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The Relationship between Parenting Style and Social Behavior: A Systematic Review and Meta-analysis

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Abstract: Given that evidence for meta-analysis on the association between parenting style and social behavior has been relatively sparse, this research will provide useful information for the field. This article presents a meta-analysis of the association between parenting style and social behavior in Chinese children. A total of 47 eligible studies with 98 independent effect sizes (54,448 participants) were included in this meta-analysis. First, the study conducted a random-effects meta-analysis to assess the association between parenting style (positive vs. negative) and social behavior (prosocial vs. aggressive). Next, the study performed moderation analyses based on the meta-regression analyses for the continuous variable (sex ratio) and the Q statistics for categorical variables of the publication period (i.e., development period, COVID-19 period). Results were that positive parenting style was positively correlated with prosocial behavior (r = 0.24, 95%CI[0.17,0.31], P < 0.001), whilst negative parenting style was negatively correlated with prosocial behavior (r = -0.10, 95%CI[-0.13,-0.06], P < 0.001). Positive parenting style was negatively correlated with aggressive behavior (r = -0.17, 95%CI[-0.21,0.-12], P < 0.001), whilst negative parenting style was positively correlated with aggressive behavior (r = 0.23, 95%CI[0.15,0.30], P < 0.001). These findings suggest that a positive parenting style should be applied as much as possible to shape children's prosocial behavior, whilst a negative parenting style should not be applied to avoid aggressive behavior.

Keywords: Parenting style; Social behavior; Systematic review; Meta-analysis

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1. Introduction

Prosocial behaviors refer to any behavior that is enacted with the intention to benefit another [1]. Aggressive behavior refers to any behavior that causes harm to others, including physical aggression, direct verbal aggression, and indirect aggression [2]. At present, research on children's aggressive behavior and prosocial behavior mainly

includes experiments, interviews, observations, psycho-metrics, and nominations. Prosocial behavior is a helpful behavior, while aggressive behavior is a harmful behavior [3–4]. Children's aggressive behavior is an important predictor of mental and behavioral health in adulthood [5]. Both prosocial and aggressive behaviors are prominent during the transition from late childhood to early adolescence [1]. Previous research has shown that the way prosocial and antisocial behaviors change throughout development depends on complex interactions between normative development, biological factors, social experiences, and situational ananets [1]. Parenting style plays an important role in children's behavioral development [6–7]. Thus, this study attempts to assess the association between parenting style, prosocial behavior, and aggressive behavior among young children.

Parenting style refers to parents' educational concepts, attitudes toward their children, and all their actions and words in the process of raising and educating their children [8]. It can be explained by the following three aspects of parenting type, behavioral practices, and comprehensive definitions [9]. In this study, parental styles are divided into positive parenting and negative parenting. Positive parenting refers to a warm and supportive emotion and behavior of parents towards children, including democracy, democratic authority, emotional warmth, and attention and help. Negative parenting refers to a kind of rejection, punishment, and hostile emotion and behavior of parents towards children, including capriciousness, autocratic, inconsistent, punishment orientation, denial, and over-protection. Based on this, parenting styles can be classified into positive and negative parenting styles.

1.1. Parenting style and social behavior

Positive parenting positively predicts prosocial behavior in preschool children, such as democratic parenting positively predicts prosocial behavior [10–11]. However, authoritative parenting is positively connected with cooperative behavior in preschool children [12]. Specifically, children who receive warm and positive parenting are more likely to care for others than children who receive cold and rejecting parenting [13]. However, negative parenting is positively correlated with aggressive behavior [14–15]. Increases in negative parenting are significantly associated with children's conduct problems at follow-up [16]. Chinese parents as more controlling or authoritarian than their Western counterparts, but more detailed information regarding Chinese parenting styles and their contribution to children's aggression and prosociality is still needed [17]. In addition, parenting style is strongly correlated with prosocial behavior and aggressive behavior, suggesting the necessity of exploring the relationship between parenting style, prosocial behavior, and aggressive behavior [18–19].

1.2. Sex and publication period as potential moderators

First, sex is a potential moderator. For example, boys are more likely to demonstrate aggressive behaviors than girls in terms of authoritarian parenting style [20]. In addition, boys generally show less prosocial behaviors than girls in terms of authoritarian parenting style [21]. Therefore, sex may function as a potential moderator in the association between parenting style, prosocial behavior, and aggressive behavior. Second, the publication period may be a potential moderator. The publication period can be divided into the COVID-19 period (December 2019 to December 2022) and the development period. Since COVID-19 was included in the Class B infectious diseases and managed as Class A, the Chinese government has adopted a home-based isolation approach to ensure the health of the general public [22]. About 220 million children and adolescents in China have been quarantined at home, the prevalence of emotional disorders among adolescents generally increased after the epidemic peak, and the scores of behavioral problems among children of all ages increased during the epidemic isolation period [23–24]. Negative parental practices were positively associated with emotional/behavioral problems in children during the

pandemic [25]. Therefore, the publication period may moderate the association between parenting style, prosocial behavior, and aggressive behavior.

1.3. The present study

A previous meta-analysis of the association between parenting styles and aggressive behavior in adolescents was conducted, but the samples were from Western cultures [26]. In addition, some meta-analyses examined parenting styles and prosocial behavior, without Chinese preschool children being involved [27–28]. In light of this, this study applied a meta-analysis to investigate the association between parenting styles (positive versus negative) and prosocial behavior and aggressive behavior among preschool children.

2. Method

2.1. Inclusion criteria

Studies were screened based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [29]. To be included in the meta-analyses, (a) the study had to evaluate an aspect of parenting style in relation to prosocial behavior and aggressive behavior, either as general forms or specific types. (b) the study must be published in English or Chinese. (c) child participants from 0 to 7 years old include normal children and abnormal children. (d) the association between parenting style, prosocial behavior, and aggressive behavior must be reported in correlation coefficients (R-values) or other statistics converted to correlation coefficients (f-values, T-values, x^2 values, etc.).

2.2. Search strategy

The study used the three-step method to search for studies. First, the study searched the empirical studies on the association between parenting styles, prosocial behavior, and aggressive behavior in preschool children from the following databases: China National Knowledge Infrastructure (CNKI), Chinese Wanfang Database, China Science and Technology Journal Database, Web of Science, ERIC, Proquest, and PsyInfo. The searched keywords were as follows: [parenting style OR parenting OR parenting behavior OR parenting rearing OR parenting practices OR family style OR mother parenting OR father parenting] AND [prosocial behavior OR cooperate OR comfort OR altruist OR morale OR aggressive behavior OR problem behavior OR violence OR bullying behavior OR peer bullying]. Two filters were applied such that the search was limited to Chinese children (birth–7 years old) and in English or Chinese. Second, studies were searched by screening reference lists of studies and review articles found in the first step of this search procedure [27, 30]. Finally, the study attempted to obtain unpublished research papers through personal contact with the authors.

After the initial articles search and elimination of duplicates, a total of 1,430 articles were obtained. After reviewing all the titles and abstracts and excluding apparently irrelevant studies, a total of 261 articles were deemed suitable for further examination. After thoroughly assessing these articles, a total of 47 articles using 98 independent samples met the inclusion criteria and were therefore included in the present review. **Table 1** shows the overview of the included studies and their characteristics. **Figure 1** shows the flow chart of the search procedure.

