



# Coparenting Behavior, Parent–Adolescent Attachment, and Peer Attachment: An Examination of Gender Differences

Shengqi Zou<sup>1</sup> · Xinchun Wu<sup>1</sup> · Xiaowei Li<sup>2</sup>

Received: 20 May 2019 / Accepted: 19 June 2019 / Published online: 15 July 2019  
© Springer Science+Business Media, LLC, part of Springer Nature 2019

## Abstract

Coparenting relationship has been linked to the development and adaptation of adolescents. However, whether and how fathers and mothers' individual behaviors in coparenting relationships are linked to peer outcomes of boys and girls during adolescence have yet to be clarified. The present study addresses this gap in knowledge by examining the relationships among coparenting behavior, parent–adolescent attachment, and peer attachment of adolescents and the gender differences of these relationships. Families ( $N = 820$ ) that included fathers, mothers, and focal adolescents (53% female,  $M_{\text{age}} = 13.70 \pm 2.51$ ) participated in this study. The fathers and mothers reported their coparenting behavior to their spouse and the adolescents completed the Inventory of Parent and Peer Attachment. Structure equation modeling in the total sample revealed that maternal positive and paternal negative coparenting behaviors were related to peer attachment through the indirect effects of father– and mother–adolescent attachments. Multi-group analysis revealed that father– and mother–adolescent attachments had strong predicting effects on the peer attachment of offsprings with the same sex. Maternal positive coparenting behavior was related to the peer attachment of boys and girls through the indirect effects of the father– and mother–adolescent attachments. Paternal negative coparenting behavior had a double-edged effect on girls' peer attachment and was not related to boys' peer attachment. This study extended the perspective of a family–peer system linkage by providing evidence that parents' individual behavior in the coparenting process was linked to adolescents' peer outcome. Moreover, this research suggested that encouraging mothers to enhance their positive relationship with fathers and preventing fathers from overtly pursuing conflicts and covertly disparaging mothers may be effective methods to promote adolescents' peer relationships.

**Keywords** Coparenting behavior · Parent–adolescent attachment · Peer attachment · Gender difference

## Introduction

Peer attachment has been the central issue in studies on adolescents for years because attachment bonds with peers gradually become prominent during adolescence (Cassidy and Shaver 2008). Under the theoretical framework of attachment theory, numerous studies have observed the important contributions of peer attachment to the various aspects of psychological adaptation (Mota and Matos 2013; Murphy et al. 2017). Hence, exploring the influencing factors of peer attachment can aid in developing strategies for facilitating peer attachment itself and promoting

psychological adaptation among adolescents. Previous studies have emphasized the influence of parents and families on the formation and development of attachment during toddlerhood and infancy (Bretherton and Munholland 2008; Lin et al. 2014). However, studies examining this theory during adolescence have been largely neglected. Therefore, this study aimed to explore the direct and indirect effects of two family factors, parent coparenting and parent–adolescent attachment, on peer attachment of adolescents. Moreover, the present study aimed to further explore the differences between boys and girls on these effects considering that peer relations and parenting were strongly shaped by adolescent gender (Pace et al. 2011; Meijer et al. 2016).

## Relationships between Coparenting Behavior and Parent–Adolescent and Peer Attachments

The systematic perspective of a family and peer system linkage provides a valuable framework for understanding

✉ Xinchun Wu  
xcwu@bnu.edu.cn

<sup>1</sup> Faculty of Psychology, Beijing Normal University, Beijing, China

<sup>2</sup> Faculty of Education, Beijing Normal University, Beijing, China

the relationships between parent coparenting and parent–adolescent and peer attachments. First, the perspective of a family–peer linkage asserts that the family and peer systems act as two independent “energy” systems, and this energy flows from the former to the latter (Brown and Bakken 2011). Current studies have supported this claim by exploring the effect of parenting on peer outcomes (McDowell and Parke 2009; Kliewer et al. 2018). Similarly, parent coparenting and parent–adolescent attachment as family factors are likely related to peer attachment in the present study. Second, the system-based theory assumes that processes linking two systems contain direct and indirect pathways between constructs (Holmes et al. 2013). Thus, considering that parent coparenting reflects the executive function of triadic father–mother–child interaction and that parent–adolescent attachment reflects the dyadic interaction between fathers/mothers and adolescents (Feinberg 2003; McDaniel et al. 2017), the present study hypothesized that parent coparenting would contribute to peer attachment through the mediating role of parent–adolescent attachment.

As illustrated above, individual parenting has been the key factor for the development of peer outcomes from the systematic perspective of a family–peer linkage. For instance, van Ingen et al. (2015) found that overbearing parenting was negatively associated with the peer attachment of adolescents; parenting practices specific to overseeing peer relations, such as parental knowledge about adolescents’ activities and parental advice and provision of opportunities, predicted the level of peer acceptance (McDowell and Parke 2009; Brown and Bakken 2011). However, the study of parenting has changed from individual parenting behavior to collaborated parenting between fathers and mothers—or coparenting—for many years (McHale et al. 2004), studies linking coparenting and peer outcomes have largely been neglected. Hence, the present study extended previous studies and further tested the link between families and the peer system by exploring the effects of coparenting on peer outcomes.

Coparenting refers to the way partners relate to each other in their roles as parents (McHale 1997; Van Egeren and Hawkins 2004), with positive and negative coparenting as the most acknowledged key dimensions (Feinberg et al. 2012). Feinberg’s (2003) ecological model of coparenting applied the executive function of coparenting on family life and emphasized its central role on children and adolescent development. Empirical studies have also indicated that the nature of coparenting was correlated with children and adolescent outcomes. For instance, a meta-analysis study conducted by Teubert and Pinquart (2010) revealed that positive coparenting was linked to a low level of internalizing and externalizing behavior problems among children, whereas negative coparenting was associated with a

low level of social functioning and attachment. Hereafter, several subsequent studies have continued to provide evidence supporting the effect of positive and negative coparenting on the adaptation of children and adolescent (Kopystynska et al. 2017; Parkes et al. 2019). Moreover, coparenting has also been known to influence peer relationships. Leary and Katz (2004) found that positive coparenting was correlated with a high level of positive peer conversation in play and that negative coparenting was correlated with a low level of positive conversation and a high level of conflicted play with peers in middle childhood. However, little is known whether coparenting is related to the relationship quality with the peers of adolescents. One of the aims of the present study was to explore the relationship between positive/negative coparenting and the peer attachment of adolescents.

Furthermore, the present study examined the effects of the coparenting behaviors of fathers and mothers. Although previous studies have suggested that positive and negative interactions between fathers and mothers in coparenting relationships were related to offspring’s adaptation and peer outcomes, few studies have investigated the effect of fathers and mothers’ individual behaviors in the coparenting process. Consequently, little attention has also been paid to the different roles of fathers and mothers’ coparenting behaviors in offspring’s adaptation. As fathers’ contribution to child development has been widely acknowledged (Barker et al. 2017), studies comparing fathers and mothers’ relative contributions to child and adolescent developments have also emerged. Li and Meier (2017) reviewed published studies on the relationship between parental acceptance and child adjustment in the past five decades. They found that fathers’ acceptance acts as a powerful determinant of undesired development outcomes, whereas mothers’ acceptance contributes to socio-emotional development. As for the same outcomes, empirical research has not yet come to a consistent conclusion. For instance, Flouri and Buchanan (2003) found that fathers had a stronger effect on adolescents’ well-being compared with mothers, whereas Doyle et al. (2015) revealed that mothers—not fathers—contributed to the well-being of their college-aged children. In addition, previous studies have primarily examined the effect of fathers and mothers’ individual parenting behaviors on child outcomes. Little is still known about the relationship between fathers and mothers’ coparenting behaviors and peer attachment, despite studies suggesting that fathers’ individual involvement influenced peer relationships of adolescents and young adults greater than mothers’ (Reid 2011). Therefore, the present study investigated whether fathers and mothers’ coparenting behaviors are related to peer attachment. If the results were consistent with the conclusion of the research focusing on the effect of individual parenting behavior on peer relationships, then

fathers' coparenting behavior would have a greater contribution to peer attachment than mothers' coparenting behavior.

