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Parental Attitudes, Behavior and Developmental Delays in Children Aged 18-30 Months: A Mixed Methods Analysis in Rural China

Authors

Yue Ai, Yaojiang Shi, Renfu Luo, Jamie Chen, James Garth, Alexis Medina, Scott Rozelle

Abstract

Research has shown that parents in rural China rarely read, sing or play with their young children. These results are concerning, as the early years of life comprise a critical developmental period with lifelong implications and the absence of good parenting might affect a child’s cognitive and motor development. In this paper we use a mixed-methods approach to explore the prevalence of child developmental impairment as well as parents’ attitudes on and understanding of parenting methods. We also seek to explain why parents in rural China appear to be engaging in poor parenting practices. The paper brings together quantitative results from a survey of 1,442 caregivers of 18- to 30-month-old children in children in 11 nationally designated poverty counties as well as analysis of interviews with 20 caregivers in 8 rural villages. The results of the quantitative analysis demonstrate that 42 percent of children in the sample are cognitively impaired and 10.2 percent experience delayed motor development. According to the quantitative data, the poor cognitive development is not due to the fact that parents do not care for their children, as the majority reported that they enjoyed spending time with their child (88.6%). Nor are the delays due to a lack of a sense of parental responsibility, as almost all caregivers responded that they believed it was their responsibility to help their child learn about the world around them (94.6%). Yet poor parenting practices appear to be in part to blame: quantitative analysis shows a significant positive correlation between singing, reading, and playing with a child and their cognitive and psychomotor development. The empirical data shows, however, that 87.4 percent of parents do not read to their children; 62.5 percent do not sing to their children; and 60.8 percent do not play with their children. In the qualitative section of the paper we provide evidence suggesting that the prevalence of poor parenting practices does not stem from inadequate financial resources or parental indifference to the child’s development. Instead, the three main constraints influencing parental behaviors are (a) not knowing that they should be engaging in these parenting behaviors at this stage in the child’s development, (b) not knowing how to properly interact with the child, and (c) not having time to practice such behaviors.

Keywords: parenting; early child development; qualitative study; mixed methods analysis
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Introduction

Research has shown that the earliest years of a child’s life have a significant impact on future outcomes, suggesting that focusing attention on these years is one of the most effective methods for promoting the lifelong cognitive, physical and social development of individuals. It has been demonstrated that the development and malleability of the neuro-system during these early years (Knudsen, 2004; Knudsen et al., 2006) are critical for the emergence of cognitive and motor skills (Huttenlocher, 1979; Thompson and Nelson, 2001). Also, investments in human capital accumulation at this age can promote a lifetime of positive outcomes (Heckman, 2008; Gertler, 2014). It has even been found that the first months of life are important for the development of children and that this extremely early stage can affect the individual for his/her entire life (Almond and Currie, 2011).

The importance of this early stage of development has prompted scientists and social scientists to search for the factors that may be associated with cognitive development during this period, particularly with regard to the impact of the home learning environment on cognitive development. As early as the 1990s the literature had already extensively documented the link between poor nutrition and low levels of both cognitive and motor skills among infants and toddlers (Hsueh et al, 1981; Goodwin et al., 1983; Behrman, 1996; Martorell, 1997; Grantham, 1999). More recently, however, a number of studies have shown that the home learning environment that parents provide
for their children is also closely linked with children’s cognitive, social and motor
performance (Chang et al., 2009; Park, 2012;). Specifically, a number of researchers have
demonstrated the importance of having parents involved in their children’s early
childhood activities (Parker et al., 1999; Rimm-Kaufman et al., 2000). Reading, telling
stories, and singing songs together have all been linked to early language acquisition and
improved cognitive development (Bus, 2001; Evans et al., 2000).

However, as most of the recent literature on parenting practice has been
conducted within the context of developed countries, little is known on the home
environment-based determinants of cognition growth in developing countries. Further
research in this area is necessary, especially considering that the share of children with
cognitive delays is higher in developing than developed countries (McGregor et al., 2007;
Emerson et al., 2011). Several studies have shown that interventions to improve parental
investments can be successful in developing settings (Attanasio et al., 2015; McGregor et
al., 2014). However, there is almost no work in developing countries that describes the
home learning environment in a way that might begin to provide insights into precisely
which factors might be linked with these delays.

While there is a lack of rigorous empirical research on the level of cognition of
infants and small children in China, several papers suggest that this might be a significant
problem. However, to our knowledge, there has been no empirical work conducted in
China on the home learning environment or on the factors behind the poor parenting
practices associated with cognitive delays.

