

THESIS

EXPLORING THE RELATIONSHIP BETWEEN PARENT AND ADOLESCENT
DISPOSITIONAL MINDFULNESS AND ADOLESCENT MENTAL HEALTH

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ABSTRACT

EXPLORING THE RELATIONSHIP BETWEEN PARENT AND ADOLESCENT DISPOSITIONAL MINDFULNESS AND ADOLESCENT MENTAL HEALTH

Internalizing symptoms, including depression and anxiety symptoms, increase during adolescence, a sensitive life stage for forming coping strategies for handling stress. Adolescent internalizing symptoms have been related to a host of negative health outcomes, yet dispositional mindfulness, the propensity for present-moment, non-judgmental attention, has been associated with lower levels of internalizing symptoms. From a social learning framework, parents' own dispositional mindfulness is anticipated to relate to adolescent's degree of dispositional mindfulness. In the current thesis, I conducted secondary data analyses to explore the hypotheses that parental and adolescent dispositional mindfulness would be positively related, that there would be inverse relationships of parent dispositional mindfulness with adolescent perceived stress and anxiety/depression symptoms, and that parent mindfulness would contribute uniquely to variability in adolescent mental health indicators, even when accounting for adolescents' own mindfulness. Participants were 90 healthy adolescents (50% female), 12–17 years old (Mean = 14.3, SD = 1.7 years). Parental and adolescent dispositional mindfulness were evaluated using the Mindful Attention Awareness Scale. Adolescents reported stress on the Perceived Stress Scale and anxiety symptoms using the State Trait Anxiety Inventory for Children – Trait Version. They reported depression symptoms on the Center for Epidemiological Studies-Depression Scale (CES-D). Results of correlation and regression analysis found

expected relationships based on prior literature between parent internalizing symptoms and parent mindfulness, and adolescent internalizing symptoms and adolescent mindfulness, but found no statistically significant connection between parent dispositional mindfulness and adolescent internalizing symptoms. Findings suggest more research needs to be conducted in this area to understand the mechanisms of dispositional mindfulness and internalizing symptoms in the context of family functioning. Future studies should focus on including more comprehensive measures of mindfulness and integrating an attachment framework into the research design.

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INTRODUCTION

Adolescence and Mental Health: Internalizing Symptoms and Perceived Stress

Adolescents have been a particular focus of research on mental health due, in large part, to the sensitive nature of this developmental period and the increased stress associated with adolescence (Geurtzen et al., 2015; Weinstein et al., 2007). In particular, adolescence represents a period of life with particularly elevated stress levels and heightened vulnerability to such stress. How such stress is navigated can have implications for adolescents' current and future mental health (Cameron, 2004; Weinstein et al., 2007). During this developmental stage, cortisol, a stress hormone, is produced at high amounts and sensitivity is heightened as well, leaving adolescents vulnerable to increased stress (Spear, 2009). Internalizing symptoms, such as depressive and anxious symptoms, have been found to increase with age, with an especially marked increase in adolescence (Weinstein et al., 2007).

Internalizing symptoms are influenced by multiple factors, one of which is an environmental component, including timing and sensitivity to environment and stress due to development of the brain (Andersen & Teicher, 2008). Emotion regulation is at the heart of internalizing problems such as depression and anxiety (Beato-Fernández et al., 2007). In adolescents, the period of hormonal system and brain development creates a “window of vulnerability” to stress (Andersen & Teicher, 2008 p. 184; Broderick & Jennings, 2012; Romeo, 2010; Spear, 2009). Heightened emotional distress during adolescence has the potential to negatively affect multiple domains of life with far reaching ramifications past the adolescent life stage, including social and academic spheres (Needham et al., 2004).

