Migration and the Well-Being of Children in China*

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ABSTRACT

Using data from the 2002 China Nine-City Survey of Migrant Children, this paper examines three issues concerning the well-being of migrant children: education, health, and child labor. We provide both broad patterns of education, health, and child labor as well as statistical models which take into account individual, household level, and migration characteristics. The results show some good news and some bad news. Overall, migrant children show a profile of relatively adequate level of school enrollment and participation in vaccination programs. On the negative side, we find that child labor is quite high (as high as 15 percent of the children are working in one city). Gender discrimination is also evident in both participation in vaccination program and child labor. Third, migrant children who reside in single-parent households suffer both in education and child labor.

Key Words: migrant children, education, health, child labor

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INTRODUCTION

On January 27, 2007, The Wall Street Journal ran a front-page article about migrant children in China (Chao, 2007). The article underscores the plight of children who are left behind because their parents are working in Chinese cities. In fact, the report touches only the tip of an iceberg that concerns the education of China’s migrant children. According to recent estimates, the total number of left-behind children reached 23 million by 2000 (Duan & Zhou, 2005). In addition, there are an estimated 14 million migrant children who are in migrant destinations (cities). All together an estimated 37 million migrant children are affected by China’s tidal wave of migrant laborers. The two groups of migrant children are facing different difficulties. For migrant children in cities, the main issue is equal access to local public schools. In contrast, the main challenges facing left-behind children include the lack of parental supervision and emotional support, which may lead to less desirable educational outcomes and delinquent behavior. The plight of such huge numbers of children presents major challenges for policy-makers in China.

This paper examines the extent to which the wave of migration has affected the well-being of migrant children in Chinese cities. It should be noted that while scholarly literature on China’s migrant population has centered on the adult migrants, it is only in recent years that scholars have begun to pay attention to the well-being of migrant children. This partly reflects the migration process. At the initial stage of the migration process, migration usually selects the young adult males. However, as migrants secure employment and settle down, they are more likely to bring other family members, including their spouses and children. For example, in the 1997 Census of the Floating Population in Shanghai, children of school age account for nearly 12 percent of the total migrant population (Zhang, 1998). The tidal wave of China’s migration process, which started in the 1980s, has reached a point where some migrants who arrived in the earlier years as young workers are now bearing their own children in these cities. These city-born migrant children had already reached school age by the 1990s. Therefore, the issue of education of migrant children is likely to grow more and more important over time. In addition, recent research on migration in China shows that there is a large concentration of adult migrants in low-status occupations. Whether or not this pattern will be shifted or reproduced in the second generation of migrants and migrant children depends largely on how well migrant children are educated. Therefore, it is absolutely essential for migrant children to be enrolled in, and to complete, elementary and secondary schools, as this is a necessary step for socioeconomic advancement in urban society.
The second issue that we examine in this paper is health issues related to migrant children. Because of not having urban *hukou* (registered urban residency), migrant children are very vulnerable to health-related risks, as provision of health services in China is closely tied to one’s household registration status. Specifically, we are interested in the extent to which migrant children have equal access to basic vaccination programs for children. The issue of children’s health is especially important in light of recent findings about the long-term consequences of early childhood conditions for the health of those individuals when they become adults (Hayward and Gorman, 2004; Palloni, 2006). Another important health-related issue is child labor. The recent shocking report of child labor in a brick-factory in Shanxi province is only the most recent episode of this issue (Liu et al., 2007). Driven by greed, some of the employers show no respect for basic human rights. Compared to education and vaccination programs, it is more challenging to study child labor because data are difficult to get.

In this paper, we shift the research attention from migrant adults to migrant children, with a particular focus on migrant children’s school enrollments and health issues. We first discuss the institutional context within which migrant parents make decisions about school choice and participation in vaccination programs. We stress the role of the Chinese household registration system (*hukou*) in constraining migrant parents’ opportunities. Migration is also an adaptive process: as migrants stay longer in cities, they become better informed regarding school choices and availability of health services in those cities. Following a discussion about how various factors are related to migrant children’s access to school and immunization, we will describe the data and methods used in our paper. The empirical part of the paper involves analyzing data from “The 2002 Nine-City Survey of Migrant Children.” We analyze patterns and determinants of the educational experience of migrant children (enrollment and type of schools attended), vaccination programs, and child labor. In doing so, our research efforts take into account parental socio-economic characteristics, the migration experience in the destination city, children’s characteristics, and family structure. Taking advantage of the rich data from the 2002 survey, we will present basic patterns and statistical models of three research areas of interest.