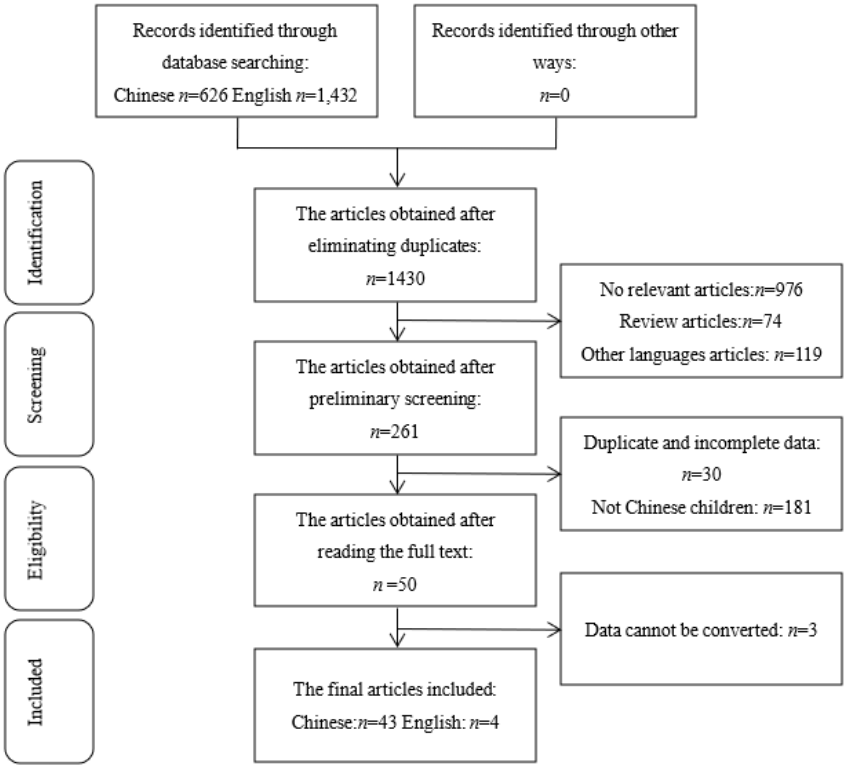

Figure 1. PRISMA flow of Literature inclusion process

2.3. Coding procedures

The included articles were coded as follows: 1 = first author, 2 = year, 3 = sample size, 4 = female, 5 = sample source, 6 = parenting style research tools, and 7 = social behavior research tools.

Table 1 shows the characteristics of the eligible studies, all coded independently. Two coders encode all the information according to a coding manual, which specifies the types of coding used and possible codes for each study. The two coders reached 96% agreement on the code, and all differences were resolved by consensus.

In the process of coding, the following principles are followed: (1) The generation of effect values is based on independent samples, and each independent sample is encoded only once. If a paper reports multiple independent samples at the same time, the corresponding coding should be conducted several times; (2) If the characteristics of the subjects are correlated, they will be coded separately; (3) If the study is a longitudinal study, each measurement result is coded separately; (4) If the effect values of total parenting style, total aggressive behavior and total prosocial behavior were not reported in the study, but the effect values of each subscale were reported separately, the average value was taken as the initial effect value.

Table 1. Characteristics of the 47 studies included in the meta-analysis

Number	First author	Year	Sample size	Female (%)	Sample source	Parenting style measure	Social behavior measure
1	Bai [31]	2019	88	0.4	Ji Lin	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
2	Bi [32]	2010	260	0.51	Tianjin	PSQ (NA)	CBE (self-made)
3	Chen [33]	2012	275	NA	Chongqing	PSQ (Gong, 2005)	SDSC4-7 (Chen, 1998)
4	Deng [34]	2013	427	0.49	Jiangsu	PSQ (self-made)	PBQ (self-made)

Table 1 (Continued)

Number	First author	Year	Sample size	Female (%)	Sample source	Parenting style measure	Social behavior measure
5	Deng [35]	2020	3167	0.45	Hubei	PBI (Lovejoy, 1999)	SDQ (Goodman, 1997)
6	Ding [36]	2020	340	0.47	Sichuan	PSQ (Yang, 1998)	PBQ (Deng, 2013)
7	Du [37]	1999	504	NA	Shanxi	PSQ (self-made)	CBCL (Achenbach, 1991)
8	Fei [38]	2020	291	0.53	Hunan	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
9	Gao [39]	2021	382	0.49	Hubei	PSDQ (Robinson, 2001)	HBE and SBE (self-made)
10	Han [40]	2020	387	0.48	Liaoning	PSQ (Yang, 1998)	PCGQ (self-made)
11	Hu [10]	2022	188	0.46	Hubei	PSQ (Yang, 1998))	PBQ (Deng, 2013)
12	Huang [41]	2020	394	0.51	Hunan	PSQ (Yang, 1998)	SDSC4-7 (Chen, 1998)
13	Jia [15]	2014	1164	0.45	Shanghai	PBI (Lovejoy, 1999)	ABQ (Dodge, 1987)
14	Jia [17]	2016	1382	0.44	Shanghai	PBI (Lovejoy, 1999)	CBCL (Achenbach, 1991)
15	Xie [18]	2015	353	0.43	Liaoning	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
16	Li [42]	2019	590	0.53	Sichuan	EMBU (Perris, 1980)	CBCL (Achenbach, 1991)
17	Li [43]	2018	105	0.65	Guangdong	PSDQ (Robinson, 2001)	SDSC3-9 (Chen, 1994)
18	Li [44]	2021	310	0.5	Shandong	PSQ (Liu, 2014)	CCBQ (Goyette, 1978)
19	Li [45]	2021	120	0.54	Chongqing	PARQ (Rohner, 2005)	SDQ (Goodman, 1997)
20	Li [46]	2018	231	NA	Xinjiang	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
21	Long [47]	2018	635	0.48	Shandong	MPSQ (Chen, 2004)	PCBQ (Yang, 2008)
22	Luo [48]	2022	757	NA	Chongqing	PSDQ (Robinson, 2001)	SDQ (Goodman, 1997)
23	Luo [49]	2021	814	0.46	Chongqing	PSDQ (Robinson, 2001)	PCGHQ (Luo, 2017)
24	Ma [50]	2022	2201	0.47	Anhui	PBI (Lovejoy, 1999)	SDQ (Goodman, 1997)
25	Ma [51]	2023	557	0.46	Guizhou	PBI (Lovejoy, 1999)	SDQ (Goodman, 1997)
26	Ma [52]	2021	301	0.3	Chongqing	PAQ (Reitman, 2002)	PBQ (Deng, 2013)
27	Narin [53]	2012	637	NA	Inner Mongolia	PSQ (Yang, 1998)	SDSC4-7 (Chen, 1998)
28	Nelson [54]	2006	215	0.53	Beijing	PSDQ (Robinson, 2001)	CAPN (Crick, 1997)
29	Niu [55]	2016	125	0.44	Shaanxi	PSQ (Yang, 1998)	SBE (self-made)
30	Song [56]	2020	365	0.47	Shaanxi	PSQ (Yang, 1998)	PBQ (Deng, 2013)
31	Sun [57]	2022	197	NA	Shanghai	MWE (Hane, 2008)	SCBS (Liu, 2012)
32	Wang [58]	2017	329	NA	Ji Lin	PSQ (Yang, 1998)	PBQ (Deng, 2013)
33	Wang [59]	2015	476	0.48	Jiangsu	PSDQ (Robinson, 2001)	WCBS (NA)
34	Xiang [60]	2016	477	0.49	Jiangsu	PSDQ (Robinson, 2001)	CSQ (NA)
35	Xing [61]	2017	167	0.46	Shandong	PARQ (Rohner, 2005)	SDQ (Goodman, 1997)
36	Yan [62]	2007	120	0.31	Inner Mongolia	MPSQ (self-made)	SOBB (self-made)
37	Yang [63]	2017	86	0.44	Sichuan	PSQ (Yang, 1998)	ABOT (Denson, 2012)
38	Yi [64]	2021	80	0.5	Chongqing	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
39	You [65]	2020	208	0.41	Henan	PSDQ (Robinson, 2001)	CBCL (Achenbach, 1991)

