

# Mindfulness-Based Interventions with Students in K-12 Schools

*“The faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will. . . . An education which should improve this faculty would be the education par excellence.”*

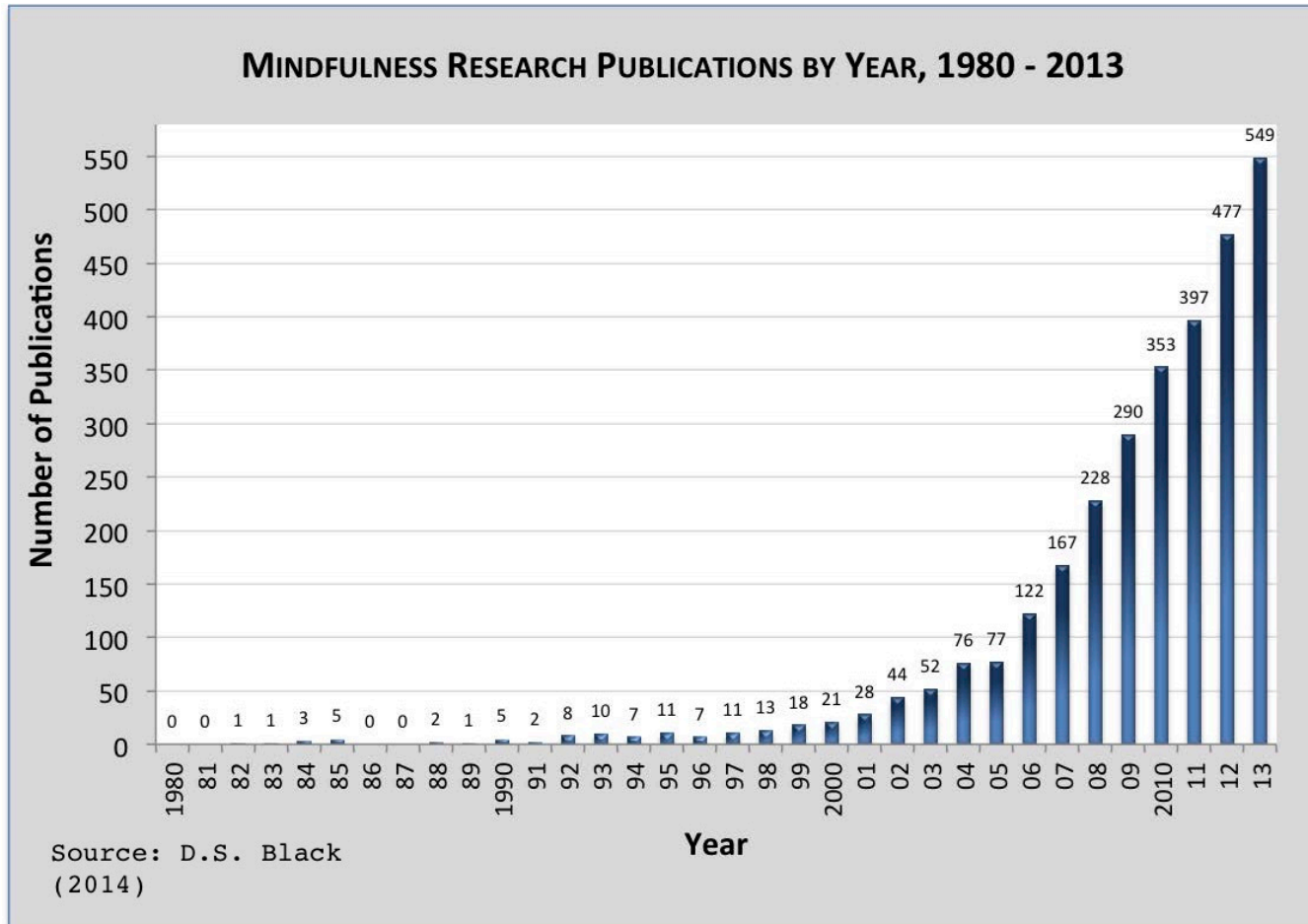
William James, 1890

Presented by Robert Dearborn – New Mexico State University

# Trending: #Mindfulness



# Mindfulness Research Publications



# The “Present” State of Mindfulness Research

Studies published in the past several **WEEKS**:

- *“A systematic review of mindfulness-based interventions for youth in school settings”* (Felver et al., 2015)
- *“Enhancing cognitive and social–emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial”* (Schonert-Reichl et al., 2015)



