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**A longitudinal study of the role of children's altruism and forgiveness in the relation  
between parental aggressive discipline and anxiety of preschoolers in China**

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**Abstract**

Using data collected over a 1-year period on a stratified random sample of 368 parents with children studying in nurseries (mean age = 3.97 years), this study assessed the predictive effects of parental corporal punishment, parental psychological aggression, preschoolers' altruism, and preschoolers' forgiveness on preschoolers' anxiety symptoms in Hong Kong, China. Results of hierarchical regression analyses showed that parental psychological aggression, preschoolers' altruism and preschoolers' forgiveness at Time 1 significantly predicted preschoolers' anxiety at Time 2, when controlling for the initial level of preschoolers' anxiety and important demographic variables that co-vary with preschoolers' anxiety. Moreover, preschoolers' altruism moderated the predictive effect of parental psychological aggression on preschoolers' anxiety symptoms. The study has several significant contributions. First, the study supports the predictive effect of parental aggressive discipline on preschoolers' anxiety. Second, we provide evidence that preschoolers' altruism and forgiveness negatively predict preschoolers' anxiety symptoms. Third, preschoolers'

altruism and forgiveness are shown to protect them against parental psychological aggression. A dual-focus approach to intervention and prevention is proposed to reduce aggressive discipline by parents as well as to enhance altruism and forgiveness in children. Parent training programs could be provided to teach parents positive discipline strategies. Home-based or school-based interventions could be designed for preschool children to foster and enhance their altruism and forgiveness.

**Keywords:** Anxiety; Psychological aggression; Corporal punishment; Altruism; Forgiveness; Aggressive discipline; Chinese preschoolers; Positive psychology

## **1. Introduction**

Discipline is a key characteristic of parental control (Straus & Fauchier, 2007). Two types of aggressive discipline- corporal punishment and psychological aggression- have attracted recent research attention. Corporal punishment is defined as “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child’s behavior” (Straus, 1994, p.4). Spanking is one common example of corporal punishment. Psychological aggression is characterized by parents’ use of emotional manipulation, harsh criticism, guilt induction, love withdrawal, harsh criticism and negative labeling towards their children (Straus & Fauchier, 2007).

Corporal punishment and psychological aggression should be of international concern.

Despite diverse cultural backgrounds, parents’ use of aggressive discipline were found to be consistently associated with child-adjustment problems (Lansford, 2010). Previous studies have found that parental aggressive discipline is significantly associated with preschoolers’ behavior problems. The present study sought to examine whether parental aggressive discipline would predict internalizing problems of anxiety in preschoolers. Conducted in the Chinese context, this study would contribute to the body of research on the links between parental aggressive discipline and preschoolers’ adjustment in different cultures.

Another novel aspect of the present study was to examine the moderating effects of preschoolers’ altruism and forgiveness. Based on the framework of positive psychology (Seligman & Csikszentmihalyi, 2000), this study posited that two character strengths (i.e. altruism and forgiveness) within preschoolers would buffer against the negative impact of parental aggressive discipline.

### 1.1. Parental aggressive discipline and preschoolers' anxiety symptoms

Accumulating evidence indicates that aggressive discipline generally peaks in the preschool years across different countries. In the United States, more than 90% of the parents used one or more forms of corporal punishment (Straus & Stewart, 1999) and psychological aggression (Straus & Field, 2003) towards their children aged 2–5 during the previous 12 months.

Another study of 24 developing countries (China was not included) reported that an average of 63% of the parents used physical violence and an average of 66% of the parents used psychological aggression with their 2-to-4-year old child in the month preceding the study (Lansford & Deater-Deckard, 2012). In Mainland China, a study showed that around 70% of parents reported the use of corporal punishment and 90% of parents reported the use of psychological aggression towards their 3–6-years-old children (Wang & Liu, 2014). The above literature shows that aggressive discipline on preschool children is prevalent in both developing and industrialized countries. Hence, the impact of corporal punishment and psychological aggression on children should be of concern for both developing and industrialized countries.

A limited number of Western studies generally report a positive association between aggressive discipline and externalizing problems among preschoolers. Two longitudinal studies have shown that parental corporal punishment may predict preschoolers' behavioral problems. Mulvaney & Mebert (2007) reported that parental corporal punishment uniquely contributed to negative behavioral adjustment in children at both 36 months and first grade; the sample consisting of 705 male and 659 female children and their mothers in the United States of America. McLoyd & Smith (2002) using data collected over a 4-year period found that spankings predicted an increase in the level of problem behavior for African American, European American, and Hispanic children aged 4–5-years-old. Two cross-sectional studies

have shown that parental psychological aggression was significantly associated with preschoolers' aggressive behavior. Nelson, Yang, Coyne, Olsen, and Hart (2013) studied a sample of 207 Russian preschoolers and their parents and found that parents' psychological control was significantly associated with child's relational and physically aggressive behavior. Similarly, Casas et al. (2006) revealed significant associations between parents' psychological control and children's use of both relational and physical aggression based on a sample of preschoolers in two large Midwestern cities of the United States.

Notably, the above-mentioned studies examining the effects of parental psychological and physical aggression on preschoolers' externalizing problems; little is known about the impact of parental aggressive discipline on preschooler's internalizing problems such as anxiety. The link between aggressive discipline and anxiety, however, has been reported for previous Western research with children and adolescents. For instance, using a sample of 1196 children aged 7–10 years old from eight countries, Lansford et al. (2014) found that parental corporal punishment was related to increases in children's anxiety over time. Miller-Perrin, Perrin, and Kocur (2009) reported that childhood experiences of psychological aggression were significantly associated with college students' anxiety. There is a need for more empirical attention to the linkage between parental aggressive discipline and preschoolers' anxiety.