Mindfulness: Associations and Interventions

Mindfulness is a multi-faceted construct that is commonly defined as purposeful and non-judgmental present moment attention (Kabat-Zinn, 2003). Yet, much about how individual dispositional mindfulness develops in adolescence, including how it might be influenced by those around us, and the implications it might hold for our health, is not fully understood (Creswell, 2017). Trait or dispositional mindfulness generally refers to the untrained capacity to remain in a mindful state across time not just momentarily, as opposed to trained mindfulness, which theoretically can be altered or increased as the result of an intervention (Brown, Ryan, & Creswell, 2007). Moreover, extant data from randomized and non-randomized trials in adults and adolescents suggest that mindfulness-based interventions may be efficacious for internalizing symptoms often experienced by adolescents, such as anxiety and depression (Baer, 2003; Creswell, 2017; Fjorback et al., 2011; Keng et al., 2007; Lam, 2016; Lindsay & Creswell, 2017; Napoli et al., 2005; Semple et al., 2010). Mindfulness-based interventions have been found to improve emotion-regulation in adolescents in a pre-post randomized study (Daly et al., 2015; Lutz et al., 2014); reduce anxiety in adults in a randomized intent to treat study (Hoge et al., 2013); and decrease depressive symptoms in adults in a meta-analysis (Strauss et al., 2014). Mindfulness-based interventions in randomized controlled trials have also been found to reduce anxiety and improve attention in children and adolescents (Broderick & Jennings, 2012; Napoli et al., 2005; Semple et al., 2010).

Dispositional mindfulness has been associated with more successful emotion regulation (Goodall et al., 2012), and lower perceived stress (Prakash et al., 2015) in adults. Due to its relevance to emotion regulation, dispositional mindfulness and the associated mechanisms of acceptance and present-focus have been related to less internalizing symptoms or experiences of

stress, anxiety, and depression in both adults and adolescents (Brown & Ryan, 2003; Creswell, 2017; Royuela-Colomer et al., 2021). Dispositional mindfulness was also found to be a protective factor for internalizing problems in a longitudinal observational study of adolescents (Royuela-Colomer et al., 2021). Both dispositional and trained mindfulness have been associated with more positive dimensions of mental and physical health, increased self-awareness, relationship satisfaction, and attunement capacity, which is one's ability to focus attention on themselves or another (Creswell, 2017; Snyder et al., 2012). Although research suggests that dispositional mindfulness – inherently and fostered in response to mindfulness training – contributes to wellness, the factors associated with how adolescents' dispositional mindfulness develops are not fully understood. A greater understanding of factors associated with dispositional mindfulness has the potential to yield information that would support creating the most impactful prevention and intervention programs.

Contextualizing Mindfulness: Monitor and Acceptance Theory

Monitor and Acceptance Theory (MAT) has emerged as a prominent theory for situating the many positive mental health qualities that have been linked to mindfulness as a trait (dispositional mindfulness) and mindfulness practices or interventions (Lindsay & Creswell, 2017). Two of the core elements and distinguishing characteristics of mindfulness, acceptance and attention monitoring, unite in MAT (Lindsay & Creswell, 2017). Attention monitoring can be defined as continuous present moment awareness of sensory and perceptual input, which includes thoughts, sensations, sounds, smells, emotions, and so on (Lindsay & Creswell, 2017, p. 50). Acceptance in MAT refers to a nonjudgmental stance and a receptive lens to both internal and external stimuli (Lindsay & Creswell, 2017). Acceptance is also related to successful

emotion regulation within this theory and the greater literature on mindfulness (Goodall et al., 2012; Lindsay & Creswell, 2017).

Anxiety is often characterized by avoidance, both internally in resisting unpleasant emotions, and externally by avoiding situations that increase anxiety (Fraser, 2018). Training in a mindfulness-based modalities or practices can increase acceptance by countering avoidance. For example, a randomized control study of acceptance-based treatments in young adults and adults with anxiety and or comorbid depression found that increased levels of acceptance (measured by survey) were related to decreased intensity in anxiety and depression symptoms (Arch et al., 2012). Situating internalizing symptoms within the MAT framework illustrates the potential interaction between dispositional mindfulness and internalizing symptoms.

Mindfulness in a Relational Context: Family Systems and Attachment Theory

The majority of mindfulness research has largely been focused on the construct as an individual trait or capacity. While examining individual mindfulness is useful, individuals do not exist in a vacuum, instead they communicate and form ongoing bonds with those around them, namely family members (Bavelas & Segal, 1982). An individualistic approach potentially leaves out essential pieces of how mindfulness forms and functions for individuals and within relationships and family systems. It is not yet fully understood what factors influence individual's levels of dispositional mindfulness, including the potential of social and familial relationships to impact mindfulness. Family systems theory offers an alternative, which is to zoom out from the individual to view people through the lens of their relationships and interactions, behavioral influences, and cycles or patterns they co-create within their interconnected, cohesive groups (Bavelas & Segal, 1982). In this way, one could theorize that a

parent's own dispositional mindfulness would interact with their child's mindfulness and vice versa.