BACKGROUND AND SIGNIFICANCE OF THE PROBLEM

*Hukou and Educational Opportunity*

China’s spectacular economic growth since the late 1970s has been widely noted. Equally noteworthy is the resulting tide of rural-urban migration that has been
unleashed since the early 1980s. The floating population (defined as individuals who moved to a new destination without local household registration) continues to rise to new levels. The massive and history-making migration since the early 1980s has drawn worldwide attention. Looking at inter-county migration alone, it had increased from about 20 million in 1990 to 80 million by 2000 (Liang and Ma, 2004). Recent data from the 2005 China One Percent Survey suggest the floating population has increased even further. Much of this flow of migrant population is adult migrants who are trying to make a living in a new, in most cases, urban environment. As migrants spend more time in destinations and have a stable job, some decide to bring their spouses and children. As a result, the number of migrant households with children has increased. For example, in Shanghai, from 1993 to 1997, the size of the floating population remained stable, but the number of migrant children of school age increased from 280,000 to 340,000, an increase of 28 percent (Liang, 2007). Similar changes were observed in Beijing using a different measure: household type. In 1997, 32 percent of migrants lived in migrant households, as opposed to local resident households and institutional households. By 2000 the proportion of migrants who lived in migrant households had risen to 45 percent. It would be reasonable to assume that migrant households are more likely to contain migrant children than local resident households or institutional households. Another reason for the increasing number of migrant children is that, as migrants spend more time in cities, increasingly they will have children in destination cities. According to the “1997 Beijing Survey of Floating Population,” the proportions of school-age migrant children born in the city of Beijing were 16 percent for the 5–9 age group and 8 percent for the 10–14 age group. Among the 0–4 age group of migrant children, 38 percent were born in Beijing, pointing to a potential current and future demand for health care and education services (BFPCO, 1998). Consequently, this new demographic reality calls for increased attention to the well-being of migrant children in China.

To appreciate the degree of vulnerability of migrant children, one needs to understand China’s hukou system and how it is related to outcomes for migrant children in terms of education, immunization, and labor abuse/child labor. Established in the late 1950s, hukou determines where one can live and what benefits one is entitled to. Hukou was created in large measure to control rural to urban migration. As such, for individuals who intend to move, permission should be obtained from the place of origin in addition to the place of destination. Because of the involvement of hukou, students of migration in China often define two types of migrants: permanent and temporary migrants (also known as the floating population). Permanent migrants are migrants who have obtained local household registration at their place of destination and temporary
migrants are migrants who do not have household registration status at their place of destination.

The type of hukou migrant children hold is closely correlated to the opportunities for attending schools at their place of destination. In Chinese cities, two criteria are important for schools to admit students: (1) students must reside within the school district in the city; and (2) students must be registered (as far as hukou is concerned) in the school district as well. The reasoning behind these regulations is that since the education budget is allocated based on the number of a city’s registered children, enrollment of non-registered children (children without local hukou) would present a fiscal burden on local government and schools. Earlier government regulations stipulate that students who study at schools in places other than their place of household registration must pay an endorsement fee of 480 yuan per semester (Cao, 1997). The reality is that public schools typically charge much higher fees than that. Although this discussion applies to the period of our research (in early 2000s), it is important to point out that there was a major change in March 2006. A document issued by the State Council in March 2006 explicitly requires that local governments in migrant destinations put the education of migrant children on their education planning agenda and include this component in fiscal planning (Research Group of the State Council, 2006).

