Bidirectional Associations between Co-parenting and Adolescent Depressive Symptoms

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Co-Parenting and Adolescent Depressive Symptoms

Abstract

The associations between how parents’ co-parenting influence adolescent’s mental health, and how adolescents’ mental health influences parent’s co-parenting are compared in this study. Participants were parents who had a first-born adolescent about to enter sixth grade and they were currently living in the same household. The participants took questionnaires at three-time points, every eight weeks, through Amazon Mechanical Turk (MTurk). This research study focuses on only the first two-time points and questionnaires about co-parenting dimensions (i.e., conflict, triangulation, cooperation) and adolescents’ depressive symptoms. Six linear regressions were run using SPSS 21, and all analyses controlled for the corresponding Time 1 outcome. Positive associations between co-parenting triangulation, conflict, and adolescent depressive symptoms at both Time 1 and Time 2 were found. Furthermore, there was a significant negative association between co-parenting cooperation and adolescent depressive symptoms at Time 2 but not Time 1. These results indicate that negative co-parenting interactions (i.e., triangulation, conflict), are associated with adolescent depressive symptoms, but not positive interactions (i.e., cooperation).
Introduction

There have been multiple studies on the co-parenting dynamic relative to its influence on families with young children and their psychological well-being (i.e., Gordis, John & Margolin, 2001; Kuersten-Hogen, McHale, Rao, 2004). While the links between co-parenting and younger children’s psychological outcomes is well established (i.e., Cabrera, Scott, Fagan, Steward-Streng, & Chien., 2012; Gordis et al., 2001), the association between co-parenting and adolescent mental health outcomes has not been as commonly examined. Additionally, further gaps exist involving the bidirectional effects of adolescents’ and parents; that is, studies are needed that evaluate both how parents’ co-parenting influence adolescent’s mental health and how adolescents’ mental health influences parent’s co-parenting. The purpose of this study is to discover what kind of relationship, if any, exists between adolescent depressive symptoms and co-parenting dimensions (i.e., cooperation, conflict, triangulation), and vice versa (i.e., co-parenting concepts to adolescent depressive symptoms).

Co-Parenting

In general, co-parenting is understood as a bond between two or more people in raising a child. Co-parenting is often analyzed using three dimensions including conflict, triangulation, and cooperation (Baril, Crouter, McHale, 2007; Gordis et al., 2001). Conflict is defined as an interparental discrepancy around childcare problems and how to raise their children; cooperation is defined as the amount of support parents perceive from one another related to parenting; and triangulation is defined as how frequently parents bring children into any conflict between the parents (Gordis et al., 2001). The co-parenting dynamic is not limited to just the martial relationship. For example, Abidin & Brunner (1995), have found that it can also be extended to parenting and (McHale, 1995), has found a link to non-martial romantic relationships as well.
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The co-parenting dimensions have been known to have a strong influence on the family system (i.e., Baril, et al., 2007; Caldera & Lindsey, 2006; Hetherington, Kan, & Feinberg, 2007). Higher quality co-parenting has been significantly related to children’s positive psychological adjustment (i.e., prosocial development; Fivaz-Depeursinge & McHale, 1999), where lower quality has been found to be a predictor of children’s internalizing and externalizing behaviors (i.e., Cabrera et al., 2012; Hetherington et al., 2007; Teubert & Pinquart, 2010).

Conflict. There is a growing body of evidence linking co-parenting behavior and children’s depression. Baril et al. (2007) found that children’s depressive symptoms were predicted from high levels of co-parenting conflict one year later for both boys and girls. Along the same lines, Cummings et al., (2005) found that material conflict was associated with an increase in children’s internalizing and externalizing problems. Katz & Low (2004) found that martial violence was associated with children’s anxiety and depression. On the contrary, Hetherington et al., (2007) did not find a significant correlation between co-parenting conflict and adolescent depression, suggesting the importance of clarifying the association between co-parenting and adolescent depressive symptoms.

Triangulation. Even though existing research is limited, current studies suggest that triangulation accompanied by parental marital conflict is correlated with poorer adolescent functioning (Buchanan, Dornbusch, & Maccoby, 1991; Bush & Jacobvitz, 1996). For example, Afifi and Amato (2006) found that feelings of being caught in the middle was linked to lower levels of children’s subjective well-being (i.e., life satisfaction and happiness) and parental relationships. Furthermore, Anderson, Buehler, Franck, & Gerard (2005) found significant associations between self-reported measures of triangulation related to material conflict and adolescents’ depressive symptoms in eight of the eleven samples from different countries. Along
the same lines, Anderson, Keala, & Miller (2004), extended the research by finding that over time adolescents’ immersion into parents’ interpersonal problems was related to the development of psychological distress (i.e., anxiety, depressive symptoms, and withdrawal tendencies).

