Mindfulness-Based Intervention Research with Youth and Students

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Overview

- Summary of meta-analyses on MBIs for youth and students
- Review MBI program outcomes
- Potential moderators of treatment effects associated with MBIs
- Considerations and Implications

What Programs are MBIs?

Used mindfulness as the primary therapeutic component

- Formalized training programs
  - MBSR and MBCT
- Based on MBSR/MBCT
  - Learning to BREATHE, Mindfulness in Schools Programme
- Single aspects of MBSR
  - Breathing Awareness Mediation
- Mindfulness-based yoga
- Mindfulness activities or exercises
  - Formalized programs (e.g., Soles of the Feet),
  - Interventions created by the authors of the primary studies

Meta-Analyses on MBIs for Youth

8 published meta-analyses evaluating MBIs for youth, which range across several categories:

- Types of designs included (RCTs only, between-group designs, SCDs)
- Settings (schools only, any setting)
- Focus (anxiety, mental health outcomes, disruptive behavior, any outcomes)
- Samples (any youth, clinical samples)
- Search cut-offs: July 2011 (Zoogman et al., 2015) to October 2017 (Dunning et al., 2017)

Included a range of 5 (Borquist-Colon et al., 2019) to 48 of studies (Klingbeil, Renshaw et al., 2017)

Meta-Analyses on MBIs for Youth

- Borquist-Conlon, D. S., Maynard, B. R., Brendel, K. E., & Jarina, A.S. (2019). Mindfulness-based interventions for youth with anxiety: A systematic review and meta-analysis. *Research on Social Work Practice, 29,* 195–205. doi:10.1177/1049731516684961

- Carsley, D., Khoury, B., & Heath, N. L. (2018). Effectiveness of mindfulness interventions for mental health in schools: A comprehensive meta-analysis. *Mindfulness, 9,* 693–707. doi:10.1007/s12671-017-0839-2

- 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 randomized controlled trials. *The Journal of Child Psychology and Psychiatry.* Advance online publication. doi:10.1111/jcpp.12980

- Kallapiran, K., Koo, S., Kirubakaran, R., & Hancock, K. (2015). Effectiveness of mindfulness in improving mental health symptoms of children and adolescents: A meta-analysis. *Child and Adolescent Mental Health, 20*, 182–194. doi:10.1111/camh.12113

Meta-Analyses on MBIs for Youth

- Klingbeil, D. A., Fischer, A. J., Renshaw, T. L., Bloomfield, B. S., Polakoff, B., Willenbrink, J. B., … & Chan, K. (2017). Effects of mindfulness-based interventions on disruptive behaviors: A meta-analysis of single-case research. *Psychology in the Schools*, *54*, 70–87. doi:10.10.1002/pits.

- Klingbeil, D. A., Renshaw, T. L., Willenbrink, J. B., Copek, R. A., Chan, K. T., Haddock, A., … & Clifton, J. (2017). Mindfulness-based interventions with youth: A comprehensive meta-analysis of group design studies. *Journal of School Psychology*,*63,* 77–103. doi:10.1016/j.jsp.2017.03.006

- Zenner, C., Hermleben-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. (2015). Mindfulness interventions with youth: A meta-analysis. *Mindfulness, 6,* 290–302. doi:10.1007/s12671-013-0260-

MBI in Schools Outcomes

- Small effects on a variety of outcomes (Zenner et al., 2014)
- Small effects on mental health outcomes (Carlsey et al., 2017)
- No significant difference in effect sizes from studies conducted in schools compared to studies conducted in community or clinical settings (Klingbeil, et al., 2017)
- Available evidence suggests that MBIs can be effectively used in schools

Can Schools Implement MBIs?

Which factors may influence school staff and students from participating in the interventions?

- program delivery and scheduling conflicts
- features of the physical environment
- logistics of implementing the program
- communication with teachers re: student attendance and schedule
- fostering acceptance of the program outside of yoga instruction time
- optimizing exposure to the intervention
- Incentivizing participation for teachers and students

Dariotis, Mirabal-Beltran, Cluxton-Keller, Gould, Greenberg, & Mendelson, 2017

Potential Moderators of Treatment Effects Associated with MBIs

Potential Moderators of Treatment Effects

Variations in the 8 published meta-analyses make comparisons of the moderator analyses difficult.

Focus here on results for the controlled studies presented in Klingbeil et al. (2017) followed by findings from Dunning et al. (2018) and Carsley et al. (2018).

Klingbeil et al. (2017)

48 controlled studies published before January 2017, effect sizes synthesized using robust variance estimation (Tipton, 2014).

Overall effect size was g = .322, with very little heterogeneity observed (T^2 = 0.09)

Fit a meta-regression model with three variables of interest: study quality (WWC rating), location (school vs. other), and dosage (total in-session hours)

Table 3
Moderators of average treatment effect at post-treatment for controlled studies.

Variables	β	*SE*	95% CI		*t*	*df*	*p*
			LL	UL			
Constant	0.394	0.152	0.062	0.727	2.585	12	0.024
Study quality							
Meets WWC standards (vs. DNM)	−0.121	0.161	−0.460	0.218	−0.750	18.3	0.463
Meets WWC standards with Reservations (vs. DNM)	−0.151	0.161	−0.489	0.185	−0.939	19.2	0.359
Location							
School (vs. other)	−0.009	0.108	−0.242	0.224	−0.082	12.9	0.936
Dosage (total intervention hours)	0.003	0.002	−0.002	0.009	1.280	11.2	0.227

Note. $k = 48$, $m = 364$, $n = 4811$, $I^2 = 69.115$, $T^2 = 0.108$, rho = 0.5; DNM = Does Not Meet WWC standards.

Klingbeil, Renshaw, et al. 2017

Other Findings Regarding Moderators

Dunning et al. (2018) synthesized the effects of MBIs from 33 RCTs. Overall ES was *g* = .19.

- Effects on measures of Executive Functioning larger in studies with older students (based on mean age of the sample)

When analyzing only the RCTs that used active control groups (k = 17), the overall effect was similar (*g* = .20) but effects only significant for mindfulness (g = .42), depression (*g* = .47) and anxiety/stress (*g* = .18).

Other Findings Regarding Moderators

Carlsey et al. (2018) synthesized the effects school based studies of MBIs focusing on mental health comes. Overall ES was g = .24 in 21 controlled studies.

- Larger effects in studies conducted with late adolescent populations compared to middle childhood.
- Overall effects moderated by study quality score (*B* = 0.03)
- Implementer (trained teacher vs. outside facilitator) also mattered.
  - Only studies using trained teachers had significant effects on mental health outcomes
  - Only studies with outside facilitators had significant effects on mindfulness.

Practice Considerations and Implications

- Dosage
- Outside-of-session practice
- Implementer
- Training and ongoing support
- Progress monitoring
    - Child outcomes
    - Fidelity of implementation

Future Research and Questions

- Evaluate the components contained within MBIs
- Determine the necessary dosage of these programs
- Compare effects between MBIs
- Determine situations where MBIs may result in larger effects than other empirically supported treatments
- More research is needed to guide the ***implementation*** of these approaches in school settings

Thank you!

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