Parental Discipline and Early Childhood Development in Rural China

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Abstract: Children who are under the age of five in underdeveloped and developing countries, including China, exhibit developmental delays due to their exposure to risks such as impoverishment, deprived health conditions, parental punishment, neglect, and poor psychosocial stimulation. Adverse experiences during the formative years of life, such as harsh parental discipline, may put them at risk for poor physical and mental well-being. The aim of this research is to explore the pervasiveness and developmental outcomes of different forms of discipline practices in the underdeveloped rural areas of China. To do this, we used cross-sectional data on child-caregiver dyads from a large survey held in 22 poor counties in the QinBa Mountain Region. The sample included 1622 children aged 12–36 months. Participants were requested to respond to a general survey on parenting which included basic demographic questions, the Ages and Stages Questionnaire: Social-Emotional (ASQ-SE), the Bayley Scales of Infant and Toddler Development (BSID-III), and questions on exposure of children to different discipline practices. Our findings from OLS estimates reveal that aversive discipline methods adversely affect cognitive, language, and socio-emotional development, whereas, non-aversive discipline practices have constructive effects on cognitive, language, and motor development of children.

Keywords: discipline; developmental delay; early childhood development; parenting; physical punishment

1. Introduction

The initial years (nought to five) of life represent the crucial developmental period as the brain grows rapidly during this period. An individual’s cognitive, physical, and social-emotional ability develops during this time and the development of these abilities influences education, income, and success later in life [1]. Early childhood development (ECD) is essential for laying the groundwork for subsequent physical and emotional well-being, as well as educational achievement. Delays in development during the early years of life may result in lasting developmental disparities between socioeconomic groups or regions, and may even undermine all attempts to escape a middle-income trap [2].

Developmental delays are quite common in developing countries [3,4]. According to the Lancet series on early childhood development in 2017, nearly 250 million children younger than 5 years of age in underdeveloped and developing countries “including China” are at the risk of not attaining their full development (cognitive, motor, language, and socio-emotional) potential, due to impoverishment, substandard nutrition and poor health, adverse childhood experiences, and unequal treatment [5–7]. Large developmental gaps continue to exist between urban and rural children in these countries.

The importance of ECD in the initial years of life raises consideration of what factors influence ECD. Firstly, it is the socioeconomic status (SES) of a family that has a major impact on a growing child and this has been well documented in the literature [8]. Lugo-Gil et al. (2008) revealed how household resources affected children’s cognitive abilities in
the long term [9]. Numerous studies have established important connections, such as the influence of nutrition on physical and brain development [10–14]. The emerging literature has pointed out that physical punishment and child neglect are both adverse childhood experiences and among the most serious public health concerns related to detrimental ECD [15–17]. In low socioeconomic settings, harsh discipline practices impact all members of the family, as well as communities and societies. When underprivileged children in underdeveloped areas are exposed to adverse circumstances in the home and community, it increases the chances that these children will be trapped in an “intergenerational pattern of both psychosocial and physiological mal adaptations” [7]. Such societies are tremendous threats to the human capital of a country in the long run.

In ECD, the quality of the home environment plays a prominent role in promoting early development of infants and toddlers. The home environment needs to be as secure and structured physical setting, with possibilities to play and explore, in which learning materials, toys, and books are provided. According to the WHO, the quality of the household environment has a significant impact on the first three years of life of an individual [18]. A growing body of research has backed up this claim [19–22]. Several studies have proven that a nurturing home environment positively affected the physical health [23], cognitive skills [24], and language outcomes [25] of toddlers and infants. The child-rearing practices of caregivers in the home play a crucial role in determining early outcomes of a child [26]. When caregivers communicate interactively with their infants and toddler by providing good nurturing, the cognitive and non-cognitive functions of a young child develop to their full potential. However, on the contrary, when the caregivers expose their children to physical punishment and adverse environments, the child suffers stifled cognitive abilities and brain development. Therefore, children who experience harsh and neglectful parenting behaviors in their first years of life are at risk of experiencing detrimental developmental outcomes, with consequences that can impede their educational attainment, wages, and overall health [27].