Adolescents develop within family systems, and therefore parental relationships play a part in shaping the adolescent's behaviors (Baker et al., 2003; Lucas-Thompson et al., 2021; Pardini et al., 2008; Waters, 2016). Studies have found that parents' and adolescents' stress levels affect one another's stress levels and behavior (Baker et al., 2003; Pardini et al., 2008; Waters, 2016). In a study of Australian school-aged children, parent stress was found to be related to children's level of stress (Waters, 2016). Children's own stress levels were also lower when they themselves were more mindful and children's stress levels were positively related to their parent's level of mindfulness even when accounting for children's own mindfulness (Waters, 2016). Parental influences are also one of the key factors in the formation of children's capacity for emotional regulation (Morris & Criss et al., 2017). In a qualitative study of a mindfulness intervention in which adolescents and their parents were trained in mindfulness, both reported that parallel mindfulness training "mutually reinforced" emotion regulation in one another (Haydicky et al., 2017 p.1). Dispositional mindfulness has been shown to correlate with secure attachment and successful emotion regulation in a survey study of adolescents and adults (Goodall et al., 2012), and results from another survey-based study with an adolescent sample indicated that parenting quality was related to variation in individual child's levels of mindfulness (Pepping & Duvenage, 2016). More specifically, higher levels of parental care, such as parental warmth, were related to higher levels of mindfulness in their children while higher parental anxiety was related to lower levels of mindfulness (Pepping & Duvenage, 2016). The relationship between children's behavior and caregivers' mindfulness also extends beyond parents, to teachers. Participation in mindfulness training courses among preschool teachers in a

multiple-baseline study was related to students having lower levels of negative interactions with teachers and peers (defined as interactions including externalizing symptoms such as hitting, biting, or screaming), indicating that caregivers', in this case teachers,' own level of mindfulness is related to the behavior of the young people they care for (Singh et al., 2013). Together, these findings serve to illustrate the family systems connection between parent and adolescent mindfulness and mental health.

While some research indicates genetics play a role in determining individual differences in dispositional mindfulness (Waszczuk et al., 2015), genetics is unlikely to be the sole explanatory factor, and it is likely there are other influences (Brown, Ryan, & Creswell, 2007; Waszczuk et al., 2015). A study of adolescent twins indicated that genetics accounted for approximately one third of variation in adolescent dispositional mindfulness, while environmental factors account for the other two thirds (Waszczuk et al., 2015). One environmental factor suspected to impact adolescent's dispositional mindfulness is interactions and relationships with parents or primary caregivers, which could be considered in an attachment framework (Bowlby, 1969; Mikulincer & Shaver, 2007; Waszczuk et al., 2015). Attachment theory has been well researched since its inception in 1988 by John Bowlby (Snyder et al., 2012). Attachment theory posits that children are born hard-wired for emotional connection, which the theory supposes is a basic human need, and that parental relationships affect children's template or "internal working model" of relationship and connection (Mikulincer & Shaver, 2007; Snyder et al., 2012 p.710). Early attachment theory work focused extensively on children, but it has since expanded to include adolescents and adults (Mikulincer & Shaver, 2007).

Levels of dispositional mindfulness in adolescents has been linked to parent relationships, such that more conflict and lower relationship quality with mothers were associated with lower

levels of adolescent dispositional mindfulness (Lucas-Thompson et al., 2021). A recent two-wave longitudinal study of adolescents and their parents found that adolescents had a differential susceptibility to their parent's mindful parenting levels, or mindfulness specifically in the domain of parenting (Calvete et al., 2021). Adolescents' internalizing symptoms were differentially related to their parents' mindful parenting based on the adolescent's own dispositional mindfulness level such that adolescents with lower dispositional mindfulness benefited more from their parents' mindful parenting than adolescents with higher dispositional mindfulness (Calvete et al., 2021). These studies, when viewed through a family systems theory and attachment lens, point to the dynamic role adolescent-parent relationships play in dispositional mindfulness and mental health.

