications and why. Additionally, student interest and engagement was recorded using a 5-point Likert scale (5=Very and 1=Not at all).

UCSF administered **Teacher Surveys** in May 2014 to 5th grade teachers (n=4) at KIPP Summit Academy. The tool asked about their perceptions of the Headstand School Program, program integration with the school, perceived impact on students, and staff satisfaction of programming. The UCSF team was introduced to the teachers via an email from the on-site Headstand Teacher, which also included a study information sheet. All teachers agreed to participate and were emailed the survey, which they completed and emailed back. Of the four teachers, one had been at KIPP Summit Academy for less one-year, one for 1-2 years and two for 2-5 years. Three were Homeroom teachers and one taught Math.

Two School Administrators (Dean of Instruction and the School Leader) and two Headstand Staff (Executive Director and Program Staff) participated in **Key Stakeholder Interviews** with the UCSF

² Missing responses in the pre-survey ranged from 1-9 and from 1-3 for the post-surveys, possibly because students become more proficient in test-taking abilities. Pre/Post Survey percentages exclude missing responses.

³ Includes Bi-Racial from survey responses.

Evaluation Team in May 2014 after obtaining verbal consent. All interviews were recorded while one UCSF staff conducted the interview and a second took notes. The interviews lasted between 35-60 minutes. The interviews mirrored the topics in the Teacher Survey and asked about perceptions of the Headstand School Program, program integration with the school, impact on students, staff satisfaction of programming, as well as program successes and challenges. The Administrators had been at KIPP Summit Academy for 5-7 years, while the Headstand Executive Director had been with the organization since 2008 when she founded it, and the Program Staff had been at Headstand and KIPP Summit Academy for three years.

Findings

Description of the Headstand Intervention

Headstand classes are part of the school-day and are held once a week. All 5th grade students participate unless they participate in a pull-out program for specialized assistance with reading or math. Each of the three 5th grade homerooms rotate through a variety of electives, including yoga, music, physical education, and computer technology.

The duration of each Headstand class is 60 minutes. Each class begins with 10-15 minutes of an interactive group activity that focuses on a character trait (e.g., gratitude, optimism, etc.) that is immersed into the curriculum over the course of four classes. By emphasizing a connection between these positive character traits and yoga/mindfulness, students learn to associate feeling calm with each trait. Depending on topic complexity, students discuss with one another, engage in a class discussion, and/or complete a journal entry. Other teaching methods, such as skits or videos, are also sometimes used. For the next 40 minutes, students are guided through physical poses with varying levels of difficulty and intensity. During the final 5-10 minutes, students participate in “time-in”, which is a closing meditation to engage in mindful breathing exercises.

On average, the number of class sessions offered to each of the three Homeroom classes was 26 (ranging from 20–29 classes), with an average of 22 hours of yoga during the year. Most students attended over 80% of the sessions. Three-quarters (75%) of Headstand sessions were delivered as planned. An additional 20% were changed “a little,” and 4% changed “a lot.”