In this study, we explore the early experiences of young children with respect to discipline practices of caregivers and how these practices affect their cognitive and non-cognitive development. We begin by reviewing the existing research on the prevalence of discipline practices, and then, we explore the underlying notions of normal brain development. This has been done in order to set the stage for comprehending and spotting potential changes in children who are raised in difficult situations. The ways in which unfavorable rearing experiences (parental discipline practices) affect the developmental outcomes in the rural areas of China are also explored.

1.1. Prevalence of Parental Discipline Practices

Toddlerhood (age 1–3) is a sensitive period in the life of a child, since, during this phase, the mobility and autonomy seeking of a child increases as parental discipline practices also increase [28,29]. The word discipline derives its meaning from “discipline are” which is a Latin word and signifies “to teach” [30,31]; however, it is usually linked with retribution and control, which does not fully satisfy the term. Various strategies are deployed by parents for disciplining their children which chiefly include punishment and retribution [32]. Physical (or corporal) punishment is the use of physical strength by an adult to correct or regulate the improper behavior of a child [33–35]. The castigation acts by parents usually do not take place in seclusion and are combined with other discipline inducing strategies such as time-out, withdrawing toys or favorite things, and verbal or physical castigations.

In the United States, it is estimated that around 55 to 65 percent of parents undertake corporal punishment (CP) as a widely adopted discipline inducing technique. Verbal punishment is also prevalent in households, although incidence percentages differ based on whether the data are drawn from parental statements or observations [36–38]. The practice of spanking is most common among preschoolers and school-aged children, although research shows that 11 percent of toddlers under 11 months are also spanked [39] and
nearly 15% of children are spanked at 12 months [40]. Wissow (2001) conducted a large survey on discipline practices and found that about 50% of parents of 18–23 month-old children and two-thirds of parents of 2–3-year-old children yelled at their children sometimes or often [39]. Similarly, Regalado (2004) found that in order to discipline toddlers, yelling was used by three-fourths of parents of children younger than 18 months and 91% of parents of children aged 19 to 35 months [41]. In an observational study of about 700 three-year-old children, 22 percent of the mothers chastised or degraded their children in front of a researcher.

China is also no exception to the abovementioned reports, indeed, one in four children has undergone some form of physical punishment during the early years of life [42,43]. Research on parental discipline carried out in the rural areas of China is very scarce. In modern Chinese families, physical castigation is still the leading disciplinary approach used by parents. Research carried out in Mainland China has shown that seventy percent of caregivers of young children who were surveyed reported that they used corporal punishment in the previous year [44]. A telephone survey of parents in Hong Kong revealed that 46–52.6 percent of children had undergone physical parental aggression [45]. A study conducted by the China Law Society on 3543 people revealed that 71.9% of the sample observed had been maltreated once or more in their lives by their mothers and fathers [46]. The literature on contemporary Chinese citizens shows that physical antagonism is unleashed on children under the belief that such a strategy is necessary to adequately train children and make them strong to endure physical hardship in the future [45,47]. Chinese parents who experience physical punishment during their childhood have more chances of using harsh disciplining strategies on their children. Most Chinese people believe in the old customary notions “beating is caring and scolding is loving” and “spare the rod and spoil the child” [48], and are of the opinion that educating children through physical punishment is legitimate and effective.

1.2. Impact of Parental Disciplinary Practices on ECD

The extant literature indicates that parental discipline impacts the cerebral and corporeal skills of young children. According to McLaughin et al. (2014), vulnerability to torturous or troubling experiences (harsh discipline practices) comprising harm or potential harm to a child can affect the development of that part of brain which underpins sentimental processing and threat detection in proportion to the extent of threat [49]. Similarly, another study [50] also revealed that children who had undergone physical castigation had higher responsiveness in medial and lateral prefrontal cortical regions to an impetus that indicated the existence of an imminent danger, than children who were not physically castigated. These alike areas overlapped with those areas in the brain where grey matter decreases have been identified in individuals who have been subjected to “harsher” kinds of parental discipline [51] and there was aberrant performance in toddlers who have been subjected to other forms of physical abuse [52]. Early childhood is a vulnerable phase of development in which ecological factors can have protracted effects on cognition and learning skills, with far reaching consequences for individuals and social relationships [5,53]. Consequently, the developmental implications of physical punishment, particularly in terms of socio-emotional and cognitive outcomes, are powerful if physical punishment happens in early life.