To the best of our knowledge, in Chinese societies no study was conducted to examine the impact of parental aggressive discipline on preschoolers. Yet some Chinese studies suggested that parents' aggressive discipline have negative impacts on children or adolescents. Chinese adolescents (aged 12–16 years old) who had been corporally punished were more likely to report health problems and low self-esteem (Wong et al., 2009). Chinese children with

psychologically aggressive parents showed less optimal developmental outcomes than those of supportive or easygoing parents (Kim, Wang, Orozco-Lapray, Shen, & Murtuza, 2013). Another study with 1971 father–mother dyads with 945 elementary school students aged 7–12 years old and 1026 middle school students aged 13–17 years old found that parental psychological aggression and maternal corporal punishment were both significantly predictive of children’s anxiety (Wang, Wang, & Liu, 2016). Chinese culture values a hierarchical parent-child relationship, and children’s compliance and obedience to their parents. Strict and firm discipline particularly via punishment was commonly used by Chinese parents, as reflected by the saying of “da shi qing ma shi ai, bu da bu ma bu cheng cai” (hitting and scolding are the emblem of love, and sparing the rod will spoil the child) (Kwok, Chai, & He, 2013; Kwok, Yeung, Low, Lo, & Tam, 2015). Given that the use of aggressive discipline is considered normative in Chinese societies, the present study expects to find a significant predictive effect of parental corporal punishment on preschoolers’ anxiety.

An issue with research on parenting behaviors is to determine the direction of parent-to-child effect. While some studies assume that parenting behaviors impact child’s development, it is possible that child characteristics play an important role in evoking different kinds of parenting behaviors (Lengua & Kovacs, 2005). Distinguishing the direction of effects between physical discipline and child outcomes is imperative. An effective way to deal with this issue is to employ developmental designs in which the outcome behavior of interest is statistically controlled at the initial time point (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Hence, the present study would collect data at two time points and statistically control the initial level of the outcome variable (i.e. preschoolers’ anxiety). This

design would provide evidence about the predictive effects of parental aggressive discipline on preschoolers' anxiety (Collins et al., 2000).

## 1.2. The moderating effects of preschoolers' altruism and forgiveness

Positive psychology is the science of positive subjective experiences, positive individual traits, positive relationships and positive groups and institutions. Character strengths are one of the pillars of positive psychology and are central to understanding the psychology of good life (Seligman & Csikszentmihalyi, 2000). Character refers to those aspects of personality that are morally valued. Good character is at the core of positive child development (Park & Peterson, 2006). Growing evidence shows that character strengths can buffer negative effects of stress and trauma (Park & Peterson, 2009).

Altruism and forgiveness are two character strengths possessed by preschoolers (Seligman, 2004). Altruism is defined as "a set of selflessly motivated personal tendencies aimed at benefiting others" (Carlo, PytlikZillig, Roesch, & Dienstbier, 2009, p. 272). At the age of two-to-three, children experience a vast number of altruistic feelings and show a great variety of altruistic behaviors, such as showing empathy for others, trying to comfort others in distress, giving gifts or sharing toys with others to make them happy, keeping company to a sick family member and cooperating with others to do something (Kakavoulis, 1998).

Forgivingness is a tendency to forgive hurts and offenses across situations (Thompson et al., 2005). Forgivers do not forget the hurts and offenses and certainly take measures to protect themselves, yet they choose to abandon their rights to resentment and instead respond with compassion and mercy instead of retaliation (North, 1987). Understanding of the concept of forgiveness occurs at a young age (Denham, Neal, Wilson, Pickering, & Boyatzis, 2005).

Preschoolers can make judgments on forgiving based on the offenders' intentions, motives,



and consequences; preschoolers also experience complex emotions related to forgiveness decision, such as guilt, shame, and empathy (Darby & Schlenker, 1982).

The effect of altruism and forgiveness on preschoolers' anxiety is rarely examined. Regarding previous research on the link between altruism and anxiety for children and adolescents, inconsistent findings have yielded. Schwartz, Meisenhelder, Ma, and Reed (2003) reported a significant and negative relationship between altruistic behavior and anxiety, yet other studies failed to show a significant association between altruism and anxiety (Fujiwara, 2007; Hay & Pawlby, 2003). Forgiveness in children and adolescents, on the other hand, has been consistently found to predict lower anxiety and higher satisfaction with life (Subkoviak et al., 1995; Thompson et al., 2005). Hence, further research is called for to examine the link between altruism, forgiveness, and anxiety for preschoolers.

So far no research was conducted to explore the moderating effects of preschoolers' altruism and forgiveness. Yet it is found that altruism and forgiveness buffer against the impact of adversities on psychopathology for older age groups. Greenfield & Marks (2004) reported that altruistic behaviors moderated the relation between role-identity absence and loss of purpose in life. Altruism was also found to moderate the association between functional decline in midlife and increasing depressive symptoms (Greenfield, 2009). Similarly, forgiveness is found to moderate the association between peer victimization and suicidal ideation in secondary school students (Liu, Lu, Zhou, & Su, 2013); forgiveness also moderated the link between fathers' previous maltreatment experience and relationship with their own children (Lee & Enright, 2009). Hence, the moderating roles of preschoolers' altruism and forgiveness in the relationship between parental aggressive discipline and preschoolers' anxiety are worthy of further study.