Cooperation. Poor quality of co-parenting cooperation has been related to negative social growth outcomes later in life for children (Fivaz-Depeursinge & McHale, 1999), where higher quality co-parenting cooperation in the household was significantly related to secure attachment (Easterbrooks & Goldberg, 1984), emotion control (Belsky, Crnic, & Putnam, 1996), and prosocial behavior (Fivaz-Depeursinge & McHale, 1999). Additionally, Gordis et al. (2001) found that higher levels of co-parenting cooperation were reported between parents of preschool children compared to the preadolescent years.

Bidirectional influences

Looking into how parents influence adolescents’ well-being is important, but it is also important to look at how adolescents influence a parent. Mutual links were found between parents’ psychological distress and adolescents’ psychological distress (i.e., depression, anxiety, & hostility; Conger, Elder, Ge, Lorenz, & Shanahan, 1995). However, the pattern varied by the gender of the parent and child. Specifically, boys’ distress was found to affect mothers’ distress more than mothers influencing boys’ distress. Similarly, girls’ distress was found to be linked to fathers’ distress, especially while experiencing a school change (Conger et al. 1995). Additionally, in other related literature there is reason to consider a parent-child bidirectional relationship. Specifically, Serbin et al. (2015) examined the bidirectional relationship between children’s behavioral problems (i.e., internalizing, externalizing) and parenting practices (i.e., positive parenting, harsh discipline). The results indicated that children’s Time 1 internalizing problems were linked to higher levels of positive parenting at Time 2, which then were linked to
lower levels of internalizing problems at Time 3. However, a different pattern emerged for adolescent externalizing behaviors, where Time 1 externalizing problems were linked to lower levels of positive parenting at Time 2, which then led to even higher externalizing behavior at Time 3. These bidirectional patterns suggest looking at how children’s psychological problems are associated with co-parenting, while also considering how co-parenting is associated with children’s psychological problems.

Current Study

Thus, this project is focused on addressing the gap in the literature involving the bidirectional relationship of the co-parenting dimensions and adolescent depressive symptoms. Specifically, bidirectional influences have not been studied related to co-parenting among families with adolescents. It is hypothesized that:

1. Co-parenting conflict will be associated with higher levels of adolescent depressive symptoms over time.

2. Adolescent depressive symptoms will be associated with higher levels of co-parenting conflict over time.

3. Co-parenting triangulation will be associated with higher levels of adolescent depressive symptoms over time.

4. Adolescent depressive symptoms will be associated with higher levels of co-parenting triangulation over time.

In addition, given the literature on co-parenting cooperation is less clear, the following research question will be explored:
1. Are there bidirectional longitudinal links between co-parenting cooperation and adolescent depressive symptoms over time?

**Method**

**Participants and Procedures**

After receiving approval from the Institutional Review Board (IRB), participants were recruited through Amazon Mechanical Turk (MTurk), receiving $2.50 at each time point as compensation. The data was then collected in Qualtrics. To be eligible for this study, participants were required to have been living in the United States, have an MTurk rating of 95% or above, have a co-parent who is another caregiver that lives in the same place, and have a first born who lives with them that is about to enter the sixth grade. The participants completed a consent form that provided an overview of the study, research aims, study impact, while explaining that all responses will be kept confidential, and that they can stop participating at any time. The participants completed questionnaires at three-time points, eight weeks apart. The questionnaires were the same across time points asking about co-parenting conflict, triangulation, cooperation, and assessing adolescents’ symptoms of attention hyperactivity, inattentive type (ADHD-IN), hyperactive-impulsive (ADHD-HI), oppositional defiant disorder (ODD) toward adults, oppositional defiant disorder ODD, anxiety, depression, academic impairment, and social impairment. This research study focuses on only the first two-time points and questionnaires about co-parenting and children’s depressive symptoms. A total of 107 mothers and 106 fathers completed the survey at Time 1, while 62 mothers and 57 fathers completed the survey at Time 2. For this study, only the participants who completed both Time 1 and Time 2 surveys were included (i.e., 60 mothers, 53 fathers). The majority of the sample were female (53%; 47% male), between the ages of 20-40 (78%; 22% between the ages of 41-81) and married (81%; 17%
living together but not married). Regarding race and ethnicity, 77% self-identified as White/Caucasian \( (n = 87) \), 9.7% as Hispanic/Latino/Latina \( (n = 11) \), 8.8% as Black/African American \( (n = 10) \), 8% as Asian/Pacific Islander \( (n = 9) \), 6.2% Biracial \( (n = 7) \), .9% as American Indian/Alaskan Native \( (n = 1) \).

