Mindful parents, mindful children? Exploring the mediating role of mindful parenting

Hali Kil¹

Elizabeth Lee²

Rebecca Antonacci³

Joan E. Grusec¹

¹ Department of Psychology, University of Toronto, Toronto ON

² Toronto Psychology Clinic, Toronto ON

³ Ontario Institute for Studies in Education, University of Toronto, Toronto ON

Corresponding Author: Hali Kil, hali.kil@umontreal.ca. Current affiliation: Department of Psychology, Université de Montréal, C.P. 6128, Succursale Centre-Ville. Montréal, Québec H3C 3J7, Canada.

Funding: This research was supported by a grant from the Social Sciences and Humanities Research Council (SSHRC) to Joan E. Grusec.

Abstract

Mindfulness in parents has been associated with a number of positive family characteristics, including positive parenting behaviors, fewer externalizing or internalizing difficulties in children, and positive parent-child relationships. However, little is known about whether parents' mindfulness, through more mindful parenting, may be linked to children's mindfulness. The present cross-sectional study sought to examine these indirect associations in mothers and fathers and their preadolescent children. One hundred and twelve triads consisting of mothers, fathers, and their 9- to 12-year-old children participated. Mothers and fathers rated their mindfulness and mindful parenting, while children rated their mindfulness. Path modeling resulted in associations between mindfulness and mindful parenting for both mothers and fathers. Mothers' mindful parenting was positively associated with children's mindfulness. Additionally, mothers' mindfulness was indirectly associated with children's mindfulness through mothers' mindful parenting. This mediated effect was not significant for fathers. The results provide preliminary evidence that mindful parents may socialize mindfulness in their children via their parenting behaviors, at least for mothers. Implications are discussed with reference to the socialization of mindfulness in the family.

Keywords: mindfulness; parenting; mindful parenting; child mindfulness; parent gender differences

Highlights

- Mothers who are high in mindfulness may foster children's mindfulness via parenting
- Mindful parenting appears to be particularly important, mediating the association between mothers' and children's mindfulness
- For fathers, other processes may mediate between their and their children's mindfulness

Mindful parents, mindful children? Exploring the mediating role of mindful parenting

How we behave in social settings is guided by our perceptions and interpretations of our internal thoughts and feelings (Bandura, 1989). One psychological characteristic that may guide attention and regulation of internal states is mindfulness, which can be defined as regulation of attention to the present moment with a nonjudgmental and receptive attitude (Quaglia et al., 2016). In social situations, mindfulness helps to maintain attention to what is happening presently rather than what has happened or will happen in the future. In turn, this heightened attention can make the mindful individual sensitive to others' present needs and goals during interactions, resulting in positive interpersonal outcomes (e.g., prosocial behavior; see Donald et al., 2019). In family settings, parents can also engage in mindful parenting by being attentive, receptive, and nonjudgmental with their children during parenting situations (Dumas, 2005). Research suggests that parents who are high in mindfulness tend to use more mindful parenting, in turn helping to foster children's positive outcomes, such as fewer internalizing and externalizing difficulties (e.g., Gouveia et al., 2016; Parent et al., 2016). However, one outcome of parent mindfulness and mindful parenting that has received little attention is children's mindfulness. Using the model of mindful parenting as a foundation, we assessed whether parents with high levels of mindfulness would use more mindful parenting, which in turn would impact their children's mindfulness over time.

Mindfulness and mindful parenting

Mindfulness as a cognitive tendency can be operationalized as the self-regulation of awareness, attention, and emotions to keep focus on one's experiences in the present moment, rather than past memories or future expectations (Brown & Ryan, 2003). One model of

mindfulness has posited that there are five facets composing a mindful tendency: observing internal experiences and the environment, being able to label internal experiences (i.e., describing), acting with awareness rather than automatically, and not judging and not reacting to internal experiences and states (Baer et al., 2006). High levels of mindfulness have been linked to positive outcomes in adults, including less stress, better psychological health, and greater life satisfaction (Bao et al., 2015; Kong et al., 2014; Tomlinson et al., 2018). On an interpersonal level, research demonstrates that high mindfulness is related to greater empathy, prosocial behavior, and relationship satisfaction in adults (Barnes et al., 2007; Berry et al., 2018; Donald et al., 2019; Kozlowski, 2013).

