



Research Article

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School Readiness of Left-Behind Preschool Aged Children in China: A Review

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Abstract

School readiness (SR) is a crucial predictor of future academic success, especially for disadvantaged children. However, research on school readiness in low-income and middle-income countries (LMICs), especially in Asia, is limited. This review aims to describe the school readiness of left-behind children (LBC) in China during early childhood, focusing on differences between LBC and non-LBC. The review used multiple databases with keywords such as school readiness, left-behind children in China and early childhood. The results confirmed the direct relationship between SR and parent-child separation.

Keywords: School readiness, Left-behind children, China, Early childhood

1. Introduction

One in every seven individuals is a migrant with most of them being labour migrants who migrate from low-income and middle-income countries (LMICs) in search of better job opportunities (International Organization for Migration, 2018). Children are often left behind with other family members or caregivers, particularly China's rural villages (Bank, 2018). More than one-third of children living in rural China are left behind when one or both parents go out to work (ref). In China, the unique Chinese Household Registration System and the rapid economic expansion in recent years have led to the separation of many children from their parents, especially in the rural areas. Despite the prioritization of the rights of migrant workers in the UN Sustainable Development Goals, the development of children left behind has received limited attention in research and policy.

More than one-third (61 million) of all children living in rural China are left behind when one or both parents go out to work (Commission, 2016), with the estimates suggesting the number of children left behind globally, to be in the hundreds of millions. Living in a disadvantaged environment, particularly parent-children separation, has been linked to detrimental effects on child cognitive abilities, including those related to school readiness skills (Hu et al., 2020; Serdar, 2019;

Wolf & McCoy, 2019). However, much of the existing research on school readiness (SR) derives primarily from Anglo-European, high-income countries. There is a dearth of studies on children in disadvantaged contexts from non-western, low and middle income-countries (LMIC). In the recent years, there were few which originated from Asia (Lee, 2017; Zhang et al., 2018), much less from China, a place where the problem of LBC is huge and critical (Duh et al., 2016; Lu et al., 2017; Zhang, 2016).

To address the research gap, we conducted a review on the SR status of Chinese LBC at the preschool stage and assessed differences in school readiness outcomes between LBC and non-LBC. Specifically, we focused on studies that included (a) a direct measure of school readiness toward target early children, as defined later; (b) a measure of left-behind children in China; (c) a relationship between left-behind children and early children's early learning outcomes; (d) participants under 6 years old. Our review aimed to provide a clearer picture of the school readiness of preschoolers in disadvantaged environment (i.e., child-parent separation in current study) in other countries, especially in the West, and whether these conditions are present among children left behind in China. We also provide an overview of the current state of school readiness of preschoolers in disadvantaged settings in China. We conducted a search of online databases including Scopus, Google Scholar, Web of Science and the Cochrane Library, Chinese National knowledge infrastructure (CNKI) and Chinese Wanfang Database.

In this review, school readiness was defined as encompassing academic school readiness (i.e., early-literacy, and early-numeracy) and non-academic school readiness (i.e., socioemotional skills and motor skills). Motor skills included fine (e.g., copying, drawing) and gross motor skills (e.g., hopping), while socioemotional skills encompassed a range of abilities, such as child's self-awareness, empathy, perspective taking, solving conflict, making friends. Early-numeracy involved one-on-one correspondence, comparison, sorting, simple operation, shape identification, number identification, while early-literacy involved expressive vocabulary, print awareness, sound and letter identification, writing and, oral comprehension.

In China, LBC are children aged 18 and below with one or both parents away for work for at least half a year (Duan, 2015). In the current review, LBC refers to children aged under 6 with one or both parents being away for work for at least half a year. Preschool refers to pre-primary early childhood setting that cater to children aged between 3 to 6 years old. Children enrolled in preschools attend an average of 8 hours per day for 5 days per week and are equipped with school readiness skills that include academic school readiness and non-academic school readiness. By conducting this review, we aim to contribute to the understanding of the school readiness of Chinese LBC during the preschool stage and inform policies that support the development of disadvantaged children in LMICs.