Given the importance of education for migrant children, many researchers have examined the issue. In 1995 the Horizon Survey Company (HSC) conducted a survey of migrant children in Beijing. Based on this survey, HSC reported that only 40 percent of school-age children were enrolled in schools (HSC, 1997). They also showed that the enrollment rate differed by household income and duration of residence of mothers in Beijing. A reporter cited an even lower enrollment rate of 12.7 percent in some cities of Guangdong province (Cao, 1997). In contrast, a 1997 Census of Beijing’s Floating Population reported a school enrollment rate of 82.1 percent for children ages 6–15. These numbers are often not comparable if we do not know the ages of these children in different reports and duration of residence for these children in different destination cities. Using information on non-migrant children in migrant origins and migrant children in destinations, Liang and Chen (2007) show that migrant children have a lower school enrollment rate compared to non-migrant children in migrant origins, underscoring the educational disadvantage suffered by migrant children.

In response to the demand for education for migrant children and the difficulties of enrolling them in local public schools, there is an emerging phenomenon in almost all cities, big or small: schools that cater particularly to migrant children. Another line of research focuses on these migrant-sponsored
schools in Chinese cities. For instance, in 1997 researchers from East China Normal University surveyed five migrant-sponsored schools in Shanghai (Liu et al., 1998). Duan (2000) also visited many migrant schools in Beijing. Perhaps the most systematic study of migrant-sponsored schools was conducted by Lu and her colleagues at the Research and Development Center under the China State Council. Lu and her colleagues visited 114 migrant schools in Beijing in 1999. The main thrust of this line of research is to document the major characteristics of migrant schools in different cities. According to Lu and Zhang (2001), these migrant-sponsored schools usually do not have license from a local education bureau, the quality of teachers is questionable, and conditions in these school are rather poor (lack of teaching equipment and adequate buildings). Our fieldwork in migrant-sponsored schools in Beijing, Shanghai, Fuzhou, and Xiamen over the years confirms these observations. However, the contributions of migrant-sponsored schools are recognized in the report by Lu and Zhang (2001). They concluded that although migrant-sponsored schools are not a perfect choice for migrant children’s education, they helped these children study at school and acquire a basic education (Lu and Zhang, 2001).

Migration and Health for Migrant Children

Similar to fiscal planning for education, health care/service planning in urban China is also projected on the basis of the potential health care needs of the registered population (Lin et al., 2003). As far as the issue of access to education and immunization programs is concerned, we hypothesize that migrant children are not only much less likely to be enrolled in schools but also less likely to receive vaccines than local registered children.

Another important issue that is related to migrant children’s health and rights is the issue of child labor. In the third week of June, 2007 a piece of shocking news spread throughout China: several hundred indentured slave laborers were found in a brick-making factory in Hongdong county of Shanxi province (Liu et al., 2007; Tang, 2007). Among the 558 workers, 29 were children below age 16 (Tang, 2007). Such child labor is, at least on paper, strictly prohibited in China. In 1991 China’s State Council issued a document entitled “Prohibition of Child Labor in China” (CSC, 1991), which calls for punishment of employers who hire anyone younger than 16 years old. However, the regulation does not specify fines to employers and only asks employers to pay for medical bills and other health-related costs. In 2002 the China State Council issued a revised version of the child labor document, using much tougher language and prescribing severe financial penalties for both employers who hire the under-aged and employment agencies who arrange the employment of the under-aged (defined as below 16 years old) (CSC, 2002). Putting newspapers’ sensational stories aside, system-
atic study of child labor is often difficult because of lack of data. For example, for most surveys and national censuses, questions on labor force participation are only asked for people who are above 15 years old, making it impossible to study the child labor issue. To our knowledge, the 2002 China Nine-City Survey of Migrant Children is the only large scale survey that covers issues of child labor. Findings from this survey allow us to link child labor with characteristics of migrant children and their parents as well as with the cities in which they reside.

Understanding education and health for migrant children has significant policy implications. As China becomes more marketized, education will hold long-term consequences for the social and economic mobility of migrant children. A large proportion of parents of these migrant children are concentrated in low-level occupations. Education will hold important keys to whether migrant children will follow their parents’ path. Similarly, the health status of children also has long-term consequences. For example, using longitudinal data from the United States, Palloni (2006) shows that early childhood health is correlated with adult social class positions. In the case of China, the current literature suggests that lack of educational opportunity and the potential health consequences of not having adequate health care could be the worst combination.