Table 1 (Continued)

Number	First author	Year	Sample size	Female (%)	Sample source	Parenting style measure	Social behavior measure
40	Yu [19]	2016	478	0.45	Liaoning	PSQ (Yang , 1998)	PBQ (Cheng, 2006)
41	Zhang [66]	2019	465	0.45	Shandong	PSQ (Yang, 1998)	CBCL (Achenbach, 1991)
42	Zhang [67]	2016	66	0.5	Shandong	PSQ (Block, 1998)	MBE (self-made)
43	Zhang [68]	2021	273	0.54	Sichuan	PSQ (Parker, 1979)	ABQ (NA)
44	Zheng [69]	2013	231	0.47	Xinjiang	MPSQ (Chen, NA)	SDSC3-9 (Chen, 1994)
45	Zhou [70]	2012	352	NA	Yunnan	PSQ (Maccoby, NA)	CBPQ (self-made)
46	Zhu [71]	2020	214	0.5	Zhejiang	PSQ (Yang, 1998)	SDSC4-7 (Chen, 1998)
47	Zong [72]	2005	66	0.54	Shanghai	PSQCC (NA)	HBE and SBE (self-made)

Note: Behavior Questionnaire, SDSC4-7=Social Development Scale for children aged 4–7 years, SDSC3-9=Social Development Scale for children aged 3–9 years, CAPN=Child aggressive peer nomination, CBE=Cooperative Behavior Experiment, HBE=Help Behavior Experiment, SBE=Share Behavior Experiment, MBE=Moral Behavior Experiment, PCGQ=Preschool Children gratitude questionnaire, ABQ=Aggressive Behavior Questionnaire, CCBQ=Conners Child Behavior Questionnaire, PCBQ=Preschool Children Bullying Questionnaire, PCGHQ=Preschool Children Good Habits Questionnaire, SCBS=Social Competence and Behavior scale, WCBS=Worrying Child Behavior Scale, CSQ=Children Social Questionnaire, SOBB=Situational Observation Of Bullying Behavior, ABOT=Attack Behavior Observation Table, CBPQ=Child Behavioral Problems Questionnaire.

2.4. Statistical analysis

CMA (Comprehensive Meta-Analysis) 3.0 was used for statistical analysis with statistical significance set at $P < 0.05$. First, the heterogeneity among effect values was investigated by using the heterogeneity Q test and the I^2 test, based on which the analysis model was selected. $I^2 > 50$ % or $P < 0.05$ indicated statistically significant heterogeneity, in the absence of significant heterogeneity, the fixed-effects model was used to estimate the effect size and their 95 % CI. If there was obvious heterogeneity, a random-effect model was selected. Subgroup analyses were used to explore potential sources of heterogeneity. Publication bias was assessed using funnel-plot analysis and Egger's tests. Note that only independent effect values of 4 or more subgroups were included in the subgroup analysis [73].

To evaluate the association between parenting style and social behavior, the Pearson correlation coefficient r is the effect value index. If r values are not reported in the literature, $t/d/\beta/\eta^2/OR$ values reported in the literature are used for conversion. The conversion formula is as follows [74]: $r = \beta*0.98+0.05\lambda$ (when $-0.5 < \beta < 0$, $\lambda = -1$; When $0 < \beta < 0.5$,$\lambda = 1$); =; $d = \ln(OR)$.

2.5. Quality assessment

Five factors quality criterion was used to evaluate the quality of the studies included [75]. Subject selection, effective rate, reliability, and publication level all are designated as three levels: 2 points, 1 point, or 0 points. The total score is the articles quality score, which ranges from 0 to 8. The higher the score, the higher the quality of the articles. **Table 2** shows specific scores.

Table 2. Results of quality assessment

Number	Included literature	Subject selection	Effective rate	Reliability	Publication level	Score
1	Bai, 2019	1	1	1.5	1	4.5
2	Bi, 2010	2	0	1.5	1	4.5
3	Chen, 2012	1	2	2	1	6
4	Deng, 2013	1	0	2	1	4
5	Deng, 2020	2	2	1	1	6
6	Ding, 2020	1	2	1.5	1	5.5
7	Du, 1999	1	0	2	0	3
8	Fei, 2020	2	2	2	1	7
9	Gao, 2021	1	1	2	1	5
10	Han, 2020	1	1	1.5	1	4.5
11	Hu, 2022	1	1	1.5	1	4.5
12	Huang, 2020	2	2	2	1	7
13	Jia, 2014	1	1	2	2	6
14	Jia, 2016	2	1	2	1	6
15	Jie, 2015	2	2	1.5	1	6.5
16	Li, 2019	2	1	2	1	6
17	Li, 2018	1	1	2	0	4
18	Li, 2021	1	2	2	2	7
19	Li, 2021	1	2	1.5	1	5.5
20	Li, 2018	2	2	1.5	1	7.5
21	Long, 2018	2	0	1.5	1	4.5
22	Luo, 2021	1	2	2	2	7
23	Luo, 2022	2	2	1	0	4
24	Ma, 2022	2	2	2	2	8
25	Ma, 2023	1	2	1	0	4
26	Ma, 2021	1	1	1	1	4
27	Narin, 2012	2	1	1.5	1	6.5
28	Nelson, 2006	1	1	1.5	2	5.5
29	Niu, 2016	2	0	1.5	1	4.5
30	Song, 2020	2	0	1.5	1	4.5
31	Sun, 2022	2	0	2	2	6
32	Wang, 2017	1	2	1.5	1	5.5
33	Wang, 2015	1	1	1	1	4
34	Xiang, 2016	2	1	1	1	5
35	Xing, 2017	2	0	1.5	1	4.5
36	Yan, 2007	2	0	1	1	4

Table 2 (Continued)

Number	Included literature	Subject selection	Effective rate	Reliability	Publication level	Score
37	Yang, 2017	1	0	1.5	1	4.5
38	Yi, 2021	1	1	2	0	4
39	You, 2020	1	1	1	1	4
40	Yu, 2016	1	2	0.5	1	4.5
41	Zhang, 2019	2	2	1.5	1	6.5
42	Zhang, 2016	2	0	2	1	5
43	Zhang, 2021	2	0	1	1	4
44	Zheng, 2013	2	0	2	0	4
45	Zhou, 2012	1	1	1	1	4
46	Zhu, 2020	1	1	2	1	6
47	Zong, 2005	1	0	1	2	4

3. Results

3.1. Sample

The sample was derived from 47 eligible studies (54,448 participants) with 98 independent effect sizes (positive parenting style and prosocial behavior 29 effect sizes, negative parenting style and prosocial behavior 27 effect sizes, positive parenting style and aggressive behavior 21 effect sizes, negative parenting style and aggressive behavior 21 effect sizes) on the association between parenting style and social behavior of preschool children.

