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**Parenting as a Mediator of the Link between
Parental Depressive Symptoms and Child Depressive Symptoms**

Undergraduate Honors Thesis

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Abstract

Research indicates that parental depressive symptoms have significant implications for child depressive symptoms. However, little is known about parenting styles as a possible mediator of the link between parental and child depressive symptoms. This study examined the links between parental depressive symptoms, parenting behaviors including autonomy support and psychological control, and child depressive symptoms. Data was collected from 64 8-10 year olds via questionnaires administered at the Family Development Lab at the University of Vermont. High levels of autonomy support were found to predict lower levels of child depressive symptoms, and high levels of psychological control were found to predict higher levels of child depressive symptoms. No significant associations were found between parental depressive symptoms and child depressive symptoms, autonomy support, or psychological control. The results suggest that granting a child autonomy is one way to prevent them from developing depressive symptoms, whereas psychological control may enhance risk for depressive symptoms.

Keywords: parent depression, child depression, autonomy support, psychological control

Parenting as a Mediator of the Link between Parental Depressive Symptoms and Child Depressive Symptoms

According to the World Health Organization, 350 million people struggle with depression worldwide (“Depression,” 2012). Depression is a mental disorder that affects millions of United States adults over their lifetime (England & Sim, 2009). In particular, depression in parents is a prevalent problem in the United States today (Wong, Gonzales, Montaña, Dumka, & Millsap, 2014). It is estimated that at least 15 million children in the United States live in households with parents who have major or severe depression (England et al., 2009). Children of depressed parents are a high-risk group. Parental depression is one of the strongest identified risk factors for youth psychiatric disorders, with studies repeatedly showing higher rates of psychiatric disorders in the children of depressed parents compared with children of nondepressed parents (Mars et al., 2012). Parental depression, and in particular maternal depression, is an especially strong predictor of depression in offspring (for reviews, see Abaied & Rudolph, 2014; Downey & Coyne, 1990). Negative effects of depression have been documented in children at all ages, from infancy through adolescence (Goodman & Gotlib, 1999). Thus, parental depression is an issue that will have a significant impact on the wellbeing of the next generation.

Because depression in parents also affects the quality of their parenting behaviors, one possible mechanism for the transmission of depressive symptoms from parent to child is the quality of parenting that the child receives (England et al., 2009). However, only limited research has tested this mediational process. Thus, the goal of this thesis is to examine the degree to

which parenting, indexed by parent autonomy support and psychological control, explains the association between parent and child depression.

Parental Depressive Symptoms and Child Depressive Symptoms

Parental depressive symptoms have adverse effects on the psychological functioning and development of children from infancy through late adolescence, making children of parents with depressive symptomatology a high risk group (Goodman & Gotlib, 1999; Goodman et al., 2011). This has been researched extensively in terms of the transgenerational transmission of depressive symptoms and disorders from parent to child. Parental depressive symptoms, particularly maternal depressive symptoms, have been linked with depressive symptoms in youth (Goodman, Tully, Connell, Hartman, & Huh, 2011; Kane & Garber, 2004; Rice, Harold & Thapar, 2005) and to general maladaptive child outcomes (Kane & Garber, 2004). In terms of diagnoses of depression, studies have shown that children with parents experiencing depressive symptoms have an increased risk (2 to 3 fold) for depressive disorders (Goodman et al., 2011; Mars et al., 2012; Rice, Harold & Thapar, 2005), and in particular an increased risk of developing major depressive disorder; for example, one study found that 45% of children of depressed parents had a depressive disorder (Beardseele, Versage, & Gidstone, 1998).

The transmission of depressive symptoms from parent to child is very concerning for the future of the child both mentally and physically. The offspring of depressed parents consistently show higher rates of mental health issues, including major depression, phobias, panic disorder, alcohol dependence (Beardseele et al., 1998) and increased chance of suicide (Weissman et al., 2006). Depression in childhood often continues into adulthood (Mars et al., 2012), and the risks for anxiety disorders, major depression, and substance dependence later in life are approximately

three times as high in the offspring of depressed parents as in the offspring of nondepressed parents (Weissman, Wickramaratne, Nomura, Warner, & et al, 2006). Additionally, medical issues are more common in offspring of depressed parents, who report high levels of physical health problems. Offspring of depressed parents exhibit approximately five times more medical illnesses and twice as many neuromuscular disorders when compared with offspring of nondepressed parents. Overall, the mortality rate is higher in offspring of depressed parents based on both mental and physical health issues (Weissman et al., 2006). Lastly, offspring of depressed parents have lower levels of functioning at home, at work, within their interpersonal relationships compared to the offspring from homes with non-depressed parents (Beardseele et al., 1998). Because depressive symptoms in parents predicts negative outcomes in the child later in life both mentally and physically, it is particularly important to understand how and why parents transmit depression to children.