Parental Resources, Family Structure, Migration Experience, and Children’s Well-Being

In the previous section, we discussed the extent to which the Chinese institution of hukou constrains opportunity for education and health care for migrant children in China and the potential long-term consequences for health and socio-economic advancement. In this section, we link migrant children’s family background/resources, traditional gender roles, and migration experience to education and health care access for migrant children. It is important to realize that institutional barriers (lack of hukou status) restrict choices of schooling and access to health care. Family characteristics and parental involvement are important factors as well (see Coleman (1964) for a case study of race and education in the context of the United States). We expect parental education is important in this process. Better-educated parents are more likely to appreciate the value of good quality education and will make good efforts to enroll their children in schools and place their children in local public schools. Well-educated parents are also well informed about local educational opportunities, medical services, and the health benefits of immunization programs, all of which enhance the likelihood of enrollment in a good school and participation in immunization programs.
Another important factor is family structure which has also been shown to be a critical variable for the well-being of children (Astone & McLanahan, 1994; Buchman & Hannum, 2001). Most studies have tended to measure family structure by intact families vs. single-parent families. In our study of migrant children, a more meaningful classification is the following: children with two parents at the destination, children with one parent, children with one parent and another relative (most likely a grandparent), children with other relatives, and children with non-relatives. We argue that compared with children who live in other types of households, children with two parents would enjoy the best outcomes in our research interests: school enrollment, immunization, and child labor.

Since we are concerned with the well-being of children from migrant families, the migration experience itself should bear on children’s education and health-related experience. A phenomenon commonly known in the immigration literature as the assimilation paradigm is applicable to this study. It refers to the process whereby migrants gradually adopt the behavior/practices/norms of local residents. One of the important variables in this assimilation paradigm is the duration of residence in the destinations area. This leads us to hypothesize that as migrants stay longer in cities, they are more likely to make sure their children are enrolled in schools (particularly public schools) and participate in immunization programs. In addition, as migrants spend more time in cities, they are also more likely to be aware of the rights of children and relevant laws for protection of children (including prohibition of use of child labor), and therefore their children are less likely to be involved in child labor.

**DATA AND METHODS**

For this paper, we mainly rely on data from the 2002 China Nine-City Migrant Children Survey. The survey was sponsored by the Office of Women and Children Affairs under the State Council, China Children’s Center, and United Nations Children’s Fund (OWCASC et al., 2003). The main objectives of the survey were to gain a comprehensive understanding of migrant children with respect to living environment, education, access to health care, nutrition intake, and protection of children’s rights. The survey’s target population is migrant children who are 18 years old or younger residing in households headed by migrants. The sampling unit is households whose members are officially registered in the countryside and have resided in the surveyed city for more than six months, and in which there is at least one migrant child who is age 18 or younger. The survey has a broad geographic range, covering nine cities that are located in eastern, central, and western parts of China. There are three cities
located in eastern China: Beijing, Shenzhen (in Guangdong province), and Sha-
oxing (in Zhejiang province); three cities in western China: Chengdu (Sichuan
province), Xianyang (Shaanxi province), and Yining (Xinjiang Autonomous
Region); and three cities in central China: Wuhan (Hubei province), Jilin (Jilin
province), and Zhuzhou (Hunan province). These cities also represent different
sizes: three large cities (Beijing, Wuhan, and Chengdu), three medium size cit-
ies (Shenzhen, Jilin, Xianyang), and three small cities (Shaoxing, Zhuzhou, and
Yining). Figure 1 shows the survey sites and sample size for each survey site.

The survey provides perhaps the most comprehensive information about
migrant children for any survey ever conducted in China. It contains detailed
questions eliciting basic socioeconomic background information on parents (in
some cases guardians if no parent is with the children) and children, migration
information for both parents and children, educational experience, and health
related questions (nutrition, recent illness episodes, accidents, regular medical
check-ups, purchase of insurance, immunization, knowledge regarding AIDS,
sexual abuse and harassment, and children’s psychological feelings about being
in the city). There is rich information on educational experience (enrollment,
public vs. migrant school, tuition payment in each type of school). There is also information on housing conditions (such as whether migrant children have their own private room) and neighborhoods where migrant children reside. Finally, there is information about child labor (children paid for work). Despite the richness of the data, there is one limitation: we only have information on migrant children. Thus we cannot make comparisons with non-migrants in migrant origin sites and locally-registered children at destinations.

