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Pathways From Maternal and Paternal Depressive Symptoms to Youth Symptomatology: Explanatory Mechanisms and Contextual Influences From Adolescence to Young Adulthood

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ABSTRACT OF THE DISSERTATION

Pathways From Maternal and Paternal Depressive Symptoms to Youth Symptomatology: Explanatory Mechanisms and Contextual Influences From Adolescence to Young Adulthood

by

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A robust body of literature has documented positive associations between parents' psychopathology and children's adjustment difficulties. However, prior studies have focused on mothers' psychopathology, using cross-sectional designs, with predominantly clinical and European American samples of young children. The current investigation addressed these gaps in the literature by evaluating concurrent and prospective associations of mothers' and fathers' depressive symptoms with youths' internalizing and externalizing symptomatology from early adolescence to young adulthood in a community sample of European American and Mexican American families.

Drawing on five waves of longitudinal data from 392 families (52% female; M_{age_W1} = 12.89, *SD* = .48; M_{age_W5} = 21.95, *SD* = .77; 199 European American and 193 Mexican American families; 217 intact and 175 stepfather families), the first aim of this study was to document the unique contributions of both mothers' and fathers' depressive symptoms to youths' symptomatology, as well as the transactional effects of youths'

symptomatology on mothers' and fathers' depressive symptoms, from ages 12 to 22. The second aim of this study was to evaluate the explanatory role of theoretically-specified mediating mechanisms underlying these effects (i.e., co-parent's depressive symptoms, parental acceptance, parental rejection, and perceived mattering to each parent). In both set of analyses, the obtained relations were tested across groups defined by family ethnicity (i.e., European American and Mexican American), family structure (i.e., intact and stepfather families), and youth gender.

After employing a novel technique to harmonize the data across waves, a series of trait and time-varying cross-lagged models evaluated between- and within-person differences in mothers' and fathers' depressive symptoms, youths' symptomatology, and transactional relations among these three reporters across time. Overall, the findings suggested that both mothers' and fathers' between- and within-person differences in depressive symptoms were associated with youths' internalizing and externalizing symptoms. However, whereas each parent's depressive symptoms uniquely contributed to youths' internalizing symptoms, only mothers' depressive symptoms influenced youths' externalizing symptoms. Although reciprocal effects of youths' internalizing symptoms on parents' depressive symptoms were not significant, youths' externalizing symptoms predicted changes in mothers' depressive symptoms over time. Moderation analyses revealed distinct transactional patterns by family ethnicity and child gender, but not by family structure.

A series of mediation analyses revealed that, although parents' rejecting behavior and youths' perceptions of mattering to each parent were related to youths'

symptomatology, there were only two significant indirect effects, both of which accounted for the influence of fathers' depressive symptoms on youths' symptomatology. Specifically, fathers' depressive symptoms contributed to higher rates of youths' internalizing and externalizing symptoms via higher levels of mothers' depressive symptoms and lower levels of fathers' acceptance of the child, respectively. Moderation analyses revealed that the indirect effect from fathers' depressive symptoms to youths' internalizing symptoms via mothers' depressive symptoms was significant among European American families, but not among Mexican American families. Together, these analyses revealed dynamic transactions among family members' symptomatology that point to opportune times and targets for intervention and prevention efforts aimed at mitigating the negative impact of parents' depressive symptoms on youths' adjustment.

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CHAPTER 1: INTRODUCTION AND THEORETICAL FRAMEWORK

Despite some arguments to the contrary (e.g., Harris, 1995), developmental theory and research have long converged in support of the assertion that parents are among the most important influences on a child's development (Bretherton & Munholland, 1999; Sroufe, Egeland, & Carlson, 1999). Studies of parental psychopathology and its effects on child development is a primary area of research that has documented the influence of parents on child development. Much of the literature on parental psychopathology effects has focused on depressive symptoms (see Connell & Goodman, 2002 for review). However, relative to the wealth of literature examining the effects of maternal depression on child development (Corona, Lefkowitz, Sigman, & Romo, 2005; Feldman, 2007; Hammen, Brennan, & Keenan-Miller, 2008; Natsuaki et al., 2014), there is a dearth of knowledge about paternal depression effects (Cummings, Keller, & Davies, 2005; Kane & Garber, 2004; Reeb et al., 2015; Schacht, Cummings, & Davies, 2009). Likewise, there is a developmental imbalance in the extant literature on paternal depression effects with most studies focused on infants and young children (Cummings et al., 2005; Kane & Garber, 2004; Low & Stocker, 2005; Schacht et al., 2009), rather than on adolescents (Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Reeb, Conger, & Wu, 2010) or young adults (Hammen et al., 2008; Reeb et al., 2015; Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003; Rohde, Lewinsohn, Klein, & Seeley, 2005). This developmental imbalance compounds the already limited understanding of paternal depression effects because paternal influences become more salient over time as physical

dependence on the mother wanes and paternal involvement in parenting increases (Connell & Goodman, 2002).

Importantly, across parents and time periods, most empirical evidence linking parental depression to development derives from cross-sectional designs as implemented in largely clinical and predominantly European American samples. The first aim of the current investigation was to address these gaps in the literature by evaluating concurrent and prospective relations between both mothers' and fathers' depressive symptoms on youths' symptomatology from adolescence to young adulthood in a community sample of European American and Mexican American families. In general, in studies of parental psychopathology, and of parental depression effects in particular, researchers have not yet documented when and for whom hypothesized relations between parent and child symptomatology will be greatest. Therefore, this study evaluated whether the effects of mothers' and fathers' depressive symptoms on youth symptomatology differ by family ethnicity, family structure, and child gender.

Although a sizable body of literature has documented direct links between parental psychopathology and child adjustment, far fewer studies have evaluated underlying mechanisms that could explain the association between these variables. Thus, the second aim of this investigation was to evaluate specific mechanisms through which mothers' *and* fathers' depressive symptomatology may influence youths' adjustment from early adolescence to young adulthood. Further, this study evaluated theoretically-specified mediating mechanisms across groups identified based on family ethnicity, family structure, and child gender to determine if these contextual processes may

heighten or dampen the direct and indirect effects of observed mothers' and fathers' depressive symptoms on youth development.

Parental Depression in the Family System

A variety of theoretical models can help to explain the predicted link between parental depression and youth development. Family systems theory is foremost among these models, in part because it is an integrative paradigm that draws on key tenets of multiple theoretical perspectives, such as dynamic systems theory (Thelen & Smith, 2007), organizational theory (Cicchetti & Schneider-Rosen, 1986; Sroufe, 1990), and bioecological theory (Bronfenbrenner & Morris, 2007). Family systems theory conceptualizes the family as a dynamic system that is characterized by wholeness (i.e., interdependence or interrelatedness between family members are more informative than isolated elements/individuals in the system) and order (i.e., the system favors and predictably reverts back toward homeostasis in the wake of disturbance; Cox & Paley, 1997, 2003). In this view, every individual is embedded within a larger family system wherein s/he is both influenced by, and reciprocally influential of other members in the hierarchical family structure (Cox & Paley, 1997, 2003). Given the nested structure of the family, no single member of the family system can be fully understood without considering her/his relationships with other family members, as well as broader subsystems of familial functioning (e.g., parent-child, parent-parent, sibling-sibling; Feldman, 2007). Thus, family systems theory holds that any model of parental depression effects on development in and beyond childhood must attend to relational and structural processes within the broader family system.

Just as family systems theory integrates elements across multiple developmental theories, contemporary models of family process have drawn on the tenets of family systems theory to inform specific hypotheses about parental depression effects on youth development. For example, emotional security theory posits that the association between parental depression and child adjustment is a natural outgrowth of ineffective parenting practices that follow from depressive symptomatology and engender emotional insecurity in children (Cummings, Cheung, Koss, & Davies, 2014; Schacht et al., 2009). In turn, children's emotional insecurity may be expressed in heightened internalizing or externalizing symptomatology.

The contributions of emotional security theory notwithstanding, this investigation drew on the principles of family systems theory to understand whether, how, when, and for whom maternal and paternal depressive symptoms influence youths' symptomatology across adolescence and adulthood. Guided by the relational emphasis of family systems theory, mediation analyses evaluated the explanatory roles of the a) co-parent's depressive symptoms, b) child reports of their mother's and father's acceptance and rejection of them, and c) the child's subjective sense of mattering to their mother and father on the predicted relation between parental depressive symptoms and youths' symptomatology. Moreover, this study examined the relative influence of early versus later parental symptom exposure, as well as the moderating effects of family ethnicity (i.e., European American versus Mexican American, family structure (i.e., intact versus stepfather family), and youth gender on direct and indirect pathways from parents' depressive symptoms to youths' symptomatology.

Parental Depression and Youth Development

Research on parental depression has documented both short- and long-term effects on child development. For example, in a rare longitudinal study, Cummings and colleagues (2014) followed a sample of 235 kindergarteners through adolescence and found that both baseline levels of parental depressive symptoms and their change over time were associated with higher rates of emotional and behavioral problems in early childhood, as well as in adolescence. Similarly, in a shorter longitudinal study of children from ages 10 to 15, Elgar and colleagues (2007) found that both the initial level and change in mothers' and fathers' depressive symptoms (as composited to yield a global index of parental depression) across two time-points predicted more internalizing and externalizing symptoms and fewer prosocial behaviors in early adolescence. Given these and other studies (e.g., Cummings et al., 2005; Goeke-Morey & Cummings, 2007; Reeb et al., 2015), the current investigation sought to extend prior findings drawn (primarily) from early childhood and adolescence to examine the contribution of mothers' and fathers' depressive symptoms to youths' internalizing and externalizing symptomatology from adolescence to young adulthood.

Maternal Depression Effects. Research documenting the effects of maternal depression on youth adjustment is far better developed than the literature examining the effects of paternal depression on children's functioning. However, gaps in the literature remain with most of the research on maternal depression effects centered on young children (For exceptions, see Hammen et al., 2008; Reeb & Conger, 2009), using cross-sectional designs (For exceptions, see Cummings et al., 2014; Elgar et al., 2007; Hammen

et al., 2008; Reeb et al., 2010; Rohde et al., 2005) in predominantly European American samples (For exceptions, see Corona et al., 2005; Huang, Costeines, Kaufman, & Ayala, 2014; Valdez, Shewakramani, Goldberg, & Padilla, 2013). Notwithstanding these limitations, maternal depressive symptomatology has been associated with a range of child adjustment outcomes, including elevated rates of internalizing and externalizing symptoms (Elgar et al., 2007; Goeke-Morey & Cummings, 2007), decreased academic achievement (Murray et al., 2010), and poor social competence (Cummings et al., 2005). Although less common, studies with older samples have yielded similar patterns (Hammen et al., 2008; Rohde et al., 2005). For example, a longitudinal study by Hammen and colleagues (2008) found that maternal depression assessed when children were 15-years-old was associated with poorer interpersonal functioning and a higher probability of youth experiencing a major depressive episode between ages 15 and 20.

Paternal Depression Effects. Fathers serve distinct and important roles in the lives of their children (Coltrane, 1997; Parke, 1996). However, research on the effects of fathers' mental health and behaviors on child adjustment is sparse in comparison to research on mothers (Cassano, Adrian, Veits, & Zeman, 2006; Connell & Goodman, 2002; Phares & Compas, 1992). This gap is both striking and ongoing in the literature on parental depression effects (Natsuaki et al., 2014). Indeed, in a 1992 meta-analysis of 577 studies that examined the effects of parental depression on child adjustment, Phares and Compas found that only 1% of the studies focused on fathers, 26% included mothers and fathers analyzed separately, 25% of the studies combined symptom data across mothers

and fathers, and the remaining 48% of the studies focused exclusively on the effects of maternal depression.

Importantly, studies of either maternal or paternal depression rarely consider the implications of the co-parent's symptomatology, thereby limiting conclusions about the individual contributions of each parent's depressive symptoms to child development. Interestingly, of the few studies to examine paternal depression effects, two stand out for their concurrent consideration of maternal symptomatology effects on youth adjustment. In studies with early adolescents, Reeb and Conger (2009; Reeb et al., 2010) found that fathers' depressive symptoms were associated with youth adjustment even after controlling for mothers' depressive symptoms.

Increased consideration of paternal depression effects is supported by recent research (e.g., Reeb & Conger, 2009; Reeb et al., 2010) and shifting social ecologies, such as mothers' increased activity in the workforce, the increased cultural diversity of the US population, the rise of single parent families, and the increased involvement of fathers in their children's lives at various stages of development (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). The ongoing dearth of literature on paternal depression effects is fueled by inaccurate assumptions that fathers are unwilling research participants, who are unlikely to suffer from depressive symptoms relative to women, and often have limited contact with their children (particularly in the wake of divorce, Phares & Compas, 1992). In contrast to these misguided beliefs, research indicates that fathers are equally interested in participating in research as are mothers (Cassano et al., 2006; Phares & Compas, 1992), evidence similar rates of depression

during the child rearing years as their female counterparts (Wilson & Durbin, 2010), and serve as active caregivers to their children in both intact and separated/divorced families (Cabrera et al., 2000; Hofferth, 2006).

Albeit limited, available research on paternal depression suggests that fathers' experiences are just as relevant for understanding child adjustment as are those of mothers (Connell & Goodman, 2002; Cummings et al., 2014; Cummings et al., 2005; Goeke-Morey & Cummings, 2007; Kane & Garber, 2004; Reeb & Conger, 2009; Reeb et al., 2010), especially for externalizing problems. Although there have been mixed findings regarding the link between paternal depression and children's internalizing symptoms, such as depression and anxiety (Connell & Goodman, 2002; Phares & Compas, 1992), research has consistently shown that paternal depressive symptoms are strongly related with children's externalizing problems, such as ADHD, antisocial behavior, conduct disorder, and delinquency (Connell & Goodman, 2002; Kane & Garber, 2004; Low & Stocker, 2005; Phares & Compas, 1992). Moreover, evidence suggests that the association between fathers' depressive symptoms and child adjustment continues over time (Schacht et al., 2009). Indeed, research has shown that the salience of paternal psychopathology effects on child adjustment increases as children get older and fathers become more influential socializing agents (Connell & Goodman, 2002; Lewis & Lamb, 2003). Thus, this investigation sought to address the need for research on paternal depression effects on development, particularly in adolescence and young adulthood. Moreover, these analyses also examined and controlled for maternal depression effects to

elucidate the specific influence of fathers' depressive symptoms on youth symptomatology.

Comparing Maternal and Paternal Depression Effects. Epidemiological data indicate that depression is clinically and practically significant among women, who have estimated rates in the population of 6-17% (Kessler, 2003), and men, who have estimated rates that are lower, but substantial, at 3-6% (Ramchandani & Psychogiou, 2009). One of the most noteworthy debates in the literature on parental depression effects centers on whether maternal depression is more or less impactful on children's adjustment as compared to paternal depression. Studies examining separate models of mothers and fathers indicate that the magnitude of the effect between maternal depression and youths' internalizing symptoms tends to be larger than the effect between paternal depression and youths' internalizing symptoms with this imbalance persisting from early childhood to adulthood (Cassano et al., 2006; Connell & Goodman, 2002; Natsuaki et al., 2014). Likewise, a longitudinal study with a clinical sample of families with an adolescent who was aged 14-18 and had a history of major depressive disorder (MDD) or other psychopathology found that both maternal and paternal depression were associated with lower psychosocial functioning in young adulthood (age 24), whereas only maternal depression was related to the recurrence of MDD and anxiety disorders in young adults at age 24 (Rohde et al., 2005). In contrast, a recent meta-analysis indicated that the magnitude of maternal and paternal depression effects on children's externalizing symptoms tend to be similar, with a few studies indicating that paternal depressive symptoms are more strongly related to children's externalizing symptoms than are

maternal depressive symptoms, especially during adolescence (Connell & Goodman, 2002). Overall, the extant literature supports the salience of both mothers' and fathers' depressive symptoms for understanding youths' symptomatology, and informs the current hypothesis that mothers' depressive symptoms will be more strongly linked to youths' internalizing symptoms, whereas both mothers' and fathers' depressive symptoms will influence youths' externalizing symptoms.

Youths' Symptomatology Effects on Mothers' and Fathers' Depressive Symptoms

Consistent with the rising prominence of transactional models of development (Cicchetti & Toth, 1997; Sameroff, 2009; Yates, Obradović, & Egeland, 2010), there has been increased empirical consideration of child effects generally, and in the context of the family system specifically. Most of the empirical evidence on child effects to date has centered on youths' influence on parents' caregiving behaviors (Donenberg & Baker, 1993; Eisenberg, Taylor, Widaman, & Spinrad, 2015; Serbin, Kingdon, Ruttle, & Stack, 2015) or marital discord (Davies, Martin, Coe, & Cummings, 2016). For example, recent studies suggest that children's psychological problems and externalizing behaviors predict decreases in positive parenting (Serbin et al., 2015), increases in intrusive and harsh parenting (Eisenberg et al., 2015), and increased interparental conflict (Davies et al., 2016). Furthermore, whereas children's emotion regulation skills engender greater reciprocity between parents and their children (Feldman, 2015), children's emotional dysregulation contributes to higher levels of insensitive and ineffective parenting (Yates et al., 2010). Although these empirical data suggest that the quality of youths' adjustment may affect parents' adjustment, there is a significant gap in the literature regarding if and

how youths' own symptomatology may influence their parents' psychopathology. Capitalizing on the repeated measures of all study constructs over time, the current investigation examined if and how youths' internalizing and externalizing symptoms affect mothers' and fathers' depressive symptoms across adolescence and into young adulthood. However, given the dearth of literature on child effects, these analyses were exploratory.

Parental Depression and Youth Development: Mediating Mechanisms

Relative to the literature documenting the effects of parental depression on development, far less is known about the mechanisms by which parental depression undermines youths' functioning. Yet, elucidating specific processes by which parental depression may affect development is essential to inform efforts to intervene on behalf of vulnerable children and families. Beyond biological mechanisms of transmission (Silberg, Maes, & Eaves, 2010), family systems theory highlights the parent-child relational context as a likely medium of transmission from parental depression to child adjustment (Cox & Paley, 1997, 2003). In support of this assertion, prior research suggests that the negative influence of parental psychopathology on youth adjustment may follow from associated increases in marital conflict and insecure marital attachment (Cummings et al., 2005), negative emotional expressiveness and emotional insecurity in children (Cummings et al., 2014), and ineffective parenting strategies, such as insufficient warmth, nurturance, and monitoring, as well as excessive psychological control and rejection (Cummings et al., 2014; Elgar et al., 2007). In turn, these relational disruptions and distortions lead to youths' internalizing and externalizing symptoms.

Guided by the tenets of family systems theory (Cox & Paley, 1997, 2003), and extending current empirical evidence drawn from largely cross-sectional studies, this study examined specific facets of the parent-child relational context to evaluate if and how the degree of symptomatology in the co-parent, maternal and paternal acceptance and rejection of the child, and the child's sense of mattering to their mother and father mediated predicted associations between parental depressive symptoms and youth adjustment. Although these proposed mediating mechanisms tend to operate similarly in father-child and mother-child relationships, some scholars suggest that parenting factors may more strongly account for associations between paternal depression and youth adjustment, than for associations between maternal depression and youth adjustment (Flouri, 2010). According to this argument, fathers' parenting behaviors may be more vulnerable to disruption when undergoing mental distress in comparison to mothers who may be better able to compartmentalize their experiences (Flouri, 2010; Stevenson et al., 2014).

Co-Parent's Depressive Symptoms. In addition to the hypothesized direct associations between each parent's depressive symptoms and youths' internalizing and externalizing symptoms, parental depression may influence youth adjustment indirectly via its effects on the co-parent's symptomatology. Although research has investigated the association between partners' depressive symptoms (Matthey, Barnett, Ungerer, & Waters, 2000), as well as the additive effects of mothers' and fathers' depressive symptoms on youths' internalizing and externalizing symptoms (Brennan, Hammen, Katz, & Le Brocque, 2002; Reeb & Conger, 2009), there is a noticeable gap in the

literature evaluating whether or not associations between maternal or paternal depressive symptoms and youths' symptomatology may be explained, at least in part, by the co-parent's depressive symptoms. Given known interdependencies among family members (Cox & Paley, 1997, 2003), one mechanism through which a parent's own symptomatology may affect their child's adjustment is via their influence on the co-parent's psychopathology.

Parenting Behaviors. Developmental theory and research suggest that parental depression may compromise parenting quality by reducing parental responsiveness and acceptance on the one hand, and increasing parental negativity and rejection on the other hand. For example, research indicates that maternal emotional distress is related to higher levels of maternal intrusiveness because it disrupts the dyadic reciprocity between the mother and child (Feldman, 2007). Similarly, findings suggest that paternal depression is associated with less positive fathering as characterized by less warm, accepting, and sensitive behaviors, and more negative fathering, as indicated by more intrusive, coercive, and controlling behaviors (Wilson & Durbin, 2010).

Research demonstrates that both maternal and paternal acceptance are positively related to youths' psychological well-being (Forehand & Nousiainen, 1993; Jones, Forehand, & Beach, 2000; Leidy et al., 2011). Specifically, adolescents who have mothers and fathers who are accepting are more likely to report better cognitive and social competence, less anxiety/withdrawal and depression, and lower levels of conduct problems and delinquency (Forehand & Nousiainen, 1993; Jones et al., 2000; Leidy et al.,

2011). Similarly, adolescents whose fathers are supportive are less likely to be depressed and engage in fewer antisocial or delinquent behaviors (Bean, Barber, & Crane, 2006).

Whereas emotionally-involved parenting is associated with positive youth adjustment (Criss et al., 2015; Perez-Brena, Cookston, Fabricius, & Saenz, 2012), parental lack of care and emotional unavailability have been associated with elevated rates of mental health disorders, including internalizing and externalizing problems (Enns, Cox, & Clara, 2002; Goeke-Morey & Cummings, 2007). For example, in a study of 393 adolescents, Leidy and colleagues (2011) found that fathers' rejecting parenting behaviors were associated with higher rates of youth-reported anxiety and depressive symptoms, and teacher-reported internalizing and externalizing symptoms. Similarly, other studies have shown that higher levels of parental rejection are related to more internalizing and externalizing symptoms in children (Elgar et al., 2007). Thus, parents' depressive symptoms may contribute to increased youth symptomatology by decreasing parental acceptance and/or increasing parental rejection.

Perceived Parental Mattering. In comparison to the influence of parental depressive symptomatology on parenting behaviors, less information is known about the link between parental depression and children's views of their importance or mattering to their parents. Given the well-established links between parental depression and children's emotional insecurity (Cummings et al., 2014), however, it makes sense that a child's perception of whether s/he matters to her/his parent(s) could be one mechanism through which parents' depressive symptoms impact youths' symptomatology.

Perceived mattering is the perception that one is important to, and valued by, a significant other (Marshall, 2004). According to Marshall (2004), individuals evaluate their significance to others by comparing the quality and quantity of attention they receive from significant others in comparison to other individuals in their significant others' lives. Interpretations and meanings are then assigned to the interactions between the self and significant others, which, in turn, influence psychological adjustment. Research shows that perceived mattering to both mothers and fathers is positively associated with youths' self-concept and self-esteem, and negatively related to youths' antisocial and aggressive behavior (Marshall, 2004). Other empirical evidence has supported this finding, indicating that adolescents who feel that they matter to both their stepfathers and biological fathers endorse fewer internalizing and externalizing symptoms (Schenck et al., 2009). Therefore, parents' depressive symptoms may contribute to increased youth symptomatology by decreasing youths' perceptions of mattering to each parent. Finally, paralleling the evaluation of bidirectional child effects on parents' depressive symptoms, reciprocal influences of youths' symptomatology on parental acceptance and rejection, and youths' perceptions of mattering to each parent were evaluated.

Parental Depression Effects and Youth Development: Moderating Factors

The family system is situated within broader cultural and economic contexts. Thus, parenting processes and their effects may vary as a function of numerous factors. Goodman and Gotlib (1999) identified several potential moderators of the association between parental depression and youth adjustment, including the cultural and

socioeconomic status of the family, the co-parent's degree of psychopathology, and the child's gender, age, and temperament. Importantly, some evidence further suggests that features of the research design, such as the type of reporter and the nature of the sample (e.g., clinical versus community), also influence the magnitude of observed relations between parental depression and youth adjustment (Connell & Goodman, 2002; Cummings et al., 2005; Kane & Garber, 2004). Consistent with Goodman and Gotlib's (1999) proposition, the current study evaluated three contextual factors, namely family ethnicity, family structure, and child gender, to determine if and how they moderate the link between parents' depressive symptoms and youth adjustment.

Family Ethnicity. Given the changing socio-demographic composition and diversifying cultural landscape of the United States and society as a whole, it is important to consider how culture may influence family dynamics. Both parental psychopathology and parenting practices are shaped by societal and cultural belief systems (Marsiglio & Cohan, 2000). Yet, there is surprising little research that examines cultural or ethnic influences on the link between parental depression and youth adjustment. Although the majority of studies on parental depression effects have employed predominantly European American samples (e.g., Cummings et al., 2014; Reeb et al., 2010), some research suggests that parental depression has stronger relations with negative parenting and, by extension, poorer youth adjustment in non-Caucasian families (Wilson & Durbin, 2010).

Although evidence regarding the impact of parental depression on youth adjustment in diverse families is limited, a sizable body of research demonstrates that

parenting practices vary in meaning across cultures. For example, in a cross-sectional study of 281 youth, ages 8 through 19, Veneziano (2000) found that both maternal and paternal acceptance were independently linked to psychological adjustment in African American youth, whereas maternal acceptance was only linked to European American youths' psychological adjustment if it co-occurred with paternal acceptance. In a cross-sectional study of African American adolescents, Bean and colleagues (2006) found that fathers' support and acceptance, but not mothers' parenting behavior was associated with lower rates of depressive symptoms and fewer delinquent and antisocial behaviors. However, maternal support was not related to African American youth adjustment.

As noted earlier, there is a striking dearth of research examining parental depression in Mexican American families. However, cultural norms and values that characterize Mexican American culture may influence the implications of parental depressive symptoms and/or parental acceptance and rejection, and perceived mattering on youth adjustment. Specifically, parental depression may have stronger effects on youth adjustment in Mexican American families because Latino families value familial support, respect, closeness, and obligation more so than European Americans (Fuligni, Tseng, & Lam, 1999). Thus, disruption in the family system may have a greater impact on Mexican American youths' symptomatology than on European American youth because it threatens the dynamics of the family and the level of support that parents may provide to their children. Although some evidence has documented parental depression effects in Latino families such that, for example, maternal depression is related to increased internalizing and externalizing symptoms among Latino youths (Corona et al.,

2005), this study was among the first to investigate these relations as compared to a sample of European American youths.

Family Structure. With the growing number of step families in the United States (Cherlin & Furstenberg, 1994; Coleman, Ganong, & Fine, 2000), it is important to examine if and how family structure may influence relations among parental depression and youth adjustment. Prior research suggests that children in step families experience poorer developmental outcomes than children in intact families, including higher rates of internalizing and externalizing symptoms (Cherlin & Furstenberg, 1994; Coleman et al., 2000; Hofferth, 2006; J. E. Kim, Hetherington, & Reiss, 1999; Leidy et al., 2011; Perez-Brena et al., 2012). However, beyond this main effect, it is not clear if and how step family structure may influence the effect of parental depression on the family system. Moreover, the impact of step family structure may differ considerably depending on whether the maternal or paternal figure is the stepparent. Given this additional layer of complexity, the current study focused on stepfather-biological mother families as compared to intact biological parent families, but stepmother-biological father families were not examined.

For the most part, empirical evidence suggests that family processes operate similarly across intact and step families (Amato, 1994; Coleman et al., 2000). For example, as with biological parents, evidence indicates that stepparents who monitor and support their stepchildren promote youths' positive adjustment outcomes (Coleman et al., 2000). With regard to stepfathers in particular, adolescents who report feeling close to their stepfathers report higher levels of happiness and satisfaction than stepchildren who

report not being close with their stepfathers (Amato, 1994). Likewise, stepfathers' negative, coercive and hostile parenting and inadequate monitoring are associated with more internalizing and externalizing problems in their stepchildren (Coleman et al., 2000; Hofferth, 2006; J. E. Kim et al., 1999). Finally, children who endorsed higher rates of perceived mattering to stepfathers experienced lower rates of internalizing and externalizing problems (Schenck et al., 2009).

While research has shown that the direction of associations between various family dynamics and youth adjustment are similar across intact and step families, some findings suggest that the magnitude of these associations are larger among children in step families (Coleman et al., 2000; Perez-Brena et al., 2012). Parenting effects may be magnified within step families because these family structures are more susceptible to instability, less cohesion, and problems among family members, which increases the stressors that each family member may experience (Cherlin & Furstenberg, 1994; Coleman et al., 2000) and prevents parents from providing effective parental support and guidance to their children. However, consistent with the dearth of literature on paternal depression, research has not yet evaluated the influence of stepfathers' depression on youth adjustment, and certainly not in comparison to that of biological fathers.

Importantly, maternal parenting effects may vary across intact and stepfather family structures as well. For example, biological mothers in intact families may be more likely to monitor their children's activities and express less negative affect as compared to biological mothers in step families (J. E. Kim et al., 1999; Leidy et al., 2011). In a study of adolescents between ages 10 and 18 years old, Kim and colleagues (1999) found

that maternal negativity and insufficient monitoring were more strongly related to externalizing symptoms for boys in step families when compared to boys in intact families. Thus, there may be differences in both maternal and paternal depression effects across intact versus stepfather family structures.

Child Gender. There have been mixed findings on the effect of child gender on relations between parental depression and youth adjustment. A majority of the studies with younger populations have shown that maternal psychopathology is more strongly related to internalizing problems in both boys and girls, whereas paternal psychopathology is more strongly related to externalizing problems, especially for girls (Connell & Goodman, 2002). Additional evidence suggests that the nature of these moderating effects may change over time, with boys being more susceptible to negative family environments during childhood, and girls being more vulnerable than boys in adolescence (Reeb & Conger, 2009). For example, studies have shown that boys are more vulnerable to adjustment problems than girls when they are exposed to higher levels of paternal depression in early development (Ramchandani & Psychogiou, 2009), whereas girls reported more depressive symptoms than boys in the context of higher levels of paternal depression exposure in adolescence (Reeb & Conger, 2009)

The moderating effects of child gender are even less clear when examining the links among parental depression, potential mediating mechanisms, such as parenting behaviors and perceived mattering to parents, and youth adjustment. For example, research has shown that having a strict and overprotective father protects males against engagement in antisocial behaviors and substance use, whereas having a mother with

similar characteristics is associated with an increased risk for males' externalizing problems (Enns et al., 2002). In contrast, other studies found that, relative to mothering, disrupted fathering (i.e., coercion, rejection, and low support) was more strongly related to boys' internalizing problems, whereas similar parenting deficits in mothers were related to boys' externalizing problems (Kaczynski, Lindahl, Malik, & Laurenceau, 2006).

A sizable body of evidence indicates that parenting practices may differentially influence development in cross-gender versus same-gender parent-child dyads. For example, Stoltz and colleagues (2005) found that higher levels of paternal behavioral control and support, and lower levels of psychological control were associated with lower levels of depression in young girls, whereas higher levels of maternal behavioral control and support, and lower levels of psychological control were associated with lower levels of depression in boys. Similarly, Amato (1994) found that closeness to fathers was more strongly related to less psychological distress in daughters than sons, whereas closeness to mothers was more strongly related to less psychological distress in sons than daughters. In contrast, Bronte-Tinkew and colleagues (2006) found evidence of a same-gender matching effect such that a good relationship between fathers and sons was more protective against boys' risky behaviors in comparison to the weaker impact of a good relationship between fathers and daughters on girls' risky behaviors.

Overall, the existing literature indicates that family ethnicity, family structure, and child gender could moderate both direct and indirect pathways from parental depression to youths' internalizing and externalizing symptoms. Therefore, both the dynamic

relations among mothers' and fathers' depressive symptoms and youths' symptomatology in the first aim of the study and the mediating models posited for the second the aim of the study were evaluated across multiple groups as determined by either family ethnicity, family structure, or child gender.

Study Overview

The current investigation evaluated the unique contributions of mothers' and fathers' depressive symptoms to youths' internalizing and externalizing symptoms from early adolescence to young adulthood. This study offered several important advances beyond the extant studies of parental depression effects on development, which have often failed to control for the co-parent's depressive symptoms, typically examined these effects in younger populations, and relied on clinical and predominantly European American samples within cross-sectional study designs. Moreover, the longitudinal design of the current study supported inferences about developmental timing and causation based on repeated assessments of both mothers' and fathers' depressive symptoms and youths' internalizing and externalizing problems across five data points to evaluate the relative contributions of proximal versus distal maternal or paternal depressive symptoms to youths' symptomatology from adolescence to young adulthood. As noted by Cummings and colleagues (2014) in their study, which included measures at two time points, there is a pressing need for study designs that include measures of parental depression and youth adjustment at multiple time points to support the examination of both distal and proximal parental depression effects on youth development.

The first aim of this study was to document the unique contributions of mothers' and fathers' depressive symptoms to youths' internalizing and externalizing symptoms, as well as the reciprocal effects of youths' symptomatology on mothers' and fathers' depressive symptoms from adolescence (age 12) to young adulthood (age 22) within and across groups (see Figure 1 for conceptual model) based on family ethnicity, family structure, and child gender. I hypothesized that higher levels of mothers' and fathers' depressive symptoms would each contribute to elevated rates of youths' internalizing and externalizing symptoms across adolescence and young adulthood. However, I further predicted that mothers' depressive symptoms would be more strongly related to youths' internalizing symptoms, whereas both mothers' and fathers' depressive symptoms would be related to youths' externalizing symptoms.