Depressive Symptoms and Parenting Behavior

Less is know about what specific mechanism accounts for the transmission of depressive symptoms from parent to child, but evidence is growing to support the idea that parenting behaviors play a role (Goodman, Tully, Connell, Hartman, & Huh, 2011). According to interpersonal theories of depression, parents' depressive symptoms significantly disrupt their relationships with others due to the depressed individual's mood changes, negative cognitive biases, and excessive reassurance seeking. These characteristics evoke negative responses from others, including their children (Coyne, 1976; for a review, see Abaied & Rudolph, 2014). This change in behaviors of parents with depressive symptoms could be hypothesized to cause a change in parenting behaviors. This impaired parenting may thus serve as a mechanism for the transmission of depressive symptoms from parent to child.

I expect the link between parent and child depressive symptoms to be at least partially explained by the parenting behavior of parents with depressive symptoms. Depression interferes with parenting by impairing parents' ability to guide, support, and nurture children as they develop. Depressed mothers exhibit parenting behavior characterized by a lack of responsiveness, nurturance, and sensitivity toward their children, which is linked to problems such as attachment insecurity, less socioemotional competence, low responsiveness, and slower language and cognitive development in the child (Beardseele et al., 1998; Belle, Longfellow, & Makosky, 1982; Wang & Dix, 2013). Depressed parents also tend to communicate in a negative, critical and hostile manner with their child (Chiariello & Orvaschel, 1995; Steinberg, Lambon, Dornbusch, & Darling, 1992; Turney, 2011). This parenting style can contribute to a variety of childhood difficulties such as behavioral problems, school difficulties, emotional symptoms, social impairments, increased chance of psychiatric disorders (particularly depression) and adjustment problems (Chiariello & Orvaschel, 1995; Jacob & Johnson, 2001; Shivers, 2004). Depressed fathers also have increased negative parenting behaviors and decreased positive parenting behaviors compared to nondepressed fathers (Wilson & Durbin, 2010), and paternal depression is associated with higher levels of father-child conflict (Kane & Garber, 2004). In sum, parental depression is consistently associated with multiple aspects of adverse parenting, and there is a strong association between adverse parenting styles of depressed parents and skills deficits or maladaptive cognitive, affective and behavioral styles in their children. This strongly supports the idea that adverse parenting is a mechanism of transmission of depression from parent to child (Goodman & Gotlib, 1999). However, some key parenting constructs have been relatively overlooked in this area of research.

Psychological Control and Autonomy Support

This thesis focuses on two specific areas of parenting: psychological control and autonomy support. Psychological control is control that is exerted over children's thoughts and feelings. It intrudes upon the child's sense of self and individualization and mainly harms children's emotional functioning. Examples of psychological control include inducing guilt in children, constraining children's self-expression by asserting authority, and withdrawing love from children. In contrast, autonomy support is defined as parents allowing children to make choices on their own and encouraging exchange of opinions. The goal of autonomy support is to foster children's individuality and sense of self-determination (Wang, Pomerantz, & Chen, 2007). Additionally, autonomy-supportive parents find it very important that their offspring, when they reach adolescence, no longer exclusively rely on them for support and advice. Instead, autonomy-supportive parents want their adolescents to become independent of their parents and attain individuality (Vansteenkiste, Zhou, Lens, & Soenens, 2005). It is important to note that autonomy support and psychological control are not opposite ends of a continuum in parenting. Instead, they are viewed as representing two different dimensions with distinct effects on children's development (Wang et al., 2007).

Autonomy support has been shown to correlate with positive outcomes in children. Children who receive autonomy-supportive parenting tend to focus on the needs of others out of a sense of choice, an example of prosocial behavior (Roth, 2008). Parental autonomy support has been positively linked to better academic competence, social achievement, autonomous study motivation, and more adaptive learning strategies (Vansteenkiste, Zhou, Lens, & Soenens, 2005). Additional research also found that children of autonomy-supportive parents tend to have better emotional functioning and regulation, higher intimacy capacity, and general higher well-being (Roth & Assor, 2012; Wang et al., 2007; Vansteenkiste et al., 2005).