2. School Readiness in Early Childhood Children of Disadvantaged Setting

Several studies have consistently demonstrated the importance of school readiness as a predictor of future academic success. In the early 1990s, Nazli Baydar (1993) argued that the early literacy and numeracy in preschool stage are predictive of success in primary school and high school, and even adulthood. Brooks-Gunn (2003) confirmed this view a decade later. Research has shown that early literacy and numeracy skills can predict 25% of primary school children's development level, emphasising the importance of school readiness for predicting academic success (Pianta et al., 2007). Bierman et al. (2008) used multiple assessments to track the progress of 356 four-year-olds for one-year and found significant differences in vocabulary, early literacy, social-emotional development, learning engagement between different time points. Other researchers have also investigated the relationship between school readiness and child outcomes, finding that good readiness skills are related to better adaptation to primary school and fewer social, health, and physical problems when they participate in school activities (Majzub & Rashid, 2012). Recent research has focused on the various factors that influence school readiness and their interrelationships. Neurobiological

understanding of early brain development suggests that early life experiences play a critical role in stimulating and supporting children's innate development, and influencing later outcomes (Katz, 2015). Research has also shown that preschoolers' learning opportunities encompass not only academic skills, but also socioemotional skills, such as positive learning behaviours ((Blair, 2002; Cordiano et al., 2019).

A large body of research has demonstrated that school readiness is particularly important for disadvantaged children (Connell & Prinz, 2002; Reardon & Portilla, 2016; Wright et al., 2000). The Early Childhood Longitudinal Study, Kindergarten Cohort (ECLS-K) was a study conducted by the U.S. Department of Education that included approximately 22,000 nationally representative kindergarten children (Dotterer et al., 2012; Maxwell & Clifford, 2004). The ECLS-K study found that children from low-income, single parent families, those with mothers who had low levels of education, and those whose primary language was not English, generally had lower skills in school (Zill & West, 2001). Compared to children without any risk factors, those with at least one of the four risk factors had lower reading and numerical skills. Additionally, the impact of risk factors was cumulative: children who were exposed to more risk factors had lower skills in all major developmental domains (e.g., gross and fine skills, social-emotional development, literacy and numeracy skills) when they entered school (Maxwell & Clifford, 2004).

Lee and Burkam (2002) used the same data from the ECLS-K study and found that ethnic minorities such as African Americans and Hispanics from families with lower socioeconomic status, had the lowest numeracy and literacy skills. Furthermore, in the ECLS-K study, Zill and West (2001) found that girls were slightly higher in literacy than boys, were similar to boys in numeracy, had better social-emotional skills, and were less likely to engage in problem behaviour than boys at the beginning of kindergarten. In summary, these findings indicate that some children, especially those from adverse home environment and low social economic status (SES) are often not ready for school compared to their peers.

By extension, children who are separated from their parents in China due to work reasons are also deemed socioeconomically disadvantaged, as it is only the lack of financial income that forces parents to leave their place of living and go out in search of job opportunities. These children mostly reside in rural settings with bare minimum infrastructure and are usually cared for by grandparents who are lowly educated and who do not possess much social capital. Some of the grandparents were only marginally educated or literate, and they only provided the children with a certain amount of security in terms of food and clothing. If one parent is working outside, the other has to take care of children at home while also balancing agricultural work and caring for the elderly.

A study by Chien et al. (2010) indicated that the disadvantaged children in United States who were provided individual guidance performed better than the non-disadvantaged children in the same cohort. Conversely, in many other cohorts, disadvantaged children performed worse than their non-disadvantaged counterparts (Lu et al., 2016). Numerous studies have reported that children from low SES have lower school readiness and academic performance compared to their higher SES classmates (Winsler et al., 2008). Using data from a high profile longitudinal study conducted in the United States in 2015, researchers found that African American and Hispanic children in the kindergarten were at a disadvantage in terms of academic performance, in parallel to the social and economic disadvantage experienced by their families. Among them, the socioeconomic characteristics (for example, mother's education, father's education, family structure) of African American children were $\frac{2}{3}$ of the standard deviation lower than those of white children, and the indicators of Hispanic children were also lower than those of white children. Characteristics related to family poverty resources were mainly seen in the following aspects: mother dropping out of school, single parent family, mother losing her job, unsafe neighbourhood, large family, unstable living environment, domestic violence, lack of learning materials, low birth weight, teenage mother and high economic pressure (Duncan & Magnuson, 2005). These life stressors, as described in current literature do not differ much in their impact on children's school readiness.