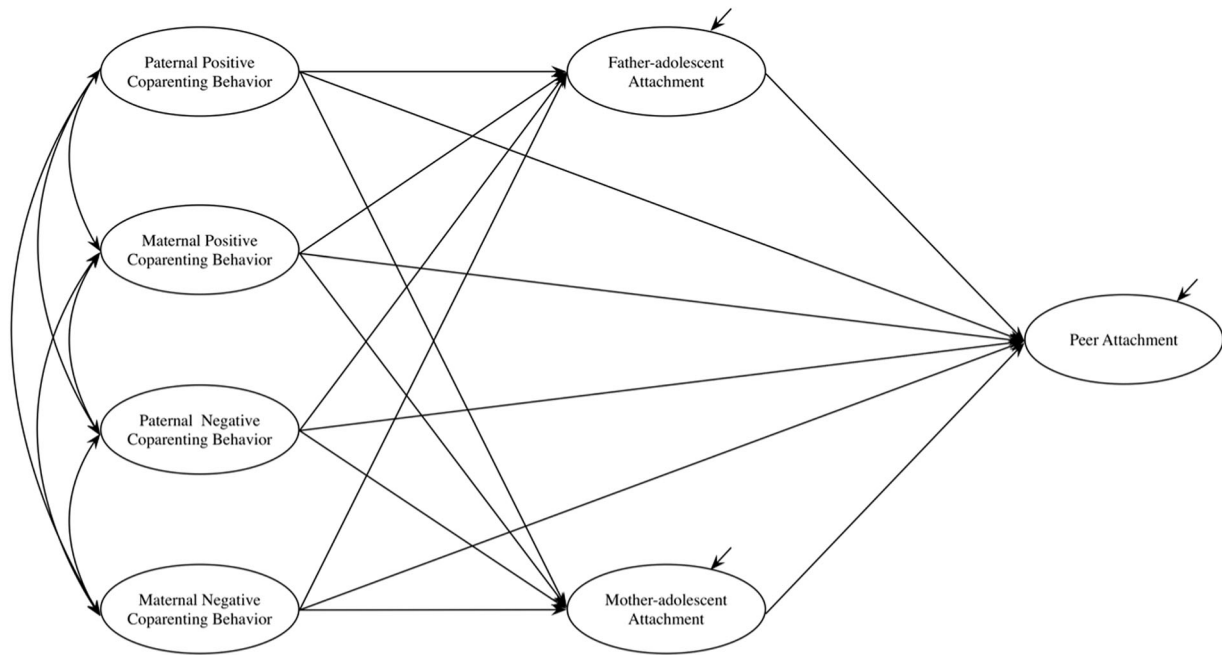
Coparenting reflects the triadic interaction between fathers, mothers, and adolescents, which may be a relatively distant but influential family variable in the development of adolescents' peer attachment (Feinberg 2003). On the basis of the systematic theory of family and attachment theory (Minuchin 1974; Bowlby 1982), parent–adolescent attachment, a proximal family variable and a dyadic interaction between fathers/mothers and adolescents, forms the basis of the development of peer attachment. Specifically, the relationship between parent–adolescent and peer attachments is apparent in the internal working model, which collects the models of the world, self, and others (Schneider et al. 2001). Adolescents with secure attachment bonds with their parents have positive expectations about themselves and their social interactions, and they may therefore be more likely to develop a secure peer attachment. By contrast, adolescents with insecure attachment bonds with their parents have negative expectations about themselves and social interactions, seeing others as unreliable. Thus, these adolescents may less likely develop attachment bonds with their peers (Allen 2008; Ward et al. 2018). Furthermore, empirical studies have supported the relationship between mother–adolescent and peer attachments of adolescents (Ratto et al. 2016). Unfortunately, only a small number of researchers have explored the relationship between father–adolescent attachment and peer relationships or peer attachment. However, existing views claimed that fathers also serve as reliable attachment figures, and research has treated father–child and mother–child attachments as equally important factors for child development (Bretherton 2010). Therefore, the present study explored the effect of father–adolescent and mother–adolescent attachments on peer attachment in the same correlational model, accounting for fathers and mothers' contributions simultaneously.

The relationship between coparenting behavior and parent–adolescent attachment is considered in the present study. First, the systematic theory of family identifies coparenting as an executive sub-system and emphasizes its essential role in the family (Minuchin 1974; Feinberg 2003). Holland and McElwain (2013) showed that positive coparenting was related to successful parent–toddler relationship. However, a positive parent–child relationship was not easily achieved in the presence of coparenting conflicts (Martin et al. 2017). Therefore, the present study would explore the relationship between fathers and mothers' coparenting behaviors and father– and mother–adolescent attachments. Second, the two processes derived from aforementioned theory guide the exploration of paths from fathers and mothers' coparenting behaviors to father– and mother–adolescent attachments. The spillover hypothesis

proposes that individuals' mood, affect, and behaviors can be transferred from one family subsystem to another (Zemp et al. 2018), thereby representing the intrapersonal transfer of affect and behavior; the crossover hypothesis proposes that one individual's affect and behaviors can be transferred to another family member, thereby representing the interpersonal transfer of affect and behavior (Newland et al. 2015). Thus, the present study would investigate not only the contributions of fathers and mothers' coparenting behaviors to their own attachment relationship with adolescents, such as the relationship between paternal positive coparenting behavior and father–adolescent attachment or the relationship between maternal negative coparenting behavior and mother–adolescent relationship. Moreover, this study would analyze the contributions of fathers and mothers' coparenting behaviors to the spouse's attachment relationship with adolescent offspring, such as the relationship between paternal negative coparenting behavior and mother–adolescent attachment or the relationship between maternal positive coparenting behavior and father–adolescent attachment. Therefore, the present study proposed an indirect effect model of coparenting behavior that influences peer attachment through the mediating role of parent–adolescent attachment (see Fig. 1). This model links the family to peer systems and deepens the understanding of the mechanism between coparenting behavior and peer attachment. Finally, important individual and family variables (i.e., adolescent age, gender, number of children, socioeconomic status) were controlled for because these factors have been linked to coparenting, parent–adolescent attachment, and peer attachment (Feinberg 2003; Zhong et al. 2014).

### Adolescent Gender Differences

The second purpose of the present study was to examine whether the hypothesized indirect effect model differed in boys and girls under the framework of the same-sex matching effect model. Studies have suggested that gender affects the individual attachment system. For instance, Schoppe-Sullivan et al. (2006) found that one-year-old daughters' attachment security with their fathers and mothers was similar, whereas the sons' attachment security with their fathers seemed to be more common than that with their mothers. Pace et al. (2011) investigated adolescents' parent and peer attachments and summarized that males scored lower than females on fathers' alienation subscale, which is consistent with the study of Schoppe-Sullivan et al. (2006), suggesting that males developed a more positive attachment to their parents than females did. However, males also scored lower than females on the peer trust and communication subscales suggesting that males appeared to be more insecure around their peers compared with females.



**Fig. 1** Hypothesized indirect effect model

At the same time, parental coparenting behavior may also differ in boys and girls given that parents use the gender-differentiated parenting (Brown et al. 2015; Endendijk et al. 2016). Therefore, these studies imply that the present study should take adolescent gender into account when studying the relationships among coparenting behavior and parent–adolescent and peer attachments.

The same-sex matching effect model claims that fathers and mothers affect the developmental outcomes of same-sex children stronger than that of opposite-sex children (Li and Meier 2017). For instance, Di Maggio and Zappulla (2014) concluded that paternal strictness was negatively associated with adolescent boys' internalizing problem behavior and positively associated with adolescent boys' general satisfaction, whereas paternal strictness had no effect on the internalizing problem behavior and general satisfaction of adolescent girls. However, this study did not find the same-sex matching effect among the relationships between maternal strictness and the developmental outcomes of adolescent girls. Furthermore, Andersson (2016) provided strong and direct evidence supporting the same-sex matching effect, in that paternal warmth during childhood was more important to male adulthood physical health, whereas maternal warmth tended to be more important to female adulthood physical health. Therefore, the present study hypothesized the gender differences of the relationships between fathers'/mothers' coparenting behavior and father-/mother-adolescent and peer attachments under the framework of the same-sex matching effect. Specifically, fathers' coparenting behavior and father-adolescent

attachment exerted greater influence on the peer attachment of boys than that of girls, and the mother's coparenting behaviors and mother-adolescent attachment exerted greater influence on the peer attachment of girls than that of boys. Moreover, fathers' coparenting behaviors exerted greater influence on the father- and mother-adolescent attachment of boys than that of girls, and the mothers' coparenting behavior exerted greater influence on the father- and mother-adolescent attachment of girls than that of boys.

