

## Effectiveness of Mindfulness Training on the Well-Being of Educators

Mindfulness can be defined as the practice of directing one's attention to a specific focus, and repeatedly bringing one's attention back whenever the mind has wandered from that focus, with acceptance and a kind curiosity. Mindfulness-Based Stress Reduction (MBSR) is an 8-week program developed by Jon Kabat-Zinn and colleagues at the University of Massachusetts.<sup>1</sup> MBSR training has been shown to improve select mental and physical health parameters and had even been shown to enhance brain structure and function.<sup>2-5</sup> Mindfulness programs, including MBSR, are increasingly being brought into school settings for the benefit of educators and their students.<sup>6,7</sup> MBSR training can help teachers reduce emotional symptoms that lead to burnout, improve attention, increase levels of self-compassion, and improve classroom organization, although additional studies in larger school settings are needed.<sup>8,9</sup>

In partnership with the Miami-Dade Public Schools, Mindful Kids Miami, the University of Miami and the University of Massachusetts Medical School Center for Mindfulness, undertook an Inner-Journey – Mindfulness-Based Stress Reduction (IJ-MBSR) pilot study, which is a modification of the MBSR Program. The IJ-MBSR modification emphasizes loving kindness practice and includes some elements of Mindfulness-Based Cognitive Therapy (MBCT) to assist in dealing with difficult emotions and repetitive thinking. A battery of tests were administered prior to and after participation in an 8-week MBSR program tailored for educators, including the PROMIS-29 item scale, a life satisfaction question from the Behavioral Risk Factor Surveillance System (BRFSS), the Perceived Stress Scale (PSS), the short form of the Five-Facet Mindfulness Questionnaire (FFMQ), the short-form of the Self-Compassion Scale (SCS), the Maslach Burnout Inventory-Educators Survey (MBI-ES), and the Cardiovascular Disease Risk Factors Questionnaire.

Below are select results pre-and post-test results for the PROMIS measures and the two measures of mindfulness (FFMQ<sup>10</sup> and the SCS<sup>11</sup>). For both scales mindfulness levels increase from pre-test levels; in addition there were significant increases in most FFMQ sub-scales indicating that educators showed improvement in across multiple facets of mindfulness. Higher levels of self-reported mindfulness in response to mindfulness training has been shown to be correlated with a range of psychological benefits.

| <b><i>Change in self-reported self-compassion and mindfulness following 8-week MBSR program among Miami-Dade Public School Educators (N=77).</i></b> |               |                |               |                  |
|--|---------------|----------------|---------------|------------------|
| <i>Scale</i>   | Pre-test Mean | Post-Test Mean | Paired T-Test | p*               |
| <b>Self-Compassion</b>   | 39.6          | 42.8           | -4.63         | <b>&lt;0.001</b> |
| <b>Five Facet Mindfulness</b>  |               |                |               |                  |
| Observing  | 14.8          | 16.3           | -4.35         | <b>&lt;0.001</b> |
| Describing   | 18.6          | 19.3           | -1.76         | 0.083            |
| Acting with Awareness  | 15.9          | 18.1           | -5.09         | <b>&lt;0.001</b> |
| Nonjudging of inner experience   | 16.2          | 17.8           | -3.80         | <b>&lt;0.001</b> |
| Nonreactivity to inner experience  | 14.8          | 17.0           | -5.50         | <b>&lt;0.001</b> |
| *Bolding indicates p-value is statistically significant after adjustment for multiple comparisons  |               |                |               |                  |

The PROMIS represents a never used measure of the impact of mindfulness training on measures of health and well-being. PROMIS subscales include physical function, anxiety, depression, fatigue, sleep disturbance, satisfaction with social role, pain impact and pain intensity. Most PROMIS items employ five response options with higher scores indicating greater difficulty in the assessed domain (e.g., 1=Not at all, 2=A little bit,

