

# Bidirectional Relationships Between Preschoolers' Effortful Control and Maternal and Paternal Discipline Styles in a Short-Term Longitudinal Study

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The relationships between preschoolers' effortful control and parental discipline styles were examined in a three-wave (one year apart) longitudinal study when preschoolers were at about 3 years olds (T1  $n = 266$ ; T2,  $n = 219$ ; T3,  $n = 163$ ). These preschoolers were assessed by his/her mothers (T1,  $n = 245$ ; T2,  $n = 200$ ; T3,  $n = 144$ ) and father (T1,  $n = 163$ ; T2,  $n = 130$ ; T3  $n = 97$ ) on the scales of effortful control from Children's Behavior Questionnaire and these parents also reported his/her authoritative and authoritarian disciplines via Parenting Styles and Dimensions Questionnaire at these three waves. The bidirectional relationships between preschoolers' effortful control and mothers' and fathers' discipline styles were analyzed in the framework of cross-lagged panel model. Six models were set and analyzed in structural equation model. Results shows that autoregressive consistencies of preschoolers' effortful control and parent's authoritative and authoritarian disciplines were high. The impacts of maternal disciplines on preschoolers' effortful control were different from paternal disciplines. Maternal authoritative style at first year had a positive impact on preschoolers' effortful control at second year and preschoolers' effortful control at first year also had a positive impact on maternal authoritative style at second year. The same influence patterns also appeared from second to third year. Maternal authoritarian discipline at the first year had a negative impact on the preschoolers' effortful control at second year, then preschoolers' effortful control at the second year had a negative impact on mother's authoritarian discipline at the third year. On the other hand, paternal authoritative styles at the first year had substantive impact on preschoolers' effortful control, but not vice versa. Then preschoolers' effortful control at second year had an impact on paternal disciplines at third year, but not vice versa. Paternal authoritarian styles at the first and second year had negative but nonsignificant impact on preschoolers' effortful control at second and third year, but not vice versa. The results were discussed from the perspective of Chinese culture and family context.

**Keywords:** *authoritarian discipline, authoritative discipline, effortful control, maternal style, paternal styles*

## Extended Abstract

Effortful control, proposed by Mary Rothbart, has a positive impact on many aspects of social development during childhood (Rothbart & Bates, 2006). Its development is influenced by brain maturation as well as socialization. Children become regulated internally by themselves to show socially acceptable behavioral and emotional responses in socialization processes.

Parents' discipline, especially in controlling rather than supportive styles, is associated with children's effortful control (Karreman et al., 2006, 2008). At the same time, children's effortful control can influence maternal discipline (Eisenberger et al., 2010; Klein et al., 2018; Tiberio et al., 2016). However, few studies have investigated the reciprocal relationships between

children's effortful control and different styles of maternal and paternal parenting (Karreman et al., 2008).

### Current Research

This study examined the effects of mothers' and fathers' two parenting styles (authoritative and authoritarian) on the development of preschoolers' effortful control, and vice versa, over 3 years. Cross-lagged panel structural equation modeling was used to examine the six possible models for the relationships between parenting styles and preschoolers' effortful control.