Given research indicating that both baseline levels and change in parents' depressive symptoms over time are related to youth adjustment (Cummings et al., 2014; Elgar et al., 2007), I hypothesized that both proximal and distal parental depressive symptoms would be uniquely related to youths' internalizing and externalizing symptoms. Furthermore, I hypothesized that the effects of mothers' and fathers' depressive symptoms on youths' symptomatology would varied by family ethnicity, family structure, and child gender. Specifically, I hypothesized that effects from parental depressive symptoms to youths' adjustment would be stronger for Mexican American families in comparison to European American families because the effects of parental depression on youth development tend to be more salient in non-Caucasian families (Veneziano, 2000; Wilson & Durbin, 2010). However, although research suggests that

children fare worse in step families than in intact families (Cherlin & Furstenberg, 1994; Coleman et al., 2000), I hypothesized that the link between fathers' depressive symptoms and youths' adjustment would be stronger in intact families given the shared genetic and environmental history in biological families, whereas associations between mothers' depressive symptoms and youths' adjustment would be stronger in stepfather families given children's greater reliance on their mother as a source of support in the context of a stepfather family structure. Finally, I hypothesized that child gender would moderate associations between parents' depressive symptoms and youths' internalizing and externalizing symptoms. Some theorists have argued that mothers tend to have more influence on their daughters, whereas fathers have more influence on their sons during adolescence (Hill & Lynch, 1983). However, other evidence points to the disproportionate salience of cross-gender effects (Amato, 1994; Kaczynski et al., 2006; Stolz et al., 2005). Given these mixed findings regarding the moderating influence of child gender, the present analyses were exploratory. Likewise, analyses probing the effects of youths' symptomatology on mothers' and fathers' depressive symptoms were exploratory.

The second aim of this study was to evaluate intervening mechanisms that may explain the predicted associations of mothers' and fathers' depressive symptoms with youths' internalizing and externalizing symptoms. Specifically, I hypothesized that co-parent's depressive symptoms, youths' reports of parental acceptance and rejection, and youths' perceptions of mattering to mothers and fathers would mediate predicted associations between parental depressive symptoms and youths' symptomatology.

However, given theoretical work stating that fathers' parenting practices are more susceptible to the effects of psychopathology and stress, whereas mothers are more likely to compartmentalize these experiences (Flouri, 2010; Stevenson et al., 2014), I hypothesized that the link between fathers' depressive symptoms and the proposed mediators would be stronger than those between mothers' depressive symptoms and the parent-child relational features. In addition, I hypothesized that the pathways from parents' depressive symptoms to youths' adjustment via the proposed mediators would differ as a function of family ethnicity, family structure, and child gender. Consistent with the first aim, I hypothesized that the links between parents' depressive symptoms to youths' adjustment via the proposed mediators would be stronger for Mexican American families in comparison to European American families because Mexican American families tend to be closer than European American families (Fuligni et al., 1999). Second, I hypothesized that pathways from mothers' depressive symptoms to youths' adjustment will be stronger in stepfather families because research has shown that mothers in stepfather families are less accepting and more rejecting of their children (Leidy et al., 2011). However, I further predicted that the pathways from fathers' depressive symptoms and youths' development via the proposed mediators would be stronger in intact families when compared to stepfather families given the shared genetic and environmental considerations among biological fathers and their children. Third, I hypothesized that child gender would moderate the pathways from parents' depressive symptoms to youths' adjustment via the proposed mediators. Finally, analyses probing the effects of youths' symptomatology on the proposed mediators were exploratory.

CHAPTER 2: METHOD

Participants and Procedures

Three hundred and ninety two families (52% female) participated in a dual-site longitudinal study that was conducted in Phoenix, Arizona and Riverside, California. The study targeted families who were of European or Mexican descent and included an adolescent who was enrolled in 7th grade. All three participating family members were required to be from the same ethnic background, and families were recruited to include both intact families (i.e., two biological parents in the household) and stepfather families (i.e., a biological mother and a male romantic partner who was acting as a "father figure" to the child in the residence). The father and the mother were not required to be legally married, but the household structure had to be in place for more than one-year. The resulting sample included 110 European American intact families (96.36 % married), 89 European American stepfather families (75.28% married), 107 Mexican American intact families (94.39% married), and 86 Mexican American stepfather families (44.19% married).

Families were invited to participate in a longitudinal study investigating the role of parents in their adolescent's development across five time points from early adolescence to young adulthood. Assessments began when the adolescents were enrolled in 7th grade (M_{age_W1} = 12.89, *SD* = .48) and lasted until they were young adults (M_{age_W5} = 21.95, *SD* = .77; *N* = 276), with intervening assessments at wave 2 (M_{age_W2} = 13.89, *SD* = .76; *N* = 365), wave 3 (M_{age_W3} = 15.53, *SD* = .65; *N* = 321), and wave 4 (M_{age_W4} = 19.68, *SD* = .70; *N* = 287). Of the 392 families interviewed at Time 1, 79.8% (*n* = 312) were

legally married, and there were significant differences in marriage rates across subgroups, $\chi^2(3) = 100.87$, $p < .001$, such that those in stepfather families were less likely to be legally married, especially among Mexican American stepfather families. On average, mothers ($M = 38.84$, $SD = 6.38$) were younger than (step) fathers ($M = 40.69$, $SD = 7.60$), $t(390) = 6.38$, $p < .001$. Years of education did not differ significantly between mothers ($M = 12.11$, $SD = 3.68$) and (step)fathers ($M = 12.35$, $SD = 3.52$), $t(387) = 1.877$, *ns*. The majority of mothers (67%; $n = 262$) and (step)fathers (67.5%; $n = 264$) were born in the United States. Mothers who were born outside the United States had resided in the country for an average of 15.03 years ($SD = 8.01$), whereas (step)fathers who were born outside the United States had lived in the country for an average of 16.25 years ($SD = 8.11$), $t(238) = 1.17$, *ns*. The annual adjusted family income ranged from $8000 to over $100,000, with a mean of $67,410.06 ($SD = 47,194.79$), though 19.6% of the families earned below $35,000 per year. There was no significant difference in family income between intact ($M = 66,705.17$, $SD = 47,151.39$) and stepfather families ($M = 68,362.45$, $SD = 47,489.87$), $t(389) = .344$, *ns*. However, European American families reported higher household income ($M = 86,678.08$, $SD = 54,392.10$) than Mexican American families ($M = 47,514.62$, $SD = 26,588.13$), $t(289.79) = 9.09$, $p < .001$. Across the five data waves, 377 (96.2%) of the families completed two or more assessments. With the exception of youths' depressive symptoms and externalizing behavior, there were no significant differences across all study variables at Wave 1 between families who completed two or more assessments and those who did not. Youths in the 15 families that did not participate in two or more interview assessments were more likely to report

higher rates of depressive symptoms, $t(14.563) = 2.089$, $p = .055$, and externalizing behavior, $t(14.386) = 2.280$, $p = .038$.

The recruitment procedures for this study varied by collection site because of the different state laws and school district policies (see Stevenson et al., 2014 for description). Upon determining eligibility and acquiring consent from each parent and assent from the adolescent, participants completed a full battery of assessments administered at the research site or via phone that lasted about 3 hours in their preferred language (English or Spanish). Each family member received monetary compensation for their time. All procedures for this study were approved by the Institutional Review Boards of the participating universities.

Measures

Parental Depression. Mothers' and fathers' depressive symptoms were assessed using the Hopkins Symptom Checklist (HSC; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). Items (e.g., In the past month, how often have you had a poor appetite) were rated on a 4-point Likert type scale (1 = *not at all* to 4 = *extremely*), with higher scores indicating higher levels of depressive symptoms. With the exception of wave 2, all nine items for the depression scale were administered to both mothers and (step) fathers at each data wave. Only three items (i.e., In the past month, how often have you been feeling hopeless about the future, how often have you been feeling blue, and how often have you been feeling no interest in things) were administered at the second time point. Bivariate correlations of a composite variable of the three items and a composite variable of all nine items at the other waves indicated the two scales were highly related for

mothers (*rs* = .898 to .921) and fathers (*rs* = .882 to .909). Therefore, only the three items were used to assess mothers' and fathers' depressive symptoms across waves. The reliabilities for the three items were acceptable for mothers (α = .726 to .817) and fathers (α = .667 to .744)

Parental Acceptance and Rejection. Parental acceptance and rejection were assessed using items from an adapted version of the Children's Report of Parent's Behavior Inventory (CRPBI; Schaefer, 1965). Each scale consisted of three items that assessed parenting behaviors during the past three months. Items assessing acceptance (e.g., your [step] father/mother seemed proud of the things you did) and rejection (e.g., your [step] father/mother almost always complained about what you did) were rated on a 3-point scale (1 = *true* to 3 = *false*). Items on both scales were reverse coded such that higher scores on the acceptance and rejection subscales represented more accepting and rejecting mothers and fathers. Reliabilities were satisfactory for acceptance (mothers' α = .631 to .741; fathers' α = .695 to .802) and rejection (mothers' α = .656 to .806; fathers' α = .624 to .789).

Perceived Mattering. Youth reported their perceptions of how much they matter to, feel loved by, or are important to their mothers and (step) fathers across 7-items that were adapted from Rosenberg and McCullough's (1981) review of correlates of mattering. Items (e.g., I am one of the most important things in the world to my mother/father) were rated on a 5-point scale (1 = *strongly agree* to 5 = *strongly disagree*) with good reliabilities (mothers' α = .766 to .828; fathers' α = .859 to .939). Four items

were reversed coded such that higher scores represented higher levels of mattering to mothers and fathers.

Youths' Symptomatology

Internalizing Symptoms. Youths' internalizing symptoms were assessed by self-reports. At waves 1 through 3, depressive symptoms were assessed using items from the Child Depression Inventory (CDI; Kovacs, 1992) . Eight items (e.g., in the past month, things bothered me) were scored on a 3-point scale (1 = *Things bothered me all the time* to 3 = *Things bothered me once in a while*), with higher scores reflecting higher levels of depressive symptoms (α = .652 to .718). At waves 1 through 3, youths' anxiety was assessed using seven items from the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1979). Items (e.g., in the past month you worried about what was going to happen) were rated on a dichotomous scale (1 = *Yes* to 2 = *No*) and were recoded so that higher values indicated more anxiety symptoms (α = .651 to .688). At waves 4 and 5, youths' internalizing symptoms were assessed using the 18 items (e.g., I feel lonely) from the anxious/depressed subscale of the Adult Self Report (ASR; Achenbach, 1991b). Items were rated on a 3-point scale (1 = *not true* to 3 = *very true or often true;* α = .852 to .859).

Externalizing Symptoms. Similar to internalizing symptoms, youths' externalizing symptoms were assessed using self-reports. At waves 1 through 3, youth reported on their externalizing symptoms using 12 items (e.g., in the past month, I destroyed things belonging to others) from a modified version of the aggression and delinquency subscales of the Behavior Problems Index (Peterson & Zill, 1986). These

items were rated on a 3-point scale from 1 (*not at all true*) to 3 (*very true;* α = .751 to .831). At waves 4 and 5, youths' externalizing symptoms were assessed using the 35 items (e.g., I damage or destroy my things) from the aggressive, rule-breaking, and intrusive behavior subscales on the Adult Self Report (ASR; Achenbach, 1991b). The reliabilities for externalizing symptoms were good (α = .890 to .894).

Data Analytic Plan

Item Parceling. Preliminary analyses evaluated whether or not developmentally appropriate changes in the assessment of internalizing and externalizing symptoms from adolescence to young adulthood could be harmonized to ensure measurement of the same construct on the same metric at each wave of measurement (Widaman, Ferrer, & Conger, 2010). Traditional approaches to establish longitudinal measurement invariance rely on repeated measures using the same scale (McArdle, Grimm, Hamagami, Bowles, & Meredith, 2009). Thus, I employed a parceling technique wherein I compared all measurement items for each broadband symptom cluster across waves to identify items that assessed the same symptom across waves (i.e., common items) and those that varied across measurement waves (i.e., unique items).

Common items across all waves were summed to create unidimensional parcels and reduce unwanted error variance in the data (Kishton & Widaman, 1994; Little, Cunningham, Shahar, & Widaman, 2002). The remaining unique items at each wave were used to create a second unidimensional parcel. *Internalizing symptoms* were indicated by four parcels at each wave of measurement, which corresponded to common and unique parcels for depressive symptoms and common and unique parcels for anxiety

symptoms. At waves 4 and 5, anxiety and depression were assessed using the same scale. Therefore, an exploratory factor analysis with promax rotation was conducted to extract subscales for depressive and anxiety symptoms from the 18-item anxious/depressed subscale of Achenbach's (1991b) Adult Self Report. Anxiety items at waves 4 and 5 were dichotomized (i.e., a score of *1* was recoded to *0* and scores of *2* and *3* were recoded to *1*) to match the response format of the RCMAS (Reynolds & Richmond, 1979), which was administered at the first three assessment waves. *Externalizing symptoms* were indicated by two parcels at each wave of measurement, which corresponded to common items across assessment waves and unique items within each assessment wave.

Longitudinal Invariances Analyses. Following item parceling, a series of factorial invariance analyses were conducted in Mplus 6.12 (Muthén & Muthén, 1998-2011) to account for missing data using FIML and to evaluate how well successive invariance models fit the data for internalizing symptoms and externalizing symptoms (Widaman et al., 2010). Sattora's (2000) likelihood ratio chi-square difference test evaluated comparative fit across each pair of nested models. However, given that the likelihood ratio test is influenced by large sample size (Browne & Cudeck, 1993), additional practical fit indices were examined, including the Tucker Lewis Index (TLI; Tucker & Lewis, 1973), comparative fit index (CFI; Bentler, 1990), root mean square error of approximation (RMSEA; MacCallum, Browne, & Sugawara, 1996), and standardized root mean square residual (SRMR; Hu & Bentler. 1999). Good model fit was indicated by TLI and CFI values greater than .90, and RMSEA and SRMR values below .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999; Tucker & Lewis, 1973).

For internalizing symptoms, I evaluated a baseline configural invariance model with a latent variable created from the two common and two unique parcels of depressive and anxiety symptoms at each wave. The common parcel of depressive symptoms served as the anchor for the baseline configural invariance model, and the factor loading for this parcel was fixed at one at each wave, whereas factor loadings for the three remaining parcels were freely estimated. The means of the latent variables were fixed at zero and the variances of the factors, intercepts, and variances of the common and unique parcels at each wave were freely estimated.

Building on the baseline internalizing model (Model A), several configural invariance models were evaluated to improve the fit of the model to the data based on theory and modification indices. First, a configural invariance model (Model B) was evaluated with all within-wave covariances freely estimated. In this model, the common item parcels for depression and anxiety were correlated with the unique parcels for depression and anxiety, respectively, within each data wave. Next, a configural invariance model (Model C) was evaluated with only the significant within-wave covariances retained. Expanding on Model C, a configural invariance model (Model D) was evaluated with all across-wave covariances freely estimated. Next, a configural invariance model (Model E) was evaluated with only the significant across-wave covariances retained.

Following the identification of the best fitting configural invariance model, I evaluated a weak invariance model (Model F) to test whether the factor loadings were invariant across waves. At each assessment wave, the loading for the common depression

item parcel was fixed at one, and the common anxiety item parcel was set to be equal across waves. Given that the unique depression and anxiety item parcels were assessed using the same measures at the first three waves, the factor loadings for these unique parcels were constrained to be equal. Similarly, at waves 4 and 5, the factor loadings for the unique depression and anxiety item parcels were constrained to equality.

For externalizing symptoms, I also evaluated a baseline configural invariance model with a latent variable created from a common and a unique parcel of externalizing symptoms at each wave. Similar to the internalizing models, the common parcel of externalizing symptoms served as the anchor for the baseline configural invariance model and the factor loading for this parcel was fixed at one at each wave, whereas the factor loading for the unique parcel was estimated freely. The means of the latent variables were fixed at zero and the variances of the factors, intercepts, and variances of the common and unique parcels at each wave were freely estimated.

Building on the baseline configural invariance model (Model A), several configural invariance models were evaluated to improve the fit of the model to the data. Since there were only two parcels at each wave, evaluation of within-wave covariances was not appropriate. Therefore, the second configural invariance model (Model B) for externalizing symptoms evaluated across-wave covariances. Given the limited information in the model and the potential for overestimation, only significant across-wave covariances were estimated in the second configural invariance model. Modification indices from the baseline configural invariance model were used to identify

the significant across-wave covariances to include in the second configural invariance model.

Following the identification of the best fitting configural invariance model, I evaluated a weak invariance model (Model C) to test whether the factor loadings for externalizing symptoms were invariant across waves. At each assessment wave, the loading for the common externalizing item parcel were fixed at one. Given that the unique parcels for externalizing symptoms were created using the same measures at the first three waves, the factor loadings for these unique parcels were constrained to be equal across waves, whereas the unique parcels for externalizing symptoms at waves 4 and 5 were constrained to equality.

Factor Score Estimation. To evaluate cross-lagged panel models, factor score estimates from the weak factorial invariance models for internalizing and externalizing symptoms were computed. Factor scores are estimates of the underlying score on the latent variable or factor for each observation or participant (Brown, Hendrix, Hedges, & Smith, 2011). The factor score estimates are linear combinations of the observed variables. To reduce computational burden and possible overestimation, factor scores were evaluated in all subsequent models.

Cross-Lagged Panel Analyses. For the first aim of the study, a series of cross-lagged panel models were evaluated to test the effects of mothers' and fathers' depressive symptoms on youths' internalizing and externalizing symptoms from adolescence to young adulthood, as well as reciprocal effects from youth symptomatology to mothers' and fathers' depressive symptoms. Factor score estimates from the weak invariance

models were used to compute separate models for internalizing and externalizing symptoms. Research has shown that failing to disaggregate between- and within-person differences in cross-lagged panel analyses can yield erroneous conclusions about causal patterns and/or biased and difficult to interpret parameters or coefficients (Berry & Willoughby, 2016; Hamaker, Kuiper, & Grasman, 2015). Therefore, each symptom model included a global trait factor and five state (time-varying) factors to disaggregate trait-like differences (e.g., between-person effects) from time-varying differences (e.g., within-person effects) for mothers, fathers, and youths. In each model and for all three reporters, the trait factor, and the five time-varying factors were fixed at zero. The variances of the factor score estimates were fixed at zero, whereas the variances for the trait factor and the time-varying factors were freely estimated. The loadings from the trait factor to the factor score estimates at each wave were fixed to one. The stability coefficients for the time-varying factors were also included in this model (e.g., the time-varying internalizing factor at wave 1 predicted the time-varying internalizing factor at wave 2). Covariances between nonadjacent waves were fixed at zero (e.g., the time-varying internalizing factor at wave 1 was not associated with the time-varying internalizing factor at wave 3). Separate cross-lagged panel models were estimated to evaluate reciprocal effects of maternal and paternal depressive symptoms on youths' internalizing or externalizing symptomatology from adolescence to young adulthood. Multigroup analyses tested for differential effects by family ethnicity, family structure, and child gender on associations between mothers' or fathers' depressive symptoms with youths' internalizing and externalizing symptoms.

For the second aim of the study, a series of cross-lagged panel models were used to test the mediating effects of other parent's depressive symptoms, parental acceptance and rejection, and perceived mattering to mothers and fathers on the association between parents' depressive symptoms and youth adjustment. Given the complexity of the models, models were computed using maximum likelihood estimation with robust standard errors (MLR) to take into account non-normality in the data (Muthén & Muthén, 2002) as opposed to bootstrapping which required a significant amount of iterations to estimate the data. Multigroup analyses were evaluated to identify whether the mediation models varied as function of family ethnicity, family structure, and child gender. Pairs of nested models were compared using Satorra-Bentler scaled chi-square test because it utilizes a scaling correction factor to test for differences between robust models employing MLR estimation (Satorra & Bentler, 2001).

CHAPTER 3: STUDY AIM I

Results

To evaluate the unique contributions of mothers' and fathers' depressive symptoms to youths' internalizing and externalizing symptoms from early adolescence to young adulthood, as well as the reciprocal effects of youths' symptomatology on each parent's depressive symptoms.

Internalizing Symptoms

***Exploratory Factor Analysis*.** Prior to the estimation of factorial invariance models, an exploratory factor analysis with promax rotation was conducted using the data from wave 4 to identify which of the 18 items from the anxious/depressed scale of the ASR could be used as indicators of depression or anxiety (see Table 1 for the list of items). Findings from a two-factor solution using the data from wave 4 revealed 11 items that loaded on the depression symptom factor and six items that loaded on the anxiety symptom factor, RMSEA = .056 [.044, .067]. One item (i.e., I lack self-confidence) was excluded from subsequent analyses because it cross-loaded on both factors. The association between the latent variables for depression and anxiety was moderate, r = .642. A confirmatory factor analysis using the data from wave 5 supported this two-factor structure, RMSEA = .056 [.044, .067] and showed a significant association between anxiety and depression, r = .752.

Prior to the longitudinal invariance analyses for youths' internalizing symptoms, parcels of the common and unique items for youths' internalizing symptoms were created across waves (see Table 1). There were six items that assessed common symptoms across

time, as well as nine unique items at waves 1-3, and 11 unique items at waves 4-5 that assessed varying symptoms across time. The correlations, means, and standard deviations for the common and unique parcels of youths' anxiety and depressive symptoms are shown in Table 2.

Longitudinal Invariance Analyses. A baseline configural invariance model (Model A) was evaluated to determine whether the same pattern of fixed and free loadings characterized youths' internalizing symptoms across time. Results from Model A suggested that the model did not fit the data well, $\chi^2(160) = 448.852$, $p < .001$, RMSEA = .068 [.060, .075], CFI = .883, TLI = .861, SRMR = .055 (see Table 3). Both theory and recommended modification indices indicated that the inclusion of within-wave covariances between parcels of the same construct would improve model fit. Therefore, a second configural invariance model (Model B) was evaluated to include all within-wave covariances (e.g., the common parcel of depression was correlated with the unique parcel of depression within each wave). Results from Model B showed improved fit, $\chi^2(150) = 316.928$, $p < .001$, RMSEA = .053 [.045, .061], CFI = .932, TLI = .914, SRMR = .048, $\Delta\chi^2(10) = 131.924$, $p < .001$. To streamline the model, a configural invariance model (Model C) with only the significant within-wave covariances was evaluated and yielded adequate fit, $\chi^2(155) = 322.197$, $p < .001$, RMSEA = .052 [.044, .061], CFI = .932, TLI = .916, SRMR = .048, which did not differ significantly from Model B, $\Delta\chi^2(5) = 5.269$, $p = .384$. Building on Model C, a configural invariance model (Model D) with the inclusion of all across-wave covariances was estimated (e.g., the common parcel of depression at wave 1 was correlated with the common parcel of depression at wave 2). This model fit

the data well, $\chi^2(127) = 224.076$, $p < .001$, RMSEA = .044 [.035, .054], CFI = .960, TLI = .941, SRMR = .043, and significantly better than Model C, $\Delta\chi^2(28) = 98.121$, $p < .001$. To further streamline the model, a configural invariance model (Model E) with only the significant across-wave covariances was estimated and fit the data well, $\chi^2(146) = 234.519$, $p < .001$, RMSEA = .039 [.030, .048], CFI = .964, TLI = .953, SRMR = .044. Although the chi-square difference test was not significant, $\Delta\chi^2(19) = 10.443$, $p = .941$, some of the practical fit indices (e.g., RMSEA, CFI, TLI) indicated that Model E was a better fit to the observed data than Model D.

Following the identification of the best fitting configural invariance model (Model E), a weak invariance model (Model F) tested whether the factor loadings for youth internalizing symptoms were invariant across time. Although Model F evidenced a significant drop in fit to the data when compared to Model E, $\Delta\chi^2(10) = 27.201$, $p = .002$, the fit indices for the overall model indicated that Model F still fit the data adequately, $\chi^2(156) = 261.720$, $p < .001$, RMSEA = .042 [.033, .050], CFI = .957, TLI = .947, SRMR = .057 (see Figure 2). Results from this model indicated that the latent variables of internalizing symptoms were assessing the same underlying construct across time. Across waves, the standardized factor loadings for the unidimensional item parcels ranged from .498 to .838. Factor scores were computed from Model F for use in subsequent cross-lagged panel models.

Cross-lagged Panel Analyses. Using the factor score estimates from the weak invariance model, a trait and time-varying model was evaluated to disaggregate the between-and within-person-variance in youths' internalizing symptoms across the five

waves. In this model, a stable trait latent construct (Kenny & Zautra, 2001) was created to capture the between-person differences in internalizing symptoms. In addition, the time-varying effects in the model were fixed according to a simplex pattern, such that wave 1 internalizing symptoms predicted wave 2 internalizing symptoms, but not the nonadjacent waves. Although the RMSEA was greater than .08, the confidence interval contained this value and the remaining practical fit indices suggested that the model fit the data well, $\chi^2(5) = 26.224$, $p < .001$, RMSEA = .104 [.067, .145], CFI = .986, TLI = .971, SRMR = .025. Overall, this model indicated trait-like variation in youths' internalizing symptoms with the standardized coefficients for the global trait factor ranging from .66 to .74. These trait-like differences in youths' internalizing symptoms appear to be consistent across time. However, youth also showed significant time-varying changes in their internalizing symptoms after removing their trait-like differences. Across early and middle adolescence (i.e., waves 1-3), youths' internalizing symptoms varied across time, $b = .464$ to $b = .234$ with this time-varying component of internalizing symptoms becoming extremely stable between late adolescence and young adulthood (i.e., waves 4-5), $b = .853$.

Building on the previous model, I incorporated mothers' and fathers' depressive symptoms across waves to examine the effects of mothers' and fathers' depressive symptoms on youths' internalizing symptoms as well as the reciprocal effects of youths' internalizing symptoms on mothers' and fathers' depressive symptoms across waves. Both mothers' and fathers' depressive symptoms were separated into a series of trait and time-varying components across waves (see Table 4 for descriptive information for

mothers' and fathers' depressive symptoms). At each time point, the time-varying variable for all reporters were correlated. In addition to the inclusion of stability coefficients and cross-lagged influences on each reporter, the global trait factor for each reporter was correlated with the other two reporters' global trait factor (i.e., mothers' trait-like depressive symptoms were correlated with youths' trait-like internalizing symptoms and father's trait-like depressive symptoms). For wave 5 youths' internalizing symptoms, both parents' proximal effects (e.g., wave 4) and distal effects (e.g., wave 1) were allowed to predict changes in youths' time-varying internalizing symptoms. Changes in all models refer to time-varying variances that reflect both within-person variances as well as wave-specific variability. Furthermore, the notations for covariances are denoted as "*c*" and the unidirectional path estimates are denoted as "*b*."

Findings from the baseline cross-lagged model (Model A) showed that this model fit the data well, $\chi^2(46) = 67.851$, $p = .020$, RMSEA = .035 [.014, .052], CFI = .991, TLI = .979, SRMR = .033. However, the covariances between reporters for later waves were removed from the model to be consistent with traditional cross-lagged panel designs. This model (Model B) also fit the data well, $\chi^2(58) = 87.556$, $p = .007$, RMSEA = .036 [.019, .051], CFI = .987, TLI = .977, SRMR = .036, and did not differ significantly from Model A, $\Delta\chi^2(12) = 19.705$, $p = .073$, suggesting that the later covariances did not contribute significant information to the model.

Consistent with the previous trait and time-varying model of internalizing symptoms, findings from Model B revealed both trait-like and time-varying differences in youths' internalizing symptoms across time (see Figure 3). For mothers' depressive

symptoms, only one of the time-varying coefficients was significant and all the other stability coefficients were not significant. Specifically mothers' time-varying depressive symptoms at wave 4 were positively associated with their time-varying depressive symptoms at wave 5, $b = .232$, $SE = .070$, $p < .001$. These findings suggest that the majority of the variation in mothers' depressive symptoms across waves was explained by between-person differences. A similar pattern was found for fathers' depressive symptoms. Fathers' time-varying depressive symptoms at wave 3 were negatively associated with fathers' time-varying depressive symptoms at wave 4, $b = -.203$, $SE = .109$, $p = .061$. However, there were no other significant time-varying associations across waves, suggesting that most of the variation in fathers' depressive symptoms was explained by stable between-person differences at the trait level.

An examination of the correlations between the global trait factor among the three reporters revealed that mothers' and fathers' trait-like differences in depressive symptoms were related to youths' trait-like internalizing symptoms across time. Specifically, youths' trait-like differences in internalizing symptoms were positively associated with mothers' ($c = .176$, $SE = .047$, $p < .001$) and fathers' ($c = .111$, $SE = .041$, $p = .006$) trait-like depressive symptoms. Similarly, mothers' trait-like differences were positively associated with fathers' trait-like differences in depressive symptoms, $c = .304$, $SE = .078$, $p < .001$.

At wave 1, the time-varying covariance between mothers' and fathers' depressive symptoms was significant, $c = .332$, $SE = .092$, $p < .001$. In contrast, youths' time-varying internalizing symptoms did not correlate significantly with mothers' ($c = .049$,

SE = .056, *p* = .385) or fathers' (*c* = .048, *SE* = .047, *p* = .380) time-varying depressive symptoms at wave 1. The cross-lagged results revealed that mothers' (*b* = .034, *SE* = .017, *p* = .046) and fathers' (*b* = -.04, *SE* = .020, *p* = .042) time-varying depressive symptoms at wave 1 predicted changes in youths' time-varying internalizing symptoms at wave 5 (i.e., distal effects). However, mothers' and fathers' time-varying depressive symptoms at wave 4 did not predict changes in youths' time-varying internalizing symptoms at wave 5 (i.e., proximal effects). Furthermore, there were no significant associations between both parents' depressive symptoms and youths' internalizing symptoms at earlier waves. Fathers' time-varying depressive symptoms at waves 2 and 3 predicted lower levels of mothers' time-varying depressive symptoms at wave 3, *b* = -.178, *SE* = .095, *p* = .060 and wave 4, *b* = -.426, *SE* = .122, *p* < .001. However, fathers' depressive symptoms did not predict changes in mothers' depressive symptoms at other waves. Mothers' depressive symptoms showed no effect on fathers' depressive symptoms across time. Similarly, youths' time-varying internalizing symptoms did not predict changes in mothers' and fathers' time-varying depressive symptoms.

Moderation Analyses. A series of multigroup analyses were conducted to determine whether the previous trait and time-varying model (Model B) varied by family ethnicity, family structure, or child gender. For each moderator, an unconstrained model was compared to a model that equated the parameter estimates across groups. Findings from the multigroup analyses revealed that the unconstrained models differed significantly from the fully equated models for family ethnicity, $\Delta\chi^2(44) = 80.922$, $p < .001$, and child gender, $\Delta\chi^2(44) = 67.777$, $p = .012$, but not family structure, $\Delta\chi^2(44) =$

48.697, p = .290. A series of multigroup analyses were conducted for family ethnicity and child gender to compare the unconstrained model to constrained versions of the model (e.g., trait-like differences, time-varying differences, mother effects on child, father effects on child, child effects on each parent). Sets of effects were tested in contrast, rather than individual paths, to avoid capitalizing on chance (i.e., type 1 error), though analyzing sets of effects may also obscure significant path coefficients (i.e., type 2 error). Significant moderation findings are reported below.

Family ethnicity. An unconstrained model was compared to a constrained model that equated the trait-like differences among the three reporters across European and Mexican America families. The chi-square difference test was significant, $\Delta\chi^2(3)$ = 11.143, p = .011, suggesting that these trait-like differences differed between European and Mexican American families. Among European American families, youths' trait-like internalizing symptoms were significantly correlated with mothers' (c = .244, SE = .063, p < .001) and fathers' (c = .238, SE = .065, p < .001) trait-like depressive symptoms, and mothers' trait-like depressive symptoms were significantly correlated with fathers' trait-like depressive symptoms, c = .298, SE = .099, p < .001. In contrast, although mothers' and fathers' trait-like depressive symptoms were significantly correlated in Mexican American families, c = .250, SE = .119, p = .035, youths' trait-like internalizing symptoms were not associated significantly with mothers' (c = .116, SE = .070, p = .095) or fathers' (c = -.019, SE = .050, p = .704) trait-like depressive symptoms. Other multigroup analyses comparing the unconstrained model with other constrained models

as a function of ethnicity did not differ significantly across European and Mexican American families.

Child gender. An unconstrained model for gender was compared to a constrained model to test the time-varying differences in youths' internalizing symptoms across males and females. A significant chi-square difference test indicated that the time-varying effects in the model differed for males and females, $\Delta\chi^2(4) = 10.58$, $p = .032$. The findings showed that females evidenced greater stability in their internalizing symptoms than males. The time-varying coefficients for females were significant from wave 1 to wave 2, $b = .285$, $SE = .102$, $p = .005$, and from wave 4 to wave 5, $b = .825$, $SE = .040$, $p < .001$, but not from waves 2 through 4. In contrast, the time-varying coefficients for males were significant across all waves, $b = .359$, $SE = .119$, $p < .001$ to $b = .914$, $SE = .042$, $p < .001$. The standardized coefficients for the global trait factor of internalizing symptoms were consistent with the time-varying coefficients. Specifically, the standardized coefficients for the global trait factor revealed that less of the variation in internalizing symptoms was explained by trait-like differences among males, with coefficients ranging from .452 to .507, than among females, with coefficients ranging from .711 to .846.