In parenting contexts, high levels of mindfulness in parents have been linked to their lower stress and internalizing difficulties (e.g., Kil & Grusec, 2020; Moreira & Canavarro, 2018), as well as more mindful parenting. Mindful parenting involves being attentive and aware in parent-child interactions (Bogels et al., 2010). Specifically, Duncan and colleagues (2009) proposed five specific facets of mindful parenting: listening with full attention to the child, nonjudgmental acceptance of oneself and the child, being aware of one's own and the child's emotional states, regulating emotion and attention in parenting interactions, and compassion for oneself and the child (Duncan et al., 2009). The facets proposed in the mindful parenting model demonstrate some parallels to and overlap with the five-facet mindfulness model. For example, compassion and nonjudgmental acceptance of oneself and the child in the mindful parenting model can be seen as mirroring the nonjudgment of self facet of the five-facet mindfulness model. Consequently, research on mindfulness and mindful parenting has shown that there are strong correlations between mindfulness and mindful parenting in parent samples (Gouveia et al., 2016; Han et al., 2019; Parent et al., 2016). It is evident, based on this research, that parents who

have high levels of mindfulness also apply this thinking style in their parenting in the form of mindful parenting.

Impact on child outcomes

Models of mindful parenting also propose that parents who exhibit more mindful parenting demonstrate positive parenting (e.g., warmth, supportiveness, responsiveness, and perspective-taking) and have positive parent-child interactions, contributing to children's optimal outcomes. In line with this assertion, research has demonstrated that children of various ages whose parents demonstrate high levels of mindful parenting tend to be more communicative with parents, experience fewer internalizing and externalizing difficulties, have secure attachment to their parents, and report better well-being (Geurtzen et al., 2015; Han et al., 2019; Lippold et al., 2015; Medeiros et al., 2016). Additionally, research confirming the pathways suggested by mindful parenting models demonstrates that parents who are high in mindfulness use more mindful parenting and more positive and less negative (e.g., hostile, controlling) parenting in general, facilitating these positive emotional and behavioral outcomes for their children (Kil & Grusec, 2020; Ren et al., 2020; Zhang et al., 2019). Further, the effect of parent mindfulness on children's outcomes appears to be indirect, through parenting. Parent and colleagues' (Parent et al., 2016; Han et al., 2019) studies have confirmed these indirect pathways, finding that mothers' and fathers' mindfulness was linked to more mindful parenting and to warmer and more responsive, and less coercive and intrusive parenting. In turn, their children experienced fewer internalizing and externalizing difficulties across childhood and adolescence. Similarly, in a study of Chinese mothers and fathers of preschoolers, Zhang and colleagues (2019) reported that mindful parenting mediated the link between parental mindfulness and children's emotion knowledge (labeling) and emotion regulation. Collectively, these studies confirm the mindful

parenting model, suggesting that parents' mindfulness is linked to their mindful parenting, and in turn, their children's positive outcomes.

Although there exists a wealth of studies focused on empirically testing the mindful parenting model, this research has been largely limited to child outcomes of emotion regulation, mental health, emotional and behavioral difficulties, and academic outcomes (see reviews by Burgdorf et al., 2019; Townshend et al., 2016). However, it is not yet known whether children's own mindfulness may be fostered when parents are high in mindfulness and use mindful parenting. Mindfulness in children has been studied mostly in intervention settings with elementary school-aged children, with meta-analyses and reviews demonstrating that teaching mindfulness skills to children is effective in promoting their mental health and reducing stress (e.g., Zenner et al., 2014; Zoogman et al., 2015). Because some facets of mindfulness may not be developmentally appropriate for children to fully comprehend (e.g., awareness of internal experience; see Pallozzi et al., 2017), most of these interventions focus on increasing children's capacity for emotion and attention regulation (Felver et al., 2017; Flook et al., 2015; Semple et al., 2010). Thus, self-regulation of emotion and attention are seen to be core components of children's mindfulness. There exists a wealth of evidence demonstrating that children's self-regulation is associated with parents' heightened mindful parenting, across different age groups and clinical and community samples (e.g., Evans et al., 2020; Laurent et al., 2017; Zhang et al., 2019). As such, it may be expected that mindful parenting can facilitate children's mindfulness.

Compared to work on children's self-regulation, limited research has focused on whether mindful parenting may facilitate children's mindfulness. In a study of mothers and their 10- to 19-year-old children, Moreira and Canavarro (2018) found that mothers' mindful parenting was linked to children's higher mindfulness, although this effect was cross-sectional and held only

when mothers' anxiety and depression was low to moderate in severity. In another study, Wang and colleagues (2018) found that mindful parenting in mothers of 11 to 14-year-olds was not correlated with their children's mindfulness at the same timepoint, although there was an indirect link through maternal warmth. While these findings are important, it has yet to be tested whether parents who are high in mindfulness tend to have highly mindful children because of these parents' use of mindful parenting. Further, it is not known whether these links differ across mother and fathers. It is possible that parents may model mindfulness for their children: mindful parenting involves attention to and emotional awareness of oneself and the child (i.e., attention and emotion regulation), as well as general self-regulation during parent-child interactions (Duncan et al., 2009). This assertion is supported by parent-child socialization theories and corresponding research on school-aged children demonstrating that children of parents who model self-regulation tend to show greater self-regulation themselves, while children of parents who are depressed (i.e., have difficulties in self-regulation) tend to show low self-regulation themselves (see Hajal & Paley, 2020; Meyer et al., 2014; Sektnan et al., 2010; Silk et al., 2006). As such, it can be theorized that parents who are high in mindfulness and use mindful parenting facilitate their children's development of mindfulness.