The present study examined the direct and moderating effect of preschoolers' altruism and forgiveness in the Chinese context. Altruism and forgiveness are important components of moral education in a collective society of China. The Chinese moral education starts early in preschool children and is embedded in multiple contexts of everyday life (Fung, 1999). Chinese children are taught to suppress individual concerns and grievances, cooperate with others and contribute to the greater benefits of the group (Triandis, 1995). Altruism and forgiveness are emphasized as they help maintain harmonious relationships within the group (Markus & Kitayama, 1991). A cross-cultural study compared preschoolers' altruistic behavior as indicated by spontaneous sharing of their preferred food with other children. The results showed that Chinese children showed more spontaneous sharing than American children (Rao & Stewart, 1999). A similar research showed that Chinese children manifested more altruistic and relationship concerns than Icelandic children (Keller, Edelstein, Krettenauer, Fang, & Fang, 2005). Research on forgiveness in Chinese context has provided preliminary evidence that forgiveness is significantly associated with low depression in children (Hui & Chau, 2009) and high life satisfaction in adults (Chan, 2013). Yet there is no investigation on the link between altruism and psychological well-being. Moreover, there is a dearth of research investigating the effect of altruism and forgiveness on anxiety for preschoolers. The present study is expected to add to a growing body of literature exploring how altruism and forgiveness affects Chinese preschoolers' well-being.

## **2. The present study**

The present study tested whether parental aggressive discipline and preschoolers' altruism and forgiveness predict preschoolers' anxiety symptoms. Previous studies have found that parental aggressive discipline is significantly associated with preschoolers' behavior problems. The present study sought to examine whether parental aggressive discipline can

predict anxiety symptoms in preschoolers. Furthermore, based on the framework of positive psychology (Seligman & Csikszentmihalyi, 2000), we posited that two character strengths (i.e. altruism and forgiveness) within preschoolers would buffer against the negative impact of parental aggressive discipline. Eight hypotheses are thus formulated.

Hypothesis 1. Higher parental corporal punishment predicted higher anxiety symptoms in preschoolers.

Hypothesis 2. Higher parental psychological aggression predicted higher anxiety symptoms in preschoolers.

Hypothesis 3. Higher altruism predicted lower anxiety symptoms in preschoolers.

Hypothesis 4. Higher forgiveness predicted lower anxiety symptoms in preschoolers.

Hypothesis 5. Altruism moderated the effect of parental corporal punishment on anxiety symptoms in preschoolers.

Hypothesis 6. Forgiveness moderated the effect of parental corporal punishment on anxiety symptoms in preschoolers.

Hypothesis 7. Altruism moderated the effect of parental psychological aggression on anxiety symptoms in preschoolers.

Hypothesis 8. Forgiveness moderated the effect of parental psychological aggression on anxiety symptoms in preschoolers.

### **3. Methods**

#### **3.1. Procedure and participants**

Stratified random sampling was adopted in this study in Hong Kong, a Special Administrative Region of China. A total of 1000 nurseries were located in the four geographically divided regions of Hong Kong: 197 in Hong Kong Island, 305 in Kowloon, 221 in New Territories East, and 277 in New Territories West. We randomly two nurseries in each of the four regions and got the consent of the principals to participate in the study. Parents whose children were studying in the eight nurseries were invited to join the study. The purposes of the survey and confidentiality issues were explained to the parents in the cover letter of the questionnaire. Parents' written consent was obtained. They were assured that their participation was voluntary, anonymous and would not affect the services their children receive at the nurseries. To reduce the self-report bias caused by the threat of disclosure (Tourangeau & Yan, 2007), parents were advised to answer the questionnaire independently, and return it in a sealed envelope to the research assistant. The research had been approved by the Research Ethics Review Committee of the affiliated university.

Parents filled out the same questionnaires in January and December 2014, respectively. The two sessions are referred to as Time 1 and Time 2. Four-hundred and sixty questionnaires were collected in Time 1 and 450 in Time 2. After discarding questionnaires with no matches and no answers (total missing), 368 valid questionnaires remained. Among the 368 participating parents, 19.6% were fathers whereas 80.4% were mothers. The mean age of the parents was 35.8 years old ( $SD = 7.35$ ). Of the participants, 44.3% were full-time employed, whereas 55.7% were part-time employed or unemployed. Seventy-two percent of the parents had a secondary education or below whereas 28.0% were college graduates. Eighty-eight percent of the parents were married or cohabited whereas 12% were single parents. Among

the children of the 368 participating parents, half were males and half were females. Their mean age was 3.97 years old ( $SD = 0.70$ ) (Table 1).

**Table 1**  
Demographic characteristics of the participants ( $n = 368$ ).

	Frequency	Percentage	Mean	SD
Gender				
Female	296	80.4%	N.A.	N.A.
Male	72	19.6%		
Age				
29 or below	50	13.6%	35.84	7.35
30–39	218	59.2%		
40 or above	100	27.2%		
Employment status				
Full-time employed	162	39.4%	N.A.	N.A.
Part-time employed	69	18.1%		
Unemployed	150	42.5%		
Education Level				
Secondary school or below	265	72%	N.A.	N.A.
College or above	103	28%		
Marital Status				
Married	324	88%	N.A.	N.A.
Single, divorced or bereaved	44	12%		
Gender of the child studying in the nurseries				
Female	184	50%	N.A.	N.A.
Male	184	50%		
Age of the child studying in the nurseries				
3–4	289	78.5%	3.97	0.70
5–6	79	21.5%		

### 3.2. Measures

3.2.1. Corporal punishment and psychological aggression. Corporal punishment and psychological aggression were measured by two respective subscales from the Dimensions of Discipline Inventory (DDI) (Straus & Fauchier, 2007). The subscale of corporal punishment consists of four items. An example item is “how often did you shake or grab this child to get their attention”. The subscale of psychological aggression consists of four items. An example item is “how often did you shout or yell at this child”. Participants rate the frequency of corporal punishment and psychological aggression by the following answer categories: 0 = never, 1 = 1–2 times in that year, 2 = 3–5 times in that year, 3 = 6–9 times in that year, 4 = monthly (10–14 times in that year), 5 = a few times a month (2–3 times a month), 6 = weekly (1–2 times a week), 7 = several times a week (3–4 times), 8 = daily (5 or more times a week), and 9 = two or more times a day. For correlation and regression analysis, we used the above values from 0 to 9 as an ordinal scale to minimize skew in the distributions (Fauchier &