A second set of multigroup analyses comparing the unconstrained model of gender with a constrained model that equated the effects of mothers' depressive symptoms on youth internalizing symptoms across males and females were evaluated. A significant chi-square difference test, $\Delta\chi^2(5) = 11.618$, $p = .040$, revealed that the influence of mothers' depressive symptoms on youth internalizing symptoms differed

between males and females across time. An examination of the unstandardized path coefficients across waves indicated that mothers' depressive symptoms at wave 4 predicted higher levels of youths' internalizing symptoms at wave 5 for females, b = .063, SE = .024, p = .008, but not for males, b = -.002, SE = .016, p = .916.

Externalizing Symptoms

Prior to the longitudinal invariance analyses for youths' externalizing symptoms, parcels of the common and unique items for youths' externalizing symptoms were created across waves (see Table 5 for list of items). There were 10 items that assessed common symptoms across time, as well as two unique items at waves 1-3, and 26 unique items at waves 4-5 that assessed varying symptoms across time. The correlations, means, and standard deviations for the common and unique parcels of youths' externalizing symptoms are shown in Table 6.

Longitudinal Invariance Analyses. A baseline configural invariance model (Model A) was evaluated to determine whether the same pattern of fixed and free loadings existed in youths' externalizing symptoms across time. Results from Model A suggested poor to adequate fit, $\chi^2(25) = 128.522$, $p < .001$, RMSEA = .103 [.086, .121], CFI = .936, TLI = .885, SRMR = .043 (see Table 7). To improve the fit of the model, modification indices from the baseline configural model were examined to inform a second configural invariance model (Model B). Given that there were only two parcels at each wave, there were no within-wave covariances included in the second configural invariance model; however, significant across-wave covariances were added. The results for Model B suggested that this configural invariance model fit the data well, $\chi^2(22) =$

50.763, p <.001, RMSEA = .058 [.037, .079], CFI = .982, TLI = .964, SRMR = .036, and significantly better than Model A, $\Delta\chi^2(3) = 77.759$, $p < .001$.

Following the identification of the best fitting configural invariance model (Model B), a weak invariance model (Model C) tested whether the factor loadings for externalizing symptoms were invariant across time. Although Model C evidenced a significant drop in fit to the data, $\Delta\chi^2(3) = 13.348$, $p = .004$, additional fit indices for the overall model indicated that this model fit the data adequately, $\chi^2(25) = 64.111$, $p < .001$, RMSEA = .063 [.044, .082], CFI = .976, TLI = .957, SRMR = .051 (see Figure 4). Results from this model indicate that the latent variables of externalizing symptoms were assessing the same underlying construct across time with standardized factor loadings for the item parcels across waves ranging from .584 to .982. Factor scores were computed from Model C to be used in the cross-lagged panel analyses.

Cross-lagged Panel Analyses. Using factor score estimates from the weak invariance model, a trait and time-varying model was estimated to separate the between- and within-person differences in youth externalizing symptoms across waves. Findings from this analysis suggested that this model did not fit the data well, $\chi^2(5) = 85.143$, $p <$ .001, RMSEA = .202 [.166, .241], CFI = .927, TLI = .855, SRMR = .065. A review of the modification indices for the model indicated that adding covariances between non-adjacent waves for youths' externalizing symptoms (e.g., wave 1 with wave 3 externalizing symptom) could improve the data. More importantly, the correlations among the five latent variables of externalizing symptoms suggested that youths' externalizing symptoms did not follow the expected trend across time (e.g., higher

correlations between variables closer in time intervals). Specifically, some correlations between nonadjacent waves were higher than the correlations between adjacent waves (see Table 8). For example, the correlation between waves 1 and 3 externalizing symptoms (r = .665) was higher than the correlation between waves 1 and 2 *(*r = 543). These findings suggest that youth externalizing symptoms may not follow a simplex pattern such that some effects from earlier waves may not carry through to the next wave in sequential order.

As suggested by modification indices, all stability paths and nonadjacent path were added to the baseline trait and time-varying model for youths' externalizing symptoms (e.g., wave 1 time-varying with wave 3 time-varying). However, the model did not converge, and Mplus produced a warning statement suggesting a third model that excluded the nonadjacent path between waves 3 and 5 time-varying externalizing symptoms. This third model evidenced adequate fit, $\chi^2(3) = 24.674$, $p < .001$, RMSEA = .136 [.089, .188], CFI = .980, TLI = .934, SRMR = .034, and differed significantly from the baseline trait and time-varying model for youths' externalizing symptoms, $\Delta\chi^2(2) = 60.469$, $p < .001$.

Findings from this model supported trait-like variation in youths' externalizing symptoms, with standardized coefficients on this global trait factor ranging from .502 to .934. From waves 1 through 4, youths' time-varying externalizing symptoms were significantly correlated with each subsequent wave, with the results showing a declining trend in externalizing symptoms across time, b = .333, SE = .047, $p < .001$ to b = .186, SE = .056, p = .001. Furthermore, there were significant nonadjacent paths between waves 1

and 3, b = .234, SE = .030, p < .001, and between waves 2 and wave 4, b = -.051, SE = .024, p = .001, though the latter association was negative. The time-varying association between waves 4 and 5 was not significant, b = .191, SE = .123, p = .121, which suggests that youths' externalizing symptoms showed considerable variation from early to middle adolescence, but not from late adolescence and young adulthood. Indeed, the standardized coefficients of the global trait factor mirrored the findings of the time-varying coefficients, which showed an increase in the trait-like variation of youths' externalizing symptoms from wave 1, β = .502, SE = .026, p < .001, to wave 5, β = .934, SE = .046, p < .001.

Building on the previous model, mothers' and fathers' trait-like and time-varying depressive symptoms across waves were added to the model to test the effects of mothers' and fathers' depressive symptoms on youths' externalizing symptoms, as well as youths' reciprocal influences on mothers' and fathers' depressive symptoms. Similar to the model for youths' internalizing symptoms, mothers' and fathers' depressive symptoms at waves 1 and 4 were allowed to predict changes in youths' externalizing symptoms at wave 5. In addition to the stability coefficients and cross-lagged influences across all three reporters, this baseline trait and time-varying cross-lagged model included within-wave covariances between all three reporters' time-varying symptoms. Model A fit the data well, $\chi^2(44) = 64.060$, p = .026, RMSEA = .034 [.012, .051], CFI = .990, TLI = .975, SRMR = .035. However, a subsequent model (Model B) with only the within-wave covariances of the time-varying components for all three reporters at wave 1 also fit the data well, $\chi^2(56) = 80.945$, p = .016, RMSEA = .034 [.015, .049], CFI = .987, TLI =

.976, SRMR = .038, and did not differ significantly from Model A, $\Delta\chi^2(12) = 16.885$, p = .154, which suggests that these covariances did not contribute significant information to the model.

Consistent with the previous trait and time-varying model of youths' externalizing symptoms, findings from Model B revealed both trait-like and time-varying differences in youths' externalizing symptoms across time (see Figure 5). Findings for mothers' and fathers' trait-like and time-varying depressive symptoms were consistent with the youths' internalizing model with most of the variation in mothers' and fathers' depressive symptoms being explained by between-person differences. An examination of the correlations between the global trait factor for all three reporters revealed that youths' trait-like externalizing symptoms were marginally associated with mothers' depressive symptoms, c = .171, SE = .102, p = .093, but were not related to fathers' depressive symptoms, c = .132, SE = .089, p = .137. Mothers' and fathers' trait-like depressive symptoms were associated significantly, c = .292, SE = .077, $p < .001$.

In the total sample, mothers' time-varying depressive symptoms at wave 1 predicted higher rates of youths' externalizing symptoms at wave 5, b = .181, SE = .053, p = .001, but mothers' time-varying depressive symptoms at wave 3 predicted lower rates of youths' externalizing symptoms at wave 4, b = -.094, SE = .055, p = .089. There were no other parent effects on youth externalizing symptoms across time. However, youths' time-varying externalizing symptoms at wave 1 predicted higher levels of mothers' depressive symptoms at wave 2, b = .081, SE = .034, p = .016, whereas youths' time-varying externalizing symptoms at wave 4 predicted lower levels of mothers' depressive

symptoms at wave 5, b = -.405, SE = .116, p = .001. Consistent with the youths' internalizing model for the total sample, fathers' time-varying depressive symptoms at waves 2 and 3 were associated with lower levels of mothers' time-varying depressive symptoms at waves 3 and 4. In addition, mothers' time-varying depressive symptoms at wave 1 were correlated with fathers' time-varying depressive symptoms, c = .331, SE = .092, p < .001, and youths' time-varying externalizing symptoms, c = .521, SE = .203, p = .010, at the same time point, but youths' time-varying externalizing symptoms at wave 1 were not correlated with father time-varying depressive symptoms, c = .102, SE = .172, p = .556.

Moderation Analyses. A series of multigroup analyses were conducted to determine whether the previous trait and time-varying cross-lagged model (Model B) varied by family ethnicity, family structure, and child gender. For each moderation analysis, an unconstrained model was compared to a model that equated the parameter estimates across groups. Findings from the multigroup analyses revealed that the unconstrained models differed significantly from the fully equated models for family ethnicity, $\Delta\chi^2(46) = 71.498$, p = .009, and child gender, $\Delta\chi^2(46) = 63.835$, p = .041, but not family structure, $\Delta\chi^2(46) = 34.035$, p = .904. Similar to youths' internalizing symptoms, several multigroup analyses were conducted for family ethnicity and child gender to compare an unconstrained model to various constrained versions of the model (e.g., trait-like differences, time-varying differences, mother effects on child, father effects on child, child effects on each parent). Significant moderation findings are reported below.

Family ethnicity. An unconstrained model for family ethnicity was compared with a constrained model that equated the time-varying covariances at wave 1 between all three reporters, $\Delta\chi^2(3) = 10.126$, $p = .017$. Although the association between mothers' and fathers' time-varying depressive symptoms at wave 1 was pronounced in both Mexican, $b = .444$, $SE = .142$, $p = .002$, and European, $b = .227$, $SE = .126$, $p = .072$, American families, the relation between fathers' depressive symptoms and youths' externalizing symptoms differed by family ethnicity. Specifically, fathers' depressive symptoms were not associated significantly with youths' externalizing symptoms in Mexican American families at wave 1, $c = -.404$, $SE = .255$, $p = .114$, whereas fathers' depressive symptoms were significantly associated with youths' externalizing symptoms in European American families, $c = .541$, $SE = .251$, $p = .031$, at the same time point. In Mexican American families, mothers' time-varying depressive symptoms were marginally associated with youths' externalizing symptoms at wave 1, $c = .589$, $SE = .318$, $p = .064$, but this relation was not significant in European American families, $c = .425$, $SE = .265$, $p = .108$.

Child gender. Although the chi-square difference test between the unconstrained model and the fully constrained model for child gender was significant, most of the multigroup analyses with the various sets of constrained models were not significant. The chi-square difference test investigating the effects of youths' time-varying externalizing symptoms on mothers' time-varying depressive symptoms, $\Delta\chi^2(4) = 8.226$, $p = .082$, and of fathers' time-varying depressive symptoms on mothers' time-varying depressive

symptoms, $\Delta\chi^2(4) = 8.006$, $p = .091$, were marginally significant, therefore, these analyses were not probed further for moderation effects.

Discussion

The first aim of this investigation was to evaluate the unique contributions of mothers' and fathers' depressive symptoms to youths' internalizing and externalizing symptoms from early adolescence to young adulthood, as well as the reciprocal effects of youths' symptomatology on each parent's depressive symptoms. This is one of the first longitudinal studies to examine the effects of parents' psychopathology on youth adjustment while taking into account the influence of the co-parent's psychopathology. Moreover, whereas prior studies have typically employed cross-sectional approaches to study young, European American children in clinical samples, this study evaluated associations between parents' depressive symptoms and youths' symptomatology from early adolescence to young adulthood in a community sample of European American and Mexican American families. Overall, the findings showed that both mothers' and fathers' between- and within-person differences in depressive symptoms across time were related to youths' internalizing and externalizing symptoms from early adolescence to young adulthood. Furthermore, these associations varied significantly across groups defined by family ethnicity and child gender, but not by family structure.

Fathers' and Mothers' Depressive Symptoms

Fathers' and mothers' depressive symptoms evidenced predominantly trait-like (i.e., between-person) differences, which indicates that mothers' and fathers' depressive symptoms remained stable over time and had comparable effects on youths'

symptomatology across early adolescence and young adulthood. Although studies with young children have shown similar degrees of stability in fathers' depressive symptoms over time, mothers' depressive symptoms decline across early childhood from ages 2 to 4 (Gross, Shaw, Moilanen, Dishion, & Wilson, 2008). The current data suggest that mothers may arrive at a stable point of symptomatology by the time their children enter adolescence, and, barring a major disruption, such as a traumatic loss, mothers' depressive symptoms remain stable across time.

Mothers' and fathers' between-person differences in depressive symptoms across time and their individual differences in depressive symptoms at the initial wave of assessment were positively correlated with each other. Moreover, these associative patterns did not differ significantly across Mexican American versus European American families, intact versus stepfather families, and families with daughters versus sons. Previous research has suggested similar patterns, such that, if one partner has a history of depression, there is an increased likelihood that the other partner will experience similar rates of depression (Brennan et al., 2002; Matthey et al., 2000). These patterns likely reflect a phenomenon known as assortative mating in which partners both seek out individuals who are genetically similar to them and/or have similar personal characteristics, and become increasingly psychologically similar as time unfolds in the context of a co-constructed environment (Watson et al., 2004).

In models with either youths' internalizing or externalizing symptoms, fathers' time-varying depressive symptoms predicted changes in mothers' depressive symptoms, however, mothers' time-varying depressive symptoms did not influence changes in

fathers' depressive symptoms. As mentioned previously, changes in this context refer to time-varying variances that reflect both within-person variance as well as wave-specific variability. Therefore, fathers' depressive symptoms predicted lower levels of mothers' depressive symptoms from early to late adolescence. These findings suggest that mothers may compensate for their partner's depressive symptoms by reporting (and likely displaying) less negative affect in the context of their family environment.

Youths' Internalizing Symptoms

In comparison to mothers' and fathers' depressive symptoms, youths' internalizing symptoms evidenced both between- and within-person differences from early adolescence to young adulthood. However, the between-person differences in youths' internalizing symptoms remained consistent across time, whereas the individual differences in youths' internalizing symptoms waned in salience over time. This finding is consistent with recent work examining time-invariant and time-varying differences in children's depressive symptoms which suggests that the invariant portion of children's depressive symptoms shows consistency across time, informants, and settings (Cole et al., 2017). Individual differences in youths' internalizing symptoms became increasingly stable from late adolescence to young adulthood. This pattern is consistent with previous research showing that youths' internalizing symptoms, especially depression, increase from early to mid-adolescence, but remain stable after mid-adolescence and into adulthood (Ge, Natsuaki, & Conger, 2006).

As compared to boys, girls evidenced more stability in their internalizing symptoms, with findings indicating that girls' symptoms of anxiety and depression

reached a stable level by mid-adolescence, whereas males' internalizing symptoms continued to vary across adolescence and into young adulthood. These findings are consistent with prior evidence that males' and females' experiences of anxiety and depression diverge across adolescence (Ge, Lorenz, Conger, Elder, & Simons, 1994). Specifically, although girls and boys report similar rates of internalizing symptoms during early and middle childhood, females tend to experience increasing rates of internalizing symptoms during the transition from middle childhood to adolescence such that these symptoms peaked during early and middle adolescence and remain fairly stable from late adolescence to young adulthood (Ge et al., 1994; Ge et al., 2006; Kessler, 2003).

Between-person differences in youths' internalizing symptoms were associated with between-person differences in mothers' and fathers' depressive symptoms across time. Specifically, mothers and fathers who experienced higher levels of depressive symptoms were more likely to have children with elevated rates of anxiety and depressive symptoms from early adolescence to young adulthood. These findings supported the first hypothesis of this study and are consistent with previous empirical evidence suggesting that both mothers' and fathers' depressive symptoms contribute to youths' internalizing symptoms (Cummings et al., 2014; Elgar et al., 2007; Hammen et al., 2008; Rohde et al., 2005).

Although the associations of mothers' and fathers' depressive symptoms with youths' internalizing symptoms were consistent across intact and stepfather families and across families with daughters and sons, these effects varied by family ethnicity.

European American youths' experiences of anxiety and depressive symptoms were linked to both their mothers' and fathers' depressive symptoms, but neither set of relations attained significance among Mexican American youth. This finding contradicts prior studies suggesting that relations between parental psychopathology and child symptomatology are stronger in non-European American families because of the relatively greater interdependence among family members (Wilson & Durbin, 2010). In contrast to prior assertions, the current findings may reflect a buffering effect of close and supportive connections in Mexican American families, such that they mitigate the influence of parents' depressive symptomatology on children.

Mirroring the obtained patterns of between-person differences, individual differences in mothers' and fathers' depressive symptoms predicted changes in youths' internalizing symptoms. Specifically, mothers' and fathers' depressive symptoms in early adolescence (i.e., distal effects) evidenced a stronger influence on youths' later internalizing symptoms than parents' depressive symptoms in late adolescence (i.e., proximal effects). These findings are consistent with multiple theoretical frameworks (e.g., developmental psychopathology, organizational models of development, attachment theory), which conceptualize development as cumulative, orderly, and hierarchically integrated, such that early experiences in the family environment tend to have special significance or meaning for youth development (Cummings & Cicchetti, 1990; Duggal, Carlson, Sroufe, & Egeland, 2001; Sroufe, 1990; Sroufe, 1997; Sroufe & Rutter, 1984). In this view, distal parental depressive symptoms may lead to youths' symptomatology in young adulthood because parents' experiences of depressive symptoms during youths'

earlier development influence their responsiveness and psychological availability to their children's developmental needs, which in turn, affects their children's emergent representational, regulatory, and relational structures (Cummings & Cicchetti, 1990; Duggal et al., 2001).

The influence of mothers' and fathers' depressive symptoms on youths' internalizing symptoms differed such that elevated rates of mothers' depressive symptoms in early adolescence were associated with *higher* levels of youths' internalizing symptoms in young adulthood, whereas elevated rates of fathers' depressive symptoms in early adolescence were associated with *lower* levels of youths' internalizing symptoms in young adulthood. The obtained findings are consistent with prior studies showing that maternal depressive symptoms in early adolescence predicted children's anxiety and depressive symptoms in young adulthood (Reeb et al., 2015), as well as with other studies suggesting that changes in maternal depressive symptoms were associated with higher rates of emotional problems in children during adolescence (Cummings et al., 2014; Elgar et al., 2007). Although, the obtained findings for mothers were consistent with prior work, those for fathers were not. Whereas changes in mothers' depressive symptoms were associated with youths becoming more vulnerable to anxiety and depressive symptoms, changes in fathers' depressive symptoms were associated with less vulnerability to internalizing symptoms for youths in young adulthood. Fathers who exhibit changes in their depressive symptoms in early adolescence may be more responsive to their children's psychological needs.

Importantly, although mothers' depressive symptoms in early adolescence were positively associated with youths' internalizing symptoms for the total sample, changes in mothers' depressive symptoms during late adolescence emerged as a stronger influence on girls' than on boys' internalizing symptomatology during young adulthood. These findings are consistent with prior evidence that mothers' depressive symptoms influence both males' and females' internalizing symptoms (Connell & Goodman, 2002), but they further suggest that girls may be especially vulnerable to mothers' depressive symptoms during young adulthood. This pattern may reflect a shift in the relational dynamics between mothers and their children such that mothers may be more willing to share their emotional challenges with their older daughters and may depend on them for emotional support to a greater extent than their sons. Alternately, some scholars have argued that daughters may become overinvolved with their mothers' depression, which increases the immediate transmission of mothers' depressive symptoms to their daughters relative to their sons (Duggal et al., 2001).

Youths' Externalizing Symptoms

Youths' externalizing symptoms evidenced both between- and within-person differences from adolescence to young adulthood. However, in comparison to the stable between-person variation in youths' internalizing symptoms across time, youths' externalizing symptoms changed considerably during early and middle adolescence. For youths' externalizing symptoms, the trait-like variation increased from adolescence to young adulthood and the time-varying effects decreased across time. Moreover, these patterns were similar for children from Mexican American and European American

backgrounds, in both intact and stepfather families, and across boys and girls. The obtained findings mirror those of prior studies, which have shown that children's externalizing problems increase from early to middle adolescence (Galambos, Barker, & Almeida, 2003). Likewise, a study of 451 children who were followed from 7th to 12th grade revealed increasing stability coefficients of youths' externalizing symptoms from .43 to .61 across time (K. J. Kim, Conger, Elder, & Lorenz, 2003).

Youths' between-person differences in externalizing symptoms were associated with mothers' between-person depressive symptoms, but not with fathers' between-person depressive symptoms. Thus, mothers who had higher levels of depressive symptoms were more likely to have children who engaged in delinquent, intrusive, and rule-breaking behaviors from early adolescence through young adulthood. Although these findings support prior studies showing that depressed mothers tend to have children with more problem behaviors (Elgar et al., 2007; Natsuaki et al., 2014), the current results are inconsistent with previous studies showing that fathers' depressive symptoms are more important than mothers' depressive symptoms for understanding children's externalizing symptoms (Connell & Goodman, 2002; Kane & Garber, 2004; Low & Stocker, 2005). However, given that prior studies have typically examined mothers' and fathers' depressive symptoms in separate models, and also have not disentangled between-person from the within-person effects, the association between fathers' depressive symptoms and youths' externalizing symptoms in the current study may have been attenuated by the concomitant consideration of mothers' symptomatology, as well as the separation of these two variance types in this study.

Similar to the influence of parent's between-person differences in depressive symptoms on youths' externalizing symptoms, within-person differences in mothers', but not fathers', depressive symptoms predicted changes in youths' externalizing symptoms. Interestingly, whereas mothers' elevated depressive symptoms during early adolescence (i.e., distal effects) predicted *higher* levels of youths' externalizing symptoms during young adulthood, mothers' elevated depressive symptoms in middle adolescence (i.e., proximal effects) predicted *lower* levels of youths' externalizing symptoms during late adolescence. Although the distal effect found for mothers' depressive symptoms is consistent with prior research (Cummings et al., 2014; Elgar et al., 2007), the proximal negative effect of mothers' depressive symptoms on youths' externalizing problems is inconsistent with the research literature. The obtained finding suggests that higher levels of mothers' depressive symptoms during middle adolescence may discourage youths' involvement in problem behaviors during late adolescence.

Bidirectional influences of youths' externalizing symptoms on changes in mothers' depressive symptoms were evident across time. Youths' externalizing symptoms predicted higher levels of mothers' depressive symptoms during early adolescence, whereas youths' externalizing symptoms in late adolescence predicted lower levels of mothers' depressive symptoms during young adulthood. These data suggest that youths' externalizing problems during early adolescence were associated with elevated depressive symptoms in mothers, but these same problems were associated with lower maternal depressive symptoms in late adolescence. It may be that mothers are more likely to attribute their children's problem behaviors during early adolescence to their own

shortcomings as parents, whereas higher levels of youths' externalizing behaviors during late adolescence might be perceived as more age-appropriate or normative by mothers. Of note, this explanation would suggest that mothers' perceptions do not map onto children's actual behavior patterns consistently across time.

Empirical work with young children has shown that parents with children who engage in externalizing behaviors are more likely to report higher levels of child-related stress and acknowledge negative effects of children's behavior problems on their social life and feelings toward parenting (Donenberg & Baker, 1993). Other studies have shown that children's externalizing behavior problems predict changes in parents' caregiving behavior, such that parents who have children who engage in externalizing behaviors may be more likely to evidence intrusive and harsh parenting (Eisenberg et al., 2015; Serbin et al., 2015), as well as lower levels of supportive parenting over time (Serbin et al., 2015). However, relative to research on the effects of parents' psychological functioning and caregiving behavior on children's adjustment, fewer studies have examined the transactional effects of children's behavior problems on parenting (e.g., Davidov, Knafo-Noam, Serbin, & Moss, 2015) , and even fewer researchers have examined how children's behavior may influence parents' mental health. The current findings highlight the importance of investigating child effects on parents' psychological functioning and suggest that children's behavior in adolescence and young adulthood may feed back to influence parents' mental health in divergent ways.

CHAPTER 4: STUDY AIM II

Results

To evaluate co-parent symptomatology, youths' report of parental acceptance and rejection, and youths' perceptions of mattering to mothers and fathers as putative mechanisms that explain associations between mothers' and fathers' depressive symptoms and youths' internalizing or externalizing problems.

A series of trait and time-varying cross-lagged panel models evaluated intervening mechanisms that could explain the effects of mothers' and fathers' depressive symptoms on youths' internalizing and externalizing symptoms. These mediating variables included a) the co-parent's depressive symptoms, b) the youth's perception of acceptance from each parent, c) the youth's perception of rejection from each parent, and d) the youth's perception of mattering to each parent. In each model, fathers' depressive symptoms, mothers' depressive symptoms, and youths' report of either their internalizing and externalizing symptoms were evaluated for each mediator as separated into a series of trait and time-varying components across waves. For the first wave, the time-varying variable for all constructs in the model were correlated. In addition to stability coefficients and cross-lagged influences across waves, the global trait factor for each construct was correlated with the global trait index of the other constructs in the model. The notations for covariances are denoted as "*c*" and the unidirectional path estimates are denoted as "*b.*" With the exception of the model evaluating the explanatory role of the co-parent's depressive symptoms on observed relations between the primary parent's

depressive symptoms and youths' symptomatology, all variables used to assess mediation were included at only the first four waves of data collection. Given the complexity of the models, significant pathways linking parents' depressive symptoms to youths' symptomatology were tested to individually evaluate the presence of direct and indirect effects. Although pathways that did not originate from mothers' and fathers' depressive symptoms (e.g., reciprocal pathways from the mediators to youths' symptomatology via parents' depressive symptoms) were included in all models, mediating pathways originating from constructs other than parents' symptomatology were not examined here.

Parents' Depressive Symptoms and Youths' Internalizing Symptoms: Mediation Analyses

Co-Parent's Depressive Symptoms. A trait and time-varying cross-lagged model was conducted with mothers' and fathers' depressive symptoms and youths' internalizing symptoms. Findings for this model suggested that the model fit the data well, $\chi^2(58) = 82.648$, $p = .0185$, RMSEA = .033 [.014, .048], CFI = .987, TLI = .977, SRMR = .036. Consistent with previous findings, youths' internalizing symptoms exhibited both trait-like and time-varying differences with significant path coefficients across all waves at both levels of analysis. Mothers' and fathers' depressive symptoms mostly evidenced trait-like differences with only mothers' time-varying depressive symptoms at wave 4 associated with mothers' time-varying depressive symptoms at wave 5, $b = .232$, $SE = .097$, $p = .016$.

At the time-varying level, only mothers' and fathers' time-varying covariance at wave 1 was significant, $c = .332$, $SE = .102$, $p = .001$. Mothers' ($c = .034$, $SE = .020$, $p =$

.089) and fathers' (c = -.04, SE = .020, p = .051) time-varying depressive symptoms at wave 1 predicted changes in youths' internalizing symptoms at wave 5. However, there were no other parental effects on youths' internalizing symptoms across waves. Fathers' depressive symptoms at waves 2 and 3 predicted lower levels of mothers' depressive symptoms at waves 3, b = - .178, SE = .097, p = .067, and 4, b = -.426, SE = .122, p = .001, but neither youths' time-varying internalizing symptoms, or mothers' time-varying depressive symptoms predicted changes in fathers' time-varying depressive symptoms across time. Given that there were no significant indirect pathways linking mothers' or fathers' time-varying depressive symptoms to youths' internalizing symptoms, mediation models were not estimated at the time-varying level.

At the trait level, mothers' (c = .176, SE = .046, p < .001) and fathers' (c = .111, SE = .041, p = .007) depressive symptoms were each positively associated with youths' internalizing symptoms across waves, as well as with one another, c = .304, SE = .080, p = .001. Given that mothers', fathers', and youths' symptoms were significantly correlated at the trait level, two sets of mediation models evaluated the directionality of parents' depressive symptom effects on youths' internalizing symptoms. Using the previous cross-lagged model, the first model tested the influence of fathers' trait-like depressive symptom on youths' trait-like internalizing symptoms through mothers' trait-like depressive symptoms (see Figure 6). The total effect from fathers' trait like depressive symptoms to youths' internalizing symptoms was significant, b = .116, SE = .041, p = .004, 95% CI [.036, .196]. However, the inclusion of mothers' trait-like depressive symptoms reduced this association to marginal significance, b = .076, SE = .043, p =

.081, 95% CI [-.009, .161], and the indirect effect was significant, b = .040, SE = .015, p = .007, 95% CI [.011, .070].

A series of multigroup analyses evaluated this mediation model from fathers' depressive symptoms to youths' internalizing symptoms via mothers' depressive symptoms by family ethnicity, family structure and child gender. The mediation model did not differ by family structure, $\Delta\chi^2(3) = 4.492$, p = .213, or child gender, $\Delta\chi^2(3)$ = 2.791, p = .425, but it did vary by family ethnicity, $\Delta\chi^2(3) = 21.243$, $p < .001$. In Mexican American families, there were no significant direct or indirect associations between fathers' depressive symptoms and youths' internalizing symptoms. However, the total effect between fathers' depressive symptoms and youths' internalizing symptoms was significant in European American families, b = .212, SE = .051, $p < .001$, 95% CI [.111, .312], and the indirect effect via mothers' depressive symptoms was significant, b = .060, SE = .026, p = .020, 95% CI [.009, .110]. However, despite the significant decline in the association between fathers' depressive symptoms and youths' internalizing symptoms, the direct association remained significant, b = .152, SE = .052, p = .004, 95% CI [.047, .257], in European American families.

A second mediation model evaluated the effects of mothers' trait-like depressive symptoms on youths' trait-like internalizing symptoms via fathers' trait-like depressive symptoms. The total effect of mothers' depressive symptoms on youths' internalizing symptoms was significant, b = .146, SE = .032, $p < .001$, 95% CI [.070, .222], but the indirect effect with fathers' trait-like depressive symptoms was not significant, b = .019, SE = .012, p = .111, 95% CI [-.004, .043]. After removing the indirect effect, the direct

association between mothers' trait-like depressive symptoms was still significant, b = .127, SE = .047, p = .002, 95% CI [.046, .208].

Paternal Acceptance. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, fathers' parental acceptance, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 86.849$, p = .0005, RMSEA = .045 [.030, .061], CFI = .979, TLI = .961, SRMR = .041. Similar to fathers' depressive symptoms, fathers' parental acceptance evidenced trait-like differences across waves and minimal wave-to-wave variation. Only fathers' time-varying acceptance at wave 3 was associated with fathers' time-varying acceptance at wave 4, b = .330, SE = .090, p < .001.

At the time-varying level, fathers' acceptance at wave 2 were associated with higher levels of youths' time-varying internalizing symptoms at wave 3, b = .098, SE = .037, p = .007. There were no other effects of father depressive symptoms or paternal acceptance on youths' internalizing symptoms across waves. In addition, youths' time-varying internalizing symptoms and fathers' time-varying acceptance did not predict fathers' time-varying depressive symptoms, and only fathers' time-varying depressive symptoms at wave 3 marginally predicted higher levels of fathers' acceptance at wave 4, b = .270, SE = .150, p = .070. Only the wave 1 correlation between youths' time-varying internalizing symptoms and fathers' time-varying acceptance was significant, c = -.238, SE = .074, p = .001. Given the nonsignificant pathways originating directly or indirectly from fathers' time-varying depressive symptoms to youths' time-varying internalizing symptoms, there were no mediation models tested at the time-varying level.

At the trait level, youths' internalizing symptoms were positively associated with fathers' depressive symptoms, c = .112, SE = .042, p = .008, and negatively with fathers' acceptance, c = -.224, SE = .055, p < .001. Fathers' trait-like depressive symptoms were negatively associated with fathers' acceptance, c = -.196, SE = .074, p = .008. Given the significant associations among fathers' depressive symptoms, fathers' acceptance, and youths' internalizing symptoms, a mediation model evaluating the effects of fathers' trait-like depressive symptoms on youths' trait-like internalizing symptoms via fathers' trait-like parental acceptance was estimated (see Figure 7). The total effect of fathers' depressive symptoms on youths' internalizing symptoms was significant, b = .116, SE = .041, p = .001, 95% CI [.035, .197], and the indirect via fathers' acceptance was marginally significant, b = .042, SE = .022, p = .052, 95% CI [.000, .085]. After removing the indirect effect, the direct effect of fathers' depressive symptoms on youths' internalizing symptoms was reduced to marginal significance, b = .074, SE = .043, p = .086, 95% CI [-.010, .158], suggesting partial mediation by fathers' acceptance.

A series of multigroup analyses were evaluated to determine if the mediation model from fathers' depressive symptoms to youths' internalizing symptoms via fathers' acceptance differed by family ethnicity, family structure, or child gender. This mediation model varied by family ethnicity, $\Delta\chi^2(3) = 13.290$, p = .004, family structure, $\Delta\chi^2(3) = 8.801$, p = .032, but only marginally by child gender, $\Delta\chi^2(3) = 6.438$, p = .092. Therefore, the analyses with child gender were not probed for moderation effects.

