

EMBODIED MINDFULNESS HELPING SCHOOLS THRIVE Serving children and educators since 2006



## **EVIDENCE-BASED PRACTICE BRIEF**

Neuroscientific research documenting the interconnectedness of social, emotional, intellectual, and physical well-being is well-established. Healthy cognitive, intrapersonal, and interpersonal skills require regulation of the limbic system. Embodied mindfulness practices – with the express goal of building social and emotional competencies – support the regulation necessary for students to engage their prefrontal cortex and build the additional skills necessary for learning and healthy interactions. Children and youth need to move and connecting with sensation in the body is a particularly effective way to explore mindfulness. Practices derived from yoga<sup>1</sup> serve to enhance existing efforts around social and emotional growth through the development of biological self-regulation skills. When mindfulness and yoga are taught together, each become more powerful teaching tools to cultivate inner resources that maximize resilience and support healthy navigation of challenges internally and externally:

- **Mental Health:** *Kansas Communities that Care* data show increased levels of depression<sup>2</sup> and conflict.<sup>3</sup> Mindfulness and yoga may have beneficial effects on outcomes related to children's psychological well-being, such as reducing anxiety<sup>4</sup> and depression,<sup>5</sup> alleviating stress,<sup>6</sup> and improving mental health.<sup>7</sup>
- **Physical Health:** *Kansas Model Grade-Level Outcomes for Physical Education* refer to the value of body awareness, awareness of breath, strengthening and stress-reducing benefits of yoga.<sup>8</sup> Studies have found that mindfulness reduces blood pressure<sup>9</sup> and enhances sleep quality<sup>10</sup> in high school students. Research also suggests that yoga enhances physical well-being,<sup>11</sup> physical fitness,<sup>12</sup> and balance, strength, and flexibility in youth.
- Social and Emotional Skills: Kansas Social, Emotional, and Character Development Standards<sup>13</sup> note that "personal and academic success are built upon the ability to consider thoughts, understand feelings and manage one's responses" and the Kansans Can Competencies Framework<sup>14</sup> provides a process for embedding intrapersonal, interpersonal, and cognitive skills necessary for lifelong learning including those such as self-care. Mindfulness and yoga may have beneficial effects on a variety of social-emotional outcomes<sup>15</sup> such as improved biological self-regulation,<sup>16, 17</sup> reduced hostility,<sup>18</sup> and fewer problem behaviors,<sup>19, 20</sup> and aid in developing a well-regulated foundation to support student engagement and further skill development.
- Academic Performance: *Kansas Communities that Care* data indicates that approximately 37% of youth were at risk of academic failure in 2019 based on questions about their grades.<sup>21</sup> Mindfulness and yoga may have beneficial effects on academic performance, such as improvements in quarterly grades<sup>22</sup> and high-stakes test scores,<sup>23</sup> and preventing declines in Grade Point Average (GPA).<sup>24</sup>

# A NOTE ON EVIDENCE-BASED PRACTICE

Implementation of an evidence-based practice is a three-part process of integrating best available science (1) with clinical judgment (2) within the context of patient values and beliefs (3).<sup>25</sup> Emerging science in the fields of psychology, social work, developmental disabilities, rehabilitation, school mental health, and medicine indicates that yoga and mindfulness-based practices do indeed, have particular benefit when used preventively and/or as part of a holistic intervention regimen:<sup>28</sup>

- Are an effective treatment for stress, anxiety, depression, trauma reactions, and physical pain, amongst other concerns, in adults and children.<sup>7</sup>
- Increase attention and promote social-emotional learning and academic outcomes.<sup>15</sup>
- Are feasible to implement within schools, but reduces stress for both students and teachers.<sup>26</sup>
- Help children/adolescents with body and emotion awareness.<sup>27</sup>

# THE SCHOOL WELLNESS PROJECT MINDFULNESS AND SCHOOL-BASED YOGA TRAINING

The \*Mindfulness and School Based Yoga training developed by The School Wellness Project is based on the available scientific literature and informed by practitioners with decades of experience in the school setting. Additionally, trainees are taught to develop yoga and mindfulness-based sequences that are sensitive to trauma, physical and developmental disabilities, a child's developmental level, and the environmental context. In a pilot study of a 12-session wellness program for high schoolers, effects included improved emotional awareness, academic skills, and coping skills. Therefore, the Mindfulness and School-Based Yoga trainings provided through The School Wellness Project are evidence-informed practices that can be used in the provision of evidence-based practice.

