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**Parenting Training's Effect on Parenting Behaviors and Subjective Well-being: A
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Abstract

This paper presents the preliminary findings from the randomized experiment on early childhood education in Yunnan province, China. In the treatment group, caregivers were gathered together regularly to be trained by kindergarten teachers on parenting skills, and extracurricular books are made available for borrowing in the kindergartens. The empirical analysis reveals no significant improvement in caregivers' parenting behaviors. In addition, parent's subjective well-being is also not affected. The results alarm the difficulties in changing caregivers' parenting behaviors in less developed regions, which might suggest that we shall count more on formal institutions such as kindergartens to improve early childhood development.

Keywords: parenting training, shared reading, subjective well-being, parenting behaviors

1. Introduction

Early childhood investment is a recognized source of the sustainability of the individual well-being. Following the existing body of works indicating the persistence of health benefits (Campbell et al., 2014), higher labor market returns (Gertler et al., 2014) gains in non-cognitive outcomes (Doyle et al., 2017) of early interventions, the present manuscript presents the preliminary results of the randomized experiment on early childhood education (ECD) in Yunnan province, China. The experiment aimed at equipping caregivers with the set of parenting skills needed to facilitate the development of cognitive and non-cognitive skills of children of kindergarten age.

As China nearly achieved universal basic education coverage, the government started to shift its policy attention and demonstrated strong commitment to supporting early childhood education (ECE). The Medium- and Long-Term Educational Reform and Development Plan (2010-2020) aims to increase the three-year preschool enrollment to 75 percent and one-year preschool enrollment rate to 95 percent by 2020. It further requires every county to develop a series of three-year preschool action plans for expanding preschool services. However, the responsibility and financing of preschools continue rest with the local governments. The main challenge remains to bridge the access and quality gap between provinces and between rural and urban areas. The rural areas, especially the remote ones, with mountainous and other difficult-to-reach terrains and with limited local financing capacity, require that rural ECE provision be less center-based but more flexible community-based and sustainable. The government is actively searching for practical and sustainable solutions to address the challenge.

In January 2015 the State Council released the Child Development Plan for Rural Areas (2014-2020) to promote child development in aspects of health and education in rural areas of China, specifically in the 680 “Poverty Counties”. In addition to expanding ECE resources in rural

areas with government leadership, community involvement, and public and private provision, setting up teaching points in sparsely populated areas, strengthening bilingual education, and helping families with economic hardship, orphans, and handicapped children to receive ECE services, the Plan also stresses that the government shall guide and teach parents/caregivers to take better care of their children and provide better family environment.

An earlier survey of rural household child-rearing environment indicates that there is a lack of purposeful literacy interaction between children and their caregivers in rural Yunnan province. Further, shared book reading has been considered one of the most important activities that parents can engage in with their preschool children. Results confirm that different home literacy approaches influence children's oral and written language skills differently: Shared book reading promotes language development, whereas parents' explicit metalinguistic training within a shared book reading context better prepares children for learning to read (Chow, McBride-Chang, Cheung, & Chow, 2008).

Literature shows that parenting education affects various child development outcomes such as cognitive skills, self-help domain, reduced behavioral disorders. Reach Out and Read Project (advising low-income parent about reading activities) in Boston (Karen, 2011) revealed 0.69 effect size on child's cognitive outcome. Parent education program for Latino parents in California shows there is 0.26 effect size on self-help domain child development outcome. Community parenting education program for disadvantaged decreased disordered behavioral problems with 0.7 effect size (McGilloway et al., 2012). Center-based parenting education with children aged 3-5 has been found to be with better outcome in developing countries. In Philippines (Armecin et al., 2006), ECD programs including parenting education programs reported mostly positive impacts in the range of 0.3 to 1.1.

In China, impact evaluation of parenting education has been scarce. In this impact evaluation project, we are going to evaluate the effectiveness of parenting education programs on child's

cognitive, academic, and socio-emotional outcomes for aged 3-year-old children. This project intervention precisely responds to the challenges of inadequate parenting in rural areas. The intervention took form of conducting training sessions for parents delivered by professionals at the kindergartens assigned for the treatment. The parenting education intervention will highlight the important role that families and parents can play in children's early education.

