Consequences of Migration for Left behind Children in China

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ABSTRACT

Using data from the 2012 China Labor Dynamics Survey, we examine consequences of migration for left behind children in rural China. We use a comprehensive set of outcome measures: academic achievement, participation in tutorial classes, education related spending, participation in volunteer work, and participation in paid work. Using a variety of migration measures (past migration experience, current migration experience, interprovincial vs. intraprovincial migration), our results show that children whose parents are either return migrants or current migrants tend to have unfavorable education outcomes as well as low level of participation in volunteer work. The paper raises serious concerns about the consequences of migration for the well-being of 60 million left behind children in China. Methodologically, our findings also confirm that cross-sectional research design that captures only current migration experience will underestimate the impact of parental migration on children.

Introduction and Background

As over 50% of the world population resides in urban areas, migration (both internal and international) continues to be on the rise and increasingly affects more children in the household. By some estimates, between 15 to 30% of children in Africa, Asia, and Latin America live in households with at least one migrant parent (Bryant, 2005; Lu and Treimen, 2011). China is no exception. Indeed, one of the most important demographic consequences of China's market transition process is the emergence of a massive volume of "floating population", referring to migrants who reside in destinations without local household registration status (*hukou*) (Cai and Bai, 2006; Li, 2003; Liang, 2001; Liang and Ma, 2004). Results from the most recent 2010 Chinese Population Census place the estimates of floating population at 221 million (NBS, 2012), making this clearly the largest flow of migration in human history.

Much of the past research efforts was devoted to understanding the experiences of adult migrants and their impact on both migrant destinations in cities and origins in the countryside (Chan and Zhang, 1999; Fan, 2008; Jiles and Yoo, 2007; Roberts, 1998; Wang et al., 2002). However, there is not sufficient attention to the many challenging issues of how migration affects children in China. On January 27, 2007, the *Wall Street Journal* ran a front-page article about migrant children in China which underscores the plight of children who are left behind because their parents are working in Chinese cities (Chao, 2007). In fact the media report touches only the tip of an iceberg that concerns the education and well-being of China's migrant children (Yardley, 2004). Current estimates of left behind children (LBC) is in the neighborhood of 58-60 million. Against this background, the research literature on the well-being of LBC has increased quite dramatically in recent years (de Brauw and Mu, 2011; Duan and Yang, 2008; Lu (2012); Wen and Lin, 2012; Ye and Murray, 2006). Using longitudinal data from China Health and Nutrition Survey, Lu (2012) systematically studied school enrolment for the left behind children. Lu's (2012) results show that the difference in school enrollment between left behind children and children whose parents did not migrate is not statistically significant.

With few exceptions, much of this literature is ethnographic in nature or relying on study designs with relatively small sample sizes, or cross sectional data (Wen and Lin, 2012; Ye and Murray, 2006). For the most part, earlier studies provide a vivid portrait of tremendous suffering of these left behind children in the form of lack of supervision for education, high rate of depressive symptoms, and high rate of delinquent behaviors.

In this paper, using data from the 2012 China Labor Force Dynamics Survey, we build on prior studies and extend this line of research in new directions. Our research differs from prior work in several important and innovative ways. First we use a comprehensive outcomes of outcomes. Related to education, we have measures of student academic achievement, if students take tutorial classes, and amount of money spent on education. In addition to education outcomes/measures, we include measures of children's voluntary activities and if children ever worked for pay. The current literature on migrant children would suggest that given that parents of migrant children already

work outside and these migrant parents are more likely to make more money than staying at home, we would expect left behind children will be less likely to work for pay. The question of whether a child ever has done voluntary work captures the civic participation dimension and shows the extent to which child cares about the community. Our second innovation is to get beyond a simple measure of parental migration. In other words, we want to know about the extent to which the duration of migration (how long has the parent been away) makes any difference. We also explore if the distance of migration matters. We reason that migration distance should matter because if parents work in locations that are not too far, it is easier for parents to return on a regular basis, which may mediate the potential negative consequences of parental migration on children's well-being.

In the following we will discuss data and methods, preliminary findings, and plans for next stage of data analysis.