Taking advantage of the rich information on education and health, our research focuses on four main variables: (1) whether or not migrants are enrolled in school; (2) for migrant children who are enrolled in schools, whether in a local public school or a migrant-sponsored school; (3) whether or not migrant children have received required vaccination; and (4) whether or not migrant children are engaged in paid labor (child labor). When considering these indicators related to the well-being of migrant children, we must take the children’s age into account. For the issue of school enrollment, we restrict our analysis to children of 7–16, as this is the age group that by law is supposed to receive mandatory education (elementary school and middle school). According to child labor law, children under age 16 are not allowed to participate in paid labor. Since the number of children aged 12 or below who are engaged in paid labor is very small, we use age 12–15 for the study of child labor. For studying participation in immunization programs, the issue is somewhat complicated. Information is obtained from parents for their children’s participation in five vaccines: BCC (vaccine for TB), measles, PDT (pertussis, diphtheria, and tetanus), poliomyelitis, and Hepatitis B. Table 1 shows the age schedule for each vaccine based on information from China Center for Disease Control.

**Table 1: Basic Schedule of Five Vaccinations in China**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>1st</th>
<th>2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BCG (vaccine for TB)</strong></td>
<td>at birth</td>
<td>3rd month if needed</td>
</tr>
<tr>
<td><strong>Measles</strong></td>
<td>8th month</td>
<td>4 years old</td>
</tr>
<tr>
<td><strong>PDT (pertussis, diphtheria, and tetanus)</strong></td>
<td>3rd, 4th &amp; 5th month</td>
<td>1.5 years old</td>
</tr>
<tr>
<td><strong>Poliomyelitis</strong></td>
<td>2nd, 3rd &amp; 4th month</td>
<td>1.5 and 4 years old</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>at birth, 1st &amp; 6th month</td>
<td></td>
</tr>
</tbody>
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Our data analysis proceeds as follows: for each variable of interest (such as school enrollment or vaccination), we begin with some description of the broad pattern of the variable. Given the importance of gender difference in access to education and health care, we always present the pattern by gender. This is followed by careful statistical analysis that takes into account a variety of characteristics.

FINDINGS

Descriptive Statistics of the Sample
We begin with a basic description of our sample from the nine-city survey of migrant children. Table 2 shows the basic characteristics of the parents and children. The overwhelming majority of the children (90 percent) live in two-parent households and the remaining types of households include one parent with another relative, one parent only, grandparent(s), and non-parent. Only 1 percent of migrant children live in non-parent households. Since the survey targets migrant households with children, the age distribution of migrant children varies from less than one year old to 18 years old. Overall, there are more boys than girls in our sample, perhaps reflecting the fact that parents tend to bring boys to cities first and girls later. Because of our research perspective, we have different research focuses for migrant children in different age groups.

Turning to the number of children per household in cities, we find that 64 percent of migrant households have only one child and 32 percent have two children (not shown in Table 2). Nearly 60 percent of migrant fathers have junior high school level education and nearly 20 percent of migrant fathers have only an elementary school education. The average duration of stay in the destination for migrant fathers is nearly seven years; for mothers above six years; and for children, about 3.6 years. In other words, a typical story is that migrant fathers migrate to cities first, then bring spouses to join them. Parents typically wait for at least three years before taking their children to the destination cities. This information also suggests that our sample tends to represent migrants who have been in these cities for a while and are very likely to stay. We should keep this in mind when interpreting our results later. If we put the two pieces of information (family structure and duration of stay) together, we get a likely picture of the migration process: parents migrate first and get stable jobs in cities and then take their children to cities.
Next we describe the broad patterns of our research interest concerning migrant children: school enrollment, participation in immunization programs, and child labor. First, we discuss school enrollment patterns shown in Figure 2. For the study of school enrollment, we selected migrant children who are in the age group of 7–16, an age group that is required to be enrolled in education, according to China’s Law of Mandatory Education. Compared to earlier studies, data
from the 2002 survey of migrant children reveal that school enrollment among migrant children aged 7–16 seems to be not particularly problematic. In six out of nine cities, school enrollment rates are either close to or above 90 percent, for both boys and girls. There is clearly a variation across regions. The lowest school enrollments are found in Shaoxing city in Zhejiang province, followed by the city of Jilin in Jilin province and Yining in Xinjiang Autonomous Region. The school enrollment rate in the city of Shaoxing is 71 percent for boys and 69 percent for girls. It turns out that Shaoxing is also a city that has high rate of child labor among migrant children. Figure 2 shows that, with the exception of Jilin and Xianyang, migrant girls have a slightly lower level of school enrollment. This is not surprising in light of the gender gap in education in China (Hannum & Park, 2007).