The preliminary findings suggest the treatment arm does not exhibit any significant difference in parenting behavior following the completion of the training program. Besides, the experiment did not generate any improvement in the emotional well-being of caregivers. These findings facilitate the importance of inducing the practical delivery of newly acquired parenting skills, as simple provision of training programs to caregivers does not necessarily suffice to generate improvements in the children's future well-being (Brooks-Gunn, Berlin and Fuligni, 2000).

2. Sample Selection and Intervention

Designed to evaluate the impact of a shared reading intervention, this study targeted grade-1 children in Zhanyi District in Yunnan province, one of China's least developed provinces. Zhanyi is located 390 kilometers away from the provincial capital – Kunming. 6.5 percent of Zhanyi's 446,200 residents belong to non-Han ethnic minorities. Our sample consisted of 60 randomly selected kindergartens, with half randomly assigned to the treatment group and the other half to the control group. In kindergartens with multiple grade-1 sessions, only one was randomly selected to participate in the study.

The impact evaluation took the form of a randomized controlled trial (RCT), requiring a baseline and an end-line assessment of child development outcomes and parenting behavior. The two rounds involved 902 grade-1 children—about 15 students randomly selected from each of the 60 kindergartens—and their caregivers. The baseline assessment took place in

September 2017 and identified 453 children in the treatment group and 449 in the control group. The end-line assessment, scheduled in June 2018, will target the same children.

To guide caregivers to read with children, the shared reading intervention adopted a training-of-trainers model. In September 2017, Yunnan Normal University (YNU) and Save the Children International (SCI) jointly conducted a four-day training to help 60 teachers in Zhanyi—two from each of the 30 treated kindergartens—understand the theories behind and techniques of shared reading. The trainers covered the following themes: the science of early childhood brain development, principles of parenting, early childhood reading and interactive reading skills. In addition to the 60 participants, 10 teachers from Zhanyi No.1 Kindergarten, a high-quality urban school which was not part of the studied sample, also attended the training with the expectation to assist with the day-to-day supervision of the intervention. After the training, the 60 teachers returned to the treated kindergartens and were asked, in accordance with the intervention’s original design, to deliver eight two-hour trainings for caregivers of grade-1 students between September 2017 and June 2018. Based on the number of grade-1 students in all 30 treated kindergartens, about 460 caregivers could potentially benefit from the trainings.

In addition to the teacher and caregiver trainings, Zhanyi Bureau of Education procured and distributed books selected previously by YNU and SCI to the 30 treated kindergartens. Since September 2017, caregivers could borrow up to five books at a time, read with children at home using the skills developed through the monthly trainings, and exchange the old set of books for another set every two weeks. Each kindergarten in the treatment group was responsible for managing the book lending system.

With the assistance of the 10 teachers from Zhanyi No.1 Kindergarten, YNU and SCI monitored the quality of teacher-delivered trainings and adjusted the content of each session in response to teachers’ and caregivers’ feedback. After the first three trainings in September,

October and December 2017, three mechanisms were created to evaluate the treatment group’s compliance with the intervention. First, each week, caregivers were asked to report how often they read with their children. Second, teachers verified the caregivers’ reports by assessing children’s ability to recount the content of the borrowed books. Third, based on the information collected through the first two mechanisms, teachers rated the quality of shared reading from “never” to “occasionally” to “oftentimes” and investigated reasons of partial compliance.

The compliance data enabled YNU and SCI to identify 138 households with special needs and adjust the intervention accordingly. In the majority of these households, the grandparents take care of the assessed children because the parents have migrated for employment. These grandparents tend to lack the essential literacy skills to conduct shared reading with children¹. In February 2018, YNU and SCI, alongside the 10 teachers from Zhanyi No.1 Kindergarten, began to visit the 138 households to provide one-on-one instructions in February 2018. The objectives of these visits were to familiarize the caregivers with early childhood stimulation, deepen their understanding of parental emotion management and teach them how to develop children’s reading using books or other items available at home. By June 2018, each of the 138 households should receive at least one home visit, depending on YNU and SCI’s assessment of progress. Consequently, instead of supervising collective caregiver trainings at the school level, home visits and individualized instructions became the focus of YNU and SCI in 2018. In the rest of the spring, households without the need for home visits will continue to participate in reading activities which teachers of the treated kindergartens are responsible for organizing.