## Current Study

The first aim of this research was to examine the relationships among coparenting behavior, parent–adolescent attachment, and peer attachment during adolescence. Individual parenting or parent–child interactions have been recognized as key factors for the development of peer outcomes on the basis of the systematic perspective of a family and peer system linkage. However, the relationship between collaborated parenting (coparenting) and peer outcomes has been disregarded. Furthermore, studies on coparenting have excluded the effect of fathers and mothers' individual behaviors (i.e., coparenting behaviors) in the coparenting process and have not formulated clear expectations concerning the predicting role of parental coparenting on offsprings' development and adaptation during adolescence. Ferinberg's (2003) ecological model of coparenting has emphasized the mediating role of father–

and mother–adolescent attachments in the relationship between coparenting and child development. Thus, the current study measured the positive/negative coparenting behaviors of fathers and mothers toward an adolescent child. This research also assessed adolescent attachment to fathers and mothers separately to explore the spillover and crossover effects of coparenting on parent–adolescent attachment. In particular, the current study hypothesized that paternal and maternal positive coparenting behaviors were associated with the considerable security of the father– and mother–adolescent attachments, thereby ultimately predicting a high level of peer attachment. Meanwhile, paternal and maternal negative coparenting behavior were associated with minimal security of the father– and mother–adolescent attachments, thereby ultimately predicting a low level of peer attachment. The direct and indirect effects of paternal coparenting behavior on peer attachment were expected to be stronger than that of the maternal coparenting behavior on the basis of the finding that fathers contributed more to peer relationships than mothers.

The second aim of this study was to determine whether the relationships among coparenting behavior, parent–adolescent attachment, and peer attachment differed by adolescent gender. The direct and indirect relationships between fathers' coparenting behavior and peer attachment of boys were expected to be stronger than that of girls on the basis of the same-sex matching effect model. Conversely, the direct and indirect relationships between mothers' coparenting behavior and peer attachment of girls were expected to be stronger than that of boys. Moreover, the father– and mother–adolescent attachments were expected to exert substantial predicting roles on the peer attachment of boys and girls, respectively.

## Methods

### Participants

A total of 820 families including fathers, mothers, and focal adolescent offspring participated in the present study. The mean age of adolescents was 13.70 years old ( $SD = 2.51$ ). Forty-seven percent of the adolescents were boys, and fifty-five percent of the adolescents were the only child. The mean scores of subjective socioeconomic statuses (SSS, ranging from 1 to 10) reported by adolescents compared with the members in the province and school were 6.23 ( $SD = 1.55$ ) and 6.84 ( $SD = 1.61$ ), respectively. The mean age of the fathers was 43.04 years old ( $SD = 4.25$ ). The educational accomplishment of the fathers was as follows: 25.2% were middle school graduates, 39.8% were high school graduates, and 32.8% were college graduates or above. The mean scores of the SSS reported by the fathers compared with the

members in the province and community were 5.78 ( $SD = 1.73$ ) and 5.19 ( $SD = 1.79$ ), respectively. The mean age of the mothers was 40.81 years old ( $SD = 4.19$ ). The educational accomplishment of the mothers was as follows: 31.2% were middle school graduates, 34.5% were high school graduates, and 28.7% were college graduates or above. The mean scores of the SSS reported by mothers compared with the members in the province and community were 5.80 ( $SD = 1.56$ ) and 5.23 ( $SD = 1.69$ ), respectively.

### Procedures

The present study used the convenience sampling method, comprising a group of families with an adolescent offspring studying at the primary and secondary school levels. The study was approved by the Research Ethical Committee of Beijing Normal University and conducted with the permission of the principals of the participating schools. In each selected school, students who attended school on the date of the survey were recruited to participate. All these students and their parents consented to participate in the study, and written informed consent was obtained. The participating students and parents were free to withdraw from the research at any time. The assessment process included two steps. First, the adolescents were initially asked to provide demographic information that included gender, age, and subjective family socioeconomic status. They were asked to complete the remaining measures that assessed their attachment to their fathers, mothers, and peers. Second, the adolescents brought a package of questionnaires home from school. Parents were initially asked to provide demographic information about the family and themselves. They were then asked to complete the measures that assessed coparenting behaviors. After completion, the child took the questionnaires back to school.

### Measures

#### Positive and negative coparenting behaviors

An adapted Chinese version of the coparenting behavior scale (McHale 1997; Liu et al. 2017) was used for assessing the fathers and mothers' coparenting behaviors with their spouses in several activities about parenting a target adolescent offspring, which consists of 29 items and 4 dimensions. Positive coparenting behavior was categorized by the dimensions of family integrity behavior (e.g., "Make an affirming or complimentary remark about your partner to this child", 7 items) and consistent behavior (e.g., "Take a "back seat" while your partner deals with your child's negative behavior", 10 items). Negative coparenting behavior was categorized by the dimensions of conflict behavior (e.g., "Argue with your partner", 6 items) and disparaging

behavior (e.g., “Say something clearly negative or disparaging about your partner to your child”, 6 items). The fathers and mothers separately rated frequency with their own coparenting behavior on a seven Likert-type scale, ranging from 1 (*absolutely never*) to 7 (*almost constantly*). The confirmatory factor analysis indicated good construct validity for this solution ( $\chi^2/df = 1.57$ , RMSEA = 0.03, CFI = 0.99, TLI = 0.99, SRMR = 0.01, and all factor loadings were higher than 0.78). In the current study, Cronbach’s alphas of the dimensions ranged from 0.89 to 0.94 for fathers and from 0.89 to 0.93 for mothers.

### Parent–adolescent attachment and peer attachment

Father–adolescent, mother–adolescent, and peer attachments were measured by using the Inventory of Parent and Peer Attachment (IPPA, Armsden and Greenberg 1987). Adolescents self-reported their perceptions of affection and cognition of relationships with their fathers, mothers, and close friends, which consisted of 3 dimensions: degree of mutual trust (e.g., “My father/mother respects my feelings” “My friends understand me”), quality of communication (e.g., “My father/mother/friends can tell when I am upset about something.”), and the extent of anger and alienation (e.g., “I get upset easily around my father/mother” “I feel alone or apart when I am with my friends”). The inventory consists of 25 items in each section. Response options for each item were provided using a 5-point Likert-type scale ranging from 1 (*almost never or never true*) to 5 (*almost always or always true*). After reverse-scoring the negatively worded items, all the items in each section were summed, yielding three attachment scores for fathers, mothers, and peers. In the current study, Cronbach’s alphas of the dimensions ranged from 0.75 to 0.88 for father–adolescent attachment, from 0.76 to 0.91 for mother–adolescent attachment, and from 0.64 to 0.90 for peer attachment.

### Subjective socioeconomic status

Fathers, mothers, and adolescents respectively reported their subjective socioeconomic status (SSS) in a two-item questionnaire (Hu et al. 2012). One item measured family socioeconomic status compared to the families in the province and the other item measured family socioeconomic status compared to the families at the community or school. Response options ranged from 1 (*very bad*) to 10 (*very good*). The higher score represented a higher level of subjective socioeconomic status.

### Data Analysis

The percentage of missing data was under 5% in the sample. Missing data were imputed using expectation

maximization (EM) in the practical application, an approach that has been shown to work quite effectively in processing missing data (Hair et al. 1998). Descriptive and correlational analysis were conducted in SPSS 21.0. Structural equation modeling (SEM) was used for testing the indirect effect model and its differences between adolescent boys and girls. First, the present study built a measurement model, which included four latent variables of the independent variable, two latent variables of the mediator, and one latent variable of the dependent variable. The model fitted the data well ( $\chi^2/df = 5.69$ , RMSEA = 0.07, CFI = 0.95, TLI = 0.92, SRMR = 0.04), and all factor loadings were higher than 0.60. Second, the indirect effect model was tested with adolescent characteristics as control variables using the maximum likelihood estimation (ML) with bootstrap (with 5000 replicates and a 95% confidence interval). Finally, a multi-group analysis was performed to determine the differences in the indirect effect model between adolescent boys and girls. The Wald chi-square test was used for identifying the specific paths that differed between adolescent boys and girls (Wang and Wang 2012). The effect size for indirect effect was calculated with  $\kappa^2$ , which is standardized not wedded to the particular scale (Preacher and Kelley 2011).

## Results

### Preliminary Analysis

Table 1 presents means, standard deviations, and Pearson correlations among the study variables. As expected, paternal and maternal positive coparenting behaviors were positively and significantly correlated with father–adolescent and mother–adolescent attachments and peer attachment. Conversely, paternal and maternal negative coparenting behaviors were negatively and significantly correlated with father–adolescent, mother–adolescent, and peer attachments. Father–adolescent and mother–adolescent attachments were positively correlated with peer attachment. Adolescent age was negatively correlated with adolescent attachment with fathers, mothers, and peers. The only-child had a high level of attachment to fathers and mothers, and no difference existed in peer attachment between the only-child and the non-only-child. Girls had a higher level of peer attachment than boys.