Straus, 2010). The values were summed, with higher values indicating higher frequency of parental corporal punishment or psychological aggression. To calculate the prevalence in the previous year, raw item scores were recorded (0 = 0, Not used in past year, 1 through 9 = 1, Used in past year) (Straus & Fauchier, 2007). The two subscales of DDI had moderate reliability (Straus & Fauchier, 2007) and correlated with multiple measures of child well-being (Fauchier & Straus, 2010). The Chinese version of DDI has been validated (Feng, Tsai, Chen, & Wu, 2010) and was used in this study. For the current sample, Cronbach's alpha of the corporal punishment scale was 0.71 and the psychological aggression subscale was 0.76.

3.2.2. Altruism. Altruism in preschoolers was measured by the parental report of Altruistic Behavior for Children (ABC) (Solomon, Battistich, Watson, Schaps, & Lewis, 2000). The 10-item ABC, derived from the Self-Report Altruism Scale (SRA) (Rushton, Chrisjohn, & Fekken, 1981), is shorter than SRA and contains questions appropriate for assessing altruism in children. An example item is "I helped someone who was hurt". The frequency of children's altruistic behavior was rated by a 7-point Likert scale, from 1 (never) to 7 (all of the time). The scores were averaged, with higher scores indicating a higher degree of child altruism. The ABC was transformed from children's self-report to parental report by adjusting some wordings. For example, the item "I helped someone who was hurt" was turned to be "my child helped someone who was hurt". The first author of the current study has translated ABC into Chinese and demonstrated evidence for Chinese ABC's high reliability and validity (Kwok, 2014). The Chinese ABC reported a Cronbach's alpha of 0.88 for the current sample.

3.2.3. Forgiveness. Parental report of child forgiveness was measured by the 6-item subscale forgiveness of others from the Heartland Forgiveness Scale (Thompson et al., 2005). Some

wordings of the original scale were adjusted such that it will become appropriate for use with parents. For example, the item, “when someone disappoints me, I can eventually move past it” became “when someone disappoints my child, he or she can eventually move past it.” Parents used a seven-point scale (1 = almost always false, 7 = almost always true) to indicate how their child typically responded to transgressions. The scores were averaged, with higher scores indicating a higher level of child forgiveness. The original version manifested high internal consistency ( $\alpha = 0.78\text{--}0.81$ ). The Chinese version of the scale reported moderate internal consistency ( $\alpha = 0.84$ ) and was correlated with subjective well-being (Chan, 2013). The Chinese version of forgiveness of others subscale reported a Cronbach’s alpha of 0.70 for the current sample.

3.2.4. Anxiety symptoms. Parental report of child anxiety symptoms was assessed by the 7-item anxiety subscale of the Chinese version of the Hospital Anxiety and Depression Scale (HADS) (Leung, Ho, Kan, Hung, & Chen, 1993). The HADS anxiety subscale was designed to measure the presence and the severity of anxious states. Each item is rated on a four-point scale ranging from 0 (absence of symptoms) to 3 (severe symptoms). The sum of the scores of the seven items was obtained. The higher score indicates a higher level of anxiety. The high consistency of the anxiety subscale has been found with various Western samples ( $\alpha = 0.68\text{--}0.93$ ) (Bjelland, Dahl, Haug, & Neckelmann, 2002). The Chinese HADS anxiety subscale shows significant correlations with observer ratings and self-assessment questionnaires for anxiety (Leung et al., 1993; Herrmann, 1997). The cutoff point for probable anxiety cases was 11 or above (Bjelland et al., 2002). The Cronbach’s alpha of the scale in this study was 0.70.

3.2.5. Control variables. Controls were introduced for preschoolers' gender, preschoolers' age, and parents' education level, which are believed to co-vary with preschoolers' anxiety. Previous research has suggested girls exhibited higher levels of anxiety symptoms than boys and younger children displayed substantially higher anxiety symptoms than older children (Gadow, Sprafkin, & Nolan, 2001; Muris, Schmidt, & Merckelbach, 2000). Gadow et al. (2001) showed that family socioeconomic status (SES) was correlated with ratings of psychopathology in preschoolers. In this study, parents' education level and employment status were used as proxy measures for SES (Vyas & Kumaranayake, 2006).

### 3.3. Data analyses

The means, standard deviations and Cronbach's alpha values of the variables were computed. Pearson's correlation analyses were conducted to examine the relationships among all test variables. Multicollinearity check using the variation inflation factor was completed before further analyses were conducted. To isolate the unique and directional influence of parental aggressive discipline and preschoolers' character strengths on preschoolers' anxiety symptoms, a hierarchical regression was performed, with preschoolers' anxiety at Time 2 as the dependent variable. The first step of the prediction equation is to control for the Time 1 level of preschoolers' anxiety. This step allowed stronger claims about the direction of parent-to-child effects. In the second step, demographic variables that are speculated to co-vary with preschoolers' anxiety (i.e. child age, child gender, and family's socio-economic status) were entered. In the third step, parental corporal punishment, parental psychological aggression, preschoolers' altruism and preschoolers' forgiveness at Time 1 were entered. Finally in the fourth step, the two-way interactions of aggressive discipline and preschoolers' character strengths at Time 1 were entered, which assessed the moderating roles of preschoolers' altruism and forgiveness. Due to the temporal precedence of parental aggressive discipline



and preschoolers' character strengths in these analyses their unique contributions to the prediction of the subsequently measured preschoolers' anxiety would strengthen the argument for the directional influence. All analyses were performed using SPSS version 23.0.