Contextualizing the Parent-Adolescent Relationship

Social Cognitive Theory

Social cognitive theory (SCT) asserts a bidirectional relationship between agentic individuals and dynamic social structures, such that individuals manifest a system through repeated actions, which in turn influence the rewards or punishments for discrete individual actions (Bandura, 1991; Bandura, 2005). SCT posits that individuals observe the behavioral modeling of those around them and agently take in information from social relationships and experiences to inform how they regulate and monitor their own behavior toward anticipated goals (Bandura, 1991; Bandura, 2005). Although dispositional mindfulness has generally been considered as an individual trait or learned capacity, research indicates that it may have relational associations as well (Waters, 2006). The association between parent and adolescent dispositional mindfulness is not yet fully understood, but it would follow from SCT that dispositional mindfulness would be modeled by close relationships (e.g., parents), observed and integrated by

adolescents, and, in turn, input from adolescents would be processed by parents (Bandura, 1991; Bandura, 2005).

Mindful Parenting and Parents' Dispositional Mindfulness

Research conducted on mindful parenting is useful to evaluate when considering the association between parent and adolescent dispositional mindfulness and children's internalizing symptoms (Parent et al., 2016a; Parent et al., 2016b). Mindful parenting is a construct related to and developed from dispositional mindfulness, a group of intentional parenting attitudes which include "careful listening and attention, low reactivity, non-judgmental responses, emotional awareness, and compassion for the self and the child" (Parent et al., 2016a p.505). Higher parental dispositional mindfulness has been related to higher (more positive) mindful parenting and lower levels of adolescent internalizing and externalizing problems (Parent et al., 2016b). The key distinction between dispositional mindfulness and mindful parenting is that mindful parenting refers specifically to one's parenting approach, whereas dispositional mindfulness is a constant trait tendency, regardless of parental status. Because mindful parenting is a construct nested within and following from that of dispositional mindfulness, and higher levels of mindful parenting are associated with fewer internalizing symptoms, it is possible that higher parental dispositional mindfulness might also be associated with lower levels of internalizing problems in their adolescent children (Geurtzen et al., 2015; Parent et al., 2016b).

Bidirectional Association of Parenting and Adolescent States

Prior literature indicates that parents and their children are connected bidirectionally in myriad ways related to emotion states and mindfulness. Parents' states have been found to affect their children's and adolescent' states, and vice versa (Baker et al., 2003; Calvete et al., 2021; Pardini et al., 2008; Parent et al., 2016b) and a particular parenting approach, mindful parenting,

has been associated with fewer internalizing problems in adolescents (Parent et al., 2016b; Calvete et al., 2021). In a longitudinal study of children, increases in parent stress were associated with increases in child behavior problems, and in turn, more child behavior problems also were linked to increased parent stress over time (Baker et al., 2003). Another longitudinal study on the interaction of parenting and conduct in child and adolescent boys also found a bidirectional relationship between conduct problems and changes in parenting practices (Pardini et al., 2008). In a survey-based mindful parenting study of adolescents, higher levels of “non-judgmental acceptance of parental functioning” in parents was found to be associated with lower levels of internalizing symptoms in their children (Geurtzen et al., 2015 p.1). Early results of a 2021 meta-analysis also indicate that mindfulness training in parents appears to be related to lower levels of internalizing and externalizing problems in children (Shorey & Ng, 2021). Taken together, the research on the parent-adolescent relationship points to a relationship between parent and adolescent emotional states including mindfulness and internalizing symptoms, which serve to illustrate the influence of these relationships and the potential for parent dispositional mindfulness to be related to adolescent internalizing symptoms.

Current Study

The current study works to further the understanding of the relationships among parent and adolescent dispositional mindfulness and adolescent mental health. The first research question is whether parent mindfulness and adolescent mindfulness are related, with the hypothesis that they are positively related. The second research question is to what extent parent dispositional mindfulness is related to adolescent internalizing symptoms such as perceived stress, anxiety symptoms, and depression symptoms, with the hypothesis that there are inverse relationships of parent dispositional mindfulness with these dimensions of adolescent mental

health. The final research question is whether parent dispositional mindfulness is related to adolescent perceived stress, anxiety, and depression symptoms, even when accounting for adolescent mindfulness, with the hypothesis that parent mindfulness contributes uniquely to variability in adolescent mental health indicators. Increased understanding in this area has the potential to inform prevention and intervention programs that promote positive adolescent mental health outcomes and combat mental health concerns, such as anxiety and depression.