### Coparenting Behavior, Parent–Adolescent Attachment, and Peer Attachment

Figure 2 presents the standardized coefficient of the indirect effect model in the total sample. The tested indirect effect model obtained acceptable fit indices ( $\chi^2/df = 5.62$ ,

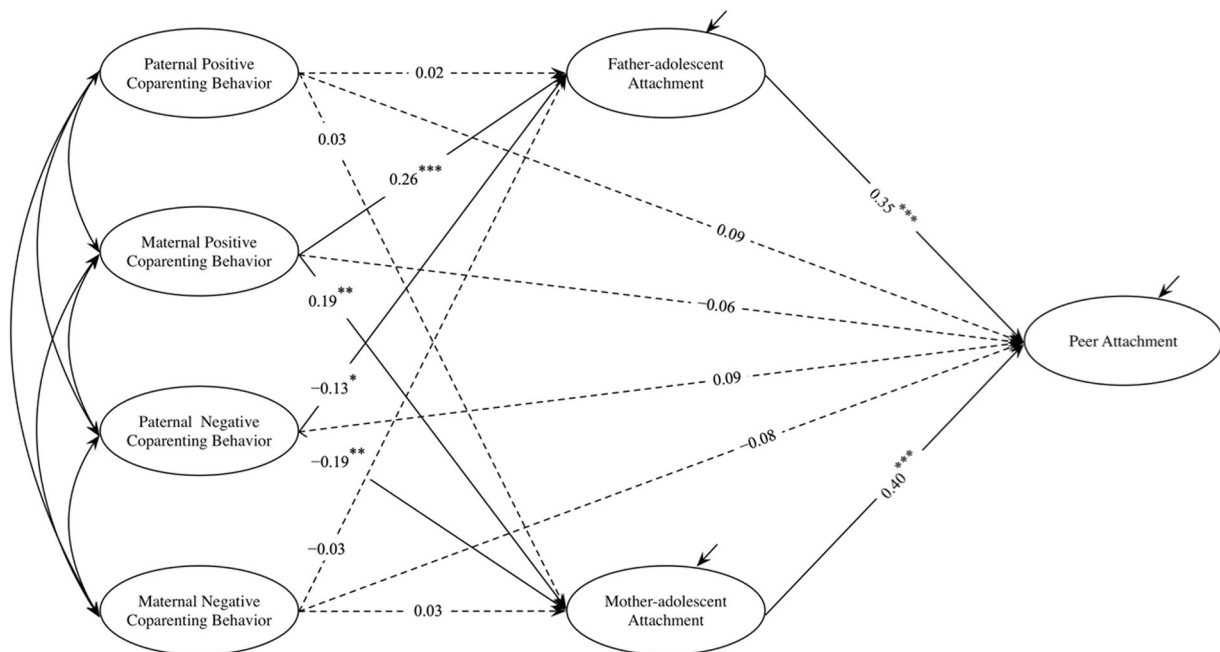
**Table 1** Pearson correlations and descriptive statistics for the main study variables ( $N = 820$ )

Variables	1	2	3	4	5	6	7	8	9	10
Adolescent stage	1									
Adolescent gender	0.07	1								
Only-one child	0.09**	0.14***	1							
PPCB	-0.20***	0.02	-0.13***	1						
MPCB	-0.18***	0.05	-0.15***	0.50***	1					
PNCB	0.10**	0.01	-0.01	-0.31***	-0.24***	1				
MNCB	0.05	-0.01	-0.03	-0.23***	-0.34***	0.49***	1			
FA	-0.16***	0.05	-0.08*	0.22***	0.29***	-0.19***	-0.19***	1		
MA	-0.19***	0.06†	-0.12***	0.20***	0.25***	-0.21***	-0.14***	-0.64***	1	
PA	-0.14***	0.12**	-0.01	0.18**	0.18***	-0.11**	-0.11**	0.48***	0.46***	1
<i>M</i>	—	—	—	4.67	4.84	1.93	1.96	3.73	3.92	3.75
<i>SD</i>	—	—	—	1.06	1.06	0.85	0.84	0.64	0.62	0.55

Gender: 0 = boys, 1 = girls; Only-one child: 0 = yes, 1 = no.

PPCB Paternal positive coparenting behavior; MPCB Maternal positive coparenting behavior; PNCB Paternal negative coparenting behavior; MNCB Maternal negative coparenting behavior; FA Father-adolescent attachment; MA Mother-adolescent attachment; PA Peer attachment

† <0.10; \* <0.05; \*\* <0.01; \*\*\* <0.001, the same below



**Fig. 2** Mediation model from coparenting behavior to adolescent peer attachment. † <0.10, \* <0.05, \*\* <0.01, \*\*\* <0.001. Dashed lines indicated non-significant coefficient

RMSEA = 0.07, CFI = 0.93, TLI = 0.90, SRMR = 0.04). Paternal negative coparenting behavior was negatively related to father-adolescent ( $\beta = -0.13, p < 0.05$ ) and mother-adolescent ( $\beta = -0.19, p < 0.01$ ) attachments. Maternal positive coparenting behavior was positively related to father-adolescent ( $\beta = 0.26, p < 0.001$ ) and mother-adolescent ( $\beta = 0.19, p < 0.01$ ) attachments. Father-adolescent and mother-adolescent attachments were

positively related to peer attachment ( $\beta = 0.35, p < 0.001$ ;  $\beta = 0.40, p < 0.001$ , respectively). Paternal positive and maternal negative coparenting behaviors were not related to father- and mother-adolescent attachments. Table 2 illustrates that the 95% bootstrap confidence interval of the indirect effect of father- and mother-adolescent attachments between the relationship of maternal positive coparenting behavior and peer attachment and the relationship of

**Table 2** The bootstrap confidence interval and effect size of the mediation model

Mediation paths	Total sample			Boys			Girls		
	Estimate	95% CI	$\kappa^2$	Estimate	95% CI	$\kappa^2$	Estimate	95% CI	$\kappa^2$
PPCB → FA → PA	0.01	[-0.04, 0.05]	Ns	-0.02	[-0.14, 0.07]	Ns	0.04	[-0.01, 0.13]	Ns
PPCB → MA → PA	0.01	[-0.04, 0.06]	Ns	0.01	[-0.05, 0.09]	Ns	0.02	[-0.06, 0.13]	Ns
MPCB → FA → PA	0.09	[0.04, 0.17]	0.20	0.15	[0.02, 0.28]	0.42	0.05	[0.00, 0.14]	0.10
MPCB → MA → PA	0.07	[0.02, 0.14]	0.17	0.05	[-0.01, 0.20]	0.14	0.09	[0.00, 0.23]	0.22
PNCB → FA → PA	-0.04	[-0.10, -0.01]	0.10	-0.04	[-0.22, 0.07]	Ns	-0.04	[-0.10, -0.01]	0.09
PNCB → MA → PA	-0.07	[-0.15, -0.03]	0.17	-0.05	[-0.21, 0.01]	Ns	-0.08	[-0.19, -0.02]	0.21
MNCB → FA → PA	-0.01	[-0.06, 0.02]	Ns	-0.01	[-0.13, 0.12]	Ns	-0.02	[-0.08, 0.02]	Ns
MNCB → MA → PA	0.01	[-0.04, 0.06]	Ns	0.02	[-0.03, 0.15]	Ns	-0.01	[-0.10, 0.08]	Ns

paternal negative coparenting behavior and peer attachment did not include zero. Thus, these indirect effects were statistically significant with a medium effect size according to the value of  $\kappa^2$ .

### Multi-group Analysis for Adolescent Gender

Multi-group analysis was performed to examine whether the indirect effect model differed on the basis of adolescent gender. Prior to multi-group analysis, the indirect effect model was tested in families with boys and girls, and both had acceptable fit indices (boys:  $\chi^2/df = 3.28$ , RMSEA = 0.08, CFI = 0.93, TLI = 0.90, SRMR = 0.05; girls:  $\chi^2/df = 2.76$ , RMSEA = 0.06, CFI = 0.96, TLI = 0.94, SRMR = 0.04). In multi-group analysis, the metric and scalar invariances of the measurement model between boys and girls were verified. The model with free estimated structural paths fitted data well ( $\chi^2/df = 3.19$ , RMSEA = 0.07, CFI = 0.94, TLI = 0.91, SRMR = 0.05).