The purpose of this study is to better understand the underlying factors that
influence parenting practices, and subsequently children’s development, in rural China.
In order to accomplish this goal we use a mixed-methods approach, which explores the prevalence of child developmental impairment, parental attitudes toward children and their parenting practices, and potential reasons for insufficient parenting practices. A mixed-methods analysis is capable of measuring the complex set of value judgments and decisions that determine parenting behaviors and affect early child development. This research approach is able to complement the empirical rigor and generalizability of findings of quantitative research with a contextualized depth of understanding provided interview-based case studies. Our research design, therefore, offers a unique opportunity to understand individual parenting practices without boxing them into a finite list of choices pre-selected by the researcher. Such research might help improve future intervention targeting and design.

We use a large-scale quantitative survey of 1,422 parents or other caregivers (henceforth, caregivers) of 18- to 30-month-old children in rural China. In order to implement this mixed-methods approach, we first summarize the state of child cognitive development and parental attitudes towards children using scores from the Bayley Scale of Mental Development and Psychomotor Development. Specifically, the Bayley scale provides our study with empirical evidence that is helpful in understanding not only the willingness of caregivers to spend time engaging in parenting activities, but also the parenting behaviors that caregivers engage in with their children. These include activities such as reading, singing and caregiver-child play (henceforth, parenting behaviors), which are shown to improve their children’s cognition, socio-emotional status and the home parenting environment. Second, we use a set of qualitative interviews to investigate whether rural parents recognize a developmental gap between rural and urban children.
and whether they recognize the relationship between parenting behaviors and child
development. Our qualitative analysis also explores the factors that shape current
parenting behaviors in rural China that have resulted in high levels of child
developmental delays.

Quantitative Data and Results

Sampling Procedure and Data Collection

Our quantitative data was collected from a survey of 1,442 households in 351
villages across 174 townships in 11 nationally-designated poor counties located in
Shaanxi Province. At the time of the four-week period of data collection in October 2014
the sample children were aged 18-30 months. Teams of trained enumerators collected
socioeconomic information from all households participating in the study. The teams
identified each child’s primary caregiver (the individual who carries the most
responsibility for the child’s care) and administered a detailed survey on infant, parental
and household characteristics.

All children were also administered the Bayley Scales of Infant Development
(BSID) test, an internationally recognized, scaled test of infant and toddler cognitive and
motor development (Bayley, 1974). The American Psychiatric Association lists the BSID
as a way to diagnose certain developmental disorders (American Psychiatric Association,
2000). The test was formally adapted to the Chinese language and environment in 1992
(Yi et al, 1993). Following the example of other published studies that use the BSID to
assess infant development in China (Li et al., 2009; Chang et al., 2013; Wu et al., 2011),
this study used the officially adapted version. The test has an inter-rater reliability of 0.99
for each of the two sub-indices, the Mental Development Index (MDI) and the Psychomotor Development Index (PDI) (Yi et al., 1995). (Both indices are described in more detail below.) The test-retest reliability is high, at 0.82 for MDI and 0.88 for PDI (Yi et al., 1995). The parallel forms reliability is also high, at 0.85 for MDI and 0.87 for PDI, indicating that the test scores are consistent when there is a variation in the methods or instruments used in the test (Yi et al., 1995).

All BSID enumerators attended a week-long training course on how to administer the BSID, including a 2.5 day experiential learning program in the field. Enumerators administered the test one-on-one in the household using a set of standardized toys and a detailed scoring sheet. The BSID takes into consideration each infant’s age in days, as well as whether he or she was a premature birth. These two factors, combined with the infant’s performance on a series of tasks using the standardized toy kit, contribute to the establishment of two independent, internationally standardized scores: the Mental Development Index (MDI) and the Psychomotor Development Index (PDI). The MDI evaluates memory, habitation, problem solving, early number concepts, generalization, classification, vocalizations and language to produce a measure of cognitive development, while the PDI evaluates gross muscle groups (rolling, crawling and creeping, sitting, standing, walking, running and jumping) and fine motor manipulation to produce a measure of psychomotor development (Bayley, 1969). This study represents one of the largest administrations of the BSID ever conducted in China, and to the best of our knowledge, the only administration of the BSID ever conducted in rural communities in China’s nationally designated poverty counties.
The survey also included a series of questions about the parenting environment in the home. Enumerators first asked parents about their willingness to play with and spend time with their children. Then, enumerators asked more objective questions about exactly how much time parents spent with their children, including reading, singing and playing with them.