3.2. Effect sizes and heterogeneity test

Heterogeneity Q test and I^2 test were performed for effect values. There were significant differences among the effect values (Q = 536.155, $P < 0.001$; Q = 108.230, $P < 0.001$; Q = 130.532, $P < 0.001$; Q = 438.049, $P < 0.001$). The I^2 values were 94.778%, 75.935%, 84.678%, and 95.434%, respectively. The cut-off points of I^2 values were 25%, 50%, and 70%, representing low, medium, and high heterogeneity respectively [76]. Therefore, there was significant high heterogeneity among effect values in this study, indicating that the variation between effect values may be affected by potential moderating variables. In this study, there are real differences in effect values under different adjustment variables, so the random effects model is intended to be used for testing the main effect.

Table 3 showed that positive parenting style was positively correlated with prosocial behavior (r = 0.24, P < 0.001); negative parenting style was negatively correlated with prosocial behavior (r = -0.10, P < 0.001); positive parenting style was negatively correlated with aggressive behavior (r = -0.17, P < 0.001); negative parenting style was positively correlated with aggressive behavior (r = 0.22, P < 0.001).

A study systematically and quantitatively analyzed the correlation sizes obtained from 708 meta-analyses in individual difference correlation studies and suggested that $r = 0.1$, $r = 0.2$, and $r = 0.3$ be considered as low, medium, and strong correlations, respectively [77]. According to this criterion, positive parenting style had a medium correlation with prosocial behavior; negative parenting style had a low correlation with prosocial behavior; positive parenting style had a low correlation with aggressive behavior; negative parenting style had a medium correlation with aggressive behavior.

Table 3. The main effect of parenting style on social behavior

Variables	Model	K	N	Effect value and 95%CI			Two-tail	
				r	LL	UL	Z	P
Positive parenting on prosocial behavior	Random	29	14197	0.249	0.176	0.319	6.528	0.000
Negative parenting on prosocial behavior	Random	27	13433	-0.100	-0.138	-0.061	-5.084	0.000
Positive parenting on aggressive behavior	Random	21	12858	-0.170	-0.218	-0.122	-6.855	0.000
Negative parenting on aggressive behavior	Random	21	13960	0.234	0.158	0.306	5.946	0.000

3.3. Moderation analysis

The current meta-analysis examined child sex (female), and publication period (COVID-19 and non-COVID-19 period).

Table 4 showed that sex could not significantly moderate the positive parenting style and prosocial behavior (P = 0.956), negative parenting style and prosocial behavior (P = 0.634), positive parenting style and aggressive behavior (P = 0.843), negative parenting style and aggressive behavior of preschool children (P = 0.116).

Table 5 shows the following results. The publication period (P = 0.095) could not significantly moderate the association between positive parenting style and prosocial behavior. The publication period (P < 0.05) could significantly moderate the association between negative parenting style and prosocial behavior, specifically, the effect value of the COVID-19 period (r = -0.14) was stronger than the development period (r = -0.03). The publication period (P = 0.090) could not significantly moderate the association between positive parenting styles and aggressive behavior. The publication period (P = 0.338) could not significantly moderate the association between negative parenting styles and aggressive behavior.

Table 4. Meta-regressive moderating effect of parenting style on social behavior

Moderators	Variables	β	SE	95%CI		*P*
				LL	UL	
Female (%)	Positive parenting on prosocial behavior	-0.038	0.71	-1.43	1.353	0.956
	Negative parenting on prosocial behavior	-0.182	0.383	-0.934	0.569	0.634
	Positive parenting on aggressive behavior	0.115	0.584	-1.029	1.261	0.843
	Negative parenting on aggressive behavior	-1.277	0.813	-2.87	0.316	0.116

Table 5. Subgroup moderating effect of parenting style on social behavior

Variables	Heterogeneity test			Types	*K*	*N*	95%CI			Two-tail	
	Q	*df*	*P*				*r*	*LL*	*UL*	*Z*	*P*
positive parenting style on prosocial behavior	2.784	1	0.095	COVID-19 period	15	9666	0.308	0.238	0.376	8.162	0
				Non-COVID period	14	4531	0.175	0.028	0.314	2.322	0.02
negative parenting style on prosocial behavior	5.752	1	0.016	COVID-19 period	13	8902	-0.145	-0.189	-0.1	-6.271	0
				Non-COVID period	14	4531	-0.05	-0.113	0.014	-1.518	0.129
positive parenting style on aggressive behavior	2.871	1	0.09	COVID-19 period	9	7484	-0.214	-0.262	-0.164	-8.352	0
				Non-COVID period	12	5374	-0.138	-0.21	-0.064	-3.627	0
negative parenting style on aggressive behavior	0.919	1	0.338	COVID-19 period	7	7207	0.278	0.213	0.341	8.044	0
				Non-COVID period	14	6753	0.214	0.095	0.326	3.487	0

3.4. Publication bias

First, funnel plots were used to examine the publication bias of this study. The funnel plots **(Figures 2–5)** showed that the effect values of positive parenting style and prosocial behavior, negative parenting style and prosocial behavior, positive parenting style and aggressive behavior, and negative parenting style and aggressive behavior were basically distributed on both sides of their total effect size. The results showed that Egger's linear regression result of positive parenting style and prosocial behavior, negative parenting style and prosocial behavior, positive parenting style and aggressive behavior, negative parenting style and aggressive behavior was not significant [78]. The result of Egger's test showed no significant intercept value of correlation between positive parenting style and prosocial behavior (The intercept = -0.39, 95%CI:[-4.10, 3.31]), indicating no publication bias [$t(25) = 1.19$, $P = 0.82$]. The result of Egger's test showed no significant intercept value of correlation between negative parenting style and prosocial behavior (The intercept = -0.99, 95%CI:[-2.69,0.71]), indicating no publication bias [$t(25) = 1.19$, $p = 0.24$]. The result of Egger's test showed no significant intercept value of correlation between positive parenting style and aggressive behavior (The intercept = 0.87, 95%CI:[-1.57,3.32]), indicating no publication bias [$t(25) = 1.19$, $P = 0.46$]. The result of Egger's test showed no significant intercept value of correlation between