In Mexican American families, there were no direct or indirect effects of fathers' depressive symptoms on youths' internalizing symptoms. However, in European

American families, the total effect from fathers' depressive symptoms to youths' internalizing symptoms was significant, b = .221, SE = .052, p < .001, 95% CI [.118, .324]. In these families, the indirect effect via fathers' acceptance was not significant, b = .031, SE = .025, p = .210, 95% CI [-.018, .080], and the direct effect remained significant, b = .190, SE = .053, p < .001, 95% CI [.086, .294].

For family structure, there were no direct or indirect effects of fathers' depressive symptoms on youths' internalizing symptoms in stepfamilies. In contrast, among intact families, the total effect of fathers' depressive symptoms on youths' internalizing symptoms was significant, b = .170, SE = .060, p = .004, 95% CI [.053, .288]. In these families, the indirect effect via fathers' acceptance was not significant, b = .010, SE = .015, p = .493, 95% CI [-.019, .040], but the direct effect remained significant, b = .160, SE = .055, p = .004, 95% CI [.052, .268].

Maternal Acceptance. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, mothers' acceptance, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 137.817$, p < .001, RMSEA = .069 [.056, .083], CFI = .952, TLI = .909, SRMR = .047. Mothers' acceptance evidenced both trait and time-varying differences across waves. The time-varying stability coefficients in mothers' acceptance were significant from waves 1 through waves 4 (b = .201 to b = .470).

At the time-varying level, mothers' time-varying acceptance at wave 4 predicted higher levels of youths' internalizing symptoms at wave 5, b = .052, SE = .015, p < .001, but there were no other time-varying effects of mothers' acceptance or depressive

symptoms on youths' internalizing symptoms across waves. Mothers' time-varying acceptance at wave 4 predicted lower levels of mothers' time-varying depressive symptoms at wave 5, b = .197, SE = .089, p = .027. However, only youths' time-varying internalizing symptoms at wave 3 predicted higher levels of mothers' time-varying acceptance at wave 4, b = .361, SE = .205, p = .078. At wave 1, youths' time-varying internalizing symptoms and mothers' time-varying acceptance were marginally associated, c = -.093, SE = .056, p = .095, but the relation between youths' time-varying internalizing symptoms or mothers' time-varying acceptance and mothers' time-varying depressive symptoms was not significant. Given the nonsignificant pathways originating from mothers' time-varying depressive symptoms to both the putative mediator and to youths' time-varying internalizing symptoms, there were no mediation models tested at the time-varying level.

At the trait level, youths' trait-like internalizing symptoms were positively associated with mothers' trait-like depressive symptoms, c = .178, SE = .047, p < .001, but negatively associated with mothers' acceptance, c = -.147, SE = .047, p = .002. However, mothers' trait-like depressive symptoms were not significantly associated with mothers' acceptance, c = -.049, SE = .066, p = .457. A mediation model investigating the effects of mothers' depressive symptoms on youths' internalizing symptoms indicated that mothers' acceptance did not explain the association between mothers' depressive symptoms and youths' internalizing symptoms. After removing the nonsignificant indirect effect, b = .029, SE = .046, p = .532, 95% CI [-.062, .120], mothers' depressive

symptoms were directly associated with elevations in youths' internalizing symptoms across waves, b = .120, SE = .059, p = .042, 95% CI [.005, .234].

Paternal Rejection. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, fathers' rejection, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 107.330$, $p < .001$, RMSEA = .056 [.042, .070], CFI = .968, TLI = .939, SRMR = .049. Fathers' parental rejection evidenced both trait and time-varying differences with significant time variation in fathers' rejection evident from early to middle adolescence (b = .276 to b = .485), but not from middle to late adolescence, b = .126, SE = .118, p = .287.

At the time-varying level, fathers' rejection at waves 2 and 3 predicted lower levels of youths' internalizing symptoms at waves 3, b = -.072, SE = .028, p = .009, and 4, b = -.108, SE = .029, $p < .001$. Similarly, at waves 2 and 3, youths' internalizing symptoms predicted lower levels of fathers' rejecting behavior at waves 3, b = -.362, SE = .200, p = .071, and 4, b = -.518, SE = .270, p = .055. Fathers' time-varying parental rejection at wave 1 predicted lower levels of fathers' time-varying depressive symptoms at wave 2, b = -.123, SE = .048, p = .010, but there were no other associations between fathers' depressive symptoms and fathers' rejection across waves. At wave 1, youths' time-varying internalizing symptoms covaried with fathers' parental rejection, c = .191, SE = .075, p = .011. Given the nonsignificant pathways originating from fathers' depressive symptoms to both the tested mediator and youths' internalizing symptoms, there were no mediation analyses conducted at the time-varying level.

At the trait level, youths' internalizing symptoms were positively associated with both fathers' depressive symptoms, c = .096, SE = .042, p = .021, and fathers' rejection, c = .324, SE = .047, p < .001. Fathers' depressive symptoms were marginally associated with their rejecting behaviors, c = .135, SE = .075, p = .072, suggesting that depressed fathers were more likely to exhibit rejecting behaviors toward their children. A mediation model evaluating the effect of fathers' depressive symptoms on youths' internalizing symptoms via fathers' rejection indicated that fathers' rejecting behavior did not explain the association between fathers' depressive symptoms and youths' internalizing symptoms.

Maternal Rejection. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, mothers' rejection, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 126.690$, $p < .001$, RMSEA = .065 [.051, .078], CFI = .959, TLI = .922, SRMR = .053. Mothers' parental rejection evidenced predominantly trait-like differences across time, with only mothers' time-varying rejection at wave 2 associated with mothers' time-varying rejection at wave 3, b = .257, SE = .120, p = .033.

At the time-varying level, mothers' rejecting behavior predicted lower levels of youths' internalizing symptoms across all waves (b = -.031 to b = -.124). Mothers' depressive symptoms were not related to youths' internalizing symptoms or their own rejecting behavior across waves. At wave 1, mothers' depressive symptoms did not covary with youths' internalizing symptoms or their own rejecting behavior. However, mothers' rejection covaried with youths' internalizing symptoms, c = .213, SE = .076, p =

.005. Given the nonsignificant pathways originating from mothers' depressive symptoms to both the predicted mediator and to youths' internalizing symptoms, there were no mediation models conducted at the time-varying level.

At the trait level, youths' internalizing symptoms were associated with mothers' depressive symptoms, $c = .176$, $SE = .046$, $p < .001$, and mothers' rejecting behavior, $c = .393$, $SE = .052$, $p < .001$. However, mothers' depressive symptoms were not associated with mothers' rejecting behavior, $c = .133$, $SE = .085$, $p = .118$. A mediation model evaluating the effects of mothers' depressive symptoms on youths' internalizing through mothers' rejecting behavior revealed that the indirect effect was not significant, $b = .048$, $SE = .031$, $p = .122$, 95% [-.022, .200], but the direct effect remained significant after removing the indirect effect, $b = .100$, $SE = .043$, $p = .019$, [.034, .334].

Mattering to Fathers. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, youths' perception of mattering to fathers, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 91.641$, $p < .001$, RMSEA = .048 [.033, .063], CFI = .977, TLI = .957, SRMR = .047. Perceptions of mattering to father evidenced both trait-like and time-varying differences. Specifically, there was significant time variation in youths' perceptions of mattering to father from early to late adolescence, $b = .421$ to $b = .669$.

At the time-varying level, perceptions of mattering to fathers at wave 2 predicted higher levels of youths' internalizing symptoms at wave 3, $b = .022$, $SE = .010$, $p = .009$. Youths' time-varying internalizing symptoms were not associated with their perceptions of mattering to father and or fathers' depressive symptoms at any other waves.

Furthermore, only fathers' depressive symptoms at wave 3 were associated with youths' perception of mattering to their fathers at wave 4, $b = 1.273$, $SE = .894$, $p = .008$. At wave 1, youths' time-varying internalizing symptoms covaried with perceptions of mattering to their fathers, $c = -.548$, $SE = .267$, $p = .040$. Given the nonsignificant pathways originating from fathers' depressive symptoms to both the hypothesized mediator and to youths' internalizing symptoms, there were no mediation models conducted at the time-varying level.

At the trait level, youths' internalizing symptoms were positively associated with fathers' depressive symptoms, $c = .120$, $SE = .041$, $p = .004$, and with youths' perceptions of mattering to their fathers, $c = -.981$, $SE = .227$, $p < .001$, but fathers' depressive symptoms were not associated with youths' perceptions of mattering to fathers, $c = -.356$, $SE = .227$, $p = .198$. A mediation model evaluating the effect of fathers' depressive symptoms on youths' internalizing symptoms found that perceptions of mattering to fathers did not explain the association between fathers' depressive symptoms and youths' internalizing symptoms.

Mattering to Mothers. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, perceptions of mattering to mothers, and youths' internalizing symptoms. This model fit the data adequately, $\chi^2(48) = 100.886$, $p < .001$, RMSEA = .053 [.038, .067], CFI = .970, TLI = .943, SRMR = .050. Perceptions of mattering to mothers evidenced trait-like differences across time, with time-varying perceptions of mattering to mothers at wave 1 associated with perceptions of mattering to mothers at wave 2, $b = .359$, $SE = .135$, $p = .008$, but not at other waves.

At the time-varying level, mothers' depressive symptoms and perceptions of mattering to mothers did not predict changes in youths' internalizing symptoms across all waves. Youths' internalizing symptoms at wave 3 predicted higher perceptions of mattering to mothers at wave 4, $b = 1.176$, $SE = .497$, $p = .007$, but not at other waves. Mothers' depressive symptoms and youths' perceptions of mattering to mothers did not reciprocally influence each other at any of the waves. Furthermore, mothers' depressive symptoms did not covary with youths' internalizing symptoms, $c = .064$, $SE = .056$, $p = .255$ or perceptions of mattering to mothers, $c = -.194$, $SE = .254$, $p = .444$ at wave 1. However, youths' perceptions of mattering to mothers covaried with youths' internalizing symptoms, $c = -.402$, $SE = .126$, $p = .001$. Given the nonsignificant pathways originating from mothers' depressive symptoms to both the tested mediator and to youths' internalizing symptoms, there were no mediation models conducted at the time-varying level.

At the trait level, youths' internalizing symptoms were associated with mothers' depressive symptoms, $c = .172$, $SE = .046$, $p < .001$, and youths' perceptions of mattering to mothers, $c = -.408$, $SE = .127$, $p = .001$. In addition, mothers' depressive symptoms were marginally associated with youths' perceptions of mattering to mothers, $c = -.290$, $SE = .172$, $p = .092$. A mediation model evaluating the effects of mothers' depressive symptoms on youths' internalizing symptoms through youths' perceptions of mattering to mothers revealed that the indirect effect was not significant, $b = .027$, $SE = .019$, $p = .170$, 95% [-.011, .065], and the direct effect remained significant after removing the indirect effect, $b = .116$, $SE = .044$, $p = .008$, [.030, .203].

Parents' Depressive Symptoms and Youths' Externalizing Symptoms: Mediation Analyses

Co-Parent's Depressive Symptoms. A trait and time-varying cross-lagged model was conducted with mothers' and fathers' depressive symptoms and youths' externalizing symptoms. Findings for this model suggested that the model fit the data well, $\chi^2(56) = 77.706$, $p = .0291$, RMSEA = .031 [.011, .047], CFI = .986, TLI = .974, SRMR = .038. Consistent with previous findings, youths' externalizing symptoms exhibited both trait-like and time-varying differences with significant path coefficients across all waves at both levels of analysis, whereas mothers' and fathers' depressive symptoms mostly evidenced trait-like differences.

At the time-varying level, mothers' depressive symptoms at wave 3 marginally predicted lower levels of youths' externalizing symptoms at wave 4, $b = -.094$, $SE = .050$, $p = .060$, and mothers' depressive symptoms at wave 1 predicted higher levels of youths' externalizing symptoms at wave 5, $b = .181$, $SE = .073$, $p = .013$. Reciprocally, youths' externalizing symptoms at wave 1 predicted higher levels of mothers' depressive symptoms at wave 2, $b = .081$, $SE = .041$, $p = .048$, and youths' externalizing symptoms at wave 4 predicted lower levels of mothers' depressive symptoms at wave 5, $b = -.405$, $SE = .126$, $p = .001$. Youths' externalizing symptoms at wave 3 predicted marginally higher levels of fathers' depressive symptoms at wave 4, $b = .076$, $SE = .046$, $p = .097$, but youths' externalizing symptoms did not predict significant changes in fathers' depressive symptoms at other waves. Consistent with the model examining youths' internalizing symptoms, fathers' depressive symptoms at waves 2 and 3 predicted lower

levels of mothers' depressive symptoms at waves 3, b = - .179, SE = .099, p = .071, and 4, b = -.415, SE = .122, p = .001. Mothers' time-varying depressive symptoms did not predict changes in fathers' time-varying depressive symptoms across waves. At wave 1, mothers' depressive symptoms were positively related to fathers' depressive symptoms, c = .331, SE = .101, p = .001, and to youths' externalizing symptoms, c = .521, SE = .242, p = .031. Fathers' time-varying depressive symptoms were not associated with youths' externalizing symptoms at wave 1, c = .102, SE = .191, p = .595.

At the time-varying level, only one indirect pathway linked parents' depressive symptoms to youths' externalizing symptoms. However, neither the direct effect from fathers' depressive symptoms at wave 2 to youths' externalizing symptoms at wave 4, b = .066, SE = .063, p = .295, 95% CI [-.058, .190], nor the indirect effect via mothers' depressive symptoms, b = .014, SE = .011, p = .212, 95% CI [-.008, .009], were significant.

At the trait level, youths' externalizing symptoms were marginally associated with mothers' depressive symptoms, c = .171, SE = .098, p = .081, but they were not significantly associated with fathers' depressive symptoms, c = .132, SE = .096, p = .171. Consistent with the youths' internalizing symptoms model, mothers' and fathers' depressive symptoms were positively associated, c = .292, SE = .080, $p < .001$. Given that mothers' trait-like depressive symptoms were associated with both fathers' trait-like depressive symptoms and with youths' trait-like externalizing symptoms, a mediation model evaluated whether mothers' depressive symptoms accounted for a significant portion of the observed association between fathers' depressive symptoms and youths'

externalizing symptoms. Using the previous cross-lagged model, a mediation model evaluated fathers' trait-like depressive symptom on youths' trait-like externalizing symptoms through mothers' trait-like depressive symptoms. As expected, the total effect from fathers' trait-like depressive symptoms to youths' externalizing symptoms was not significant, b = .137, SE = .099, p = .165, 95% CI [-.056, .330]. In addition, neither the direct effect, b = .100, SE = .103, p = .334, 95% CI [-.102, .302], from fathers' trait-like depressive symptoms to youths' externalizing symptoms, nor the indirect effect via mothers' depressive symptoms, b = .037, SE = .028, p = .184, 95% CI [-.018, .092], attained significance.

Paternal Acceptance. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, fathers' acceptance, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 86.131$, p = .0003, RMSEA = .047 [.031, .062], CFI = .973, TLI = .946, SRMR = .049. Consistent with the model evaluating youths' internalizing symptoms, fathers' depressive symptoms and fathers' acceptance experienced mostly trait-like differences across waves.

At the time-varying level, only fathers' depressive symptoms at wave 2 were marginally associated with lower levels of youths' time-varying externalizing symptoms at wave 3, b = -.140, SE = .080, p = .081. There were no other effects of fathers' depressive symptoms or acceptance on youths' externalizing symptoms across waves. In addition, youths' time-varying externalizing symptoms at waves 1 and 2 predicted lower levels of fathers' acceptance marginally at wave 2, b = -.085, SE = .044, p = .054, and significantly at wave 3, b = - .093, SE = .046, p = .044. Fathers' time-varying acceptance

did not predict fathers' time-varying depressive symptoms across waves, and only fathers' time-varying depressive symptoms at wave 3 marginally predicted higher levels of fathers' acceptance at wave 4, b = .258, SE = .147, p = .079. At wave 1, youths' time-varying externalizing symptoms and fathers' time-varying acceptance was positively correlated, c = -1.184, SE = .250, p < .001. Fathers' depressive symptoms were not significantly associated with either youths' externalizing symptoms, c = .114, SE = .188, p = .545, or fathers' accepting behavior, c = .015, SE = .100, p = .883. Given the nonsignificant pathways originating directly or indirectly from fathers' time-varying depressive symptoms to youths' time-varying externalizing symptoms, there were no mediation models tested at the time-varying level.

At the trait level, youths' externalizing symptoms were negatively associated with fathers' acceptance, c = -.442, SE = .106, p < .001, but were not significantly related to fathers' depressive symptoms, c = .130, SE = .098, p = .182. Fathers' trait-like depressive symptoms were negatively associated with fathers' acceptance, c = -.193, SE = .073, p = .008. Given the significant association between fathers' depressive symptoms and fathers' acceptance, and between fathers' acceptance and youths' externalizing symptoms, a mediation model evaluated the effects of fathers' trait-like depressive symptoms on youths' trait-like externalizing symptoms via fathers' trait-like acceptance (see Figure 8). The total effect of fathers' depressive symptoms on youths' externalizing symptoms was not significant, b = .134, SE = .099, p = .177, 95% CI [-.061, .329], but the indirect via fathers' acceptance was marginally significant, b = .098, SE = .051, p = .053, 95% CI [-.001, .197]. The direct effect of fathers' depressive symptoms on youths'

externalizing symptoms was reduced after accounting for the indirect pathway, and remained nonsignificant, b = .037, SE = .107, p = .733, 95% CI [-.173, .246], which suggests partial mediation by fathers' acceptance.

A series of multigroup analyses evaluated whether or not the mediation model from fathers' depressive symptoms to youths' externalizing symptoms via fathers' acceptance differed by family ethnicity, family structure, and child gender. The chi-square difference tests for family ethnicity, $\Delta\chi^2(3) = 7.166$, p = .067, family structure, $\Delta\chi^2(3) = 4.137$, p = .247, or child gender, $\Delta\chi^2(3) = 4.547$, p = .208, were not significant, These results revealed no moderation of the indirect pathway from fathers' depressive symptoms to youths' externalizing symptoms via fathers' accepting behavior.

Maternal Acceptance. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, mothers' acceptance, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 103.967$, $p < .001$, RMSEA = .057 [.042, .071], CFI = .959, TLI = .919, SRMR = .043. Consistent with previous findings, maternal acceptance evidenced both trait and time-varying differences across waves.

At the time-varying level, only mothers' acceptance at wave 4 predicted higher levels of youths' externalizing symptoms at wave 5, b = .157, SE = .055, p = .004, but there were no other time-varying effects of mothers' acceptance on youths' externalizing symptoms across waves. Reciprocally, only youths' time-varying externalizing symptoms at wave 3 predicted higher levels of mothers' time-varying parental acceptance at wave 4, b = .109, SE = .044, p = .014. Consistent with previous findings, mothers' depressive

symptoms at waves 3 marginally predicted lower levels of youths' externalizing symptoms at wave 4, b = -.098, SE = .052, p = .059, whereas mothers' depressive symptoms at wave 1 predicted higher levels of youths' externalizing symptoms at wave 5, b = .193, SE = .069, p = .005. Reciprocally, youths' externalizing symptoms at waves 1 and 3 predicted higher levels of mothers' depressive symptoms at wave 2, b = .085, SE = .043, p = .049 and marginally at wave 4, b = .106, SE = .064, p = .095, whereas youths' externalizing symptoms at wave 4 predicted lower levels of mothers depressive symptoms at wave 5, b = -.367, SE = .129, p = .005. Mothers' time-varying parental acceptance at wave 4 predicted higher levels of mothers' time-varying depressive symptoms at wave 5, b = .184, SE = .091, p = .042. At wave 1, youths' time-varying externalizing symptoms were positively associated with mothers' time-varying depressive symptoms, c = .515, SE = .241, p = .001, and negatively associated with mothers' time-varying acceptance, c = -.622, SE = .168, p < .001, but mothers' depressive symptoms were not significantly associated with mothers' acceptance, c = -.045, SE = .103, p = .661. Given the nonsignificant pathways originating from mothers' time-varying depressive symptoms to both the putative mediator and to youths' time-varying externalizing symptoms, there were no mediation models tested at the time-varying level.

At the trait level, youths' trait-like externalizing symptoms were associated with lower levels of mothers' acceptance, c = -.347, SE = .084, p < .001, but not with mothers' trait-like depressive symptoms, c = .162, SE = .101, p = .109. In addition, mothers' trait-like depressive symptoms were not significantly associated with mothers' acceptance, c =

-.022, *SE* = .065, *p* = .736. Given the absence of significant associations between mothers' depressive symptoms and either youths' externalizing symptom or maternal acceptance, a mediation model did not investigate the link from mothers' depressive symptoms to youths' externalizing symptoms at the trait level.

Paternal Rejection. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, fathers' rejection, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 114.301$, $p < .001$, RMSEA = .062 [.047, .076], CFI = .952, TLI = .905, SRMR = .048. Consistent with previous analyses, fathers' rejection evidenced both trait and time-varying differences.

At the time-varying level, fathers' rejection at wave 1 marginally predicted higher levels of youths' externalizing symptoms at wave 2, *b* = .184, *SE* = .101, *p* = .068, but fathers' rejecting behavior did not predict changes in youths' externalizing symptoms at other waves. Reciprocally, youths' externalizing symptoms at wave 1 predicted higher levels of fathers' rejecting behavior at wave 2, *b* = .097, *SE* = .045, *p* = .031, but not at other waves. Fathers' time-varying rejection at wave 1 predicted lower levels of fathers' time-varying depressive symptoms at wave 2, *b* = -.129, *SE* = .051, *p* = .011, but there were no other associations between fathers' depressive symptoms and fathers' rejection across waves. At wave 1, youths' time-varying externalizing symptoms covaried with fathers' rejection, *c* = .976, *SE* = .214, *p* < .001, but fathers' time-varying depressive symptoms at time 1 did not covary with youths' externalizing symptoms, *c* = .121, *SE* = .191, *p* = .527 or fathers' rejection, *c* = -.094, *SE* = .103, *p* = .363. Given the nonsignificant pathways originating from fathers' depressive symptoms to both the tested

mediator and to youths' externalizing symptoms, there were no mediation models conducted at the time-varying level.

At the trait level, youths' externalizing symptoms were associated significantly with fathers' rejection, $c = .567$, $SE = .090$, $p < .001$, but not with fathers' depressive symptoms, $c = .127$, $SE = .098$, $p = .197$. Fathers' depressive symptoms were marginally associated with their rejecting behaviors, $c = .126$, $SE = .074$, $p = .088$. A mediation model evaluating the indirect effect of fathers depressive symptoms on youths' externalizing symptoms via fathers' rejection indicated that fathers' rejecting behaviors did not explain the association between fathers' depressive symptoms and youths' externalizing symptoms.

Maternal Rejection. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, mothers' rejection, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 124.024$, $p < .001$, RMSEA = .066 [.052, .080], CFI = .947, TLI = .896, SRMR = .046. Consistent with previous findings, mothers' rejection evidenced predominantly trait-like differences across waves.

At the time-varying level, mothers' rejecting behavior at wave 4 predicted lower levels of youths' externalizing symptoms at wave 5, $b = -.147$, $SE = .061$, $p = .015$, but not at other waves. Youths' externalizing symptoms at wave 1 predicted higher levels of mothers' rejecting behavior at wave 2, $b = .084$, $SE = .038$, $p = .026$, but not at other waves. Consistent with previous findings, mothers' depressive symptoms at wave 1 were associated with higher levels of youths' externalizing symptoms at wave 5, $b = .174$, $SE = .065$, $p = .007$, whereas mothers' depressive symptoms at wave 3 were marginally

associated with lower levels of youths' externalizing symptoms at wave 4, *b* = -.092, *SE* = .052, *p* = .074. Reciprocally, youths' externalizing symptoms at wave 1 marginally predicted higher levels of mothers' depressive symptoms at wave 2, *b* = .087, *SE* = .046, *p* = .062, whereas youths' externalizing symptoms at wave 4 predicted lower levels of mothers depressive symptoms at wave 5, *b* = -.399, *SE* = .135, *p* = .003. There were no reciprocal effects between mothers' depressive symptoms and maternal rejection across waves. At wave 1, mothers' depressive symptoms did not covary with mothers' rejecting behavior, *c* = .180, *SE* = .121, *p* = .137. However, youths' externalizing symptoms covaried with both maternal rejection, *c* = 1.139, *SE* = .243, *p* < .001, and mothers' depressive symptoms, *c* = .561, *SE* = .237, *p* = .018. Given the nonsignificant pathways originating from mothers' depressive symptoms to both the tested mediator and to youths' externalizing symptoms, there was no mediation models conducted at the time-varying level.

At the trait level, youths' externalizing symptoms were associated with mothers' depressive symptoms, *c* = .174, *SE* = .103, *p* = .091, and mothers' rejecting behavior, *c* = .797, *SE* = .122, *p* < .001. However, mothers' depressive symptoms were not associated with mothers' rejecting behavior, *c* = .080, *SE* = .080, *p* = .316. A mediation model evaluating the effects of mothers' depressive symptoms on youths' externalizing problems through mothers' rejection revealed no significant indirect, *b* = .085, *SE* = .086, *p* = .319, 95% CI [-.082, .253] or direct effects, *b* = .068, *SE* = .107, *p* = .527, 95% CI [-.142, .277].

Mattering to Fathers. A trait and time-varying cross-lagged model was conducted with fathers' depressive symptoms, youths' perception of mattering to fathers, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 86.255$, $p = .0003$, RMSEA = .047 [.032, .062], CFI = .974, TLI = .949, SRMR = .046. Consistent with previous findings, perceptions of mattering to father evidenced both trait and time-varying differences.

At the time-varying level, perceptions of mattering to fathers at wave 1 predicted lower levels of youths' externalizing symptoms at wave 2, $b = -.110$, $SE = .052$, $p = .035$. Youths' time-varying externalizing symptoms did not predict changes in the perceptions of mattering to father at any other waves, and only marginally predicted higher levels of fathers' depressive symptoms at wave 4, $b = .082$, $SE = .048$, $p = .091$. Furthermore, only fathers' depressive symptoms at wave 3 were associated with higher levels of youths' perception of mattering to their fathers at wave 4, $b = 1.449$, $SE = .568$, $p = .011$. At wave 1, youths' time-varying externalizing symptoms covaried with perceptions of mattering to their fathers, $c = -3.561$, $SE = .858$, $p < .001$. Fathers' depressive symptoms did not covary with perceptions of mattering to fathers, $c = -.284$, $SE = .275$, $p = .301$ or youths' externalizing symptoms, $c = .129$, $SE = .097$, $p = .182$ at wave 1. Given the nonsignificant pathways originating from fathers' depressive symptoms to both the predicted mediator and to youths' externalizing symptoms, there was no mediation analyses evaluated at the time-varying level.

At the trait level, youths' externalizing symptoms were associated significantly with their perceptions of mattering to fathers, $c = -1.655$, $SE = .393$, $p < .001$, but not

with fathers' depressive symptoms, c = .129, SE = .097, p = .182. In addition, fathers' depressive symptoms were not significantly associated with youths' perceptions of mattering to fathers, c = -.284, SE = .275, p = .301. Given the absence of significant associations between fathers' depressive symptoms and either youths' externalizing symptoms or perceptions of mattering to fathers, a mediation model did not investigate the link from fathers' depressive symptoms to youths' externalizing symptoms at the trait level.

Mattering to Mothers. A trait and time-varying cross-lagged model was conducted with mothers' depressive symptoms, youths' perceptions of mattering to mothers, and youths' externalizing symptoms. This model fit the data adequately, $\chi^2(46) = 81.017$, p = .0011, RMSEA = .044 [.028, .060], CFI = .975, TLI = .950, SRMR = .044. Perceptions of mattering to mothers evidenced mostly trait-like differences and time-varying differences from early to middle adolescence.

At the time-varying level, youths' perceptions of mattering to mothers at wave 4 marginally predicted higher levels of youths' externalizing symptoms at wave 5, b = .044, SE = .024, p = .066. Youths' externalizing symptoms did not predict changes in mothers' acceptance at any of the waves. Consistent with previous findings, mothers' depressive symptoms at waves 1 predicted higher levels of youths' externalizing symptoms at waves 5, b = .178, SE = .067, p = .008, whereas mothers' depressive symptom marginally predicted lower levels of youths' externalizing symptoms at wave 4, b = -.100, SE = .054, p = .066. Reciprocally, youths' externalizing symptoms at wave 1 marginally predicted higher levels of mothers' depressive symptoms at wave 2, b = .085, SE = .044, p = .052,

whereas youths' externalizing symptoms at wave 4 predicted lower levels of mothers' depressive symptoms at wave 5, b = -.399, SE = .136, p = .003. Mothers' depressive symptoms and youths' perceptions of mattering to mothers did not reciprocally influence each other at any of the waves. At wave 1, youths' externalizing symptoms were positively associated with mothers' depressive symptoms, c = .526, SE = .241, p = .029, and negatively associated with youths' perceptions of mattering to mothers, c = -1.310, SE = .416, p = .002. However, mothers' depressive symptoms did not covary with perceptions of mattering to mothers, c = -.244, SE = .282, p = .388. Given the nonsignificant pathways originating from mothers' depressive symptoms to both the hypothesized mediator and to youths' externalizing symptoms, there were no mediation models evaluated at the time-varying level.

At the trait level, youths' externalizing symptoms were marginally associated with mothers' depressive symptoms, c = .175, SE = .102, p = .085, and significantly associated with perceptions of mattering to mothers, c = -.828, SE = .295, p = .005. Mothers' depressive symptoms were not associated with youths' perceptions of mattering to mothers, c = -.195, SE = .162, p = .229. Given the lack of significant associations between mothers' depressive symptoms and youths' perceptions of mattering to mothers, a mediation model did not investigate the link from mothers' depressive symptoms to youths' externalizing symptoms at the trait level.

Discussion

The second aim of this investigation was to evaluate intervening mechanisms that could explain the associations between mothers' and fathers' depressive symptoms and

youths' internalizing or externalizing problems. Overall, the influence of fathers' depressive symptoms on youths' symptomatology was explained by mothers' depressive symptoms and fathers' accepting behaviors toward their children. However, some effects varied between European American and Mexican American families, or intact and stepfather families, but not between families with daughters and sons. Although youths' perceptions of parental rejection and of mattering to each parent were related to youths' symptomatology, these proposed mediators did not explain the association between either parent's depressive symptoms and youth adjustment. None of the examined mediators explained the association between mothers' depressive symptoms and youths' symptomatology.

Between- and Within-Person Differences in the Proposed Mediators

Across models of youths' internalizing or externalizing problems, mothers' and fathers' depressive symptoms evidenced mostly between-person differences. Similar to parents' depressive symptoms, fathers' acceptance evidenced mostly between-person differences, suggesting that fathers' accepting behavior toward their children remained stable across adolescence. In contrast, mothers' acceptance evidenced both between- and within-person differences with mothers' accepting behavior toward their children showing variation from early to late adolescence. Interestingly, these patterns for mothers and fathers reversed for parental rejection and perceptions of mattering to each parent. Youths' perceptions of maternal rejection and mattering to mothers evidenced between-person differences with similar influences on children across adolescence, whereas, youth's perceptions of paternal rejection and mattering to fathers varied from early to late

adolescence. Overall, these findings suggest that different facets of the parent-child relational context may function differently across adolescence and these dynamics differ between mothers and fathers.

Across models, within-person differences in youths' internalizing or externalizing symptoms at the initial time of assessment were associated with within-person differences in mothers' depressive symptoms, parental acceptance and rejection, and youths' perceptions of mattering to mothers and fathers. However, only within-person differences in youths' internalizing symptoms, but not externalizing symptoms, were associated with within-person differences in fathers' depressive symptoms. Specifically, mothers with elevated depressive symptoms were more likely to have children with higher internalizing and externalizing symptoms, whereas fathers' depressive symptoms were only relevant to youths' internalizing symptoms. Likewise, mothers and fathers who were perceived as less accepting and more rejecting were more likely to have children with higher internalizing and externalizing symptoms in early adolescence. In addition, youths who felt that they did not matter to their mothers or fathers were more likely to report higher levels of both internalizing and externalizing symptoms in early adolescence. These findings are consistent with prior studies on parental depression (Connell & Goodman, 2002; Natsuaki et al., 2014), parental acceptance (Forehand & Nousiainen, 1993; Leidy et al., 2011; Wilson & Durbin, 2010), parental rejection (Enns et al., 2002; Goeke-Morey & Cummings, 2007; Leidy et al., 2011), and mattering to parents (Marshall, 2004; Schenck et al., 2009), which generally suggest that youths are more vulnerable to internalizing and externalizing problems when their parents are depressed,

show lack of positive caregiving behavior towards their child, and when children perceive themselves as not mattering to their parents.

Parents' Depressive Symptoms and Youths' Internalizing Symptoms: Mediation Analyses

Co-parent symptomatology. Consistent with previous findings, mothers' and fathers' within-person depressive symptoms during early adolescence predicted changes in youths' internalizing symptoms in young adulthood, however, these effects differed across parents. Specifically, mothers' depressive symptoms were associated with higher levels of youths' internalizing symptoms, whereas fathers' depressive symptoms were associated with lower levels of youths' internalizing symptoms.

