

THESIS

POSITIVE PARENTING AS A MEDIATOR OF THE ASSOCIATION BETWEEN MINDFUL
PARENTING AND ADOLESCENT ADJUSTMENT

Submitted by

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ABSTRACT

POSITIVE PARENTING AS A MEDIATOR OF THE ASSOCIATION BETWEEN MINDFUL PARENTING AND ADOLESCENT ADJUSTMENT

Mindful parenting is characterized by parents paying intentional, present-centered, and nonjudgmental attention to their children and their own parenting. Empirical and theoretical support points to mindful parenting as a protective factor associated with lower incidence of adolescent behavioral problems and mental health issues such as externalizing and internalizing behaviors. Likewise, positive parenting behaviors that engender close and secure parent-child relationships have been shown to be a protective factor in reducing adolescent maladjustment. The current study was guided by three aims. The first aim was to examine whether adolescent reports of mindful parenting are negatively associated with adolescent reports of internalizing and externalizing behaviors, as has been found to be the case with parent reports. The associations between mindful parenting and adolescent adjustment were found to be negative and statistically significant across parent gender and adjustment outcome. The second aim was to examine whether adolescent reports of positive parenting practices mediate the association between mindful parenting and adolescent adjustment. The third aim was to examine whether mediation differs for reports of mothers' and fathers' mindful parenting. The interrelated positive parenting behaviors of parental autonomy granting, overcontrol, trust, and reaction to adolescent disclosure were analyzed as a factor variable and entered in the model as the mediator. Associations were examined at baseline without intervention and from an adolescent perspective rather than the more common parent perspective. Structural equation modeling was conducted

using Mplus to test whether positive parenting practices mediate the association between parental mindfulness and adolescent adjustment. Adolescents' perception of mindful parenting on part of their mothers versus their fathers was found to make a larger perceived contribution to overall positive parenting in the household. Results of analyzing four separate models indicated that associations differed by parent gender and adolescent adjustment outcome, with significant mediation for all models with the exception of fathers' mindful parenting paired with the outcome of adolescent internalizing behavior. The finding of no significant direct pathways in the presence of significant indirect pathways of mediation models across outcomes and for either mothers or fathers is a consistent finding bolstering preliminary indications that the contribution of mindful parenting on adolescent adjustment may indeed be mediated. Overall, results provide preliminary support for the hypothesis that positive parenting mediates the association between mindful parenting and adolescent adjustment, while providing support for the notion that patterns may differ by parent gender. A better understanding of whether positive parenting practices might act as mediators of the benefits of mindful parenting has implications for parenting intervention work that could consider pairing mindfulness instruction with lessons on these specific positive parenting behaviors to optimize the buffer to adolescent maladjustment.

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INTRODUCTION

Adolescence is a developmental period spanning multiple transitions, comprised of not only physiological changes but of shifts in social relationships, cognitive and emotional experience, and overall life trajectory (Montgomery et al., 2008; Steinberg & Silk, 2002). The balance of contextual risk and protective factors present, in family socialization and other areas (Kumpfer et al., 1998), can influence whether the outcome of these transitions is positive adolescent adjustment (Collins et al., 2000; Luthar et al., 2000). Empirical and theoretical support has pointed to mindful parenting as a protective factor associated with lower incidence of adolescent behavioral problems and mental health issues such as internalizing and externalizing behaviors (Geurtzen et al., 2015; Parent et al., 2016). Understanding the mechanisms by which protective factors such as mindful parenting may act upon adjustment has become increasingly important given current high rates of adolescent problem behavior including substance use and suicide.

Mindful parenting can be distinguished from other parenting practices, and is characterized by parents paying intentional, present-centered, and nonjudgmental attention to their children and their own parenting (Coatsworth et al., 2018; Duncan et al., 2009). Increasingly, studies are being designed to examine mediating pathways between mindful parenting and various outcomes. Duncan and colleagues (2009) proposed a conceptual model of mindful parenting as influencing adolescents through quality of parenting and parent-adolescent relationship quality. The types and effectiveness of parenting practices that parents engage in and adolescent perception of relationship quality with their parents is expected to be associated with the level of mindful attention that parents bring to their parenting. Over the past decade, the

number of studies investigating association between mindful parenting and adolescent problem behavior or wellbeing has increased substantially (see Burgdorf et al., 2019 and Townshend et al., 2016 for reviews), yet fewer have investigated the mediating pathways by which these constructs are linked (e.g., Coatsworth et al., 2018). Moreover, these associations have been studied primarily using data reported by mothers, rather than from an adolescent perspective.

Specifically, the current study contributed to this line of inquiry by testing whether positive parenting practices mediate the association between parental mindfulness and adolescent adjustment. These associations were examined from an adolescent perspective rather than the more common parent perspective and included results for adolescent perceptions of their fathers in addition to mothers. A better understanding of whether such positive parenting behaviors might act as mediators of the benefits of mindful parenting has implications for parenting intervention work that could consider pairing mindfulness instruction with lessons on specific positive parenting behaviors to optimize the buffer to adolescent maladjustment.

Links Between Parenting Behaviors and Adolescent Adjustment

Adolescent Adjustment

Adolescent maladjustment is often measured by assessing to what extent problems are either internalized, i.e., directed inwards, in a way that causes distress within an individual, or externalized, i.e., expressed outwardly, in a way that causes conflict with others (Forns et al., 2011). Internalizing behaviors are characterized by both anxiety and depression, the latter of which increases the risk of substance dependence (Fergusson & Woodward, 2002) and suicide (Conner et al., 2019). In 2017, suicide was the second most common cause of death of adolescents across the US (National Institute of Mental Health, 2019), doubling between 2004 and 2018 for early adolescents aged 10-14 (Colorado Department of Public Health and

Environment, 2018). Externalizing behaviors consist of problems with impulsivity, inattention, and behavioral control and can be associated with aggression, violent or delinquent behaviors (Bögels et al., 2008; Thompson et al., 2010), and substance use (Thompson et al., 2010).

The ability of parents to adjust to shifting adolescent needs can play an important role in adolescent adjustment. For example, adolescents typically experience a growing need for autonomy from their parents, requiring a shift in the parent-child relationship that can be perceived as stressful for both (Small et al., 1988). Positive parenting behaviors that engender close and secure parent-child relationships have been shown to be a protective factor in reducing adolescent maladjustment, such as the risk for later anxiety and depression (Jakobsen et al., 2012) and delinquency. In this study, the interrelated positive parenting practices and behaviors of parental autonomy granting, overcontrol (reverse scored), trust, and negative reaction to adolescent disclosure (reverse scored) are hypothesized to mediate the association between mindful parenting and adolescent adjustment as measured by internalizing and externalizing behaviors.