The results of many studies have related parental discipline and early childhood developmental outcomes. A number of studies on CP and spanking have suggested that ineffective discipline strategies were interrelated with detrimental developmental outcomes [54–56]. It has been found that CP adversely affected the cognitive ability of children, and therefore, they should never be spanked [57]. Cuart as et al. (2020) conducted a study on Columbian children and found that physical punishment slowed cognitive development [58]. Smith and Brooks-Gunn (1997) observed 715 children and discovered that children who had gone through severe punishments and physical violence possessed lower IQ levels [59]. Power and Chapieski (1986) found that the children of mothers who
used CP scored 20 points lower than children of mothers who rarely or never used CP [60]. Similarly, Straus and Paschall (2009) also found that children whose mothers relied on very meager, or even no physical castigation, gained in cognitive ability as compared with physically castigated children [61]. Berthelon et al. (2018) studied the consequences of using physical violence on children, in Chile, and the effects on their mental growth and development; they found that violence and physical abuse had negative implications for verbal skills and socio-emotional development [62]. Mackenzie et al. (2013) analyzed the effects of spanking on children aged between 3 and 5, in around 20 U.S. cities, and discovered that the children who underwent more spanking by their parents experienced stifled cognitive abilities and skills and the development of their brains were also affected at some later part of their lives [63]. Berlin et al. (2009) studied the consequences and outcomes of spanking and verbal abuse in 2573 toddlers that came from low income families of Whites, African Americans, and Mexicans and discovered that spanking one-year-old children resulted in aggressive behaviors when the children were 2 years old, along with low scores on Bayley’s scale of mental development [54]. However, there has been limited research on this very issue due to the reciprocal relation between the factors of development and harsh discipline.

1.3. The Present Study

The chain of relationships between different parental discipline practices and ECD has not been researched in rural China. The key goal of this study is to explore the association of five different discipline practices on the cognitive and non-cognitive outcomes of rural children younger than three years of age. To do so, we used cross-sectional data of 1622 toddlers from a study conducted from 2015 to 2017 in the QinBa Mountains of China. We included 12–36-month-old children in our study, since children in this age group, when exposed to harsh punishment, undergo larger negative impacts in terms of their cognitive growth. We hypothesize that children who are exposed to aversive discipline (spanking) have a greater likelihood of experiencing negative developmental outcomes and children who are exposed to non-aversive discipline practices have a likelihood of experiencing positive developmental outcomes. We based our hypothesis on a dimensional model of adversity [49], in which there exists a negative correlation between children who are exposed to threats and child developmental outcomes. This study is unique in the sense that it includes aversive forms of discipline such as spanking and yelling, as well as non-aversive forms of discipline such as taking toys, using time limits to stop, and explaining reasons to stop the child from doing something unacceptable that do not come under physical violence. Therefore, in short, we have tried to explore parental discipline from harsh (spanking) to positive discipline practices (explain reason to child). This study is vivid and experimental in nature, as it will help in understanding how milder forms of violence and positive discipline practices affect the ECD outcomes.

2. Method

2.1. Sample Selection

The statistics presented here were gathered from the records, from 2015 to 2017, in 22 counties located in Qinba Mountain Region in Southwest China. All townships from these areas participated in the study. Two exceptions were introduced in the study. First, one township was excluded which housed the county seat and, second, townships which did not have a population of 800 or more were excluded. In total, 100 townships constituted the study. Overall, 1622 toddlers between the ages from 12 to 36 months were included in the study. The enumerators visited the households of the toddlers designated during 2015 and acquired verbal approval from the caregivers.