**Measures**

**Demographics.** Respondents were asked questions regarding their gender, age, ethnicity, marital status, education level, employment status, and socioeconomic status, Additionally, participants reported on their child’s gender and year in school.

**Co-parenting.** The Co-parenting Questionnaire (CQ; Margolin, 2001) is a 14-item measure that assesses co-parenting cooperation (i.e., “My spouse says cruel or harmful things about me in front of our child”), triangulation (i.e., “My spouse tries to get our child to take sides when we argue”), and conflict (i.e., “My spouse undermines my parenting”). Participants rated each statement on a 5-point scale (i.e., 0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Usually*, 4 = *Always*). A previous study by Kolak & Volling (2007) suggests adequate test-retest reliability \( r = .50 - .77 \). Additionally, research indicates that both mother and father reports of the CQ had good internal consistency (i.e., cooperation \( \alpha = .81 \) [mother report].79 [father report]; triangulation \( \alpha = .81 \) [mother report]and \( \alpha = .75 \) [father report]; and conflict \( \alpha = .77 \) [mother report] and \( \alpha = .71 \) [father report]; Marta, Ribeiro, & Shelton, K. H., 2012). In this study, the internal consistency was adequate with alphas ranging from .77 to .88 for mothers and .77 to .91 for fathers.

**The Child and Adolescent Behavior Inventory.** The revised Child and Adolescent Behavior Inventory (CABI; Bernad, Becker, Burns, & Servera, 2015), is a 64-item measure that was developed to assess adolescents’ symptoms of attention hyperactivity, inattentive type
(ADHD-IN), hyperactive-impulsive (ADHD-HI), oppositional defiant disorder (ODD) toward adults, oppositional defiant disorder ODD toward peers, anxiety, depression, academic impairment, and social impairment. For the purpose of this study, the 7-item scale measuring depressive symptoms (i.e., “Seems not to enjoy activities that he or she previously thought were fun”) was used. Participants rated each statement on a 5-point scale (i.e., 0 = almost never [never or about once per month], 1 = seldom [about once per week], 2 = sometimes [several times per week], 3 = often [about once per day], 4 = very often [several times per day], 5 = almost always [many times per day]). The depression subscales of the CABI have demonstrated good test-retest reliability over a four-day period (i.e., α = .63; Khadka et al., 2015). In the current study, a summed composite of the seven depression items was calculated. This was found to have acceptable internal consistency for the mother report (Time 1 α = .94, Time 2 α = .94) and the father report (Time 1 α = .95, Time 2 α = .96).

Results

Preliminary Analyses

Descriptive statistics were run for demographics, independent variables, and dependent variables (see Table 1). Analyses were run to assess for any possible covariates (e.g., child gender, parent gender, ethnicity, household socioeconomic status). No significant differences were found in adolescent depression or co-parenting by any of these characteristics, and, thus, no demographic covariates were used in the primary analyses. On average participants reported higher levels of conflict and triangulation at Time 2 (T2) as compared to Time 1 (T1). Similarly, they reported lower levels of cooperation at T2, as compared to T2. However, in general, average scores do not suggest an overly stressed co-parenting relationship across the families in
this sample. Additionally, there was no significant differences for each variable across time points. The values of kurtosis and skew suggest a normal distribution for all variables. Using Statistical Package for the Social Sciences (SPSS) software, bivariate correlations were run in order in order to determine associations between all variables (i.e., cooperation, conflict, triangulation, child depressive symptoms) both within time point (i.e., T1 and T2) and across time (i.e., 8 weeks; see Table 3).

Regression Analyses

To examine Hypotheses 1, 2, 3, and 4, along with Research Question 1, six sets of linear regressions were run, each controlling for the corresponding T1 outcome. The first three regressions looked at how T1 adolescent depressive symptoms were associated with the three co-parenting dimensions (see Table 3). In all regressions, T1 adolescent depressive symptoms was positively associated with T2 adolescent depressive symptoms. In addition, the regression analyses revealed a positive relation between T1 adolescent depressive symptoms and both T2 co-parenting conflict, and T2 co-parenting triangulation. Additionally, Time 1 depressive symptoms were negatively related with T2 co-parenting cooperation.