Data and Methods

Data

We use data from the 2012 China Labor-force Dynamics Survey (CLDS). This is a large-scale national representative panel study conducted by the Center for Social Science Survey at Sun Yat-sen University. The current paper uses the first wave of the data. It collects data of individuals in the labor force (age 15-64) and of their families and communities (i.e. neighborhood committees in urban areas and village committees in rural areas). The survey focuses on the changing dynamics of China's labor force and covers a wide range of topics, such as education, job history, migration, health, social participation, and economic activities.

CLDS employs multi-stage cluster stratified PPS sampling method and covers 29 provinces in China (i.e. except Hong Kong, Macau, Tibet and Hainan). The survey also adopts a method of sample rotation to ensure that the samples can reflect significant changes of study population in a fast-changing society such as China. Sampled households and members in labor force in sampled communities will be surveyed every other year for 6 years, which equals 4 rounds of data collection. After that, they will be replaced with a new rotation sample.

The first wave of data was collected in 2012. The final sample includes a total of 16,253 individuals in 10,612 households and 303 communities.

Methods:

Our Strategy is to select children ages 5-18 who are residing in rural areas. There are 3,853 children in this age range. Within each household, we use following categories to identify categories of children: (1) children who live in household with father migrated; (2) children who live in households with mother migrated; (3) children who live in

household with both parents migrated; (4) children who live in households with parents did not migrate at the time of the survey. For children whose parents migrated, we also calculate the duration of their migration. One important strategy for the current paper is that we also try to evaluate past migration experience. Typically in cross-sectional studies, parents who migrated in previous years and returned at the time of survey are treated as non-migrant parents. We argue that lumping return migrants with non-migrants parents together may miss important relationship between migration and child wellbeing. We estimated two kinds of models. For ordinal dependent variables (such as academic achievement), we estimated ordered logit regression models. For dependent variables with only two categories (such as if a child participated in voluntary work), we estimated logistic regression models.

Preliminary Results

Table 1 shows important descriptive information about the sample. About 40% of parents have never migrated. About 32% of children's parents are currently working outside. Interestingly, 27% of parents are return migrants (who migrated in previous years and came back before the time of the survey). This supports our decision to consider return migrants given this high percentage of return migrant parents, if we only consider current migrants, we will miss a large part of the story. Among migrant parents, the mean migration duration is about 2 years with a large standard deviation of 5 years.

Chart 1shows cross tabulation of academic achievement by parental migration status. There is some evidence that students whose parents did not migrate have the highest academic achievement: with nearly 42% students were ranked as very good or good. In contrast, the corresponding percentages for children with return migrant parents and children with current migrants are 30% and 32% respectively. This is the first indication of some negative consequences for education of left behind children. Chart 2 shows similar finding on the variable of taking tutorial classes, these classes that help student digest class materials, often offered after classes. Both children with return migrant parents and current migrant parents show a lower level of participation in tutorial classes as compared to children with non-migrant parents, though the difference is not dramatic. Chart 3 shows that children with non-migrant parents are much more likely to volunteer than children with return migrant parents or current migrant parents.

These charts provide initial evidence that migration has negative consequences for left behind children. In Table 3, we estimated an ordered logit model of academic achievement, controlling for children's age, parental education, and duration of parental migration. Parental education is positively related to children's education achievement, which is consistent with our expectations. However, children with return migrant parents are ranked much lower than children with non-migrant parents.

In Table 4, we estimated logistic regression models of participation in tutorial classes. Again, the results show children with return migrant parents and current migrant

parents are less likely to take tutorial classes. Results from Table 5 reveals further that children with return migrant parents are less likely to participate in voluntary activities. Good news coming from Table 6 is that parental migration has no correlation with children's participation in paid labor, a comforting result. Table 7 looks at education spending at home. It is surprising to see that parental migration experience is negatively related to education spending. This is surprising because we expect migrant households typically have more money at their disposal as compared to non-migrant households. One possible explanation for this finding is that migrant parents who made money may be more likely to use their experiences to show that one can make a good living without having a lot of education.

Taken all together, using a large national survey in China done in 2012, our preliminary results provide initial support that parental migration brings negative consequences, as reflected in academic achievement, participation in tutorial classes, participation in voluntary activities, and money spent in education. The finding that past migration experience of parents is linked to poor school outcomes shows that migration may have long term consequences as well. These findings raise serious concerns about the negative consequences of parental migration for children. Methodologically, our study suggests that cross-sectional study that only measures current migration experiences are likely to underestimate the potential negative consequences of parental migration on children.