METHOD

Participants and Procedures

Participants were recruited from May 2015 to January 2018 via flyers, advertisements, direct mailings, email mailings lists, and informational sessions in settings such as schools and churches. Ninety eligible adolescents took part in the study. To be included in the study, participants had to be between 12–17 years, have either a BMI \geq 70th percentile for age and sex or two biological parents with a BMI \geq 30 kg/m², and be in good general health. Exclusion criteria included having a major medical condition or psychiatric symptoms that would require treatment and potentially interfere with adherence to protocols, taking a medication that would affect mood, weight, and/or eating behavior, and pregnancy. Each participant was pre-screened via phone to confirm they were eligible. Participant and parent or guardian completed several procedures at a baseline screening, including questionnaires and written informed consent for parents and assent for adolescents. Financial compensation was given for adolescents' time. The Institutional Review Board of Colorado State University approved all research protocols.

Measures

Perceived Stress

Adolescents completed the reliable and valid Perceived Stress Scale (Cohen et al., 1994). This 10-item instrument measures the construct of stress, specifically how stressful one perceives their life to be overall (Cohen et al., 1994). By inquiring about how frequent respondents have had specific feelings or thoughts within the last month with items such as “In the last month, how often have you been upset because of something that happened unexpectedly?”, the scale aims to measure the amount of overall perceived stress experienced by individuals (Cohen et al, 1994

p.5; Kupst et al., 2015). Each item is rated on a 5-point Likert scale ranging from 0 (Never) to 4 (Very Often). PSS scores are obtained by reverse scoring responses to positively stated items and summing across all scale items, with a higher overall score indicating higher levels of perceived stress (Cohen et al, 1994).

Anxiety Symptoms

Adolescent anxiety was measured using the State Trait Anxiety Inventory for Children – Trait Version (STAI-C) (Schisler et al.,1998; Spielberger, 1973). This 20-item scale includes statements that are rated from 1-3 (1=hardly ever, 2=sometimes, 3=often).

Depressive Symptoms

The reliable and valid Center for Epidemiological Studies-Depression Scale (CES-D) (Radloff, 1977; Van Dam & Earleywine, 2011) was administered to measure the independent variable of depressive symptoms. The CES-D is a 20-item instrument on which participants rate each statement such as “I felt that I could not shake off the blues even with help from my family or friends” according to how often they experienced it within the past week (rarely or none of the time (less than 1 day)=0, some or a little of the time (1-2 days)=1, occasionally or a moderate amount of time (3-4 days)=2, and most or all of the time (5-7 days)=3) and scored from 0-3 (Van Dam & Earleywine, 2011 p.130). Responses are summed with higher scores indicating higher depression symptomology.

Dispositional Mindfulness

Adolescent and parent dispositional mindfulness were assessed by adolescent and parent, respectively, self-report on the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003). A reliable and valid predictive instrument, the MAAS is a 15-item survey with questions such as “I find myself doing things without paying attention” and “I find it difficult to stay

focused on what's happening in the present" (See Figure 1 on page 6) (Brown & Ryan, 2003 p. 826). Each item is rated on a 1-6 Likert scale: 1 = almost always, 2 = very frequently, 3 = somewhat frequently, 4 = somewhat infrequently, 5 = very infrequently, and 6 = almost never (Brown & Ryan, 2003 p. 826). This instrument is scored by mean, such that lower overall scores indicate lower levels of mindfulness, while higher scores indicate higher levels of mindfulness.

Analytic Plan

First, descriptive information was generated about the study sample. Next, correlation analyses were used to test the hypothesis that parent mindfulness and adolescent mindfulness would be positively related, as well as correlation analyses to describe the predicted inverse associations of parent dispositional mindfulness with adolescent mental health indicators (i.e., perceived stress, anxiety symptoms, and depression symptoms). Then, a series of regression analyses was used to test the hypothesis that there would be an inverse relationship of parent dispositional mindfulness with the dimensions of adolescent mental health, even when accounting for adolescents' own mindfulness.

RESULTS

Descriptive Information

Descriptive characteristics of N=92 study participants are included in Table 1. The sample was evenly balanced by sex (50% male, 50% female) and was predominantly non-Hispanic white (68.5%). The mean age of adolescent was 13.71 years old.