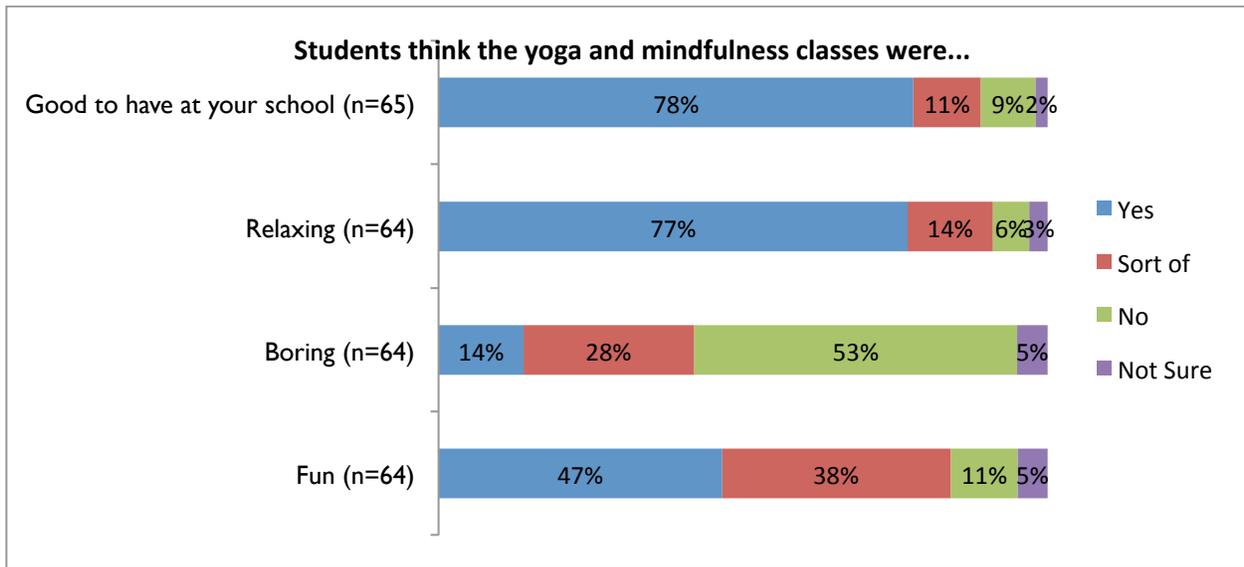
Of the 366 activities conducted with the three classrooms over the course of the year, 45% were physical poses, 28% were interactive group activities, and 28% were meditation. The vast majority of activities, 94%, were completed as planned, though 5% were completed with changes, and 1% were not completed. Examples of changes to the activities include adding a game into a session to energize the class, changing a class discussion into smaller group discussions, shortening or lengthening an activity due to student energy level, and altering a physical pose so it was more appropriate to the level of the students.

Student Reactions to the Headstand Classes

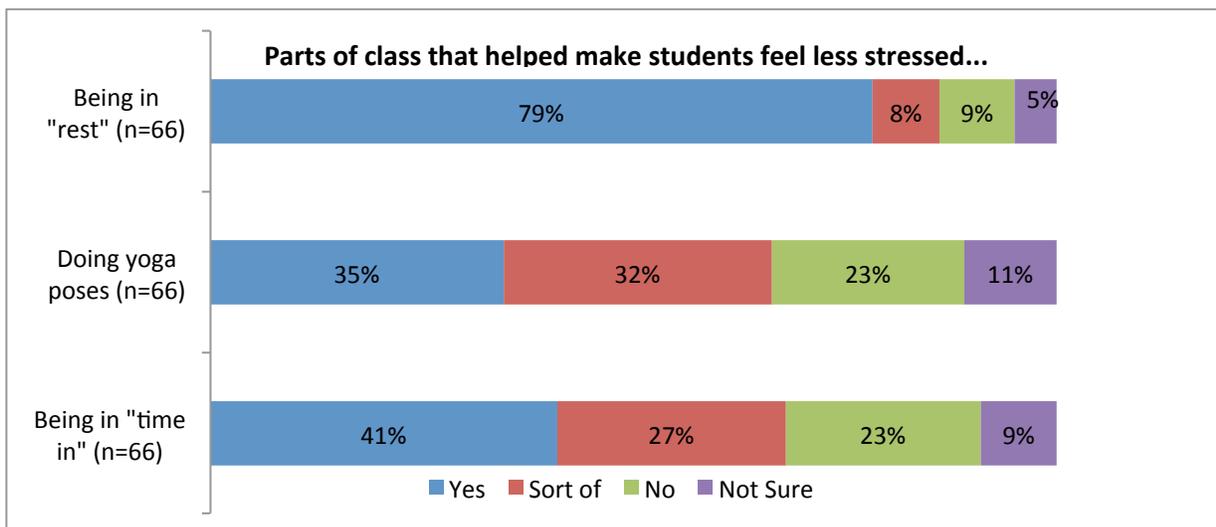
At the beginning of the year, yoga and mindfulness practices were new to many students, and by the end of the year they reported liking both more. According to the *Pre Student Survey*, almost half had never done yoga poses (43%) or practiced mindfulness (49%) before. The percentage that reported that they liked to do yoga poses “a lot” increased from the *Pre* to *Post Student Survey* from 19% to 35%, and those who reported that it was “okay” increased from 43% to 48%. The percentage that liked to practice mindfulness “a lot” increased from 15% to 20%, those who said it was “okay” increased from 28% to 45%.