In contrast, parents' psychological control is linked to undesirable developmental outcomes. Psychological control is detrimental in that it intrudes upon children's sense of self, which can heighten emotional distress, negative self-views and more. Psychological control is positively correlated with poor emotional functioning and less effective learning strategies (Barber, 1996; Silk, Morris, Kanaya & Steinberg, 2003; Wang et al., 2007). Psychological control has also been linked with heightened delinquent behavior, depression and loneliness, reactive aggression, and decreased mother-child warmth (Holmes, Dunn, Harper, Dyer, & Day, 2013). Parental psychological control involves derogation of the child. High psychological control constrains, invalidates and manipulates children's psychological and emotional experience. As a result, it may be difficult for the child to develop a clear sense of themselves as an autonomous individual.

In sum, studies have shown that autonomy is relevant to children's development. When a child has autonomy-supportive parents, the need for autonomy is fulfilled and the children thrive academically and emotionally. However, when parents use psychological control and the need for autonomy is violated, children suffer developmentally. Thus, I expect that psychological control will predict higher levels of depressive symptoms in children, whereas autonomy support will predict lower levels of depressive symptoms in children.

Mediation Model

Despite the theoretical relevance of parenting as a mediator of the intergenerational transmission of depressive symptoms, very little research has explicitly tested this process. One study found that parental nurturance (i.e., the care and encouragement of child growth and development) mediated the effects of parental depressive symptoms on child's externalizing problems and prosocial behavior (Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007).

Another study found that negative parenting mediated the effects of parent internalizing problems on child affective problems in substance-abusing families (Burstein, Stanger, Kamon, & Dumenci, 2006). Additionally, studies have looked at parenting as mediators in family interventions. For example, positive parenting and levels of mothers' harsh parenting were found to mediate the effects of the intervention on children's depressive symptoms (Compas et al., 2010) and parents' depressive symptoms (Wong et al., 2014). These examples provide some evidence that parenting could be a mediator of the association between parental depressive symptoms and adverse outcomes in children. However, previous research has not explored the mediating role of autonomy support and psychological control.

I hypothesize that the link between parental depressive symptoms and child depressive symptoms will be mediated by psychological control and autonomy support. Specifically, I expect that parental depressive symptoms will predict lower autonomy support, which will in turn predict higher depressive symptoms in the child. In addition, I expect parental depression will predict high psychological control, which will in turn predict higher depressive symptoms in the child.

Method

Participants

This project uses data from the Parents and Peer Project at the University of Vermont, overseen by Dr. Jamie Abaied. Sixty-five families were recruited in Chittenden County, Vermont and surrounding areas by way of flyers or letters home to parents at local schools. The participants were children ages 8 to 10 (55.4% girls, 44.6% boys, M age=9.5, SD =0.8) and one of their parents. The child and one parent visited the University of Vermont campus for an on-site laboratory visit. Of the 65 children participants, 95% were Caucasian, 1.7% were Asian, 1.7%

were Pacific Islanders, and 1.7% were “other.” Eighty percent of participants’ parents were married, 8.3% were single (never married), 5% were divorced (single), 3.3% were separated, and 3.3% reported their relationship status as “other.”

Procedure

The Parents and Peers Project took place in the Family Development Lab in Dewey Hall of the University of Vermont. The participants came in for 2.5 hours and participated in various tasks not examined in the current study. Additionally, the child and parent both filled out questionnaires. The parent filled out questionnaires in a private room. At the same time, a research assistant read the questionnaires aloud to the child to make sure he/she understood each item. These questionnaires are the source of data in this thesis. The parent received monetary compensation and the child received a prize.

Measures

Descriptive statistics for the measures appear in Table 1.