As shown in Fig. 3, maternal positive coparenting behavior was positively related to father–son attachment ( $\beta = 0.29$ ,  $p < 0.01$ ) but not related to father–daughter attachment ( $\beta = 0.17$ ,  $p < 0.10$ ). However, maternal positive coparenting behavior was positively related to the mother–adolescent attachment of boys and girls ( $\beta = 0.17$ ,  $p < 0.05$ ;  $\beta = 0.20$ ,  $p < 0.05$ , respectively), and the Wald chi-square test showed that these two paths had no significant difference (Wald  $\chi^2 = 0.01$ ,  $p > 0.05$ ). Paternal negative coparenting behavior was negatively related to father–daughter and mother–daughter attachments, but not related to father–son and mother–son attachments. Paternal positive and maternal negative coparenting behaviors were not related to the father–adolescent attachment and the mother–adolescent attachment of boys and girls. Father–son and father–daughter attachments were positively related to peer attachment ( $\beta = 0.50$ ,  $p < 0.001$ ;  $\beta = 0.29$ ,  $p < 0.01$ , respectively). The Wald chi-square test showed that the former contributed greater than the latter (Wald  $\chi^2 = 4.83$ ,  $p < 0.05$ ). Mother–son and mother–daughter attachments

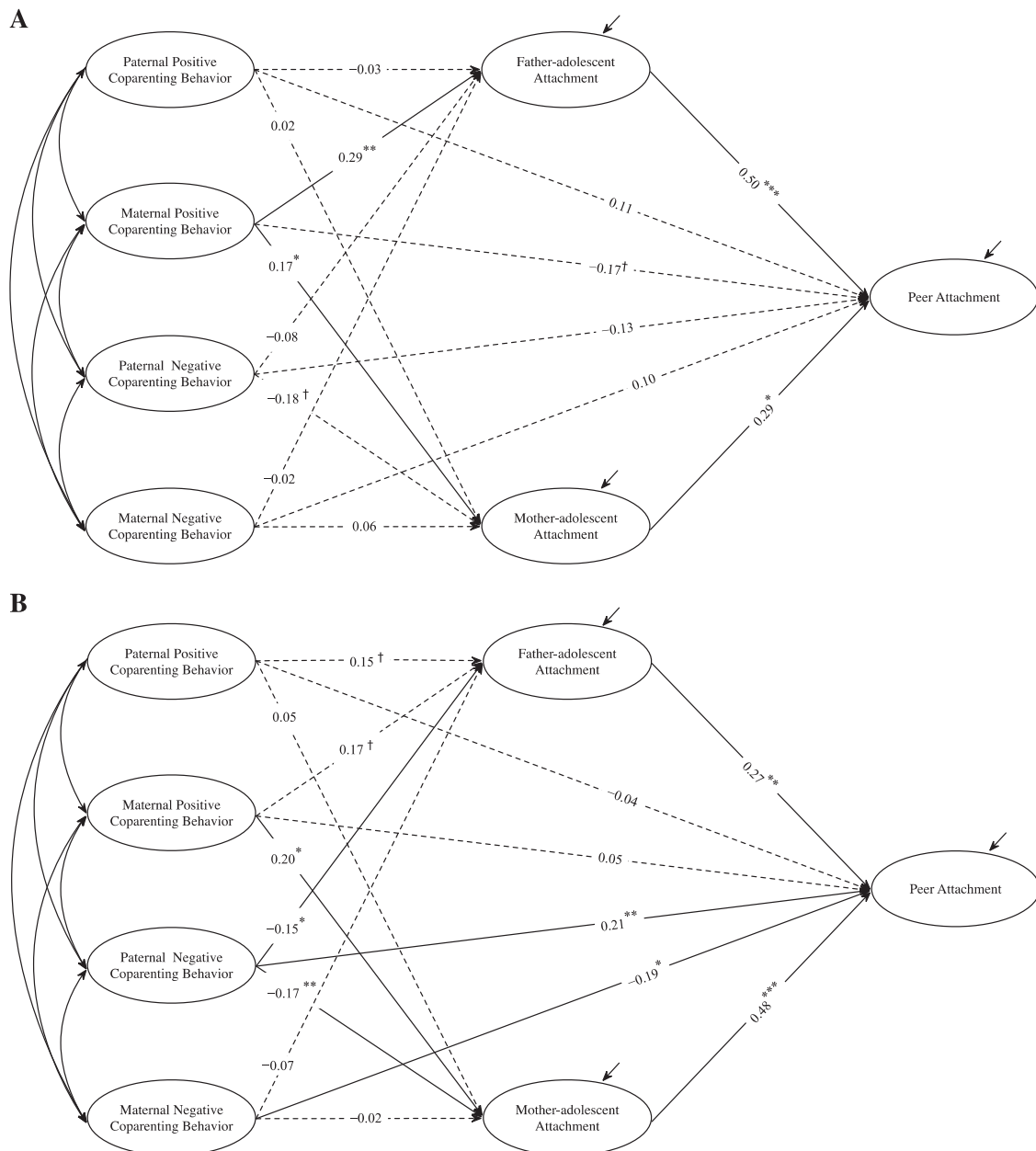
were positively related to peer attachment ( $\beta = 0.29$ ,  $p < 0.05$ ;  $\beta = 0.48$ ,  $p < 0.001$ , respectively), and the effect of mother–daughter attachment on peer attachment was higher than mother–son attachment (Wald  $\chi^2 = 4.14$ ,  $p < 0.05$ ). The directional effect of paternal negative coparenting behavior on girls' peer attachment remarkably had a positive sign ( $\beta = 0.21$ ,  $p < 0.01$ ).

Table 2 illustrates that the 95% bootstrap confidence interval of the indirect effect of father–son attachment between the relationship of maternal positive coparenting behavior and peer attachment did not include zero (95% CI [0.02, 0.28]). However, the 95% bootstrap confidence interval of the indirect effect of mother–son attachment between the relationship of maternal positive coparenting behavior and peer attachment included zero (95% CI [-0.01, 0.20]), whereas the 90% bootstrap CI did not include zero ([0.00, 0.20]). The effect size of the indirect effect of father–son attachment ( $\kappa^2 = 0.42$ ) was larger than mother–son attachment ( $\kappa^2 = 0.14$ ). Although maternal positive coparenting behavior was not related to father–daughter attachment ( $\beta = 0.17$ ,  $p < 0.10$ ), the bootstrap confidence interval of the indirect effect of father–daughter attachment in the relationship between maternal positive coparenting behavior and peer attachment did not include zero (95% CI [0.00, 0.14]), which further indicated that the indirect effect of father–daughter attachment was significant. In addition, the indirect effect of mother–daughter attachment between maternal positive coparenting behavior and peer attachment and the indirect effect of father–daughter and mother–daughter attachments between paternal negative coparenting behavior and peer attachment also did not include zero. Moreover, these indirect effects had a medium effect size ranging from 0.09 to 0.20.

### Sensitivity Analysis and Alternate Model Analysis

To test the robustness of the present findings, several alternate model analyses were conducted. First, subjective





**Fig. 3** Multi-group mediation model from coparenting behavior to adolescent peer attachment. **a** The mediation model of boys. **b** The mediation model of girls

socioeconomic status comparisons between the members in provinces and schools reported by adolescents were included as control variables in the SEMs. The results showed that only SSS at school was associated with the peer attachment of adolescents ( $\beta = 0.11$ ,  $p < 0.01$ ) and all significant findings were retained. Second, the control variables (i.e., adolescent age, gender, the only-one child status, and SSSs) were removed in SEMs to examine the pattern of results. Third, SEMs were retested using the robust maximum likelihood estimation (MLR). The last two analyses yielded similar results to the primary analysis.