The present study

In the present cross-sectional study, we explored whether parent mindfulness and child mindfulness would be indirectly associated through mindful parenting. We posited that mindful parents may both model and teach (talk about) mindfulness through their mindful parenting, thereby fostering mindfulness in their children. We hypothesized that parents' mindfulness would be positively associated with a greater use of mindful parenting in parents' interactions with their children. In turn, mindful parenting would be positively related to children's

mindfulness. We also examined mothers' and fathers' mindfulness and mindful parenting separately. Although there are mixed findings, there exists evidence that mindfulness levels differ across men and women (Gilbert & Waltz, 2010). Further, there is also considerable evidence that mothers and fathers parent differently (Meunier et al., 2012; Simons & Conger, 2007), and mothers have been shown to demonstrate more mindful parenting than fathers (Medeiros et al., 2016; Moreira & Canavarro, 2015). As such, we tested whether our hypothesized model would be different across mothers and fathers.

Method

Participants

Families were recruited from a departmental database of families interested in participating in research, housed at a university in a large Canadian city. Of 143 mothers originally contacted, 127 mothers and children, and 113 fathers completed participation. A total of 112 complete mother-father-child triads completed the measures. Children were between 9 and 12 years of age, with 55 boys and 57 girls. Most children were of Western European (42.0%) or mixed/multiple ethnic origins (33.0%), with smaller proportions of children from other ethnic origins. Mothers were between 28 and 55 years of age, and fathers were between 34 and 66 years of age. Most parents were married, were university educated, and were employed full-time or self-employed. The complete sample demographics are depicted in Table 1.

Procedures

Study procedures were approved by the university's Research Ethics Board. Mothers were first contacted by phone, and those interested in participating with their family were scheduled for a visit with their child to the lab. The two parent measures described below, as well as demographic variables, were measured in an online questionnaire at home, before the lab

visit. Lab visits were scheduled at least one week and up to one month following recruitment, and parents were asked to complete questionnaires as early as possible prior to the mother-child lab visit. At the lab, children completed the mindfulness measure. Other measures not used in the present study were also administered. Consent to participate was obtained from all mothers and fathers, and assent was obtained from children.

Measures

Parent mindfulness. Mothers' and fathers' dispositional mindfulness was measured (at home) with the Five-Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). Example items include: "I pay attention to how my emotions affect my thoughts and behavior"; "In difficult situations, I can pause without immediately reacting". The 39-item measure includes five subscales, which may be summed to calculate a total mindfulness score. In the present study, the total mindfulness score was used to indicate dispositional mindfulness, with higher values indicating more mindfulness. Good inter-item reliability was found for mothers, $\alpha = .87$, and for fathers, $\alpha = .86$.

Mindful parenting. Mothers' and fathers' mindful parenting was measured (at home) with the Interpersonal Mindfulness in Parenting Scale (Duncan, 2007), which is well-validated in parent samples (e.g., Parent et al., 2016). The 10-item scale includes three subscales, awareness and present-centered attention, non-judgment, and non-reactivity, which may be summed to calculate a total mindful parenting score. Example items include: "I rush through activities with my child without being really attentive to him/her"; "I often react too quickly to what my child says or does". In the present study, the total mindful parenting score was used to indicate mindful parenting, with higher values indicating greater mindful parenting. Acceptable to good inter-item reliability was found for mothers, $\alpha = .80$, and for fathers, $\alpha = .76$.

Child mindfulness. Children's dispositional mindfulness was measured at the lab visit with the Mindful Attention and Awareness Scale for Children (MAAS-C; Lawlor et al., 2014). Example items include: "I rush through activities without being really attentive to them"; "I could be feeling a certain way and not realize it until later". The 15 items are averaged for a total mindfulness score, with higher values indicating greater child mindfulness. The scale has been validated in previous work (e.g., Schonert-Reichl et al., 2015), and showed good inter-item reliability in the present sample, $\alpha = .84$.