2.2. Data Collection

This study used the data that were collected during the survey in poor counties of Qinba Mountains over four four-week sessions in November 2015, April 2016, September 2016,
and April 2017. First, qualified enumerators gathered socio-economic data from all the families which took part in the study. The primary caregiver of the child was recognized and oversaw a comprehensive assessment of the child and family’s individualities including gender, birth order, primary caregiver (mother, father, or someone else in the family), maternal age, education level of the parents and primary caregiver, and health status of the grandmother. To assess the financial condition of the household, the caregivers were asked whether or not they received Minimum Living Standard Guarantee payments, which is a type of financial support provided by the government for poor households in China.

2.3. Parental Discipline

In the second part of the survey, we collected the information on parental discipline practices. The caregivers were invited to specify the frequency of parental disciplinary practices directed from them to their child. We assessed the behavior of a caregiver toward a child over a short span of time. We kept the time period short as it is believed the more limited the time, the more precise the results are.

In this study, physical punishment is defined as corporal punishment (spanking) and verbal punishment is defined as yelling and taking toys. The enumerators asked the caregivers five questions about the use of disciplinary strategies. Two of the disciplinary strategies, i.e., yelling and spanking, were classified, based on their definitions, as negative/aversive in tone and involved physically or emotionally aversive acts [64]. The other three disciplinary strategies, i.e., time out, taking a toy, and reasoning could be performed with the help of a more constructive manner [65]. It should be noted that we did not use the term corporal punishment in the research questions. We designed these questions based on the studies of Regalado et al. (2004), Thompson et al. (1999), and Wissow (2001) [39, 41, 66].

2.4. Measuring Early Childhood Development

In the next part of the study, all children were assessed using the 3rd edition of Bayley’s scale of infant development (BSID-III), a globally validated test of toddlers [67] is undertaken, which isa direct assessment of children’s performances on specifically assigned tasks that produces standardized scores for analyzing children’s gestational and chronological ages [68]. The cognitive scale evaluates information handling abilities of children such as attention to novel, stimuli, and task handling techniques. The language scale analyzes the receptive and expressive communication skills [68]. Even when evaluated in diverse cultural contexts, studies that have investigated the validity of the BSID-III have indicated that the 2 measures had high inter- and intra-rater reliability conformity, high internal consistency, and good test-retest reliability [69–72].

To evaluate the social and emotional growth of a toddler, we used the Ages and Stages Questionnaire: Social-Emotional (ASQ:SE) which is a globally known scaled test of young children’s socio-emotional growth [73]. The ASQ:SE is a caregiver completed questionnaire which appraises the growth of abilities such as acquiescence, interaction, adaptive working, self-sufficiency, and dealings of a child with his surrounding people. We used a Chinese version of the formally modified test [74]. The ASQ:SE has 0.81, 0.94, 0.89, 0.82, and 0.92 of inner steadiness, test-retest trustworthiness, contemporaneous rationality, sensitivity, and specificity, respectively [75]. When examined in different populations, psychometric qualities were found to be equally trustworthy [76–78].

The survey was conducted with caregivers by providing them with a list that contained behavioral items; the caregivers had to choose one of the following three rates: frequently, sometimes, or not at all. Then, the responses were associated with certain numerical scores that had different patterns of assignments depending on the ages of the toddlers and young children. The results were produced by subtracting the mean of respective age groups, and then dividing it by the standard deviation of those groups. It is important to mention the scores that were derived using ASQ:SE had an inverse relation with development, or we can say, that such scores showed healthy development and vice versa.
2.5. Statistical Analysis

For the statistical analyses, we used STATA 15.1. The values of $p$ below 0.05 were considered to be statistically significant. By using the STATA multiple linear regression model, we conducted the multivariate analysis. The statistical significance of differences between discipline behavior and child developmental outcomes was assessed using multiple regression analysis to control for confounding variables. Potential confounders included individual child characteristics (sex of the child, age, and whether the child is first born) and household characteristics such as age and education of primary caretaker, education of the father, health status of the grandmother, and socioeconomic level of the household.