Mood and Anxiety Symptoms Questionnaire Form (MASQ-SF). The Mood and Anxiety Symptoms Questionnaire Short Form (Watson & Clark, 1991; Watson, Weber, Assenheimer, Clark, Strauss, & McCormick, 1995) was used as a measurement of parent depressive symptoms. The questions represent symptoms of depression based on the *Diagnostic and Statistic Manual for Mental Disorders*. Participants are asked to rate how much they have experienced each of 21 symptoms during the past two weeks on a 5-point scale from not at all feeling this way (1) to extremely feeling this way (5). Example statements include "I felt really slowed down," "I felt like there wasn't anything interesting or fun to do," "I felt hopeful for the future," and "I looked forward to things with enjoyment." Scores were calculated as a mean of the items, with higher scores reflecting higher levels of depressive symptoms. Positively

valenced items were reverse-scored. The reliability and validity of this measure is well supported (Buckby, Yung, Cosgrave, & Cotton, 2007; Keogh & Reidy, 2000). Internal reliability was high ($\alpha = .93$). The items in the questionnaire appear in Appendix A.

Short Mood and Feelings Questionnaire (SMFQ). The Short Mood and Feelings Questionnaire (Angold et al., 1995) was used as a measurement of child depressive symptoms. The questions represent symptoms of depression based on the *Diagnostic and Statistic Manual for Mental Disorders*. Participants are asked to rate how much they have experienced each of 13 symptoms during the past two weeks on a 4-point scale from not at all feeling this way (1) to very much feeling this way (4). Example statements include "I felt unhappy or miserable," "I found it hard to think properly or concentrate," and "I thought nobody really loved me." Scores were calculated as a mean of the items, with higher scores reflecting higher levels of depressive symptoms in the child. The items in the questionnaire appear in Appendix B. The internal reliability for the SMFQ was high ($\alpha = .89$)

Autonomy Support. The Autonomy Support Questionnaire (Wang et al., 2007) assesses children's perceptions of the degree to which their parents support their autonomy. Children answer 12 questions about how much their parents exhibit each behavior on a 5-point scale from "almost never or never" (1) to "almost always or always" (5). Example statements include "My parents allow me to make choices whenever possible," "My parents do not get angry at me when we disagree on something," and "My parents trust me to do what they expect without checking up on me." Scores were calculated as a mean of the items, with higher scores reflecting higher levels of autonomy support behaviors. Internal consistency was very high ($\alpha = .87$). The items in the questionnaire appear in Appendix C.

Psychological Control. The Psychological Control Questionnaire (Wang et al., 2007) assesses children's perceptions of their parents' efforts to exert psychological control. This includes love withdrawal, guilt induction and assertion of authority. Children answer 18 questions about how much their parents do each behavior on a 5-point scale from "almost never or never" (1) to "almost always or always" (5). Example statements include "My parents tell me about all the things they have done for me," "My parents are less friendly with me if I do not see things their way," and "My parents avoid looking at me when I have disappointed them." Scores were calculated as a mean of the items, with higher scores reflecting higher levels of psychological control behaviors. Internal consistency was very high ($\alpha = .90$). The items in the questionnaire appear in Appendix D.

Results

Correlations

Descriptive statistics and intercorrelations among the study variables appear in Table 1. Two correlations were significant. There was a significant positive correlation between psychological control and child depressive symptoms, suggesting that higher psychological control was correlated with higher child depressive symptoms. There was also a significant negative correlation between autonomy support and child depressive symptoms, suggesting that higher autonomy support was associated with lower child depressive symptoms. All other intercorrelations were not significant.

Regressions

Hierarchical multiple regression analyses were conducted to examine parenting variables as mediators of the link between parent and child depressive symptoms. Three separate mediation models were run using PROCESS for SPSS (Hayes, 2013). The larger mediation

model including both parenting styles was run first (Figure 2)..This model allowed me to examine psychological control and autonomy support as joint mediators of the link between parent and child depressive symptoms. It should be noted that the model includes a directional path between psychological control and autonomy support; this is necessary in order to compute an indirect effect that includes two mediators (Hayes, 2003). However, psychological control was arbitrarily entered first; because the two parenting styles were measured at the same time point, I have no specific hypotheses regarding the direction of effect between them.

Single mediator models were also run for each parenting style (psychological control and autonomy support) to examine whether the mediational processes differed when parenting styles were entered together vs. separately.