Data from the 2010 Chinese census suggest there are nearly 60 million left behind children in China (Duan, 2013). These children are important part of the future labor force for China. It is true that migration is building a more prosperous China and at the same time bring socio-economic mobility for adult migrants. However, policy-makers and scholars must pay more attention to the well-being of left behind children in rural China.

In future months, we plan to conduct additional refined analysis, considering other factors such as number of children in the household, remittances, and also community level characteristics. In addition, we will examine child outcomes by parental migration categories: mother migrated, father migrated, and both mother and father migrated. We expect to complete the paper by early next year.

Table 1. Descriptive Statistics of Key Variables

Discrete Variables	**Freq.**	**Percent (%)**
Academic achievement		
Very good	377	9.95
Good	1,061	28.00
Middle	2,010	53.05
Bad	257	6.78
Very bad	84	2.22
Total	3,789	100
Ever attended tutorial class		
Yes	1,006	26.11
No	2,847	73.89
Total	3,853	100
Ever had work with income		
Yes	125	4.33
No	2,763	95.67
Total	2,888	100
Ever been a volunteer		
Yes	298	10.88
No	2,442	89.12
Total	2,740	100
Parents' migration experience		
Parents never went out	1,535	39.84
Parents at home, at least one of them used to work in another province	1,056	27.41
At least one of the parents working outside now	1,262	32.75
Total	3,853	100
Family Property		
Owning a car	587	15.23
Owning a TV	3,698	95.98
Owning an air conditioner	1,194	30.99
Owning a refrigerator	2,696	69.97
Owning a washer	2,735	70.98
Owning a computer	1,380	35.82
Highest education level among family members living together		
Elementary school or below	818	21.23
Middle school degree	1,626	42.2
High school degree	675	17.52
Secondary school or college degree	498	12.92
Bachelor or beyond	236	6.13
Total	3,853	100

Continuous Variables	**Freq.**	**Mean**	**SD**	**Min**	**Max**
Age	3,853	11.97	3.50	5	18
School fee each year (Yuan)	3,643	3775.66	5610.33	0	80000
Longest duration of parents working outside (year; including both return & current migrants)	2,941	1.92	5.11	0	34

Table 2. Characteristics of children of parents with different migrant experience

		Types of parents' migrant experience		
	Total Respondent	Parents never went out	Parents at home, at least one of them used to work in another province	At least one of the parents working outside now
Academic Achievement (%)				
Very poor	2.22	1.32	3.37	2.36
Poor	6.78	4.61	9.33	7.31
Normal	53.05	49.54	56.92	54.10
Good	28.00	33.53	22.60	25.75
Very good	9.95	11.00	7.79	10.48
Ever attended tutorial class				
Yes(%)	26.11	39.28	17.23	17.51
Ever been a volunteer				
Yes(%)	10.88	14.82	7.37	7.96
Ever had work with income				
Yes(%)	4.33	3.94	6.23	3.40
Average education fee (Yuan)	3775	4919	2748	3277

Table 3. Ordinal regression on academic achievement

	Model 1		Model 2	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	-0.0830***	0.0101	-0.0827***	0.0094
Highest education				
Elementary school and below (Reference)	-			
Middle school degree	0. 4829***	0.0972	0.4983***	0.0887
High school degree	0.9897***	0.1162	0.9445***	0.1082
Secondary school/college degree	0.9823***	0.1234	0.8795***	0.1170
Bachelor or beyond	1.5172***	0.1493	1.3681***	0.1457
Duration	0.00154	0.0068		
Parents' migrant experience				
Parents never went out (Reference)			-	
Parents at home, at least one of them used to work in another province			-0.3740***	0.0232
At least one of the parents working outside now			-0.0747	0.0784

*p<.05; **p<.01; ***p<.001

Table 4. Logistic regression on whether participated tutorial class

	Model 1		Model 2	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	0.0733***	0.0123	0.089***	0.0116
Highest education				
Elementary school and below (Reference)	-			
Middle school degree	0.629***	0.1423	0.575***	0.1301
High school degree	1.047***	0.1571	0.922***	0.1457
Secondary school/college degree	1.456***	0.1601	1.216***	0.1513
Bachelor or beyond	1.866***	0.1867	1.553***	0.1800
Duration	-0.0812***	0.0137		
Parents' migrant experience				
Parents never went out (Reference)			-	
Parents at home, at least one of them used to work in another province			-0.899***	0.1028
At least one of the parents working outside now			-0.783***	0.0971
_cons	-2.665***	0.1856	-2.408***	0.1771