Table 1

Sample Characteristics

Sex, <i>n (%)</i>	
Female	46 (50%)
Male	46 (50%)
Race/ethnicity, <i>n (%)</i>	
Non-Hispanic White	63 (68.5%)
Hispanic/Latino	24 (26.1%)
American Indian or Alaska Native	1 (1.1%)
Asian	2 (2.2%)
Age, <i>Mean (SD)</i>	13.71 (1.62)

Correlation Analysis

Correlations among key variables are presented in Table 2. Adolescent mindfulness was significantly, inversely, and moderately-to-strongly related to adolescent perceived stress, anxiety symptoms, and depression symptoms. Likewise, parent mindfulness was significantly, inversely, and moderately related to parent perceived stress and depression symptoms. While

adolescent internalizing symptoms were significantly, slightly, and positively related to parent internalizing symptoms, adolescent internalizing symptoms were not significantly related to parent mindfulness.

Table 2*Correlations of among Parent and Adolescent Mindfulness and Adolescent Mental Health*

Variable	2	3	4	5	6	7
1. Adolescent Mindfulness	-.62***	-.66***	-.68***	-.18	-.17	.16
2. Adolescent Perceived Stress	1.00	.66***	.71***	.24*	.22*	-.19
3. Adolescent Anxiety		1.00	.76**	.26*	.23*	-.09
4. Adolescent Depression			1.00	.28**	.24*	-.14
5. Parent Depression				1.00	.59***	-.52***
6. Parent Perceived Stress					1.00	-.57***
7. Parent Mindfulness						1.00

* $p < .05$ ** $p < .01$ *** $p < .001$

Regression Analysis

Results of regression analyses are shown below in Tables 3, 4, and 5. Regression analyses indicated that adolescent mindfulness continued to be significantly, inversely related to adolescent perceived stress, anxiety, and depression symptoms, even when accounting for race/ethnicity, age, and sex. As in the correlations, adolescent mindfulness was not related significantly to parent mindfulness, nor were adolescent internalizing symptoms significantly related to parent mindfulness.

Table 3

Associations of Adolescent and Parent Mindfulness with Adolescent Perceived Stress

Predictor	<i>Unstandardized Estimate</i>	<i>Standard Error</i>	<i>p-value</i>
Race/Ethnicity	.54	1.5	.72
Age	.12	.40	.76
Sex	1.46	1.24	.24
Adolescent Mindfulness	-.24	.47	<.001
Parent Mindfulness	-.052	.052	.32

Table 4

Associations of Adolescent and Parent Mindfulness with Adolescent Anxiety Symptoms

Predictor	<i>Standardized Estimate</i>	<i>Standard Error</i>	<i>p-value</i>
Race/Ethnicity	.14	1.93	.95
Age	-.52	.52	.32
Sex	3.77	1.54	.21
Adolescent Mindfulness	-.40	.06	<.001
Parent Mindfulness	-.01	.07	.88

Table 5

Associations of Adolescent and Parent Mindfulness with Adolescent Depression Symptoms

Predictor	<i>Unstandardized Estimate</i>	<i>Standard Error</i>	<i>p-value</i>
Race/Ethnicity	-1.53	1.71	.38
Age	.09	.46	.84
Sex	3.22	1.41	.03
Adolescent Mindfulness	-.26	.05	<.001
Parent Mindfulness	-.03	.06	.63

DISCUSSION

This thesis aimed to explore a possible connection between adolescent mindfulness and parent mindfulness, as well as the association of parent dispositional mindfulness with adolescents' internalizing symptoms (perceived stress, anxiety, and depressive symptoms). Results were generally inconsistent with the proposed hypotheses.

The first hypothesis was that parent mindfulness and adolescent mindfulness would be positively related. In contrast, results were that parent mindfulness and adolescent mindfulness were not significantly related to each other. The lack of significant association observed between adolescent and parent mindfulness in the current study is inconsistent with the prior empirical literature indicating a relationship through differential susceptibility between parent and adolescent mindfulness (Calvete et al., 2021). Likewise, a lack of significant connection between adolescent and parent dispositional mindfulness is in contrast to what may be anticipated from a social cognitive theory framework, which suggests that adolescent and parent's dispositional mindfulness would bidirectionally impact one another through social pathways (Bandura, 1991; Bandura, 2005). The current result could be due to a number of possible explanations. One explanation could be that this sample offered insufficient statistical power to fully capture the relationship between adolescent and parent dispositional mindfulness, or that in this sample there was truly no association between parent and adolescent mindfulness/internalizing symptoms. It is also possible that while parent's mindfulness comprises part of the environment which contributes to the formation of adolescent mindfulness, it is not as significant of a factor as other environmental characteristics, such as life events or cultural conditioning, which were outside the scope of this thesis (Waszczuk et al., 2015).