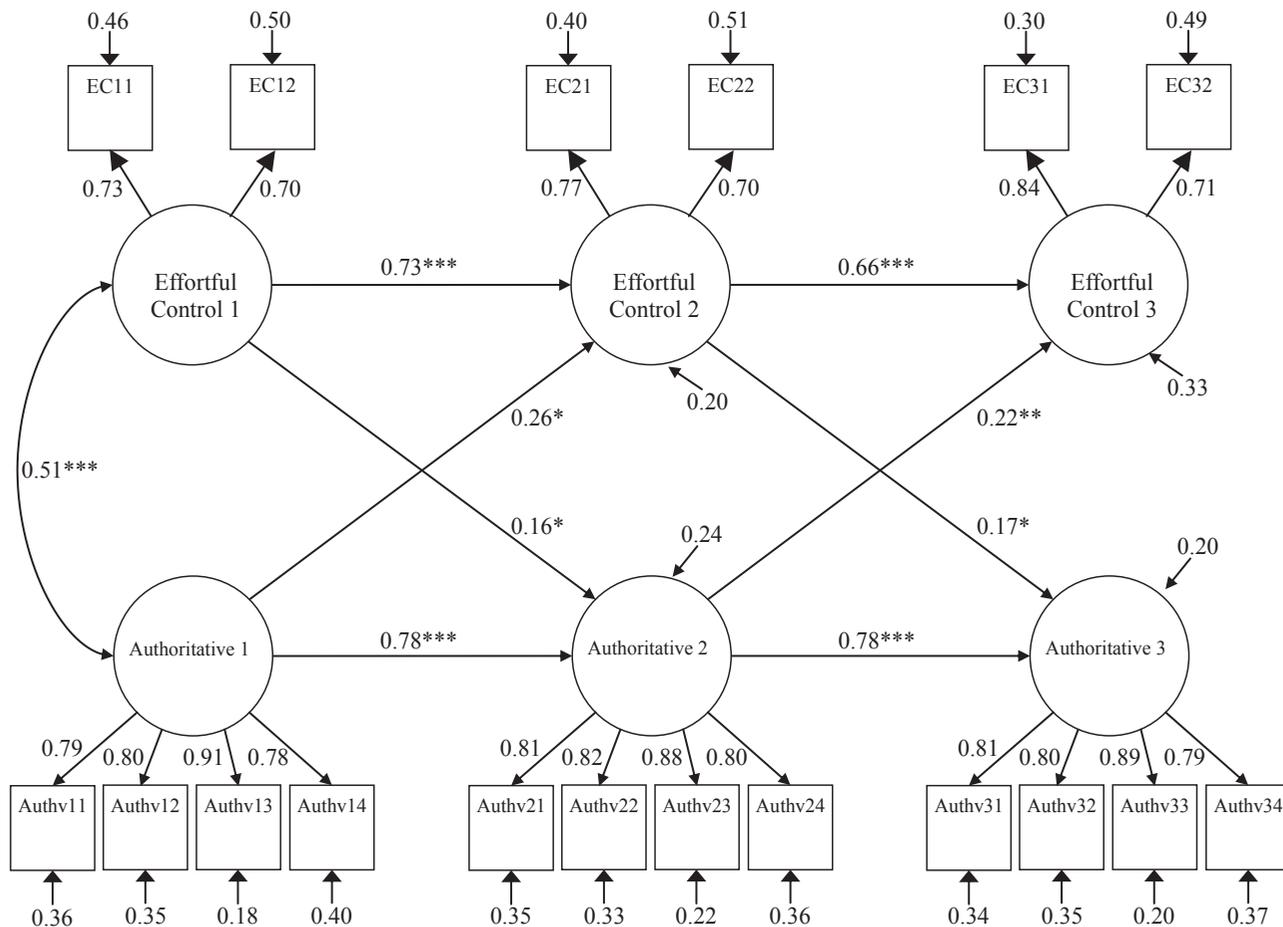
### Method

#### Participants and Procedure

The relationships between preschoolers' effortful control and parental discipline styles were examined in a three-wave longitudinal study with 1-year intervals between the waves. Starting from when the target preschoolers were about 3 years old (T1,  $n = 266$ ; T2,  $n = 219$ ; T3,  $n = 163$ ), these preschoolers were assessed by their mothers (T1,  $n = 245$ ; T2,  $n = 200$ ; T3,  $n = 144$ ; mean age = 35.54 years,  $SD = 4.14$ , range = 24 to 47 at T1) and fathers (T1,  $n = 163$ ; T2,  $n = 130$ ; T3,  $n = 97$ ; mean age = 38.93 years,  $SD = 4.98$ , range = 28

Figure 1

Bidirectional influence between maternal authoritative parenting and preschoolers' effortful control



Note : \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . EC: Effortful Control, Authv: Authoritative

to 56 at T1) using the effortful control subscales from the Children's Behavior Questionnaire. These parents also reported their own authoritative and authoritarian discipline styles via the Parenting Styles and Dimensions Questionnaire in each wave. The bidirectional relationships between the preschoolers' effortful control and the mothers' and fathers' discipline styles were analyzed using a cross-lagged panel structural equation model. Six models were set and analyzed.