*p<.05; **p<.01; ***p<.001

Table 5. Logistic regression on whether participated volunteer activity

	Model 1		Model 2	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	0.147***	0.0214	0.155***	0.0202
Highest education				
Elementary school and below (Reference)	-			
Middle school degree	1.267***	0.3598	1.20***	0.3144
High school degree	1.842***	0.3712	1.61***	0.3284
Secondary school/college degree	2.149***	0.3707	1.85***	0.3305
Bachelor or beyond	2.519***	0.3849	2.09***	0.3512
Duration	0.0032	0.0162		
Parents' migrant experience				
Parents never went out (Reference)			-	
Parents at home, at least one of them used to work in another province			-0.54***	0.1808
At least one of the parents working outside now			-0.281	0.1623
_cons	-5.584***	0.4297	-5.30***	0.3895

*p<.05; **p<.01; ***p<.001

Table 6. Logistic regression on whether participated paid work

	Model 1		Model 2	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	0.4794***	0.0523	0.504***	0.051
Highest education				
Elementary school and below (Reference)	-			
Middle school degree	0.4228	0.4218	0.444	0.396
High school degree	-0.1328	0.4671	-0.073	0.435
Secondary school/college degree	0.2734	0.4737	0.335	0.457
Bachelor or beyond	-0.3192	0.6149	-0.249	0.611
Duration	-0.0395	0.0284		
Parents' migrant experience				
Parents never went out (Reference)			-	
Parents at home, at least one of them used to work in another province			0.2848	0.232
At least one of the parents working outside now			-0.1213	0.251
_cons	-10.17***	0.8409	-10.74***	0.818

*p<.05; **p<.01; ***p<.001

Table 7. OLS regression on money spent on education

	Model 1		Model 2	
	Coef.	Std. Err.	Coef.	Std. Err.
Age	316.0***	27.4	323.0***	25.7
Highest education				
Elementary school and below (Reference)				
Middle school degree	834.1***	255.5	774.1***	236.7
High school degree	2217.6***	313.6	2012.2***	296.0
Secondary school/college degree	2654.4***	334.0	2230.6***	322.2
Bachelor or beyond	6451.2***	421.3	5874.9***	417.5
Duration	-33.1	18.2		
Parents' migrant experience				
Parents never went out (Reference)				
Parents at home, at least one of them used to work in another province			-1221***	225.2
At least one of the parents working outside now			-433.3*	219.1
_cons	-1443.4***	360.0	-930.0**	360.5
Adjusted R-squared	0.1345		0.1313	

*p<.05; **p<.01; ***p<.001

Chart 1. Academic achievement of children of parents' with different migration experience