Data Analysis

Prior to testing the hypothesized model, issues with missing data were resolved. Item-level data were missing for mothers' mindfulness (0.8%) and mindful parenting (0.2%), fathers' mindfulness (1.4%) and fathers' mindful parenting (0.3%), and child mindfulness (0.5%). However, all missing data were missing at random based on Little's Missing Completely at Random (MCAR) test (χ^2 p -values ranged from .266 to .973). Following established recommendations (Asendorpf et al., 2014; van Ginkel et al., 2020), multiple imputation was first conducted in SPSS to derive likely solutions for replacing missing values at the item-level for the independent variables. This step was necessary prior to path analysis because although maximum likelihood estimation methods are considered the gold standard in treating missing data (Enders, 2001), these methods in Mplus do not estimate missing independent variable data and delete the entire record from analysis. In order to retain the full sample in our tested path model, however, we used multiple imputation to estimate missing values only on the independent variables. Pooled estimates of five imputations were used to replace missing items, then scale scores were calculated. Once complete imputed data for the independent variables were established, path modelling was used in Mplus to test all hypothesized interactions in a single, parsimonious

model using Full Information Maximum Likelihood Modeling (FIML). Using FIML, the remaining analyses followed the superior standard for path modeling, estimating missing data on the mediator and dependent variables (Olinsky et al., 2003). As depicted in Supplementary Information Figure 1, we tested the hypothesized model without the initial multiple imputation step and found equivalent results to those described below.

Child age and gender were controlled in analyses. All variables were normally distributed, and standardized prior to further analysis. Bootstrapping at 10000 samples was used to generate confidence intervals and assess significance of both direct and indirect effects (Hayes, 2009). Confidence intervals that do not include zero can be considered significant. As recommended, confidence intervals took precedence over *p*-values in interpreting effects, due to the relatively small sample size used in the present study. However, for full transparency, both statistics are reported in the tables. Fit of the path model was determined by the following cut-offs: nonsignificant chi-square (χ^2) *p*-value, root mean square error of approximation (RMSEA) equal to or below .06, comparative fit index (CFI) above .95, and standardized root mean square residual (SRMR) equal to or below .05 (Hooper et al., 2008; Hu & Bentler, 1998).

Results

Descriptive statistics of variables and Pearson correlations are presented in Table 2, and results of the path model are presented in Figure 1 and Table 3. The model fit was good: $\chi^2(9) = 7.563$, $p = .579$, RMSEA = .000 [90% CI = .000, .094], CFI = 1.000, SRMR = .038. For both mothers and fathers, mindfulness was positively associated with higher levels of mindful parenting. For mothers, higher levels of mindful parenting were associated with greater child mindfulness. The indirect association between mothers' mindfulness and their children's

mindfulness through mindful parenting was significant. Fathers' mindful parenting was unrelated to children's mindfulness.

Discussion

The present study sought to explore whether parents' mindfulness and children's mindfulness would be indirectly linked through parents' mindful parenting. As expected, we found that mothers' mindfulness and children's mindfulness were indirectly linked via mindful parenting. However, we found this effect only for mothers, and not for fathers. As one of the first studies to investigate how parent mindfulness and child mindfulness may be indirectly linked, our findings provide preliminary evidence that the behavior enacted by a mindful parent may be especially important for cultivating children's mindfulness skills. These results align with mindful parenting models and social learning theory, demonstrating that children observe and learn from parents' behaviors that stem from parents' internally held values and cognitions (Bariola et al., 2011; Mazzucchelli, 2018). Parents who are mindful may demonstrate mindfulness or may also teach mindfulness-related skills during their parent-child interactions, fostering their children's mindfulness and consequent emotion regulation, self-awareness, and behavioral control skills (e.g., Lyvers et al., 2014; McKee et al., 2018). The present results provide preliminary evidence that parenting behaviors associated with heightened mindfulness, such as mindful parenting, may be important for supporting mindfulness in children, at least for mothers.

An explanation for why mindful parenting mediated between parent and child mindfulness for mothers but not fathers is not immediately apparent. It is possible that mindfulness is demonstrated differently by mothers and fathers, and more easily observed through behavior in mothers. Although there has yet to be an investigation of how mothers and

fathers differ in specific facets of mindful parenting, parenting research shows that, compared to fathers, mothers tend to use more didactic and sensitive speech when teaching something to their children (Le Chanu & Marcos, 1994; Tomasello et al., 1990). Thus, it is possible that mothers may assume a more didactic role in teaching children to be mindful, facilitating their children's ability to be more present-oriented and accepting, and better self-regulate. Fathers may transmit these skills in a different way, that is, via other mediating factors. For example, it is possible that fathers who are high in mindfulness are better able to engage in parenting behaviors other than those associated with mindful parenting such as better communication with their children or greater child-directed empathy—common consequences of high mindfulness (Beddoe & Murphy, 2004; Dekeyser et al., 2008; Lippold et al., 2019)—and these behaviors instead may foster their children's mindfulness. It is also possible that actor-partner effects may be involved in fostering children's mindfulness, in support of the spillover hypothesis (Cook & Kenny, 2005; Erel & Burman, 1995). That is, fathers' mindfulness may impact mothers' parenting, which impacts child outcomes. Although supplementary analyses testing these actor-partner effects indicated no change in our findings (see Supplementary Information Figure 2), further research on the impact of interparental factors on child mindfulness are needed. Additionally, further research is needed to determine how and why parents' mindfulness may exert different influences on children across mothers and fathers.