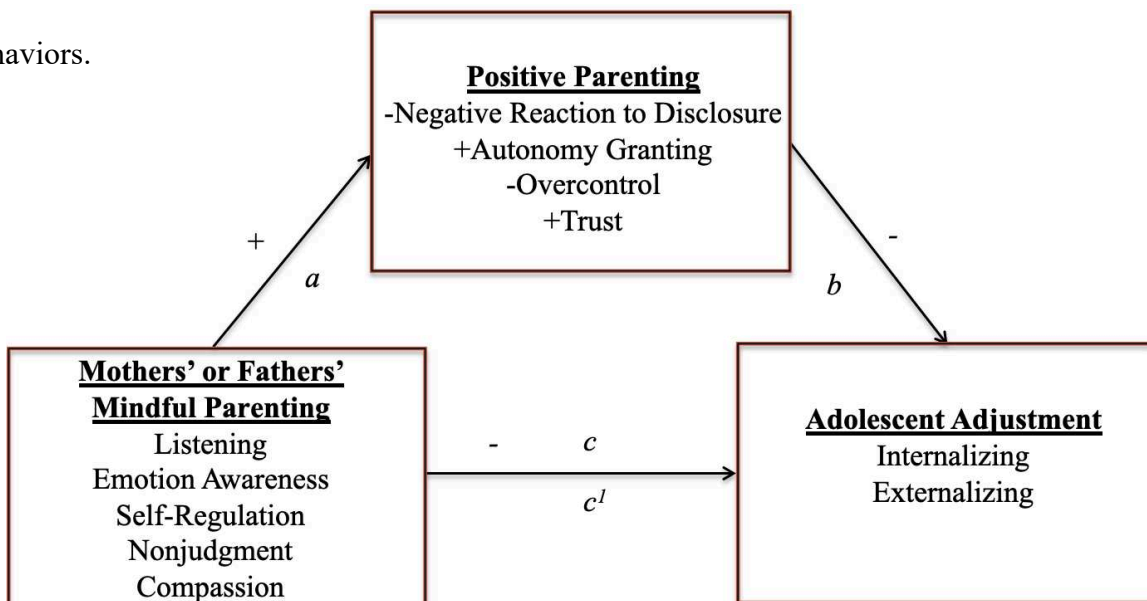


Figure 1. Model of Positive Parenting Practices as a Mediator of the Association Between Mindful Parenting and Adolescent Adjustment. Note. a = path between predictor and mediator; b = path between mediator and outcome; c¹ = direct path between predictor and outcome; c = total effect. Negative reaction to disclosure and overcontrol are reverse scored.

Parental Negative Reaction to Disclosure, Trust, Overcontrol, and Autonomy Granting

Kerr and colleagues (1999) illuminated relationships between parents' negative reactions to disclosure from their adolescents, the degree to which parents trusted their adolescents, and how much control parents exerted. The transition to adolescence coincides with less opportunity for parents to directly monitor their child's behavior. Because not all behavior can be observed and controlled, parents rely on their adolescent for information (Kerr et al., 1999). If a parent previously reacted negatively to the adolescent disclosing information to the parent, the adolescent may, consciously or unconsciously, take this history into account when deciding whether to disclose further information about daily activities (Kerr et al., 1999).

Information disclosed spontaneously by adolescents without solicitation from parents was negatively correlated with delinquency (Melotti, 2018) and positively correlated with parental trust in their adolescents (Kerr et al., 1999). Conversely, low parent trust was positively correlated with adolescent internalizing behaviors (Ebbert et al., 2019) and delinquency (Kerr et al., 1999; Melotti, 2018), and explained more of the variance in dysfunctional parent-child relationships than delinquency itself (Kerr et al., 1999). Kerr and colleagues (1999) discussed that a high level of parental control could hypothetically lead to high trust if parents expected their children to behave more predictably. However, these authors found no evidence for such a positive correlation between control and trust, and instead suggested that high trust makes it less likely for a parent to use control.

The dataset analyzed in the current study includes an explicit measure of parental overcontrol as perceived by adolescents. Overcontrolling parental behavior can deny children the opportunity to regulate themselves and develop a sense of mastery (Craske & Waters, 2005), both of which are linked to anxiety (Mineka & Zinbarg, 2006, for effect of feeling

uncontrollability over internal states; and Leonardo & Hen, 2006, for low sense of mastery). Internalizing behaviors have been found to be positively correlated with psychological control (Pinquart, 2017; Soenens et al., 2009), and negatively correlated with autonomy granting (Pinquart, 2017).

When granting autonomy to their adolescent, parents include their adolescent in family processes of decision making, which conveys trust and allows adolescents to express themselves as individuals (Hauser Kunz & Grych, 2013). Although support for a negative association between autonomy granting and child anxiety and depression has been found (Gorostiaga et al., 2019; Hauser Kunz & Grych, 2013; Silk et al., 2003; Yap et al., 2014), evidence of this relationship is not always conclusive (Soenens et al., 2009). Results may differ depending on how autonomy granting is operationalized. The current study captured autonomy granting through a scale that measures promotion of volitional functioning (PVF), in which parents “encourage their children to behave on the bases of self-endorsed interests” (Silk et al., 2003, p. 189). Rather than simply promoting independence, which is not in and of itself a marker of health and could indicate parental detachment (Hill & Holmbeck, 1986; Soenens et al., 2007), PVF may help reap benefits like those of authoritative parenting, which is usually associated with positive parenting and adolescent outcomes (e.g., Pinquart, 2017, for associations with internalizing behaviors).

After developing an understanding of how parenting behaviors can be either risk or protective factors influencing adolescent adjustment, researchers are looking to identify factors that can bolster positive parenting. Although there is already support indicating that more mindful parents tend to have children who experience fewer internalizing and externalizing problems (path c^1 in Figure 1; Geurtzen et al., 2015; Parent et al., 2016), it remained to be tested

whether part of this effect of mindful parenting may operate through the positive parenting practices I proposed for analysis. In addition to the previously discussed effects of parenting behaviors on adolescent adjustment (path b in Figure 1) theoretical links between mindfulness and positive parenting (path a in Figure 1) are reviewed next, as both associations contribute to the proposed mediation pathway investigated.

Links between Mindful Parenting and Positive Parenting

Mindfulness

Mindfulness is a mental state characterized by paying attention to the present moment without judging one's thoughts, emotions, and sensations (Kabat-Zinn, 1994). Mindfulness-based interventions are increasingly offered for adolescents and for parents. The effect of mindfulness-based interventions for adolescents in producing reductions in both externalizing (Bögels et al., 2008) and internalizing symptoms (Broderick, 2005; Dvořáková et al., 2017) is hypothesized to act via social-affective and stress-regulation mechanisms (Chiesa et al., 2013; Zelazo & Lyons, 2012). Likewise, mindfulness training for parents seems to offer benefits via stress reduction (Bögels et al., 2010, 2014; Bögels & Restifo, 2014; Duncan et al., 2009) and increasing intrapersonal skills such as self-regulation.