**Quantitative Results**

*Developmental Delays*

The study found high rates of impairment among the children (Table 1). A total of 42.0 percent of the children surveyed had an MDI score below 80, indicating that almost half the children showed impaired cognitive development; 10.2 percent of the children had a PDI score below 80, classifying impaired psychomotor development.

*Parental Attitudes*

According to the quantitative data, however, the developmental gap does not result from an ignorance of the problem.

In addition, the data show that the problem is not one of caregiver indifference or lack of love from the caregiver. In fact, the caregiver attitudes shown in Figure 1A indicate the opposite. Large shares of caregivers in the sample report that they enjoy spending time or are willing to spend time with their children (88.6%). Parents also state that they find playing with their children to be fun and interesting (83.7%).Nearly all (94.9%) caregivers report that it is their responsibility to help children to learn about the world around them.

*Parenting Behaviors and Child Development*
Despite the sense of responsibility of caregivers and the reported care/love/concern for their children, our study finds current practices in these rural households are not consistent with good parenting behavior (Figure 1B). Almost all (87.4%) of caregivers did not read to their children on the day prior to the survey being administered; 62.5% of caregivers did not sing to their children on the day prior to survey administration; 60.8% of parents did not use toys to play with their children on the day prior to survey administration.

Quantitative data from the study show that such a lack of good parenting behaviors is significantly associated with both cognitive and motor development in young children (Table 2). In households where the caregiver (or another member of the household) reads to the child, the child’s MDI and PDI score are higher than it is for children from households are not read to (p<0.01). Specifically, the analysis showed that when caregivers read to their children, the child’s MDI score is 7.04 points higher. The study also found a significant positive correlation between singing or using toys to play with the child and the child’s MDI score (p<0.01) and the child’s PDI score (p<0.01).

**Summary of Quantitative Results**

The findings of the quantitative study are clear but puzzling. There are high levels of cognitive development impairment among 18 to 30 month old children in our rural China sample. Clearly one possible reason for the low levels of cognition is the absence of an active and stimulating home environment. However, the data does not suggest it is due to ignorance or the absence of care. So what is the source of the problem? In this section we turn to our qualitative analysis in order to examine some of the possible reasons for the poor parenting environment in China.
Qualitative Findings and Mixed-Methods Analysis

Qualitative Data Collection

As part of our effort to better understand these rural households lack good parenting behaviors, we conducted interviews with 20 households in 8 villages across 7 townships in Danfeng County of Shaanxi Province. These households had taken part in our quantitative data collection mentioned above, and we spoke specifically to caregivers of young children between 1 and 3 years old. All interviews were conducted one-on-one and transcribed. The interviews lasted from thirty to ninety minutes and were semi-structured: interviewers referenced a scripted interview protocol but also had the freedom to diverge from this protocol in order to investigate specific stories that emerged.

A Framework for Understanding Parenting Behaviors

Based on both our quantitative data (above) and the qualitative findings below, we propose the following framework for understanding the current parenting behaviors in rural China that are associated with early developmental delays in children. First, we ask if caregivers recognize the existence of a problematic developmental gap between rural and urban children that is present within the quantitative data. Then we propose five reasons that may explain the lack of good parenting behaviors:

1. Absence of financial resources
2. Lack of affection or aspiration of parents
3. Absence of knowledge that there is a link between stimulating parenting behavior and the development of children
4. Lack of knowledge on how to deliver this stimulation
5. Lack of time.
The logic on how these five reasons can impact parenting behavior has some degree of order. First, if families in rural areas do not have the financial means necessary to invest in toys, books, and other educational materials for their children, then poverty can constrain proper parenting practices. Second, even if poverty is not a constraint, uninvolved and indifferent parental attitudes, combined with a lack of long-term aspirations for the child’s future, could result in an absence of good parenting behaviors. Third, caregivers in rural areas may simply not know that young children in a critical development phase benefit from parenting practices such as reading, playing, and singing. This absence of understanding could pose a constraint even if caregivers were financially able to provide parenting inputs and were willing to take the time to do so. Fourth, even if caregivers understand the importance of such practices, if they cannot access information on how to properly engage with their child they may be less willing and able to do so. Finally, even in situations where caregivers have sufficient financial resources, ability and information to raise a child, a time constraint could still impede them practicing good parenting behaviors.