¹ According to the project’s midterm report, about a quarter of caregivers who participated in the first three trainings were grandparents—primary caregivers of the assessed children after the parents migrated in search of employment. Because China’s migration control and the parents’ income limit their children’s access to urban schools, these children have stayed with their grandparents in the countryside and become the so-called “left-behind children.”

Based on their experience from the home visits, YNU and SCI hosted another teacher training over the course of two days in February 2018. The teachers from the treated schools and the 10 teachers from Zhanyi No.1 Kindergarten deepened their knowledge of shared reading, reflected on the challenges that arose in the implementation phase, and developed new skills to train caregivers during home visits².

3. Baseline Statistics and Empirical Framework

Given the feather of randomized experiment, we employ the following simple OLS model to estimate the impact of treatment:

$$y_{ij} = \tau D_j + X'_i \beta + u_{ij}, \quad (1)$$

where i, j subscript the caregiver and the kindergarten, respectively. D_j is the binary indicator of the assignment of the j -th kindergarten into the treatment arm. X'_i is a row of controls, which includes child's age (in months), child's gender, parental educational attainment and parental employment dummies. u_{ij} is the error term. Note that D_j denotes the kindergarten-level assignment into the treatment arm, but not actual delivery of the treatment to parents. Hence, the estimated impact ($\hat{\tau}$) is the intent-to-treat effect (ITT).

We consider two general sets of outcomes. The first set consists of six binary indicators of the various parenting characteristics and activities. This set includes the following binary indicators: (i) whether the family have books for children, and (ii) whether the caregiver played with books/told stories/sang song/counted numbers/taught characters to his/her child at least once during the three days preceding the survey date. The second set of outcome variables

² Between the first and second teacher trainings, a dozen teachers from the treatment group left their kindergartens and were replaced immediately. They did not attend the first teacher training in August 2017 but received instructions about the intervention. The new teachers attended the second teacher training in February 2018.

consists of four indicators of the caregiver’s subjective well-being. Those indicators are the following: (i) general satisfaction with life, (ii) happiness yesterday, (iii) worriedness yesterday, and (iv) depression yesterday. Each indicator is measured on the 0 to 10 point scale. The control variables include child’s age, gender, parents’ education and employment status. Table 1 shows the summary statistics for main variables in the endline survey.

Table 1 - Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Child age (month)	838	49.683	5.634	29	77
Child gender (female)	838	0.477	0.500	0	1
Father at least middle school	798	0.341	0.474	0	1
Mother at least middle school	798	0.382	0.486	0	1
Father being employed	798	0.201	0.401	0	1
Mother being employed	798	0.163	0.370	0	1
Having books/pictured books for children at home	821	0.222	0.416	0	1
Read books to children	813	0.456	0.498	0	1
Told stories to children	821	0.380	0.486	0	1
Sang songs for children	820	0.405	0.491	0	1
Taught children to count/draw	821	0.328	0.470	0	1
Taught children character/ <i>pinyin</i>	821	0.708	0.455	0	1
Life satisfaction	822	8.058	2.023	0	10
Happiness yesterday	822	8.240	2.324	0	10
Worry yesterday	822	1.923	2.783	0	10
Depression yesterday	822	1.487	2.523	0	10

As a standard practice for RCT studies, we first check the balance of the sample to make sure the samples were randomly selected in to the treatment and control groups. Table 2 shows the balance test from the baseline survey. Column (2) shows the means and standard errors in brackets of the control variables employed in the analysis. Column (3) shows the difference in means of the baseline characteristics between treatment and control arms is not significant. The

results suggest that the randomization has successfully balanced the units across treatment and control groups.

Table 2 – Balance Test

	N	Control	Difference (T-C)
	(1)	(2)	(3)
Child age (month)	838	49.304 (0.276)	0.748 (0.389)
Child gender: female	838	0.469 (0.025)	0.017 (0.035)
Father at least middle school	798	0.343 (0.024)	-0.003 (0.034)
Mother at least middle school	798	0.362 (0.024)	0.040 (0.034)
Father is employed	798	0.211 (0.021)	-0.020 (0.028)
Mother is employed	798	0.183 (0.020)	-0.040 (0.026)

Notes: The table reports the means (standard errors) of the characteristics of the control group (column 2) and the difference in means between the Treatment and Control groups (column 3). The statistics have been obtained from fitting a set of simple linear regressions of the variables mentioned in the table on the assignment dummy using data from the baseline survey. The standard errors are corrected for the unequal variance of the outcomes between Treatment and Control arms.