3. Results

3.1. Descriptive Statistics of the Household

Table 1 shows the vivid figures of all the characteristics of the child, family, and household. Approximately half (50.99%) of the children were female, and roughly half of the children (49.20%) were of first birth order. For over two-thirds (69.91%) of the sample children, the mother was the primary caregiver. Relatively few mothers (21.15%) had completed their high school education and most of the mothers (64.49%) had middle school education, whereas 61.47% of the fathers had completed middle school. Approximately one-tenth (11.22%) of the families received Minimum Living Standard Guarantee Payments.

Table 1. Descriptive statistics of child and caregivers.

| Part A: Child characteristics | Frequency ($n$) | Percentage (%)/Mean ± SD |
|-------------------------------|-----------------|--------------------------|
| (1) Sex                       |                 |                          |
| Male                          | 827             | 49.01                    |
| Female                        | 795             | 50.99                    |
| (2) First birth order         |                 |                          |
| Yes                           | 798             | 49.20                    |
| No                            | 824             | 50.80                    |
| (3) Mother is the primary caregiver |           |                          |
| Yes                           | 1134            | 69.91                    |
| No                            | 488             | 30.09                    |
| Part B: Household characteristics |           |                          |
| (4) Age of the mother         |                 |                          |
| Age < 25                      | 422             | 26.02                    |
| Age ≥ 25                      | 1200            | 73.98                    |
| (5) Education level of the mother |            |                          |
| Primary school or lower       | 233             | 14.40                    |
| Middle school                 | 1046            | 64.49                    |
| High school or higher         | 343             | 21.15                    |
| (6) Education level of the father |           |                          |
| Primary school or lower       | 208             | 12.82                    |
| Middle school                 | 997             | 61.47                    |
| High school or higher         | 417             | 25.71                    |
| (7) Grandmother health status |                 |                          |
| Health                        | 757             | 46.67                    |
| Other                         | 865             | 53.33                    |
| (8) Primary caregiver education level |       |                          |
| Primary school or lower       | 461             | 28.42                    |
| Middle school                 | 925             | 57.03                    |
| High school or higher         | 236             | 14.55                    |
| (9) Family receives Minimum Living Standard Guarantee payments |           |                          |
| Yes                           | 182             | 11.22                    |
| No                            | 1440            | 88.78                    |

Notes: The table shows the mean and standard deviation of child and household characteristics for the full sample.
3.2. Descriptive Discipline Practices by Primary Caregivers

Table 2 shows the frequency of the tactics that the caregivers used to discipline their children. The caregivers were asked which approach they were most frequently in the habit of using to discipline their child in the previous week; 36.81% reported that they “frequently” explained the reason to their child, 40% “sometimes” used yelling to discipline, 31% “sometimes” used spanking to discipline, 23.61% “sometimes” took away a toy to discipline, and 17.88% “sometimes” used time out to discipline their child.

Table 2. Discipline tactics used by caregivers.

|                | Yelling | Spanking | Toy Removal | Time-Out | Explaining |
|----------------|---------|----------|-------------|----------|------------|
| **Frequency (%)** |         |          |             |          |            |
| Frequently      | 142 (8.75) | 69 (4.25) | 61 (3.76)   | 86 (5.30) | 597 (36.81) |
| Sometimes       | 651 (40.14) | 503 (31.01) | 383 (23.61) | 290 (17.88) | 450 (27.74) |
| Occasionally    | 403 (24.85) | 512 (31.57) | 306 (18.87) | 190 (11.71) | 144 (8.88)  |
| Rarely          | 426 (26.26) | 538 (33.17) | 871 (53.76) | 1056 (65.11) | 431 (26.57) |
| Observations    | 1622    | 1622     | 1622         | 1622      | 1622        |

3.3. Child Developmental Outcomes: Cognitive, Language, Motor, and Social-Emotional Development

Table 3 shows the developmental results of the rural children. About 53.45% of the children were cognitively delayed, 59.86% had language delays, 36% had motor delays, while 44% had social-emotional delays. Therefore, we found a high level of child developmental delays in our sample population.