Yet another explanation is that the MAAS does not adequately capture the interpersonal aspects of mindfulness necessary to better understand the relationship between parent and adolescent mindfulness. Additionally, the connection between parent and adolescent mindfulness might be mediated by attachment between parent and child. Attachment theory proposes that early childhood relationships with caregivers create an imprint for lifelong connection (Bowlby, 1969). There are two attachment styles, secure and insecure, each with anxious and avoidant subtypes, along with the more recently included subtype, insecure disorganized; (Mikulincer & Shaver, 2007; Snyder et al., 2012) secure attachment in particular has been associated with higher levels of dispositional mindfulness (Goodall et al., 2012). The true relationship between parent and adolescent mindfulness/ internalizing symptoms may have been obscured by attachment style, as attachment was not measured for this study. While attachment is not measured or analyzed in this project, future research should consider incorporating an attachment framework to better understand the role of attachment in the potential relationship between adolescent internalizing symptoms and parent dispositional mindfulness.

The second and third hypothesis were that parent dispositional mindfulness would be inversely related to adolescent perceived stress, anxiety symptoms, and depression symptoms, and that parent mindfulness would be related to adolescent perceived stress, anxiety symptoms, and depression symptoms, even when accounting for adolescents' own mindfulness. These results were not borne out in the data; instead, results were that parent dispositional mindfulness was not significantly associated with adolescent perceived stress, anxiety symptoms, or depression symptoms, in either simple correlations or when accounting for adolescent demographic characteristics and adolescents' own mindfulness. These patterns are inconsistent

with prior empirical literature which found that mindful parenting was related to higher levels of dispositional mindfulness (Parent et al., 2016b) and less child internalizing symptoms (Geurtzen et al., 2015), that children's stress levels are related to parent mindfulness even when accounting for children's own mindfulness (Waters, 2016), and that mindfulness training in parents appears related to lower levels of internalizing symptoms in their children (Shorey & Ng, 2021). Taken together, the discrepancy between prior literature and current results indicate that the current sample might not offer enough statistical power to observe associations between adolescent internalizing symptoms and parent mindfulness. It is also possible that mindful parenting could be a more apt framework for exploring the potential relationship between parent dispositional mindfulness and adolescent internalizing symptoms. Mindful parenting – while related to dispositional mindfulness – contextualizes the role of mindfulness in a parent's approach to child-rearing rather than as an individual trait (Parent et al., 2016a). Higher parental dispositional mindfulness has been related to higher (more positive) mindful parenting and lower adolescent internalizing and externalizing problems (Parent et al., 2016b). In addition, prior research has found mindful parenting to be an appropriate framework for examining the relationship between parent and adolescent stress, indicating dispositional mindfulness alone may not be a sufficient framework in this case (Waters, 2016).

This study had several limitations. Firstly, the data analyzed for this thesis represents the culmination of a pilot study and is therefore comprised of a small sample and delivers low analytical power. The population of adolescents at risk for high weight as adults also limits generalizability. One of the main strengths of this study is the family systems approach to examining parent-adolescent connections. This thesis contributes to the literature on the relationship between parents and adolescents, and the connection between dispositional

mindfulness and internalizing symptoms within family systems. Future research should consider examining a larger and more diverse sample in order to afford adequate power to examine dispositional mindfulness as a characteristic of the relationship between parent mindfulness and adolescent internalizing symptoms. Future research should also include a more comprehensive measure of mindfulness, such as the Five Facet Mindfulness Questionnaire (FFMQ), which may increase chances of capturing interpersonal aspects that could contribute to understanding of a relationship between parent and adolescent mindfulness (Carpenter et al, 2019), and measures of attachment as they relate to the parent-adolescent relationship following attachment-based research on the development of mindfulness (Pepping & Duvenage, 2016).

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