While the present findings are novel and provide initial evidence for the links between mothers' mindfulness, mindful parenting, and child mindfulness, there are several limitations worth mentioning. First, the study was correlational, and the sample size and demographic profile limit generalizability. Specifically, the sample size was moderate relative to the number of paths tested, and there were missing values imputed which can create a downward tendency in

p-values and confidence intervals (van Ginkel et al., 2020). Confirmation of the present model with a larger sample and a longitudinal design would be useful, particularly for determining the directionality of effects between parents' and children's mindfulness. Further, parents in our sample were well educated. It is possible that socioeconomic status may moderate the strength of these results, as parents in lower socioeconomic settings tend to experience disproportionately high levels of parenting-related stress (e.g., Finegood et al., 2017; Gershoff et al., 2007), and may correspondingly experience difficulties with maintaining mindfulness. All measures were self-reported, and although it is difficult to observe mindfulness as a cognitive construct, future research using observational measures of mindful parenting would be useful. Additionally, although we found an indirect effect of parent mindfulness on child mindfulness only for mothers, it is possible that different mediating or moderating factors are needed to facilitate this link for fathers. For example, there is some research to suggest that children's perceptions of secure attachment with their parents indirectly facilitates the link between parents' mindful parenting and children's mindfulness and emotional regulation (Gouveia et al., 2018; Zhang et al., 2019). Given that children's attachment style to mothers and fathers can differ (Doyle et al., 2009), it would be worthwhile to examine what function parent-child attachment may exert in the link between parent and child mindfulness, a link potentially different for fathers and mothers.

Despite these limitations, the present results provide preliminary support for indirect links between mothers' and children's mindfulness through mindful parenting. Supporting mindful thinking in children can be beneficial as it can prepare children to cope with stress or regulate emotions as they develop. Numerous school-based mindfulness training programs have demonstrated that increasing children's mindfulness also improves their prosocial behavior,

cognitive skills, emotion regulation, and resilience (see reviews by Maynard et al., 2017; Zenner et al., 2014). However, there has been a dearth of research investigating whether parents may be able to facilitate their children's mindfulness. The present study is one of the first to demonstrate that mothers who are highly mindful and demonstrate mindful parenting may indeed foster their children's mindfulness. These results could have implications for understanding the scope of the impact of mindfulness-based parenting interventions, which often do not measure whether parents' increased mindfulness is related to children's mindfulness outcomes. The present results suggest that increasing mothers' mindfulness may indirectly facilitate children's heightened mindfulness, although longitudinal research is needed to confirm this assertion.

References

- Asendorpf, J. B., Van De Schoot, R., Denissen, J. J. A., & Hutteman, R. (2014). Reducing bias due to systematic attrition in longitudinal studies: The benefits of multiple imputation. *International Journal of Behavioral Development, 38*(5), 453–460.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45.
- Bandura, A. (1989). Human Agency in Social Cognitive Theory. *American Psychologist, 44*, 1175–1184.
- Bao, X., Xue, S., & Kong, F. (2015). Dispositional mindfulness and perceived stress: The role of emotional intelligence. *Personality and Individual Differences, 78*, 48–52.
- Bariola, E., Gullone, E., & Hughes, E. K. (2011). Child and adolescent emotion regulation: The role of parental emotion regulation and expression. *Clinical Child and Family Psychology Review, 14*(2), 198–212.
- Barnes, S., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy, 33*(4), 482–500.
- Beddoe, A. E., & Murphy, S. O. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *Journal of Nursing Education, 43*(7), 305–312.
- Berry, D. R., Cairo, A. H., Goodman, R. J., Quaglia, J. T., Green, J. D., & Brown, K. W. (2018). Mindfulness increases prosocial responses toward ostracized strangers through empathic concern. *Journal of Experimental Psychology: General, 147*(1), 93–112.
- Bogels, S. M., Lehtonen, A., & Restifo, K. (2010). Mindful parenting in mental health care. *Mindfulness, 1*(2), 107–120.

- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822–848.
- Burgdorf, V. L., Szabo, M., & Abbott, M. (2019). The effect of mindful interventions for parents on parenting stress and youth psychological outcomes: A systematic review and meta-analysis. *Frontiers in Psychology*, 10, 1336.
- Cook, W. L., & Kenny, D. A. (2005). The actor–partner interdependence model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development*, 29(2), 101–109.
- Dekeyser, M., Raes, F., Leijssen, M., Leysen, S., & Dewulf, D. (2008). Mindfulness skills and interpersonal behaviour. *Personality and Individual Differences*, 44(5), 1235–1245.
<https://doi.org/http://dx.doi.org/10.1016/j.paid.2007.11.018>
- Donald, J. N., Sahdra, B. K., Van Zanden, B., Duineveld, J. J., Atkins, P. W. B., Marshall, S. L., & Ciarrochi, J. (2019). Does your mindfulness benefit others? A systematic review and meta-analysis of the link between mindfulness and prosocial behaviour. *British Journal of Psychology*, 110(1), 101–125.
- Doyle, A. B., Lawford, H., & Markiewicz, D. (2009). Attachment style with mother, father, best friend, and romantic partner during adolescence. *Journal of Research on Adolescence*, 19(4), 690–714.
- Dumas, J. E. (2005). Mindfulness-based parent training: Strategies to lessen the grip of automaticity in families with disruptive children. *Journal of Clinical Child and Adolescent Psychology*, 34(4), 779–791.
- Enders, C. K. (2001). A primer on maximum likelihood algorithms available for use with missing data. *Structural Equation Modeling*, 8(1), 128–141.

- Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: a meta-analytic review. *Psychological Bulletin*, 118(1), 108.
- Evans, S., Bhide, S., Quek, J., Nicholson, J. M., Anderson, V., Hazell, P., Mulraney, M., & Sciberras, E. (2020). Mindful Parenting Behaviors and Emotional Self-Regulation in Children With ADHD and Controls. *Journal of Pediatric Psychology*, 45(9), 1074–1083.
- Felver, J. C., Tipsord, J. M., Morris, M. J., Racer, K. H., & Dishion, T. J. (2017). The effects of mindfulness-based intervention on children's attention regulation. *Journal of Attention Disorders*, 21(10), 872–881.
- Finegood, E. D., Raver, C. C., DeJoseph, M. L., & Blair, C. (2017). Parenting in poverty: Attention bias and anxiety interact to predict parents' perceptions of daily parenting hassles. *Journal of Family Psychology*, 31(1), 51–60.
- 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.
- Gershoff, E. T., Aber, J. L., Raver, C. C., & Lennon, M. C. (2007). Income is not enough: Incorporating material hardship into models of income associations with parenting and child development. *Child Development*, 78(1), 70–95.
- Geurtzen, N., Scholte, R. H. J., Engels, R. C. M. E., Tak, Y. R., & van Zundert, R. M. P. (2015). Association between mindful parenting and adolescents' internalizing problems: Non-judgmental acceptance of parenting as core element. *Journal of Child and Family Studies*, 24(4), 1117–1128.
- Gilbert, D., & Waltz, J. (2010). Mindfulness and health behaviors. *Mindfulness*, 1(4), 227–234.
- Gouveia, M. J., Canavarro, M. C., & Moreira, H. (2018). Is mindful parenting associated with

adolescents' emotional eating? The mediating role of adolescents' self-compassion and body shame. *Frontiers in Psychology*, 9.

Gouveia, M. J., Carona, C., Canavarro, M. C., & Moreira, H. (2016). Self-Compassion and Dispositional Mindfulness Are Associated with Parenting Styles and Parenting Stress: the Mediating Role of Mindful Parenting. *Mindfulness*, 7(3), 700–712.

Hajal, N. J., & Paley, B. (2020). Parental emotion and emotion regulation: A critical target of study for research and intervention to promote child emotion socialization. *Developmental Psychology*, 56(3), 403.

Han, Z. R., Ahemaitijiang, N., Yan, J., Hu, X., Parent, J., Dale, C., DiMarzio, K., & Singh, N. N. (2019). Parent mindfulness, parenting, and child psychopathology in China. *Mindfulness*, 1–10.

Hooper, D., Coughlan, J., & Mullen, M. (2008). Evaluating model fit: a synthesis of the structural equation modelling literature. *7th European Conference on Research Methodology for Business and Management Studies*, 195–200.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424.

Kil, H., & Grusec, J. E. (2020). Links among Mothers' Dispositional Mindfulness, Stress, Perspective-Taking, and Mother-Child Interactions. *Mindfulness*, 1–13.

Kong, F., Wang, X., & Zhao, J. (2014). Dispositional mindfulness and life satisfaction: The role of core self-evaluations. *Personality and Individual Differences*, 56, 165–169.

Kozlowski, A. (2013). Mindful mating: Exploring the connection between mindfulness and relationship satisfaction. *Sexual and Relationship Therapy*, 28(1–2), 92–104.

Laurent, H. K., Duncan, L. G., Lightcap, A., & Khan, F. (2017). Mindful parenting predicts

mothers' and infants' hypothalamic-pituitary-adrenal activity during a dyadic stressor.

Developmental Psychology, 53(3), 417–424.

Lawlor, M. S., Schonert-Reichl, K. A., Gadermann, A. M., & Zumbo, B. D. (2014). A validation study of the mindful attention awareness scale adapted for children. *Mindfulness*, 5(6), 730–741.

Le Chanu, M., & Marcos, H. (1994). Father-child and mother-child speech: A perspective on parental roles. *European Journal of Psychology of Education*, 9(1), 3–13.