It is evident that a positive home environment is beneficial for a child's school readiness, while

a disadvantageous home setting is unfavourable to a child's school readiness. Plans aimed at improving school readiness and closing skills performance gaps must take into account the home environment in which children grow up (Dotterer et al., 2012). In a study involving African American families, Hill (2001) examined the relationship between low-income parents and their children. Pre-reading and pre-mathematics readiness were assessed on 103 African and European kindergarten children. The study found that parental involvement, behaviour, and expectations were associated with the academic performance of children from low-income families.

While most literature suggests less favourable learning trajectories for children who were raised in disadvantaged environments, there is evidence indicating that there is a great variation in children's school readiness (Parker et al., 1999). Sabol et al. (2018) found that some children from low-income families could acquire the same level of skills as children from high-income families, when mediating factors such as time and individual attributes are taken into consideration. Drawing on these past studies, it is important to examine the extent that disadvantage associated with child-parent separation in rural China affects the children of migrant workers who are left behind in their hometowns. It is also crucial to understand how personal attributes such as executive function, play a role to explain these complex and interconnected relationships. Executive function is a general term that covers a higher set of process (such as inhibitory control, working memory, and cognition flexibility) that manage goal-oriented actions and adaptive responses to new, complex or ambiguous situations (Hughes et al., 2005). Early childhood executive function is a strong predictor of executive function skills later in life (McClelland et al., 2006; Moffitt et al., 2011). If executive function develops well, it can help children to succeed academically and lay the foundation for success (Griffin et al., 2016).

3. Existing Studies on Left-Behind Preschool Aged Children in China

In China, research on school readiness for preschool children is still in early stages (Chen et al., 2009; Gai & Zhang, 2005; Pan et al., 2012). The first local study on school readiness was in 2005 (Gai & Zhang, 2005) which explored children's school readiness within the context of Chinese culture. The study found that the Chinese early childhood education (ECE) policy documents' focus of school readiness is similar to those found in US National Education Goals Panel (NEGP) (*National Education Goals Panel, 1991*) in the USA. This model includes language and literacy development, cognition and general knowledge (including early mathematics and early scientific development), approaches to learning, physical well-being and motor development, and social and emotional development.

Scholars in China have been striving to contextualise school readiness in local terms (Zhou, 2007). According to Zhou (2007), the home environment and learning capital investment are also important factors influencing children's school readiness. A study by Chen et al., (2009) involving 150 kindergarten children from various family backgrounds in Beijing, supported Zhou's (2007) view. The study found that the family's socioeconomic status has a significant impact on children's early-literacy development (Chen et al., 2009). Li et al. (2020) also demonstrated a significant mediating effect of parental attitudes that reduced family involvement in low socioeconomic status families, mainly in the areas of strict discipline and parent-child communication. The findings emphasise the need to focus on family-based parental involvement deficits caused by parental attitudes in low socioeconomic status families. It is essential to explore comprehensive and effective approaches to increase parental involvement in low socioeconomic status families. Numerous studies have shown that home learning environment positively affect children's language, comprehension, listening and speaking skills, and enjoyment of books (McCoey & Cole, 2011). Family literacy activities also account for almost a fifth of the differences in children's language scores (Grover et al., 1994). Thus, it appears that what parents should do with their children has a significant impact on their development and may be more important than who the parents are (i.e., their socioeconomic status or education level) (Pillinger & Wood, 2014). Additionally, the earlier parents are involved in their children's literacy activities, the more profound and lasting the effects (Wilder, 2014).

To better understand how administration of the Chinese communities, the following administrative structure is provided to guide the discussion.