Participants were interested and engaged in the classes. According to the *Activity Log* completed by the Headstand Teacher, participants were “interested” or “very interested” in 88% of the class sessions. In 12% percent of sessions, the Headstand Teacher stated the participants were “somewhat interested.” Participants were “engaged” or “very engaged” in 91% of the sessions. In 9% percent of sessions, the class was “somewhat engaged.” There were no classes in which participants were not engaged or not at all engaged.

Participants provided positive overall feedback about the classes. In the *Post-Survey*, over three-quarters of students thought yoga and mindfulness classes were good to have at their school (78%) and relaxing (77%). Half (47%) thought classes were fun, and 14% thought they were boring.



Of the different Headstand program components, “in rest” poses helped the students feel less stressed. In the *Post-Survey*, 79% reported that being in “rest” helped them feel less stress, as compared with doing yoga poses (35%), or being in “time-in” (41%).



Students enjoyed learning new and challenging yoga poses. In the *Post-Survey*, many students reported enjoying being taught interesting new yoga postures. However, some described specific poses (e.g., thunderbolt, flexibility or balancing poses) or physical poses in general as their least favorite part. One student wrote, “Sometimes when we have a hard pose, some people can do it and when you can’t, it kind of makes me feel bad.”



Headstand participant reactions to ‘time-in’ were somewhat mixed. The most frequent response to the question about participant’s favorite part of the yoga and mindfulness class is getting to be in the “resting pose” and “time-in.”

“My favorite part of yoga is going into rest pose because it clears my mind [and because] it’s relaxing.” – Headstand Participant

“My favorite part is rest and time-in because it’s so calming.” – Headstand Participant

However, many students also wrote that this was their *least* favorite part of class. One student wrote that they didn’t like time-in because “all you do it just sit there and breathe.”



Overall, student feedback to journaling was positive. In the *Post-Survey*, nearly half (47%) of students said “yes” and 27% said “sort of” when asked if writing/journaling in the yoga and mindfulness classes helped them better understand their thoughts and feelings.

“Journaling gets them thinking about topics such as their character traits. It allows them to recognize what they are feeling before and after yoga class. Journals are a tool that show them they’re in charge, show them they’re the agents.” – Headstand Staff

Headstand students enjoyed how the yoga and mindfulness practices made them feel.

- “I can just be calm and not think about my problems.”
- “My favorite part of yoga is that it helps me relax and be free.”
- “It makes me put out my fire...it [changes] me from angry to calm and happy.”
- “In class no one will laugh at you. I like seeing the big difference in class - when everyone comes in they’re loud, but when they’re done, everyone is silent and calm.”

Many students wrote that their least favorite part of yoga is when it ends.

- “My least favorite part is having to leave because I love doing yoga.”
- “My least favorite is when yoga class is over.”
- “I never had a least favorite part. I LOVE YOGA.”

Teachers shared the following comments about student perceptions of yoga:

- “I have only ever heard my students talk about how much they love yoga. I have several students who have talked about using yoga outside of school.”
- “Some students find it to be too slow, not externally challenging enough. These are my high energy students that could benefit from yoga more than all others.”
- “Students report, ‘The poses are fun, and the mindful breathing is really helpful.’”
- “My kids love yoga! I also share my love for yoga with them. I do yoga about three times per week, and I share my yoga activity with them too (what I’m doing well, what new poses I’m working on). They always express excitement about what they’re learning in yoga. Several of them have also participated in non-school yoga events.”