Adolescence is a period of profound transformation in the emotional, cognitive, and behavioral systems surrounding attachment relationships, with early adolescents becoming minimally dependent on their parents and late adolescents becoming attachment figures for their peers (Allen 2008). Empirical study has found that the relationship between coparenting behavior and attachment relationships differed in the developmental stages during adolescence (Zou et al. 2019). Thus, the present study further examined the developmental differences of the indirect effect model in early ( $M_{age} = 11.21 \pm 0.44$ ), middle

( $M_{\text{age}} = 14.26 \pm 0.51$ ), and late ( $M_{\text{age}} = 17.29 \pm 0.56$ ) adolescence. In early adolescence, maternal positive coparenting behavior was associated with father–adolescent attachment ( $\beta = 0.29, p < 0.01$ ), while father–adolescent attachment was associated with peer attachment ( $\beta = 0.39, p < 0.001$ ); paternal negative coparenting behavior was associated with mother–adolescent attachment ( $\beta = -0.16, p < 0.05$ ), while mother–adolescent attachment was associated with peer attachment ( $\beta = 0.30, p < 0.01$ ); paternal positive coparenting behavior was directly associated with peer attachment ( $\beta = 0.23, p < 0.01$ ). In middle adolescence, father–adolescent attachment ( $\beta = 0.34, p < 0.05$ ) and mother–adolescent attachment ( $\beta = 0.55, p < 0.001$ ) were associated with peer attachment. However, paternal and maternal coparenting behaviors were directly and indirectly nonsignificant associated with peer attachment. In late adolescence, maternal positive coparenting behavior was associated with father–adolescent attachment ( $\beta = 0.37, p < 0.001$ ) and mother–adolescent attachment ( $\beta = 0.52, p < 0.001$ ), whereas paternal negative coparenting behavior was associated with father–adolescent attachment ( $\beta = -0.21, p < 0.05$ ) and mother–adolescent attachment ( $\beta = -0.19, p < 0.05$ ); mother–adolescent attachment was associated with peer attachment ( $\beta = 0.51, p < 0.001$ ), whereas father–adolescent attachment was marginally associated with peer attachment ( $\beta = 0.23, p < 0.10$ ). The findings highlighted the developmental differences of the relationships among coparenting behavior, parent–adolescent attachment, and peer attachment during adolescence. In particular, the findings in early adolescence supported the crossover effect from the maternal positive and paternal negative coparenting behaviors to parent–adolescent attachment. The findings also highlighted middle adolescence as a special period when peer outcomes may be unaffected by family factors (i.e., coparenting); and late adolescence as a typical period when patterns of coparenting behavior affecting peer attachment become consistent with the results in the total samples.

## Discussion

Although the systematic perspective of a family and peer system linkage has emphasized the influence of parents and families on peer outcomes, the majority of the related studies have primarily examined the effect of parent–child relationship or parenting on peer outcomes (Brown and Bakken 2011; Li and Meier 2017). Accordingly, a thorough understanding of the influence of family on the peer system is necessary by expanding the factor of the family assessed. Previous research has examined the effects of coparenting relationships on individual adaptation (Feinberg 2003). However, whether and how fathers and mothers' individual

behaviors in coparenting relationships are related to peer outcomes during adolescence have yet to be clarified. Therefore, the present study constructed an indirect effect model of parents' coparenting behaviors on peer attachment through the mediating effect of parent–adolescent attachment. Furthermore, this study clarified whether this model showed differences in boys and girls for the purpose of promoting family intervention programs targeted in adolescence. This study used a cross-sectional design with a large sample of 820 families, which included fathers, mothers, and focal adolescents and addressed the aforementioned knowledge gaps by providing a thorough understanding of the family–peer systems linkage and parents' individual behaviors in coparenting process during adolescence. The findings supported the systematic perspective of family–peer system linkage during adolescence (Brown and Bakken 2011) by demonstrating that paternal/maternal coparenting behavior was related to the peer attachment of adolescents through the indirect effect of father– and mother–adolescent attachments. Moreover, the findings of this study suggested various effects of paternal and maternal coparenting behaviors on peer attachment, thereby highlighting the essential aspects to explore fathers and mothers' individual behavior in the coparenting process (Murphy et al. 2017). The current study also demonstrated gender differences in these relationships, thereby providing targeted recommendations for practical activities.

As hypothesized, the findings revealed that maternal positive coparenting behavior was associated with high levels of father– and mother–adolescent attachments, thereby ultimately predicting a high level of peer attachment. By contrast, paternal negative coparenting behavior was associated with low levels of father– and mother–adolescent attachments, thereby ultimately predicting a low level of peer attachment. These scenarios are congruent with the systematic perspective of a family–peer linkage, in which affect and behavior generated in the family system can directly and indirectly transfer to the peer system (Brown and Bakken 2011). Moreover, this result indicated that family systems exerted influence on peer attachment in adolescence, which provided evidence supporting that family strongly and persistently affected offspring's peer outcomes from childhood to adolescence (Parke and Ladd 2016). This result also demonstrated the central role of coparenting on children and adolescent developments (Parkes et al. 2019). However, the majority of the effects of coparenting was limited in terms of family outcomes or individual adjustments (Teubert and Pinquart 2010; Kopystynska et al. 2017). This study deepened the understanding of coparenting by demonstrating that it also predicted offspring's out-of-family adjustments, such as school and peer outcomes. Furthermore, this study also illustrated why positive or negative coparenting predicted

peer attachment, as positive or negative coparenting strengthened or destroyed parent–adolescent attachment, respectively. Intimate and secure attachment relationships with parents promoted a sense of self-value and trust, which ultimately benefited the development of attachment with peers (Allen 2008). By contrast, nervous, anxious, and insecure attachment with parents could block the development of peer attachment (Ward et al. 2018).

Notably, fathers and mothers predicted peer attachment through different coparenting behaviors. The findings revealed that the positive coparenting behavior of mothers (not fathers) predicted peer attachment through the indirect effects of the father– and mother–adolescent attachments. By contrast, the negative coparenting behavior of fathers (not mothers) predicted peer attachment through the indirect effects of the father– and mother–adolescent attachments. Previous studies have explored the different effects of fathers and mothers on child development and have found evidence that fathers may have a more substantial role on peer relationships than mothers (Reid 2011; Doyle et al. 2015). This study extended these differences between fathers and mothers by demonstrating that the predicting effect of fathers and mothers' coparenting behavior on peer attachment varied according to the characteristics of behavior. In particular, the combination of fathers and negative coparenting behaviors were related to peer attachment greater than mothers, whereas fathers would affect peer attachment lower than mothers if positive coparenting behavior occurred, resulting from children's different interpretation and expectation of fathers and mothers' behaviors (Li and Meier 2017). For example, children and adolescents may likely expect mothers' calming and warm behaviors and be less tolerant of and vulnerable to fathers' conflicting and stressful behavior (Paquette 2004; Cummings et al. 2010). Overall, these findings supported the spillover and cross-over hypotheses of family system theory (Newland et al. 2015; Zemp et al. 2018). The findings also extended knowledge of the specific conditions under which these theoretical hypotheses work by demonstrating that only the negative behaviors of fathers and positive behaviors of mothers in coparenting relationships could cause intra-personal and interpersonal transfer to other subsystems.

In terms of the gender differences, the findings indicated that father–adolescent attachment contributed greater to the peer attachment of boys than that of girls and that mother–adolescent attachment contributed greater to the peer attachment of girls than that of boys. This result was consistent with this study's hypothesis and the same-sex matching hypothesis, claiming that fathers and mothers affected the developmental outcomes of same-sex children stronger than that of opposite-sex children (Andersson 2016; Li and Meier 2017). However, findings showed that the relationships between paternal/ maternal coparenting

behaviors and peer attachment were complex. Specifically, paternal negative coparenting behavior was negatively related to peer attachment of girls through the indirect effect of father– and mother–adolescent attachments, whereas this indirect effect was insignificant in boys. Maternal positive coparenting behavior was associated with peer attachment through the indirect effect of father– and mother–adolescent attachments in both boys and girls. Further analysis revealed that the indirect effect through father– and mother–adolescent attachments did not differ in boys and girls (Wald ( $\chi^2$ ) = 1.89,  $p > 0.05$  for the indirect effect of father–adolescent attachment; Wald ( $\chi^2$ ) = 0.91,  $p > 0.05$  for the indirect effect of mother–adolescent attachment). These results highlighted coparenting in comparison with dyadic parenting. Although the present study could distinguish the behavior subject during the coparenting process, it is essentially an interaction between fathers and mothers (Feinberg 2003). Hence, the present study could not clearly clarify the same-sex matching effect from coparenting to peer attachment.