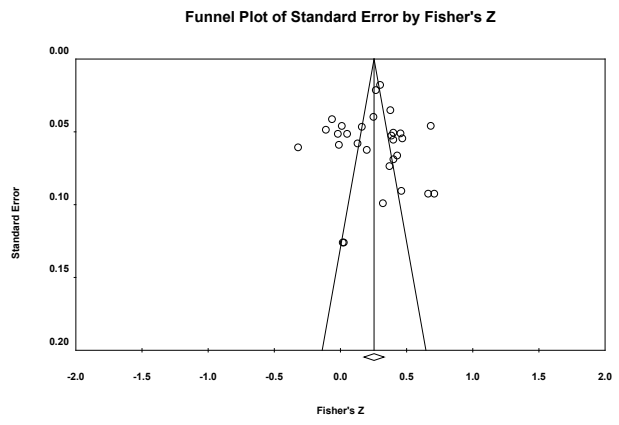

Figure 2. Funnel plot of positive parenting style and prosocial behavior

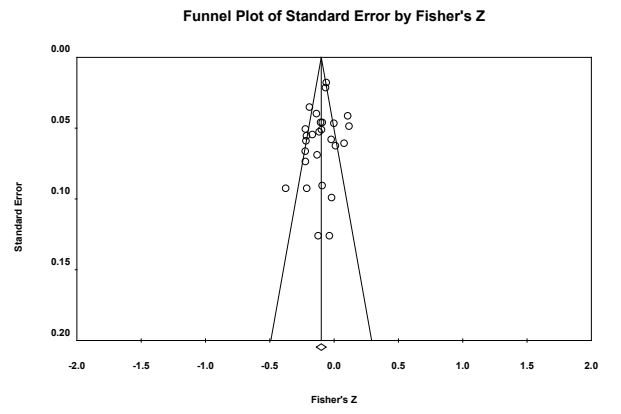

Figure 3. Funnel plot of negative parenting style and prosocial behavior

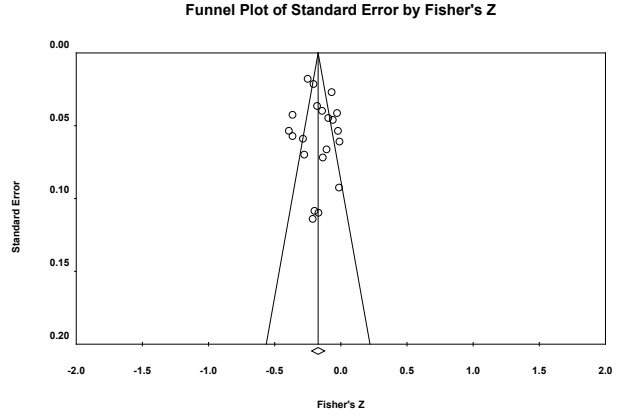

Figure 4. Funnel plot of positive parenting style and aggressive behavior

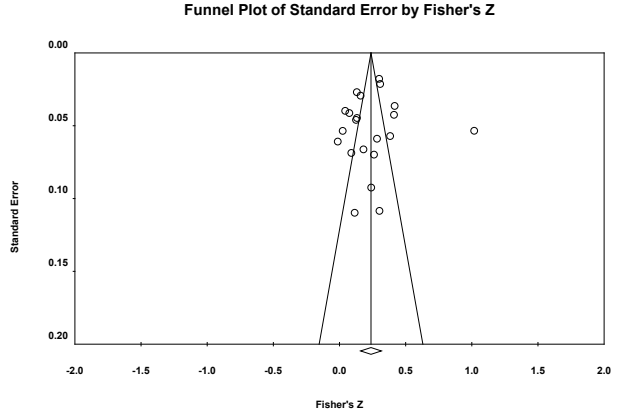

Figure 5. Funnel plot of negative parenting style and aggressive behavior

negative parenting style and aggressive behavior (The intercept = -1.14, 95%CI:[-5.89,3.61]), indicating no publication bias [$t(25) = 1.19$, $P = 0.62$]. Thus, all of the publication bias indicated that there was no significant publication bias in the meta-analysis.

4. Discussion

The aim of this meta-analytic review was to systematically summarize and analyze scientific publications investigating the association between parenting style (positive and negative) and social behavior (prosocial and aggressive). The findings showed that the more positive the parenting style, the more prosocial behavior and the less aggressive behavior. The more negative the parenting style, the less prosocial and more aggressive. Parents who adopt positive parenting styles such as encouraging independence and emotional warmth show high responsiveness and demand, and they are very sensitive and enthusiastic to the needs of their children, and instruct children through verbal preaching and different behavioral responses to promote prosocial behavior and reduce aggressive behavior [12]. Parents who adopt autocratic, penalty-oriented, and other negative parenting styles have high requirements and expectations for their children. This kind of parents expect their children to obey orders unconditionally without any explanation, and give little feedback to their children's needs. As a result, these children have poor social ability, cannot think independently, and increase problem behaviors [12]. In addition, harsh parenting may hinder a child's social development, which in turn may disrupt the process of parent-child interaction, so that it affects prosociality [79]. This study also verified Bronfenbrenner's ecosystem theory that micro-systems including family, peers, and school have a direct impact on children's social behavior. Family is not only the starting point of children's socialization but also the basis of children's interaction with the external environment [10].

There is only a low or moderate correlation between parenting style and social behavior, that is to say, the association between parenting style and these two kinds of social behavior is also related to other factors, such as peer association, parent-child association, family structure, social media and other external factors and children's temperament and other internal factors. Aggressive or violent media is associated with many negative outcomes, including an increase in aggressive behavior [80]. However, prosocial media; or prosocial content in media play a positive and even protective role for children [81–83]. There are also studies pointed out that people living in a single-parent or reorganized family structure often do not get enough love and concern, so they have negative mental states such as pessimism, suspicion, depression, isolation, and so on, leading to aggressive behaviors. And complete family structure can give children enough emotional experience, and prosocial behavior in a good psychological state of development [84]. There are also studies pointed out that an outgoing personality is associated with strong prosocial behavior, while anxiety and neuroticism are associated with aggressive behavior [85–86]. Overall, there is a correlation between parenting style and young children's social behavior, but the association is also related to many other factors.

Sex could not significantly moderate the association between parenting styles and social behaviors. The findings were consistent with some studies [30]. Girls have advantages in emotional perceptual recognition, infectious response, understanding expression, and affective empathic tendencies, boys consciously control or suppress emotional expression and empathy [87]. Positive emotional expression of parents has a significantly better promoting effect on the prosocial behavior of girls than boys. Conversely, strict and lack of warm parental interaction stimulate aggressive behavior or problem behavior in boys. However, with the development of

education level and the renewal of the education concept, parents of the young generation have gradually broken the traditional Chinese custom of preferring sons over daughters, and their parenting methods do not differ according to the gender of children, so there is no difference between parents' treatment of children of different genders.

The publication period could not significantly moderate the association between parenting style and social behavior, but could significantly moderate the association between negative parenting style and prosocial behavior, and the COVID-19 period was stronger than the development period. During the COVID-19 period, parents spend much more time with their children than before at home, so parent-child friction inevitably increases, which may lead to parents' frustration in parenting [88]. A Brazilian study also revealed that parents used physical coercion and verbal hostility to control their children's social behavior in pandemic situations, which makes it difficult for children to develop prosocial behaviors [89]. It is worth noting that the increase in parent-child conflict during the pandemic does not mean a change in parenting style. There is no significant change in the period of COVID-19 or non-COVID-19, which explains the research findings that the time of publication does not significantly affect parenting style and aggressive behavior of children. As for the result that parental rearing style and prosocial behavior of young children could not be significantly adjusted during the period of publication, this was inconsistent with the study of some studies [90]. They pointed out that during the epidemic period, most college students were actively engaged in various anti-epidemic actions closely related to society, which could easily lead to empathy and help support behavior, and young children because of their ability to participate in anti-epidemic activities, their social behavior can not change too much during the COVID-19 period. The study speculated that it might be caused by the group of subjects.

5. Limitations and implications

This study focuses on the close association between parenting style and prosocial and aggressive behaviors of preschool children. It also explores the child sex (female), and publication period (non-COVID-19 period/ COVID-19 period) moderating the association between the two. It has important reference and guiding significance for promoting prosocial behavior, reducing aggressive behavior, and guiding family education in the new era. Shortcomings and prospects of this study: (1) In this study, most studies on parenting styles rely on reports provided by parents, while children's self-reports and experimental reports nominated by peers are less considered. Future studies can adopt peer nomination or experiments to explore children's social behaviors. (2) Since most of the included studies did not report age, and most of the subjects were mixed-age children, namely large, middle, and small classes, it was impossible to explore the close association between age and maternal parenting style and children's prosocial behavior and aggressive behavior. (3) In terms of the measurement tools of parenting styles, most studies have adopted the questionnaire of parenting styles or similar measurement tools, but few tools such as EMBU are involved. Future studies can be based on the Chinese cultural background and family education background in the new era to dig deeper and expand the measurement tools of parenting styles. (4) Most of the children included in this study are children with typical development, and there is little reference to children with difficulties such as left-behind children and mentally retarded children, who are the special "care" group of children and need to be given more care. The researchers hope that special children can be included in the study in the follow-up research, not just normal children.