# Deconstructing Mindfulness: World Economic Forum 2015

*“People when they’re depressed are mostly locked in the past, ruminating about something that happened, that they can’t let go of. When they’re anxious they’re ruminating about the future, it’s that anticipation of what they can’t control, the angst about what might happen. [Mindfulness is about] how to focus on here and now, and if you could train yourself how to do that (...) that could be a very important part of a recovery process. And the evidence - while it’s still accumulating - is pretty good.”*

**- Thomas Insel, NIMH Director**



# Academic, Social, and Emotional Learning Act of 2015

- U.S. Rep. Tim Ryan (OH) - joined by Dave Loebsack (IA), Susan Davis (CA), Matt Cartwright (PA), & John Yarmuth (KY) - introduced this bill (H.R. 850) on **February 10, 2015** to support evidence-based SEL programming.
- This legislation defines SEL and amends the Elementary and Secondary Education Act (ESEA) to allow funding for teacher and principal training and professional development to be used for SEL programming.

# What is Mindfulness?

- “Mindfulness means paying attention in a particular way: On purpose, in the present moment, and non-judgmentally.” (Kabat-Zinn, 1994)
- “Awareness of present experience with acceptance” (Germer, 2005)
- “The self-regulation of attention so that it is maintained on immediate experience . . . an orientation that is characterized by curiosity, openness, and acceptance.” (Bishop et al., 2004)