4. Preliminary Findings

This section presents the preliminary findings estimated from Equation 1. Table 3 presents the estimated impacts on caregivers’ parenting behaviors. Panel A reports the difference in means of the outcomes yielded from bivariate regressions (without controlling for other covariates). None of the coefficients are statistically significant. Panel B shows the regression-adjusted estimated impact for the ITT effect. Again, there is no significant coefficient in all columns. The findings in the table may suggest that the assignment into the treatment arm did not induce

changes in the parenting behavior. The results pose challenges on the effectiveness of limited intervention on caregivers whose education are generally low, and many of them are grandparents.

Table 3 - ITT Effects on Parenting Behaviors

	(1)	(2)	(3)	(4)	(5)	(6)
	Have books	Read books	Told stories	Sang songs	Counted numbers	Taught characters
<i>Panel A: no controls</i>						
Assigned	0.023	-0.011	-0.047	0.025	0.010	-0.003
	(0.029)	(0.035)	(0.034)	(0.034)	(0.033)	(0.032)
N	821	813	821	820	821	821
<i>Panel B: with controls</i>						
Assigned	0.031	-0.007	-0.034	0.029	0.010	0.005
	(0.030)	(0.035)	(0.035)	(0.035)	(0.034)	(0.033)
N	768	760	768	767	768	768

Notes: The table reports the ITT effects of the parenting skills. Panel A reports the results without controls. Panel B reports the results with controls. Controls include: the child's characteristics (age in months, gender), parental employment and their educational attainment. * p<0.05 **p<0.01 ***p<0.001.

We further examine whether such intervention has any impact on caregivers' perception of their quality of life, measured by four indicators of subjective well-being. The first one is general life satisfaction, which is an evaluative measure of subjective well-being. The rest three measures capture positive emotion (whether being happy yesterday), and negative emotion (whether being worried yesterday, and whether being depressed yesterday). As in the previous table, panel A shows the difference in the means of the dependent variables, while panel B incorporates the control into the analysis. Similar to Table 3, the findings reveal no significant

difference in the outcomes in either of the panels, which suggest the absence of the ITT effects on caregivers' subjective well-being.

Table 4 - ITT Effects on Caregivers' Subjective Well-being

	(1) Life satisfaction	(2) Happy yesterday?	(3) Worried yesterday?	(4) Depressed yesterday?
<i>Panel A: no controls</i>				
Assigned	-0.151 (0.141)	-0.213 (0.162)	-0.304 (0.194)	-0.343 (0.176)
N	822	822	822	822
<i>Panel B: with controls</i>				
Assigned	-0.160 (0.147)	-0.209 (0.169)	-0.271 (0.204)	-0.257 (0.185)
N	769	769	769	769

Notes: The table reports the ITT effects of the emotional outcomes of caregivers. Every outcome ranges between 0 and 10. Panel A reports the results without controls. Panel B reports the results with controls. Controls include: the child's characteristics (age in months, gender), parental employment and their educational attainment. Robust standard errors in parentheses. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

5. Conclusions and Discussions

This paper presents the preliminary findings from the randomized experiment on early childhood education in Yunnan province, China. As there is a concern that the low-level of economic and social development in the study region and low level of education of caregivers (particularly grandparents) may impose difficulties for children's early development, the experiment was designed to evaluate the impact of a shared reading intervention program carried out by kindergarten teachers on those grade-1 children in kindergartens. The shared reading intervention adopted a training-of-trainers model: Yunnan Normal University (YNU) and Save the Children International (SCI) jointly conducted the training to help kindergarten teachers in the treatment group. Those kindergarten teachers then performed the roles of

teaching parents. To support parent's interaction with their kids particularly for shared reading, the local bureau of education procured and distributed extracurricular books to the 30 treated kindergartens, which was free for borrow for parents. The program lasts for two semesters (starting from the fall semester), including monthly gathering of parents to teach them parenting skills, providing them books, some home visiting guidance. However, the empirical results reveal no significant impact of the policy intervention on either parenting behaviors, or subjective well-being of caregivers. The experiment shows that improving parenting skills in the less developed region is not an easy task. More effective means to improve parent's engagement in early childhood development shall be explored.

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