In the rest of the paper, we present the responses of interviewed caregivers on these 5 topics in an effort to identify the main factors determining current parenting practices in rural China.

*Identifying and Understanding the Developmental Gap*

The first step in beginning to understand how parenting practices effect children’s cognitive outcomes is determining whether rural parents actually recognize the developmental delays in their children and the issues these delays present, as this could potentially be the root cause of poor parenting practices. While our quantitative data
shows that parents are cognizant of the lag between their children and urban children, we believe that the qualitative data collected from our interviews adds value by providing more context and detail on this subject.

Without focusing on the reasons for the development delays, most caregivers in our interview sample expressed similar sentiments that urban children were different than rural children.

“I don’t want him to play with other village children. I want him to play with city kids. There aren’t many things to see in the countryside. The development of rural children just can’t compare to the development of city children.” (Father 150104)

“City kids have more caretakers, and don’t play with mud and water; rural kids play with mud no matter what their age. My daughter’s development is the same as that of rural kids, but behind that of city kids.” (Mother 140101)

In fact, almost all the parents we interviewed were more direct in their beliefs about differences between rural and urban children. Most believed urban children to be more intelligent than rural children.

“I think that there are a lot of differences between rural and city children. City children are more outgoing. Rural children aren’t as smart as city children.” (Grandmother 150101)

“There is an education gap between city and rural kids. Rural kids receive less instruction than city children. My daughter’s development is the same as other rural children, but rural children cannot be compared to city kids.

Caregiver beliefs about the source of the urban-rural developmental gaps

In light of the fact that both the quantitative (section above) and qualitative (immediately above) data reflected that almost all caregivers recognized the issue of cognitive delays in their children and felt it was their responsibility to aid their children’s cognitive development, it is necessary to identify the reasons why rural children are still falling behind. To do this, we draw upon the qualitative interview quotes that can help
shed light on this issue and can help to recognize what facets of parenting rural caregivers are neglecting to practice with their children. We organize the voices of our respondents according to framework that we set up: absence of financial resources; the lack of affection of parents; the absence of knowledge that there is a link between stimulating parenting behavior and the development of children; not knowing how to deliver this sort of stimulation; and a lack of time.

Absence of financial means

Perhaps the most obvious potential explanation for why rural caregivers are not engaging in better parenting behavior is that they are unable to spend the necessary financial resources on their children. All of our research was conducted in nationally designated poor counties.* This means that, on average, the families in the sample areas are among the poorest in China. Our sample areas are also all mountainous areas with limited resources and poor infrastructure, in terms of transport and communication.

Though our research was conducted in areas of high poverty, this does not necessarily mean that families are unable to financially provide for their children. China’s rapid development over the past decade and the emergence of off-farm employment has helped a vast majority of China’s poor families rise above the international poverty line. Today, only a small portion of families can be considered to be living in poverty by international standards. The benefits of this rapid development can be seen especially in the case of young working age individuals, age 18-30, who have almost universal access to off-farm employment. With the rising wages that characterize

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* Nationally-designated poor counties have a range of per capita income from 1000 yuan per year to 2800 yuan per year, which is 67%-187% of the current poverty line of 1500 yuan (Wang, 2010). They are also typical in terms of high rates of migrant worker outflow, general lack of fertile cultivated land, and poor transportation infrastructure (Guo and Zhang, 2008).
China’s labor market, it seems that most families should be able to afford basic materials for good parenting.

Indeed, our qualitative interview data show that the majority of caregivers indicate that they do have the financial resources to invest in their children:

“I think it’s important to buy toys she wants; we buy our toys in the city.” (Father, 150104)

Other families mentioned that they would buy whatever books their child wanted or needed, and had the financial capability to do so:

“We have children’s books. We buy whatever books my daughter likes.” (Mother, 120402)

“We’ll buy whatever books we have to, it’s not a matter of money.” (Father, 150104)

The latter quote above comes from a family with a relatively high annual income. The father noted during the interview that his decision of whether or not to buy toys and books for his child was contingent on money. In fact, overall, we found that most families did not believe that financial limitations affected their purchases of books or toys for their children. However, there were exceptions. Several caregivers frankly stated the following:

“Our household conditions aren’t good; he sometimes wants toys but I can’t buy them for him because we can’t afford it.” (Mother, 120101)

“We will send her to a better school if we can afford it by then, but it is enough for me if she stays healthy. People in villages don’t think about how to raise children or plan for school, we’re focused on feeding her and making sure she doesn’t get sick.” (Father, 150101)

In summary, most of our respondents expressed that they do have the financial resources to invest in their children. However, our interviews also presented evidence that parents may not be spending money on their children in an age appropriate manner. For example, some spent tens of thousands of RMB on baby formula per year, even if their
child was nearly three years old. Additionally, some parents purchased books and toys that were not age-appropriate for their child, and instead spent hundreds of RMB on large, expensive toys that were often not played with. Although some households that lack the financial means to practice ideal parenting methods, the evidence presented in this section suggests that the absence of good parenting practices is often not a direct result of poverty.