Impact of Headstand on Stress, Emotional Awareness and Empathy

Yoga is a self-improvement tool that can help students manage stress, better cope with their external environment, and increase emotional awareness and empathy. One stakeholder explained that 5th grade students are at a point in their physical development where regular exposure to fear and stress can negatively impact their long-term growth and sense of self and optimism for the future.

Many students reported feelings of sadness and stress. There were some small increases from the *Pre* to *Post-Survey* in the percentage of students who reported in the past month the following were “like” or “very much like” them:

- Felt so sad they didn’t want to do anything (27%, 33%)
- Felt so sad they didn’t want to be around other people (29%, 29%)
- Felt stressed (34%, 40%)

This finding may reflect the students’ level of comfort in disclosing information. Without a comparison group, it is difficult to ascertain whether these patterns were usual or unusual.

“Overall, I think it [Headstand] serves them really well, it really adds to the curriculum.” –**School Administrator**

Most students reported that yoga made them feel more relaxed. In the *Post-Survey*, participants were asked if they thought yoga poses had helped them in a variety of ways. Perhaps the most striking result is that 70% felt it made their body feel more relaxed or calm. A variety of other impacts are described below.

Do you think yoga poses has helped to...	Yes	Sort of	No	Not sure
Make your body feel more relaxed or calm (n=66)	70%	24%	5%	2%
Make your body more flexible (n=65)	55%	18%	18%	8%
Help you get along with people better (n=66)	41%	30%	18%	11%
Make your body stronger (n=66)	41%	35%	11%	14%
Sleep better at night (n=66)	35%	33%	15%	17%

“Students want to go to yoga. They state that they feel calm, relaxed and focused after it. Many students appreciate getting time to themselves to relax, because their day is so structured at KIPP.” – KIPP 5th grade Teacher

The participants were also asked if practicing mindfulness had helped. Again, the most commonly reported impact was that it made their body feel more relaxed or calm (69%).

Do you think practicing mindfulness has helped to...	Yes	Sort of	No	Not sure
Make your body feel more relaxed or calm (n=65)	69%	25%	3%	3%
Sleep better at night (n=66)	47%	20%	17%	17%
Help you get along with people better (n=65)	46%	26%	18%	9%

Each of the four teachers felt Headstand had improved students’ ability to handle stress and anxiety. The Headstand Program teaches students to reflect through journaling and how to manage stress through the use of mindful breathing. All four of the teachers felt that the Headstand Program had provided students with strategies to slow down and build emotional awareness.

“One student who is on the spectrum and has a history of meltdowns/anxiety attacks at the doctor’s office asked his mom during his last visit if he could do some yoga poses. Afterwards, he was able to complete his exam calmly and without incident.” - KIPP 5th grade Teacher

The participants demonstrated strong empathy at the beginning of the year, and this increased by the end of the year. Most reported that the following were either “like me” or “very much like me” at both the *Pre* to *Post-Survey*:

- Shows appreciation for others (68%, 80%)
- Makes sure everyone feels included (73%, 83%)
- Listens to others by tracking (85%, 85%)
- Gets along well with friends (90%, 92%)

Many students also reported having a positive self-image. Most students reported that in the past month, the following were “like” or “very much like” them at both the *Pre* and *Post-Survey*:

- Feel good about yourself (80%, 77%)
- Feel calm and peaceful (62%, 73%)

Impact of Headstand on Handling Difficult Emotions

The students appear to have room for improvement in how they deal with anger and disagreements. There was an increase from *Pre* to *Post-Survey* in the percentage who reported that in the last month, it was “like me” or “very much like me” to keep themselves from yelling or hitting when they got mad (64%, 70%). However, there was little change in the percentage who could remain calm even when another person did something that felt mean or disrespectful (43%, 41%), and actually fewer were able to find positive solutions during disagreements with others (63%, 58%).