#### **4. Results**

##### **4.1. Preliminary analyses**

In both Time 1 and Time 2, about 16% of the children had parent-reported anxiety levels above the normal cutoff score (11) of the anxiety subscale of the HADS. The percentage of children affected by anxiety symptoms was slightly higher in boys (16.2% at Time 1, 16.1% at Time 2) than in girls (15.7% at Time 1, 15.5% at Time 2), yet the difference did not reach statistical significance ( $p = 0.19$  at Time 1 and  $p = 0.21$  at Time 2).

In both Time 1 and Time 2, around 72% of the parents used corporal punishment and 98% of the parents used psychological aggression once or more in the past year. Grabbing or shaking children (58.4%) was the most frequently reported type of corporal punishment while washing the mouths of children (10.9%) was the least frequently reported the type of corporal punishment. Shouting or yelling at children (96.2%) was the most frequently reported type of psychological aggression while holding back affection from children (47.3%) was the least frequently reported type of psychological aggression (Table 2). Tables 3 and 4 demonstrated the variability within the actual responses. In general, psychological aggression happened more frequently than corporal punishment.

The correlation matrix in Table 5 indicates that except the correlation between parental corporal punishment and preschoolers' altruism, all of the other correlations were statistically significant. Notably, the strongest correlation was observed between parental corporal punishment and parental psychological aggression ( $r = 0.61$  at Time 1 and  $r = 0.53$  at Time

2,  $p < 0.01$ ), indicating a considerable co-occurrence of the two aggressive disciplinary practices. Moderate correlations were observed for child altruism at two time points ( $r = 0.59$ ,  $p < 0.01$ ) and child forgiveness at two time points ( $r = 0.58$ ,  $p < 0.01$ ), indicating that parents' evaluations of their preschoolers' altruism and forgiveness are relatively stable. The correlations between altruism and forgiveness are low ( $r = 0.16$ – $0.24$ ,  $p < 0.05$ ), suggesting that altruism and forgiveness are two distinct attributes.

**Table 2**  
Prevalence of corporal punishment and psychological aggression in the past year (n = 368).

	Time 1		Time 2	
	Total (%)	Father/Mother (%)	Total (%)	Father/Mother (%)
<b>Corporal punishment</b>				
Grab or shake children	58.4	50.7/61.1	58.6	51.7/60.1
Spank, slap, smack or swat children	47.3	40.8/51.1	47.7	40.9/51.3
Use an object on children	18.2	16.9/20.9	18.8	16.6/21.9
Wash the mouths of children	10.9	15.5/10.8	10.5	14.8/11.7
One or more of the above behaviors	72.2	70.8/73.2	72.1	71.1/74.0
<b>Psychological aggression</b>				
Shout or yell at children	96.2	94.4/96.6	95.5	94.3/96.8
Try to make children feel ashamed	72.3	73.2/72.3	71.9	72.5/71.4
Hold back affection from children	47.3	43.7/49.7	48.9	44.2/49.5
Tell children they are lazy, sloppy	82.3	83.1/82.4	81.8	82.3/84.7
One or more of the above behaviors	98.7	97.2/99	98.1	92.2/98.8

**Table 3**  
Percentages on the frequency of corporal punishment in the past year (n = 368).

	Grab or shake children (%)		Spank, slap, smack or swat children (%)		Use an object on children (%)		Wash the mouths of children (%)	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Never	41.1	49.9	51.9	59.9	80.5	82.9	89.9	90.2
1–2 times	13.2	9.7	17.4	16.3	6.1	5.8	3.6	3.0
3–5 times	4.3	7.3	5.3	5.1	2.7	2.8	1.4	2.2
6–9 times	4.8	3.8	4.3	4.3	1.6	1.7	0.5	0.3
Monthly	3.0	4.0	5.9	2.4	1.9	1.4	0.8	0.8
A few times a month	11.6	7.8	8.6	6.5	2.9	1.9	1.9	1.4
Weekly	9.7	8.1	4.3	3.0	2.4	1.4	0.8	1.1
Several times a week	5.9	3.5	0.8	0.8	0.8	0.6	0.5	1.0
Daily	4.3	2.4	0.8	1.1	0.8	1.4	0.3	0
Two or more times a day	2.1	3.5	0.7	0.6	0.3	0.1	0.3	0

**Table 4**  
Percentages on the frequency of psychological aggression in the past year (n = 368).

	Shout or yell at children (%)		Try to make children feel ashamed (%)		Hold back affection from children (%)		Tell children they are lazy, sloppy (%)	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Never	3.8	4.9	27.3	32.6	52.2	52.4	17.4	16.4
1–2 times	4.8	6.5	17.4	17.0	16.4	14.9	11.8	15.9
3–5 times	6.5	7.8	8.3	8.2	5.9	5.4	7.5	9.0
6–9 times	4.0	4.3	4.0	5.8	3.0	4.6	7.2	5.2
Monthly	5.1	5.7	7.0	6.6	3.2	2.2	7.5	8.5
A few times a month	13.7	19.1	17.2	12.3	7.8	9.2	16.6	15.6
Weekly	20.4	20.8	11.8	12.1	6.5	6.5	16.8	14.2
Several times a week	12.1	11.1	4.0	3.8	2.4	2.7	5.9	6.0
Daily	14.8	9.4	1.9	1.4	1.3	1.4	5.9	5.5
Two or more times a day	14.8	10.4	1.1	0.2	1.3	0.7	3.4	3.7