The larger mediation model is depicted in Figure 1, and the results are reported in Table 2. The total (effect= 0.05, SE = 0.08, $p = 0.52$) and direct (effect = 0.04, SE = 0.08, $p = 0.61$) effects of parent depressive symptoms on child depressive symptoms were not significant. The overall indirect effects were also not significant ([parent depressive symptoms \rightarrow psychological control \rightarrow child depressive symptoms, effect = -0.01, boot SE = 0.02, bootLLCI = -0.08, bootULCI = 0.02]), [parent depressive symptoms \rightarrow psychological control \rightarrow autonomy support \rightarrow child depressive symptoms, effect = -0.004, boot SE = 0.01, bootLLCI = -0.03, bootULCI = 0.01], [parent depressive symptoms \rightarrow autonomy support \rightarrow child depressive symptoms, effect = 0.03, boot SE = 0.03, boot LLCI = -0.005, boot ULCI = 0.11]). Autonomy support significantly predicted less psychological control and fewer depressive symptoms in the child. Lastly, psychological control marginally significantly predicted more depressive symptoms in the child. No significant relationship was found between parent depressive symptoms and child depressive symptoms, or between parent depressive symptoms and either parenting behavior.

The single mediator model was first run with psychological control as the mediating variable; the results are reported in Table 3. The total (effect = 0.05, SE = 0.08, $p = 0.52$), direct (effect = 0.07, SE = 0.08, $p = 0.38$) and indirect effects (effect = -0.02, boot SE = 0.03, bootLLCI = -0.10, bootULCI = 0.02) of parent depression on child depression were not significant. High psychological control marginally significantly predicted more depressive symptoms in the child.

The single mediator model was then run with autonomy support as the mediating variable. The results are reported in Table 4. The total (effect = 0.05, SE = 0.08, $p = 0.52$), direct (effect = 0.02, SE = 0.08, $p = 0.78$) and indirect effects (effect = 0.03, boot SE = 0.03, bootLLCI = -0.01, bootULCI = 0.12) of parent depression on child depression were not significant. Autonomy support significantly predicted fewer depressive symptoms in the child.

Discussion

This study examined the link between parent and child depressive symptoms, and whether parenting styles mediated this association. In agreement with my hypotheses, low levels of autonomy support and high levels of psychological control predicted higher levels of child depressive symptoms. However, in contrast to my hypotheses, parent depressive symptoms were not associated with parenting behavior or with child depressive symptoms, and parenting did not mediate the association between parent and child depressive symptoms.

One key finding of the study is that lower levels of autonomy support predicted more child depressive symptoms. There are several ways in which a lack of autonomy support behaviors from parents could foster depressive symptoms in children. Autonomy-supportive parenting involves fostering a child's sense of individuality and self determination instead of insisting how something should be done (Wang et al., 2007). Thus, giving autonomy support encourages a child to make their own choices and express their ideas. These types of experiences

likely provide the child with space to think through their ideas and participate in discussions with parents. In this way, autonomy-supportive parents convey confidence in their child through showing respect and understanding of their ideas, even if they are different from the parent's ideas. According to self-determination theory, autonomy is a basic psychological need, and contributes to more positive ideas of self-worth (Ryan and Deci, 2000). If the child strongly possesses self-respect and confidence, he/she may be less likely to turn to the self-loathing tendencies and dependence on others for self-esteem that accompany depressive symptoms. Furthermore, autonomy support may help children feel that they have some control over their environment, which is known to prevent depressive symptoms (Benassi, Sweeney, & Dufour, 1988; Cheng, Cheung, Chio & Chan, 2013; Powell, Denton, & Mattsson, 1995).

In contrast, higher levels of psychological control marginally predicted more child depressive symptoms. Psychologically controlling parenting involves discouraging the expression of opinions parents don't agree with and manipulating children's emotions. Psychologically controlling parents often assert their authority, threaten love withdrawal, and induce guilt. Parents convey that they do not trust their child to make their own decisions and they do not respect their decisions (Wang et al., 2007). This may cause the child to reject their own ideas in an effort to please their parents, causing them to lack confidence in their own ideas. This could leave the child feeling uncertain of the stability of their surroundings and worried about potential negative reactions from their parent. Psychological control also teaches children that their parent's love is conditional and that they do not always deserve their parent's love. This may leave the child feeling alienated, unworthy of love, or critical of themselves. This is likely to lead to issues with self-confidence and self-esteem, which are symptoms of depression.

Parental depressive symptoms were not significantly associated with child depressive symptoms. In this study, children's perceptions of parenting styles appeared to be more important in predicting child depressive symptoms than parent depressive symptoms. It should be noted that children reported on both parenting and their own depressive symptoms, which might have inflated these associations. In addition, parents might be currently in treatment and therefore have an understanding of their depressive symptoms. As a result, they may have actively attempted to avoid adversely affecting their children. This sample had relatively low levels of depressive symptoms in both parents and children; it is possible that I would have found a significant link between parent and child depressive symptoms in a sample that included some participants with more severe and debilitating depression. Additionally, child depressive symptoms could have emerged later (after prolonged exposure to parent depressive symptoms) and, as this is not a longitudinal study, this effect was not observed.