Most often, mindfulness has been framed as an intrapersonal process based on learning to direct one's own attention in the present moment. Mindfulness can also be an interpersonal process by which people behave mindfully towards each other. The construct of mindful parenting includes both components. Duncan and colleagues (2009) defined mindful parenting as the ability to pay intentional, present-centered, and nonjudgmental attention to both one's child and one's own parenting. This definition encompasses five dimensions they proposed in a model of mindful parenting, i.e., listening with full attention, self-regulation, and nonjudgmental

acceptance, emotional awareness, and compassion, directed both towards their child and themselves as a parent (Duncan et al., 2009). The Interpersonal Mindfulness in Parenting Scale (IM-P) used in the present study was adapted to be interpersonal, capturing behavioral processes between parents and their children (Duncan, 2009). The IM-P has previously been used in research having parents report on their own mindful parenting.

The present study offers a new angle by capturing adolescents reporting their perceptions of how their parents are actually behaving as opposed to having parents reporting how they believe they are behaving towards their children. It is possible that parents perceive themselves as being more mindful than their adolescents perceive them to be, or that parents could engage in behaviors that adolescents are not picking up on at all. Studies that collect and analyze adolescents' perceptions of their parents' mindfulness and other parenting behaviors can begin to offer insight into behaviors that are perceived as healthy by their adolescents themselves. Having studies that can verify interpersonal processes by reporting adolescent perspectives contributes to the literature. The present study also contributes a proposed model of a mediating pathway explaining expected associations between mindful parenting and adolescent adjustment outcomes. Below, the available evidence is reviewed for why a mindful parenting approach may engender the positive parenting behaviors of negative reaction to disclosure, trust, overcontrol, and autonomy granting.

Mindfulness and Parental Negative Reaction to Disclosure, Trust, Overcontrol, and Autonomy Granting

Although empirical studies are scarce, the conceptual ties between this group of closely related parenting constructs and the five dimensions of mindfulness are grounded in theory. Conceptual links between autonomy granting and mindfulness have been established in

publications such as those on self-determination theory that highlight human abilities for self-regulation under conditions that foster basic needs of autonomy, relatedness, and competence (see Ryan & Deci, 2000). This theory is a good fit for the transition to adolescence during which a primary struggle of parents can be how to adjust to their child's growing need for autonomy (Small et al., 1988).

Autonomy granting as measured in the current study by promotion of volitional functioning (PVF) does not preclude maintaining a high sense of relatedness in one's relationships (Ryan & Deci, 2000; Soenens et al., 2007) and is expected to be positively associated with mindfulness and contribute to high relationship quality. Given that PVF has been found to be more highly associated with collectivistic attitudes than individualistic attitudes (Kim et al., 1998), in a heavily individualistic society such as the USA, it may be especially important to emphasize granting autonomy in a way that stems from a foundation in mindfulness and promotes volitional functioning instead of mere independence from family.

Given that volition stems from acting in accordance with one's interests and values, mindfulness could be a tool to gain deeper awareness of internal motivations. Key components of mindfulness are self-regulation, attention, and awareness in the present moment. Honing these skills can afford a better chance of making intentional decisions compatible with identified goals (Kuhl & Kazen, 1994). Mindfulness in parenting, specifically, may help parents become more aware of their child's interests and values, as a step towards encouraging children to act in alignment with these motivations. Goal pursuit could thus be enabled by the mindful skill of self-regulation, which develops over time to replace regulation by others that is characteristic of early life (see Sameroff, 2010, for a discussion of other- versus self-regulation).

Especially after early childhood, extrinsic motivation, or externally regulated behavior, is usually perceived as controlling (Ryan & Deci, 2000) and has been associated with adverse developmental outcomes (Kasser & Ryan, 1996). It is likely that mindfulness practices, such as listening with full attention, awareness of emotions, and compassion, increase perspective-taking skills of parents and decrease adolescent perceptions of their parents as overcontrolling.

Overcontrol was another parenting behavior included in the present study, in addition to how much adolescents perceived that their parents trust them. Better trust and overall relationship orientation are fostered by the ability to have a child-oriented perspective of a child's needs and wants, whereas a self-oriented parent perspective can consist of a desire to feel in control of their child (Dix & Branca 2003; Duncan et al., 2009). Because parents can feel stress in response to their adolescents exhibiting an increased quest for autonomy (Small et al., 1988), mindfulness may aid parents in cultivating self-compassion and self-regulation to meet this challenge.

In their review of theoretical underpinnings of mindfulness as applied to parenting, Duncan and colleagues (2009) framed mindfulness partially as a self-regulation skill to become less reactive and to accept rather than avoid experience in the present that may be discomforting. Cognitive actions, such as becoming more aware of thoughts, feelings, and sensations, increase clarity about automatic reactions including judging others and oneself. This awareness can increase the ability to see a range of options for how parents can choose to respond. I suggest that noticing and minimizing automatic thoughts and reactions may decrease parental negative reactions to disclosure, the final metric of positive parenting used in the current study. Such a decrease in negative reactions to disclosure could aid in promoting adolescent self-disclosure of information and make a need for overcontrol by parents unnecessary. Given that parents cannot observe all their adolescent's behavior, they must rely on listening with full attention to assess

verbal and nonverbal cues and encourage mutual understanding that could promote adolescent self-disclosure (Duncan et al., 2009). Even in cases where parents do need to solicit information from their children, mindfulness may help a parent do so effectively by staying attuned to the goal of reaching long-term positive outcomes (Smith & Dishion, 2013).

Mindful parents may benefit their adolescents through modeling from parent to adolescents of how to self-regulate (e.g., Moreira & Canavarro, 2020). Mindful parenting may also confer indirect benefits to adolescents by improving parent interpersonal skills and adolescent perception of the quality of their parents' interactions with them (Coatsworth et al., 2010). To establish grounds for the current study of how mindfulness may act upon adolescent adjustment indirectly through other parenting behaviors, I next review mindful parenting literature on indirect effects and identified gaps.