## Measures

**Preschoolers' effortful control.** The Children's Behavior Questionnaire–Chinese Version (CBQ-C; Putnam & Rothbart, 2006; translated by Lay, Hsu, & Chen, 2008) contains 15 scales that have been found to cluster the three broad factors of surgency, negative affect, and effortful control. The two scales of effortful control were used in this study: attentional focusing and inhibitory control. The fathers' and mothers' ratings had good levels of internal consistency in this study (Cronbach's  $\alpha = .66$  to  $.77$ ).

**Parental discipline styles.** The Parental Styles and Dimensions Questionnaire (PSDQ; Robinson, Mandleco, Olsen, & Hart, 2001) contains 62 Likert-type items that measure three discipline styles: authoritative (comprising the subscales of warmth and involvement, acceptance and induction, democratic participation, and good-naturedness and easygoingness), authoritarian (comprising the subscales of verbal hostility, corporal punishment, nonreasoning and punitive strategies, and directiveness), and permissive (comprising the subscales of lack of follow through, ignoring misbehavior, and self-confidence). Only the authoritative and authoritarian typologies were used in this study. The internal consistency coefficients were  $.94$  for authoritative style and  $.83$  for authoritarian style in this study.

## Results

### Correlation Analysis for Effortful Control and Parenting Styles

The correlation coefficients between attentional

focusing and inhibitory control were high ( $r = .24$  to  $.69$  for the fathers' ratings and  $r = .39$  to  $.71$  for the mothers' ratings across the 3 years). The subscales of authoritative style were highly correlated with each other ( $r = .61$  to  $.75$  for the fathers' ratings and  $r = .52$  to  $.72$  for the mothers' ratings across the 3 years). Except for the subscale of directiveness, the subscales of authoritarian style also were highly correlated with each other ( $r = .30$  to  $.68$  for the fathers' ratings and  $r = .21$  to  $.65$  for the mothers' ratings across the 3 years).

### Model estimation using structural equation modeling

Model estimation was conducted using the maximum likelihood estimation method with LISREL 8.80. Multiple indices, namely the chi-square test statistic, root mean square error of approximation (RMSEA), standard root mean square residual (SRMR), and comparative fit index (CFI), were used to assess the fitness of each model. Values of CFI greater than  $.9$  (Hu & Bentler, 1999), RMSEA less than  $.05$  (Browne & Cudeck, 1993), and SRMR less than  $.08$  (Hu & Bentler, 1999) indicate a good fit.

### Cross-lagged panel model

Structural equation modeling was used with the cross-lagged panel model to examine the mutual influences between parenting styles and effortful control during the 3 years of the study.

The following six models were specified for each of the mothers' and fathers' ratings.

Model 1: (basic model): Only autoregressive coefficients were specified.

Model 2: Only effortful control had effects on the parenting styles, but not vice versa.

Model 3: Only parenting styles had effects on effortful control, but not vice versa.

Model 4: Bidirectional influence was present between parenting styles and effortful control, with the influence starting from parenting styles.

Model 5: Bidirectional influence was present between parenting styles and effortful control, with the influence starting from effortful control.