**Table 5**  
Descriptive statistics and correlations between the study variables (n = 368).

	1	2	3	4	5	6	7	8	9	10
1. Parental CP T1	–									
2. Parental CP T2	0.46**	–								
3. Parental PA T1	0.61**	0.36**	–							
4. Parental PA T2	0.33**	0.53**	0.45**	–						
5. Child altruism T1	–0.15*	–0.05	–0.31**	–0.25*	–					
6. Child altruism T2	–0.16*	–0.07	–0.20**	–0.34**	0.59**	–				
7. Child forgiveness T1	–0.26**	–0.21*	–0.24*	–0.21*	0.24*	0.16*	–			
8. Child forgiveness T2	–0.23*	–0.28**	–0.23*	–0.29**	0.18*	0.19*	0.58**	–		
9. Child anxiety T1	0.37**	0.28**	0.34**	0.23*	–0.29**	–0.16**	–0.31**	–0.27**	–	
10. Child anxiety T2	0.27**	0.38**	0.26**	0.42**	–0.26**	–0.31**	–0.24**	–0.37**	0.47**	–
Range	1–9	1–9	1–9	1–9	1–7	1–7	1–7	1–7	0–28	0–28
M	1.29	1.08	3.52	3.30	4.46	4.62	4.59	4.62	4.46	4.31
SD	1.43	1.44	1.79	1.80	1.02	1.08	0.67	0.72	3.10	3.11

Note: Parental CP = Parental corporal punishment, Parental PA = Parental psychological aggression, Fathers and mothers are not coupled to form parenting dyads in the above statistical analyses.

\* <0.05.  
\*\* <0.01.

## 4.2. Hierarchical regression analyses

Results of hierarchical regression analyses are presented in Table 6. This table contains the standardized regression coefficients and changes of  $R^2$  in each step. The first step was significant,  $F(1, 367) = 172.871, p < 0.001$ , adjusted  $R^2 = 0.329$ . Preschoolers' anxiety at Time 1 was a strong predictor of preschoolers' anxiety at Time 2 ( $\beta = 0.57, p < 0.001$ ). In the second step, only parents' educational level was significantly associated with preschoolers' anxiety ( $\beta = -0.09, p < 0.05$ ). Preschoolers' age ( $\beta = 0.04, p = 0.32$ ), preschoolers' gender ( $\beta = -0.05, p = 0.27$ ), and parents' employment status ( $\beta = -0.03, p = 0.67$ ) are not significantly associated with preschoolers' anxiety. Change of  $R^2$  in this step was 0.014,  $F_{Change}(4, 363) = 2.397, p = 0.068$ . In the third step, parental psychological aggression at Time 1 ( $\beta = 0.11, p < 0.05$ ), preschoolers' altruism at Time 1 ( $\beta = -0.24, p < 0.05$ ) and preschoolers' forgiveness at Time 1 ( $\beta = -0.13, p < 0.05$ ) significantly predicted preschoolers' anxiety at Time 2. Parental corporal punishment at Time 1, however, did not have a significantly predictive effect on

preschoolers' anxiety at Time 2 ( $\Delta = 0.02, p = 0.52$ ). The third step accounted for an additional 8.3% of the variance,  $F_{Change}(4, 359) = 8.624, p < 0.001$ .

**Table 6**  
Predicting preschooler at Time 2 (T2) by parental aggressive discipline and preschooler altruism and forgiveness at Time 1 (T1) (n = 368).

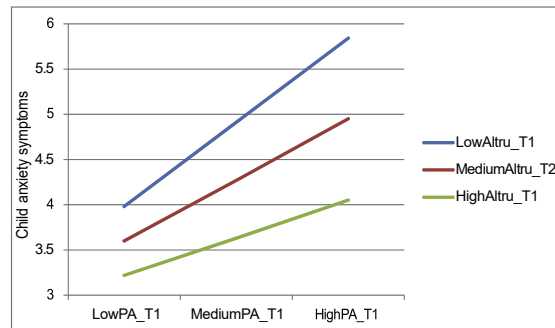
	$\beta$	$\Delta R^2$
Step 1 Baseline control	0.57***	0.329***
Preschoolers' anxiety T1		
Step 2 Demographics		0.014
Preschooler's gender (1 = male, 2 = female)	-0.05	
Preschooler's age	0.04	
Parents' educational level (1 = secondary school or below, 2 = college or above)	-0.09*	
Employment status (1 = unemployed, 2 = part-time employed, 3 = full-time employed)	-0.03	
Step 3 Predictors		0.083**
Parental CP T1	0.02	
Parental PA T1	0.11*	
Preschooler altruism T1	-0.24*	
Preschooler forgiveness T1	-0.13*	
Step 4 Interactions		0.019*
Parental PA T1 $\times$ Preschooler altruism T1	-0.45*	

Note: Parental CP = Parental corporal punishment, Parental PA = Parental psychological aggression, Fathers and mothers are not coupled to form parenting dyads in the above statistical analyses, Non-significant interactions are not shown.

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .



**Fig. 1.** Child altruism (T1) moderated the prospective relation between parental psychological aggression (T1) and child anxiety symptoms (T2).  
Note: LowPA T1 = One standard deviation below the mean of parental psychological aggression at Time1, MediumPA T1 = Mean of parental psychological aggression at Time 1, HighPA T1 = One standard deviation above the mean of parental psychological aggression at Time 1. LowAltru T1 = One standard deviation below the mean of child altruism at Time1, MediumAltru T1 = Mean of child altruism at Time 1, HighAltru T1 = One standard deviation above the mean of child altruism at Time 1. All of the three slopes are significant at the 0.05 level.

In the fourth step, only the interaction between parental psychological aggression at Time 1 and child altruism at Time 1 was significant ( $\Delta = -0.45, p < 0.05$ ) in predicting preschoolers' anxiety. This step accounted for an additional 1.9% of the variance in preschoolers' anxiety,  $F_{Change}(1, 358) = 4.916, p < 0.05$ . Overall, the model explained 44.5% of the variance,  $F(10, 358) = 21.875, p < 0.001$ .