**The lack of affection or aspiration of parents**

Even in cases where poverty does not constrain parenting practices, the cognitive development of children can be limited if caregivers do not care about or place enough effort into raising a child. In traditional societies, economists and other social scientists have often portrayed children as a necessary input for household survival. Children have been modeled as an asset for building families, a future laborer for the family farm, insurance through future arranged marriage, or some other such roles could help families survive, reduce risk or increase welfare. With this understanding, parents are expected to invest in children’s development in order to benefit themselves in the future and not necessarily help children develop the capacity to rise out of poverty.

However, the data collected in our quantitative survey casts doubt on this hypothesis as parents demonstrate aspirations for their children without concern for their personal future returns. This finding was also reflected in our qualitative interviews. In general, many of our caregiver interviews conveyed that family members not only show their children affection, but also have long-term hopes for their child’s success.

“I saw something on TV about how Americans are better than Chinese at 28 years old. I don’t want my grandson to fall behind in the world.” (Grandmother, 150102)

“I hope he can do whatever he wants in life.” (Mother, 120101)
While only a few caregivers mentioned long-term hopes for their children, most
the respondents identified academic achievement as a desirable goal, particularly as a
means to leave the village, avoid farm-based employment and (by implication) establish a
path to a better life.

“I hope she has a good future. I hope she will be better than her dad. These days,
if you don’t go to college, there’s no future in the village.” (Grandmother, 130101)

“I hope he will study well. I want him to get into a good school, do well in school,
and go to college or maybe work in a bank like one of his relatives.”
(Grandmother, 110102)

“I want my grandson to go to school. I did a lifetime of farm work, and I don’t
want my grandson to go through that. I hope he leaves the village to see what life
outside is like.” (Grandmother, 120401)

Some family members did not have specific goals. They would say things such as:

“I just want him to be happy because he is my grandson.” (Grandmother, 150106)

From the quotes in this section, it is clear, that the qualitative findings are similar
to the quantitative ones. Children in rural China today are not seen as instruments to
leverage family success. Instead, almost all caregivers have high aspirations for their
children and want them to be happy, regardless of whether or not this directly benefits the
household. As such, the evidence of a lack of reading, singing, and playing with children
presented in the quantitative data does not seem to stem from a lack of caregiver attention.

**The absence of knowledge of link between parenting and development**

Though the previous two sections demonstrate that most families have the
resources and the will to practice good parenting behaviors, parents still may not practice
these behaviors if they do not know how to provide stimulation for their child through
reading, singing and playing. Indeed, our qualitative interviews suggest the caregivers do not recognize the significance of interactions with their children for multiple reasons.

In rural areas, where parenting methods often based on trial and error, if a child is unresponsive to forms of stimulation, many families are discouraged from purchasing reading material and toys. Without access to proper information that reinforces the importance of consistent interactions with children, it is easy for the rural caregivers to perceive this lack of response from the child as an indicator that these interactions are ineffective, unimportant, and unnecessary.

“We don’t tell him stories because he can’t understand since he doesn’t respond. He can’t even follow basic instructions like ‘don’t go outside,’ so how could he follow a story?” (Father, 120202)

“There are no children’s books in the house. She wouldn’t understand if I read to her; she wouldn’t read the books, and would rip them instead. It is not important to read to her before school.” (Mother, 130102)

“His mom bought him three books last year on her way home from work, but he tossed them aside and never looked at them, so we sold them. It’s good to learn a little from books now, but it’s not necessary.” (Grandmother, 120101)

Most of the caregivers we interviewed also believed that their child was too young to be read to or sung to. When asked if they had books for their child, both the father and grandmother of one child laughed and said, “He can’t understand yet; he’s too young.” (120202)

Many families believed that a child’s understanding will increase dramatically once they attend school, and as a result they wait until the child goes to school to further engage with them.