6. Conclusion

Overall, the more positive the parenting style, the more prosocial behavior and the less aggressive behavior the child has. On the contrary, the more negative the parenting style, the less prosocial behavior and more aggressive behavior the child has. Additionally, negative parenting styles during the COVID-19 period significantly reduced the prosocial behavior of children. The findings suggest that parents should use as much positive parenting as possible while avoiding negative parenting, especially in closed environments such as the COVID-19 period.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Eisenberg N, Spinrad TL, Knafo-Noam A, 2015, Prosocial Development, in Handbook of Child Psychology and Developmental Science: Socioemotional Processes. John Wiley & Sons, New Jersey, 610–656. https://doi.org/10.1002/9781118963418.childpsy315

[2] Björkqvist K, Lagerspetz KM, Kaukiainen A, 1992, Do Girls Manipulate and Boys Fight? Developmental Trends in Regard to Direct and Indirect Aggression. Aggressive Behavior, 18(2): 117–127. https://doi.org/10.1002/1098-2337(1992)18:2<117::AID-AB2480180205>3.0.CO;2-3

[3] Meece D, Colwell MJ, Mize J, 2007, Maternal Emotion Framing and Children's Social Behavior: The Role of Children's Feelings and Beliefs about Peers. Early Child Development and Care, 177(3): 295–309. http://dx.doi.org/10.1080/03004430500480826

[4] Wang Y, Zhang Y, Xu Q, et al., 2007, Mediating Effect of Children's Self-Concept on the Relationship between Parents' Negative Punishments and Children's Social Behaviors. Chinese Journal of Clinical Psychology, 15(6): 603–608. https://doi.org/10.3969/j.issn.1005-3611.2007.06.015

[5] Marçal KE, Bosetti R, Barr N, 2023, Housing Insecurity and Adolescent Behavioral Outcomes: The Mediating Role of Aggression in Parenting. Child Abuse & Neglect, 137(3): 106039. https://doi.org/10.1016/j.chiabu.2023.106039

[6] Querido JG, Warner, TD, Eyberg SM, 2002, Parenting Styles and Child Behavior in African American Families of Preschool Children. Journal of Clinical Child and Adolescent Psychology, 31(2): 272–277. https://doi.org/10.1207/153744202753604548

[7] Xiang R, Lei WP, 2021, How do Family Parenting Styles Affect Children's Problem Behaviors? Chinese Journal of Education and Economy, 37(5): 49–57. https://doi.org/10.3969/j.issn.1003-4870.2021.05.00

[8] Darling N, Steinberg L, 1993, Parenting Style as Context: An Integrative Model. Psychological Bulletin, 113(3), 487–496. https://doi.org/10.1037/0033-2909.113.3.487

[9] Lei LL, Ran GG, Zhang Q, et al., 2020, The Associations between Parenting Styles and Anxiety in Preschool-age Children: A Three-level Meta-Analysis. Psychological Development and Education, 36(3): 329–340. https://doi.org/10.16187/j.cnki.issn1001-4918.2020.03.10

[10] Hu QX, Feng QS, 2022, Parenting Style and Prosocial Behaviour among Chinese Preschool Children: A Moderation Model. Early Child Development and Care, 192(9): 1444–1461. https://doi.org/10.1080/03004430.2021.1888942

[11] Storm LV, Lissa CJV, Lucassen N, et al., 2022, Maternal and Paternal Parenting and Child Prosocial Behavior: A Meta-analysis using a Structural Equation Modeling Design. Marriage & Family Review, 58(1): 1–37. https://doi.org/10.1080/01494929.2021.1927931

[12] Fatima S, Dawood S, Munir M, 2022, Parenting Styles, Moral Identity and Prosocial Behaviors in Adolescents. Current Psychology, 41(1): 902–910. https://doi.org/10.1007/s12144-020-00609-3

[13] Padilla-Walker LM, Christensen KJ, 2010, Empathy and Self-regulation as Mediators between Parenting and Adolescents' Prosocial Behavior toward Strangers, Friends, and Family. Journal of Research on Adolescence, 21(3): 545–551. https://doi.org/10.1111/j.1532-7795.2010.00695.x

[14] Llorca A, Richaud MC, Malonda E, 2017, Parenting Styles, Prosocial, and Aggressive Behavior: The Role of Emotions in Offender and non-offender Adolescents. Frontiers in Psychology, 8(8): 1–11. https://doi.org/10.3389/fpsyg.2017.01246

[15] Jia S, Wang L, Shi Y, 2014, Relationship between Parenting and Proactive Versus Reactive Aggression among Chinese Preschool Children. Archives of Psychiatric Nursing, 28(2): 152–157. https://doi.org/10.1016/j.apnu.2013.12.001

[16] Guo Y, Zhang YQ, Wu CA, et al., 2022, Bidirectional Associations between Parenting Styles and Conduct Problems in Chinese Preschool Children: The Shenzhen Longhua Child Cohort Study. Psychology, Health & Medicine, 27(9): 2007–2020. https://doi.org/10.1080/13548506.2021.1999994

[17] Jia S, Wang L, Shi Y, et al., 2016, Family Risk Factors Associated with Aggressive Behavior in Chinese Preschool Children. Journal of Pediatric Nursing, 31(6): e367–e374. https://doi.org/10.1016/j.pedn.2016.08.001

[18] Xie N, 2015, The Relationship of Parenting Style Self-control and Aggressive Behavior, thesis, Anshan Normal University.

[19] Yu Y, 2016, The Relationship among Parenting Styles, Emotional Intelligence and Prosocial Behavior about the Older Kids from Preschool of Anshan City, thesis, Anshan Normal University.

[20] Ma LJ, Fan JY, 2012, Relationship between Parenting Style and Implicit Aggression among Rural Middle School Students. Chinese Journal of School Health, 33(7): 834–836. https://doi.org/10.16835/j.cnki.1000-9817.2012.07.023

[21] Zhao JX, Shen JL, Zhang WX, 2006, Relationship among Children's Emotion Understanding Prosocial Behavior and Peer-acceptance. Chinese Journal of Psychological Development and Education, 22(1): 1–6. https://doi.org/10.3969/j.issn.1001-4918.2006.01.001

[22] Cheng YL, Chen D, Xiao JJ, et al., 2020, Analysis on Psychological and Sleep State of General Practitioners involved in Epidemic Prevention and Control during the Novel Coronavirus Pneumonia Epidemic. Chinese Journal of General Practice, 18(11): 1879–1883. https://doi.org/10.16766/j.cnki.issn.1674-4152.001644

[23] Vallejo-Slocker L, Fresneda J, Vallejo MA, 2020, Psychological Wellbeing of Vulnerable Children during the COVID-19 Pandemic. Psicothema, 32(4): 501–507. https://doi.org/10.7334/psicothema2020.218

[24] Chou XY, Wang GH, Wang Y, et al., 2021, Study on the Changes of School-age Children's Emotional and Behavioral Problems during the COVID-19 Quarantine. Chinese Journal of General Medicine, 19(12): 2077–2114. https://doi.org/10.16766/j.cnki.issn.1674-4152.002241

[25] Hails KA, Petts RA, Hostutler CA, et al., 2022, COVID-19 Distress, Negative Parenting, and Child Behavioral Problems: The Moderating Role of Parent Adverse Childhood Experiences. Child Abuse & Neglect, 130(8): 105450. https://doi.org/10.1016/j.chiabu.2021.105450