3=Somewhat, 4=Quite a bit, 5=Very much). This measure has excellent psychometric properties and is in widespread use in the US to monitor health status.{DeWalt, 2007 #5090}

| <b>Change in PROMIS measures following 8-week MBSR program among Miami-Dade Public School Educators (N=77).</b> |               |                |               |                  |
|---|---------------|----------------|---------------|------------------|
| <b>PROMIS Sub-scale</b>   | Pre-test Mean | Post-Test Mean | Paired T-Test | p*               |
| Physical functioning  | 4.86          | 4.81           | 0.37          | 0.71             |
| Anxiety   | 9.05          | 7.52           | 4.28          | <b>&lt;0.001</b> |
| Depression  | 7.47          | 5.62           | 5.40          | <b>&lt;0.001</b> |
| Fatigue   | 10.26         | 8.73           | 3.32          | <b>0.001</b>     |
| Sleep disturbance   | 10.87         | 11.01          | -0.77         | 0.446            |
| Social Satisfaction   | 14.60         | 16.04          | -3.60         | <b>&lt;0.001</b> |
| Pain Impact   | 6.32          | 5.70           | 2.14          | 0.036            |
| Pain Intensity  | 4.65          | 4.57           | 0.19          | 0.851            |
| *Bolding indicates p-value is statistically significant after adjustment for multiple comparisons               |               |                |               |                  |

Results indicate significant reductions in anxiety, depression, and fatigue with a corresponding significant improvement in social satisfaction. These findings are consistent with reports on the effectiveness of MBSR in other studies with the strongest effects of seen more in the mental as opposed to physical health domains. {Goyal, 2014 #4514}

Analysis of data from the fall & winter pilot IJ-MBSR classes is continuing and additional results related to the psychological and physical benefits will be provided in the coming months. The IRB has been extended beyond the pilot to include the 2016-2017 School Year Mindfulness-Based Stress Reduction training provided to Miami-Dade County Public School educators.

## REFERENCES

1. Kabat-Zinn J. *Wherever you go, there you are : mindfulness meditation in everyday life*. 1st ed. New York: Hyperion; 1994.
2. Fjorback LO, Arendt M, Ornbol E, Fink P, Walach H. Mindfulness-based stress reduction and mindfulness-based cognitive therapy: a systematic review of randomized controlled trials. *Acta psychiatrica Scandinavica*. 2011;124(2):102-119.
3. Grossman P, Niemann L, Schmidt S, Walach H. Mindfulness-based stress reduction and health benefits. A meta-analysis. *J Psychosom Res*. 2004;57(1):35-43.
4. Goyal M, Singh S, Sibinga EM, et al. Meditation Programs for Psychological Stress and Well-being: A Systematic Review and Meta-analysis. *JAMA internal medicine*. 2014;174(3):357-368.
5. Singleton O, Holzel BK, Vangel M, Brach N, Carmody J, Lazar SW. Change in Brainstem Gray Matter Concentration Following a Mindfulness-Based Intervention is Correlated with Improvement in Psychological Well-Being. *Frontiers in human neuroscience*. 2014;8:33.
6. Zenner C, Herrnleben-Kurz S, Walach H. Mindfulness-based interventions in schools-a systematic review and meta-analysis. *Front Psychol*. 2014;5:603.

7. Bostic JQ, Nevarez MD, Potter MP, Prince JB, Benningfield MM, Aguirre BA. Being present at school: implementing mindfulness in schools. *Child Adolesc Psychiatr Clin N Am*. 2015;24(2):245-259.
8. Flook L, Goldberg SB, Pinger L, Bonus K, Davidson RJ. Mindfulness for teachers: A pilot study to assess effects on stress, burnout and teaching efficacy. *Mind Brain Educ*. 2013;7(3).
9. Gold E, Smith A, Hopper I, Herne D, Tasey G, Hullan C. Mindfulness-Based Stress Reduction (MBSR) for primary school teachers. *Journal of Child and Family Studies*. 2010;19(2):184-189.
10. Bohlmeijer E, ten Klooster PM, Fledderus M, Veehof M, Baer R. Psychometric properties of the five facet mindfulness questionnaire in depressed adults and development of a short form. *Assessment*. 2011;18(3):308-320.
11. Raes F, Pommier E, Neff KD, Van Gucht D. Construction and factorial validation of a short form of the Self-Compassion Scale. *Clin Psychol Psychother*. 2011;18(3):250-255.
12. Weare K. Evidence for Mindfulness: Impacts on the Wellbeing and Performance of School Staff. <https://mindfulnessinschools.org/wp-content/uploads/2014/10/Evidence-for-Mindfulness-Impact-on-school-staff.pdf>. 2014.