“I think she’s too young to understand much now. She’ll understand more once she goes to school, so I’ll teach her more then.” (Grandmother, 150103)
“I think singing can be learned in school; her older sister learned it in school.” (Mother, 130102)

Other families did not prioritize interacting with their children, often placing greater importance on feeding and clothing the child. This reinforces the notion that caregivers are not aware of the long-term developmental importance of such parenting practices.

“The most important stuff to teach her before school is basic stuff like using the bathroom. And then manners.” (Mother, 140101)

“I think he’s old enough to understand stories now, like ‘Snow White’ and ‘Robinson Crusoe’, but we only read to him when he’s bored or lonely. It’s frustrating because he doesn’t really listen. Reading is not very important to me; eating well and staying healthy are enough for me to worry about.” (Grandmother, 150103)

“She has a few toys. I think I should buy more food and clothes for her instead of toys. Toys are not necessary.” (Mother, 140101)

Some caregivers sang, read, or played with their child, but did not do so frequently because they used such interactions for other purposes, such as placating the child or putting him or her to sleep. Again, this reflects a lack of understanding of the impact such parenting behaviors have on the child’s cognitive and psychomotor development.

“I think the most important thing is that he’s happy and doesn’t cry. The only purpose of playing is to keep him from crying or fussing.” (Grandmother, 120201)

“I don’t know if singing is important for her personal growth. I don’t think so. I sing to her to calm her down.” (Grandmother, 150103)

“Toys are not necessary but I buy them because I don’t want her to cry in public.” (Mother, 140101)

All the instances above point to the conclusion that most families in rural China are fundamentally unaware that the first years of life comprise a crucial period of
development and that parenting practices, such as reading, singing and playing with the children, have lifelong implications. Our interviews showed that many families had never considered the importance such interactions have on their child’s development. When asked if she thinks singing to the child is important, one grandmother responded, “What’s important got to do with it? He likes it and that’s enough.” (120201)

“We haven’t thought about the connection between playing with him and his development; there probably isn’t a link.” (120202)

The interviews clearly revealed that one constraint on quality parenting in rural China is a lack of understanding among caregivers of the effect that stimulating activities have on children’s development. Among caregivers, there is little understanding of the links that exist between reading, singing and playing with toys and the development of their child’s cognitive or psychomotor skills.

**Absence of knowledge about how to deliver the stimulation**

The constraints on children’s development that arise when caregivers do not recognize the link between parenting practices and developmental outcomes can be further exacerbated when caregivers recognize this link, but just do not know how to practice good parenting behaviors. In this section we examine whether—in addition to the fact that caregivers do not recognize the link between parenting and development—there also is a knowledge gap in how to deliver parenting.

How caregivers receive information on how to parent a child can shed light on the quality of parenting activities. Quantitative data (not shown above) from the study show that most rural parents receive their information on parenting from their own experiences (“did you just figure it out by yourself”) and from those of family members and friends (especially their mothers and mothers-in-law). Enumerators also found that some
caregivers say that they get information from TV shows. Within this section we will examine whether the parenting information gathered through these sources is able to result in quality parenting practices.

In certain situations there were hard constraints barring caregivers from engaging in quality parenting behaviors. Many of the caregivers we spoke to—especially grandmothers—said that they were illiterate. Clearly, illiteracy limits the ability of these caregivers to read or tell stories to their children. Also, some caregivers said that did not know or could not remember any stories. This may be a result of generational parenting practices, as in several interviews we were told that caregivers could not tell their children any stories because they themselves were not told stories when they were children. The constraint illiteracy places on interactions

“I’m illiterate and can’t take good care of him.” (Grandmother, 120201)

“I think telling stories is important, because it can help her develop her intelligence. But I never went to school and I don’t know how to read, so I don’t know how to tell stories.” (Grandmother, 150101)

“I don’t know any stories because] as a kid, no one told stories! Who had time for stories? I was one of 10 kids; we had to help around the house and in the field.” (Grandmother, 120201)

The caregivers voiced similar concerns with regard to singing to their children. In several cases, the primary caregiver either did not know how to sing children’s songs, or wasn’t able to do so in a way that the child would understand.

“I think that singing children’s songs to my granddaughter is important but nobody in our family knows how to.” (Grandfather, 120301)

“I struggle to sing clearly so that he understands. I sometimes get the lyrics or pronunciation wrong.” (Mother, 120101)
Although most caregivers said that they played with their children, many did not do so frequently or regularly. Also, our interviews revealed that when caregivers did play with their children, they did so randomly and seemed to be unaware of many structured games they play with their child. However, caregivers recognized the importance of playing together and many remarked that they wished that there were some place they could go to learn how to play with their children.