Indirect Effects of Mindful Parenting

Conceptually, mindfulness in parenting is expected to influence adolescents indirectly through various mechanisms. Parental negative reaction to disclosure, trust, overcontrol, and autonomy granting have not yet been tested as mediators of this relationship. However, taken together, findings of previous studies and proposed models provide support for my study. When looking for mediators of the effect of mindful parenting on children, researchers have found a variety of results that fit under several broad themes captured by the conceptual model of mindful parenting as operating through parent-adolescent relationship quality and positive parenting (Duncan et al., 2009). In their analysis of parent-reported measures, Coatsworth and colleagues (2018) concluded that the positive effect of mindful parenting on adolescent aggression (nonphysical aggression, delinquency, school problems, and externalizing behavior) was mediated through parent-adolescent relationship quality (affective/interaction quality,

approach to emotions, harsh discipline) and a composite measure of positive parenting (monitoring, parental guidance, inductive reasoning, and support/understanding).

Although studies have assessed different variables and utilized various operational definitions, relationship quality and quality of parenting emerge as broader categories under which many confirmed mediators fall. There is evidence that mindfulness instruction for parents can improve parent-adolescent communication skills (Lippold et al., 2015) as contributors to parent-adolescent relationship quality and positive parenting. Relationship quality as assessed by mother-child affective quality (warmth, responsiveness, acceptance) was found by Duncan (2007) to mediate the association between mindful parenting and girls' internalizing behavior. Bögels (2010) found preliminary support for two pathways by which mindful parenting may impact adolescents, through reducing parenting stress and improving marital quality. Marital quality as a mediator is also associated with quality of parenting and the relationship between parent and child (Bögels, 2010). Likewise, the other mediator identified, parenting stress, is ultimately tied to the category of lower quality parenting. For example, under stress, parents became more controlling (Belsky, 1984; Webster-Stratton, 1990). The closest overlap with the measures I propose to test is found in Bögels' (2010) pilot study that indicated effects of mindful parenting intervention on parent autonomy encouraging and parent overcontrol, but without enough power to test for mediation. Bögels and Restifo (2014) again suggested processes by which mindful parenting produces effects on child mental health and called for testing such processes with mediation analyses.

Overall, there is evidence to support models by which mindful parenting produces indirect effects on adolescents by increasing parents' effective use of other positive parenting practices, such that positive parenting becomes a mediator of the effect of mindfulness on

adolescent adjustment. My study builds on these findings by testing new positive parenting dimensions that contribute to the parent-child relationship, as mediators of the relationship between mindful parenting and positive adolescent outcomes. My study tested these parenting dimensions as assessed from an adolescent perspective, and at baseline without intervention. Often, studies focus on changes in parenting produced by intervention, rather than naturally existing relationships, use reports collected from a parent rather than an adolescent perspective (e.g., Coatsworth et al., 2018), and infrequently include fathers in parenting studies.

Differences in Mothering and Fathering

From studies that have included fathers, there is emerging support for potential differences in mindful parenting based on parent gender. Some mindfulness interventions resulted in more significant improvements in mindfulness of fathers compared to mothers, with the latter possibly being more naturally mindful or more easily able to pick up on implicit mindful messaging (Coatsworth et al., 2018). Although Coatsworth and colleagues (2015; 2018) examined intervention effects, relationships between adolescent perceptions of mindful parenting and other constructs at baseline before intervention have yet to be explored.

Given that mothers engage in more emotionally supportive interactions with their children compared to fathers (Baker et al., 2011) and self-reported higher levels of mindfulness than fathers (Medeiros et al., 2016), one might expect that mothers are perceived by their children to be more mindful than fathers at baseline. Mothers may be more likely than fathers to model mindful behaviors that teach adolescents self-regulation of emotions. Moreira and Canavarro (2020) only included mothers in a mediation model that found adolescent self-compassion (a dimension of mindfulness) to be a mediator between mindful parenting and adolescent difficulties in emotion regulation.

Current Mindful Parenting and Positive Parenting Investigation

The current study is guided by three aims. The first aim is to examine whether adolescent reports of mindful parenting are negatively associated with adolescent reports of internalizing and externalizing behaviors, as has been found to be the case with parent reports. The second aim is to examine whether adolescent reports of positive parenting practices mediate the association between mindful parenting and adolescent adjustment. Overall, based on theoretical and empirical findings, I hypothesize that positive parenting practices (autonomy granting, trust, overcontrol and negative reactions to disclosure) mediate the association between mindful parenting and adolescent maladjustment. The third aim is to examine whether mediation differs for reports of mothers' and fathers' mindful parenting. Parenting research has historically focused on mothers. Including both mothers and fathers in future studies will be important to illuminate associations that may differ by gender. Mediation models testing positive parenting constructs as a mediator of the association of mindful parenting with adolescent adjustment may reveal different patterns of results for mothers and fathers.

METHOD

Participants

Recruitment

Research project participants were recruited using convenience sampling in rural and urban central Pennsylvania over four consecutive years. The only eligibility criterion was that families needed to have at least one child within the target age range of 10-14 years. Four school districts mailed recruitment letters to all caregivers of 6th and 7th grade students enrolled in participating schools. Project staff also recruited families at events such as school orientation and parent-teacher conferences, and in non-school settings such as through public service announcements, community service organizations, and faith-based groups. When schools agreed, families that did not return registration forms were called directly to encourage participation. Additionally, telephone interviews were used to address transportation barriers to participation, and to advertise provision of free childcare and dinner to further encourage equal access.

Characteristics

Of the original registration sample, 432 families were eligible, agreed to participate, and made up the baseline data collection sample size. Average age of adolescents was 12.14 years of age ($SD = .67$) and 54% were female. Sixty-six percent of families were two-parent families, of which 90% of fathers participated. These 291 two-parent families with both a mother and a father made up the sample size used in analysis. Median annual family income was \$49,000 and 30% of fathers and 25% of mothers had completed high school level of education or less. Sixty-nine percent of families were European American, 15% African American, 8% Latino, 4% Asian, 1% American Indian, and 3% biracial.

Procedures

My proposed study consists of secondary data analysis. The dataset was derived from a randomized control trial (Coatsworth et al., 2015) comparing the efficacy of a mindfulness-enhanced adaptation of the Strengthening Families Program for Parents and Youth Ages of 10-14 with two alternative treatment conditions. Families were assessed at baseline, post intervention, and one year post intervention. More information about the design, intervention, and intervention outcomes are available in previous publications (e.g., Coatsworth et al., 2015, including supplementary material).

Upon joining the study, consenting parents and assenting adolescents filled out pre-intervention surveys collecting responses to a multitude of scales measuring parent-report and adolescent-report of parenting constructs, adolescent mental and behavioral health outcomes, and mindfulness in parenting. I analyzed only baseline data, effectively changing the study design to a cross-sectional field survey that averages scores across all experimental groups rather than testing intervention effects across the control versus treatment conditions. I analyzed baseline data from participants across all three conditions, which allowed me to contribute to knowledge of parenting constructs associated with parents' levels of mindfulness and adolescent adjustment prior to intervention. Non-causal mediation can be established using associations from cross-sectional data indicating proportion of variance in the outcome accounted for by the model's predictor and mediator, although future work using longitudinal data will be valuable for drawing causal conclusions based on temporal ordering of events.