# Core practice: Breath as anchor





# Models of Mindfulness

*"Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom."* – Viktor Frankl

Without  
Mindfulness

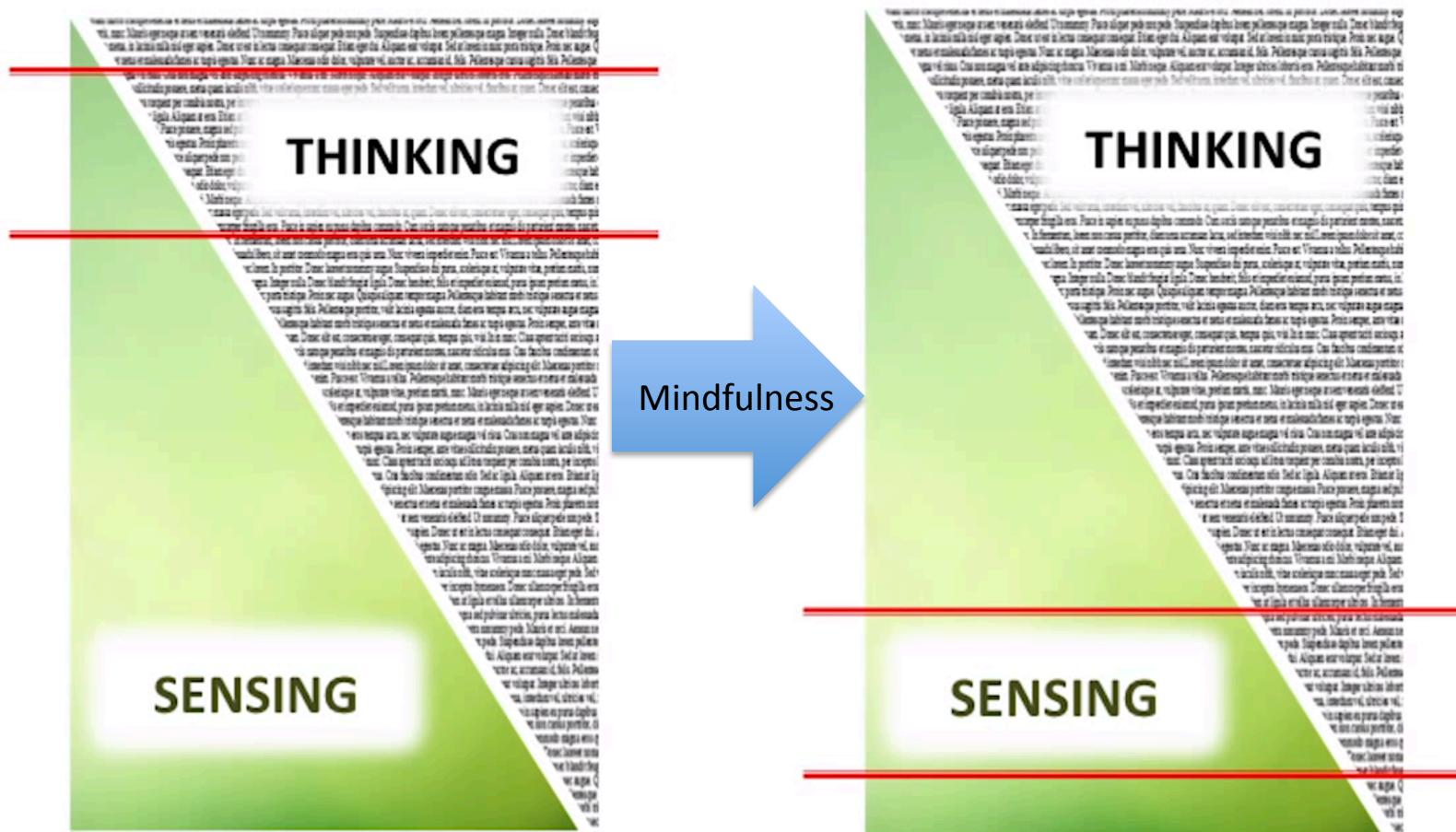


With  
Mindfulness



(Diagram: Mindful Schools, 2014a)

# Models of Mindfulness



(Adapted from Burnett, 2013)

# Clinical Applications of Mindfulness: A Brief History

## ■ 1940s-1960s

- Psychoanalytic interest in Eastern philosophy & meditation

## ■ 1960s-1970s

- Humanistic, Existential, Transpersonal Psychology

## ■ 1970s-1980s

- Herbert Benson's use of meditation to treat heart disease
- Jon Kabat-Zinn creates MBSR at UMass, establishes Center for Mindfulness

## ■ 1990s-2000s

- Mindfulness-Based Stress Reduction (MBSR)
- Mindfulness-Based Cognitive Therapy (MBCT)
- Linehan's Dialectical Behavior Therapy (DBT)
- Acceptance and Commitment Therapy (ACT)

## ■ 2005 - Present

- Mindfulness-Based Interventions applied to youth populations

## ■ 2010 - Present

- Mindfulness-Based Interventions applied to students in K-12 schools

# MBSR/MBCT Model

- **MBSR**

- 8 weekly meetings
- Didactic instruction on mindfulness & stress
- Formal mindfulness practices (sitting, walking, body scan, movement, loving-kindness)
- Informal practice (everyday life)
- Daily practice (45 min)
- Full day retreat
- Instructors are experienced meditators

- **MBCT**

- Integration of MBSR & CBT
- Manualized treatment
- Didactic instruction focused on CBT principles
- Same mindfulness practices as MBSR, except for loving-kindness and retreat
- Therapist expected to have personal mindfulness practice/experience

# MBIs with Adults

- Studies suggest MBIs improve depression, anxiety, stress, physical health, attention, immune function, addictions, & eating disorders (Burke, 2014).
- Meta-analyses (e.g., Khoury, 2013) show medium effect sizes for reducing stress and improving psychological symptoms, as well as comparability with CBT and medications.
- MBIs associated with structural & functional brain changes (Davidson et al., 2003; Taren, Creswell, & Gianaros, 2013; Santarneckchi et al., 2014).

- “Mind wandering” has been associated with unhappiness & short telomeres (Epel et al., 2013)

## Limitations of research

- Mediating effects unexamined
- Protocols, teacher training, and implementation not standardized
- Need for larger samples sizes across diverse contexts and populations
- Need RCTs with active controls
- Lack of follow-up assessment
- Lack of objective measures of well-being (e.g., cortisol levels, telomere length)



# MBIs with Youth

- MBIs with youth have been found to be feasible & acceptable.
- Associated with improvements in depression, anxiety, self-regulation, perceived stress, aggressive behaviors, ADHD, & various indicators of well-being (Burke, 2014).
- Meta-analyses (Zoogman, 2014; Zenner, 2014) showed small to medium effect sizes
- Enthusiasm outweighs the evidence (Greenberg & Harris, 2012)
- **Limitations of research**
  - Same as adult research
  - Measures of mindfulness not used or not validated with youth
  - Developmental adaptations often not used, or else applied in nonstandard ways
  - Potential bias when researchers are mindfulness enthusiasts

# Adapting MBIs to Youth

- Adapt language, content, learning materials, delivery style, variety/ duration of practice, according to developmental level. (Metacognitive awareness develops at 8 or 9, so sensory focus until then.)
- Maximum practice time 1 min. per 1 year of age, with short practices to start (Saltzman & Goldin, 1998).
- Multisensory modes of learning, multimedia integration, culturally relevant connections, relating to everyday life, invitational approach, sharing of personal experiences, and peer support strategies are encouraged.
- **Caution:** MBIs may not be appropriate for youth with unresolved trauma, active psychosis, or suicidal ideation.