To further probe the moderating effects of preschooler altruism on the link between parental psychological aggression and preschoolers' anxiety, we tested simple effects based on the conditional values of plus or minus one standard deviation around the mean of the preschooler altruism (Aiken, West, Reno, 1991). As shown in Fig. 1, parental psychological aggression is positively related to preschoolers' anxiety regardless of the level of preschooler altruism (all of the three slopes are significant at the 0.5 level.). Nevertheless, the effect of parental psychological aggression on preschoolers' anxiety was more prominent for preschoolers with low altruism, while preschoolers with higher altruism reported fewer anxiety symptoms than preschoolers with lower altruism even under a high level of parental psychological aggression.

## **5. Discussion**

### **5.1. Prevalence of preschoolers' anxiety**

The present research reported a prevalence of 16% for probable cases of anxiety in preschoolers, which was slightly higher than previous studies in the Western societies (Gadow et al., 2001). The higher prevalence might be explained by two possible reasons. First, preschoolers' anxiety symptoms were reported by the parents in this study. Compared with Western parents of young children, Chinese parents are more protective and more attentive to the conditions of their children (Wu et al., 2002). Thus, Chinese parents might overestimate the anxious feelings or behaviors of their children. Second, it is possible that Chinese preschoolers have higher anxiety than their Western counterparts. Chinese children have been found to report higher internalizing problems than their Western counterparts (e.g. Liu, Cheng, & Leung, 2011; Weine, Phillips, & Achenbach, 1995). Some theorists speculated that in Asian cultures that emphasize self-control, emotional inhibition and compliance with social norms in the socialization process, children may be more over-controlled and have more internalizing problems (Weisz, Sigman, Weiss, & Mosk, 1993).

### **5.2. Prevalence of parental corporal punishment and psychological aggression**

This study reported that around 72% of the parents used corporal punishment and 98% of the parents used psychological aggression at least once in the past year in the past year. This is consistent with a study in Mainland China which found that approximately 70% used

corporal punishment and 90% used psychological aggression in the past year (Wang & Liu, 2014). Compared with an international study reporting varying prevalence of parental aggressive discipline towards preschoolers across different cultures (Lansford & Deater-Deckard, 2012), the prevalence of aggressive discipline towards preschoolers in China seems to be at the high end of the range. Chinese parents appear to be more aggressive in disciplining their children than their counterparts in Western societies. In Chinese culture that emphasizes more on children's unconditional respect and obedience to parents rather than autonomy, corporal punishment and psychological aggression may be considered as a normative discipline strategy.

### 5.3. Parental corporal punishment and preschoolers' anxiety

Consistent with previous research (e.g., Lansford et al., 2014), parental corporal punishment was significantly correlated with anxiety symptoms in preschoolers. Yet when corporal punishment and psychological aggression were entered into the same equation, parental corporal punishment failed to be the significant predictor. Thus Hypothesis 1 is not supported. One possible explanation is that the correlation between parental corporal punishment and preschoolers' anxiety is largely due to parental psychological aggression that tends to accompany corporal punishment rather than the negative effects of corporal punishment alone (Taillieu & Brownridge, 2013). Thus, the predictive value of corporal punishment was eliminated when psychological aggression was included in the model. Another possible explanation was that the baseline level of preschoolers' anxiety was controlled for the regression model. This procedure leaves less explanatory power for other predictors in the analysis. Despite the fact that this study failed to find a significant predictive effect of parental corporal punishment on preschoolers' anxiety, corporal punishment, especially those exercised extensively and conducted without inductive reasoning and parental expression of

love and warmth, has been found to contribute to a number of behavioral problems in children and adolescents (Gershoff, 2002) and thus should be prevented in families.

#### 5.4. Parental psychological aggression as a risk factor for preschoolers' anxiety

In line with previous research with older children or adolescents (Miller-Perrin et al., 2009; Pettit, Laird, Dodge, Bates, & Criss, 2001; Taillieu & Brownridge, 2013), the present study showed that psychological aggression positively predicted preschoolers' anxiety symptoms; thus Hypothesis 2 is supported.

Furthermore, the present study showed that parental psychological aggression predicted preschoolers' anxiety. Although this study cannot conclusively establish a causal link, findings of this study extend and supplement the growing body of literature suggesting that there is a unique predictive effect of parental psychological aggression on preschoolers' anxiety, controlling for parental corporal punishment.

Future research is called for to identify the mechanisms linking parental psychological aggression and preschoolers' anxiety. One postulated mechanism could be that preschoolers under psychological aggression might develop the schema that they have failed to meet social standards and that their "failure" implies a deficiency of the self (Lewis and Bucher, 1992). This sense of personal inadequacy would incur feelings of anxiety in preschoolers as they doubt their abilities in independent problem solving and perceive the environment as uncontrollable (Beidel & Alfano, 2011).

The present study showed that in Chinese context psychological aggression is prevalent and predict anxiety symptoms in preschoolers. Chinese culture is a "shame-socialized culture" in



which individuals are socialized to be aware of what others think of them, and are encouraged to avoid negative evaluations of others (Schoenhals, 2016). Parents are the primary agents of socialization. Psychological aggression, with an element of making children feel weak, incompetent and inferior, is one dominant discipline technique for Chinese parents. Chinese parents yell, criticize or make harsh statements towards their children when children do wrong, because they believe that children will acquire sensitivity to other people's opinions when they feel ashamed. Thus, psychological aggression serves as the dual purpose of correcting the child's misdeed while emphasizing others' disapproval (Fung, 1999). Yet psychological aggression may leave psychological scars on children and should be prevented.