Measures

All measures included in the current analysis are self-reported by adolescents.

Mindful Parenting

Mindful parenting (predictor variable) was operationalized via the Interpersonal Mindfulness in Parenting (IM-P) Scale. The measure used in this study was a 19-item expanded version of the original IMP that was also adapted for reporting by adolescents. The original 10-item parent-report IMP demonstrated adequate reliability and validity (Duncan et al., 2009). The measure was expanded by adding items to reflect the five-factor conceptual model (Duncan et al., 2009) and by modifying wording to reflect adolescent report (“e.g., My mother/father”). This measure used a five-point scale rated from 0 (*never true*) to 4 (*always true*) to collect adolescent responses to prompts such as “my mother doesn’t really listen to me because she is busy doing or thinking something else at the same time.” A total score was computed. Reliability for this measure was excellent and mindful parenting was reported separately for adolescents’ perceptions of mothers ($\alpha = .89$) and fathers ($\alpha = .90$).

Adolescent Adjustment

Adolescent adjustment (outcome variable) was operationalized through measures of internalizing and externalizing problem behaviors. Internalizing and externalizing behaviors were measured using the Youth Self Report for Ages 11 to 18 (YSR; Achenbach, 1991), which uses a three-point scale from 0 (*not true*) to 2 (*very true or often true*) to measure responses to 53 prompts. Prompts for internalizing captured behaviors including being withdrawn and depressed through phrases such as “I worry a lot.” Prompts for externalizing captured aggressive and rule-breaking behaviors (e.g., stealing, fighting, skipping school, doing drugs) with items such as “I get in many fights.” The YSR has been demonstrated to be a valid (van Lang et al., 2005) and

reliable measure of internalizing and externalizing behaviors (Ebesutani et al., 2011). In this study, reliability was also excellent for the internalizing ($\alpha = .89$) and externalizing ($\alpha = .92$) scales.

Positive Parenting

I operationalized positive parenting (mediator) using four indicators. *Autonomy granting* was assessed using the adolescent-report measure, the Promotion of Volitional Functioning Measure (Soenens et al., 2007). The seven-item measure used a five-point scale from 0 (*strongly disagree*) to 4 (*strongly agree*) to measure responses to prompts about parent behavior such as, “My parents... whenever possible, “...are usually willing to consider things from my point of view,” or “...allow me to choose my own direction in life.” Reliability was good for this measure ($\alpha = .76$). *Overcontrol* was assessed using five items (from Kerr et al., 2000). Adolescents responded to prompts such as, “Does it feel like your parents demand to know everything?” using a five-point Likert scale from 1 (*Yes, always*) to 5 (*No, never*). Reliability was good for this measure ($\alpha = .80$). *Trust* was assessed using three items (from Kerr et al., 1999), including, “Do your parents trust you not to do something dumb during your free time?.” Adolescents responded on a five-point Likert scale from 1 (*Yes, always*) to 5 (*No, never*). Reliability was good for this measure ($\alpha = .78$). *Parent’s negative reaction to disclosure* was assessed using items, including, “Have you ever told your parents things and later regretted that you did it?” (Kerr, et al. 1999) on a five-point Likert scale from 0 (*Never*) to 4 (*Always*). Reliability was good for this measure ($\alpha = .76$).

RESULTS

Aim 1: Associations Between Adolescent Reports of Mindful Parenting and Adolescent Adjustment

Correlations, computed in IBM SPSS Statistics for Windows, Version 27.0 (IBM Corp, 2020), were used to address the first study aim of testing whether adolescent reports of mindful parenting were negatively associated with adolescent reports of internalizing and externalizing behaviors. Correlations presented in Table 1 supported the hypothesized pattern of association between adolescent reports of their parents' mindfulness and adolescent reports of their own internalizing and externalizing behaviors. The associations between mindful parenting and adolescent adjustment (from $-.28$ to $-.37$) were negative and statistically significant across parent gender and adjustment outcome.

Correlations in Table 1 were also examined to verify that correlations were not in any unexpected patterns that would make the models used to test Aims 2 and 3 unfeasible. Mothers' and fathers' mindful parenting were highly correlated ($r = .63$) and outcomes of adolescent externalizing and internalizing were highly correlated ($r = .67$). As reviewed above, previous literature (Baker et al., 2011; Coatsworth et al. 2010, 2015 2018; Medeiros et al., 2016) suggested that analyzing these variables as separate predictors and outcomes can yield results that add nuance to our understanding of mindful parenting and its correlation with adolescent outcomes. Adolescent gender, a covariate in the model, was statistically significantly correlated with trust, negative reaction to disclosure, and adolescent internalizing. Except for trust, the factors that make up the positive parenting mediator were more strongly correlated with mothers' mindful parenting than with fathers' mindful parenting. Of the positive parenting

Table 1. Means and Correlations Between Study Variables

Note. * $p < .05$; ** $p < .01$. M. parenting = mindful parenting; neg. react disclosure = negative reaction to disclosure; adjust. = adjustment.

| | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------------|-------|------|--------|--------|--------|--------|--------|-------|-------|--------|------|------|
| 1. Fathers' m. parenting | 2.62 | .71 | 1.00 | | | | | | | | | |
| 2. Mothers' m. parenting | 2.71 | .67 | .63** | 1.00 | | | | | | | | |
| 3. Autonomy granting | 2.44 | .68 | .47** | .57** | 1.00 | | | | | | | |
| 4. Trust | 3.21 | .89 | .50** | .45** | .39** | 1.00 | | | | | | |
| 5. Overcontrol | 1.51 | .84 | -.37** | -.46** | -.55** | -.33** | 1.00 | | | | | |
| 6. Neg. react. disclosure | 1.22 | .77 | -.29** | -.40** | -.34** | -.35** | -.41** | 1.00 | | | | |
| 7. Externalizing adjust. | 6.74 | 6.90 | -.30** | -.37** | -.24** | -.40** | .26** | .25** | 1.00 | | | |
| 8. Internalizing adjust. | 6.60 | 6.20 | -.28** | -.36** | -.24** | -.27** | .25** | .26** | .67** | 1.00 | | |
| 9. Adolescent age | 12.14 | .67 | -.08 | -.11* | .02 | -.10 | .08 | .08 | .12* | .07 | 1.00 | |
| 10. Adolescent gender | - | - | -.03 | -.02 | .02 | -.15** | .06 | .13* | .02 | -.13** | .11* | 1.00 |

variables, trust was the most highly correlated with an adolescent adjustment outcome, with $r = -.40$ for the correlation with externalizing behavior.