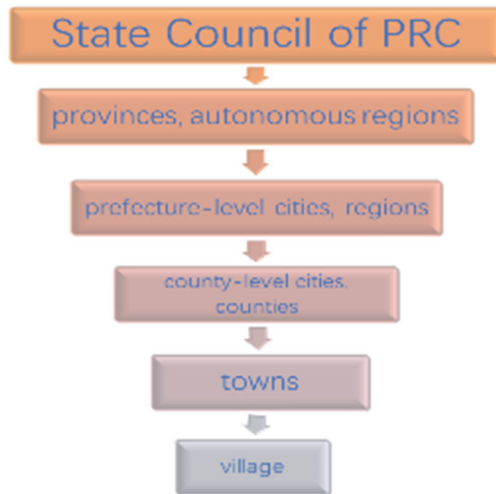


Figure 1: Administrative division in China (Constitution of the People’s Republic of China, 1982)

The figure above shows six level of administration division, where people living the prefecture-level city (also called cities in China) and regions have urban *hukou* (i.e. the Household Registration System in China), which is very detrimental to the education and development of rural and remote poor areas and their future generations (Pan, 2018). People living in county-level cities (also called counties in China) and below have rural *hukou*. The left behind-children, who are the focus of the current review, reside in the county-level and below administrative geographies, including towns and villages, from which the data will be collected.

There is evidence to suggest that Chinese children in the rural area lag behind urban children in cognitive and general knowledge, verbal development, and emotional and social development (Liu & Pan, 2008). The level of school readiness (SR) in rural children lags behind the curve for many of the age specific developmental tasks, whereas in urban children, SR varies with age, owing directly to age and stage of typical development. The difference in school readiness and rate of development between the two groups implies that rural children might be disadvantaged due to the lack of stimulating environment for early learning and development (Gai, 2007). The ongoing accumulative disadvantage experienced by the rural children will inevitably lead to a widening gap in between the two groups. Tian's (2011) survey of 540 children from 36 kindergartens in three different regions in Sichuan Province, comprising of cities, counties and towns, revealed that children from different regions have significant differences in language readiness. The basic knowledge of language and skills in children from the lower smaller administrative structures such as the village kindergartens and town kindergartens are lower compared those in cities' and county's (Tian, 2011). This implies that, children from kindergartens located in the larger and higher administrative levels have better SR skills. Meanwhile, Pan and colleagues (Pan et al., 2012) compared the urban-rural differences in the mathematics readiness of 1181 preschool children in Zhejiang, Jiangxi, and Sichuan in the first year of school. They found that there were uneven mathematics learning and development between urban and rural children. Rural children lagged behind their urban peers in the fields of number, quantity, shape, and space. In general, urban children from the higher administrative structures such as prefecture-level cities perform better across many areas when compared to children in the lower

structures, comprising rural children from the towns and villages. Within the higher structures, there was no significant difference between urban children from the prefecture-level cities and county children.

4. Conclusion

This review highlights four research directions based on the findings. Firstly, left-behind preschool aged children in China face similar school readiness challenges to their Western counterparts in similar disadvantaged environments, and child-parent separation has a detrimental effect on their development. Secondly, there are few studies examining the multifaceted and multidimensional aspects of school readiness among left-behind children, particularly at the preschool level. Thus, it is crucial for researchers and the state to address this gap and study the development of preschool-aged left-behind children in disadvantaged environments.

Thirdly, recent research suggests several ways to promote the development of LBC through a discursive approach. Researchers have explored the influence of family and social factors on left-behind children in both urban and rural areas, but the evidence is limited, and there is a need for more systematic and longitudinal studies.

Fourthly, the Chinese government should increase the awareness of the importance of preschool education and its pact on children's later development, and highlight its social responsibility and compensatory function for the education of children left behind. The establishment of high-quality inclusive kindergartens should be a priority, and researchers should focus on how to transform the developmental pathways of disadvantaged young children through a combination of family education and schooling interventions.

Overall, the review emphasizes the importance of studying the school readiness of left-behind preschool-aged children in China and highlights the need for more comprehensive research, government support, and inclusive educational institutions to address the challenges faced by these children.

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