Table 3. Developmental delays among the toddlers.

|                         | Frequency | Percentage (%) |
|-------------------------|-----------|----------------|
| Cognitive delay         | 867       | 53.45          |
| Language delay          | 971       | 59.86          |
| Motor delay             | 591       | 36.44          |
| Social-emotional delay  | 719       | 44.33          |

3.4. Relationship between Discipline and Child Developmental Delay

Finally, we assess whether parental discipline is associated with child development. As shown in Table 4, we investigated how aversive and non-aversive discipline practices affected the cognitive, language, motor, and socio-emotional outcomes of children. The results from the OLS estimates revealed a number of insights about the correlates of the different discipline methods used by the caregivers in the preceding week and development of the toddler dyads. We found a significant link between yelling and motor development ($p < 0.05$). A negative and significant link was found between spanking and cognitive development ($p < 0.05$) and between explaining and socio-emotional development ($p < 0.01$). Moreover, positive and significant correlations exist between time-out and cognitive development ($p < 0.01$) and motor development ($p < 0.01$). Additionally, we also found a significant relationship between explaining and cognitive ($p < 0.01$) and language ($p < 0.01$) development. We found no significant link between toy removal and cognitive, language, motor, and socio-emotional outcomes.
Table 4. Correlation between Discipline and Development.

| Variables               | Cognitive Development | Language Development | Motor Development | Socio-Emotional Development |
|-------------------------|-----------------------|----------------------|-------------------|-----------------------------|
| Yelling(1 = yes)        | -0.08                 | -0.04                | 0.12 *            | -0.03                       |
|                         | (0.06)                | (0.05)               | (0.06)            | (0.05)                      |
| Spanking(1 = yes)       | -0.04 *               | -0.04                | 0.07              | -0.00                       |
|                         | (0.06)                | (0.07)               | (0.07)            | (0.06)                      |
| Toy removal(1 = yes)    | 0.05                  | 0.01                 | 0.06              | 0.01                        |
|                         | (0.07)                | (0.06)               | (0.07)            | (0.06)                      |
| Time-out(1 = yes)       | 0.14 **               | 0.09                 | 0.15 **           | -0.07                       |
|                         | (0.07)                | (0.07)               | (0.07)            | (0.06)                      |
| Explaining(1 = yes)     | 0.13 **               | 0.14 **              | 0.11              | -0.14 **                    |
|                         | (0.06)                | (0.06)               | (0.07)            | (0.06)                      |

Note: Robust standard errors in parentheses (* p < 0.05 and ** p < 0.01).

4. Discussion

To discover the parental discipline practices of rural Chinese parents towards their children, we used data of 1622 caregiver–toddler dyads from a survey held in QinBa Mountains and inspected the attitudes of caregivers towards childrearing with respect to discipline. In this regard, we measured the frequency of the disciplinary tactics used by the caregivers. Then, we measured the rates of children’s developmental delays in our data and investigated statistical correlations between parental discipline strategies and growing effects of toddlers through multivariate analysis.

The overall findings from this study indicate that 40.14% of the caregivers “sometimes” yell to discipline their child. This result was similar to the result of one large scale study in which 51% of the caretakers of 18–23 month-old toddlers sometimes or often yelled at their child [39]. In our study, about one-third (31%) of the children were “sometimes” spanked in the previous day. These findings were comparable with the study by Regalado et al. (2004) in which 29% of the 10–18-month-old toddlers were spanked [41]. The result on spanking was also consistent with the study of Berlin et al. (2009) in which one-third of one-year-old children of low income families were spanked in the previous week [54].

This study also revealed that 26% of the caregivers “rarely” used yelling to discipline their child, approximately one-third of the caregivers hardly ever spanked their child, and two-thirds (65%) of caregivers used time-out to discipline their young children. It means that almost two-thirds of the caregivers had used some kind of parental discipline in the preceding week. This was consistent with the study of Wang et al. (2020) in which two-thirds of the Chinese parents also used harsh discipline in the last three months [79].