Aims 2 and 3: Does Positive Parenting Mediate Associations Between Mindful Parenting and Adolescent Adjustment, and do Associations Differ by Parent Gender

I used SEM in Mplus 8.6 (Muthén & Muthén, 2017) to test four models to address the question of whether positive parenting acts as a mediator of the association between mindful parenting and two adolescent adjustment outcomes (Aim 2). Results from models testing mothers’ mindfulness and models testing fathers’ mindfulness were compared to evaluate Aim 3, whether associations differed by parent gender.

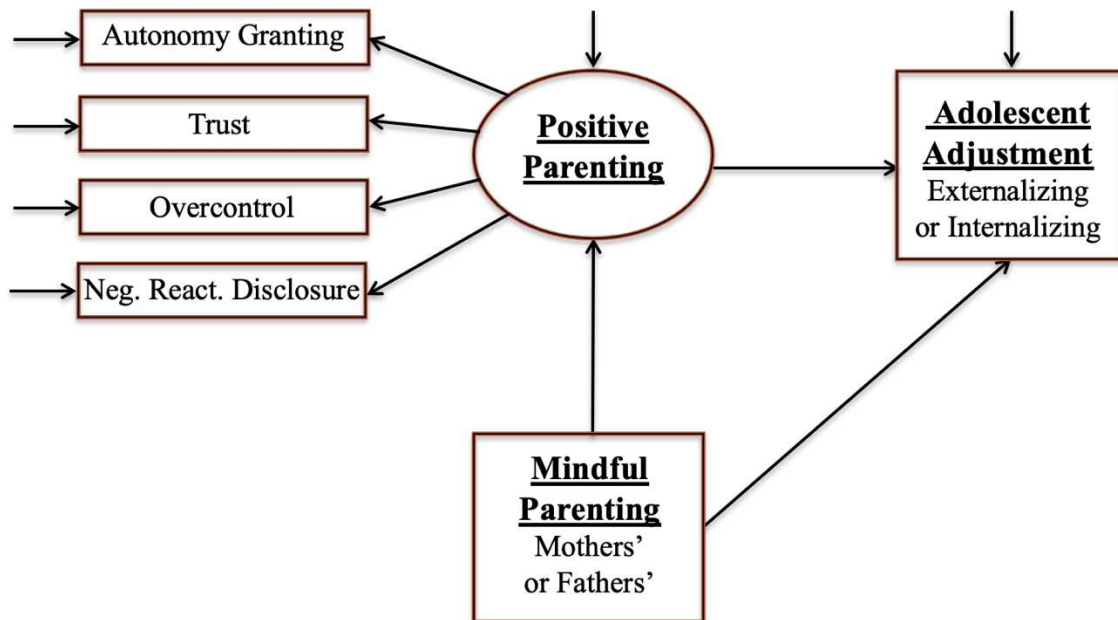


Figure 2. SEM of Positive Parenting as a Mediator of the Association Between Mindful Parenting and Adolescent Adjustment. Note. This proposed measurement and structural equation model tests the mediating association of mindful parenting on adolescent adjustment through a positive parenting factor. Neg. react. disclosure = negative reaction to disclosure.

Prior to conducting the full SEM, I conducted a confirmatory factor analysis of the positive parenting factor (left side of Figure 2) to ensure the variable indicators comprising positive parenting could be modeled as a single latent factor. Results of CFA were as expected

and are presented in Table 2. The positive parenting composite variable had strong positive factor loadings for autonomy granting and trust and strong negative factor loadings for overcontrol and negative reaction to disclosure. All four factor loadings (from .51 to .77) were adequate and statistically significant ($p \leq .001$). Factor loadings differed by $\leq .01$ across outcomes. These results indicated that the four factors can be considered reliable indicators of a single latent construct, positive parenting, and that I could proceed with structural equation modeling using this construct as the mediator.

Table 2. *Factor Structure for Indicators of Positive Parenting.* Note. Standard errors (SE) are shown in parentheses. Factor loadings differed by less than .01 across outcomes.

| | <i>Factor Loading</i> λ (SE) | <i>Unique Variance</i> U (SE) |
|---------------------------------|---|------------------------------------|
| Autonomy granting | .77 (.04) | .40 (.06) |
| Overcontrol | -.64 (.04) | .59 (.06) |
| Trust | .61 (.05) | .63 (.06) |
| Negative reaction to disclosure | -.51(.05) | .74 (.05) |

The four separate models used to test Aim 2 included two with mothers' mindful parenting as the predictor and two with fathers' mindful parenting as the predictor, with outcomes of either adolescent internalizing or externalizing behaviors. Because mindful parenting of mothers and fathers were reported separately, but the positive parenting constructs were reported at the family level without being separated by parent, I entered mothers' mindful parenting as a control for fathers' mindful parenting and vice versa to elucidate the individual contribution of each parent to overall positive parenting by both parents in the home. The contribution of mothers' mindfulness to positive parenting and adolescent adjustment was entered in a model that controls for fathers' mindfulness. Likewise, the contribution of fathers' mindfulness was examined while controlling for mothers' mindfulness. For this analysis, single-

parent households were excluded from the full sample size available at baseline. In addition to the other parent's mindfulness, other covariates entered in the model were child gender (dummy coded; 0 = male, 1 = female) and child age. These variables were selected because they may be associated with mindful parenting and adolescent internalizing and externalizing (Huberty, 2004; Leadbeater et al., 1999; McLean et al., 2011; Werner-Seidler et al., 2020) and thus explain part of variance found. All covariates were specified as predictors of the outcome and mediator.

I estimated the models using full information maximum likelihood, which is a preferred approach for handling missing data (Muthén & Muthén, 1998-2017). Model fit was evaluated using conventional fit indicators with recognized criteria for good fit (Hooper et al., 2008); Model chi-square $p > .05$, CFI or TLI $\geq .90$ or $\geq .95$, and SRMR and RMSEA $< .08$. Model parameters were either raw estimates like covariances, means, and raw scales or standardized for reporting factor loadings, standardized beta (Std. β) that was used to approximate effect size, and standard errors. The sample size for all four models was $N = 291$. Fit statistics across models were the same when rounded to two decimal places. All four models had good fit as indicated by a statistically significant chi square $\chi^2 = 61$, $df = 17$, $p \leq .001$, and fit statistics within cutoff margins for CFI = .91 and SRMR = .05, while being just over the cutoff for RMSEA = .09. For all four models $R^2 = .18$.

As seen in Table 3, across models, pathway a associations were significant and positive, meaning that when more mindful parenting was present, so too was there more positive parenting. Pathway b associations between positive parenting and adolescent adjustment outcomes were negative, meaning that the more positive parenting was occurring, the less adolescent internalizing and externalizing behaviors were present. Next, direct and indirect effects are discussed separately by model.