However, the indirect effect of paternal negative coparenting behavior on the peer attachment of girls partly supported the opposite-sex effect, claiming the stronger effect of parents on opposite-sex children (Li and Meier 2017). Previous studies have found this effect by examining the relationship between parental positive parenting behavior and adolescent psychological adjustment (Tulviste and Rohner 2010; Glavak-Tkalić and Kukulja-Cicmanović 2014). The present study expanded this effect to encompass parental negative coparenting behavior. Moreover, the present study found that only girls' peer attachment was predicted by paternal negative coparenting behavior. It highlighted the fact that girls' peer outcomes were more vulnerable to negative family factors. It also suggested that the father should pay attention to his behavior during the coparenting process with his spouse, especially when coparenting a girl. Furthermore, the same-sex matching effect or the opposite-sex effect of paternal and maternal coparenting behavior on children development must still be further studied, partly because of the specific coparenting behavior and the inconsistent results between positive and negative coparenting behaviors.

Finally, the present study had to note that paternal negative coparenting had a double-edged effect on the peer attachment of girls. Specifically, paternal negative coparenting behavior was negatively related to the peer attachment of girls through the indirect effect of father– and mother–adolescent attachments, whereas the directional predicting effect of paternal negative coparenting behavior on peer attachment of girls was positive. These scenarios were consistent with Caldera and Lindsey's (2006) hypothesis that positive coparenting does not necessarily result in positive developmental outcomes of children

considering that a positive coparenting relationship paired with harsh or insensitive parenting behavior between fathers and mothers may harm children's development. Conversely, negative coparenting does not necessarily harm development. If paternal negative coparenting behavior is exercised to prevent mothers from interfering with adolescents' peer interaction, adolescents may interpret fathers' behavior differently. The most important direction for future study is to further explore the reason why paternal negative coparenting behavior only affected girls' peer attachment and the concrete mechanism.

The present study linked the family and peer systems of adolescents, explored the predicting effect of fathers and mothers' individual behaviors during the coparenting process on peer attachment and the indirect effect of parent–adolescent attachment, and examined gender differences. However, some limitations should be acknowledged. First, the present study was cross-sectional; thus, it cannot explore the causal relationship between family factors and peer outcomes. Simultaneously, under the framework of a family–peer system linkage, peer outcomes are likely to have an effect on parenting. Although it was beyond the aims of the present study to examine this causal relationship, a longitudinal study and the cross-lagged model should be undertaken to explore the causal relationships between coparenting behaviors and peer attachment. Second, the present study only explored the relationships between family factors, coparenting behavior and parent–adolescent attachment, and peer outcomes and ignored the role of peer behaviors. According to the linkage of the family–peer system, the characteristics of the peer system may also act as mediators between the relationship of coparenting behavior and peer outcomes. Future studies should consider the role of family and peer factors on peer outcomes comprehensively. Finally, the present study measured peer attachment not specific to an attachment figure. It failed to investigate the interaction between the gender of parents and the gender of the peer attachment figures, which is a further exploration of the same-sex or opposite-sex matching effect.

The present study has implications for practice. The results showed that positive coparenting and secure attachment relationship were related to peer outcomes. It suggested that family exerted a persisting influence on adolescent development, which may be an effective way to interfere with adolescents' peer relationship from a familial point-of-view. Moreover, paternal negative coparenting negatively predicted adolescents' peer attachment, whereas maternal positive coparenting behavior positively predicted adolescents' peer attachment. Therefore, professionals and educators are suggested to encourage mothers to enhance the positive relationship with fathers and prevent fathers from overtly pursuing conflicts and covertly disparaging mothers,

which could help family intervention programs more targeted to promote peer relationships during adolescence. Furthermore, the present study found that paternal negative coparenting behavior had a double-edged effect on the peer attachment of girls. This result suggested that fathers may play an important and special role in parenting girls.

## Conclusion

Although previous studies have examined peer outcomes in the coparenting context, only minimal knowledge has been gained on the predicting effects and mechanism of fathers and mothers' individual behaviors in coparenting process on peer outcomes. The present study examined the relationships among paternal/ maternal coparenting behaviors, father– and mother–adolescent attachment, and peer attachment. Furthermore, only minimal research has been conducted on whether these relationships differ in terms of gender. The present study used multi-group analysis to determine if the proposed relationships operated similarly for boys and girls. The findings indicated that maternal positive and paternal negative coparenting behaviors were related to peer attachment through the indirect effects of the father– and mother–adolescent attachments in the total sample. Father– and mother–adolescent attachments had a strong predicting effects on the peer attachment of offsprings with the same sex. Maternal positive coparenting behavior was related to the peer attachment of boys and girls through the indirect effects of father– and mother–adolescent attachments. Paternal negative coparenting behavior had a double-edged effect on girls' peer attachment and was not related to boys' peer attachment. This study has shown that fathers and mothers' different individual behaviors in coparenting process were differently linked to peer attachment of adolescents. That is, mothers' positive and fathers' negative coparenting behaviors predicted peer attachment. In addition, this study implies that maternal positive coparenting behavior may be more influential for boys, whereas paternal negative coparenting behavior may be more special for girls. These findings can help family intervention programs to be substantially targeted promoting peer relationships among adolescence, thereby improving their psychological adaptation and that of adults as well.

**Acknowledgements** We would like to thank the undergraduate research assistants and teachers who helped carry out this study. We are especially indebted to the adolescents and their parents whose participation made this research possible. We also thank the support of China Scholarship Council (No. 201806040056).

**Authors' Contributions** S.Z. was involved in the conceptualization, data collection, data analysis, interpretation, and writing; X.W. was

involved in the conceptualization, ethical approval, and interpretation; X.L. was involved in the conceptualization and writing. All authors read and approved the final manuscript.

**Funding** This research was supported by National Social Science Fund of China (15ZDB139).

**Data Sharing and Declaration** The dataset analyzed during the current study is not publicly available but is available from the corresponding author on reasonable request.

## Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethical Approval** All procedures performed in this study involving human participants were in accordance with the ethical standards of Beijing Normal University and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** All participants in the study provided informed consent.

**Publisher's note:** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

## References

- Allen, J. P. (2008). The attachment system in adolescence. In J. Cassidy & P. R. Shaver (Eds), *Handbook of attachment: Theory, research, and clinical applications*. 2nd edn. (pp. 419–435). New York: Guilford Press.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth Adolescence*, 16(5), 427–454.
- Andersson, M. A. (2016). The long arm of warm parenting: A sex-matching perspective on adult children's physical health. *Journal of Family Issues*, 37(7), 879–901.
- Barker, B., Iles, J. E., & Ramchandani, P. G. (2017). Fathers, fathering and child psychopathology. *Current Opinion in Psychology*, 15, 87–92.
- Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, 52(4), 664–678.
- Bretherton, I. (2010). Fathers in attachment theory and research: A review. *Early Child Development and Care*, 180(1–2), 9–23.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds), *Handbook of attachment: Theory, research, and clinical applications*. 2nd ed. (pp. 102–130). New York: The Guilford Press.
- Brown, B. B., & Bakken, J. P. (2011). Parenting and peer relationships: Reinvigorating research on family-peer linkages in adolescence. *Journal of Research on Adolescence*, 21(1), 153–165.
- Brown, G. L., Craig, A. B., & Halberstadt, A. G. (2015). Parent gender differences in emotion socialization behaviors vary by ethnicity and child gender. *Parenting*, 15(3), 135–157.
- Caldera, Y. M., & Lindsey, E. W. (2006). Coparenting, mother–infant interaction, and infant–parent attachment relationships in two–parent families. *Journal of Family Psychology*, 20(2), 275–283.
- Cassidy, J. & Shaver, P. R. (Eds) (2008). *Handbook of attachment: Theory, research, and clinical applications*. 2nd ed. New York: Guilford Press.
- Cummings, E. M., Merrilees, C. E., & George, M. W. (2010). Fathers, marriages, and families. In M. E. Lamb (Ed), *The role of the father in child development*. 4th ed. (pp. 154–176). Hoboken: John Wiley & Sons, Inc.
- Di Maggio, R., & Zappulla, C. (2014). Mothering, fathering, and Italian adolescents' problem behaviors and life satisfaction: Dimensional and typological approach. *Journal of Child and Family Studies*, 23(3), 567–580.
- Doyle, O., Pecukonis, E. V., & Lindsey, M. A. (2015). Correlates and consequences of father nurturance in an African American college sample. *Journal of Family Issues*, 36(7), 880–901.
- Endendijk, J. J., Groeneveld, M. G., Bakermans-Kranenburg, M. J., & Mesman, J. (2016). Gender-differentiated parenting revisited: Meta-analysis reveals very few differences in parental control of boys and girls. *PLoS ONE*, 11(7), e0159193.
- Feinberg, M. E. (2003). The internal structure and ecological context of coparenting: A framework for research and intervention. *Parenting: Science and Practice*, 3(2), 95–131.
- Flouri, E., & Buchanan, A. (2003). The role of mother involvement and father involvement in adolescent bullying behavior. *Journal of Interpersonal Violence*, 18(6), 634–644.
- Feinberg, M. E., Brown, L. D., & Kan, M. L. (2012). A multi-domain self-report measure of coparenting. *Parenting: Science and Practice*, 12(1), 1–21.
- Glavak-Tkalić, R., & Kukulja-Cicmanović, R. (2014). Effects of perceived parental acceptance–rejection and interpersonal power–prestige on the psychological adjustment of Croatian adolescents. *Cross-Cultural Research*, 48(3), 231–239.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Holland, A. S., & McElwain, N. L. (2013). Maternal and paternal perceptions of coparenting as a link between marital quality and the parent–toddler relationship. *Journal of Family Psychology*, 27(1), 117–126.
- Holmes, E. K., Dunn, K. C., Harper, J., Dyer, W. J., & Day, R. D. (2013). Mother knows best? Inhibitory maternal gatekeeping, psychological control, and the mother–adolescent relationship. *Journal of Adolescence*, 36(1), 91–101.
- Hu, M., Wang, M., Cai, L., Zhu, X., & Yao, S. (2012). Development of subjective socioeconomic status scale for Chinese adolescents. *Chinese Journal of Clinical Psychology*, 20(2), 155–158.
- Kopystynska, O., Paschall, K. W., Barnett, M. A., & Curran, M. A. (2017). Patterns of interparental conflict, parenting, and children's emotional insecurity: A person-centered approach. *Journal of Family Psychology*, 31(7), 922–932.
- Kliewer, W., Sosnowski, D. W., Wilkins, S., Garr, K., Booth, C., McGuire, K., & Wright, A. W. (2018). Do parent–adolescent discrepancies predict deviant peer affiliation and subsequent substance use? *Journal of Youth Adolescence*, 47(12), 2596–2607.
- Leary, A., & Katz, L. F. (2004). Coparenting, family-level processes, and peer outcomes: The moderating role of vagal tone. *Development and Psychopathology*, 16(3), 593–608.
- Li, X., & Meier, J. (2017). Father love and mother love: Contributions of parental acceptance to children's psychological adjustment. *Journal of Family Theory and Review*, 9(4), 459–490.
- Lin, Q., Wang, Z., Lu, S., Liang, X., He, Q., Wang, C., & Hu, R. (2014). Internal working models of toddlers: A bridge from maternal sensitivity to toddlers' attachment behaviors. *Acta Psychologica Sinica*, 46, 353–366.
- Liu, C., Wu, X., & Zou, S. (2017). Psychometric properties of the adolescence revision of co-parenting scale. *Chinese Journal of Clinical Psychology*, 25(5), 845–849+881.