[26] Masud H, Ahmad MS, Cho KW, 2019, Parenting Styles and Aggression among Young Adolescents: A Systematic Review of Literature. Community Mental Health Journal, 55(6): 1015–1030. https://doi.org/10.1007/s10597-019-00400-0

[27] Anyerson SGT, María CCD, Jorge HGC, 2021, Evolution of the Study on the Effect of Parenting on Prosocial Behaviours in Childhood and Adolescence: Systematic Review. Actualidades en Psicología, 35(130): 49–73. https://

doi.org/10.15517/ap.v35i130.39958

[28] Wong TK, Konishi C, Kong X, 2021, Parenting and Prosocial Behaviors: A Meta-Analysis. Social Development, 30(2): 343–373. https://doi.org/10.1111/sode.12481

[29] Moher D, Liberati A, Tetzlaff J, et al., 2009, Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement. PLoS Medicine, 6(7): e1000097. https://doi.org/10.1371/journal.pmed.1000097

[30] Lei H, Chiu MM, Cui Y, et al., 2018, Parenting Style and Aggression: A Meta-Analysis of Mainland Chinese Children and Youth. Children and Youth Services Review, 94(7): 446–455. https://doi.org/10.1016/j.childyouth.2018.07.033

[31] Bai LY, 2019, The Influence of Parental Rearing Patterns on Children's Aggressive Behavior: Taking Two Kindergartens in Erdos as an Example, thesis, Yanbian University, China.

[32] Bi SN, 2010, A Study of Parenting Styles, Peer Relationships and Cooperative Behaviors among 4–6 Year Olds, thesis, Tianjin Normal University.

[33] Chen C, 2012, The Relationship between Social Development of Preschool Children and Teaching Style of the Parents, thesis, Southwest University.

[34] Deng SY, 2013, Study on the Relationship of Preschool Children's Parenting Rearing Patterns, Attachment Types, and Pro-social Behaviors, thesis, Soochow University.

[35] Deng SM, 2020, Impacts of Parenting Styles on Emotional and Behavior Problems of Preschool Children: The Mediating Effect of Sleep Status, thesis, Wuhan University.

[36] Ding HZ, 2020, The Influence of Parenting Style on the Development of Prosocial Behavior of 3-6-year-old Children, thesis, Southwestern University of Finance and Economics.

[37] Du P, Huang YH, Feng LQ, 1999, The Influence of Parenting Style on Preschool Children's Behavior. Chinese Journal of Shanxi Medical Journal, 28(2): 38.

[38] Fei YY, 2020, A Study on the Relationship between Aggressive Behavior and Parenting Style, Peer Ability Interaction of 3–5 Year-old Children, thesis, Hunan Normal University.

[39] Gao YY, 2021, Longitudinal Effects of Maternal Authoritative Parenting on Preschoolers' Prosocial Behavior: A Moderated Mediation Model, thesis, Hubei Normal University.

[40] Han R, 2020, A Study on Children's Gratitude Status and its Relationship with Parenting Style, thesis, Shenyang Normal University.

[41] Huang YY, 2020, The Influence of Temperament on the Social Development of Left-behind Children Aged 5-6: The Mediating Effect of Family Rearing Style and Moderating Effect of Gender, thesis, Hunan Normal University.

[42] Li F, 2019, Effects of Parental Rearing Style and Speech Ability of Children Aged 4–6 on Behavior Development, thesis, China West Normal University.

[43] Li DH, Lin X, Yu W, et al., 2018, Parenting Styles in Children with Autism and their Role on Children's Social Development. Chinese Journal of Modern Special Education, 25(16): 76–80. https://doi.org/10.3969/j.issn.1004-8014.2018.16.013

[44] Li TT, Gu JY, Xu HW, 2021, The Relationship between Paternal Depression and Children's Problem Behavior: The Chain Mediating Roles of Paternal Parenting Self-efficacy and Paternal Parenting Style. Chinese Journal of Studies of Psychology and Behavior, 19(1): 66–73. https://doi.org/10.3969/j.issn.1672-0628.2021.01.010

[45] Li XL, 2021, The Moderating Role of Sensory Processing Sensitivity in the Effect of Parenting Behavior on Children's Prosocial Behavior, thesis, Southwest University.

[46] Li YQ, 2018, A Study on the Relationship between 4-6-year-old Children's Aggressive Behavior and Parenting Style: Taking Children's Self-esteem as Intermediary, thesis, Shihezi University.

[47] Long XF, 2018, Differences in Parenting Styles between Urban and Rural Areas and their Effects on Young Children's Bullying Behavior, thesis, Shandong Normal University.

[48] Luo SL, 2022, The Relationship between Family Socioeconomic Status and Young Children's Problem Behaviors: The Mediating Role of Parenting Styles. Chinese Journal of Early Education, 1079(4): 92–96.

[49] Luo SL, Zhang DJ, Liu YY, 2021, Family Socioeconomic Status and Preschoolers' Good Behavior Habits: Mediating Effects of Parenting Style and Preschoolers' Psychological Quality. Chinese Journal of Psychological Development and Education, 37(1): 26–33. https://doi.org/10.16187/j.cnki.issn1001-4918.2021.01.04

[50] Ma K, Wang FH, Wu XC, et al., 2022, Relationship between Parenting Styles and Autism Spectrum Disorders in Preschool Children: Multiple Mediators of Pro-social Behavior and Total Difficulty Scores. Health Research, 51(2): 195–201. https://doi.org/10.19813/j.cnki.weishengyanjiu.2022.02.004

[51] Ma WY, Ma WQ, Deng XM, 2023, Effects of Cumulative Family Risk Factors and Parenting Styles on Young Children's Problem Behaviors. Chinese Journal of Survey of Education, 12(3): 14–17. https://doi.org/10.16070/j.cnki.cn45-1388/g4s.2023.03.011

[52] Ma YC, 2021, A Study on the Relationship between Family Parenting Styles and Prosocial Behaviors of Children with Developmental Delay, thesis, Chongqing Normal University.

[53] Narin G, 2012, The Related Research about Children Social Development and Parental Rearing Patterns, thesis, Inner Mongolia Normal University.

[54] Nelson DA, Hart CH, Yang C, et al., 2006, Aversive Parenting in China: Associations with Child Physical and Relational Aggression. Child Development, 77(3): 554–572. https://doi.org/10.1111/j.1467-8624.2006.00890.x

[55] Niu WY, 2016, A Study on the Relationship between 3-6 Years Old Children's Sharing Behavior and Family Parenting Style, thesis, Shaanxi Normal University.

[56] Song M, 2020, The Development of Pro-social Behavior of Preschool Left-behind Children and its Relationship with Family Parenting Style, thesis, Shanxi Normal University.

[57] Sun JJ, Wang YJ, Weng WJ, et al., 2022, Relationship between Maternal Warmth and Preschooler' Problem Behaviors: Moderated by Negative Emotion. Chinese Journal of Clinical Psychology, 30(6): 1398–1402. https://doi.org/10.16128/j.cnki.1005-3611.2022.06.027

[58] Wang S, 2017, The Effect of Parenting Styles on 3–6 Years Old Children's Prosocial Behaviors, thesis, Changchun Normal University.

[59] Wang JY, 2015, The Influence of Family Parenting Style and Temperament on Young Children's Maladaptive Behavior in Groups, thesis, Nanjing Normal University.

[60] Xiang Y, 2016, A Longitudinal Study of Effective Control of Temperament and Parenting Style on the Social Development of Young Children, thesis, Nanjing Normal University.