We also explored how school enrollment varies by other characteristics such as gender, father’s education, duration of stay of children, family structure, and age (results are not shown). The most important factors are family structure, father’s education, and age of migrant child. Migrant children who live in intact families (both parents) are much more likely to be enrolled in school than migrant children who live in other types of families. The school enrollment rate by age is worth noting. From age 7 to above age 12, the school enrollment rate is very high, close to 100 percent. But the school enrollment rate begins to drop after age 12 and continues to decline as children get older. What this means is
that the migrant parents often manage to enroll their children for elementary schools. However, for middle school (or junior high school), it is a different story, even though enrollment at that level is also required by China's 9-year Mandatory Education Law. Several factors probably contribute to this. First, it usually costs a lot more money to enroll students in middle school than in elementary schools in cities. In Beijing, for example, the official annual fee for migrant children to be enrolled in local elementary schools is 1200 yuan vs. 2000 yuan for middle school (Research Team of the Study on Migrant Population Status, 2003). Second, most migrant-sponsored schools offer elementary school education, but few offer middle school level education, which makes it harder for migrant children to attend low-cost middle school.

To the extent that migrant children are enrolled in schools, we examine whether they are enrolled in local public schools or migrant-sponsored schools (dagong zidi xuexiao). Figure 3 shows the proportion of migrant children who are enrolled in local public schools. Two patterns emerge. One is that the majority of migrant children are enrolled in local public schools. For example, in Chengdu in western China, and Jilin in northeastern China, among currently enrolled 7–16-year-old migrant children, nearly 100 percent were enrolled in public schools in 2002. Again, variation across cities is also evident. In one of China's most attractive migrant destination cities, Shenzhen, 55 percent of the migrant boys and nearly 60 percent of migrant girls were enrolled in public schools. A similar story is revealed for the cities of Beijing and Wuhan, to a lesser degree. One possibility is that, because those cities such as Shenzhen and Beijing have
extremely large numbers of migrants, migrant-sponsored schools are well developed to meet the need of education for migrant children. It is also likely that given the high cost of living in those cities, fees for enrollment in public schools are also much higher than other cities.

**PARTICIPATION IN VACCINATION PROGRAMS**

It is expected that migrant children are less likely to participate in vaccination programs. Simply put, the local health service budget for vaccination is only for locally registered children; by definition local health care workers are not responsible for vaccination of migrant children. The 2002 Survey asked if migrant children have received vaccination for five kinds of vaccines: BCG, Measles, PDT, Poliomyelitis, and Hepatitis B. Following the protocol practiced in China for reporting vaccination rates, we restrict our sample to children who are in the age group of 0–6 years old. Figure 4 shows the vaccination rate by type of vaccine. The highest vaccination rates are found for BCG (88 percent) and poliomyelitis (88 percent). These rates are about 10 percent lower than reported rates of vaccination in China as a whole (Lin et al., 2003). The lowest rates are found in measles (85 percent) and PDT (83 percent). One possible reason for the higher vaccination rates for BCG (for prevention of TB) and poliomyelitis is that respondents probably have a good knowledge of these two diseases because of coverage by popular media over the years.

**FIGURE 4: VACCINATION RATES FOR MIGRANT CHILDREN (AGE 0–6)**

In Figure 5 we compare vaccination rates of respondents in the 2002 Survey with 2001 data from Shanghai and 2001 data from China as a whole. The results from the 2002 Survey of Migrant Children seem to lie between China as a whole and Shanghai. Data from Shanghai show much lower rates of vaccination.
across all five vaccines. For instance, PDT vaccination rate for migrant children in Shanghai is about 60 percent as compared to 80 percent for migrant children in the 2002 survey of migrant children. We noted earlier that the 2002 sample of migrant children tends to come from families that have been living in the cities for a while (with a mean duration of nearly 7 years) and have a somewhat stable settlement location, making them easier for health care workers to locate. In contrast, results from Shanghai include all kinds of migrant children, some of them just arrived recently. It is those migrant children that are the most vulnerable and likely to be missed in any vaccination programs.