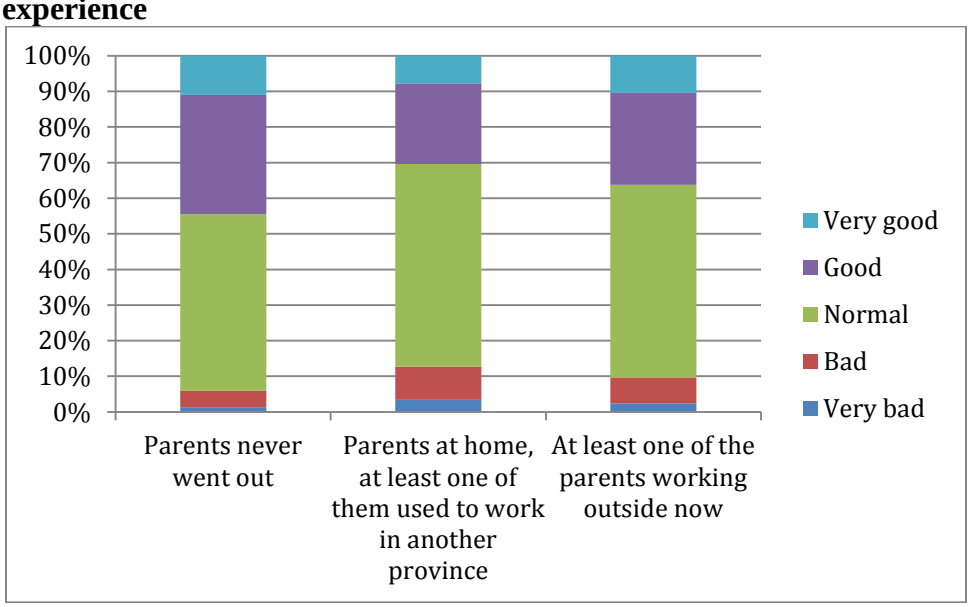

Chart 2. Percentage of ever attended tutorial class of children of parents' with different migration experience

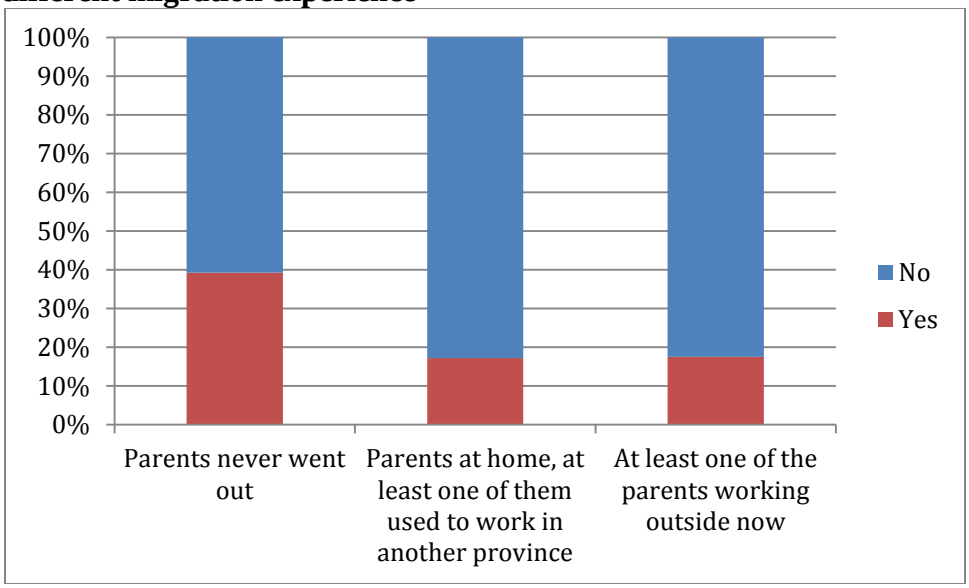

Chart 3. Percentage of ever been a volunteer of children of parents' with different migration experience

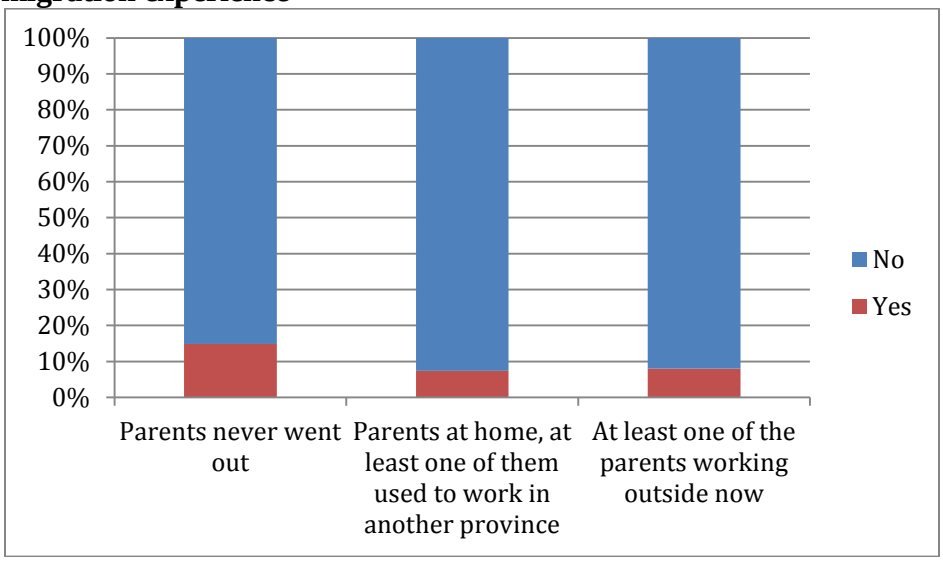

Chart 4. Percentage of ever had work with income of children of parents' with different migration experience