“I play with my granddaughter. I’ll take her outside everyday and I think she enjoys it. Sometimes I don’t know what games to play with her, but I still think it’s important.” (Grandfather, 120301)

“I want to learn more about how to play games with kids.” (Mother, 120102)

When asked what they hoped to teach their children before they began school, a majority of caregivers had some idea of the skills or knowledge they had attempted to or were planning to instill in their children. However, almost all interviewed caregivers noted that their own level of learning was a major obstacle in their ability to adequately teach their children. One common grievance was that they didn’t know many, if any, Chinese characters and were therefore unable to adequately prepare their children for school.

“The hardest part of parenting is teaching characters, drawing, and writing his name when I don’t know how to myself.” (Grandmother, 120201)

In most cases, caregivers understood the importance of teaching these concepts to their children before they attend school.

“I want to teach her simple numbers, Mandarin, children’s songs, and manners, but right now she is too young and can’t remember anything. My own Mandarin isn’t that good, so it’s hard to teach her. I don’t know how to teach her numbers. I need to teach her simple numbers and Mandarin so that she will understand in school.” (Mother, 120102)
“I don’t know how to teach or raise him. I want to teach him how to write numbers. To prepare for school, I teach him very basic characters and counting. I don’t do enough to prepare him. I think I should do other things such as teaching him how to play with other kids, and I want to teach him more characters. I haven’t done more because I don’t have the ability to; I only went to middle school. It’s important to teach these things because it is Chinese tradition to educate kids from a young age.” (Mother, 120101)

Some caregivers also pointed out that they didn’t know enough about the world around them and that this lack of knowledge of concepts was the main obstacle to educating their children.

“I explain to her what cats and dogs are, but I can’t explain animals that she sees on television if I don’t know what they are myself.” (Mother, 120102)

Others expressed a desire to know more about how to teach their children. In certain cases, even if caregivers knew certain skills or concepts themselves, they struggled to communicate them to their children effectively.

“I’ve thought about drawing 3 apples and teaching him how to draw, but it’s hard to teach him. He scribbles over what I try to explain. I just don’t know enough about teaching. There aren’t any television programs for teaching children before preschool.” (Grandmother, 150102)

Often, caregivers indicated that they lacked knowledge about parenting in a more general sense as well. Almost universally, they stated that they obtained most of their information from either trial and error or by watching television. When raising their grandchildren, grandmothers tended to rely on their experience raising the child’s parent. Some also remarked that they gained some information from talking to other parents and relatives.

“I want more information on teaching her. I only know what people tell me and what I see on my cell phone and on television. I also watched my older sister raise her child. Otherwise, I learn from trial and error.” (Mother, 140101)
“I don’t explain to her while eating with or dressing her, because she doesn’t listen. There’s not much other talking; I just randomly say some stuff to her. Anyway, I don’t really know how to take care of little kids.” (Mother, 120102)

According to our interviews, there is a distinct absence of knowledge about how to parent. It is clear that even if parents can be convinced of the link between parenting and cognitive development, many would not know how to engage in such parenting activities. Most caregivers simply do not know how to parent and have limited resources from which they can learn how.

Time Constraints

The final potential constraint that caregivers face is time. We found through our interviews that even in cases where families recognize the importance of parenting behaviors, have the ability to practice these behaviors, and have the necessary financial resources, a lack of time often still prevents them from engaging in quality parenting activities with their children. Parents spoke of being busy and complained of often being exhausted due to the hard labor involved in farming.

“We don’t tell him stories...We are all super busy growing mushrooms. At certain times of the year, we only sleep four to five hours per night due to the busy mushroom growing season.” (Father, 120202)

We found that children of parents who left the village also suffered from a lack of engagement due to time constraints. When parents seek work in larger towns or cities for higher wages, they leave less able-bodied grandparents to raise their children. Many of the grandparents we interviewed who identified the importance of reading, playing, or singing to the child could not engage in these activities due to lack of time.