“The intended formula for a Headstand class is that it seeks to ignite a revelatory sense of acceptance and visibility within their hearts.” -Headstand Program Teacher

Many students reported in the Pre/Post-Survey engaging in positive strategies either “often” or “very often” when they were upset in the last month⁴:

- Talking to a friend (55%, 59%)
- Find that exercising made you feel better (66%, 68%)
- Taking deep breaths (40%, 54%)
- Doing yoga poses (15%, 39%)
- Talk to a parent or other adult (56%, 47%)

Three of the four teachers felt Headstand had helped students deal with anger. The teachers also felt that the Headstand Program had provided students with a safe place to go. Students were able to use the yoga room outside of yoga class time to “calm themselves” or “adjust their focus.”

“One student told me that he does ‘time-ins’ at home and at school when he is feeling frustrated with other people.” – KIPP 5th grade Teacher

Impact of Headstand on Academics

The participants appear to be very motivated at school. Most reported that the following were either “like me” or “very much like me” at both the Pre and Post-Survey:

- Get to work right away (91%, 90%)
- Participate by tracking (86%, 81%)
- Believe hard work will improve how you do in school (85%, 82%)
- Come to class prepared (82%, 80%)
- Finish what you begin (78%, 84%)
- Pay attention and resist distractions (75%, 77%)

The impact of yoga and mindfulness on academic indicators was mixed, but with mindfulness reported by more respondents to have an impact. For example, as shown below, in the Post-Survey, only one-third (32%) of respondents felt yoga helped improve their grades, but nearly half (47%) felt mindfulness did so.

Do you think yoga poses has helped to...	Yes	Sort of	No	Not sure
Help you make better decisions (n=65)	35%	35%	17%	12%
Improve your attendance (n=66)	30%	14%	35%	21%
Improve your grades (n=66)	32%	39%	12%	17%
Make you work harder in school (n=64)	44%	22%	22%	13%

Do you think practicing mindfulness has helped to...	Yes	Sort of	No	Not sure
Help you make better decisions (n=65)	32%	38%	18%	11%
Improve your attendance (n=66)	36%	15%	32%	17%
Improve your grades (n= 66)	47%	18%	18%	17%
Make you work harder in school (n=66)	42%	21%	21%	15%

⁴ About one-third of students said they didn’t know what they did (36% pre, 32% post).

Three of the four teachers felt Headstand had helped students not cause distractions or respond to distractions in class. This is an important findings because teachers, school administrators, and Headstand Staff reported that the ability to pay attention and focus in class, causing or responding to distractions in class, and being able to handle stress and anxiety were problems among students at the school. Teachers have also been able to incorporate some of the “mindfulness” strategies in the classrooms. Students often asked to do a “time-in” during class to manage stress, for example before tests.

“My students requested a time-in three times on their last test... I love that they are using strategies from yoga and applying them to other areas/classes.” – KIPP 5th grade Teacher



Two of the teachers felt Headstand helped them to focus on academics because students were more ready to learn, and two felt students were better able to pay attention and stay focused on tasks in class. In addition, teachers explained that many of the children who are causing distractions in the Headstand Program are often also causing distraction in classes. The Headstand Teacher has helped these students gain a greater understanding about their own behavior and ways to change their behavior so that they are less fidgety, more focused, and more optimistic in class.

“Our teachers are completely bought in. They love it and make references in their academic class about focusing, ‘being still’, and ‘keeping still’.” – School Administrator

Another shift during the past year has been a greater focus on “restorative practices” in the school culture. For example, this year the school has been incorporating *Restorative Circles* weekly into the school schedule through small group discussions to talk about student challenges and goals. This has also influenced the way discipline is handled, with the use of logical consequences and restorative practices rather than punishment. The stakeholders reported that the school has a calm environment where adults and students talk to each other in a respectful way. One explained, “As a staff, we really value students being able to reflect on their behaviors and how actions and words impact others. Those conversations are increasingly easier to have at this school the more time students are exposed to yoga...”.