Table 3. *Mediating Associations of Positive Parenting.* Note. Adolescent externalizing and internalizing are adolescent adjustment outcomes; mothers' and fathers' mindful parenting are predictors. Effect sizes (Std. β) are reported with standard errors (SE) in parentheses. M. parenting = mindful parenting; pos. parent. = positive parenting; adol. adjust. = adolescent adjustment. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

| Path | Effect | Mothers' Mindful Parenting | | Fathers' Mindful Parenting | |
|----------------|--|----------------------------|-------------------|----------------------------|-------------------|
| | | Internalizing | Externalizing | Internalizing | Externalizing |
| | | Std. β (SE) | Std. β (SE) | Std. β (SE) | Std. β (SE) |
| a | M. parent. \rightarrow Pos. parent. | .59***(.06) | .59***(.06) | .26***(.06) | .26***(.06) |
| b | Pos. parent. \rightarrow Adol. adjust. | -.26**(.12) | -.30*(.13) | -.26*(.12) | -.30*(.13) |
| c ¹ | Direct: M. parent. \rightarrow Adol. adjust. | -.09 (.10) | -.13 (.10) | -.06 (.08) | -.02 (.08) |
| c | Total: | -.24***(.07) | -.31***(.07) | -.13 (.07) | -.10 (.07) |
| a*b | Indirect: Mediated effect | -.15*(.08) | -.18*(.08) | -.07 (.04) | -.08*(.04) |

Mothers' Mindful Parenting

Two models were tested using adolescents' perceptions of mothers' mindful parenting as the predictor, with either adolescent internalizing or externalizing behaviors as the outcome. As seen in Table 3, neither model of mothers' mindful parenting had significant direct pathways, despite significant correlations between mothers' mindful parenting and adolescent adjustment shown in Table 1. Statistical significance of indirect effects provided by Mplus were examined to determine whether mediation is likely. Significant mediating associations with small effect sizes were found for models of mothers' mindful parenting across both adolescent adjustment outcomes. Notably, the effect size of the contribution of mothers' mindful parenting to positive parenting in the household ($\beta = .59$) was larger than that of fathers' mindful parenting ($\beta = .26$).

Fathers' Mindful Parenting

Two models were additionally tested to determine whether the association between fathers' mindful parenting and adolescent internalizing and externalizing behaviors was

mediated. Once again, neither model had significant direct pathways between mindful parenting and adolescent adjustment despite significant correlations between these variables. In addition, the model of fathers' mindful parenting regressed on adolescent internalizing was not found to have a significant indirect, mediating effect. The model of fathers' mindfulness and adolescent externalizing behavior was found to have a significant mediating effect, although the effect size is quite small, smaller than the effect size for the equivalent model with mothers' mindfulness. Overall, these results provide partial support for the hypothesis that positive parenting mediates the association between mindful parenting and adolescent adjustment, while providing support for the notion that patterns may differ by parent gender.

DISCUSSION

This study used structural equation modeling of cross-sectional data to investigate whether a positive parenting factor consisting of autonomy granting, overcontrol, trust, and negative reactions to disclosure mediated the associations between mothers' and fathers' mindful parenting and adolescent internalizing and externalizing behaviors. Although research on mindfulness has grown exponentially and now includes studies of mindful parenting, few mediating models had been examined; in addition, parenting behaviors of fathers have rarely been included, and adolescent reports of mindful parenting had not been examined. Results of the current study contributed to filling these gaps. Results confirmed that adolescent reports of mindful parenting were significantly negatively associated with adolescent reports of internalizing and externalizing behaviors. In addition, preliminary, non-causal mediation analysis largely supported a model of the association between mindful parenting and adolescent adjustment as mediated by positive parenting practices. Lastly, results of analyzing four separate models indicated that associations differed by parent gender and adolescent adjustment outcome, with significant mediation for all models with the exception of fathers' mindful parenting paired with the outcome of adolescent internalizing behavior.

The current study extended knowledge of specific mediators that fit within Duncan and colleagues' (2009) model of effects of mindful parenting on adolescents as operating through parent-adolescent relationship quality and positive parenting. This framework brought a focus to interpersonal, behavioral aspects of mindfulness in social interaction between parents and their children (Duncan et al., 2009). The present study added to this story of mindful parenting and adolescence that was previously built on parent-reports of mindful parenting (Coatsworth et al.,

2010, 2015, 2018) rather than an adolescent perspective of their parents' behaviors. Rather than analyzing parents' perceptions, directly analyzing adolescents' perceptions of their parents' mindfulness and other behaviors can build a foundation for future recommendations to parents about how to engage in positive parenting in a way that is perceived as healthy by their adolescents. As adolescents perceived greater mindfulness in parenting, they reported less internalizing and externalizing behaviors. Mindful parenting had previously been found to be a protective factor against adolescent maladjustment from a parent perspective (Geurtzen et al., 2015; Parent et al., 2016). The current study confirmed these results from a unique adolescent perspective and put forth a mediation model.

The findings of this study further our understanding of the relationships between mindful parenting and adolescent outcomes and potential mediating mechanisms of these associations. When positive parenting was entered into four mediation models, across models, all direct pathways between mindful parenting of either mothers or fathers and adolescent adjustment of internalizing or externalizing behaviors were found to be non-significant despite significant bivariate correlations between these variables. The finding of no significant direct pathways of mediation models across outcomes and for either mothers or fathers is a consistent finding bolstering preliminary indications that the contribution of mindful parenting on adolescent adjustment may indeed be mediated. A lack of direct effects may indicate that adolescents are influenced by parenting behaviors that are more easily observable than the five dimensions of mindfulness. Further research that uses the approach pioneered by this study of using adolescent reports of mindful parenting can continue to investigate nuances between effects of attentional processes in intrapersonal mindfulness and more behavioral processes included in interpersonal mindfulness. Next, discussion considers the various mediation models in the present study.

Three of the four models revealed significant mediated effects. Indirect-only mediation in the model of fathers' mindful parenting with adolescent externalizing as the outcome suggests that it is unlikely that a mediator was omitted from the model (see classification table in Zhao et al. 2010). Complementary mediation in the models of mothers' mindful parenting and either adolescent externalizing or internalizing indicates support for the models' hypothesized mediator as well as a mediator that has likely been omitted from the direct path (Zhao et al. 2010). For example, adolescent self-regulation has been found to be a mediator between mothers' mindful parenting and adolescent difficulties in emotion regulation (Moreira & Canavarro, 2020), but is not included in this study's conceptual model. It could be the case that overall mothers model self-regulation more effectively than fathers, however few studies have included fathers. Results overall indicated significant mediation for the model with adolescent externalizing as the outcome, regardless of whether mothers' or fathers' mindful parenting was the predictor. However, for the model with adolescent internalizing behaviors as the outcome, only the contribution of mothers' mindful parenting while controlling for fathers' mindful parenting was significant. What does it mean that mothers' but not fathers' mindfulness was found to have a significant potential contribution to adolescent internalizing?