Next, as shown on Table 4, three regressions were run with each of the three T1 co-parenting dimensions predicting T2 adolescent depressive symptoms. As expected T1 adolescent depressive symptoms consistently were positively associated with T1 adolescent depressive symptoms. Surprisingly, T1 cooperation was not significantly associated with T2 adolescent depressive symptoms. However, T1 conflict was positively related with T2 adolescent depressive symptoms. However, T1 conflict was positively related with T2 adolescent depressive symptoms, and T1 triangulation was positively related with T2 adolescent depressive symptoms.
Discussion

The purpose of this study is to examine the bidirectional relationship between adolescent depressive symptoms and co-parenting dimensions (i.e., cooperation, conflict, triangulation). Several meaningful associations were found over time. First, bidirectional associations were found between adolescent depression and co-parenting conflict. That is, adolescent depressive symptoms at the first-time point were related with higher levels of co-parenting conflict during the second-time point; at the same time, increased levels of co-parenting conflict at Time 1 were related to increased levels of adolescent depression at the second-time point, which is consistent with previous literature (Baril et al., 2007). This suggests that parents and adolescents are influencing each other.

A similar pattern was found for co-parenting triangulation. Adolescent depressive symptoms at the first-time point were significantly correlated to triangulation at the second-time point, such that higher levels of depressive symptoms at the first-time point were associated with higher levels of co-parenting triangulation at the second timepoint. Simultaneously, higher levels of co-parenting triangulation at the first-time point was associated with elevated levels of adolescent depressive symptoms at the second-time point, a pattern that is consistent with past literature (Buchanan et al., 1991). Thus, again a bidirectional association was found where adolescents and parents were influencing each other.

However, a different pattern emerged for co-parenting cooperation. A significant negative relationship was found between Time 1 adolescent depressive symptoms and Time 2 co-parenting cooperation, which means as adolescent depressive symptoms elevated, co-parenting cooperation decreased, which is consistent with previous literature (Conger et al., 1995). However, the association between Time 1 co-parenting cooperation and Time 2
adolescent depressive symptoms was non-significant, suggesting that the degree parents work together on parenting was not important in predicting changes in adolescent depression. One possible reason as to why we found our result is due to past marital literature, which has said that negative interactions tend to be more impactful compared to positive. Thus, it would take five times the amount of positive interactions to combat a negative one (Gottman & Silver 1994). Furthermore Gordis et al., (2001), found that parents of preschool children reported more cooperation in the household compared to preadolescent children. It is possible that during these times, parents were finding it harder to cooperate.

Limitations

Even though we found significant results, a study is not without its limitations. First, we recruited our participants through Amazon Mechanical Turk (MTurk). The participants needed to have a computer access and were self-selected, which could lead to sampling bias due to a convenience sample. Furthermore, our sample size was small with 60 mothers and 53 fathers. A larger sample size would yield a higher chance of more accurate results. Lastly, the variability of our demographics limits the generalizability of the findings. For example, many of our participants self-identified as White/Caucasian (i.e., 77).

Future Directions

Future directions to expand this research could be considered. First, we ran six separate regression analyses looking at the associations. Future analyses could use multilevel modeling techniques to consider these associations within one model instead. This would provide a more succinct way to examine the bidirectional effects of the relationships. Furthermore, future studies could change how to recruit participants; for example, they could have family’s come into the lab.
rather than collecting data from a convenience standpoint. By doing so, we would be able to include a more diverse sample of individuals and collect other types of data (e.g., observations of coparent and parent-child interactions). Additionally, collecting information from multiple informants (i.e., adolescent report, teacher report) would help better conceptualize the associations between co-parenting and adolescents’ depressive symptoms. Nonetheless, this study suggests the importance of looking at bidirectional associations between co-parenting and adolescent psychological outcomes in future research.