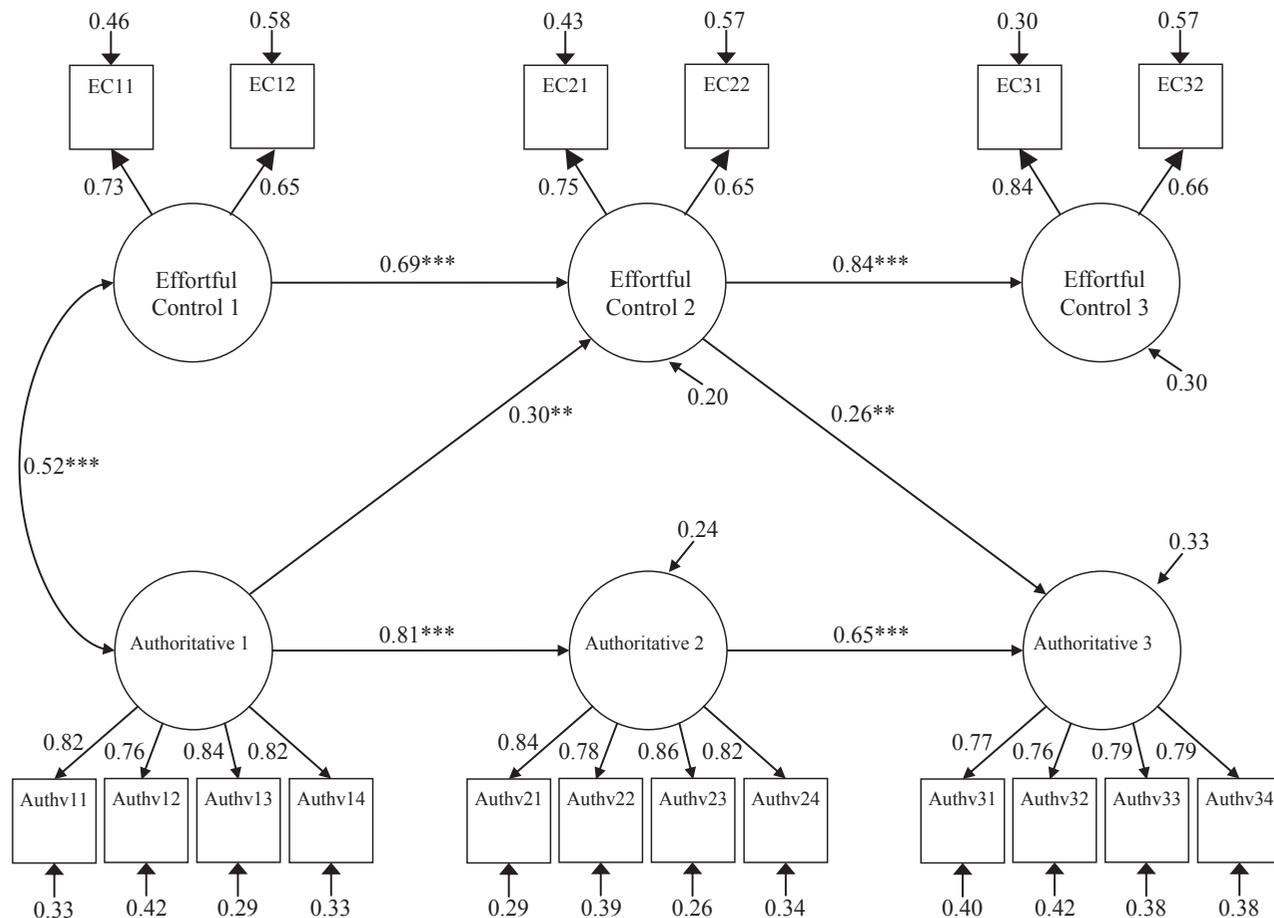
Model 6: Bidirectional influence was present between parenting styles and effortful control.

The results showed that the autoregressive consistencies of effortful control and the two styles of parental discipline were high. However, the impacts of paternal discipline on preschoolers' effortful control were different from those of maternal discipline. As shown in Figure 1, the mothers' authoritative discipline and the

preschoolers' effortful control had a positive impact on each other across the 3 years (bidirectional influence). The fathers' authoritative discipline in the first year had a positive impact on the preschoolers' effortful control, but not vice versa. The preschoolers' effortful control in the second year then had a positive impact on paternal discipline in the third year (see Figure 2). The mothers' authoritarian discipline in the first year had a negative impact on the preschoolers' effortful control in the second year, and then the preschoolers' effortful control in the second year had a negative impact on the mothers' authoritarian discipline in the third year (see Figure 3). Finally, the fathers' authoritarian style had no significant