For the model with fathers' mindful parenting and adolescent internalizing, no significant pathways were found, indicating there is not support for the hypothesized mediator in this case, and that perhaps a different theoretical framework should be explored (Zhao et al. 2010). If the direct effect had been significant, this could mean that a mediator was omitted from the model, such as adolescent self-regulation that could have potentially been learned through perceiving the mindful parenting dimension of parent self-regulation. However, in the case of no significant direct, indirect, or total effects at baseline, it may be that perhaps fathers need to first build more

mindful parenting skills before the effect size will reach statistical significance. Studies have shown mothers to report higher levels of mindfulness than fathers (Medeiros et al., 2016; Parent et al. 2016), which may be due to mothers being personally and culturally more willing to adopt mindful parenting approaches (Medeiros et al., 2016). Overall, adolescents' perception of mindful parenting on part of their mothers versus their fathers made a larger perceived contribution to overall positive parenting in the household (Table 3, path a). It could be that participation in a mindfulness-based intervention could strengthen this contribution by fathers. Coatsworth and colleagues (2018) have found that mindfulness interventions were particularly helpful to fathers, who they posited may require an explicit approach to learning mindful parenting. Overall, parent gender may make a meaningful difference to adolescent perception of processes that are associated with adolescent mental health.

However, given that the effect size of the non-significant path between fathers' mindful parenting and adolescent internalizing is very close in size to the significant path between fathers' mindful parenting and adolescent externalizing, the difference between model results needs to consider differences between adolescent adjustment outcomes. The mediated contribution of mindful parenting was ultimately found to be more strongly related to adolescent externalizing than internalizing. One potential explanation for this finding is as follows. As seen in Table 1, the largest correlation between a positive parenting variable and an adjustment outcome is between adolescents' perception of how much their parents trust them and adolescent self-reported externalizing behavior. Due to the use of adolescent reports, the interpersonal aspect of mindfulness in parenting is further emphasized and might naturally be expected to have stronger ties to externalizing behaviors in which adolescents deal with their emotions in relation to others instead of internalizing them.

Another explanation could be that cross-sectional analyses cannot exclude possible reverse causal direction of effects, in which teens who act out (e.g. stealing, fighting, skipping school, doing drugs) are more likely to erode their parents' feelings of trust. In a longitudinal study, Fanti and colleagues (2008) found unidirectional effects from adolescent externalizing problems to relationship quality (including trust) with fathers and from relationship quality with mothers to adolescent externalizing problems. In contrast, they found bidirectional effects between adolescents' internalizing behaviors and quality of relationship with their mothers (Fanti et al., 2008). It has been posited that this unique influence of mothers on adolescent outcomes may stem from adolescents feeling, on average, less close to their fathers (Hosley & Montemayor, 1997) and to mothers being more attuned and responsive to adolescent problem behaviors (Baumrind, 1991; Lamb, 1997). Overall, some preliminary support for the notion that results may differ by parent gender and type of adolescent adjustment is verified through the finding of three mediation models and one case of non-mediation. However, any interpretations must indeed be considered preliminary due to use of cross-sectional data. Future steps will be to address the following study limitations.

Limitations

Non-Causal Mediation

The present study has several limitations as to conclusions that can be drawn based on its results. Researchers broadly agree that results of mediation analysis are not considered causal when data are only cross-sectional, drawn from a single time point (Cole & Maxwell, 2003; Maxwell & Cole, 2007). It has been suggested that data be collected from at least two time points to test mediational models using a half-longitudinal design, and three time points are required to fully test mediation, because one must control for initial estimates of the proposed

mediators and dependent variable (Cole & Maxwell, 2003; Maxwell & Cole, 2007). Therefore, any conclusions drawn from the present cross-sectional analysis are but preliminary. This study provides support for a theoretical framework that mindful parenting contributes to adolescent externalizing, and to adolescent internalizing for the case of mothers' mindful parenting. However, future longitudinal or especially intervention studies will need to confirm that causal conclusions can be drawn.

The present study did not make full use of the longitudinal data available for several reasons. I did not conduct exploratory analyses with only the control group longitudinally due to concern that the much-reduced sample size would not have enough power to find effects in models based on complex data simulation. A future study could conduct longitudinal analysis with the full dataset while controlling for experimental condition. Such an analysis would be more complicated, combining a measurement model (factor specification through CFA), mediation model (SEM), and a multiple groups model (control group and two different treatment groups).

Shared Reporter Bias

This study makes a unique contribution to the literature by using adolescent-reported measures to investigate interpersonal mindfulness in parenting. This presents a study strength, capturing how adolescents perceive their parents' behaviors rather than capturing parents' intentions. However, having adolescents report all measures used in the study does mean that some associations may be inflated due to shared reporter bias. One would expect a stronger association between variables reported by the same person compared to associations based on objective assessment by different reporters. For example, it could be possible that adolescents perceive their parents less or more mindfully because of the adolescents' own adjustment

problems rather than due to actual behaviors of their parents. However, the fact that results show a strong pattern, while also demonstrating some differential sensitivity to effects, and do not include any significant direct effects provides some confidence that shared reporter bias was not causing excessive inflation that would create associations between all variables.

To minimize the chance that results are inflated by shared reporter bias, future analysis could include creation of a factor of mindful parenting using data on the five dimensions of mindfulness as reported by both the adolescents and their parents. Ideally, with additional data collected in the future to include parent reports of adolescent adjustment, factor analysis would also be used to create adolescent adjustment factors integrating both perspectives. One of the main benefits of SEM and creating a latent variable is creating a better estimate of the true variable by removing measurement error, including shared reporter bias. Then, the overlap between adolescents' and parents' reports represents a less-biased construct.

Conclusion

Results of this study extended the story told by previous studies of mindful parenting as a protective factor against adolescent maladjustment. The theoretical mediation framework posed a possible mechanistic explanation for further investigation through future longitudinal, casual mediation studies. The model of association between mindful parenting and adolescent adjustment being mediated through positive parenting practices was a promising fit overall. Strong theoretical explanations exist for why mindful parenting may make parents engage in more positive parenting. Building continued understanding of the potential for positive parenting behaviors to act as mediators of the benefits of mindful parenting can eventually contribute to practical recommendations. After additional studies, results may indicate potential of combining mindfulness instruction for parents and lessons on specific positive parenting behaviors to

optimize the buffer to adolescent internalizing and externalizing behaviors, during a time when the need for such protection is increasing.

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