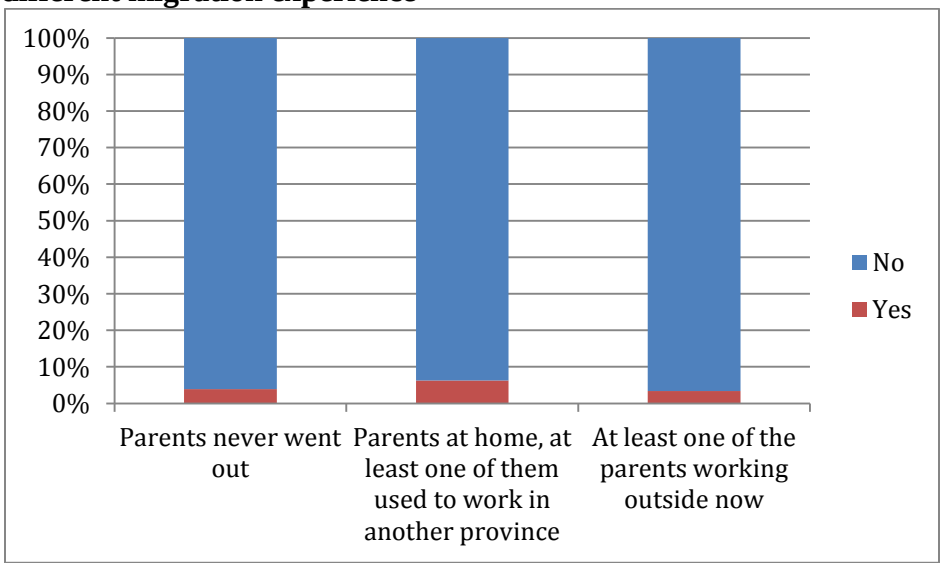

Chart 5. Average education fee of children of parents' with different migration experience
(unit: Yuan)

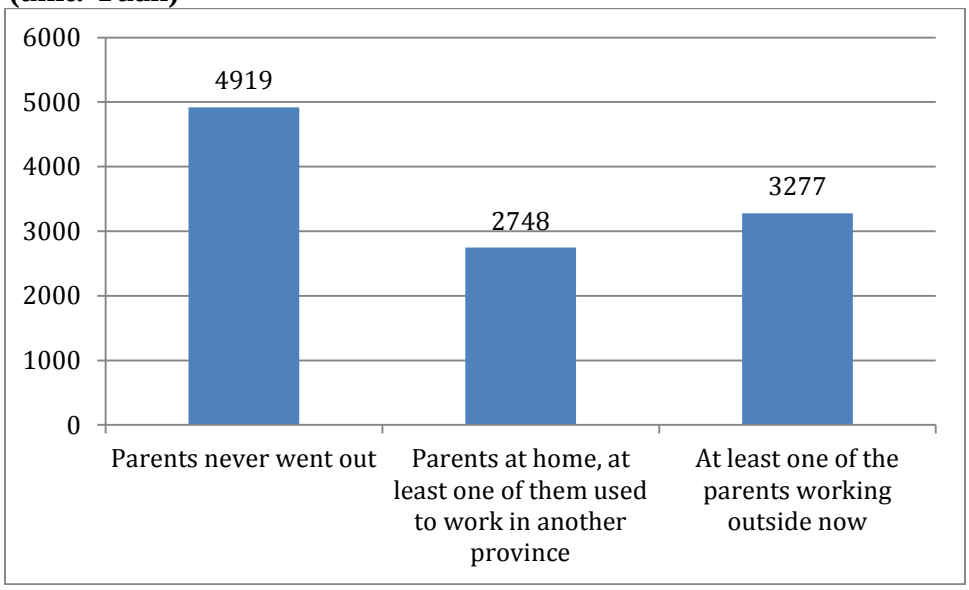

Chart 6. Academic achievement of children of parents migrated for different duration