**Figure 5 Comparison of Vaccination Rates in Nine-City Survey, China as a Whole, and Shanghai**

![Comparison chart showing vaccination rates for different vaccines across different regions.]

**Child Labor**

Finally we report findings regarding child labor among migrant children in the survey. Child labor is defined as participation in paid labor by children age 15 or below. We focus on migrant children who are 12–15 years old. Figure 6 depicts patterns of child labor by gender and city. Two patterns are evident in the chart. First, the overall level of child labor is quite high and should be a concern of the government and policy makers. In Shenzhen and Yining, as high as 13–14 percent of migrant girls 12–15 years old participate in paid labor. Keep in mind that our survey is likely to capture those migrant households which have been in the cities for a while; thus our estimate of child labor is very conservative. The child labor rate would be much higher if the survey were able to capture more recently arrived migrant families and their children. Second, we find that there
is a strong association between a father’s education and his children’s participation in child labor: the less educated the fathers, the more likely their children participate in child labor.

Third, we can also detect a gender gap in child labor from Figure 6: girls are participating in paid labor in a higher rate than boys. In conjunction with the evidence on gender gap in school enrollment, this evidence raises further concerns regarding the well-being of migrant girls in Chinese cities. A fieldwork report by Zhou et al. (2003) described some of the typical paid jobs in which these children are typically involved: nanny in domestic service, flower shops, hair salon, and waiters/waitresses. Although these jobs are not as dangerous as working in mining, the reality is that they should devote their time to education rather than paid labor.

**Figure 6: Child Labor by Gender and City in 2002, China**

FURTHER STATISTICAL ANALYSIS

We conducted further statistical analysis of school enrollment, vaccination (BCG), and child labor. Our analysis takes into account two kinds of characteristics: household and parent characteristics (family structure, father’s education, duration in the city, and age of father), and characteristics of children (gender, age, and duration of stay in the city). We summarize some of the findings from this analysis. First, family structure is a very important determinant in school enrollment, participation in BCG vaccination, and child labor. In all cases, children who live in two-parent households have more positive outcomes.
than children who live in other kinds of households. Second, we also confirm some of the long-held findings in the sociology of immigration; for example, the longer migrant children stay in the city, the more likely they are to have more positive outcomes (education, vaccination, and child labor). Third, multivariate statistical analysis confirms findings from earlier descriptive statistics: gender is another important factor in two of our outcome variables: participation in vaccination program and child labor.

**Summary and Conclusions**

As China’s tidal wave of migrants continues to rise and settle in urban areas, an ever-accelerating number of migrant children join the wave of migration. Using perhaps the most comprehensive survey of migrant children, this paper aims to explore the issue of the well-being of migrant children. The well-being of migrant children is not only important in itself because of the large number of migrant children involved, it is also important for the future of urban China. The availability of data from the 2002 China Nine-City Survey of Migrant Children presents a unique opportunity to examine the well-being of migrant children. Our paper focuses on three issues: education, health, and child labor. There is good news and there is bad news coming out of our study.

Let us begin with the good news. Overall, we find that migrant children from this survey show a profile of high level of school enrollment and participation in vaccination programs. Both school enrollment rates and the proportion enrolling in local public schools are in line with national level trends in education statistics. Likewise, the broad pattern of participation in vaccination program for migrant children is close to the rate of vaccination for the general population. We want to caution readers that our data are characterized by migrant households that have been living in cities for a substantial number of years (about 6.8 years) and are not necessarily representative of migrant children in China as a whole.

Now let us turn to some bad news. First, one of the main innovative aspects of the survey is the information on child labor. We often hear reports of child labor in the news media, but systematic studies are lacking. To our knowledge, the 2002 Nine-City Survey of Migrant Children is the only survey that contains systematic information on child labor for a large sample of migrant children. The picture that emerges from the survey is not a rosy one. In four out of nine cities, the child labor rate is close to or above 10 percent. Child labor interrupts children’s regular schooling and can have potential negative consequences for children’s health.