### \*See https://www.littlefloweryoga.com/why-mindfulness/#social-emotional-learning.

#### References

- <sup>1</sup> Little Flower Yoga. 2015. *LFY Training Manual: Level One*. (p. 9). Little Flower Yoga.
- <sup>2</sup> Kansas Communities that Care. (2019). Depression. Retrieved 2020, May 11 from <u>http://kctcdata.org/Manage/ViewQuestion?code=30120&building=0&questionId=Sui15\_142&riskProtective=0&surveyType=KCTC&selectedSurvey=CT</u> <u>Y&selectedCounty=30120-0&selectedCategory=-999&CategoryName=Depression%2FSuicide</u>
- <sup>3</sup> Kansas Communities that Care. (2019). Problem Behaviors: Violence. Retrieved 2020, May 11 from <u>http://kctcdata.org/Manage/ViewQuestion?code=30120&building=0&questionId=Q0066F&riskProtective=0&surveyType=KCTC&selectedSurvey=CTY& selectedCounty=30120-0&selectedCategory=-999&CategoryName=Problem%20Behaviors</u>
- <sup>4</sup> Weaver, L. L., & Darragh, A. R. (2015). Systematic review of yoga interventions for anxiety reduction among children and adolescents. *American Journal of Occupational Therapy*, 69(6). <u>https://doi.org/10.5014/ajot.2015.020115</u>
- <sup>5</sup> Chi, X., Bo, A., Liu, T., Zhang, P., & Chi, I. (2018). Effects of mindfulness-based stress reduction on depression in adolescents and young adults: A systematic review and meta-analysis. *Frontiers in psychology*, *9*, 1034. <u>https://doi.org/10.3389/fpsyg.2018.01034</u>
- <sup>6</sup> Hagen, I., & Nayar, U. S. (2014). Yoga for children and young people's mental health and well-being: research review and reflections on the mental health potentials of yoga. *Frontiers in psychiatry*, *5*, 35. <u>https://doi.org/10.3389/fpsyt.2014.00035</u>
- <sup>7</sup> Dunning, D. L., Griffiths, K., Kuyken, W., Crane, C., Foulkes, L., Parker, J., & Dalgleish, T. (2018). The effects of mindfulness-based interventions on cognition and mental health in children and adolescents: A meta-analysis of randomised controlled trials. *PsyArXiv*, 9. <u>https://psyarxiv.com/rj5mk/</u>
- <sup>8</sup> Kansas State Department of Education. (2018). Kansas Model Grade-Level Outcomes for Physical Education. Retrieved 2019, October 9 from <u>https://www.ksde.org/Portals/0/CSAS/Content%20Area%20(M-Z)/Physical%20Education/2018%20Kansas%20Model%20GLOs%20for%20PE%20b</u> <u>v%20Standard%20FINAL%20102218.pdf?ver=2018-10-22-154200-883</u>
- <sup>9</sup> Brown Wright, L., Gregoski, M. J., Tingen, M. S., Barnes, V. A., & Treiber, F. A. (2011). Impact of stress reduction interventions on hostility and ambulatory systolic blood pressure in African American adolescents. *Journal of Black Psychology*, 37(2), 210-233. doi: 10.1177/0095798410380203. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3319013/
- <sup>10</sup> Bei, B., Byrne, M. L., Ivens, C., Waloszek, J., Woods, M. J., Dudgeon, P., ... & Allen, N. B. (2013). Pilot study of a mindfulness-based, multi-component, in-school group sleep intervention in adolescent girls. *Early intervention in psychiatry*, 7(2), 213-220. <u>https://doi.org/10.1111/j.1751-7893.2012.00382.x</u>
- <sup>11</sup> Chen, D. D., & Pauwels, L. (2014). Perceived benefits of incorporating yoga into classroom teaching: Assessment of the effects of "yoga tools for teachers". *Advances in Physical Education*, 4(03), 138. doi: <u>10.4236/ape.2014.43018</u>
- <sup>12</sup> Purohit, S. P., Pradhan, B., & Nagendra, H. R. (2016). Effect of yoga on EUROFIT physical fitness parameters on adolescents dwelling in an orphan home: A randomized control study. *Vulnerable Children and Youth Studies*, *11*(1), 33-46. <u>https://doi.org/10.1080/17450128.2016.1139764</u>
- <sup>13</sup> Kansas State Department of Education. (2018, July). Kansas Social, Emotional, and Character Development Model Standards, p. 10. <u>https://www.ksde.org/Agency/Division-of-Learning-Services/Special-Education-and-Title-Services/Social Emotional Growth</u>
- <sup>14</sup> Kansans Can Competencies. <u>https://ksdetasn.org/competency</u> and <u>http://www.cccframework.org/</u>
- <sup>15</sup> Maynard, B. R., Solis, M., Miller, V., & Brendel, K. E. (2017). Mindfulness-based interventions for improving cognition, academic achievement, behavior and socio-emotional functioning of primary and secondary students. *Campbell Systematic Reviews*, 13. <u>https://eric.ed.gov/?id=ED573474</u>
- <sup>16</sup> Bergen-Cico, D., Razza, R., & Timmins, A. (2015). Fostering self-regulation through curriculum infusion of mindful yoga: A pilot study of efficacy and feasibility. *Journal of Child and Family Studies, 24*(11), 3448-3461. <u>https://link.springer.com/article/10.1007/s10826-015-0146-2</u>
- <sup>17</sup> Deplus, S., Billieux, J., Scharff, C., & Philippot, P. (2016). A mindfulness-based group intervention for enhancing self-regulation of emotion in late childhood and adolescence: A pilot study. *International Journal of Mental Health and Addiction*, 14(5), 775-790. <u>https://link.springer.com/article/10.1007/s11469-015-9627-1</u>