# Lesson Examples: Inner Kids (2014)

Video clips:

- <http://youtu.be/uD99Vv38gtY>
- <http://youtu.be/pZfYDdoo0Ro>
- <http://youtu.be/OzBLASMPSwc>

# MBIs in Schools: Rationale

- Today's youth suffer from multiple stressors and high rates of mental health problems. MBIs in schools can promote SEL skills, healthy brain development, and stress resilience.
- The faculty of attention is at the center of the learning process. Why not develop this lens through which all learning occurs?
- It works for us adults. Why not try it with kids?

[Video clip:

- <http://youtu.be/Qm-qnkclUyE> ]

# MBIs in Schools: Rationale

MBIs clearly promote each of the SEL core competencies

- **Self-awareness** (e.g., recognizing feelings and thoughts)
- **Self-management** (e.g., impulse control, dealing with stress)
- **Social awareness** (e.g., empathy)
- **Relationship skills** (e.g., peer communication, conflict resolution)
- **Responsible decision-making** (e.g., Values clarification, reflective action).

Research shows that SEL can have a positive impact on school climate and promote many academic, social, and emotional benefits for students, including: better academic performance, improved attitudes and behaviors, fewer negative behaviors, and reduced emotional distress (Durlak et al., 2011)



(CASEL, 2013)

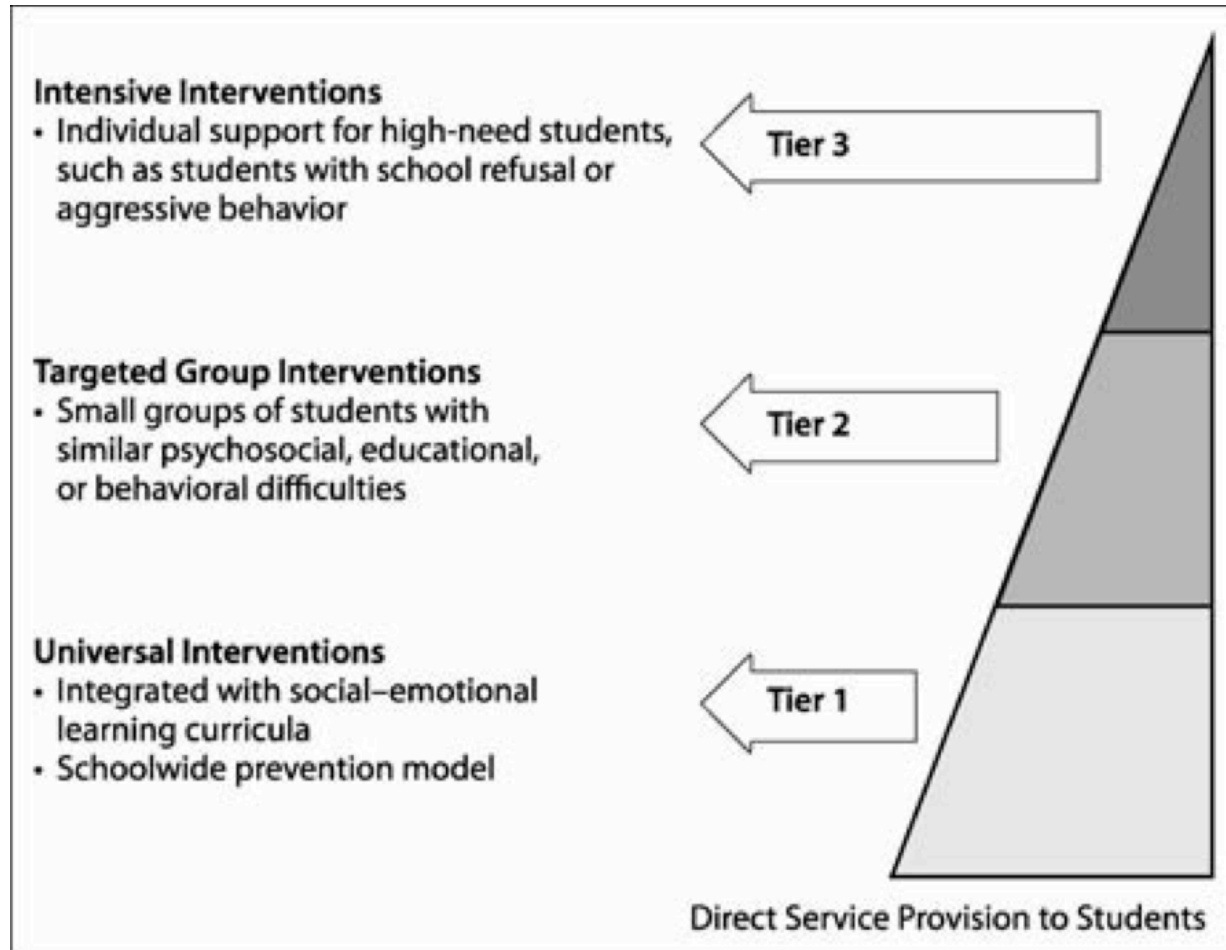


# Room to Breathe (2014)

Video clip:

- <http://youtu.be/Bl4daXG9H8>

# Three Tiers of MBI Delivery in Schools



(Felter et al., 2013)

# Tier 3: Intensive Individual Support for High-Needs Students

MBI/Focus	Age/Grade	Research	Description
<b>ACT</b> Anorexia Nervosa; Risk Behaviors	Middle & High School	Murrell & Scherbarth, 2011	Uses acceptance mindfulness, commitment, & behavior-change strategies to increase psychological flexibility.
<b>DBT-A</b> Risky behavior (Self-injury, suicidal ideation, substance use, bingeing & purging, risky sexual behavior, fighting)	Middle & High School	Miller et al., 2007; Rathus, Miller, & Linehan, 2014.	Teaches skills of Mindfulness, Distress Tolerance, Family Functioning, Emotion Regulation, & Interpersonal Effectiveness
<b>Soles of the Feet (SOF)</b> Aggressive & disruptive behavior	Elementary – High School	Singh et al, 2011; Singh et al, 2013	Recognize behavioral antecedents, disengage attention, reorient to SOF, return to activity with calm.

## Tier 2: Targeted Group MBIs

MBI/Focus	Age/Grade	Research	Description
<b>MBCT-C</b> Anxiety	9 – 11 years	Semple et al. (2010); Semple et al. (2011)	12 small-group sessions; Home practice (supported by family).
<b>MBSR</b> Anxiety, coping, academic stress	Male, urban 7 <sup>th</sup> & 8 <sup>th</sup> graders (95% African American)	Sibinga et al. (2013); Active control group; Cortisol measure.	Logistical & Language adaptations to standard MBSR
<b>MBSR-T</b> Depression, Anxiety, Stress, Mindfulness, Self-Compassion	12 – 18 years	Biegel et al., 2009; Edwards et al., 2014	8 weekly small-group sessions; Home practice (supported by multimedia materials)

# Tier 1: Universal (MBIs Incorporated into SEL Programs)

MBIs generally include: age-appropriate mind-body practices to increase:

- **Focused attention**
- **SEL competencies**
- **Emotional self-regulation**

E.g., Attention on breath & sensory experiences; awareness of thoughts & emotions; movement practices; caring/kindness practices.

- **MindUP's 15 lessons**
- **"Jedis & Minions"**
- **Mindfulness Apps** (e.g., Stop, Breathe & Think; Headspace)





# Tier 1: Universal (MBIs as Stand-Alone Prevention Programs)

MBI/Program	Grade Levels	Research	Description
<b>Mindful Schools</b>	Elementary, Middle, High School	Black & Fernando, 2013	MBSR. 15 min. lessons; 5-8 wks, trained teachers.
<b>MindUP</b>	Elementary & Middle	Schonert-Reichl & Lawlor, 2010; Schonert-Reichl et al., 2015	15 lessons designed to integrate mindfulness with SEL competencies.
<b>.b (Mindfulness in Schools Project)</b>	High School	Kuyken et al., 2013	9-wks. Core MBSR/MBCT teachings distilled & made accessible for adolescents.
<b>Inner Kids</b>	Elementary, Middle, High School	Flook et al., 2010	The new ABCs (Attention, Balance, Compassion)
<b>Still Quiet Place</b>	Elementary, Middle, High School	Saltzman & Goldin, 2008	8 weekly adapted sessions; home practice; trained teachers

# Lesson example: Mindful listening (Mindful Schools, 2014b)

Video clip (5:41-8:05):

- <http://youtu.be/C2id2TcfVv8>

# Lesson example: Compassion/ Heartfulness (Mindful Schools, 2014b)

Video clip (33:15-35:29):

- <http://youtu.be/C2id2TcfVv8>

# Mindfulness Program for Urban Youth: UCSF Osher Center

Video clip (5:12-7:36):

- [http://youtu.be/bmcgB0ZZI\\_U](http://youtu.be/bmcgB0ZZI_U)

# Mindful Eating (Mindful Schools)

Video clip (3:16-4:41):

- <http://youtu.be/MMK481p5wWM>



# Implementation Challenges

- Need for best practices in adapting MBIs to different developmental levels of youth
- Lack of agreement on active ingredients
- Motivating schools to embrace curricula
- Frequent policy/personnel changes
- Finding trained/experienced instructors
- Finding class time, space

(Meiklejohn et al., 2012)

# Future Directions

- Theory development (youth specific)
- Connect MBIs to desired educational outcomes (e.g., improved academic achievement, test scores, classroom behavior, social competence, attentiveness, reduced aggression/bullying)
- Determine who is qualified to instruct
- Strengthen evidence base by conducting & publishing more methodologically rigorous research, designing longer trials, and integrating teacher and student programs.

