# A Meta-analysis of the Relationships between Chinese Parenting Styles and Child Academic Achievement

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*Abstract: This article aimed to examine the relationships between Chinese parenting styles and child academic achievement through a meta-analytical review. After literature screening, 54 studies and 793 independent effect sizes that met the inclusion criteria were incorporated into the analysis (n = 24630). According to the results of the study, positive parenting styles like "emotional warmth and understanding" had prominent beneficial effects on child academic achievement, whilst negative ones such as "punishment and harshness", "overinvolvement and overprotection", "preference for the subject", "rejection and denial") were significantly unfavorable for child academic performance. In addition, the relation between parental overinvolvement and overprotection and child academic achievement was moderated by parental roles. Children's ages could moderate the relationships between parenting styles (except for overinvolvement and overprotection) and child academic results. The connection between parental preference for the subject and child academic achievement was moderated by disciplines. The effects of parents' emotional warmth and understanding as well as overinvolvement and overprotection were moderated by times.*

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# Research Aims and Hypotheses

The present study proposed two hypotheses. H1: Child academic achievement is closely correlated with parenting styles in China. H2: Parental roles, children's ages, disciplines, and times can moderate the relation between parenting styles and child academic performance. Additionally, given that parents and children's understanding of parenting styles differ in varying cultural contexts, this study attempted to use meta-analysis to examine the relationships between parenting styles and child academic results as well as the factors influencing them against the backdrop of Chinese culture.

# Methodology

## *Literature Retrieval*

The present study included literature published both in Chinese and English. Chinese terms for "parenting styles" and "academic achievement" were used to search for studies in CNKI (China National Knowledge Infrastructure) Journal, Doctoral Dissertations, and Masters' Theses Databases, China Science and Technology Journal Database, and Wanfang Database. Studies in English were identified by searching under keywords "parenting style", "academic achievement" (or "academic performance"), and "Chinese" (or "China") in EBSCO, Science Direct, and Springer LINK. As Chinese version of EMBU (a parenting style assessment scale) was revised in 1993, we retrieved articles published between January 1993 and December 2018 from May the 26th of 2019 to June the 28th of 2019.

## *Inclusion Criteria*

   I.    Studies included must be empirical research with complete data and specified sample sizes.

   II.   Subjects are from China; Data related to Chinese parenting styles and student academic results must be provided if the sample is a mixture of Chinese and foreign subjects.

  III.   The use of Chinese version of EMBU as a measurement tool must be clearly stated.

  IV.   Academic achievement refers to results of Chinese, mathematics, English and other subjects. Studies using student academic achievement scales are excluded.

   V.   Focusing on the relationships between parenting styles and child academic achievement, the study must report r value or F value, t value and X2 value that can be converted to r value.

  VI.   As a result, 54 studies with 793 independent samples (n=24,630) were included in the meta-analysis.

## *Coding of Literature Characteristics*

The basic information of included studies entailed authors, publication time, sample sizes, subjects' education levels, subjects' parents, disciplines, etc. Data from each ef-

fect size was reported only once to ensure the independence of effect sizes. An independent sample was coded only once; if a study contained more than one independent samples, then they would be coded separately. The majority of the studies employed the standard Chinese version of EMBU, although a few of them used the simplified version. In terms of the collection time of the research data, in case of not being reported in the study, it was assumed two years after the publication time of the study. Thus, this analysis covered a time range from 1997 to 2016, which was divided into two phases with phase one from 1997 to 2006 and phase two from 2007 to 2016, according to the two key points (1997 and 2007) in the Five-Year Plan of China Home Education Work.

## *Processes of the Meta-Analysis*

First, effect sizes were calculated with Pearson product-moment correlation coefficient r meta-analysis method. r value was converted by Fisher Z and used to compute the weight of effect sizes and the 95% confidence interval. $\tau^2$ was treated as an indicator of the heterogeneity of effect sizes. The present study used Q-statistic to test the significance of $\tau^2$.

Second, whether to choose the fixed-effects or random-effects model depended on our projections of effect sizes of included studies and analytical aims. In current study, subjects included pre-school children, primary and secondary students, residing in urban or rural areas; the tools used to measure parenting styles were not identical. Hence, this study adopted the random-effects model to compute effect sizes while applied the fixed-effects model to the analysis of moderating variables.

Lastly, the fail-safe number ($N_{fs}$), trim-and-fill method, and contour-enhanced funnel plot were employed to test the publication bias. The higher the $N_{fs}$, the less likelihood of publication bias. When $N_{fs}$ is less than 5k + 10, the effect of publication bias is big enough to be attended to.

## Analysis Results

## *The Test of Main Effects*

According to the test results of main effects of parenting styles on child academic achievement, there is a strong and positive correlation between parental emotional warmth and understanding and child academic performance (r = 0.18, 95% CI [0.17, 0.20]); parental punishment and harshness were inversely connected to child academic results (r = -0.12, 95% CI [-0.14, -0.11]); parental overinvolvement and overprotection negatively predicted child academic performance (r= -0.05, 95% CI [-0.06, -0.04]); parental preference for the subject had a significant unfavorable influence on child academic achievement ( r = - 0.06, 95% CI [- 0.08, - 0.04]); parental rejection and denial had strong and negative impact on child academic performance (r = -0.12, 95% CI [-0.13, -0.10]). In summary, positive parenting styles like emotional warmth and understanding are significantly beneficial for kid academic achievement, while negative ones such as parental punishment and harshness, overinvolvement and overprotection, preference for the subject, rejection and denial are detrimental to child academic results.