Parental depressive symptoms was not significantly associated with levels of autonomy support or psychological control. Parent depressive symptoms are known to affect aspects of parenting other than autonomy support and psychological control, such as warmth, responsiveness, sensitivity, and nurturance toward the child (Beardseele et al., 1998; Belle, Longfellow, & Makosky, 1982; Wang & Dix, 2013). Parents might also work hard to not let their depressive symptoms negatively effect their parenting, or they may simply be uninvolved in parenting and let others caregivers take over. Additionally, it is important to note that the children in the study reported on their perceptions of parenting, and it is possible that the children did not notice certain parenting techniques. For example, a parent could be subtly or inconsistently encouraging autonomy, but the child may not have made note of this pattern. Lastly, parent depressive symptoms may not have been severe enough to impair parenting.

The results of this study have clear implications for parenting. This study supported and expanded upon previous research by showing the positive effects of high levels of autonomy support and the negative effects of high levels of psychological control on a child's wellbeing and development (Barber, 1996; Goodman & Gotlib, 1999; Holmes, Dunn, Harper, Dyer, & Day, 2013; Roth, 2008; Roth & Assor, 2012; Silk, Morris, Kanaya & Steinberg, 2003; Vansteenkiste et al., 2005; Wang et al., 2007). This body of research suggests that parents should avoid criticizing the child's opinions, inducing guilt, bringing up past mistakes, withdrawing love if the child disagrees, and preventing the child to make his or her own decisions. Instead, parents should put a great emphasis on supporting and cultivating their child's sense of independence through listening and understanding the child's various points of view even if they differ from the parent's views, allowing the child to make their own decisions, and showing trust in the child.

There are some limitations of this study that could be addressed in future research. First, this study used cross-sectional data to study the link between parent and child depressive symptoms. This type of data collection cannot be used to draw conclusions about the direction of effects between parental and child depressive symptoms. It would be very beneficial in future studies to collect data longitudinally in order to look at the consequences of parent depressive symptoms over time. Studies could look at parent depressive symptoms in middle childhood, parenting in early adolescence, and child depressive symptoms late adolescence, for example, to look at the relationship between parent depressive symptoms, parenting styles, and child depressive symptoms over time.

Additionally, this study was limited in sample size and ethnic and socioeconomic diversity. This study predominately included white children from well-educated, upper-middle class households. Though the child sex was very equally split, the large majority of parents

included in the study were female. Given the homogenous nature of the sample, the findings are not generalizable to all populations. Future research would benefit from a larger and more representative sample.

Lastly, this study relied on self-report questionnaire measures for assessments of depressive symptoms and child report questionnaire measures for parenting. Participants may interpret or respond to questions in biased ways or answer dishonestly. Participants could also lack the introspective or perceptive ability to accurately respond to questions about depressive symptoms or parenting. Interviews or clinical assessments could be used instead of self-reports in future studies. In addition, observations of parent-child interactions could be used to measure parenting styles.

Overall, this study found that higher levels of autonomy support were positively associated with lower levels of depressive symptoms and higher levels of psychological control were negatively associated with higher levels of depressive symptoms. No significant associations were found between parent depressive symptoms and autonomy support, psychological control or child depressive symptoms. This study adds to the body of research exploring the link between parent and child depressive symptoms, and future research would benefit by further exploring the role that parenting plays in this relationship.

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Table 1

Descriptive Statistics and Correlations of Variables

	Parent Depressive Symptoms	Psychological Control	Autonomy Support	Child Depressive Symptoms	Mean	Standard Deviation	Min	Max
Parental Depressive Symptoms		-0.08	-0.13	0.09	2.2	0.6	1.1	4.1
Psychological Control			-0.25	0.30*	1.8	0.6	1.0	3.4
Autonomy Support				-0.38**	3.3	0.7	1.4	4.8
Child Depressive Symptoms					1.3	0.4	1.0	2.6

Note. * significant at the 0.05 level (2-tailed). ** = significant at the 0.01 level (2-tailed).