At the between-person level, higher levels of depressive symptoms in mothers and fathers were associated with elevated internalizing symptoms in children from early adolescence to young adulthood. Mediation analyses conducted at the between-person level revealed that mothers' depressive symptoms were associated directly and positively with youths' internalizing symptoms from early adolescence to young adulthood. Fathers' depressive symptoms did not mediate the association between mothers' depressive symptoms and youths' internalizing symptoms. Fathers' depressive symptoms were directly and positively associated with youths' internalizing symptoms across early adolescence and young adulthood, but fathers' depressive symptoms also indirectly influenced youths' internalizing symptoms via mothers' depressive symptoms. These effects differed among Mexican American and European American families, but were consistent across intact and stepfather families, and across families with sons and

daughters. Among European American families, but not among Mexican American families, fathers' depressive symptoms influenced youths' internalizing symptoms directly, as well as indirectly via mothers' depressive symptoms.

These findings partially supported the study hypotheses and were consistent with prior empirical evidence on parental depressive symptoms and youths' internalizing symptoms (Cummings et al., 2014; Elgar et al., 2007; Rohde et al., 2005). However, the effects by family ethnicity were inconsistent with previous research, which has suggested that these effects would be more salient in non-European American families (Wilson & Durbin, 2010), especially among Mexican American families where relationships between family members are more interconnected (Fuligni et al., 1999). It may be that supportive and close family systems actually buffer, rather than exacerbate, the influence of mothers' and fathers' depressive symptoms on youths' psychological functioning. Furthermore, whereas mothers' depressive symptoms mediated the influence of fathers' depressive symptoms on youths' internalizing symptoms, fathers' depressive symptoms did not mediate the influence of mothers' depressive symptoms on youth's internalizing symptoms. It appears that when fathers are depressed, this disrupts the family environment and affects multiple family members, whereas mothers' depressive symptoms do not have the same destabilizing effect. This finding provides some support for prior suggestions that mothers may be better at compartmentalizing their affective experiences than fathers (Flouri, 2010; Stevenson et al., 2014).

Parental Acceptance. Fathers' within-person depressive symptoms were not related to youths' within-person internalizing symptoms. However, higher levels of

fathers' depressive symptoms during middle adolescence predicted higher levels of fathers' accepting behavior toward their children in late adolescence. In addition, higher levels of paternal acceptance during early adolescence were positively associated with youths' internalizing symptoms during middle adolescence. At the between-person level, fathers who were more depressed and less accepting of their children were more likely to have children who reported elevated rates of internalizing symptoms. Furthermore, fathers who endorsed elevated depressive symptoms were less accepting of their children across adolescence and young adulthood.

Mediation analyses conducted at the between-person level revealed that fathers' elevated depressive symptoms were directly related to youths' elevated internalizing symptoms across early adolescence and young adulthood. However, fathers' depressive symptoms also indirectly influenced youths' internalizing symptoms through their parenting behavior, such that fathers with higher rates of depressive symptoms were less likely to be accepting of their child, which, in turn, predicted higher internalizing symptoms in their children. Moderated mediation analyses suggested that this indirect effect via parent acceptance did not differ by family ethnicity, family structure, or child gender. However, in European American families and intact families, fathers' elevated depressive symptoms were directly and positively associated with youths' internalizing symptoms from early adolescence to young adulthood, but these relations were not significant in Mexican American families and stepfather families.

Similar to fathers' within-person depressive symptoms, mothers' within-person depressive symptoms were not related to youths' within-person internalizing symptoms

across time. However, higher levels of mothers' acceptance in late adolescence were associated with higher levels of mothers' depressive symptoms and youths' internalizing symptoms in young adulthood. Reciprocally, higher levels of youths' internalizing symptoms during middle adolescence were associated with higher levels of mothers' accepting behavior toward their children. At the between-person level, mothers with higher levels of depressive symptoms and lower levels of accepting behavior were more likely to have youth with elevated internalizing symptoms. However, mothers' depressive symptoms were not related to mothers' acceptance, thus, mediation was not supported.

Overall, the findings on parental acceptance suggest that one of the ways through which fathers' depressive symptoms influence youths' internalizing symptoms is through the level of acceptance they display toward their children. These findings are consistent with prior studies indicating that paternal depression is associated with less positive fathering (Wilson & Durbin, 2010), which, in turn, can lead to poor emotional outcomes for their children (Forehand & Nousiainen, 1993; Leidy et al., 2011). In contrast, the findings for mothers' acceptance were inconsistent with prior research evidence. Although, there was a link between mothers' depressive symptoms and youths' internalizing symptoms, mothers' experience of depressive symptoms did not seem to compromise their accepting behavior towards their child.

Parental Rejection. Fathers who exhibited rejecting behaviors toward their children in early and middle adolescence were more likely to have children who showed lower levels of internalizing symptoms from middle to late adolescence. Reciprocally, youth who experienced elevated internalizing symptoms in early and middle adolescence,

were more likely to have fathers who exhibited lower levels of rejecting behavior toward their children during middle and late adolescence. Furthermore, fathers who exhibited rejecting behavior were less likely to be depressed in early adolescence. At the between-person level, fathers who reported higher levels of depressive symptoms and rejecting behavior were more likely to have children with elevated internalizing symptoms from early adolescence to young adulthood. Although fathers with more depressive symptoms displayed more rejecting behavior toward their children, fathers' rejecting behavior did not account for the observed relation between fathers' depressive symptoms and youths' internalizing symptoms.

Similar to fathers' within-person differences in rejection, higher levels of mothers' rejecting behavior were associated with lower levels of youths' internalizing symptoms across adolescence and young adulthood. However, youths' internalizing symptoms did not influence changes in mothers' rejecting behavior or mothers' depressive symptoms, and mothers' depressive symptoms were not related to their rejecting caregiving behaviors. As observed with fathers' between-person differences, mothers who endorsed more depressive symptoms and exhibited more rejecting behavior toward their children, were more likely to have children with elevated internalizing symptoms. However, because mothers' depressive symptoms were not related to their rejecting behavior, the mediation model was not supported.

Overall, these findings revealed that mothers' and fathers' rejecting behaviors do influence their children's experience of anxiety and depression. Although, the associations at the between-person level were consistent with previous research showing

that parents' lack of care and rejection are associated with poorer emotional adjustment in children (Elgar et al., 2007; Enns et al., 2002; Goeke-Morey & Cummings, 2007; Leidy et al., 2011), findings at the within-person level were inconsistent with prior work. The observed differences across the between- and within-person levels highlight the importance of separating between- and within-person effects in longitudinal research.

Although mothers' and fathers' rejecting behaviors appear to have a direct influence on youths' internalizing symptoms, parental rejection did not function as an intervening mechanism through which parental depressive symptoms influence youths' internalizing symptoms. Whereas fathers' depressive symptoms evidenced a strong negative effect on their accepting parenting behavior, which, in turn, influenced youth's internalizing behaviors, this pattern was not evident for rejecting parenting behaviors. The findings imply that, although fathers' experience of depression may affect both their accepting and rejecting caregiving behaviors (i.e., withdrawal), it is the disruption in the healthy bonds they have with their children, rather than their rejecting caregiving behaviors, that contributes to youths' internalizing symptoms. Indeed, research has suggested that the link between parental depressive symptoms and youths' adjustment is mostly attributed to the absence of positive parenting behaviors, such as responsiveness and emotional support, more so than the presence of negative parenting behaviors, such as rejection, because parents' psychological unavailability engenders a sense of loss and feelings of unworthiness in their children (Cummings & Cicchetti, 1990; Duggal et al., 2001). The absence of a significant association between mothers' depressive symptoms and their rejecting behavior lends more support to the finding that mothers' depressive

symptoms may not be tied directly to their parenting behaviors (Flouri, 2010; Stevenson et al., 2014).

Mattering to Parents. Youths' perceptions of mattering to fathers in early adolescence were associated with higher levels of youths' internalizing symptoms during middle adolescence. In addition, fathers' within-person depressive symptoms in middle adolescence were associated with youths' perceptions that they matter more to their fathers in late adolescence. Between-person differences in youths' perceptions of mattering to fathers were associated with between-person differences in youths' internalizing symptoms, but not with fathers' depressive symptoms. Although higher levels of depressive symptoms in fathers and reduced perceptions of mattering to fathers were associated with elevated internalizing symptoms in youth from early adolescence to young adulthood, perceived mattering to fathers did not mediate associations between father's depressive symptoms and youths' internalizing symptoms.

In contrast to fathers' within-person differences, perceptions of mattering to mothers did not predict changes in mothers' depressive symptoms or youths' internalizing symptoms. However, within-person differences in youths' internalizing symptoms in middle adolescence predicted youths' perceptions of mattering more to mothers in late adolescence. At the between-person level, mothers' depressive symptoms evidenced a significant positive association with youths' internalizing symptoms and there was a trending negative relation with youths' perception of mattering to mothers. As with fathers, higher levels of depressive symptoms in mothers and youths' reduced perceptions of mattering to mothers were associated with elevated internalizing

symptoms in youth from early adolescence to young adulthood. Furthermore, mothers with elevated depressive symptoms were more likely to have children who felt that they mattered less to their mothers. However, there were no mediation effects found for perceptions of mattering to mothers.

Negative associations between youths' perceptions of mattering to mothers or fathers and youths' internalizing symptoms at the between-person level were consistent with previous research showing that children who feel that they matter to their parents have better emotional outcomes than those who do not (Marshall, 2004; Schenck et al., 2009). These findings suggest that youth who are emotionally secure about their connections with their mothers and fathers are less prone to poor psychological functioning. Findings at the within-person level with youths' perception of mattering to parents and youths' internalizing symptoms were inconsistent with prior work (Cummings et al., 2014; Marshall, 2004; Schenck et al., 2009) as youths' perceptions of mattering to mothers' did not predict changes in youths' internalizing symptoms and higher levels of youths' internalizing symptoms were associated with higher levels of youths' perceptions of mattering to mothers in late adolescence. These findings suggest that youth who experienced elevated internalizing symptoms in middle adolescence are more likely to perceive that they matter too much to their mothers.

Taken together, the obtained findings suggest that higher levels of parents' acceptance, lower levels of parents' rejection, and youths' perceptions of mattering more to their parents were associated with higher levels of youths' internalizing symptoms across adolescence. One explanation for these relations may be that parents'

overprotection and heightened displays of affection or concern during this period may contribute to elevated anxiety and depressive symptoms among youth who expect more freedom and independence from their parents during this period of age-appropriate autonomy and exploration. Unfortunately, bidirectional effects from youths' internalizing symptoms to parents' accepting and rejecting behavior, as well as to youths' perceptions of mattering to each parent suggest an escalating cycle in which youths' internalizing symptoms may engender parenting behaviors in their mothers and fathers that further exacerbate youths' internalizing symptoms. Consistent with previous findings, higher levels of mothers' and fathers' depressive symptoms in early adolescence predicted changes in youths' internalizing symptoms in young adulthood. However, whereas mothers' depressive symptoms were associated with more vulnerability to youths' internalizing symptoms, fathers' depressive symptoms were associated with less vulnerability to youths' internalizing symptoms.

Parents' Depressive Symptoms and Youths' Externalizing Symptoms: Mediation Analyses

Co-parent symptomatology. Consistent with previous findings, mothers' within-person depressive symptoms during early adolescence were associated with higher levels of youths' externalizing symptoms in young adulthood. However, changes in mothers' depressive symptoms concurrently did not predict changes in youths' externalizing symptoms. Fathers' proximal or distal depressive symptoms were not related to changes in youths' externalizing symptoms. Fathers' elevated depressive symptoms in early and middle adolescence were associated with lower levels of mothers' depressive symptoms

during middle and late adolescence, but mothers' depressive symptoms did not predict changes in fathers' depressive symptoms at any time point. Higher levels of youths' externalizing symptoms in early adolescence were associated with higher levels of mothers' depressive symptoms, whereas higher levels of youths' externalizing symptoms in late adolescence were associated with lower levels of mothers' depressive symptoms in young adulthood. Although a mediation model evaluated the effects of fathers' within-person depressive symptoms on youths' within-person externalizing symptoms via mothers' within-person depressive symptoms, mothers' depressive symptoms did not explain an indirect association between fathers' depressive symptoms and youths' externalizing symptoms.

Consistent with prior findings, mothers' between-person depressive symptoms were associated with fathers' between-person depressive symptoms. Youth who have depressed mothers, but not depressed fathers, were more likely to engage in aggressive, rule-breaking, and intrusive behaviors from early adolescence to young adulthood. However, mothers' elevated depressive symptoms did not explain an indirect association between fathers' depressive symptoms and youths' externalizing symptoms. The influence of mothers' depressive symptoms on youths' externalizing symptoms at both the between- and within-person level are consistent with previous research suggesting that elevated depressive symptoms in mothers may increase children's vulnerability to problem behaviors (Elgar et al., 2007; Natsuaki et al., 2014), but the nonsignificant findings with fathers' depression and youths' externalizing symptoms are inconsistent

with empirical evidence suggesting that fathers' psychopathology may be of special importance to youths' externalizing symptoms (Connell & Goodman, 2002).

Parental Acceptance. Fathers' within-person parental acceptance did not predict changes in youths' within-person externalizing symptoms and only fathers' elevated depressive symptoms in early adolescence were associated with lower levels of youths' externalizing symptoms in middle adolescence. Higher levels of youths' externalizing symptoms were associated with lower levels of fathers' accepting behavior toward their children in early and middle adolescence. In addition, changes in fathers' depressive symptoms in middle adolescence predicted higher levels of fathers' acceptance in late adolescence, but fathers' acceptance did not predict changes in fathers' depressive symptoms.

At the between-person level, fathers who endorsed elevated depressive symptoms were less accepting of their children and fathers who were less accepting of their children were more likely to have children who experienced elevated rates of externalizing symptoms from early adolescence and young adulthood. Mediation analysis evaluating the indirect effect of fathers' acceptance on the pathway between fathers' depressive symptoms and youths' externalizing symptoms suggested that fathers with higher levels of depressive symptoms were less likely to be accepting of their children, which, in turn, predicted higher externalizing symptoms in their children. Moderated mediation analyses showed that the indirect effect did not differ by family ethnicity, family structure, or child gender.

At the within-person level, mothers' accepting behaviors in late adolescence were associated with higher levels of mothers' depressive symptoms and youths' externalizing behavior in young adulthood. Reciprocally, higher levels of youths' externalizing symptoms in middle adolescence were associated with higher levels of mothers' accepting behavior in late adolescence. Changes in mothers' depressive symptoms did not predict changes in mothers' accepting behavior. Consistent with previous findings, mothers' depressive symptoms during early adolescence were associated with higher levels of youths' externalizing symptoms in young adulthood, whereas higher levels of mothers' depressive symptoms in middle adolescence were associated with lower levels of youths' externalizing symptoms. In addition, higher levels of youths' externalizing symptoms were associated with higher rates of mothers' depressive symptoms in early adolescence, whereas higher levels of youths' externalizing symptoms in late adolescence were associated with lower rates of mothers' depressive symptoms in young adulthood. At the between-person level, mothers who were more accepting of their children were less likely to have children who engaged in delinquent activities. However, mothers' depressive symptoms were not significantly related to mothers' accepting behaviors, nor to youths' externalizing symptoms.

Overall, the findings revealed that fathers' depressive symptoms indirectly influenced youths' externalizing symptoms through the level of acceptance they displayed toward their children. These findings are consistent with prior studies indicating that paternal depression was associated with less positive fathering (Wilson & Durbin, 2010), which, in turn, lead their children to engage in more delinquent behaviors

(Bean et al., 2006; Forehand & Nousiainen, 1993; Leidy et al., 2011). The findings also suggest that youths' externalizing behaviors in early adolescence were associated with receiving lower levels of acceptance from their fathers. This pattern is consistent with previous empirical data showing the adverse effects of youths' problem behavior on parenting (Donenberg & Baker, 1993; Serbin et al., 2015). In comparison to fathers, some of the findings for mothers' acceptance were inconsistent with prior research. Although the negative association between maternal acceptance and youths' externalizing symptoms at the between-person level were consistent with previous empirical data suggesting that higher levels of maternal acceptance reduce youths' susceptibility to problem behaviors (Bean et al., 2006; Forehand & Nousiainen, 1993; Leidy et al., 2011), the transactional effects from middle adolescence to young adulthood between mothers' accepting behavior and youths' externalizing symptoms did not replicate prior work. These findings suggest that higher levels of mothers' accepting behavior contributes to youths' engagement in delinquent behaviors and, likewise, youths' engagement in delinquent behaviors tend to evoke higher levels of mothers' acceptance toward their child.

Parental Rejection. Fathers who exhibited rejecting behaviors toward their children were more likely to have children who showed higher rates of externalizing symptoms in early adolescence. Likewise, youth who experienced elevated externalizing symptoms were more likely to have fathers who showed more rejecting behavior toward their children in early adolescence. Furthermore, fathers' rejecting behaviors were associated with lower levels of fathers' depressive symptoms in early adolescence, but

fathers' depressive symptoms did not predict changes in fathers' rejecting behavior. At the between-person level, fathers who reported higher levels of depressive symptoms were more likely to exhibit rejecting behaviors toward their children, and those who exhibited rejecting caregiving behaviors were more likely to have children with elevated externalizing symptoms from early adolescence to young adulthood. Fathers' depressive symptoms were not related to youths' externalizing symptoms, and fathers' rejecting behavior did not explain an indirect association between fathers' depressive symptoms and youths' externalizing symptoms.

Higher levels of mothers' rejecting behavior in late adolescence were associated with lower levels of youths' externalizing symptoms in young adulthood. Reciprocally, youths' externalizing symptoms were associated with higher levels of mothers' rejecting behavior during early adolescence, whereas higher levels of youths' externalizing symptoms in late adolescence were associated with lower levels of mothers' rejecting behavior. Transactional effects between mothers' depressive symptoms and youths' externalizing symptoms were consistent with previous findings in this study. However, there were no transactional effects between mothers' depressive symptoms and mothers' rejecting behavior. As observed with fathers' between-person differences, mothers who endorsed more depressive symptoms and exhibited more rejecting behavior toward their children, were more likely to have children with elevated externalizing symptoms from early adolescence to young adulthood. However, because mothers' depressive symptoms were not related to their rejecting behavior, the mediation model was not supported.

The associations of mothers' and fathers' rejecting behaviors with youths' externalizing symptoms at the between-person level, as well as the influence of within-person differences in fathers' rejection on youths' externalizing symptoms in early adolescence, were consistent with empirical work indicating that higher levels of parental rejection were associated with more problem behaviors in children. (Elgar et al., 2007; Enns et al., 2002; Goeke-Morey & Cummings, 2007; Leidy et al., 2011). In addition, the reciprocal effects of youths' externalizing symptoms on mothers' and fathers' rejecting behaviors in early adolescence were consistent with previous studies indicating that children's problem behaviors evoke negative caregiving behaviors (Eisenberg et al., 2015; Serbin et al., 2015). However, the bidirectional effects between mothers' rejecting behavior and youths' externalizing symptoms in late adolescence and young adulthood were not consistent with previous literature. These differential effects across adolescence and young adulthood highlight the importance of developmental timing and suggest that mothers' rejecting behavior in late adolescence may have a protective impact on youths' involvement in delinquent activities in young adulthood. Moreover, youth who engage in more delinquent behaviors during late adolescence appear to evoke less rejection from their mothers in young adulthood. Consistent with findings for youths' internalizing symptoms, the current findings indicate that parental rejection did not function as an intervening mechanism through which mothers' or fathers' depressive symptoms influenced youths' externalizing symptoms.

Mattering to Parents. Youths' perceptions of mattering to fathers were associated with lower levels of youths' externalizing symptoms in early adolescence. In addition,

fathers' within-person depressive symptoms in middle adolescence were associated with youths' perceptions that they matter more to their fathers in late adolescence. Within-person differences in youths' externalizing symptoms did not predict changes in perceptions of mattering to fathers across time. At the between-person level, fathers' depressive symptoms were not associated with youths' perceptions of mattering to fathers, nor with youths' externalizing symptoms. In general, youths who felt that they mattered to their fathers were less likely to engage in delinquent activities from early adolescence to young adulthood, but perceived mattering to fathers did not explain variation in observed relations between fathers' depressive symptoms and youths' externalizing problems.

Youths' perceptions of mattering to mothers in late adolescence were associated with more externalizing symptoms in young adults. However, within-person differences in youths' externalizing symptoms did not predict changes in perceptions of mattering to mothers across time. Bidirectional effects between mothers' depressive symptoms and youths' externalizing symptoms were consistent with previous findings. However, there were no bidirectional effects between mothers' depressive symptoms and youths' perceptions of mattering to mothers across time. At the between-person level, higher levels of depressive symptoms in mothers and reduced perceptions of mattering to mothers were associated with elevated externalizing symptoms in youth from early adolescence to young adulthood. However, mothers' depressive symptoms were not related to youths' perceptions of mattering to mothers, so there were no mediation effects evaluated for youths' perceptions of mattering to mothers.

The associations between youths' perceptions of mattering to mothers or fathers and youths' externalizing symptoms at the between-person level, as well as the influence of within-person differences in perceptions of mattering to fathers on youths' externalizing symptoms in early adolescence, were consistent with previous research showing that children who feel they matter to their parents are less likely to engage in problem behaviors (Marshall, 2004; Schenck et al., 2009). Similar to internalizing symptoms and consistent with previous research (Cummings et al., 2014; Schacht et al., 2009), these findings suggest that youth who are emotionally secure about their connections to their parents are less likely to engage in delinquent activities. In contrast, the findings indicating that youths' perceptions of mattering more to mothers in late adolescence were associated with higher levels of youths' externalizing symptoms in young adulthood were not consistent with previous empirical evidence (Marshall, 2004; Schenck et al., 2009). It appears that perceptions of mattering to mothers in late adolescence increase the likelihood that youth would engage in delinquent activities in young adulthood. Finally, youths' perceptions of mattering to parents did not function as an intervening mechanism underlying associations between parental depressive symptoms and youths' externalizing symptoms.

In general, the associations among parents' depressive symptoms, the proposed mediators, and youths' externalizing symptoms at the between-person level, as well as the transactional influences between both parents and youths' externalizing symptoms in early adolescence, were consistent with previous findings, which suggest that parents' psychopathology, poor parenting, and youths' perception of not mattering to their parents

amplify youths' externalizing symptoms (Bean et al., 2006; Elgar et al., 2007; Enns et al., 2002; Forehand & Nousiainen, 1993; Goeke-Morey & Cummings, 2007; Leidy et al., 2011). Likewise, youths' problem behaviors are known to evoke these negative reactions from their parents. (Donenberg & Baker; Eisenberg et al., 2015; Serbin et al., 2015). However, these bidirectional patterns changed starting from middle adolescence and into young adulthood. Specifically, in early adolescence and at the between-person level, mothers' elevated depressive symptoms, lower levels of parental acceptance and perceived mattering to each parent, and higher levels of rejection were associated with more externalizing symptoms in youth. Similarly, youths' engagement in delinquent activities were related to lower levels of parental acceptance and perceptions of mattering to parents and higher levels of rejection in early adolescence.

Starting in middle adolescence, and mostly with mothers, these transactional patterns mirrored previous findings with youths' internalizing symptoms, such that higher levels of mothers' acceptance and perceptions of mattering to mothers, and lower levels of mothers' rejection were associated with more externalizing symptoms. Reciprocally, youth who engaged in more problem behaviors in late adolescence were more likely to have mothers who showed lower levels of depressive symptoms and rejecting behavior, as well as higher levels of accepting behavior. Taken together, these findings revealed that, although these transactions between parents and youth might be appropriate in early adolescence and may be beneficial to the early relational dynamics between youth and their parents, similar interactions might not be developmentally optimal in late adolescence and young adulthood. As observed with youths' internalizing symptoms,

mothers' overprotection and heightened displays of affection or concern during this period may contribute to youths' engagement in delinquent activities. However, it appears that mothers view youths' engagement in delinquent behaviors as problematic in early adolescence but as more age-normative starting in late adolescence.

CHAPTER 5: GENERAL DISCUSSION

Decades of empirical evidence have documented the adverse effects of parental psychopathology on youths' positive development (Connell & Goodman, 2002). However, this body of work has typically focused on mothers (Natsuaki et al., 2014), despite both theoretical and empirical work suggesting that fathers' psychopathology may be equally relevant for understanding youths' development (Cummings et al., 2005; Goodman & Gotlib, 1999; Reeb et al., 2010). Furthermore, most studies investigating both mothers' and fathers' influences on youth development have analyzed their data separately or have combined both parents' data due to low numbers of participating fathers (Connell & Goodman, 2002; Phares & Compas, 1992). This discrepancy in the developmental literature does not provide a comprehensive understanding of whether and how parents influence their children because it overlooks fathers' influences, as well as the additive contributions of each parent's psychosocial functioning and behavior to youths' development.

In addition to the dearth of literature on paternal psychopathology, a majority of the studies evaluating parental effects on children's development has focused on young children (Cummings et al., 2005; Kane & Garber, 2004; Schacht et al., 2009) with minimal emphasis on adolescents (Elgar et al., 2007; Reeb & Conger, 2009) and young adults (Hammen et al., 2008; Rohde et al., 2005). This discrepancy persists despite evidence that youths' development, parents' socialization practices, and parenting behaviors undergo critical changes during these periods (Collins, 1990). Furthermore, most of the empirical literature investigating the effects of parental psychopathology on

youth development have involved clinical (e.g., Rohde et al., 2005), European American (e.g., Cummings et al., 2014), and cross-sectional samples (e.g., Corona et al., 2005). Further, researchers who have examined these effects longitudinally have mostly used data from only two-time points (Elgar et al., 2007; Rohde et al., 2005).

Given these gaps in the literature, the first aim of this investigation was to examine the concurrent and prospective associations of both mothers' and fathers' depressive symptoms with youths' internalizing and externalizing symptoms, as well as the reciprocal effects of youths' symptomatology on parents' depressive symptoms from early adolescence to young adulthood in a community sample of European American and Mexican American intact and stepfather families. Using longitudinal data extending across five data points, this study investigated both distal and proximal effects of parents' depressive symptoms on youths' symptomatology, as well as between- and within-person effects from early adolescence to young adulthood. This study also evaluated differential effects by family ethnicity, family structure, and child gender to further understand for whom the effects of mothers' and fathers' depressive symptoms may be greatest, as well as what contextual processes may amplify or protect against the adverse effects of parental depressive symptoms on youths' symptomatology.

Consistent with prior literature (Brennan et al., 2002; Cummings et al., 2014; Cummings et al., 2005; Hammen et al., 2008; Reeb & Conger, 2009; Reeb et al., 2015; Rohde et al., 2005), mothers' and fathers' trait-like depressive symptoms were associated with elevated rates of internalizing symptoms, but only mothers' depressive symptoms were related to higher levels of youths' externalizing symptoms across adolescence and

young adulthood. Furthermore, the associations of mothers' or fathers' depressive symptoms with youths' internalizing symptoms differed by family ethnicity, with these patterns of association evident in European American families, but not in Mexican American families. The findings on family ethnicity were inconsistent with prior theoretical arguments and empirical work on these effects in non-European American populations (Wilson & Durbin, 2010), and suggest that, when compared to Mexican American families, the family context in European American families allows for an easier transmission of parents' emotional vulnerability to their children.

The findings on fathers' depressive symptoms and youths' externalizing symptoms were inconsistent with prior work, which has shown that fathers' depressive symptoms may be especially important for youths' externalizing symptoms when compared to youths' internalizing symptoms (Kane & Garber, 2004; Low & Stocker, 2005; Phares & Compas, 1992). It is difficult to compare this inconsistent finding to the extant literature as previous work has supported the unique effects of paternal depressive symptoms on youths' externalizing behavior, even after controlling for maternal depressive symptoms (Brennan et al., 2002; Reeb & Conger, 2009; Reeb et al., 2015). However, this finding should be considered in the context of the current study design, as this is one of the first studies to tease apart the influence of between- and within-person differences in mothers' and fathers' depressive symptoms on youths' symptomatology across time. Overall, the findings indicated that mothers and fathers uniquely contribute to youths' internalizing symptoms, however, mothers' depressive symptoms might be

more important to youths' externalizing symptoms after controlling for fathers' depressive symptoms.

In addition to trait-like differences, time-varying differences in mothers' and fathers' depressive symptoms were associated with changes in youths' internalizing problems, but only changes in mothers' depressive symptoms were associated with changes in youths' externalizing symptoms. More importantly, both mothers' and fathers' depressive symptoms in early adolescence were related to youths' symptomatology in young adulthood, which highlights the importance and special significance of the early family environment on youth development (Cummings & Cicchetti, 1990; Duggal et al., 2001; Sroufe, 1990). The data further suggest that mothers' depressive symptoms in late adolescence may be more easily transferred to daughters than to sons in young adulthood, perhaps because daughters may empathize with their depressed mothers and provide emotional support to them (Duggal et al., 2001).

It is important to note that, although mothers' and fathers' depressive symptoms in early adolescence were associated with changes in youth's later internalizing symptoms, the direction of these effects differed between mothers and fathers. As observed in prior studies, changes in mothers' depressive symptoms were associated with more youth vulnerability to anxiety and depressive symptoms (Cummings et al., 2014; Elgar et al., 2007), whereas, changes in fathers' depressive symptoms were associated with lower levels of youth vulnerability to internalizing problems in young adulthood. Considering the extant literature on paternal depressive symptoms (Brennan et al., 2002; Cummings et al., 2014; Cummings et al., 2005; Elgar et al., 2007; Kane & Garber, 2004;

Reeb & Conger, 2009; Reeb et al., 2015; Wilson & Durbin, 2010), it is not clear why changes in fathers' depressive symptoms may protect against youths' internalizing symptomatology in young adulthood, but it appears that these fathers' responses and behavioral patterns may differ from fathers who do not experience time-varying changes in their depressive symptoms. Perhaps depressed fathers in early adolescence become more psychologically available and emotionally responsive to their children's developmental needs, which enhances youths' sense of self and helps them develop more effective emotional regulation strategies.

The importance of developmental timing was particularly evident in the effects of mothers' depressive symptoms on youths' externalizing symptoms, and in the effects of youths' externalizing symptoms on both mothers' and fathers' depressive symptoms. Whereas changes in mothers' depressive symptoms in early adolescence were associated with higher levels of youths' externalizing behavior in young adulthood, which is consistent with prior work (Cummings et al., 2014; Elgar et al., 2007), higher levels of mothers' depressive symptoms in middle adolescence were associated with lower levels of youths' symptomatology in late adolescence. Given their improvements in emotion knowledge and recognition (Trentacosta & Fine, 2010), youth in middle adolescence who recognize their mothers' emotional distress may be motivated to engage in fewer problem behaviors to avoid exacerbating their mothers' depressive symptoms.

As observed with mothers' depressive symptoms, youths' externalizing symptoms provided relevant information about developmental timing, but also showed how youths' problem behaviors may have profound effects on parents' psychological well-being,

especially mothers' mental health. Specifically, whereas higher levels of youths' externalizing symptoms were associated with higher rates of mothers' depressive symptoms during early adolescence, higher levels of youths' externalizing symptoms in late adolescence were associated with lower levels of mothers' depressive symptoms. Although youths' engagement in problem behavior may have a negative impact on mothers' mental health in early adolescence, similar problems in late adolescence may be perceived as more age-appropriate and normative by parents. Whereas changes in youths' externalizing symptoms influenced mothers' depressive symptoms, these patterns were not evident for fathers' depressive symptoms. Furthermore, it is interesting to note that, unlike youths' externalizing symptoms, changes in youths' internalizing symptoms did not affect parents' mental health. This pattern could suggest that youths' internalizing symptoms create fewer disruption in the family system, perhaps because they are more likely to go unnoticed, than externalizing problems. However, it is important to recall that youths' internalizing symptoms did affect mothers' and fathers' parenting behaviors, and so perhaps it is the nature of the consequences of youths' symptomatology (e.g., externalizing problems may have greater judicial or economic consequences that lead to parental strain), rather than the mere presence or absence of internalizing versus externalizing symptomatology that accounts for these differential effects.

These findings addressed some noticeable gaps in the existing literature and provided important empirical evidence showing that both mothers' and fathers' trait-like and time-varying depressive symptoms were directly linked to youths' adjustment. However, these findings did not offer insights as to what mechanisms might explain the

association between parents' depressive symptoms and youth adjustment. Researchers have argued that parents' depressive symptoms undermine youths' socioemotional development because they disrupt the family environment by increasing marital conflict (Cummings et al., 2005), compromising parent-child relational dynamics (Cummings et al., 2014; Elgar et al., 2007), and engendering emotional insecurity in children (Cummings et al., 2014; Schacht et al., 2009). Despite the significant contribution of previous work on these intervening mechanisms, however, prior studies have been limited by similar shortcomings as those that have investigated direct associations between parents' depressive symptoms and youths' adjustment (e.g., European American samples of mothers with young children).

Building on these initial findings, the second aim of this investigation evaluated intervening mechanisms that could explain the direct link between parental depressive symptoms and youths' symptomatology. Putative mediators included the co-parents' degree of symptomatology, youths' reports of parental acceptance and rejection, and youths' perceptions of mattering to each parent. This study also evaluated differential mediation effects by family ethnicity, family structure, and child gender.

At the trait level and in the time-varying covariances at the initial time of assessment, mothers and fathers who exhibited higher levels of rejection and lower levels of acceptance, as well as youths' perceptions of feeling that they did not matter to each parent, were significantly associated with youths' experiences of internalizing and externalizing symptoms. Consistent with previous findings, mothers' and fathers' depressive symptoms were positively associated with youths' internalizing symptoms,

whereas, only mothers' depressive symptoms were positively related to youths' externalizing symptoms. Overall, these findings were consistent with prior research indicating that parents' negative and positive caregiving behavior (Bean et al., 2006; Enns et al., 2002; Forehand & Nousiainen, 1993; Leidy et al., 2011; Schacht et al., 2009), as well as youths' perceptions of mattering to each parent (Marshall, 2004; Schenck et al., 2009), are directly associated with youths' adjustment.