(Meiklejohn et al., 2012)

# Cultural Issues

- Edwards et al. (2014) noted that minority youth may face added stressors related to discrimination, classism, poverty, access barriers.
- Fuchs et al. (2013) meta-analysis of MBIs with clients from nondominant cultural and/or marginalized backgrounds.
  - Found support that MBIs can be effectively utilized with people from diverse, underserved backgrounds, noting that ethnic minorities are still underrepresented in most clinical trials.
- “Mindfulness” may evoke associations with Eastern religion, so use of secular language may be most appropriate to avoid conflict with students, parents, or staff.

# Cultural Issues: New Mexico

- Latino adolescents may face specific stressors (communication/ language barriers, intergenerational conflict, discrimination & poverty). Latino youth suffer from high rates of depression & may have limited access to mental health services. MBIs in schools address all of the above.
- Edwards et al. (2014) found that MBSR-T benefited Latino adolescents in rural Southwest by increasing mindfulness & self-compassion, and decreasing depression & perceived stress.
- Mindful Schools curriculum is piloting in at least one Las Cruces Public School.
- MindUP has worked with schools in Los Alamos & Santa Fe, but ran into problems with McKinley Middle School in Albuquerque (KOAT, 2013)

# MindUP @ McKinley Middle School (KOAT, 2013)

Video clip:

- <http://www.koat.com/news/new-mexico/albuquerque/mother-upset-over-schoolwide-meditation-program/21491014>

# Promise of MBIs in Schools

MBIs offer students a means to:

- Cultivate attentional skills
- Cope with psychosocial & academic challenges
- Develop pro-social behaviors
- Strengthen self-regulation & impulse control
- Reduce stress that obstructs learning
- Promote brain health, physical and emotional well-being

(Meiklejohn et al., 2012)

# Tools & Resources

## **Mindfulness in Schools/Education**

MindUp: <http://thehawnfoundation.org>

Mindful Schools: <http://www.mindfulschools.org>

Stop, Breathe & Think: <http://stopbreathethink.org>

The Inner Kids Program: <http://www.susankaisergreenland.com/inner-kids-program.html>

Association for Mindfulness in Education: <http://www.mindfuleducation.org>

The Mindfulness in Schools Project: <http://mindfulnessinschools.org>

Collaborative for Academic, Social, and Emotional Learning (CASEL): <http://www.casel.org>

## **University Research Centers**

Center for Mindfulness, UMass Medical School: [www.umassmed.edu/cfm/](http://www.umassmed.edu/cfm/)

UCLA Mindful Awareness Research Center: <http://marc.ucla.edu>

UCSD Center for Mindfulness: <http://health.ucsd.edu/specialties/mindfulness>

## **Research Studies**

American Mindfulness Research Association: <https://goamra.org/>



# References

- Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 77*(5), 855–866. doi:10.1037/a0016241
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230-241. doi:10.1093/clipsy/bph077
- Black, D.S., & Fernando, R. (2013). Mindfulness training and classroom behavior among lower- income and ethnic minority elementary school children. *Journal of Child and Family Studies, 23*(7), 1242-1246.
- Black, D.S. (2014). Mindfulness-based interventions: An antidote to suffering in the context of substance use, misuse, and addiction. *Substance Use & Misuse, 49*(5), 487.
- Burke, C. (2010). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child and Family Studies, 19*(2), 133–144. doi: 10.1007/s10826-009-9282-x
- Burke, C. (2014). An exploration of the effects of mindfulness training and practice in association with enhanced wellbeing for children and adolescents. In F. A. Huppert & C. L. Cooper (Eds.), *Wellbeing: A complete reference guide, volume 6, interventions and policies to enhance wellbeing* (pp. 141-184). West Sussex, UK: John Wiley & Sons.
- Burnett, R. (2013, February 14). Mindfulness in schools: Richard Burnett at TEDxWhitechapel [Video file]. Retrieved from [http://youtu.be/6mlk6xD\\_xAQ](http://youtu.be/6mlk6xD_xAQ)
- Collaborative for Academic, Social, and Emotional Learning. (2013). What is social and emotional learning? Retrieved April 20, 2014, from <http://www.casel.org/social-and-emotional-learning>