“The Headstand Teacher is so great at being part of our school. Character development is a big push [here] and he incorporates a lot of that into his work with the students. We’re so aligned, that’s just the beauty of having him here and seeing the benefits of it.” – School Administrator

Program Suggestions

Some of the programmatic suggestions that emerged from the evaluation include the following:

Increase frequency of the yoga classes, and reduce the number of students in each class. Many of the students, as well as some of the stakeholders, suggested that Headstand classes should be held more often and for longer periods of time.

- “A little more time with kids each week would behoove [the Headstand teacher’s] work and the program. I think we’re moving in that direction. Now that we’ve incorporated mindfulness into this curriculum and now it’s bleeding over into the classroom, there may be other ways we can work together to reinforce it.” – **School Administrator**
- “The thing that will make yoga better is to have it be longer.” – **Headstand participant**

Increase the Headstand Teacher’s time and availability on campus. During the 2013-14 school year, the Headstand Teacher offered to work individually with students who were struggling, but since he only worked part-time, his availability was limited. Teachers reported that they would like to be able to use the Headstand Teacher more as a resource for consultation and/or to learn additional strategies for working with students. They said that he was very helpful and proactive in working with specific students and providing teachers with feedback.

Students gave numerous specific suggestions to modify class activities and structure.

- More time for resting pose (mentioned by three students).
- Not doing a lot of poses over and over again.
- Practice some of the new poses more.
- Let us do the pose we want to do during class.
- I would like to watch more videos in class about other’s experiences.
- A little more of [the teacher’s] stories, I love those, they make me think of things that help me be relaxed.
- Doing more yoga games. Do more yogi benders.
- We shouldn’t take in big deep breaths and go “ahh” because I can’t really concentrate.
- Allow talking more with your partner if you don’t know the answer.
- Have about 10 minutes each class to do any of our favorite poses.
- Let us give advice to others while doing a pose.
- We can put soft music on. Turn the lights off during time-in.

Continue to communicate with parents about the purpose and content of the Headstand program. Teachers had heard very little negative feedback from parents. They mostly heard that parents enjoy having yoga at the school and that their children enjoy teaching them yoga at home. Only a few asked to not have their children participate in the Headstand program. The Headstand Teacher presented a demonstration of the yoga class at the Back to School Nights for parents to help them understand the content and format of the Headstand program. This was a successful strategy that would likely be useful to repeat.



Summary of Findings

Yoga and mindfulness were new to many of the students, but they were interested and engaged in the Headstand classes, and enjoyed how the practices made them feel. Of the Headstand program components, “in rest” generally helped the students feel less stressed, but reactions to time-in were mixed with some reporting it was their favorite part of Headstand and others not liking it. Most students reported that they enjoyed learning new and challenging yoga poses, and many wrote that their least favorite part was when the Headstand class ended.

Many students reported feeling sadness and stress, and that Headstand classes made their bodies feel more relaxed and calm. The participants also demonstrated increased empathy. By the end of the year, more students showed appreciation for others and made sure everyone felt included.

More students were able to engage in positive strategies when they were upset. In fact, the percentage of students who did yoga when they were upset more than doubled. The teachers felt Headstand had helped students deal with anger and provided students with a safe place to go.

Students still struggled with dealing with anger and disagreements. There was little change in the percentage who could remain calm even when another person did something that felt mean or disrespectful, and fewer students could positive solutions during disagreements. A potential explanation could be that at the *Pre-Survey* the students did not know each other well, but by Spring relationship dynamics could have created more conflict, as is common for students in this age group. Headstand classes could also have helped students become more aware of their emotions and feelings, and thus more likely to express them.