- Martin, M. J., Sturge-Apple, M. L., Davies, P. T., Romero, C. V., & Buckholz, A. (2017). A process model of the implications of spillover from coparenting conflicts into the parent–child attachment relationship in adolescence. *Development and Psychopathology*, 29(2), 417–431.
- McDaniel, B. T., Teti, D. M., & Feinberg, M. E. (2017). Assessing coparenting relationships in daily life: The daily coparenting scale (D-Cop). *Journal of Child and Family Studies*, 26(9), 2396–2411.
- McDowell, D. J., & Parke, R. D. (2009). Parental correlates of children's peer relations: An empirical test of a tripartite model. *Developmental Psychology*, 45(1), 224–235.
- McHale, J. P. (1997). Overt and covert coparenting processes in the family. *Family Process*, 36(2), 183–201.
- McHale, J. P., Kuersten-Hogan, R., & Rao, N. (2004). Growing points for coparenting theory and research. *Journal of Adult Development*, 11(3), 221–234.
- Meijer, A. M., Reitz, E., & Deković, M. (2016). Parenting matters: A longitudinal study into parenting and adolescent sleep. *Journal of Sleep Research*, 25(5), 556–564.
- Minuchin, S. (1974). *Families and family therapy*. Oxford: Harvard University Press.
- Mota, C. P., & Matos, P. M. (2013). Peer attachment, coping, and self-esteem in institutionalized adolescents: The mediating role of social skills. *European Journal of Psychology of Education*, 28, 87–100.
- Murphy, T. P., Laible, D., & Augustine, M. (2017). The influences of parent and peer attachment on bullying. *Journal of Child and Family Studies*, 26(5), 1388–1397.
- Newland, R. P., Ciciolla, L., & Crnic, K. A. (2015). Crossover effects among parental hostility and parent–child relationships during the preschool period. *Journal of Child and Family Studies*, 24(7), 2107–2119.
- Pace, C. S., Martini, P. S., & Zavattini, G. C. (2011). The factor structure of the Inventory of Parent and Peer Attachment (IPPA): A survey of Italian adolescents. *Personality and Individual Differences*, 51, 83–88.
- Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*, 47(4), 193–219.
- Parkes, A., Green, M., & Mitchell, K. (2019). Coparenting and parenting pathways from the couple relationship to children's behavior problems. *Journal of Family Psychology*, 33(2), 215–225.
- Parke, R. D., & Ladd, G. W. (Eds.). (2016). *Family-peer relationships: Modes of linkage*. London: Routledge.
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, 16(2), 93–115.
- Ratto, N., Doyle, A. B., & Markiewicz, D. (2016). Attachment with mother and adolescents' conflict with romantic partner or close friend. *Canadian Journal of Behavioural Science*, 48(1), 68–77.
- Reid. (2011). *The effects of parental nurturance and involvement on peer relationships and psychosocial functioning of young adults* (Doctoral dissertation). <https://digitalcommons.fiu.edu/>.
- Schneider, B. H., Atkinson, L., & Tardif, C. (2001). Child-parent attachment and children's peer relations: A quantitative review. *Developmental Psychology*, 37(1), 86–100.
- Schoppe-Sullivan, S. J., Diener, M. L., Mangelsdorf, S. C., Brown, G. L., McHale, J. L., & Frosch, C. A. (2006). Attachment and sensitivity in family context: The roles of parent and infant gender. *Infant and Child Development*, 15(4), 367–385.
- Teubert, D., & Pinguart, M. (2010). The association between coparenting and child adjustment: A meta-analysis. *Parenting: Science and Practice*, 10(4), 286–307.
- Tulviste, T., & Rohner, R. P. (2010). Relationships between perceived teachers' and parental behavior and adolescent outcomes in Estonia. *Cross-Cultural Research*, 44(3), 222–238.
- van Egeren, L., & Hawkins, D. (2004). Coming to terms with coparenting: Implications of definition and measurement. *Journal of Adult Development*, 11(3), 165–178.
- van Ingen, D. J., Freiheit, S. R., Steinfeldt, J. A., Moore, L. L., Wimer, D. J., Knutt, A. D., & Roberts, A. (2015). Helicopter parenting: The effect of an overbearing caregiving style on peer attachment and self-efficacy. *Journal of College Counseling*, 18(1), 7–20.
- Wang, J., & Wang, X. (2012). *Structural equation modeling: Applications using Mplus*. Beijing: Higher Education Press.
- Ward, M. A., Clayton, K., Barnes, J., & Theule, J. (2018). The association between peer victimization and attachment security: A meta-analysis. *Canadian Journal of School Psychology*, 33(3), 193–211.
- Zemp, M., Johnson, M. D., & Bodenmann, G. (2018). Within-family processes: Interparental and coparenting conflict and child adjustment. *Journal of Family Psychology*, 32(3), 299–309.
- Zhong, X., Liu, J., & Chen, X. (2014). Adolescent peer attachment: A developmental perspective. *Advances in Psychological Science*, 22(7), 1149–1158.
- Zou, S., Wu, X., Huang, B., & Liu, C. (2019). Maternal gatekeeping behavior, mother involvement and mother–adolescent attachment, and differences in their developmental stages. *Acta Psychologica Sinica*, 51(7), 816–828.

**Shengqi Zou** is a doctoral student in the Faculty of Psychology at Beijing Normal University. His research concerns father involvement and parent's coparenting, and how these factors influence psychological adjustment of adolescent.

**Xinchun Wu** is a developmental and educational psychologist and a Professor of Psychology at Beijing Normal University. His research expertise includes parental coparenting, posttraumatic stress disorders and posttraumatic growth, and reading development of children.

**Xiaowei Li** is a developmental psychologist and an Associate Professor of Psychology at Beijing Normal University. Her research expertise includes child development and family education for preschool children.