[61] Xing L, 2017, The Relationship between Empathy, Maternal Parenting Style and Prosocial Behavior of Young Children, thesis, Shandong Normal University.

[62] Yan ML, 2007, A Study of Bullying and Temperament and their Parenting Style of the 4–5 Year-Old Children, thesis, Inner Mongolia Normal University.

[63] Yang HL, 2017, A Study on the Relationships between Emotion Understanding, Aggressive Behavior, and Parenting Style of Left-at-home Preschool Children, thesis, China West Normal University.

[64] Yi LL, 2021, The Relationship between Extroversion and Aggressive Behavior in Children: The Moderating Effect of Parental Democratic Rearing. Chinese Journal of Weifang Engineering Vocational College, 34(6): 97–101. https://doi.org/10.3969/j.issn.1009-2080.2021.06.015

[65] You WJ, 2020, Influence of Temperament and Parental Rearing Patterns on Problem Behaviors of Preschool Children, thesis, Henan University.

[66] Zhang L, 2019, The Relationship between Parenting Style, Emotion Regulation and Prosocial Behavior in Preschool Children, thesis, Shandong Normal University.

[67] Zhang X, 2016, The Correlative Study between Parenting Styles and 5-year-old Children's Moral Behavior, thesis, Liaoning Normal University.

[68] Zhang XQ, 2021, Influence of Parenting Style on Children's Aggressive Behavior and Educational Advice, thesis, China West Normal University.

[69] Zheng M, He GH, 2013, The Study of the Relationship between the Infant's Social Development and the Parenting Style of Uyghur and Hui Mothers. Chinese Journal of Xinjiang Education Institute, 29(2): 27–33.

[70] Zhou LY, 2012, Cross-cultural Research on Parenting Style and Two Types of Behavior Problems in Children Aged 3–6, thesis, Central China Normal University.

[71] Zhu J, 2020, The Influence of Sibling Relationships on the Social Development of Young Children: The Mediating Role of Parenting Style, thesis, Hangzhou Normal University.

[72] Zong AD, Li D, 2005, The Relationship with Prosocial Behavior of 2-year-old Children, Parenting Style and Mother-child Attachment. Chinese Journal of Shanghai Educational Research, 24(9): 46–48. https://doi.org/10.16194/j.cnki.31-1059/g4.2005.09.016

[73] Collier KM, Coyne SM, Rasmussen EE, et al., 2016, Does Parental Mediation of Media Influence Child Outcomes? A Meta-analysis on Media Time, Aggression, Substance Use, and Sexual Behavior. Developmental Psychology, 52(5): 798–812. https://doi.org/10.1037/dev0000108

[74] Lenhard W, Lenhard A, 2017, Computation of Effect Sizes. Psyhometrica, Bibergau (Germany). https://doi.org/10.13140/RG.2.2.17823.92329

[75] Zhang YL, Li S, Yu GL, 2019, The Relationship between Self-esteem and Social Anxiety: A Meta-analysis with Chinese Students. Chinese Journal of Advances in Psychological Science, 27(6): 1005–1018. https://doi10.3724/SP.J.1042.2019.01005

[76] Higgins JPT, Thompson SG, Deeks JJ, et al., 2003, Measuring Inconsistency in Meta-analyses. British Medical Journal, 327(7414): 557–560. https://doi.org/10.1136/bmj.327.7414.557

[77] Gignac GE, Szodorai ET, 2016, Effect Size Guidelines for Individual Differences Researchers. Personality and Individual Differences, 102(11): 74–78. https://doi.org/10.1016/j.paid.2016.06.069

[78] Egger M, Smith GD, Schneider M, et al., 1997, Bias in Meta-analysis Detected by a Simple, Graphical Test. BMJ (Clinical research ed.), 315(7109): 629–634. https://doi.org/10.1136/bmj.315.7109.629

[79] Wang J, Wang MZ, Lei L, 2023, Longitudinal Links Among Paternal and Maternal Harsh Parenting, Adolescent Emotional Dysregulation and Short-form Video Addiction. Child Abuse & Neglect, 141(7): 106236. https://doi.org/10.1016/j.chiabu.2023.106236

[80] Coyne SM, Padilla-Walker LM, Holmgren HG, et al., 2018, A Meta-analysis of Prosocial Media on Prosocial Behavior, Aggression, and Empathic Concern: A Multidimensional Approach. Developmental Psychology, 54(2): 331–347. https://doi.org/10.1037/dev0000412

[81] Carlo G, Padilla-Walker LM, Nielson MG, 2015, Longitudinal Bidirectional Relations between Adolescents' Sympathy and Prosocial Behavior. Developmental Psychology, 51(12): 1771–1777. https://doi.org/10.1037/dev0000056

[82] Eguren A, Cyr C, Dubois-Comtois K, et al., 2023, Effects of the Attachment Video-feedback Intervention (AVI) on

Parents and Children at Risk of Maltreatment during the COVID-19 Pandemic. Child Abuse & Neglect, 139(5): 106121. https://doi.org/10.1016/j.chiabu.2023.106121

[83] Prot S, Anderson CA, Gentile DA, et al., 2014, The Positive and Negative Effects of Video Game Play, in Media and the Well-being of Children and Adolescents. Oxford University Press, Oxford, 109–128.

[84] Herke M, Knöchelmann A, Richter M, 2020, Health and Well-being of Adolescents in Different Family Structures in Germany and the Importance of Family Climate. International Journal of Environmental Research and Public Health, 17(18): 64–70. https://doi.org/10.3390/ijerph17186470

[85] Will E, Hipson, Daniel GS, 2016, Is Good Fit Related to Good Behaviour? Goodness of Fit between Daycare Teacher-child Relationships, Temperament, and Prosocial Behaviour. Early Child Development and Care, 186(5): 785–798. https://doi.org/10.1080/03004430.2015.1061518

[86] Ruiz-Ortiz R, Braza P, Carreras R, et al., 2023, Does Surgency Moderate the Relationship between Parenting and Children's Aggression in Middle Childhood? Infant and Child Development, 32(2): 1–27. https://doi.org/10.1002/icd.2391

[87] Wang SQ, Zhao BX, Wu H, et al., 2022, The Effects of Marital Quality on Children's Pro-social Behavior: The Chain Mediating Model of Parental Positive Emotion Expression, Parenting Behavior and the Gender Difference. Chinese Journal of Psychological Development and Education, 38(3): 323–330. https://doi.org/10.16187/j.cnki.issn1001-4918.2022.03.03

[88] Wang W, Wang SN, Cheng HB, et al., 2021, The Mediation Effect of Fathers' Parental Burnout in Parenting Stresses and Teenagers' Mental Health. Chinese Journal of Clinical Psychology, 29(4): 858–861. https://doi.org/10.16128/j.cnki.1005-3611.2021.04.040

[89] Oliveira TDO, Costa DS, Alvim-Soares A, et al., 2022, Children's Behavioral Problems, Screen Time, and Sleep Problems' Association with Negative and Positive Parenting Strategies during the COVID-19 Outbreak in Brazil. Child Abuse & Neglect, 130(8): 105345. https://doi.org/10.1016/j.chiabu.2021.105345

[90] Zhang WJ, Zhu H, 2021, The Influence of Parenting Styles on Prosocial Behaviors of Students from Double First-class Construction Universities under the Background of the COVID-19 Pandemic. Chinese Journal of Fudan Education Forum, 19(5): 49–57. https://doi.org/10.13397/j.cnki.fef.2021.05.008.