Although mothers' and fathers' parental acceptance and rejection were related to youths' symptomatology, only fathers' depressive symptoms were associated with their caregiving behavior. Cumulatively, the nonsignificant associations between mothers' depressive symptoms and their parenting behavior support previous notions that mothers are better able to compartmentalize their affective experiences than fathers (Flouri, 2010; Stevenson et al., 2014). This compartmentalization may allow mothers' parenting behaviors to remain minimally affected by their depressive symptoms. In contrast, fathers' depressive symptoms tended to spillover and influence their caregiving behaviors. It is important to note that for both mothers and fathers, parental depressive symptoms were not related to youths' perceptions of mattering. Although previous research suggests that parental depressive symptoms may undermine youths' emotional security (Cummings et al., 2014; Schacht et al., 2009), this pattern did not emerge with regard to youths' perceptions of mattering to their parents in the current study.

Time-varying effects of mothers' and fathers' parenting behavior and youths' perceptions of mattering on youths' symptomatology, as well as the reciprocal influences of youths' symptomatology on these parenting processes, highlight the significance of

developmental timing and the influence of youths' adjustment on parenting behaviors and on youths' perceptions of mattering to mothers and fathers. Consistent with prior studies (Bean et al., 2006; Enns et al., 2002; Leidy et al., 2011; Schenck et al., 2009; Serbin et al., 2015), lower levels of parental acceptance, higher levels of parental rejecting behavior, and youths' perceptions of mattering more to both parents were associated with elevated rates of youths' problem behavior in early adolescence. Reciprocally, youths' problem behaviors were associated with lower levels of parental acceptance, higher levels of parental rejection, and reduced perceptions of mattering to mothers and fathers in early adolescence. However, contradicting the extant literature, higher levels of parental acceptance, lower levels of parental rejection, and youths' perception of mattering more to both parents were associated with higher levels of youths' externalizing symptoms in late adolescence and young adulthood, as well as with higher levels of youths' internalizing symptoms across time. Reciprocally, youths' internalizing and externalizing symptoms across time tended to predict similar patterns in mothers' and fathers' parenting behavior and youths' perceptions of mattering. Collectively, these findings point to youths' need for autonomy and resistance to parental influences during these developmental periods. Furthermore, these findings imply that changes in youths' psychosocial functioning shape parents' responses to their children. As a result of their child's adjustment difficulties, parents may exhibit behaviors that either exacerbate or undermine youths' symptomatology

Mediation effects were not evident for mothers, given that mothers' depressive symptoms were not related to their parenting behavior or to youths' perceptions of

mattering to mothers. Furthermore, fathers' depressive symptoms did not account for the association between mothers' depressive symptoms and youths' symptomatology, which suggests that the associations of mothers' depressive symptoms with youths' internalizing and externalizing symptoms were better explained by other intervening mechanisms. Considering Goodman and Gotlib's (1999) theoretical model, it could be that genetic transmission or dysfunctional neuroregulatory mechanisms may better account for the association between mothers' depressive symptoms and youths' symptomatology.

In contrast to mothers' depressive symptoms, the influence of fathers' depressive symptoms on youths' symptomatology was partially explained by mothers' depressive symptoms and by fathers' accepting behavior towards their children. Moreover, these effects were stronger in European American families than in Mexican American families. These findings suggest that fathers' depressive symptoms disrupt the family environment by affecting other family members' socioemotional functioning and by compromising their own parenting behaviors. Moreover, whereas fathers' acceptance mediated the association between fathers' depressive symptoms and youths' internalizing and externalizing symptoms, fathers' rejection did not. These findings suggest that fathers' depressive symptoms may undermine youths' development by compromising positive paternal caregiving behaviors rather than by promoting negative paternal caregiving behaviors. Fathers' trait-like depressive symptoms seem to impair their positive and supportive reactions toward their children, which increases youths' vulnerability to emotional difficulties and problem behavior.

Strengths, Limitations, and Future Directions

The current investigation drew on a multi-wave, multi-informant longitudinal study of a large and diverse sample of two-parent families. Notable strengths of this study included the examination of between- and within-person effects, transactional effects among multiple family members, proximal and distal influences, and the ability to support inferences about causation and developmental timing. Despite the contributions of this study to the existing literature, several limitations both qualify the interpretation of the findings and reveal promising directions for future research.

First, given the complexity of the models and moderate sample size, it was not possible to test synergistic effects between the independent and contextual variables in this study. Although some researchers have argued that the effects of parental depression on youth adjustment maybe additive (Reeb et al., 2010; Reeb et al., 2015), rather than interactive, previous studies have found interactive effects between mothers' and fathers' depressive symptoms on youth adjustment (Brennan et al., 2002). Furthermore, it is important to note that higher level interactions among family ethnicity, family structure, and child gender could lead to differential developmental outcomes. For example, it may be that European American girls who are exposed to parental depressive symptoms in intact families would be more likely to experience elevated rates of internalizing and externalizing symptoms when compared to other youth groups.

Second, moderation analyses were tested in sets (e.g., all mother effects on youth symptomatology across time) to reduce the occurrence of type 1 error and to avoid capitalizing on chance. However, this analytic approach could have masked significant

effects for individual paths. For example, testing the effects of fathers' depressive symptoms on youths' internalizing symptoms by gender indicated that the influence of fathers' depressive symptoms on youth adjustment did not differ among boys and girls. However, in the fully unconstrained model for gender, the pathway from fathers' depressive symptoms in early adolescence (e.g., distal effects) to youths' internalizing symptoms in young adulthood was significant for girls, but not for boys. In addition, the complexity of the models as well as the sample size may not have been sufficient to detect small effects. Therefore, future research should utilize larger, nationally representative datasets to determine if the effects found in this study are consistent across different samples. Future research should also determine whether the distal effect of fathers' depressive symptoms on youths' internalizing symptoms differs between sons and daughters.

Third, although these findings may point to youths' genetic and environmental susceptibility to their parents' depressive symptoms, this study was not able to disentangle the confound of family structure and genetic influences on youths' symptomatology. Indeed, a recent study examining the interplay between genetics and early environmental influences on youths' internalizing symptoms from late childhood to adolescence found that genetic predisposition was the sole predictor of the stable latent trait (i.e., time-invariant) portion of youths' internalizing symptoms across adolescence (Musci et al., 2016). However, although a fully unconstrained model by family structure and models with only fathers showed a direct association between fathers' depressive symptoms and youths' internalizing symptoms, this study did not provide strong support

for paternal genetic transmission as family structure was not found to moderate most of the empirical findings. However, evidence for paternal genetic effects may have been occluded by the complexity of the models.

Fourth, although this study examined transactional dynamics across mothers' and fathers' depressive symptoms, and with youths' symptomatology, crossover effects of parental depressive symptoms on the other partner's relationship with the child were not investigated. Previous empirical evidence indicates that explanatory mechanisms may spill over between parents such that maternal depressive symptoms may alter father-child relational dynamics, and paternal depressive symptoms may alter mother-child relationships. For example, in a study of 15-18 month old infants, maternal depressive symptoms had an effect on father-child interactions such that infants who had mothers with higher levels of depressive symptoms expressed less negative affect, more enjoyment and pleasure, and less seriousness when interacting with their fathers as compared to infants who had mothers with lower levels of depressive symptoms (Edhborg, Lundh, Seimyr, & Widström, 2003). Therefore, future studies should determine whether mothers' or fathers' depressive symptoms spill over to influence the co-parent's relational dynamics with the child.

Fifth, issues with the measurement of parental depression as well as youths' reports of parental acceptance and rejection may have affected the interpretation of the findings in this study. For each construct, only three items were used to create the assessment. Given that only three items from the parental depression scale were administered at wave 2, only these items were used across all five data points, to support

the examination of between- and within-person differences. The addition of the remaining items at other waves would have reduced the ability to make inferences about whether the variation in depressive symptoms across time was a function of developmental changes in the behavior or a result of changes in the construct. Although, the three items were highly correlated ($r > .80$) with the full scale score across all items at other waves, the three items may not have fully captured the construct of depression.

Sixth, in addition to the numbers of items used to measure parental acceptance and rejection, it would have been beneficial to include parents' reports and/or observational measures of parenting behavior in conjunction with youths' reports to reduce bias attributed to shared method variance in the mediation analyses. Unfortunately, these data were not collected in this study. More importantly, research has supported the validity of adolescents' reports of their parents' caregiving behavior with parents' reports of their own caregiving behaviors (Krevans & Gibbs, 1996; Simons, Whitbeck, Conger, & Wu, 1991), with some researchers arguing that youths' reports or other forms of assessment (e.g., observational, interviews, microanalytic recording systems) might be a more valid measure of parenting practices because parents' reports of their own caregiving behavior are prone to distortion and social desirability effects (Locke & Prinz, 2002; Morsbach & Prinz, 2006). Future research should determine whether these effects may differ if parents' self-report or observational assessments are used for similar analyses.

Finally, despite the novel approach to data harmonization across measures of youths' internalizing and externalizing symptoms from adolescence to young adulthood,

this process may not have been fully corrective. For example, the associations between waves 3 and 4 were lower (and in some instances not significant), and this was coincident with the inter-wave transition in measurement tools. That said, it is important to note that the time-varying associations between these two waves were quite large considering this was the longest time interval in the study. Although the findings were consistent with prior research on youths' internalizing (Cole et al., 2017; Ge et al., 2006) and externalizing (Galambos et al., 2003; K. J. Kim et al., 2003) symptoms, future research should verify these trait and time-varying differences in youths' symptomatology in studies with closer assessment intervals.

Implications and Conclusions

The current study addressed several gaps in the existing literature on parental depressive effects on youth adjustment. Overall, the findings revealed dynamic transactions across family members and revealed opportune times and targets for intervention and prevention efforts aimed at mitigating the deleterious effects of parental psychopathology on adolescent and young adult adjustment. In particular, these data suggest that intervention and policy efforts aimed at reducing the negative impact of parental psychopathology on children should include the whole family system. Although mothers are often perceived as the primary caregiver and main targets of intervention work aimed at reducing parental psychopathology and improving positive parenting practices, these findings show that intervention work should prioritize the inclusion of fathers in their programs because paternal depression symptoms may have both positive and negative consequences for other family members' mental health and psychosocial

functioning. Furthermore, fathers' depressive symptoms appear to affect their ability to engage in positive parenting. Therefore, intervention work may be especially pertinent for single-father family structures. In addition, the findings from this study highlight the need to include children in intervention efforts as both youths' internalizing and externalizing symptoms influenced parents' depressive symptoms and caregiving behaviors.

One of the most interesting finding in this study was the moderating effect of family ethnicity on the association between parental depressive symptoms and youths' symptomatology, with European American youths appearing more susceptible to their parents' depressive symptoms than their Mexican American peers. In order to maximize the effectiveness of prevention and intervention programs, it might be beneficial for researchers and clinicians to understand what features of the Mexican American family environment seem to prevent the transmission of negative parental depression effects on youth adjustment. Intervention efforts also need to consider developmental timing during the implementation of these programs. In particular, prevention and intervention efforts involving parents with adolescents and young adults must ensure that these programs allow parents to find a balance between effective parenting strategies and the need for their children to attain autonomy as it appears that mothers and fathers who exert their influence on their children's behavior through excessive displays of concern, acceptance, protection, and affection may contribute to poor emotional and behavioral outcomes for their children, especially during late adolescence and young adulthood.

Finally, given the unique examination of trait and time-varying effects in this study, some of the findings were inconsistent with previous empirical evidence. In particular, most of the findings that were consistent with previous literature were at the trait level (i.e., between-person differences), suggesting that findings in the existing literature on longitudinal and transactional effects are driven in large part by differences at the trait level and less so by time-varying effects. This investigation suggests that researchers need to be careful about the conclusions they draw from traditional cross-lagged models and should adhere to recent calls in the field (Berry & Willoughby, 2016; Hamaker et al., 2015) that advocate for the separation of between- and within-person differences in psychological constructs across time.

References

Achenbach, T. M. (1991). *Manual for the youth self-report and 1991 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Amato, P. R. (1994). Father-child relations, mother-child relations, and offspring psychological well-being in early adulthood. *Journal of Marriage and Family, 56*(4), 1031-1042. doi:10.2307/353611

Bean, R. A., Barber, B. K., & Crane, D. R. (2006). Parental support, behavioral control, and psychological control among African American youth: The relationships to academic grades, delinquency, and depression. *Journal of Family Issues, 27*(10), 1335-1355. doi:10.1177/0192513x06289649

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological bulletin, 107*(2), 238-246. doi:10.1037/0033-2909.107.2.238

Berry, D., & Willoughby, M. T. (2016). On the practical interpretability of cross-lagged panel models: Rethinking a developmental workhorse. *Child Development*, n/a-n/a. doi:10.1111/cdev.12660

Brennan, P. A., Hammen, C., Katz, A. R., & Le Brocque, R. M. (2002). Maternal depression, paternal psychopathology, and adolescent diagnostic outcomes. *Journal of Consulting and Clinical Psychology, 70*(5), 1075-1085. doi:10.1037/0022-006X.70.5.1075

Bretherton, I., & Munholland, K. A. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 89-111). New York, NY, US: Guilford Press.

Bronfenbrenner, U., & Morris, P. A. (2007). The bioecological model of human development. *Handbook of child psychology*. Hoboken, NJ: John Wiley & Sons, Inc.

Bronte-Tinkew, J., Moore, K. A., & Carrano, J. (2006). The father-child relationship, parenting styles, and adolescent risk behaviors in intact families. *Journal of Family Issues, 27*(6), 850-881.

Brown, B. L., Hendrix, S. B., Hedges, D. W., & Smith, T. B. (2011). *Multivariate analysis for the biobehavioral and social sciences: a graphical approach*. Hoboken, NJ: John Wiley & Sons.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.

Cabrera, N. J., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the twenty-first century. *Child Development, 71*(1), 127-136.

Cassano, M., Adrian, M., Veits, G., & Zeman, J. (2006). The inclusion of fathers in the empirical investigation of child psychopathology: An update. *Journal of Clinical Child and Adolescent Psychology, 35*(4), 583-589.

Cherlin, A. J., & Furstenberg, F. F. (1994). Stepfamilies in the United States: A reconsideration. *Annual Review of Sociology, 20*, 359-381.

Cicchetti, D., & Schneider-Rosen, K. (1986). An organizational approach to childhood depression. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: Developmental and clinical perspectives* (pp. 71-134). NY, New York: Guilford Press.

Cicchetti, D., & Toth, S. L. (1997). Transactional ecological systems in developmental psychopathology. In S. S. Luthar, J. A. Burack, D. Cicchetti, & J. R. Weisz (Eds.), *Developmental psychopathology: Perspectives on adjustment, risk, and disorder* (pp. 317-349). New York, NY: Cambridge University Press.

Cole, D. A., Martin, J. M., Jacquez, F. M., Tram, J. M., Zelkowitz, R., Nick, E. A., & Rights, J. D. (2017). Time-varying and time-invariant dimensions of depression in children and adolescents: implications for cross-informant agreement. *Journal of Abnormal Psychology*. doi:10.1037/abn0000267

Coleman, M., Ganong, L., & Fine, M. (2000). Reinvestigating remarriage: Another decade of progress. *Journal of Marriage and Family, 62*(4), 1288-1307.

Collins, W. A. (1990). Parent-child relationships in the transition to adolescence: Continuity and change in interaction, affect, and cognition. In R. Montemayor, G. R. Adams, & T. P. Gullotta (Eds.), *From childhood to adolescence: A transitional period?* (pp. 85-106). Thousand Oaks, CA, US: Sage Publications, Inc.

Coltrane, S. (1997). *Family man: Fatherhood, housework, and gender equity*. New York, NY: Oxford University Press.

Connell, A. M., & Goodman, S. H. (2002). The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: a meta-analysis. *Psychological bulletin, 128*(5), 746-773. doi:10.1037/0033-2909.128.5.746

Corona, R., Lefkowitz, E. S., Sigman, M., & Romo, L. F. (2005). Latino adolescents' adjustment, maternal depressive symptoms, and the mother-adolescent relationship. *Family Relations, 54*(3), 386-399. doi:10.1111/j.1741-3729.2005.00325.x

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48*(1), 243-267.

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science, 12*(5), 193-196.

Criss, M., Lee, T., Morris, A., Cui, L., Bosler, C., Shreffler, K., & Silk, J. (2015). Link between monitoring behavior and adolescent adjustment: An analysis of direct and indirect effects. *Journal of Child & Family Studies, 24*(3), 668-678. doi:10.1007/s10826-013-9877-0

Cummings, E. M., Cheung, R. Y. M., Koss, K., & Davies, P. T. (2014). Parental depressive symptoms and adolescent adjustment: A prospective test of an explanatory model for the role of marital conflict. *Journal of Abnormal Child Psychology, 42*(7), 1153-1166. doi:10.1007/s10802-014-9860-2

Cummings, E. M., & Cicchetti, D. (1990). Toward a transactional model of relations between attachment and depression. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 339-372). Chicago, IL, US: University of Chicago Press.

Cummings, E. M., Keller, P. S., & Davies, P. T. (2005). Towards a family process model of maternal and paternal depressive symptoms: Exploring multiple relations with child and family functioning. *Journal of Child Psychology and Psychiatry, 46*(5), 479-489.

Davidov, M., Knafo-Noam, A., Serbin, L. A., & Moss, E. (2015). The influential child: How children affect their environment and influence their own risk and resilience. *Development and Psychopathology, 27*(4pt1), 947-951. doi:10.1017/S0954579415000619

Davies, P. T., Martin, M. J., Coe, J. L., & Cummings, E. M. (2016). Transactional cascades of destructive interparental conflict, children's emotional insecurity, and psychological problems across childhood and adolescence. *Development and Psychopathology, 28*(03), 653-671. doi:10.1017/S0954579416000237

Derogatis, L. R., Lipman, R. S., Rickels, K., Uhlenhuth, E. H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. *Behavioral Science, 19*(1), 1-15. doi:10.1002/bs.3830190102

Donenberg, G., & Baker, B. L. (1993). The impact of young children with externalizing behaviors on their families. *Journal of Abnormal Child Psychology, 21*(2), 179-198. doi:10.1007/bf00911315

Duggal, S., Carlson, E. A., Sroufe, L. A., & Egeland, B. (2001). Depressive symptomatology in childhood and adolescence. *Development and Psychopathology, 13*(01), 143-164.

Edhborg, M., Lundh, W., Seimyr, L., & Widström, M. A. (2003). The parent-child relationship in the context of maternal depressive mood. *Archives of Women's Mental Health, 6*(3), 211-216. doi:10.1007/s00737-003-0020-x

Eisenberg, N., Taylor, Z. E., Widaman, K. F., & Spinrad, T. L. (2015). Externalizing symptoms, effortful control, and intrusive parenting: A test of bidirectional longitudinal relations during early childhood. *Development and Psychopathology, 27*(4pt1), 953-968. doi:10.1017/S0954579415000620

Elgar, F. J., Mills, R. S., McGrath, P. J., Waschbusch, D. A., & Brownridge, D. A. (2007). Maternal and paternal depressive symptoms and child maladjustment: The mediating role of parental behavior. *Journal of Abnormal Child Psychology, 35*(6), 943-955. doi:10.1007/s10802-007-9145-0

Enns, M., Cox, B., & Clara, I. (2002). Parental bonding and adult psychopathology: results from the US National Comorbidity Survey. *Psychological Medicine, 32*(06), 997-1008.

Feldman, R. (2007). Maternal versus child risk and the development of parent–child and family relationships in five high-risk populations. *Development and Psychopathology, 19*(02), 293-312. doi:10.1017/S0954579407070150

Feldman, R. (2015). Mutual influences between child emotion regulation and parent–child reciprocity support development across the first 10 years of life: Implications for developmental psychopathology. *Development and Psychopathology, 27*(4pt1), 1007-1023. doi:10.1017/S0954579415000656

Flouri, E. (2010). Fathers' behaviors and children's psychopathology. *Clinical Psychology Review, 30*(3), 363-369. doi:10.1016/j.cpr.2010.01.004

Forehand, R., & Nousiainen, S. (1993). Maternal and paternal parenting: Critical dimensions in adolescent functioning. *Journal of Family Psychology, 7*(2), 213-221.

Fuligni, A. J., Tseng, V., & Lam, M. (1999). Attitudes toward family obligations among American adolescents with Asian, Latin American, and European backgrounds. *Child Development, 70*(4), 1030-1044. doi:10.1111/1467-8624.00075

Galambos, N. L., Barker, E. T., & Almeida, D. M. (2003). Parents do matter: Trajectories of change in externalizing and internalizing problems in early adolescence. *Child Development, 74*(2), 578-594. doi:10.1111/1467-8624.7402017

Ge, X., Lorenz, F. O., Conger, R. D., Elder, G. H., & Simons, R. L. (1994). Trajectories of stressful life events and depressive symptoms during adolescence. *Developmental Psychology, 30*(4), 467-483. doi:10.1037/0012-1649.30.4.467

Ge, X., Natsuaki, M. N., & Conger, R. D. (2006). Trajectories of depressive symptoms and stressful life events among male and female adolescents in divorced and nondivorced families. *Development and Psychopathology, 18*(1), 253-273. doi:10.1017/S0954579406060147

Goeke-Morey, M. C., & Cummings, E. M. (2007). Impact of father involvement: A closer look at indirect effects models involving marriage and child adjustment. *Applied Developmental Science, 11*(4), 221-225. doi:10.1080/10888690701762126

Goodman, S. H., & Gotlib, I. H. (1999). Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review, 106*(3), 458-490. doi:10.1037/0033-295X.106.3.458

Gross, H. E., Shaw, D. S., Moilanen, K. L., Dishion, T. J., & Wilson, M. N. (2008). Reciprocal models of child behavior and depressive symptoms in mothers and fathers in a sample of children at risk for early conduct problems. *Journal of Family Psychology, 22*(5), 742-751. doi:10.1037/a0013514

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods, 20*(1), 102-116. doi:10.1037/a0038889

Hammen, C., Brennan, P. A., & Keenan-Miller, D. (2008). Patterns of adolescent depression to age 20: The role of maternal depression and youth interpersonal dysfunction. *Journal of Abnormal Child Psychology, 36*(8), 1189-1198. doi:10.1007/s10802-008-9241-9

Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological Review, 102*(3), 458-489. doi:10.1037/0033-295X.102.3.458

Hill, J. P., & Lynch, M. E. (1983). The intensification of gender-related role expectations during early adolescence. In J. Brooks-Gunn & A. C. Petersen (Eds.), *Girls at puberty: Biological and psychosocial perspectives* (pp. 201-228). Boston, MA: Springer US.

Hofferth, S. L. (2006). Residential father family type and child well-being: Investment versus selection. *Demography, 43*(1), 53-77.

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55. doi:10.1080/10705519909540118

Huang, C., Costeines, J., Kaufman, J., & Ayala, C. (2014). Parenting stress, social support, and depression for ethnic minority adolescent mothers: Impact on child development. *Journal of Child & Family Studies, 23*(2), 255-262. doi:10.1007/s10826-013-9807-1

Jones, D. J., Forehand, R., & Beach, S. R. (2000). Maternal and paternal parenting during adolescence: Forecasting early adult psychosocial adjustment. *Adolescence, 35*(139), 513.

Kaczynski, K. J., Lindahl, K. M., Malik, N. M., & Laurenceau, J.-P. (2006). Marital conflict, maternal and paternal parenting, and child adjustment: A test of mediation and moderation. *Journal of Family Psychology, 20*(2), 199-208. doi:10.1037/0893-3200.20.2.199

Kane, P., & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father–child conflict: A meta-analysis. *Clinical Psychology Review, 24*(3), 339-360. doi:10.1016/j.cpr.2004.03.004

Kenny, D. A., & Zautra, A. (2001). Trait–state models for longitudinal data. In L. M. Collins & A. G. Sayer (Eds.), *New methods for the analysis of change* (pp. 243-263). Washington, DC, US: American Psychological Association.

Kessler, R. C. (2003). Epidemiology of women and depression. *Journal of Affective Disorders, 74*(1), 5-13. doi:10.1016/S0165-0327(02)00426-3

Kim, J. E., Hetherington, E. M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalizing behaviors: Gender and family type differences. *Child Development, 70*(5), 1209-1230.

Kim, K. J., Conger, R. D., Elder, G. H., & Lorenz, F. O. (2003). Reciprocal influences between stressful life events and adolescent internalizing and externalizing problems. *Child Development, 74*(1), 127-143. doi:10.1111/1467-8624.00525

Kishton, J. M., & Widaman, K. F. (1994). Unidimensional versus domain representative parceling of questionnaire items: An empirical example. *Educational and Psychological Measurement, 54*(3), 757-765.

Kovacs, M. (1992). *Children's depression inventory: Manual*. North Tonawanda, New York: Multi-Health Systems.

Krevans, J., & Gibbs, J. C. (1996). Parents' use of inductive discipline: relations to children's empathy and prosocial behavior. *Child Development, 67*(6), 3263-3277. doi:10.1111/j.1467-8624.1996.tb01913.x

Leidy, M. S., Schofield, T. J., Miller, M. A., Parke, R. D., Coltrane, S., Braver, S., . . . Adams, M. (2011). Fathering and adolescent adjustment: Variations by family structure and ethnic background. *Fathering, 9*(1), 44-68. doi:10.3149/fth.0901.44

Lewis, C., & Lamb, M. E. (2003). Fathers' influences on children's development: The evidence from two-parent families. *European Journal of Psychology of Education, 18*(2), 211-228. doi:10.1007/bf03173485

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling, 9*(2), 151-173. doi:10.1207/S15328007SEM0902_1

Locke, L. M., & Prinz, R. J. (2002). Measurement of parental discipline and nurturance. *Clinical Psychology Review, 22*(6), 895-929. doi:10.1016/S0272-7358(02)00133-2

Low, S. M., & Stocker, C. (2005). Family functioning and children' s adjustment: Associations among parents' depressed mood, marital hostility, parent-child hostility, and children's adjustment. *Journal of Family Psychology, 19*(3), 394-403. doi:10.1037/0893-3200.19.3.394

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130-149. doi:10.1037/1082-989X.1.2.130

Marshall, S. K. (2004). Relative contributions of perceived mattering to parents and friends in predicting adolescents' psychological well-being. *Perceptual and Motor Skills, 99*(2), 591-601. doi:10.2466/pms.99.2.591-601

Marsiglio, W., & Cohan, M. (2000). Contextualizing father involvement and paternal influence: Sociological and qualitative themes. *Marriage & Family Review, 29*(2-3), 75-95.

Matthey, S., Barnett, B., Ungerer, J., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders, 60*(2), 75-85. doi:10.1016/S0165-0327(99)00159-7

McArdle, J. J., Grimm, K. J., Hamagami, F., Bowles, R. P., & Meredith, W. (2009). Modeling life-span growth curves of cognition using longitudinal data with multiple samples and changing scales of measurement. *Psychological Methods, 14*(2), 126-149. doi:10.1037/a0015857

Morsbach, S. K., & Prinz, R. J. (2006). Understanding and improving the validity of self-report of parenting. *Clinical Child and Family Psychology Review, 9*(1), 1-21. doi:10.1007/s10567-006-0001-5

Murray, L., Arteche, A., Fearon, P., Halligan, S., Croudace, T., & Cooper, P. (2010). The effects of maternal postnatal depression and child sex on academic performance at age 16 years: a developmental approach. *Journal of Child Psychology and Psychiatry, 51*(10), 1150-1159. doi:10.1111/j.1469-7610.2010.02259.x

Musci, R. J., Masyn, K. E., Benke, K., Maher, B., Uhl, G., & Ialongo, N. S. (2016). The effects of the interplay of genetics and early environmental risk on the course of internalizing symptoms from late childhood through adolescence. *Development and Psychopathology, 28*(01), 225-237. doi:10.1017/S0954579415000401

Muthén, L. K., & Muthén, B. O. (1998-2011). *Mplus User's Guide. Sixth Edition*. Los Angeles, CA: Muthén & Muthén.

Muthén, L. K., & Muthén, B. O. (2002). How to use a Monte Carlo study to decide on sample size and determine power. *Structural Equation Modeling: A Multidisciplinary Journal, 9*(4), 599-620. doi:10.1207/S15328007SEM0904_8

Natsuaki, M., Shaw, D., Neiderhiser, J., Ganiban, J., Harold, G., Reiss, D., & Leve, L. (2014). Raised by depressed parents: Is it an environmental risk? *Clinical Child & Family Psychology Review, 17*(4), 357-367. doi:10.1007/s10567-014-0169-z

Parke, R. D. (1996). *Fatherhood* (Vol. 33). Cambridge, MA: Harvard University Press.

Perez-Brena, N. J., Cookston, J. T., Fabricius, W. V., & Saenz, D. (2012). Patterns of father self evaluations among Mexican and European American men and links to adolescent adjustment. *Fathering, 10*(2), 213.

Phares, V., & Compas, B. E. (1992). The role of fathers in child and adolescent psychopathology: make room for daddy. *Psychological bulletin, 111*(3), 387.

Ramchandani, P., & Psychogiou, L. (2009). Paternal psychiatric disorders and children's psychosocial development. *The Lancet, 374*(9690), 646-653.

Reeb, B. T., & Conger, K. J. (2009). The unique effect of paternal depressive symptoms on adolescent functioning: Associations with gender and father-adolescent

relationship closeness. *Journal of Family Psychology, 23*(5), 758-761. doi:10.1037/a0016354

Reeb, B. T., Conger, K. J., & Wu, E. Y. (2010). Paternal depressive symptoms and adolescent functioning: The moderating effect of gender and father hostility. *Fathering, 8*(1), 131-142. doi:10.3149/fth.0801.131

Reeb, B. T., Wu, E. Y., Martin, M. J., Gelardi, K. L., Chan, S. Y. S., & Conger, K. J. (2015). Long-term effects of fathers' depressed mood on youth internalizing symptoms in early adulthood. *Journal of Research on Adolescence, 25*(1), 151-162. doi:10.1111/jora.12112

Reinherz, H. Z., Paradis, A. D., Giaconia, R. M., Stashwick, C. K., & Fitzmaurice, G. (2003). Childhood and adolescent predictors of major depression in the transition to adulthood. *American Journal of Psychiatry, 160*(12), 2141-2147. doi:10.1176/appi.ajp.160.12.2141

Reynolds, C. R., & Richmond, B. O. (1979). Factor structure and construct validity of 'What I Think and Feel': The Revised Children's Manifest Anxiety Scale. *Journal of Personality Assessment, 43*(3), 281. doi:10.1207/s15327752jpa4303_9

Rohde, P., Lewinsohn, P. M., Klein, D. N., & Seeley, J. R. (2005). Association of parental depression with psychiatric course from adolescence to young adulthood among formerly depressed individuals. *Journal of Abnormal Psychology, 114*(3), 409-420. doi:10.1037/0021-843X.114.3.409

Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance and mental health among adolescents. *Research in Community & Mental Health, 2*, 163-182.

Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other* (pp. 3-21). Washington, DC, US: American Psychological Association.

Satorra, A. (2000). Scaled and Adjusted Restricted Tests in Multi-Sample Analysis of Moment Structures. In R. D. H. Heijmans, D. S. G. Pollock, & A. Satorra (Eds.), *Innovations in Multivariate Statistical Analysis: A Festschrift for Heinz Neudecker* (pp. 233-247). Boston, MA: Springer US.

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika, 66*(4), 507-514. doi:10.1007/bf02296192

Schacht, P. M., Cummings, E. M., & Davies, P. T. (2009). Fathering in family context and child adjustment: A longitudinal analysis. *Journal of Family Psychology, 23*(6), 790-797. doi:10.1037/a0016741

Schaefer, E. S. (1965). Children's reports of parental behavior: An Inventory. *Child Development, 36*(2), 413-424. doi:10.2307/1126465

Schenck, C. E., Braver, S. L., Wolchik, S. A., Saenz, D., Cookston, J. T., & Fabricius, W. V. (2009). Relations between mattering to step- and non-residential fathers and adolescent mental health. *Fathering, 7*(1), 70-90. doi:10.3149/fth.0701.70

Serbin, L. A., Kingdon, D., Ruttle, P. L., & Stack, D. M. (2015). The impact of children's internalizing and externalizing problems on parenting: Transactional processes and reciprocal change over time. *Development and Psychopathology, 27*(4pt1), 969-986. doi:10.1017/S0954579415000632

Silberg, J. L., Maes, H., & Eaves, L. J. (2010). Genetic and environmental influences on the transmission of parental depression to children's depression and conduct disturbance: an extended Children of Twins study. *Journal of Child Psychology and Psychiatry, 51*(6), 734-744. doi:10.1111/j.1469-7610.2010.02205.x

Simons, R. L., Whitbeck, L. B., Conger, R. D., & Wu, C.-i. (1991). Intergenerational transmission of harsh parenting. *Developmental Psychology, 27*(1), 159-171. doi:10.1037/0012-1649.27.1.159

Sroufe, L. A. (1990). An organizational perspective on the self. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 281-307). Chicago, IL: The University of Chicago.