- <sup>18</sup> 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. https://doi.org/10.1080/15377903.2013.863259
- <sup>19</sup> Frank, J. L., Kohler, K., Peal, A., & Bose, B. (2017). Effectiveness of a school-based yoga program on adolescent mental health and school performance: Findings from a randomized controlled trial. *Mindfulness, 8*(3), 544-553. doi: <u>10.1007/s12671-016-0628-3</u>
- Franco, C., Amutio, A., López-González, L., Oriol, X., & Martínez-Taboada, C. (2016). Effect of a mindfulness training program on the impulsivity and aggression levels of adolescents with behavioral problems in the classroom. *Frontiers in psychology*, 7, 1385. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5031764/
- <sup>21</sup> Kansas Communities that Care. 2019. Risk Factors: School Domain. Retrieved 2020, May 11 from http://kctcdata.org/Home/ViewRiskFactorsChart?selectedCounty=30120-0&grade=0&year=2020
- <sup>22</sup> Bakosh, L. S., Snow, R. M., Tobias, J. M., Houlihan, J. L., & Barbosa-Leiker, C. (2016). Maximizing mindful learning: Mindful awareness intervention improves elementary school students' quarterly grades. *Mindfulness*, 7(1), 59-67. <u>https://link.springer.com/article/10.1007/s12671-015-0387-6</u>
- <sup>23</sup> Bellinger, D. B., DeCaro, M. S., & Ralston, P. A. (2015). Mindfulness, anxiety, and high-stakes mathematics performance in the laboratory and classroom. *Consciousness and Cognition*, *37*, 123-132. <u>https://doi.org/10.1016/j.concog.2015.09.001</u>
- <sup>24</sup> Butzer, B., van Over, M., Noggle Taylor, J. J., & Khalsa, S. B. S. (2015). Yoga may mitigate decreases in high school grades. *Evidence-Based Complementary and Alternative Medicine*, 2015. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4546979/</u>
- <sup>25</sup> APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist*, 271-85. doi: 10.1037/0003-066X.61.4.271.
- <sup>26</sup> Harris, A. R., Jennings, P. A., Katz, D. A. *et al.* (2016). Promoting Stress Management and Wellbeing in Educators: Feasibility and Efficacy of a School-Based Yoga and Mindfulness Intervention. *Mindfulness*, 143–154. <u>https://doi.org/10.1007/s12671-015-0451-2</u>
- Ager, K., Albrecht, N., & Cohen, P. (2015). Mindfulness in Schools Research Project: Exploring Students' Perspectives of Mindfulness—What are students' perspectives of learning mindfulness practices at school?. *Psychology*, 896-914. doi: <u>10.4236/psych.2015.67088</u>.
- <sup>28</sup> Nanthakumar, C. (2018). The benefits of yoga in children. Journal of Integrative Medicine, 14-19. https://doi.org/10.1016/j.joim.2017.12.008

For systematic review papers and meta-analyses research on yoga and mindfulness for youth, see <u>Serwacki and Cook-Cottone (2012)</u>, <u>Khalsa & Butzer (2016)</u>, <u>Carsley et al. (2017)</u>, <u>Felver et al. (2015)</u>, <u>Maynard et al. (2017)</u>, <u>McKeering and Hwang (2018)</u>, <u>Weaver and Darragh (2015)</u>, <u>Dunning et al. (2018)</u>, <u>Mak et al.</u> (2017), and <u>Zoogman et al. (2014)</u>. For guidance on the application of mindfulness and yoga in schools, see <u>Secularity: Guiding Questions for Inclusive Yoga in Schools</u>.