Table 2

Larger Mediation Model

Child Depressive Symptoms									
	M₁ (Psychological Control)			M₂ (Autonomy Support)			Y (Child Depression)		
Predictors	b	SE	<i>p</i>	b	SE	<i>p</i>	b	SE	<i>p</i>
X (Parent Depression)	-0.08	0.13	0.52	-0.20	0.16	0.22	0.04	0.07	0.61
M₁ (Psychological Control)	-	-	-	-0.34	0.16	0.04	0.13	0.07	0.08
M₂ (Autonomy Support)	-	-	-	-	-	-	-0.15	0.06	0.02
	$R^2 = 0.01$			$R^2 = 0.09$			$R^2 = 0.19$		
	F(1,59) = 0.41, <i>p</i> = 0.52			F(2,58) = 2.81, <i>p</i> = 0.07			F(3,57) = 4.42, <i>p</i> = 0.01		

Table 3

Single Mediator Model with Psychological Control

	Child Depressive Symptoms					
	M (Psychological Control)			Y (Child Depression)		
Predictors	b	SE	p	b	SE	p
X (Parent Depression)	-0.08	0.13	0.52	0.07	0.08	0.38
M (Psychological Control)	-	-	-	0.18	0.07	0.02
Constant	2.0	0.3	<0.001	0.82	0.23	<0.001
	$R^2 = 0.01$			$R^2 = 0.10$		
	$F(1,59) = 0.41, p = 0.52$			$F(2,58) = 3.20, p = 0.05$		

Table 4

Single Mediator Model with Autonomy Support

	Child Depressive Symptoms					
	M (Autonomy Support)			Y (Child Depression)		
Predictors	b	SE	p	b	SE	p
X (Parent Depression)	-0.17	0.17	0.31	0.02	0.08	0.78
M (Autonomy Support)	-	-	-	-0.18	0.06	<.01
Constant	3.68	0.39	<0.001	1.84	0.27	<0.001
	$R^2 = 0.02$			$R^2 = 0.14$		
	$F(1,59) = 1.07, p = 0.31$			$F(2, 58) = 4.87, p = 0.01$		

Figure 1. Hypothesized Mediation Model

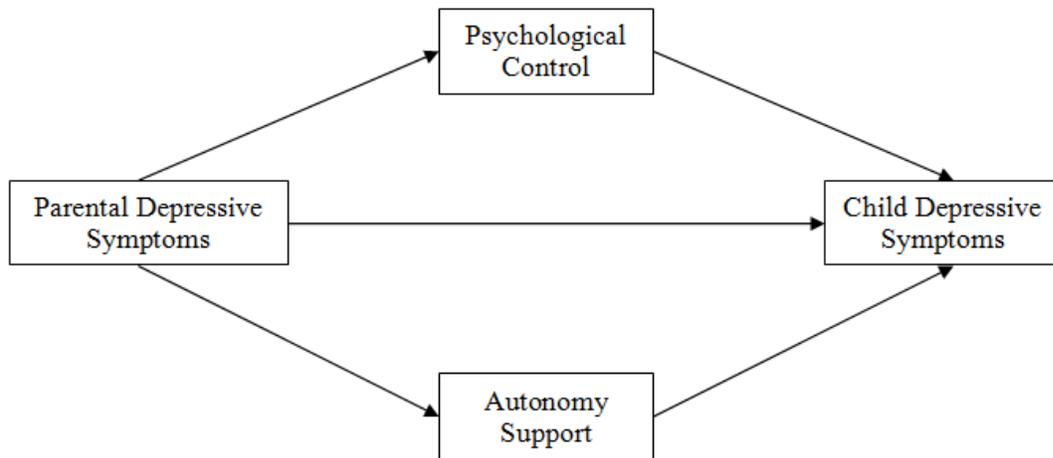
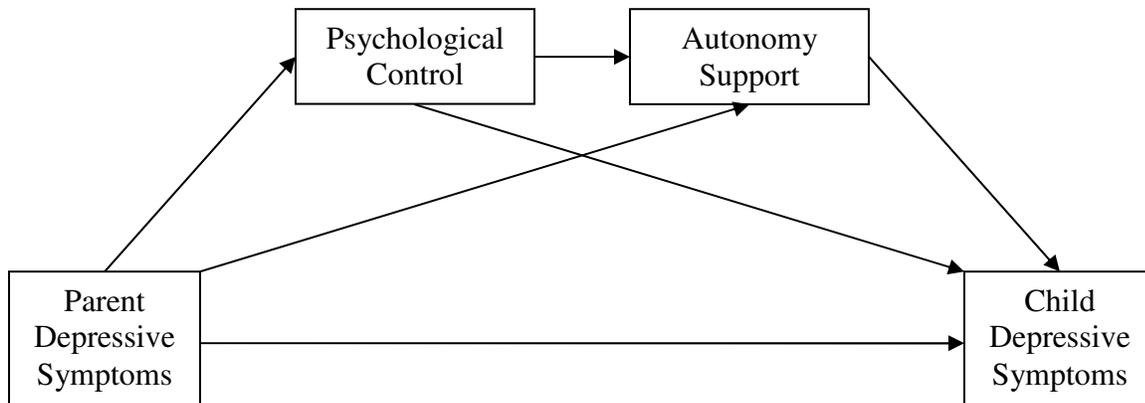