Second, although we take comfort in somewhat optimistic patterns of schooling and participation in vaccination programs, there are major variations across
migrant children with different characteristics. There is consistent evidence for some potential gender discrimination in both vaccination and child labor. Migrant girls are much less likely to have received BCG vaccination than boys. Likewise, migrant girls aged 12–15 years are also more likely to be engaged in paid labor than boys. The gender gap in education in rural China has been widely documented, but we are among the first to document evident disadvantages experienced by migrant girls in access to health service and participation in child labor. It seems that, along with migration of adult parents, the practice of unequal treatment of girls has migrated to cities as well.

The third piece of bad news is that migrant children who reside in families with a single parent suffer both in education and in child labor. This is not a surprise to readers who study the social and economic consequences of single parenthood in the United States, but it takes a different sociological meaning in the context of China. Single parenthood in the United States results from non-marital child-bearing or high rates of divorce. But in the case of migrant children in China, single parenthood for migrant children is created directly or indirectly by the lack of full citizenship privileges in urban China. The migration process itself is difficult for parents and children, at least initially. But not having urban household registration adds to the difficulties, because it often leads to bad jobs, undesirable neighborhoods, and lack of access to social and health benefits. What this means is that for some families, it is hard to have the whole family united in migrant destination cities. Sometime difficult decisions have to be made: one parent takes one child to a city and another parent stays behind and takes care of another child in the countryside. Our results show that this difficult decision has negative consequences for migrant children in terms of school enrollment and child labor. The fact that children who come from single-parent families show lower rates of school enrollment and higher rates of participation in paid labor is not an accident but rather could be logically linked. Single parents often struggle financially, and to the extent children can contribute to the household economy, children will get involved in paid labor rather than going to school—a very sad reality.

The study of education and health issues for migrant children is an extremely important topic, but it is also a difficult topic because of lack of systematic data and because of difficulty of locating study subjects. Our paper represents some of the necessary steps toward systematic study of this population. Of course our understanding of education and health issues is far from complete. For example, our study found that school enrollment for migrant children is not particularly low and the percentage of students who are enrolled in local public schools is quite high. However, we do not know a lot about migrant children’s actual day-to-day experience in school. How do migrant children who are enrolled in public
schools compare with migrant children who are enrolled in migrant-sponsored schools? Do migrant children in public schools face any discrimination because of their distinctive accent or because of their dress? Equally important, what explains the variations in child labor across cities? The large question of what happens to children who are left behind in the countryside also needs careful study.

Our paper holds some policy implications as well. One of our findings suggests that children increasingly dropped out of school as they got to the age of middle school. Thus, from the policy perspective, we should make a lot more efforts to encourage migrant children to attend middle schools. This can be done by eradicating barriers for access to middle school (such as high endorsement fees and other fees). Another finding is that migrant children who came recently are less likely to receive vaccinations. Perhaps two things can be done here. One is to increase the efforts on the part of health care workers to locate and identify newly arrived migrant children. The current government policy regarding registration of floating migrants is that only individuals who are age 16 and above are required to register with local security office. To reach migrant children who are in the age range for vaccination, we need to require that all migrant children be registered with local security office. Another approach could be a community-based approach, which can be more effective than government-directed efforts. Community leaders could be designated to disseminate information regarding health service availability to recently arrived migrant children and encourage them to participate in vaccination programs. Occasional health service seminars offered by health care workers and supported by local community leaders could also be a sensible approach.

Finally, we would like to end the paper with a positive note. We believe that despite the difficulties facing migrant children today in terms of access to education and health service, this is the best of times since the early 1980s from the perspective of migrant children. The official policy issued in the 2006 Document by China’s State Council has explicit provisions for education, health service, and the prohibition of child labor. It stipulates that local government in the migrants’ destination should take responsibility of educating migrant children and it is against government policy to demand extra fees for migrant children. In addition, local governments must include migrant children in their planning and implementation of vaccination programs. Of course, official policy does not translate immediately to reality. Thus we should be cautiously optimistic.
REFERENCES