# *The Test of Moderating Effects*

## Moderating Effects of Parental Roles

Parental roles significantly moderated the relationship between overinvolvement and overprotection and kid academic achievement (Q- between = 4.00, df = 1, p < 0. 05), with the father's effect being remarkably greater than the mothers. Nevertheless, parental roles did not display prominent moderating effects on the relationship between other parenting styles and child academic performance, with Q- between = 1.01, df = 1, p = 0.32 for the relationship between emotional warmth and understanding and child academic results, Q- between = 0.03, df = 1, p = 0.86 for that between parental punishment and harshness and kid academic achievement, Q- between = 0.25, df = 1, p = 0.62 for that between parental preference for the subject and child academic results, and Q- between = 0.83, df = 1, p = 0.36 for that between parental rejection and denial and kid academic outcomes.

## The Moderating Effects of Children' Ages

Children's ages imposed pronounced moderating effects on the relationships between parenting styles (except for overinvolvement and overprotection) and child academic achievement. Specifically, children's ages significantly moderated the relationship between parental emotional warmth and understanding and child academic performance (Q-between = 55.24, df = 4, p < 0.001), and that between parental punishment and harshness  and kid academic results (Q- between = 96.74, d f = 4, p < 0.001), with the strongest effects at the kindergarten age, followed by primary and junior secondary school ages, and with the weakest effects at senior secondary and secondary school ages. The primary school age most powerfully moderated the relationship between parental preference for the subject and child academic performance (Q- between = 13.85, df = 4, p < 0.01), while the junior and senior secondary school ages had the slightest moderating effects. On the relationship between parental rejection and denial and kid academic achievement (Q- between = 90.49, df = 4, p< 0.001), the kindergarten age had the most significant moderating effect whilst the secondary school age had the weakest one.

## The Moderating Effects of Disciplines

Disciplines significantly moderated the relationship between parental preference for the subject and child academic performance (Q- between = 8.57, df = 2, p < 0.05), with Chinese imposing the greatest effect, followed by mathematics and English. However, the moderating effects of disciplines on the relationships between other parenting styles and child academic achievement were not significant, with Q- between = 1.56, df = 2, p= 0.46 for the relationship between parental emotional warmth and understanding and child academic results, Q- between = 1.13, df = 2, p = 0.57 for the relationship between parental punishment and harshness and kid academic performance, Q-between = 0.84, df = 2, p = 0.66 for the relationship between parental overinvolvement and overprotection and child academic achievement, Q- between = 0.34, df = 2, p = 0.85 for the relationship between parental rejection and denial and kid academic results.

## The Moderating Effects of Times

The moderating effects of times were not significant on the relationships between parental punishment and harshness and child academic achievement (Q- between = 2.38, df = 1, p = 0.12), between parental preference for the subject and child academic performance (Q- between = 1.54, df = 1, p = 0.22), and between parental rejection and denial and kid academic results (Q- between = 0.76, df = 1, p = 0.39), whereas they were significant or marginally significant on those between the other two parenting styles and kid academic achievement. To be specific, the moderating effect of phase two was remarkably stronger than that of phase one on the relationship between parental emotional warmth and understanding and child academic performance (Q- between = 9.89, df = 1, p < 0.01), and the positive correlation between them was strengthened in phase two. The moderating effect of phase one was substantially stronger than that of phase two on the relationship between parental overinvolvement and overprotection and kid academic results (Q- between = 2.82, df = 1, p = 0.09), and the negative correlation between them was weakened in the second phase.

## Conclusions and Discussion

### *The Relationship between Parenting Styles and Child Academic Achievement*

Based on the existing 54 studies and 793 independent samples, this meta-analysis found that there were significant correlations between the five parenting styles and child academic achievement. This conclusion validates H1 and is consistent with the results of a previous literature review that analyzed 39 studies. In addition, different from another meta-analysis conducted by foreign scholars which focused on the relations between authoritarian, authoritative, permissive, and neglectful parenting styles and academic achievement of subjects in Western countries, the present study drew on five parenting styles (emotional warmth and understanding, punishment and harshness, overinvolvement and overprotection, preference for the subject, rejection and denial) listed in EMBU to examine their relationships with child academic performance in the context of Chinese culture. There were differences in parenting styles cited and the cultural backgrounds of samples between the two meta-analytical studies, but interestingly, both discovered that the degree of correlation between parenting styles and child academic achievement was not very high, with a correlation coefficient of -0.12 – 0.18 found in the present study and a correlation coefficient of -0.16 – 0.17 in the other one.

Different parenting styles yields distinct influences. The favorable effects of positive parenting styles and detrimental influences of negative ones on kid academic achievement found by the current study are aligned with the results of existent research and support the argument of the human ecology development theory. Moreover, it is discovered that parental emotional warmth and understanding has the most salient effect on child academic performance, which highlights the importance of emotional warmth and understanding to children's growth. Besides, the coefficients of correlations be-

tween child academic results and parental punishment and harshness as well as rejection and denial are relatively large.

## *The Moderating Effects of Parental Roles, Children's ages, Disciplines, and Times*

First off, as per the analysis results, parental roles cannot significantly moderate the relationships between most of the parenting styles and child academic achievement. However, on the relationship of parental overinvolvement and overprotection and child academic performance, the moderate effect of the father is considerably greater than that of the mother. Second, ages can effectively moderate the relationships between most of the parenting styles and child academic results. Parenting styles are more closely related to child academic performance at the primary level, whilst less at the secondary level. Third, disciplines impose a significant moderating effect on the relationship between parental preference for the subject and kid academic achievement. Lastly, as times advance, the favorable effect of the positive parenting style (emotional warmth and understanding) on child academic performance strengthens, while the detrimental effect of negative parenting styles like overinvolvement and overprotection is mitigated.