Yoga and mindfulness have positive impacts on students’ school experiences. Participants reported high levels of motivation at school in both the *Pre* and *Post Student Survey*. Roughly one-third of respondents felt yoga and mindfulness helped improve their attendance, and nearly half felt mindfulness improved their grades. Nearly half felt both yoga and mindfulness made them work harder in school.

Headstand has helped the school culture shift towards “restorative practices” through *Restorative Circles* and the use of logical consequences rather than punishment. The school has a calm environment where adults and students generally talk with each other in a respectful way. Teachers have incorporated “mindfulness” strategies in the classrooms. Students often asked to do a “time-in” during class to manage stress, for example before tests.

Teachers felt Headstand had helped students not cause distractions or respond to distractions in class. This is an important findings because teachers, school administrators, and Headstand Staff reported that the ability to pay attention and focus in class, causing or responding to distractions in class, and being able to handle stress and anxiety were problems among students at the school. Teachers have also been able to incorporate some of the “mindfulness” strategies in the classrooms. Students often asked to do a “time-in” during class to manage stress, for example before tests.

Programmatic recommendations were to increase the frequency of Headstand classes, reduce the number of students per class, and increase the Headstand Teacher’s time and availability on campus. Another suggestion was to continue to communicate with parents about the purpose and content of the Headstand program. Students also gave specific suggestions to modify the class activities and structure.

Future Evaluation Recommendations

The present evaluation of the Headstand program provided an initial assessment of the program's effects. Future evaluation efforts could include multiple layers to achieve stronger methodological rigor and further document program effects. Specific recommendations for future evaluation efforts include:

- The *Pre/Post Student Survey* should be administered again with some modifications that will improve the usefulness of this tool, including:
 - Additional participant background data should be collected, including demographics, family background, and special circumstances.
 - It should be administered as a matched tool to incoming 5th grade students Fall 2014. This would entail assigning a unique identifier to each participant, which would be used at both the *Pre* and the *Post Student Survey*. This would enable the analysis to only include participants who took both the *Pre* and the *Post* and to better examine changes among specific groups of students.
 - The tool should also be administered to the current 5th grade students when they are in 6th and 7th grade to potentially assess the longer-term effects on psychosocial indicators, readiness to learn, and character strengths.
 - Surveying students in the other two Headstand Program KIPP schools would increase the sample size and also allow comparison of factors that impact findings.
 - Including a comparison group that is not receiving the Headstand Program intervention would also increase the strength of the methodology considerably.
- Additional information should be collected in the *Activity Log* to get more detailed information on the content of the lesson plans, including the specific themes that are covered.
- The *Key Stakeholder Interviews* and *Teacher Survey* would likely provide additional valuable insights if conducted again.
- Adding a *Parent Survey* would provide a new perspective on the impact of the program, particularly as it relates to home life.
- *Participant Focus Groups* with 6th grade students would allow them to elaborate on the 2013-14 *Student Survey* findings and share some of the longer-term effects of the program.

In conclusion, these descriptive evaluation results of the Headstand Program at KIPP Summit Academy during the 2013-14 school year demonstrated that students are interested and engaged in the yoga and mindfulness classes. Participation helped students relax, engage in positive strategies when they were upset, and cause fewer distractions or respond to fewer distractions in class. Feedback from teachers and school administrators was positive, indicating wide acceptability of the program and potential for an even greater impact with program continuation and expansion.