#### 5.5. Preschoolers' altruism and forgiveness as protective factors of preschoolers' anxiety

Preschoolers' altruism and forgiveness negatively predicted their anxiety symptoms; thus Hypothesis 3 and Hypothesis 4 are supported. Previous studies on the link between altruism and anxiety are inconsistent and most studies were cross-sectional (Fujiwara, 2007; Hay & Pawlby, 2003; Schwartz et al., 2003); this study provides evidence for the directional influence of altruism on anxiety in preschoolers. This study also corroborates previous research (Subkoviak et al., 1995; Thompson et al., 2005) in demonstrating the predictive effect of forgiveness on anxiety for preschoolers. The negative predictive effect of altruism and forgiveness could be explained by the theory of emotional juxtaposition (Anderson, 2003).

Altruism and forgiveness are associated with positive emotions such as empathy and compassion that override negative ones (Worthington & Wade, 1999). Moreover, the positive emotions related to altruism and forgiveness are other-focused, arising from the delight of

affirming others and thus pushing aside the fear and anxiety that emerge from self-preoccupation.

Regarding the moderating effects, only Hypothesis 7 was supported in that altruism moderated the prospective relation between parental psychological aggression and preschoolers' anxiety. The moderating effect of altruism could be explained by the possible reason that children with high altruism are more likely to develop satisfactory relationships with others (Schwartz & Sendor, 1999) that alleviate them from the detrimental effects of parental psychological aggression. Another possible explanation is that altruistic children are less preoccupied with self and more flexible to different experiences that facilitate their personal growth (Schwartz et al., 2003), which diverts the negative effect of parental psychological aggression.

## **6. Implications**

In view of the occurrence and negative consequences of preschoolers' anxiety problems, early identification and treatment are important. The preschool setting is a potentially important service delivery area for early mental health screening and intervention. Collaboration between preschool teachers and parents are important to identify those children at risk.

For intervention, a dual-focus approach is proposed to reduce aggressive discipline of parents and enhance altruism and forgiveness in children. Training programs could be provided to teach parents positive discipline techniques. For instance, the Positive Parenting Program (Triple P) teach parents to use assertive (but not aggressive) discipline and have realistic expectations on the children (Nowak & Heinrichs, 2008). Parent-Child Interaction Therapy (PCIT) could be adapted to provide parents with direct coaching of communication and

behavioral management skills (Thomas & Zimmer-Gembeck, 2007). Meanwhile, home-based or school-based interventions could be designed for children to foster and enhance altruism and forgiveness (Kwok, Gu, & Tong, 2016). Parents or teachers could be encouraged to model altruism, elaborate to children the positive effects of altruistic behaviors, and provide opportunities for children to help or cooperate with others, hence experience the sense of satisfaction (Ramaswamy & Bergin, 2009). In addition, forgiveness intervention program (Enright & Coyle, 1998) can be adapted and applied to the children. The program addressed four phases of forgiveness: reviewing hurtful events and uncovering underlying psychological defenses, deciding to change oneself, reframing and transforming a change of affect about the offender, the self, and the relationship, and developing a sense of self and purpose in life. When applied to preschoolers, the forgiveness intervention program could be adapted by adding more age-appropriate games and experiential activities (Hui & Ho, 2004).

## **7. Limitations**

Several limitations should be considered in interpreting results of this study. First, parental corporal punishment and parental psychological aggression were assessed retrospectively and may be subject to recall bias. In addition, the responses of the parents may be affected by the threat of disclosure due to the sensitivity of the topic. These reporting biases might result in inaccurate estimation of the error variances and associations between variables. Home observation and multiple informants (e.g. including teachers) could be added as supplements to self-report data in future research. Second, the relatively stable nature of preschoolers' anxiety as reported by parents makes it difficult to detect significant predictors of later child anxiety symptoms, as much variance was explained by the baseline control. Future research could add additional data collection waves than was applied in the present study. Third, the present study combined data from father and mothers and did not investigate the differential

impacts of fathers and mothers. Nor did this study investigate the impacts of parenting dyads or parent-child dyads. It is possible that fathers and mothers may play different roles in their children's development and that gender of parents and gender of children may interact in influencing the impact of parenting on children's developmental outcomes. Fourth, several family factors that may affect the relationship between parental aggressive discipline and preschoolers' anxiety are not taken into account. Future research should simultaneously consider family factors that may co-vary with aggressive discipline and preschoolers' anxiety to determine the unique contribution of aggressive discipline to children's psychological well-being. For instance, it is important to investigate whether the link between corporal punishment and preschoolers' anxiety may reflect the influence of authoritarian parenting rather than corporal punishment specifically, as authoritarian parents use corporal punishment more frequently and are more likely to have a child with anxiety symptoms (Simons, Johnson, & Conger, 1994). Other family factors that may co-vary with aggressive discipline and child anxiety include parents' anxiety, insecure attachment, and problems in family functioning (Bögels & Brechman-Toussaint, 2006). Despite these limitations, this study is a pioneering work in providing empirical support to the protective effects of preschoolers' altruism and forgiveness in relation to parental aggressive discipline and preschoolers' anxiety symptoms.

## **8. Conclusion**

This study extends previous research in three aspects. First, we clarify the predictive effect of parental aggressive discipline on a less well-studied child outcome (anxiety symptoms) for a less well-studied population (i.e. preschoolers). Second, we provide evidence that parents' evaluation of their preschoolers' altruism and forgiveness are relatively stable, which negatively predict preschoolers' anxiety symptoms. Third, we report empirical evidence that

preschoolers' altruism moderated the prospective relation between parental psychological aggression and preschoolers' anxiety symptoms, which implies that preschoolers' altruism and forgiveness could protect children against family adversities. Findings of this study may help inform the development of parent training and school education programs for early identification and intervention of preschoolers' anxiety.

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