Lippold, M. A., Duncan, L. G., Coatsworth, J. D., Nix, R. L., & Greenberg, M. T. (2015). Understanding how mindful parenting may be linked to mother-adolescent communication. *Journal of Youth and Adolescence*, 44(9), 1663–1673.

Lippold, M. A., Jensen, T. M., Duncan, L. G., Nix, R. L., Coatsworth, J. D., & Greenberg, M. T. (2019). Mindful parenting, parenting cognitions, and parent-youth communication: Bidirectional linkages and mediational processes. *Mindfulness*, 1–11.

Lyvers, M., Makin, C., Toms, E., Thorberg, F. A., & Samios, C. (2014). Trait mindfulness in relation to emotional self-regulation and executive function. *Mindfulness*, 5(6), 619–625.

Maynard, B. R., Solis, M. R., Miller, V. L., & Brendel, K. E. (2017). Mindfulness-based interventions for improving cognition, academic achievement, behavior, and socioemotional functioning of primary and secondary school students. *Campbell Systematic Reviews*, 13(1), 1–144.

Mazzucchelli, T. G. (2018). Social learning influences: Modelling, instructions, consequences. In M. R. Sanders & A. Morawska (Eds.), *Handbook of parenting and child development across the lifespan* (pp. 67–96). Springer.

McKee, L. G., Parent, J., Zachary, C. R., & Rex, F. (2018). Mindful parenting and emotion

- socialization practices: Concurrent and longitudinal associations. *Family Process*, 57(3), 752–766.
- Medeiros, C., Gouveia, M. J., Canavarro, M. C., & Moreira, H. (2016). The indirect effect of the mindful parenting of mothers and fathers on the child's perceived well-being through the child's attachment to parents. *Mindfulness*, 7(4), 916–927.
- Meunier, J. C., Bisceglia, R., & Jenkins, J. M. (2012). Differential parenting and children's behavioral problems: Curvilinear associations and mother–father combined effects. *Developmental Psychology*, 48(4), 987–1002.
- Meyer, S., Raikes, H. A., Virmani, E. A., Waters, S., & Thompson, R. A. (2014). Parent emotion representations and the socialization of emotion regulation in the family. *International Journal of Behavioral Development*, 38(2), 164–173.
- Moreira, H., & Canavarro, M. C. (2015). Individual and gender differences in mindful parenting: The role of attachment and caregiving representations. *Personality and Individual Differences*, 87, 13–19.
- Moreira, H., & Canavarro, M. C. (2018). Does the association between mindful parenting and adolescents' dispositional mindfulness depend on the levels of anxiety and depression symptomatology in mothers? *Journal of Adolescence*, 68, 22–31.
- Olinsky, A., Chen, S., & Harlow, L. (2003). The comparative efficacy of imputation methods for missing data in structural equation modeling. *European Journal of Operational Research*, 151(1), 53–79.
- Pallozzi, R., Wertheim, E., Paxton, S., & Ong, B. (2017). Trait mindfulness measures for use with adolescents: A systematic review. *Mindfulness*, 8(1), 110–125.
- Parent, J., McKee, L. G., Rough, J. N., & Forehand, R. (2016). The association of parent

- mindfulness with parenting and youth psychopathology across three developmental stages. *Journal of Abnormal Child Psychology*, 44(1), 191–202.
- Quaglia, J. T., Goodman, R. J., & Brown, K. W. (2016). Trait mindfulness predicts efficient top-down attention to and discrimination of facial expressions. *Journal of Personality*, 84(3), 393–404.
- Ren, Y., Han, Z. R., Ahemaitijiang, N., & Zhang, G. (2020). Maternal mindfulness and school-age children's emotion regulation: Mediation by positive parenting practices and moderation by maternal perceived life stress. *Mindfulness*, No-Specified.
- Schonert-Reichl, K. A., Oberle, E., Lawlor, M. S., Abbott, D., Thomson, 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.
- Sektnan, M., McClelland, M. M., Acock, A., & Morrison, F. J. (2010). Relations between early family risk, children's behavioral regulation, and academic achievement. *Early Childhood Research Quarterly*, 25(4), 464–479.
- 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.
- Silk, J. S., Shaw, D. S., Skuban, E. M., Oland, A. A., & Kovacs, M. (2006). Emotion regulation strategies in offspring of childhood-onset depressed mothers. *Journal of Child Psychology and Psychiatry*, 47(1), 69–78.
- Simons, L. G., & Conger, R. D. (2007). Linking mother-father differences in parenting to a typology of family parenting styles and adolescent outcomes. *Journal of Family Issues*,

28(2), 212–241.

Tomasello, M., Conti-Ramsden, G., & Ewert, B. (1990). Young children's conversations with their mothers and fathers: Differences in breakdown and repair. *Journal of Child Language*, 17(1), 115–130.