In this study 53.45%, 59.86%, 36.44%, and 44.33% children were cognitive, language, motor, and socio-emotional delayed, respectively. These high rates of developmental delays, in our study, were similar to those of Wang et al. (2020) in which 53.95%, 60.26%, 36.27%, and 40.69% of 6–24-month-old children in rural counties of China were facing cognitive, language, motor and socio-emotional delays, respectively, due to poor family environment [80]. Luo et al. (2015) found that 53% of 30–36-month-old children in rural Shaanxi provinces in Northwest China had either cognitive or psychomotor developmental delay. A most recent developmental study by Johnstone et al. (2021) also highlighted that 51% of the rural infants in five major provinces had cognitive delays [81]. The results suggest that developmental delays are common in the rural areas of China and one of the possible reasons behind these delays can be the absence of a positive home environment.

The major goal of this research was to address how early experiences in childhood such as exposure to aversive or non-aversive discipline practices lead to different developmental outcomes of toddlers. In this regard, we studied parental use of discipline strategies and their impact on cognitive and non-cognitive outcomes. For this purpose, we hypothesized that there is a negative correlation between harsh discipline practices (yelling and spanking) and child developmental outcomes, where as a positive correlation exists between non-
aversive discipline practices and a child’s cognitive and non-cognitive development. As a whole, our findings reinforced the stated hypothesis. First, all our results showed a negative correlation between yelling and spanking and cognitive, language, and socio-emotional development. A positive correlation was observed between toy removal, time-out, and explaining and cognitive, language, and motor development. Secondly, while aversive discipline practices of caregivers displayed negative effects on cerebral growth of children, spanking and cognitive development were also found to be indirectly related. This is consistent with the study by Straus and Paschall (2009) whose findings proved that “the more CP (spanking) experienced by a child, the slower the development of cognitive ability” [61].

Our results on spanking are also consistent with those of Berlin et al. (2009), Slade and Wissow (2004), and Taylor et al. (2010) [54–56], who also found that spanking was an unproductive approach and was associated with negative impacts on the development of a child. Moreover, our findings regarding “yelling at a child” and “spank to child” were also consistent with a study by Berthlon et al. (2018), according to which exposure to any form of violence negatively affected the cognitive, language, and socio-emotional development of a child [62]. The results suggest that “explain reason to child” has a positive and significant relationship with cognitive and language development. It means that the children of caregivers who relied on communication and did not behave aggressively showed positive cognitive, language, and motor skills development. According to Turner and Finkelor (1996), indulging in talks with children resulted in positive development of cognitive and other developmental abilities [82]. One thing to keep in mind is that, to date, the direction of the relation between parental use of different disciplinary strategies and child developmental outcomes is ambiguous. This study is the first of its kind which used cross-sectional data and explored the association between parental use of discipline and its impact on cognitive and non-cognitive child development in underdeveloped rural areas of China.

This study contributes to the literature, as it is the first study to address the relationship between disciplining techniques and developmental outcomes of children. Considering the cultural context of parental discipline has been investigated in this study which has shown that physical and verbal punishment is accepted in the rural areas of China both socially and culturally. Secondly, the findings highlight the importance of avoiding any form of punishment either verbally or physically to correct what caregivers perceive as misbehavior of their child.

It is important to mention three limitations of this study. Firstly, because the sample was limited to a typical underdeveloped setting in Southwest China, the conclusions cannot be applied to other settings. Secondly, our data on parental discipline were based on caregiver responses. This means that the probability of recall bias cannot be ruled out. Finally, our study was based on cross-sectional data, so causality could not be explored properly.

5. Conclusions

A large number of families in underdeveloped regions of China are less aware of appropriate ways of disciplining their toddlers and most of the caregivers do not regard less harsh forms of discipline as punishment. It is essential to educate caregivers about positive and effective parenting disciplinary strategies. Moreover, in order to improve the ECD of rural children, it is necessary to attach importance to improving family environments and increasing positive interactions with children.

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