Figure 2. Larger Mediation Model



Appendix A

Mood and Anxiety Symptoms Questionnaire

Below is a list of feelings that people sometimes have. Circle the choice that best describes how much you have felt this way during the past two weeks:

1. Felt cheerful.
2. Felt optimistic.
3. Felt really happy.
4. Was proud of myself.
5. Felt unattractive.
6. Felt like I was having a lot of fun.
7. Felt withdrawn from other people.
8. Felt like I had a lot of energy.
9. Felt really slowed down.
10. Felt really "up" or lively.
11. Felt really bored.
12. Looked forward to things with enjoyment.
13. Felt like I had a lot of interesting things to do.
14. Felt like I had accomplished a lot
15. Felt like it took extra effort to get started.
16. Felt like nothing was very enjoyable.
17. Felt like I had a lot to look forward to.
18. Felt hopeful about the future.
19. Felt like there wasn't anything interesting or fun to do.
20. Seemed to move quickly and easily.
21. Felt really good about myself.

Appendix B

Short Mood and Feelings Questionnaire (SMFQ)

In the past two weeks...

1. I felt unhappy or miserable.
2. I didn't enjoy anything at all.
3. I felt so tired I just sat around and did nothing.
4. I was very restless.
5. I felt I was no good anymore.
6. I cried a lot.
7. I found it hard to think properly or concentrate.
8. I hated myself.
9. I felt I was a bad person.
10. I felt lonely.
11. I thought nobody really loved me.
12. I thought I could never be as good as other kids.
13. I felt I did everything wrong.

Appendix C

Autonomy Support Questionnaire

1. My parents allow me to make choices whenever possible.
2. My parents listen to my opinion or perspective when I've got a problem.
3. My parents do not insist that I do things their way.
4. My parents allow me to decide things for myself.
5. My parents are usually willing to consider things from my point of view.
6. My parents allow me to make my own choices for things I want to do in my life.
7. My parents explain why they want me to do something.
8. My parents do not get angry at me even when we disagree on something.
9. My parents let me make my own plans for things I want to do.
10. My parents encourage me to give my idea and opinions when it comes to decisions about me.
11. My parents trust me to do what they expect without checking up on me.
12. My parents do not insist that I ask permission for everything that I do.

Appendix D

Psychological Control Questionnaire

1. My parents tell me about all the things they have done for me.
2. My parents say, if I really cared for them, I would not do things that cause them to worry.
3. My parents tell me how disappointed they are in me when I do not do things their way.
4. My parents are less friendly with me, if I do not see things their way.
5. My parents will not let me do things with them if I do something they do not like.
6. My parents bring up my past mistakes when they criticize me.
7. My parents tell me of all the sacrifices they have made for me.
8. My parents tell me that I should feel guilty when I do not meet their expectations.
9. My parents tell me that I am not a good member of the family when I do something that is against their wishes.
10. My parents avoid looking at me when I have disappointed them.
11. My parents tell me that I should feel ashamed when I do not behave as they wish.
12. My parents act cold and unfriendly if I do something they do not like.
13. If I have hurt their feelings, my parents stop talking to me until I please them again.
14. My parents say, if I really loved them, I would do my best for the sake of the family.
15. My parents tell me that I am not as good as other kids my age when I fall short of their expectations.
16. My parents tell me that what they want me to do is the best for me and I should not question it.
17. My parents say, when I grow up, I will appreciate all the decisions they make for me.
18. My parents answer my arguments by saying things like, “You’ll know better when you’re older”.