# References

- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkantz, M., Muller, D., Santorelli, S. F., ... Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, 65(4), 564–570. doi: 10.1097/01.PSY.0000077505.67574.E3
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82, 405–432.
- Greenberg, M. T., & Harris, A. R. (2012). Nurturing mindfulness in children and youth: Current state of research. *Child Development Perspectives*, 6(2), 161-166. doi: 10.1111/j.1750-8606.2011.00215.x
- Edwards, M., Adams, E. M., Waldo, M., Hadfield, O. D., & Biegel, G. M. (2014). Effects of a mindfulness group on Latino adolescent students: Examining levels of perceived stress, mindfulness, self-compassion, and psychological symptoms. *Journal for Specialists in Group Work*, 39(2), 145-163. doi:10.1080/01933922.2014.891683
- Epel, E. S., Puterman, E., Lin, J., Blackburn, E., Lazaro, A., & Mendes, W. B. (2013). Wandering minds and aging cells. *Clinical Psychological Science* 1(1), 75-83. doi: 10.1177/2167702612460234
- Felver, J. C., Celis-de Hoyos, C. E., Tezanos, K., & Singh, N. N. (2015). A systematic review of mindfulness-based interventions for youth in school settings. *Mindfulness*, 6, 1-12. doi: 10.1007/s12671-015-0389-4
- Felver, J. C., Doerner, E., Jones, J., Kaye, N. C., & Merrell, K.W. (2013). Mindfulness in school psychology: Applications for intervention and professional practice. *Psychology in the Schools*, 50(6), 531-547. doi: 10.1002/pits.21695
- Flook, L., Smalley, S. L., Kitil, J. M., Galla, B. M., Kaiser-Greenland, S., Locke, J., . . . Kasari, C. (2010). Effects of mindfulness practices on executive functions in elementary school children. *Journal of Applied School Psychology*, 26(1), 70 – 95. doi:10.1080/15377900903379125

# References

- Flook, L., Goldberg, S. B., Pinger, L., & Davidson, R. J. (2015). Promoting prosocial behavior and self-regulatory skills in preschool children through a mindfulness-based kindness curriculum. *Developmental Psychology*, 51(1), 44-51. <http://dx.doi.org/10.1037/a0038256>
- Fuchs, C., Lee, J. K., Roemer, L., & Orsillo, S. M. (2013). Using mindfulness- and acceptance-based treatments with clients from nondominant cultural and/or marginalized backgrounds: Clinical considerations, meta-analysis findings, and introduction to the special series. *Cognitive and Behavioral Practice*, 20, 1-12.
- Germer, C. K. (2005). Mindfulness: What is it? What does it matter? In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 3-27). New York: Guilford Press.
- Greenberg, M. T., & Harris, A. R. (2012). Nurturing mindfulness in children and youth: Current state of research. *Child Development Perspectives*, 6(2), 161-166. doi: 10.1111/j.1750-8606.2011.00215.x
- Greeson, J. M. (2009). Mindfulness research update: 2008. *Complementary Health Practice Review*, 14(1), 10-18. doi:10.1177/ 1533210108329862
- Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., & Lazar, S. W. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Research: Neuroimaging*, 191, 36-43. doi:10.1016/j.psychresns.2010.08.006
- Inner Kids (2014). Mindfulness together's channel [Video files]. Retrieved from <https://www.youtube.com/user/mindfulnessstogether>
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. New York, NY: Hyperion.

# References

- Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., ... Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review, 33*, 763-771. <http://dx.doi.org/10.1016/j.cpr.2013.05.005>
- KOAT (2013, August 16). Mother upset over school-wide meditation program: McKinley Middle School has plans to offer program, created by Goldie Hawn [Video file]. Retrieved from <http://www.koat.com/news/new-mexico/albuquerque/mother-upset-over-schoolwide-meditation-program/21491014#ixzz3IdLH2X5E>
- Kuyken, W., Weare, K., Ukoumunne, O. C., Vicary, R., Motton, N., Burnett, R., ... Huppert, F. (2013). Effectiveness of the Mindfulness in Schools Programme: Non-randomised controlled feasibility study. *The British Journal of Psychiatry, 203*(2), 126-131. doi: 10.1192/bjp.bp.113.12664
- Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., ... Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness, 3*, 291-307. doi: 10.1007/s12671-012-0094-5
- Miller, A.L., Rathus, J.H., & DeBose (2007). Dialectical behavior therapy for adolescents. In K. Keorner & L. DiMeff (Eds.) *Dialectical Behavior Therapy: Applications Across Disorders and Settings* (245-263). New York: Guilford Press.
- Mindful Schools (2014a). What is mindfulness? Retrieved from <http://www.mindfulschools.org/about-mindfulness/mindfulness/>

