Reducing parent stress to prevent substance use in adolescence: Outcomes and mechanisms of the Parenting Mindfully intervention

Tara M. Chaplin
Department of Psychology
George Mason University
Substance Use Increases in Adolescence

• Substance use (SU) and some externalizing sx increase in adolescence (Johnston et al., 2018).

• Developmentally-sensitive SU preventions that target known risk factors are needed.

• The family environment is a known risk factor for SU.
Family Environment

- Parenting is critically important for child development and remains important in adolescence
Family Environment

• ...But, parenting can be stressful
Parent Stress

• Parent stress can compromise parenting, parent-youth relationship quality (Deater-Deckard, 1998)

• Parent stress predicts adolescent SU & externalizing symptoms (Burk et al., 2011; Neece et al., 2012)
Mindfulness Interventions

- Mindfulness interventions are shown to reduce stress in adults (e.g., Brewer et al., 2009)

- Mindfulness training may reduce stress in parents and improve parenting (Dumas, 2005; Duncan et al., 2009)
  - Reduce parent emotional reactivity, allowing intentional parenting
  - Be more present in interactions with youth
  - Feel compassion toward child and self as a parent
Mindfulness for Parents

• Mindfulness interventions for parents may help reduce externalizing sx (e.g., Neece, 2014; Siebelink et al., 2021)
• But no studies on SU prevention
• Must examine mechanisms
Present Study

• RCT of Parenting Mindfully (PM) intervention for parents of teens

• Does PM prevent increases in SU and externalizing symptoms over 1 year follow-up?

• What are possible bio-behavioral stress-related mechanisms?
Participants

• 97 mothers of 12-17 year olds reporting high stress (28 boys, 68% White).

• Parents randomly assigned to Parenting Mindfully (PM) or Parent Education (PE) groups

• Outcomes measured at pre-intervention, post-intervention and at 6 month and 1 yr follow-ups

• Mechanisms measured at pre- and post
Intervention

- **PM:** groups of 8-10 parents, 2 hours/week, 8 weeks. Meditation, meditation focused on parenting, discussion of mindfulness in everyday parenting interactions, practice of mindful listening and non-reactivity in parenting with child.

- **PE:** groups of 8-10 parents, 1 hour/week, 3 weeks. Education on adolescent development.
Measures- Outcomes

• SU: Lifetime frequency of SU, Youth Risk Behavior Survey (YRBS; CDC, 2017)

• SU Problems: Y/N problems in past year, Problem Oriented Screening Instrument for Teenagers (POSIT, Dembo et al., 2005)

• Externalizing Symptoms:
  -Mother report: Child Symptom Inventory (CSI; Gadow & Sprafkin, 2002) & SIPA delinquency subscale (Sheras et al. 1998).
  -Adolescent report: Youth Inventory (YI; Gadow et al., 2002)
Measures- Stress Mechanisms

• Parenting Stress: Stress Index for Parents of Adolescents (SIPA, Sheras et al. 1998).

• Parent Negative Emotional Reactivity in Lab: reported negative emotions in response to lab parent-youth conflict interaction.

• Parent Negative Emotion-Related Neural Reactivity: amygdala and ant insula responses to negative IAPs images (-neutral) in fMRI (n = 20 mothers)
Results- Outcomes
Results: PM Prevented Increases in SU to 1 Year Follow-Up

Chaplin et al., 2021, Research on Child and Adolescent Psychopathology

HLM group effect on slope: B = -.02, SE = .01, p = .03; 1 yr Cohen’s d = -.43
Results: PM Reduced # of SU Problems to 1 Year Follow-Up

HLM group effect on slope: B = -.003, SE = .003, p = .05
Results: PM Prevented Increases in Parent-Reported Externalizing

HLM group effect on slope: \( B = -1.44, \ SE = .65, \ p = .03; \ 1 \ yr \ Cohen’s \ d = -.50 \)

Chaplin et al., 2021, Research on Child and Adolescent Psychopathology
Results: Stress Mechanisms?
PM Reduced Parenting Stress

Chaplin et al., 2021, *Mindfulness*

PM effect for girls: F(1, 36) = 19.77, p < .001, Cohen’s d = -1.43
PM Reduced Negative Reactivity in Lab for Mothers of Girls

Chaplin et al., 2021, *Mindfulness*

PM effect for girls: $F(1, 36) = 19.77$, $p < .001$, Cohen’s $d = -1.43$
PM Affected Mother Anterior Insula Reactivity (Trend)

PM effect: $F = 4.05$, $p = .06$, Cohen’s $d = -.73$
*(also affected interoceptive awareness-related brain function- Turpyn et al., 2021, Mindfulness)*
Discussion

- Parent mindfulness training can prevent SU and externalizing symptoms with medium effect sizes.

- Similar to effect sizes for parent training interventions (Lundahl et al., 2006).

- Mindfulness can be an adjunct or alternative to parent training programs for highly stressed parents.
Discussion

• Reductions in parent stress reactivity may be one mechanism of PM effects.

• Multi-modal measures of stress reactivity showed this.

• To formally test mediation, need larger sample
Future Directions

• Future work with a larger sample (current R01 study)

• Develop more accessible forms of PM (EMI’s)

• Examine PM in parents experiencing diverse types of stressors
Acknowledgements

• Collaborators: Rajita Sinha, Jim Thompson, Rick Leichtweis, Adam Miller, Tim Curby, Sarah Fischer, Ruth Baer

• Research Team: esp Caitlin Turpyn*, Kelsey Mauro, Jenny Poon, Claire Niehaus, Stefanie Gonçalves, Ali Martelli*, Cory Ross