Most of our sample reported being married (i.e., 81%; 17% cohabiting), while this data is good from that perspective, we would like to expand on this research by comparing it with a sample of divorced families. Furthermore, our sample consisted of adolescents entering the sixth grade, and we would like to conduct this study with an older adolescent population to see if more life experiences contribute to the adolescent depressive symptoms.
Table 1

Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M(SD)</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>Cooperation (T1)</td>
<td>109</td>
<td>15.1(3.3)</td>
<td>7-20</td>
</tr>
<tr>
<td>Triangulation (T1)</td>
<td>111</td>
<td>2.2(3.7)</td>
<td>0-14</td>
</tr>
<tr>
<td>Conflict (T1)</td>
<td>111</td>
<td>5.2(4.0)</td>
<td>0-16</td>
</tr>
<tr>
<td>Adolescent Depressive Symptoms (T1)</td>
<td>112</td>
<td>4.4(7.0)</td>
<td>0-32</td>
</tr>
<tr>
<td>Cooperation (T2)</td>
<td>107</td>
<td>14.8(4.2)</td>
<td>3-20</td>
</tr>
<tr>
<td>Triangulation (T2)</td>
<td>107</td>
<td>2.4(3.6)</td>
<td>0-13</td>
</tr>
<tr>
<td>Conflict (T2)</td>
<td>107</td>
<td>5.4(4.0)</td>
<td>0-16.67</td>
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<tr>
<td>Depressive (T2)</td>
<td>107</td>
<td>4.7(7.2)</td>
<td>0-28</td>
</tr>
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Table 2
Bivariate Correlations among Variables

<table>
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<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T1 Cooperation</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. T1 Triangulation</td>
<td>-.22*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. T1 Conflict</td>
<td>-.35**</td>
<td>.72**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. T1 Depressive Sym</td>
<td>-.13</td>
<td>.61**</td>
<td>.55***</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. T2 Cooperation</td>
<td>.57***</td>
<td>-.33**</td>
<td>-.41***</td>
<td>-.29**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. T2 Triangulation</td>
<td>-.23*</td>
<td>.65**</td>
<td>.53***</td>
<td>.63***</td>
<td>-.34***</td>
<td>1.00</td>
<td></td>
<td></td>
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<tr>
<td>7. T2 Conflict</td>
<td>-.37***</td>
<td>.51**</td>
<td>.71***</td>
<td>.65***</td>
<td>-.54***</td>
<td>.70***</td>
<td>1.00</td>
<td></td>
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<tr>
<td>8. T2 Depressive Sym</td>
<td>-.18</td>
<td>.64**</td>
<td>.55***</td>
<td>.76***</td>
<td>-.23*</td>
<td>.59***</td>
<td>.61***</td>
<td>1.00</td>
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Note. Sym = Symptoms * p < .05, ** p < .01, ***p < .001.
Table 3
Linear Regressions Predicting T2 Co-parenting from T1 Adolescent Depressive Symptoms

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>T2 Co-parenting Dimension</th>
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<tr>
<td></td>
<td>Cooperation</td>
</tr>
<tr>
<td>T1 Co-parenting</td>
<td>.55***</td>
</tr>
<tr>
<td>T1 Depressive Symptoms</td>
<td>-.21*</td>
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<tr>
<td>F-ratio</td>
<td>29.50</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.37</td>
</tr>
</tbody>
</table>

*Note.* The T1 Co-parenting independent variable varies in each regression to match the T2 co-parenting dimension that is the dependent variable. Standardized betas are presented. * $p < .05$, ** $p < .01$, ***$p < .001$. 
Table 4
Linear Regressions Predicting T2 Adolescent Depression from T1 Co-parenting

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>T2 Adolescent Depressive Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model with Co-parenting Cooperation</strong></td>
<td></td>
</tr>
<tr>
<td>T1 Adolescent Depressive Symptoms</td>
<td>.78</td>
</tr>
<tr>
<td>T2 Co-parenting Cooperation</td>
<td>-.10</td>
</tr>
<tr>
<td>F-Ratio</td>
<td>89.2</td>
</tr>
<tr>
<td>R²</td>
<td>.64</td>
</tr>
<tr>
<td><strong>Model with Co-parenting Conflict</strong></td>
<td></td>
</tr>
<tr>
<td>T1 Adolescent Depressive Symptoms</td>
<td>.70***</td>
</tr>
<tr>
<td>T2 Co-parenting Conflict</td>
<td>.16*</td>
</tr>
<tr>
<td>F-Ratio</td>
<td>88.5</td>
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<tr>
<td>R²</td>
<td>.635</td>
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<tr>
<td><strong>Model with Co-parenting Triangulation</strong></td>
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<tr>
<td>T1 Adolescent Depressive Symptoms</td>
<td>.64***</td>
</tr>
<tr>
<td>T2 Co-parenting Triangulation</td>
<td>.23**</td>
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<tr>
<td>F-Ratio</td>
<td>93.6</td>
</tr>
<tr>
<td>R²</td>
<td>.65</td>
</tr>
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</table>

*Note.* Standardized betas are presented. *p < .05, **p < .01, ***p < .001.
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