References

- ⁱ Galantino ML, Galbavy R, Quinn L. (2008). Therapeutic effects of yoga for children: a systematic review of the literature. *Pediatr Phys Ther.* Spring;20(1):66-80.
- ⁱⁱ Birdee G, Yeh G, Wayne P, Phillips R, Davis R, Gardiner P. Clinical Applications of Yoga for the Pediatric Population: A Systematic Review (2009). *Academic Pediatrics* 2009;9:212–20.
- ⁱⁱⁱ Kaley-Isley LC, Peterson J, Fischer C, Peterson E. (2010). Yoga as a complementary therapy for children and adolescents: a guide for clinicians. *Psychiatry (Edgmont)*, 7(8):20-32.
- ^{iv} Greenberg, M. T., & Harris, A. R. (2012). Nurturing mindfulness in children and youth: Current state of research. *Child Development Perspectives*, 6(2), 161-166.
- ^v Benavides S, Caballero J. (2009). Ashtanga yoga for children and adolescents for weight management and psychological well-being: An uncontrolled open pilot study. *Complement Ther Clin Pract*, 15(2):110-4.
- ^{vi} Berger D, Silver E, Stein R. (2009). Effects of yoga on inner-city children's well being: a pilot study. *Altern Ther Health Med*, 15(5):36-42.
- ^{vii} Gould, L. F., Dariotis, J. K., Mendelson, T., & Greenberg, M. (2012) A school-based mindfulness intervention for urban youth: exploring moderators of intervention effects. *Journal of Community Psychology*, 40(8), 968-982.
- ^{viii} Khalsa SB, Hickey-Schultz L, Cohen D, Steiner N, Cope S. (2012). Evaluation of the mental health benefits of yoga in a secondary school: a preliminary randomized controlled trial. *Behav Health Serv Res.* 2012 Jan;39(1):80-90.
- ^{ix} Koenig, K. P., Buckley-Reen, A., & Garg, S. (2012). Efficacy of the Get Ready to Learn Yoga Program Among Children With Autism Spectrum Disorders: A Pretest–Posttest Control Group Design. *The American Journal of Occupational Therapy*, 66(5), 538-546.)
- ^x Conboy, L. A., Noggle, J. J., Frey, J. L., Kudesia, R. S., & Khalsa, S. B. S. (2013). Qualitative evaluation of a high school yoga program: Feasibility and perceived benefits. *Explore: The Journal of Science and Healing*, 9(3), 171-180.
- ^{xi} Ghahremani, D. G., Oh, E. Y., Dean, A. C., Mouzakis, K., Wilson, K. D., & London, E. D. (2013). Effects of the Youth Empowerment Seminar on impulsive behavior in adolescents. *Journal of Adolescent Health*, 53(1), 139-141.
- ^{xii} Hagins, M., Haden, S. C., & Daly, L. A. (2013). A randomized controlled trial on the effects of yoga on stress reactivity in 6th grade students. *Evidence-Based Complementary and Alternative Medicine*, 2013.
- ^{xiii} Hainsworth, K. R., Salamon, K. S., Khan, K. A., Mascarenhas, B., Davies, W., & Weisman, S. J. (2013). A Pilot Study of Yoga for Chronic Headaches in Youth: Promise Amidst Challenges. *Pain Management Nursing*.
- ^{xiv} Steiner, N. J., Sidhu, T. K., Pop, P. G., Frenette, E. C., & Perrin, E. C. (2013). Yoga in an urban school for children with emotional and behavioral disorders: A feasibility study. *Journal of Child and Family Studies*, 22(6), 815-826.
- ^{xv} Frank, J. L., Bose, B., & Schrobenhauser-Clonan, A. (2014). Effectiveness of a School-Based Yoga Program on Adolescent Mental Health, Stress Coping Strategies, and Attitudes Toward Violence: Findings From a High-Risk Sample. *Journal of Applied School Psychology*, 30(1), 29-49.
- ^{xvi} Sieverdes JC, Mueller M, Gregoski MJ, Brunner-Jackson B, McQuade L, Matthews C, Treiber FA. (2014). Effects of Hatha Yoga on Blood Pressure, Salivary a-Amylase, and Cortisol Function Among Normotensive and Prehypertensive Youth. *J Altern Complement Med.* Apr,20(4):241-50.