Sroufe, L. A. (1997). Psychopathology as an outcome of development. *Development and Psychopathology, 9*(2), 251-268. doi:10.1017/S0954579497002046

Sroufe, L. A., Egeland, B., & Carlson, E. A. (1999). One social world: The integrated development of parent-child and peer relationships. In W. A. Collins & B. Laursen (Eds.), *Relationships as developmental contexts. The Minnesota symposia on child psychology* (Vol. 30, pp. 241-261). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Sroufe, L. A., & Rutter, M. (1984). The domain of developmental psychopathology. *Child Development, 55*(1), 17-29. doi:10.2307/1129832

Stevenson, M. M., Fabricius, W. V., Cookston, J. T., Parke, R. D., Coltrane, S., Braver, S. L., & Saenz, D. S. (2014). Marital problems, maternal gatekeeping attitudes, and father-child relationships in adolescence. *Developmental Psychology, 50*(4), 1208-1218. doi:10.1037/a0035327

Stolz, H. E., Barber, B. K., & Olsen, J. A. (2005). Toward disentangling fathering and mothering: An assessment of relative importance. *Journal of Marriage and Family, 67*(4), 1076-1092. doi:10.1111/j.1741-3737.2005.00195.x

Thelen, E., & Smith, L. B. (2007). Dynamic systems theories. *Handbook of child psychology*. doi:10.1002/9780470147658.chpsy0106

Trentacosta, C. J., & Fine, S. E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: A meta-analytic review. *Social Development, 19*(1), 1-29. doi:10.1111/j.1467-9507.2009.00543.x

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*(1), 1-10. doi:10.1007/bf02291170

Valdez, C., Shewakramani, V., Goldberg, S., & Padilla, B. (2013). Parenting influences on Latino children's social competence in the first grade: Parental depression and parent involvement at home and school. *Child Psychiatry & Human Development, 44*(5), 646-657. doi:10.1007/s10578-013-0358-x

Veneziano, R. A. (2000). Perceived paternal and maternal acceptance and rural African American and European American youths' psychological adjustment. *Journal of Marriage and Family, 62*(1), 123-132. doi:10.1111/j.1741-3737.2000.00123.x

Watson, D., Klohnen, E. C., Casillas, A., Nus Simms, E., Haig, J., & Berry, D. S. (2004). Match makers and deal breakers: Analyses of assortative mating in newlywed couples. *Journal of Personality, 72*(5), 1029-1068. doi:10.1111/j.0022-3506.2004.00289.x

Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives, 4*(1), 10-18. doi:10.1111/j.1750-8606.2009.00110.x

Wilson, S., & Durbin, C. E. (2010). Effects of paternal depression on fathers' parenting behaviors: A meta-analytic review. *Clinical Psychology Review, 30*(2), 167-180. doi:10.1016/j.cpr.2009.10.007

Yates, T. M., Obradović, J., & Egeland, B. (2010). Transactional relations across contextual strain, parenting quality, and early childhood regulation and adaptation in a high-risk sample. *Development and Psychopathology, 22*(03), 539-555. doi:10.1017/S095457941000026X

Table 1. *Common and Unique Items for Youths' Anxiety and Depressive Symptoms*

RCMAS (Waves 1-3)	CDI (Waves 1-3)	ASR (Waves 4-5)	Type of Item	Construct
	6. Feel alone	12. I feel lonely	Common	Depression
	2. Could not make up my mind about things	13. I feel confused or in a fog	Common	Depression
	8. As good as other kids	35. I feel worthless or inferior	Common	Depression
	5. Think about killing myself	91. I think about killing myself	Common	Depression
7. You woke up scared some of the time		50. I am too fearful or anxious	Common	Anxiety
5. You worried about what was going to happen		112. I worry a lot	Common	Anxiety
	1. Things bothered me		Unique	Depression
	3. My looks		Unique	Depression
	4. I had trouble sleeping		Unique	Depression
	7. My school work		Unique	Depression
1. You got mad easily			Unique	Anxiety
2. You felt that others did not like the way you did things			Unique	Anxiety
3. Your feelings got hurt easily			Unique	Anxiety
4. You felt tired a lot			Unique	Anxiety
6. Other peers were happier than you were			Unique	Anxiety
		14. I cry a lot	Unique	Depression
		31. I am afraid I might think or do something bad	Unique	Depression
		33. I feel that no one loves me	Unique	Depression
		34. I feel that others are out to	Unique	Depression

	get me		
	52. I feel too guilty	Unique	Depression
	103. I am unhappy, sad, or depressed	Unique	Depression
	107. I feel that I can't succeed	Unique	Depression
	22. I worry about my future	Unique	Anxiety
	45. I am nervous or tense	Unique	Anxiety
	71. I am self-conscious or easily embarrassed	Unique	Anxiety
	113. I worry about my relations with the opposite sex	Unique	Anxiety

Note. RCMAS = Revised Children's Manifest Anxiety Scale; CDI = Child Depression Inventory; ASR = Adult Self Report

Table 2. *Correlations, Means, and Standard Deviation for the Common and Unique Parcels of Youths' Anxiety and Depressive Symptoms*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. w1cdep	-																			
2. w1udep	.52	-																		
3. w1canx	.42	.41	-																	
4. w1uanx	.48	.43	.42	-																
5. w2cdep	.36	.38	.22	.26	-															
6. w2udep	.28	.38	.12	.26	.63	-														
7. w2canx	.17	.29	.24	.28	.38	.33	-													
8. w2uanx	.31	.36	.22	.44	.49	.52	.42	-												
9. w3cdep	.32	.31	.22	.25	.33	.34	.18	.23	-											
10. w3udep	.25	.34	.20	.22	.35	.45	.20	.31	.54	-										
11. w3canx	.19	.19	.16	.14	.21	.22	.19	.24	.35	.31	-									
12. w3uanx	.26	.20	.22	.35	.30	.33	.18	.44	.49	.49	.34	-								
13. w4cdep	.12	.21	.12	.24	.17	.14	.12	.26	.26	.32	.15	.24	-							
14. w4udep	.15	.22	.17	.25	.20	.17	.19	.27	.25	.34	.14	.23	.75	-						
15. w4canx	.08	.17	.06	.14	.11	.10	.14	.19	.28	.20	.10	.18	.45	.44	-					
16. w4uanx	.16	.16	.06	.25	.13	.07	.13	.22	.18	.21	.02	.22	.47	.45	.61	-				
17. w5cdep	.13	.18	.08	.21	.18	.26	.15	.31	.24	.30	.21	.24	.43	.42	.26	.31	-			
18. w5udep	.16	.21	.16	.26	.14	.19	.10	.29	.22	.24	.22	.27	.50	.60	.29	.36	.68	-		
19. w5canx	.10	.05	.08	.11	.16	.11	.10	.23	.15	.12	.20	.18	.37	.30	.47	.42	.50	.42	-	
20. w5uanx	.10	.08	.15	.21	.15	.19	.11	.30	.16	.20	.10	.24	.42	.36	.40	.52	.54	.53	.62	-
M	5.70	5.65	2.70	7.45	5.58	5.54	2.56	7.39	5.66	5.88	2.63	7.71	4.99	8.42	2.99	6.31	5.15	8.23	2.95	6.11
SD	1.42	1.54	.68	1.52	1.37	1.51	.62	1.61	1.32	1.48	.62	1.57	1.29	2.03	.75	1.24	1.31	1.71	.81	1.29

Note. CDEP = Common Parcel of Depressive Symptoms; UDEP = Unique Parcel of Depressive Symptoms; CANX = Common Parcel of Anxiety Symptoms; UANX = Unique Parcel of Anxiety Symptoms. Correlations equal to or greater than .099 are significant at the probability level of .05. Correlations equal to or greater than .130 are significant at the probability level of .01.

Table 3. *Fit Indices for the Factorial Invariance Models for Youths' Internalizing Symptoms*

Model	Model A	Model B	Model C	Model D	Model E	Model F
χ^2	447.852	316.928	322.197	224.076	234.519	261.720
df	160	150	155	127	146	156
RMSEA [CI]	.068 (.060, .075)	.053 (.045, .061)	.052 (.044, .061)	.044 (.035, .054)	.039 (.030, .048)	.042 (.033, .050)
CFI	.883	.932	.932	.960	.964	.957
TLI	.861	.914	.916	.941	.953	.947
SRMR	.055	.048	.048	.043	.044	.057
W1YINT						
w1cdep	.715	.698	.710	.713	.718	.691
w1udep	.713	.697	.707	.713	.717	.706
w1canx	.572	.560	.574	.578	.573	.546
w1uanx	.659	.668	.670	.659	.654	.697
W2YINT						
w2cdep	.757	.665	.662	.681	.683	.700
w2udep	.765	.675	.671	.674	.684	.711
w2canx	.501	.509	.529	.535	.536	.573
w2uanx	.699	.757	.765	.752	.747	.702
W3YINT						
w3cdep	.715	.673	.711	.726	.737	.716
w3udep	.736	.690	.727	.724	.723	.717
w3canx	.465	.472	.465	.471	.470	.549
w3uanx	.691	.725	.702	.694	.691	.678
W4YINT						
w4cdep	.845	.723	.724	.747	.736	.786
w4udep	.840	.711	.713	.746	.731	.748
w4canx	.594	.614	.614	.588	.602	.539
w4uanx	.608	.654	.652	.629	.643	.628
W5YINT						
w5cdep	.793	.712	.712	.730	.722	.777
w5udep	.788	.719	.719	.761	.734	.838
w5canx	.661	.656	.656	.622	.640	.498
w5uanx	.739	.757	.757	.732	.749	.630

Note. YINT =Youths' Internalizing Symptoms; CDEP = Common Parcel of Depressive Symptoms; UDEP = Unique Parcel of Depressive Symptoms; CANX = Common Parcel of Anxiety Symptoms; UANX = Unique Parcel of Anxiety Symptoms; Model A = Baseline Configural Invariance Model; Model B = Configural Invariance Model with All Within-Wave Covariances; Model C = Configural Invariance Model with Significant Within-Wave Covariances; Model D = Configural Invariance Model with Significant Within-Wave Covariances and All Across-Wave Covariances; Model E = Configural Invariance Model with Significant Within-and Across-Wave Covariances; Model F = Weak Invariance Model

Table 4. *Correlations, Means, and Standard Deviations for Mothers' and Fathers' Depressive Symptoms*

Variables	1	2	3	4	5	6	7	8	9	10
1. m1dep	-									
2. m2dep	.48	-								
3. m3dep	.48	.47	-							
4. m4dep	.39	.35	.41	-						
5. m5dep	.35	.44	.45	.51	-					
6. f1dep	.24	.15	.08	.09	.01	-				
7. f2dep	.23	.23	.08	.11	.06	.54	-			
8. f3dep	.16	.09	.14	-.04	.03	.56	.54	-		
9. f4dep	.14	.13	.13	.19	.11	.44	.46	.39	-	
10. f5dep	.11	.13	.16	.13	.17	.46	.41	.47	.50	-
M	4.49	4.55	4.56	4.76	4.49	4.22	4.17	4.20	4.33	4.16
SD	1.62	1.77	1.60	1.75	1.78	1.45	1.32	1.40	1.53	1.37

Note. MDEP = Mothers' Depressive Symptoms; FDEP = Fathers' Depressive Symptoms. Correlations equal to or greater than .099 are significant at the probability level of .05. Correlations equal to or greater than .130 are significant at the probability level of .01.

Table 5. *Common and Unique Items for Youths' Externalizing Symptoms*

BPI (Waves 1-3)	**ASR (Waves 4-5)**	**Type of Item**
1. You argued a lot	3. I argue a lot	Common
2. You were mean to others	16. I am mean to others	Common
3. You destroyed things that belonged to you	20. I damage or destroy my things	Common
6. You got in many fights	37. I get in many fights	Common
7. You hung around with kids who got in trouble	39. I hang around people who get in trouble	Common
8. You lied or cheated	43. I lie or cheat	Common
9. You physically hurt other people	57. I physically attack other people	Common
10. You stole at home.	82. I steal	Common
11. You stole from places other than home.		
12. You had a hot temper or threw tantrums.	95. I have a hot temper	Common
4. You destroyed things belonging to others		Unique
5. You disobeyed at school		Unique
	5. I blame others for my problems	Unique
	6. I use drugs, other than alcohol and nicotine, for nonmedical purposes	Unique
	7. I brag	Unique
	19. I try to get a lot of attention	Unique
	23. I break rules at work or elsewhere	Unique
	26. I don't feel guilty after doing something I shouldn't	Unique
	28. I get along badly with my family	Unique
	41. I am impulsive or act without thinking	Unique
	55. My moods swing between elation and depression	Unique
	68. I yell or scream a lot	Unique
	74. I show off or clown	Unique
	76. My behavior is irresponsible	Unique

	81. My behavior is very changeable	Unique
	86. I am stubborn, sullen, or irritable	Unique
	87. My moods or feelings change suddenly	Unique
	90. I drink too much alcohol or get drunk	Unique
	92. I do things that may cause me trouble with the law	Unique
	93. I talk too much	Unique
	94. I tease others a lot	Unique
	97. I threaten to hurt other people	Unique
	104. I am louder than others	Unique
	114. I fail to pay my debts or meet other financial responsibilities	Unique
	116. I get upset too easily	Unique
	117. I have trouble managing money or credit cards	Unique
	118. I am too impatient	Unique
	122. I have trouble keeping a job	Unique

Note. BPI = Behavior Problems Index; ASR = Adult Self Report

Table 6. *Correlations, Means, and Standard Deviations for the Common and Unique Parcels of Youths' Externalizing Symptoms*

Variables	1	2	3	4	5	6	7	8	9	10
1. w1cbeh	-									
2. w1ubeh	.67	-								
3. w2cbeh	.49	.34	-							
4. w2ubeh	.40	.36	.70	-						
5. w3cbeh	.50	.37	.51	.42	-					
6. w3ubeh	.41	.38	.32	.42	.58	-				
7. w4cbeh	.36	.19	.38	.26	.49	.23	-			
8. w4ubeh	.36	.18	.34	.31	.45	.23	.77	-		
9. w5cbeh	.39	.21	.34	.29	.47	.20	.60	.56	-	
10. w5ubeh	.41	.20	.40	.37	.42	.24	.53	.69	.74	-
M	12.53	2.58	12.19	2.55	12.41	2.46	11.37	35.65	10.82	34.33
SD	3.14	.89	2.96	.85	2.62	.71	2.31	6.74	2.00	6.82

Note. CBEH = Common Parcel of Externalizing Symptoms; UBEH = Unique Parcel of Externalizing Symptoms. Correlations equal to or greater than .099 are significant at the probability level of .05. Correlations equal to or greater than .130 are significant at the probability level of .01.

Table 7. *Fit Indices for the Factorial Invariance Models for Youths' Externalizing Symptoms*

Model	Model A	Model B	Model C
χ^2	128.552	51.122	64.111
df	25	22	25
RMSEA [CI]	.103 (.086, .121)	.058 (.037, .079)	.063 (.044, .082)
CFI	.936	.982	.976
TLI	.885	.964	.957
SRMR	.043	.036	.051
W1YEXT			
w1cbeh	.974	.984	.978
w1ubeh	.684	.677	.684
W2YEXT			
w2cbeh	.908	.933	.982
w2ubeh	.772	.753	.699
W3YEXT			
w3cbeh	.919	.950	.903
w3ubeh	.627	.609	.658
W4YEXT			
w4cbeh	.822	.924	.887
w4ubeh	.928	.835	.860
W5YEXT			
w5cbeh	.799	.875	.914
w5ubeh	.927	.843	.804

Note. YEXT =Youths' Externalizing Symptoms; CBEH = Common Parcel of Externalizing Symptoms; UBEH = Unique Parcel of Externalizing Symptoms; Model A = Baseline Configural Invariance Model; Model B = Configural Invariance Model with Significant Across-Wave Covariances; Model C = Weak Invariance Model

Table 8. *Correlations for the Latent Constructs of Youths' Externalizing Symptoms Across Waves*

Variables	W1YEXT	W2YEXT	W3YEXT	W4YEXT	W5YEXT
W1YEXT	-				
W2YEXT	.543	-			
W3YEXT	.665	.656	-		
W4YEXT	.472	.466	.640	-	
W5YEXT	.538	.500	.572	.793	-

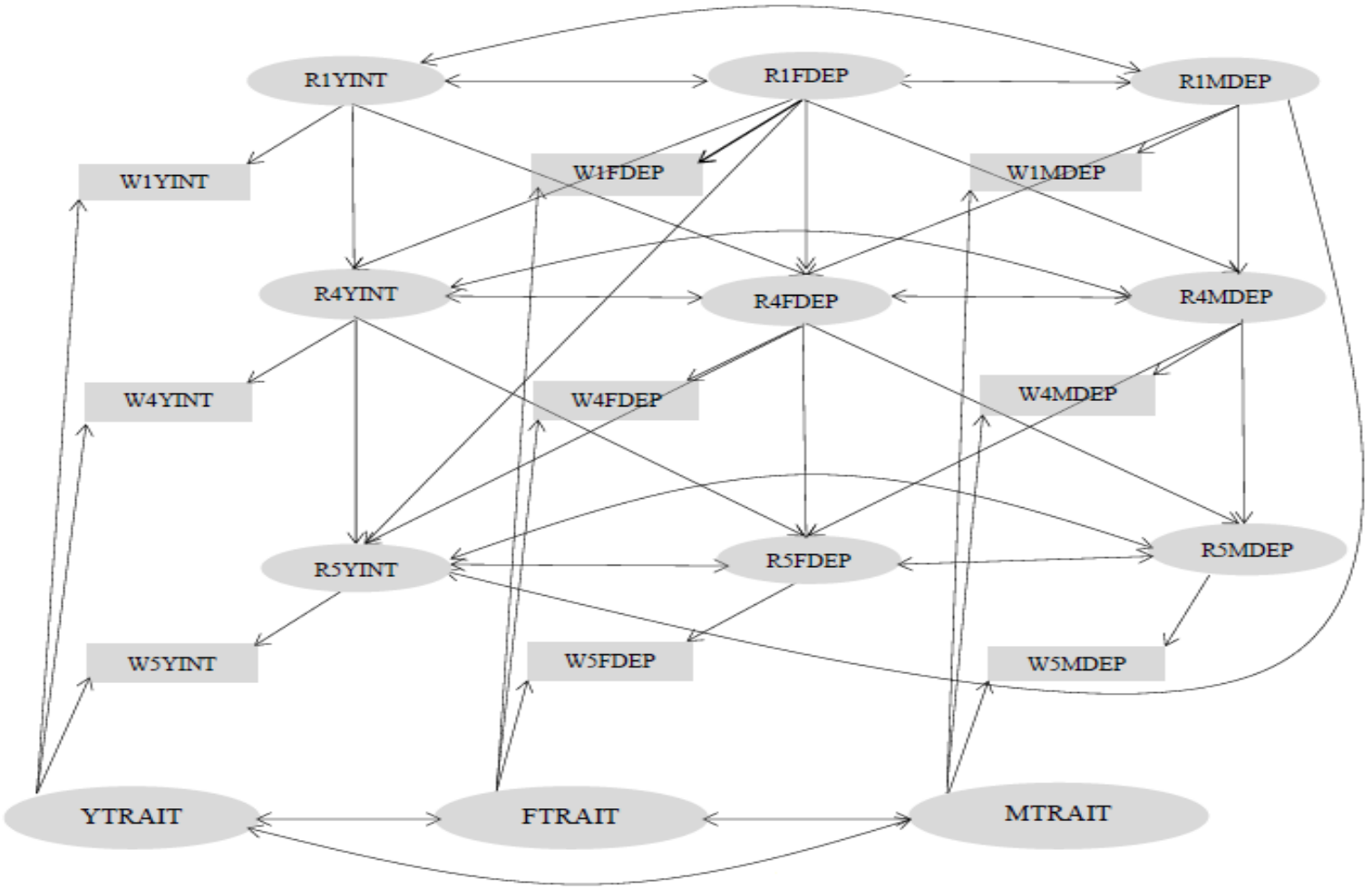

Figure 1. Conceptual model for the transactional effects of parents' depressive symptoms and youths' symptomatology. Analytical models include waves 2 and 3, but only paths for waves 1, 4, and 5 are provided here.

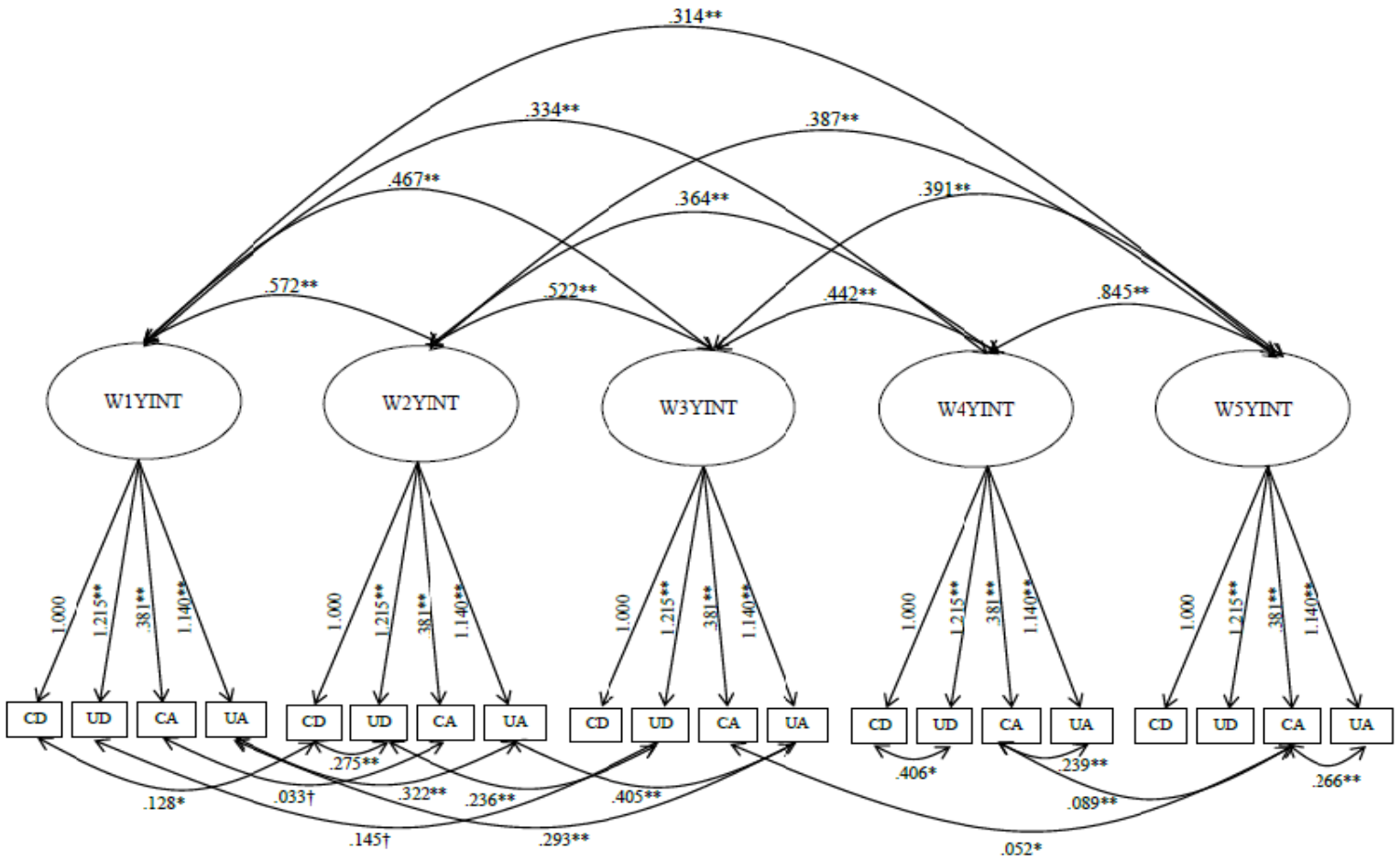

Figure 2. Weak factorial invariance model for youths' internalizing symptoms with unstandardized parameter coefficients. $^{\dagger}p < .10$. $^{*}p \leq .05$. $^{**}p < .01$.

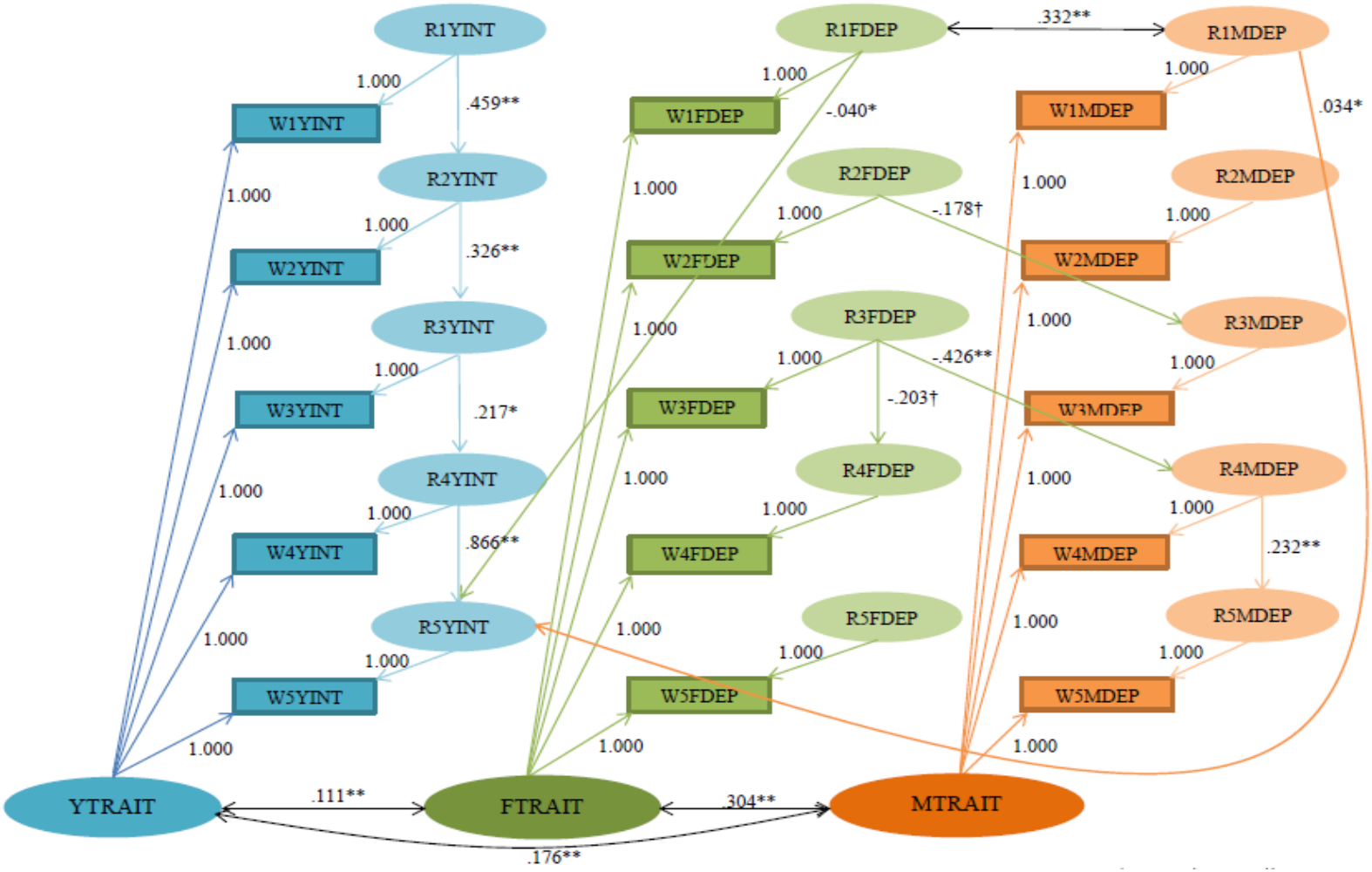

Figure 3. Unstandardized coefficients for the trait and time-varying cross-lagged panel analysis for youths' internalizing symptoms. $^{\dagger}p < .10$. $^{*}p \leq .05$. $^{**}p \leq .01$. The full set of unstandardized parameters can be found in Appendix A.

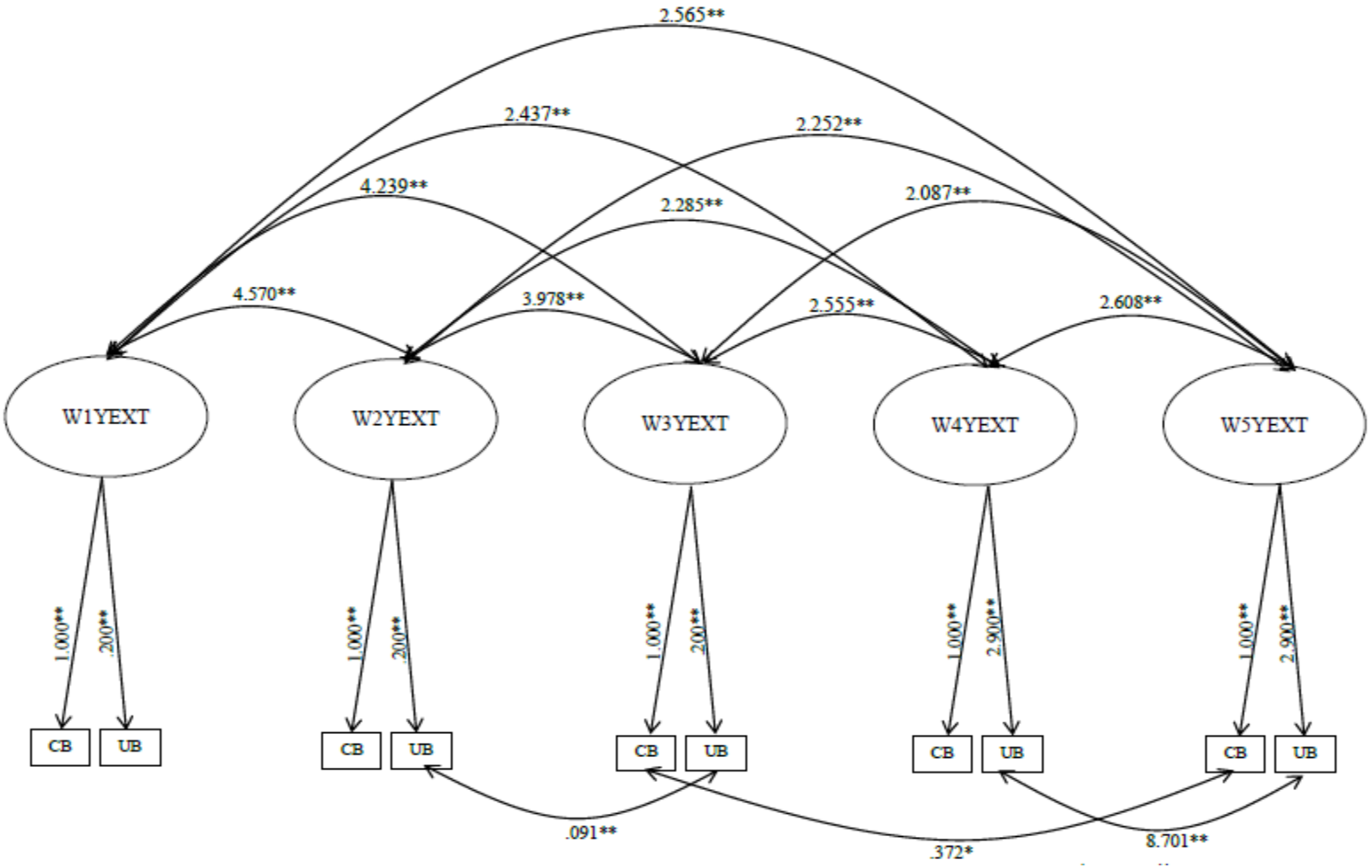

Figure 4. Weak factorial invariance model for youths' externalizing symptoms with unstandardized parameter coefficients. $^{*}p \leq .05$. $^{**}p < .01$.