“Reading is good because it helps her recognize characters. We have two books of characters that her mother bought. But we don’t have time to read.” (Grandmother, 150105)
“How could playing not be important? But we don’t play games. We don’t have time.” (Grandmother, 150105)

“I want to draw with him, teach him to sing, and recognize a few characters but I don’t have time. I don’t think I do enough. There just isn’t enough time.” (Grandmother, 150102)

The existence of these time constraints is troubling because—at least in some cases—it undermines the efforts of the rare population of caregivers who both recognize that they should be engaging with their child and know how to properly do so.

**Conclusion**

In this paper, we pinpoint the inconsistency between good parental attitudes and poor parenting practices in rural China based on a large quantitative survey. While engaging in activities such as reading, singing, and playing with young children aged 18-30 months is significantly associated with better psychomotor and cognitive development, and not doing so is significantly associated with developmental impairment, the majority caregivers surveyed did not participate in such activities. However, the quantitative data showed that this lack of involvement did not result from a lack of care, as almost all caregivers reported feeling responsible for their child’s development and feeling affection for their child. Our qualitative results further complicate the issue, as we find that rural parents are in fact cognizant that developmental delays their children exhibit.

Based on a set of interviews, we suggest that there are five potential constraints keeping caregivers from being good parents. From our field visits and interviews, we discount two of the possible reasons (insufficient financial resources and indifferent parental attitudes) as major factors in the lack of parental investment in children. Instead, Of these five, three constraints (awareness of the link between parenting behavior and
child development; lack of knowledge on how to engage with child; lack of time) appear to be binding and prevent parents from participating in good parenting practices. We find that the three main constraints on parenting behaviors are:

(a) A lack of awareness of the link between parenting behavior and child outcomes
(b) A lack of knowledge on how to engage with the child
(c) Time constraints placed on caregivers due to agrarian lifestyle and seeking work away from the village.

Indeed, parenting behaviors in China are not up to international standards, Given the correlations we have observed between individual factors of parenting behavior and children’s development, a lack of proper parenting behavior is likely partly responsible for high rates of cognitive delays in developing areas of China.

Like other middle-income nations, China is increasingly shifting its emphasis from low-wage to higher-wage services and industries. As the economy shifts and wages rise, individuals will need more schooling in order to gain the necessary skills and knowledge that these jobs require. Early developmental delays in cognitive and psychomotor development undermine one’s ability to learn, and in China’s growing economy individuals who suffer from these delays will likely struggle to find gainful employment in the formal sector. Therefore, if the government aims to implement policies that will improve children’s cognitive abilities and, therefore, the nation’s future development, an effective route would be through encouraging quality parenting behaviors among children’s caregivers.

Two of the main constraints that we have addressed in this study (failing to recognize the importance of engagement with the child and not knowing how to do so) arise due to
a lack of sufficient access to information on parenting within rural areas. Therefore we suggest that further interventions attempt to address this deficiency. While urban areas in China have a mature telecommunications infrastructure, China’s rural areas still lack many of the resources for information sharing. However, most villages have healthcare resources in the form of village doctors and health clinics. We recommend using rural health providers to disseminate child-giving training and information to village households in order to fill this information gap.

It is especially critical for this information to stress the importance that the first few years of life have on a child’s long-term development. Stressing this fact may help alleviate the effects of caregiver time constraints on child rearing--if caregivers understand exactly how important good parenting behaviors are, they may be more willing to spend time engaging in such practices. In many developed countries, caregivers participate in childrearing activities and training that teach them how to engage with their children in a way that will increase their infants’ cognitive abilities (Gutman and Feinstein, 2010; Bradley et al., 1989). If the gap in cognitive outcomes between developed and developing areas is to close, more programs must be established in developing contexts to provide parents and caregivers with this kind of parenting education.
**TABLE 1** Mental and psychomotor development of infants in rural Shaanxi based on the Bayley Scales of Infant Development (BSID) (N=1,442)

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
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<tbody>
<tr>
<td>Any mental impairment (MDI&lt;80)</td>
<td>42.0%</td>
<td>(606)</td>
</tr>
<tr>
<td>Any psychomotor impairment (PDI&lt;80)</td>
<td>10.2%</td>
<td>(147)</td>
</tr>
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Note: Data source is author’s data. Data are presented as percentages for all children. All children were administered the Bayley Scales of Infant Development (BSID), an internationally-recognized, scaled test of infant and toddler cognitive and motor development (Bayley, 1974). The test has two sub-indices, the Mental Development Index (MDI) and the Psychomotor Development Index (PDI) (Yi et al., 1995). MDI and PDI scores below 80 are indicators of any level of impairment in cognitive and psychomotor development, respectively.