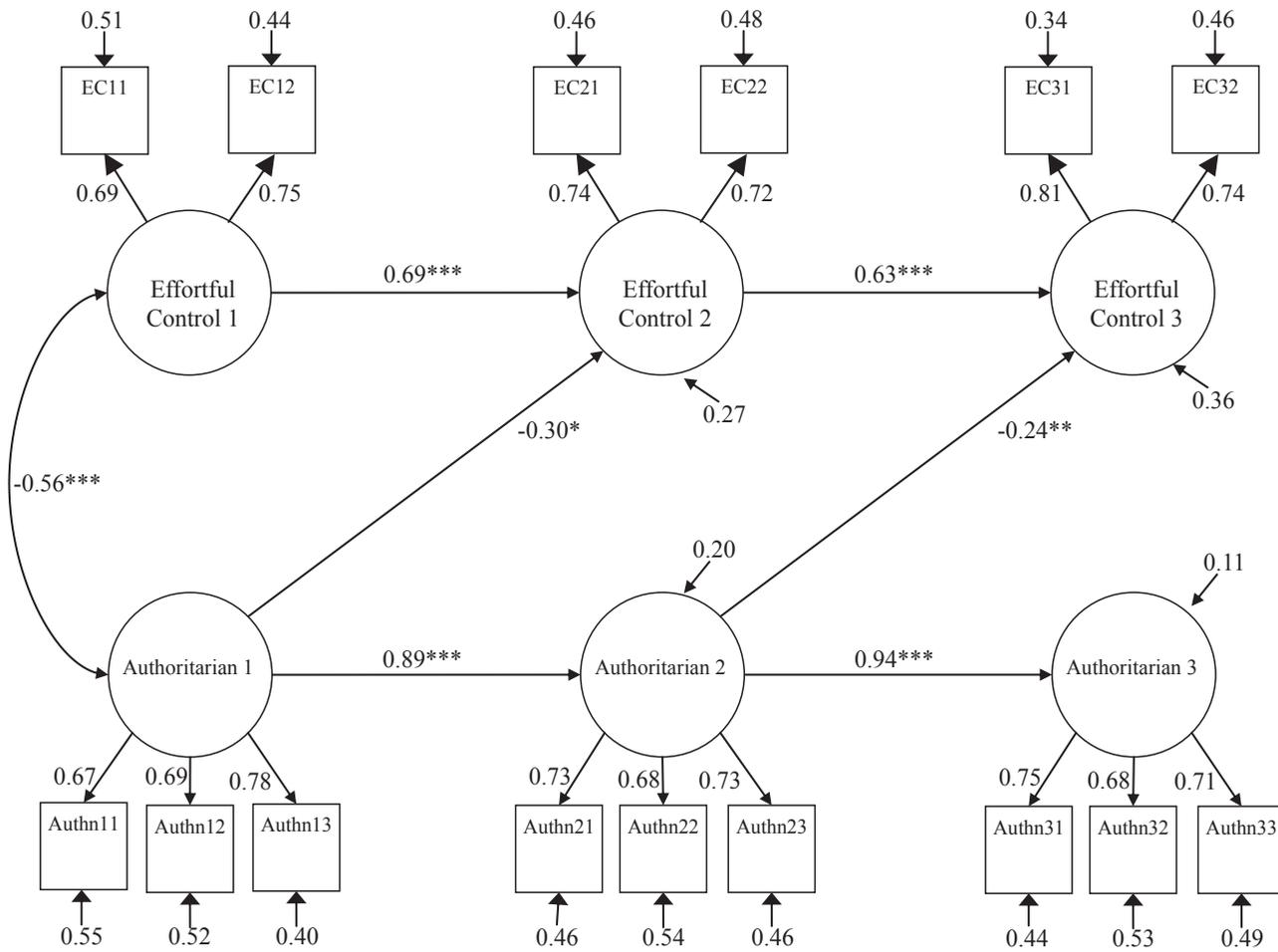
**Figure 2**

*Bidirectional influence between parenting styles and Effortful Control with the influence starting from paternal authoritative style*



Note : \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . EC: Effortful Control, Authv: Authoritative

**Figure 3**  
One-way direction effect from maternal authoritarian styles on Effortful Control



Note : \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . EC: Effortful Control, Authn: Authoritarian.

impact on the preschoolers' effortful control, and vice versa.

### Conclusion

The preschoolers' effortful control and their parents' discipline were highly stable across the 3 years of the study. Although authoritative discipline had positive effects on the preschoolers' effortful control, the effects of the mothers' authoritative discipline were different from those of the fathers'. The mothers' authoritative parenting style and the preschoolers' effortful control had a mutual

influence, whereas the fathers were not influenced by the preschoolers' effortful control. Only the fathers' authoritative parenting style had positive effects on the preschoolers' effortful control.

As fathers increasingly become involved in parenting and childcare, they may exert positive influences on their children's social and emotional development (Leidy, Schofield, & Parke, 2013). While we similarly found the fathers to have a positive role in their children's development, the differences between the roles of fathers and mothers in their children's social and emotional development remain to be explored in future research.