# References

- Mindful Schools (2014b). Healthy habits of mind: A free film about integrating mindfulness into education. Retrieved from <http://www.mindfulschools.org/resources/healthy-habits-of-mind/>
- MindUp. (2011). *The MindUP curriculum: Brain-focused strategies for learning and living*. New York: Scholastic, Inc.
- Murrell, A. R., & Scherbarth, A. J. (2011). State of the research & literature address: ACT with children, adolescents and parents. *The International Journal of Behavioral Consultation and Therapy*, 7(1), 15-22.
- Rathus, J. H., Miller, A. L., & Linehan, M. M. (2014). *DBT skills manual for adolescents*. New York: Guilford Press.
- Room to Breathe (2014, April 14). Room to breath official trailer [Video file]. Retrieved from <http://youtu.be/1Uy8PXnZUJk>
- Saltzman, A., & Goldin, P. (2008). Mindfulness-based stress reduction for school-age children. In L. A. Greco & S. C. Hayes (Eds.), *Acceptance & mindfulness treatments for children and adolescents: A practitioner's guide* (pp. 139-161). Oakland, CA: New Harbinger.
- Santaracchi, E., D'Arista, S. D., Egiziano, E., Gardi, C., Petrosino, R., Vatti, G., ... Rossi, A. (2014). Interaction between neuroanatomical and psychological changes after mindfulness-based training. *PLoS ONE* 9(10): e108359. doi:10.1371/journal.pone.0108359

# References

- Schonert-Reichl, K. A., & Lawlor, M. S. (2010). The effects of a mindfulness-based education program on pre- and early adolescents' well-being and social and emotional competence. *Mindfulness, 1*, 137–151. doi:10.1007/s12671-010-0011-8
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbot, D., Thompson, K., Oberlander, T. F., & Diamond, A. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Developmental Psychology, 51*(1), 52-66. <http://dx.doi.org/10.1037/a0038454>
- Semple, R. J., Lee, J., Rosa, D., & Miller, L. F. (2010). A randomized trial of mindfulness-based cognitive therapy for children: Promoting mindful attention to enhance social-emotional resiliency in children. *Journal of Child and Family Studies, 19*(2), 218-229. doi: 10.1007/s10826-009-9301-y
- Semple, R. J., & Lee, J. (2011). *Mindfulness-based cognitive therapy for anxious children: A manual for treating childhood anxiety*. Oakland, CA: New Harbinger.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology, 62*(3), 373 – 386. doi:10.1002/jclp.20237
- Sibinga, E. M. S., Perry-Parrish, C., Cheung, S., Johnson, S. B., Smith, M., & Ellen, J. M. (2013). School-based mindfulness instruction for urban male youth. A small randomized controlled trial. *Preventative Medicine, 57*(6), 799- 801. doi: 10.1016/j.ypmed.2013.08.027

# References

- Singh, N. N., Singh, J., Singh, A. D., Singh, A. N., & Winton, A. S. (2011). *Meditation on the Soles of the Feet for anger management: A trainer's manual*. Raleigh: Fernleaf.
- Singh, N. N., Lancioni, G. E., Karazsia, B. T., Winton, A. S. W., Myers, R. E., Singh, A. N. A., ... Singh, J. (2013). Mindfulness-based treatment of aggression in individuals with mild intellectual disabilities: A waiting list control study. *Mindfulness*, 4(2), 158-167. doi: 10.1007/s12671-012-0180-8
- Taren, A. A., Creswell, J. D., & Gianaros, P. J. (2013). Dispositional mindfulness co-varies with smaller amygdala and caudate volumes in community adults. *PLoS ONE*, 8(5): e64574, 1-7. doi:10.1371/journal.pone.0064574
- van der Oord, S., Bogels, S. M., & Peijnenburg, D. (2012). The effectiveness of mindfulness training for children with ADHD and mindful parenting for their parents. *Journal of Child and Family Studies*, 21(1), 139-147. doi: 10.1007/s10826-011-9457-0
- Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools: A systematic review and meta-analysis. *Frontiers in Psychology*, 5, 1-20. doi: 10.3389/fpsyg.2014.00603
- Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2014). Mindfulness interventions with youth: A meta-analysis. *Mindfulness*, 1-13. doi: 10.1007/s12671-013-0260-4