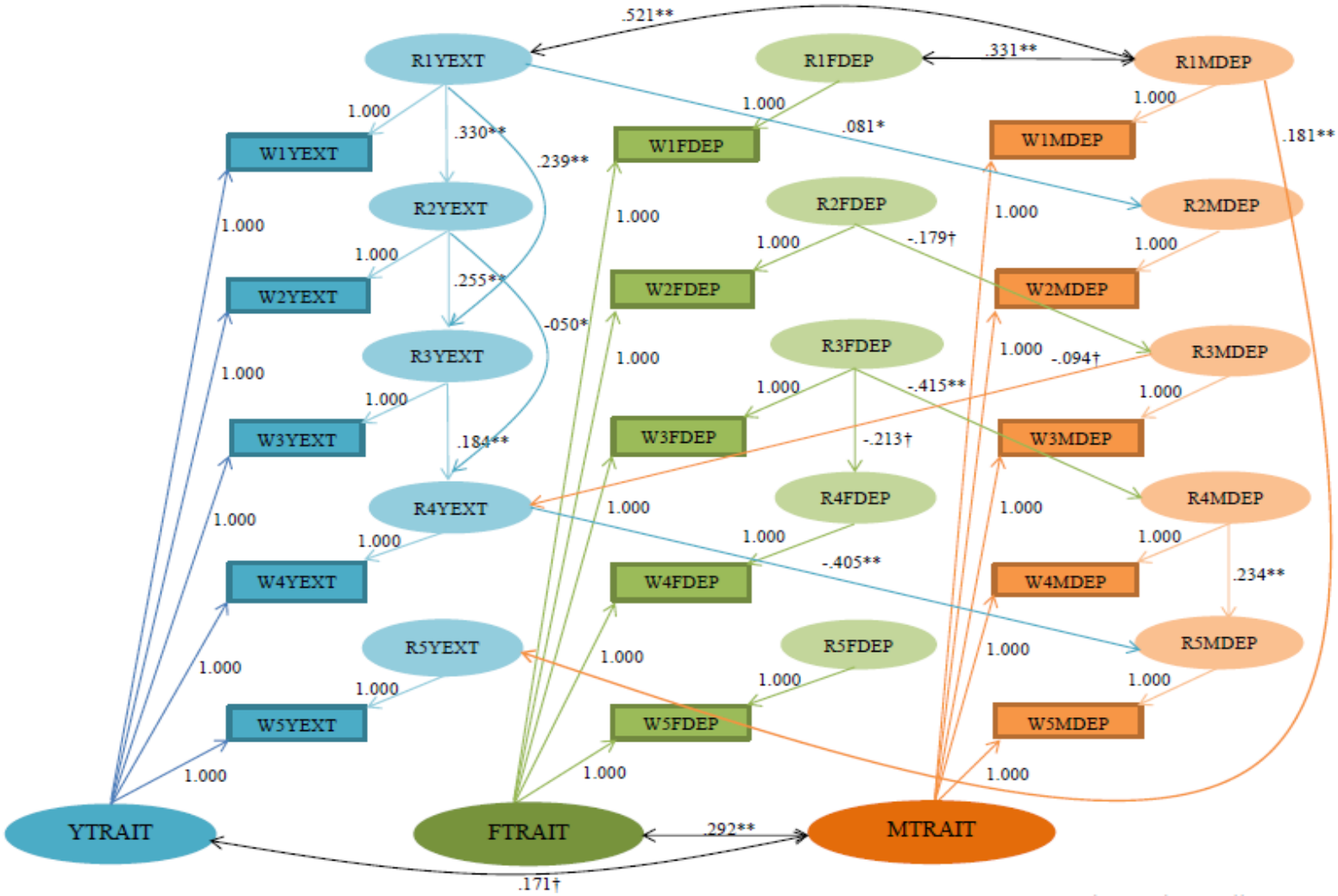

Figure 5. Unstandardized coefficients for the trait and time-varying cross-lagged panel analysis for youths' externalizing symptoms. $^{\dagger}p < .10$. $^{*}p \leq .05$. $^{**}p \leq .01$. The full set of parameters can be found in Appendix B.

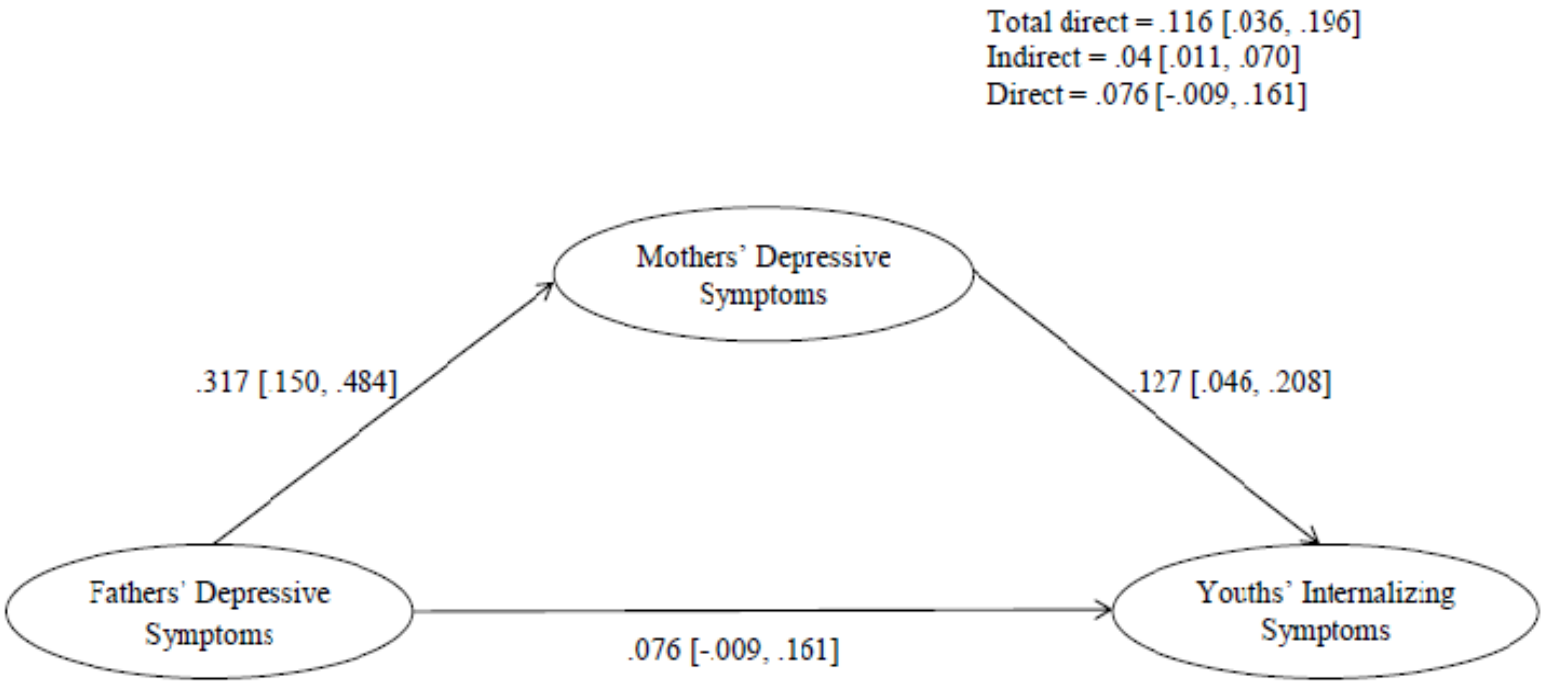

Figure 6. Mediation of the association between fathers' depressive symptoms and youths' internalizing symptoms via mothers' depressive symptoms. The values in the figure are unstandardized path coefficients. 95% confidence intervals are provided in the brackets.

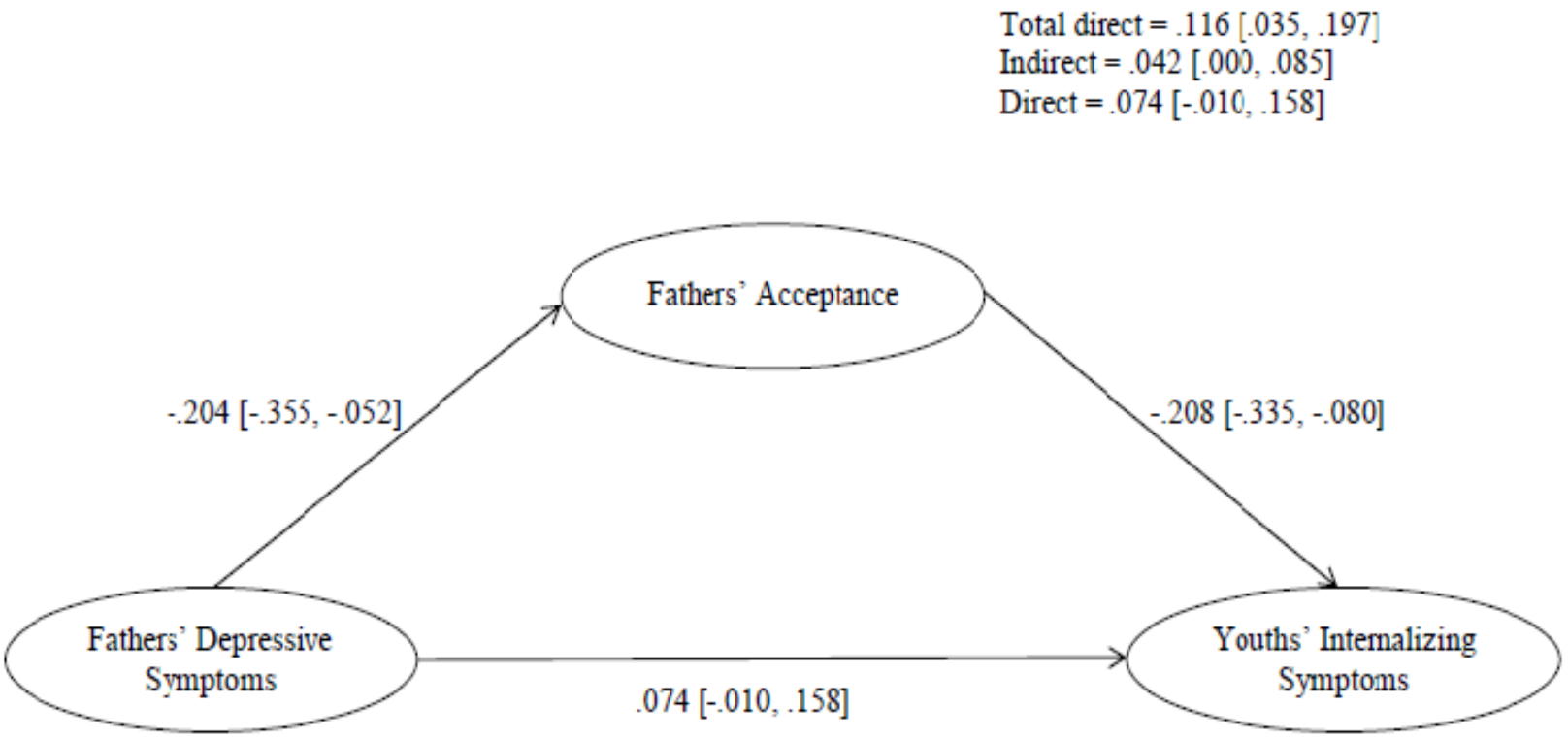

Figure 7. Mediation of the association between fathers' depressive symptoms and youths' internalizing symptoms via fathers' acceptance. The values in the figure are unstandardized path coefficients. 95% confidence intervals are provided in the brackets.

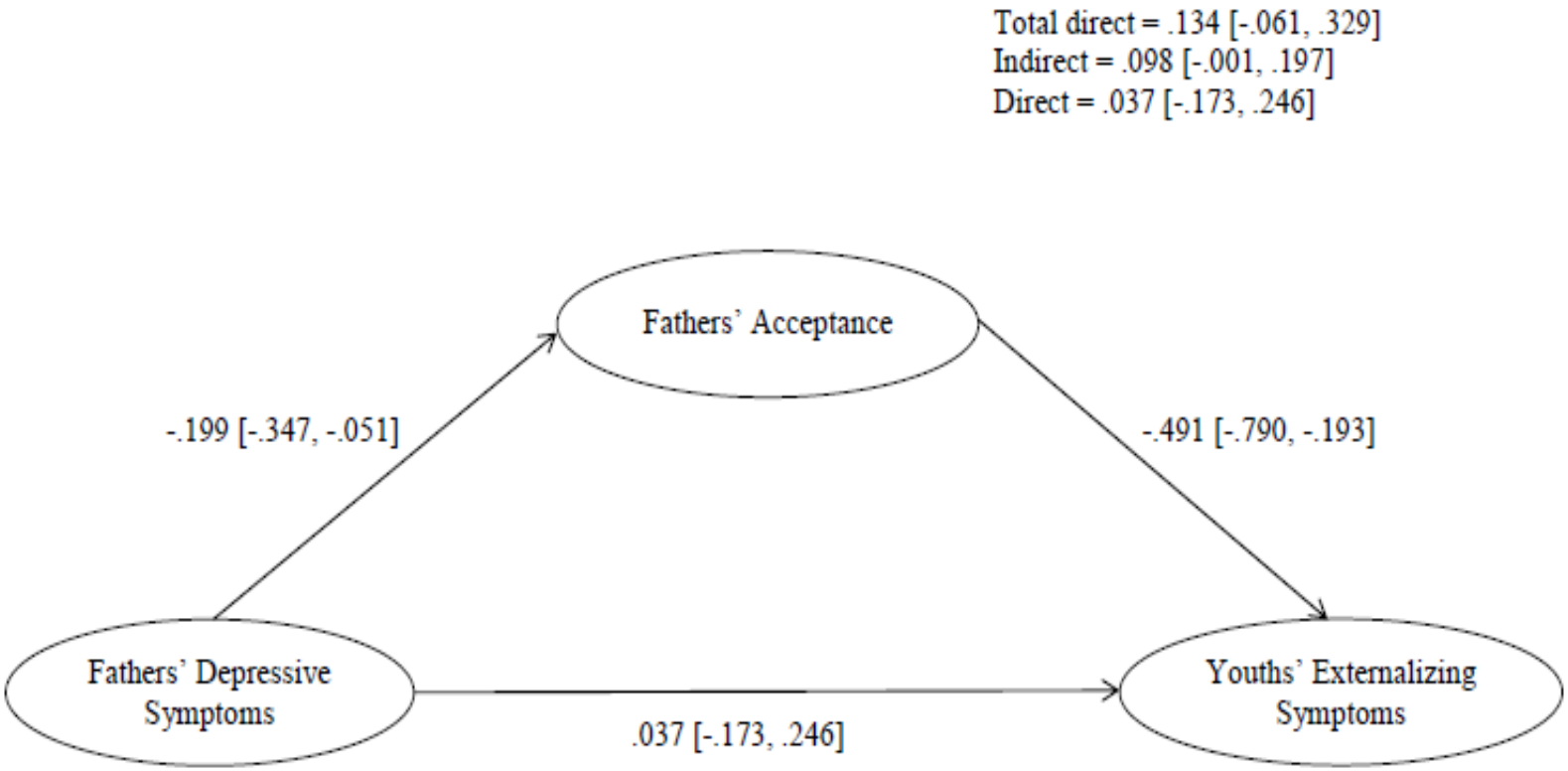

Figure 8. Mediation of the association between fathers' depressive symptoms and youths' externalizing symptoms via fathers' acceptance. The values in the figure are unstandardized path coefficients. 95% confidence intervals are provided in the brackets.

Appendix A

The Full Set of Unstandardized Parameters for Figure 3

MODEL RESULTS

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
TRTINT BY				
W1YINT	1.000	0.000	999.000	999.000
W2YINT	1.000	0.000	999.000	999.000
W3YINT	1.000	0.000	999.000	999.000
W4YINT	1.000	0.000	999.000	999.000
W5YINT	1.000	0.000	999.000	999.000
MTRT BY				
W1MDEP	1.000	0.000	999.000	999.000
W2MDEP	1.000	0.000	999.000	999.000
W3MDEP	1.000	0.000	999.000	999.000
W4MDEP	1.000	0.000	999.000	999.000
W5MDEP	1.000	0.000	999.000	999.000
FTRT BY				
W1FDEP	1.000	0.000	999.000	999.000
W2FDEP	1.000	0.000	999.000	999.000
W3FDEP	1.000	0.000	999.000	999.000
W4FDEP	1.000	0.000	999.000	999.000
W5FDEP	1.000	0.000	999.000	999.000
R1YINT BY				
W1YINT	1.000	0.000	999.000	999.000
R2YINT BY				
W2YINT	1.000	0.000	999.000	999.000
R3YINT BY				
W3YINT	1.000	0.000	999.000	999.000
R4YINT BY				
W4YINT	1.000	0.000	999.000	999.000
R5YINT BY				
W5YINT	1.000	0.000	999.000	999.000

R1MDEP BY				
W1MDEP	1.000	0.000	999.000	999.000
R2MDEP BY				
W2MDEP	1.000	0.000	999.000	999.000
R3MDEP BY				
W3MDEP	1.000	0.000	999.000	999.000
R4MDEP BY				
W4MDEP	1.000	0.000	999.000	999.000
R5MDEP BY				
W5MDEP	1.000	0.000	999.000	999.000
R1FDEP BY				
W1FDEP	1.000	0.000	999.000	999.000
R2FDEP BY				
W2FDEP	1.000	0.000	999.000	999.000
R3FDEP BY				
W3FDEP	1.000	0.000	999.000	999.000
R4FDEP BY				
W4FDEP	1.000	0.000	999.000	999.000
R5FDEP BY				
W5FDEP	1.000	0.000	999.000	999.000
R2YINT ON				
R1YINT	0.459	0.067	6.822	0.000
R1MDEP	-0.012	0.029	-0.395	0.693
R1FDEP	0.032	0.034	0.943	0.346
R3YINT ON				
R2YINT	0.326	0.084	3.885	0.000
R2MDEP	-0.009	0.023	-0.373	0.709
R2FDEP	-0.032	0.037	-0.847	0.397
R4YINT ON				
R3YINT	0.217	0.110	1.969	0.049
R3MDEP	0.014	0.038	0.353	0.724

R3FDEP	0.001	0.044	0.031	0.976
R5YINT ON				
R4YINT	0.866	0.032	27.244	0.000
R1MDEP	0.034	0.017	1.998	0.046
R1FDEP	-0.040	0.020	-2.036	0.042
R4MDEP	0.021	0.014	1.576	0.115
R4FDEP	-0.016	0.018	-0.927	0.354
R2MDEP ON				
R1MDEP	0.097	0.093	1.045	0.296
R1FDEP	0.055	0.097	0.569	0.569
R1YINT	0.122	0.157	0.779	0.436
R3MDEP ON				
R2MDEP	0.046	0.068	0.674	0.500
R2FDEP	-0.178	0.095	-1.878	0.060
R2YINT	-0.039	0.149	-0.265	0.791
R4MDEP ON				
R3MDEP	-0.017	0.107	-0.154	0.878
R3FDEP	-0.426	0.122	-3.491	0.000
R3YINT	-0.181	0.203	-0.889	0.374
R5MDEP ON				
R4MDEP	0.232	0.070	3.312	0.001
R4FDEP	-0.023	0.091	-0.259	0.796
R4YINT	0.060	0.146	0.408	0.683
R2FDEP ON				
R1FDEP	0.055	0.077	0.716	0.474
R1MDEP	0.102	0.064	1.579	0.114
R1YINT	0.085	0.118	0.714	0.476
R3FDEP ON				
R2FDEP	0.073	0.093	0.785	0.432
R2MDEP	-0.076	0.054	-1.406	0.160
R2YINT	0.141	0.126	1.116	0.264
R4FDEP ON				
R3FDEP	-0.203	0.109	-1.874	0.061
R3MDEP	-0.046	0.096	-0.478	0.633
R3YINT	-0.084	0.192	-0.436	0.663

R5FDEP ON				
R4FDEP	0.093	0.076	1.228	0.220
R4MDEP	-0.010	0.059	-0.162	0.871
R4YINT	-0.121	0.118	-1.023	0.306
R1MDEP WITH				
R1FDEP	0.332	0.092	3.627	0.000
R1YINT	0.049	0.056	0.869	0.385
R1FDEP WITH				
R1YINT	0.048	0.047	1.019	0.308
R2MDEP WITH				
R2FDEP	0.000	0.000	999.000	999.000
R2YINT	0.000	0.000	999.000	999.000
R2FDEP WITH				
R2YINT	0.000	0.000	999.000	999.000
R3MDEP WITH				
R3FDEP	0.000	0.000	999.000	999.000
R3YINT	0.000	0.000	999.000	999.000
R3FDEP WITH				
R3YINT	0.000	0.000	999.000	999.000
R4MDEP WITH				
R4FDEP	0.000	0.000	999.000	999.000
R4YINT	0.000	0.000	999.000	999.000
R4FDEP WITH				
R4YINT	0.000	0.000	999.000	999.000
R5MDEP WITH				
R5FDEP	0.000	0.000	999.000	999.000
R5YINT	0.000	0.000	999.000	999.000
R5FDEP WITH				
R5YINT	0.000	0.000	999.000	999.000
MTRT WITH				
TRTINT	0.176	0.047	3.726	0.000
FTRT	0.304	0.078	3.884	0.000

FTRT WITH				
TRTINT	0.111	0.041	2.728	0.006
Means				
TRTINT	0.000	0.000	999.000	999.000
MTRT	0.000	0.000	999.000	999.000
FTRT	0.000	0.000	999.000	999.000
R1YINT	0.000	0.000	999.000	999.000
R1MDEP	0.000	0.000	999.000	999.000
R1FDEP	0.000	0.000	999.000	999.000
Intercepts				
W1YINT	0.000	0.043	0.000	1.000
W2YINT	0.000	0.042	-0.001	1.000
W3YINT	0.000	0.039	-0.001	1.000
W4YINT	0.000	0.043	0.000	1.000
W5YINT	0.000	0.043	0.000	1.000
W1MDEP	4.491	0.083	54.223	0.000
W2MDEP	4.552	0.091	49.846	0.000
W3MDEP	4.559	0.085	53.371	0.000
W4MDEP	4.775	0.100	47.950	0.000
W5MDEP	4.492	0.101	44.654	0.000
W1FDEP	4.217	0.072	58.178	0.000
W2FDEP	4.168	0.072	57.989	0.000
W3FDEP	4.206	0.077	54.836	0.000
W4FDEP	4.322	0.090	47.874	0.000
W5FDEP	4.173	0.085	49.365	0.000
R2YINT	0.000	0.000	999.000	999.000
R3YINT	0.000	0.000	999.000	999.000
R4YINT	0.000	0.000	999.000	999.000
R5YINT	0.000	0.000	999.000	999.000
R2MDEP	0.000	0.000	999.000	999.000
R3MDEP	0.000	0.000	999.000	999.000
R4MDEP	0.000	0.000	999.000	999.000
R5MDEP	0.000	0.000	999.000	999.000
R2FDEP	0.000	0.000	999.000	999.000
R3FDEP	0.000	0.000	999.000	999.000
R4FDEP	0.000	0.000	999.000	999.000
R5FDEP	0.000	0.000	999.000	999.000
Variances				
TRTINT	0.326	0.043	7.562	0.000
MTRT	1.206	0.130	9.301	0.000
FTRT	0.960	0.095	10.072	0.000

R1YINT	0.393	0.044	8.921	0.000
R1MDEP	1.479	0.149	9.936	0.000
R1FDEP	1.088	0.109	9.985	0.000

Residual Variances

W1YINT	0.000	0.000	999.000	999.000
W2YINT	0.000	0.000	999.000	999.000
W3YINT	0.000	0.000	999.000	999.000
W4YINT	0.000	0.000	999.000	999.000
W5YINT	0.000	0.000	999.000	999.000
W1MDEP	0.000	0.000	999.000	999.000
W2MDEP	0.000	0.000	999.000	999.000
W3MDEP	0.000	0.000	999.000	999.000
W4MDEP	0.000	0.000	999.000	999.000
W5MDEP	0.000	0.000	999.000	999.000
W1FDEP	0.000	0.000	999.000	999.000
W2FDEP	0.000	0.000	999.000	999.000
W3FDEP	0.000	0.000	999.000	999.000
W4FDEP	0.000	0.000	999.000	999.000
W5FDEP	0.000	0.000	999.000	999.000
R2YINT	0.274	0.025	10.938	0.000
R3YINT	0.229	0.028	8.103	0.000
R4YINT	0.375	0.036	10.398	0.000
R5YINT	0.108	0.008	13.393	0.000
R2MDEP	1.864	0.186	10.044	0.000
R3MDEP	1.216	0.144	8.442	0.000
R4MDEP	1.828	0.212	8.637	0.000
R5MDEP	1.860	0.174	10.686	0.000
R2FDEP	0.856	0.097	8.807	0.000
R3FDEP	0.888	0.106	8.368	0.000
R4FDEP	1.302	0.160	8.132	0.000
R5FDEP	1.022	0.114	8.949	0.000

Appendix B

The Full Set of Unstandardized Parameters for Figure 5

MODEL RESULTS

	Estimate	S.E.	Two-Tailed Est./S.E.	P-Value
TRTEXT BY				
W1YEXT	1.000	0.000	999.000	999.000
W2YEXT	1.000	0.000	999.000	999.000
W3YEXT	1.000	0.000	999.000	999.000
W4YEXT	1.000	0.000	999.000	999.000
W5YEXT	1.000	0.000	999.000	999.000
MTRT BY				
W1MDEP	1.000	0.000	999.000	999.000
W2MDEP	1.000	0.000	999.000	999.000
W3MDEP	1.000	0.000	999.000	999.000
W4MDEP	1.000	0.000	999.000	999.000
W5MDEP	1.000	0.000	999.000	999.000
FTRT BY				
W1FDEP	1.000	0.000	999.000	999.000
W2FDEP	1.000	0.000	999.000	999.000
W3FDEP	1.000	0.000	999.000	999.000
W4FDEP	1.000	0.000	999.000	999.000
W5FDEP	1.000	0.000	999.000	999.000
R1YEXT BY				
W1YEXT	1.000	0.000	999.000	999.000
R2YEXT BY				
W2YEXT	1.000	0.000	999.000	999.000
R3YEXT BY				
W3YEXT	1.000	0.000	999.000	999.000
R4YEXT BY				
W4YEXT	1.000	0.000	999.000	999.000
R5YEXT BY				
W5YEXT	1.000	0.000	999.000	999.000

R1MDEP BY				
W1MDEP	1.000	0.000	999.000	999.000
R2MDEP BY				
W2MDEP	1.000	0.000	999.000	999.000
R3MDEP BY				
W3MDEP	1.000	0.000	999.000	999.000
R4MDEP BY				
W4MDEP	1.000	0.000	999.000	999.000
R5MDEP BY				
W5MDEP	1.000	0.000	999.000	999.000
R1FDEP BY				
W1FDEP	1.000	0.000	999.000	999.000
R2FDEP BY				
W2FDEP	1.000	0.000	999.000	999.000
R3FDEP BY				
W3FDEP	1.000	0.000	999.000	999.000
R4FDEP BY				
W4FDEP	1.000	0.000	999.000	999.000
R5FDEP BY				
W5FDEP	1.000	0.000	999.000	999.000
R2YEXT ON				
R1YEXT	0.330	0.047	7.049	0.000
R1MDEP	0.131	0.114	1.147	0.251
R1FDEP	0.016	0.133	0.123	0.902
R3YEXT ON				
R2YEXT	0.255	0.033	7.831	0.000
R1YEXT	0.239	0.030	7.964	0.000
R2MDEP	0.024	0.056	0.427	0.669
R2FDEP	-0.082	0.091	-0.911	0.362
R4YEXT ON				
R3YEXT	0.189	0.052	3.640	0.000

R2YEXT	-0.050	0.024	-2.081	0.037
R3MDEP	-0.094	0.055	-1.701	0.089
R3FDEP	-0.015	0.071	-0.212	0.832
R5YEXT ON				
R4YEXT	0.005	0.210	0.025	0.980
R1MDEP	0.181	0.053	3.401	0.001
R1FDEP	0.008	0.059	0.135	0.893
R4MDEP	0.038	0.043	0.869	0.385
R4FDEP	-0.010	0.057	-0.176	0.861
R2MDEP ON				
R1MDEP	0.102	0.093	1.095	0.273
R1FDEP	0.057	0.099	0.573	0.567
R1YEXT	0.081	0.034	2.420	0.016
R3MDEP ON				
R2MDEP	0.076	0.066	1.152	0.249
R2FDEP	-0.179	0.096	-1.863	0.062
R2YEXT	0.018	0.030	0.590	0.555
R4MDEP ON				
R3MDEP	0.007	0.103	0.072	0.943
R3FDEP	-0.415	0.121	-3.421	0.001
R3YEXT	0.087	0.056	1.556	0.120
R5MDEP ON				
R4MDEP	0.234	0.070	3.357	0.001
R4FDEP	-0.004	0.090	-0.047	0.962
R4YEXT	-0.405	0.116	-3.477	0.001
R2FDEP ON				
R1FDEP	0.045	0.078	0.585	0.559
R1MDEP	0.101	0.064	1.574	0.116
R1YEXT	-0.001	0.025	-0.049	0.961
R3FDEP ON				
R2FDEP	0.053	0.095	0.555	0.579
R2MDEP	-0.063	0.053	-1.177	0.239
R2YEXT	-0.006	0.027	-0.230	0.818
R4FDEP ON				
R3FDEP	-0.213	0.109	-1.944	0.052
R3MDEP	-0.027	0.094	-0.291	0.771

R3YEXT	0.076	0.051	1.495	0.135
R5FDEP ON				
R4FDEP	0.097	0.076	1.270	0.204
R4MDEP	-0.021	0.059	-0.362	0.717
R4YEXT	-0.090	0.090	-1.004	0.315
R1MDEP WITH				
R1FDEP	0.331	0.092	3.575	0.000
R1YEXT	0.521	0.203	2.561	0.010
R1FDEP WITH				
R1YEXT	0.102	0.172	0.589	0.556
R2MDEP WITH				
R2FDEP	0.000	0.000	999.000	999.000
R2YEXT	0.000	0.000	999.000	999.000
R2FDEP WITH				
R2YEXT	0.000	0.000	999.000	999.000
R3MDEP WITH				
R3FDEP	0.000	0.000	999.000	999.000
R3YEXT	0.000	0.000	999.000	999.000
R3FDEP WITH				
R3YEXT	0.000	0.000	999.000	999.000
R4MDEP WITH				
R4FDEP	0.000	0.000	999.000	999.000
R4YEXT	0.000	0.000	999.000	999.000
R4FDEP WITH				
R4YEXT	0.000	0.000	999.000	999.000
R5MDEP WITH				
R5FDEP	0.000	0.000	999.000	999.000
R5YEXT	0.000	0.000	999.000	999.000
R5FDEP WITH				
R5YEXT	0.000	0.000	999.000	999.000
MTRT WITH				
TRTEXT	0.171	0.102	1.680	0.093

FTRT	0.292	0.077	3.766	0.000
FTRT WITH				
TRTEXT	0.132	0.089	1.487	0.137
Means				
TRTEXT	0.000	0.000	999.000	999.000
MTRT	0.000	0.000	999.000	999.000
FTRT	0.000	0.000	999.000	999.000
R1YEXT	0.000	0.000	999.000	999.000
R1MDEP	0.000	0.000	999.000	999.000
R1FDEP	0.000	0.000	999.000	999.000
Intercepts				
W1YEXT	0.000	0.148	0.000	1.000
W2YEXT	0.000	0.141	0.000	1.000
W3YEXT	0.000	0.112	0.000	1.000
W4YEXT	0.000	0.087	0.000	1.000
W5YEXT	0.000	0.080	0.000	1.000
W1MDEP	4.491	0.082	54.481	0.000
W2MDEP	4.553	0.092	49.686	0.000
W3MDEP	4.558	0.085	53.473	0.000
W4MDEP	4.771	0.099	48.085	0.000
W5MDEP	4.485	0.100	45.073	0.000
W1FDEP	4.216	0.072	58.261	0.000
W2FDEP	4.164	0.072	58.171	0.000
W3FDEP	4.200	0.076	54.998	0.000
W4FDEP	4.323	0.090	47.831	0.000
W5FDEP	4.166	0.085	49.052	0.000
R2YEXT	0.000	0.000	999.000	999.000
R3YEXT	0.000	0.000	999.000	999.000
R4YEXT	0.000	0.000	999.000	999.000
R5YEXT	0.000	0.000	999.000	999.000
R2MDEP	0.000	0.000	999.000	999.000
R3MDEP	0.000	0.000	999.000	999.000
R4MDEP	0.000	0.000	999.000	999.000
R5MDEP	0.000	0.000	999.000	999.000
R2FDEP	0.000	0.000	999.000	999.000
R3FDEP	0.000	0.000	999.000	999.000
R4FDEP	0.000	0.000	999.000	999.000
R5FDEP	0.000	0.000	999.000	999.000
Variances				
TRTEXT	2.152	0.223	9.636	0.000

MTRT	1.154	0.126	9.191	0.000
FTRT	0.963	0.096	10.074	0.000
R1YEXT	6.469	0.482	13.428	0.000
R1MDEP	1.505	0.151	9.949	0.000
R1FDEP	1.078	0.108	9.938	0.000

Residual Variances

W1YEXT	0.000	0.000	999.000	999.000
W2YEXT	0.000	0.000	999.000	999.000
W3YEXT	0.000	0.000	999.000	999.000
W4YEXT	0.000	0.000	999.000	999.000
W5YEXT	0.000	0.000	999.000	999.000
W1MDEP	0.000	0.000	999.000	999.000
W2MDEP	0.000	0.000	999.000	999.000
W3MDEP	0.000	0.000	999.000	999.000
W4MDEP	0.000	0.000	999.000	999.000
W5MDEP	0.000	0.000	999.000	999.000
W1FDEP	0.000	0.000	999.000	999.000
W2FDEP	0.000	0.000	999.000	999.000
W3FDEP	0.000	0.000	999.000	999.000
W4FDEP	0.000	0.000	999.000	999.000
W5FDEP	0.000	0.000	999.000	999.000
R2YEXT	4.859	0.363	13.369	0.000
R3YEXT	1.781	0.136	13.059	0.000
R4YEXT	0.698	0.175	3.998	0.000
R5YEXT	0.299	0.166	1.806	0.071
R2MDEP	1.891	0.183	10.308	0.000
R3MDEP	1.255	0.143	8.791	0.000
R4MDEP	1.850	0.206	8.976	0.000
R5MDEP	1.724	0.174	9.931	0.000
R2FDEP	0.842	0.098	8.613	0.000
R3FDEP	0.882	0.107	8.223	0.000
R4FDEP	1.294	0.159	8.134	0.000
R5FDEP	1.037	0.115	9.018	0.000