Tomlinson, E. R., Yousaf, O., Vittersø, A. D., & Jones, L. (2018). Dispositional mindfulness and psychological health: a systematic review. *Mindfulness*, 9(1), 23–43.

Townshend, K., Jordan, Z., Stephenson, M., & Tsey, K. (2016). The effectiveness of mindful parenting programs in promoting parents' and children's wellbeing: a systematic review. *JBI Database of Systematic Reviews and Implementation Reports*, 14(3), 139–180.

van Ginkel, J. R., Linting, M., Rippe, R. C. A., & van der Voort, A. (2020). Rebutting existing misconceptions about multiple imputation as a method for handling missing data. *Journal of Personality Assessment*, 102(3), 297–308.

Wang, Y., Liang, Y., Fan, L., Lin, K., Xie, X., Pan, J., & Zhou, H. (2018). The Indirect Path From Mindful Parenting to Emotional Problems in Adolescents: The Role of Maternal Warmth and Adolescents' Mindfulness. In *Frontiers in Psychology* (Vol. 9, p. 546).

Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools—a systematic review and meta-analysis. *Frontiers in Psychology*, 5, 603.

Zhang, W., Wang, M., & Ying, L. (2019). Parental Mindfulness and Preschool Children's Emotion Regulation: the Role of Mindful Parenting and Secure Parent-Child Attachment. *Mindfulness*, 10(12), 2481–2491.

Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2015). Mindfulness interventions with youth: A meta-analysis. *Mindfulness*, 6(2), 290–302.

Table 1.

Demographic Profile of Sample

	M	SD	%
Child age	10.87	0.90	
Child gender (%boys)			49.1
Child Ethnic Origin			
Western European			42.0
Mixed or Multiple			33.0
Eastern European			6.3
East Asian			4.5
South Asian			4.5
African			2.7
Latin, Central, South American			2.7
Southeast Asian			2.7
Caribbean			0.9
Other			2.7
Mother age	45.03	4.20	
Mother education			86.8
Mother employment			89.3
Father age	47.53	4.75	
Father education			84.8
Father employment			95.6
Parents married			86.6

Note. Mother and father education % indicates % having completed college or higher. Mother and father employment % indicates % having part-time or full-time employment or self-employment.

Table 2.

Means and Pearson Correlations of Variables of Interest

		M	SD	1	2	3	4	5	6
1	Mother Mindfulness	139.95	16.01						
2	Mother Mindful Parenting	35.93	5.26	.541**					
3	Father Mindfulness	139.13	16.12	.092	.035				
4	Father Mindful Parenting	36.40	5.07	.074	.129	.534**			
5	Child Mindfulness	66.07	10.82	-.016	.228*	-.046	.121		
6	Child Gender	-	-	-.063	-.100	-.041	.031	.168	
7	Child Age	-	-	-.168	-.047	-.025	.082	.029	.124

Note. * $p < .05$, ** $p < .01$

Table 3.

Path Estimates

	<i>B</i>	<i>SE (B)</i>	<i>p</i>	95% CIL	95% CIU
<i>Mothers</i>					
Mindfulness → Mindful Parenting	.514	.075	<.001	.396	.642
Mindful Parenting → Child Mindfulness	.222	.096	.021	.072	.389
<i>Fathers</i>					
Mindfulness → Mindful Parenting	.483	.090	<.001	.340	.634
Mindful Parenting → Child Mindfulness	.087	.092	.343	-.059	.244
<i>Mother Mindfulness → Mother Mindful Parenting → Child Mindfulness</i>					
Indirect Effect	.114	.051	.025	.037	.204

Note. 95% CIL and CIU represent confidence interval lower and upper limits, respectively.

Figure 1. Path model.

Note. Black lines represent significant path estimates with confidence intervals that do not include zero, and gray lines represent non-significant path estimates.

Supplementary Information

Article title: Mindful parents, mindful children? Exploring the mediating role of mindful parenting

Authors: Hali Kil*, Elizabeth Lee, Rebecca Antonacci, & Joan E. Grusec.

*hali.kil@umontreal.ca, Université de Montréal

Figure 1. Path model tested without multiple imputation of independent variables

Note. Model fit was good: $\chi^2(9) = 4.950$, $p = .839$, RMSEA = .000 [90% CI = .000, .074], CFI = 1.000, SRMR = .037. $N = 78$. Black lines represent significant path estimates with confidence intervals that do not include zero, and gray lines represent non-significant path estimates.

Figure 2. Path model tested with actor-partner effects

Note. Model fit was good: $\chi^2(9) = 7.304, p = .400$, RMSEA = .020 [90% CI = .000, .119], CFI = .995, SRMR = .037. $N = 112$. Black lines represent significant path estimates with confidence intervals that do not include zero, and gray lines represent non-significant path estimates.