

***Internal Migration and Educational Attainment: Are Rural Migrant Workers
Uniquely Socially Vulnerable in China?***

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Abstract

Background. Since 1980, China has been experiencing the largest migration in human history. Rural migrant workers are barred from enjoying fair treatment, when compared with their local urban counterparts, in both occupational and social settings. *Research aims.* The aim was to understand whether internal migration *per se* is associated with unique social vulnerability among rural migrant workers. *Research hypotheses.* (1) Less educated rural migrant workers were particularly disadvantaged in their access to social welfare, relative to their better educated counterparts. (2) Less educated rural migrant workers were particularly disadvantaged in securing social networks, relative to their better educated counterparts. (3) Rural migrant workers were more socially vulnerable, relative to their local rural counterparts. *Data.* Wave 1 (in 2008) of the Rural Household Survey (RHS) and Migrant Household Survey (MHS) were used for binary logistic regression analysis via the software package STATA 14.2. *Findings and discussion.* In response to Hypothesis 1, the lower the educational background of rural migrant workers, the more disadvantaged they were in terms of the access to social welfare. Supporting Hypothesis 2, less educated rural migrant workers were especially disadvantaged in securing social networks. As noted in Hypothesis 3, rural migrant workers were uniquely socially vulnerable, when compared with local rural dwellers. *Conclusions.* Rural migrant workers encountered a greater degree of social exclusion than local rural dwellers. Internal migration *per se* was associated with unique social vulnerability.

Keywords: Internal Migration, Educational Attainment, Social Welfare, Social Network

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Introduction

Rural-Urban Migration in China

Since 1980, China has been experiencing the largest migration in human history as hundreds of millions of rural dwellers relocate to urban areas (Gong, Liang, Carlton, Jiang, Wu, Wang, & Remais, 2012, p. 843; Editorial 2014, p. 1902). According to the China Population Census, the rural migrant worker - also known as rural-urban migrant worker or *nonmingong* (农民工) - population increased from 30 million in 1980, to 132 million in 2006, and 262 million in 2010 (National Bureau of Statistics, 2007; Fong & Tong, 2015, p. 1087). Urban populations increased from 21 percent of the total in 1982, to 45 percent in 2007, and rural-urban migration accounted for 70 percent of the rapid growth (Zheng, Long, Fan, & Gu, 2009, p. 425). Although rural migrant workers primarily engage in geographical mobility to improve their financial condition, migration has the potential to impose negative impacts on individual social wellbeing, reducing its net benefits (Stillman, McKenzie, & Gibson, 2006, p. 2).

Rural-Urban *Hukou* System

In China, each citizen is assigned either a rural or urban *hukou* status (户籍), based on their maternal *hukou* status (Fu & Ren, 2010, p. 593; Song & Sun, 2016; Tani, 2017, p. 48). The *hukou* system, also known as the household registration system, was initiated in 1958 to control the movement of the Chinese population (Gallagher, Hasan, Canning, Newby, Yiu, & Whitman, 2009, p. 30; Fan, 2008, p. 66). Those in possession of a rural *hukou* can only gain access to state benefits and opportunities designated for rural Chinese communities (Young, 2013, p. 28; Davin, 1999, p. 7; Gaetano, 2015, p. 30; Chan & Zhang, 1999, p. 819). When individuals migrate to urban spaces, they remain ineligible for any social welfare - including healthcare, unemployment insurance, pensions, subsidised education and housing - allocated to urban Chinese communities (Wang, 2005; Zhong, Liu, Chan, Jin, Hu, Dai, & Chiu, 2015, p. 2; Akay, Bargain, & Zimmermann, 2012; Chen, Wang, & Wang, 2009, p. 1501; Wang, Liu, Zheng, & Liu, 2017, p. 1386).

The possession of a rural *hukou* status often prevents rural migrant workers from enjoying fair treatment, when compared with their local urban counterparts, in educational, occupational and social settings (Fong & Tong, 2015, p. 1087; Chan & Zhang, 1999; Cai, 2007). Rural migrant workers tolerate overcrowded and insalubrious living conditions (Lau, Cheng, Gu, Zhou, Yu, Holroyd, & Yeung, 2012, p. 526; Li, Wang, Ye, Jiang, Lou, & Hesketh, 2007, p. 718). For example, migrant cohorts are usually residentially segregated and concentrated in poorly facilitated “urban villages” (Lu, Lin, Vikse, & Huang, 2016, p. 59; Xiao, 2011). In Beijing’s “urban villages”, rural migrant workers often live in one-room residential units, with a mean living space per dwelling of 13.2 m². The mean per capita living space in these “urban villages” was 8.2 m², less than one-third of that in houses built on state-owned land parcels (27.4 m²) in 2007 (Zheng *et al.* 2009 pp. 433-4).

Migrant Workers in China

Migrant workers can, in most circumstances, be categorised as rural migrant workers. For local rural residents, the decision to move between rural regions is easily

approved by local governments. Rural-to-rural migrants are not required to obtain expensive temporary residential and work permits, a necessity for rural-to-urban migration (Chan, 1998, p. 890; Chan, 2003, p. 7). Those who make this move lose none of their access to socioeconomic benefits designated for rural residents. However, rural residents moving from rural to urban spaces for a period of six months or longer are regarded as rural migrants and become ineligible for any benefits or opportunities (Chan, forthcoming).

Educational Attainment and Social Wellbeing

Without an urban identity, migrant cohorts educated in cities are required to pay expensive entrance fees to enter local public schools – academic institutions where significantly greater educational resources are concentrated (Xiao, 2011; Lu *et al.*, 2016, p. 60; Pan, 2018, p. 363). Annual entrance fees ranged from RMB3,000 to RMB30,000 per child (Wong, Chang, & He, 2009, p. 816; Lu *et al.*, 2016, p. 60). Due to substantial financial constraints, the migrant population themselves illegally establish unlicensed, poorly-facilitated schools to educate their children. Here migrant children are subject to unsatisfactory teaching quality and facilities (Xiao, 2011; Qian, 2017, p. 212; Song, 2014; Fleisher & Yang, 2003). Poor educational environments adversely impact migrant children's academic outcomes as children receive little academic support at school (He *et al.*, 2014, p. 474; Song, 2014). Here academic support includes teachers' academic expectations and supervision (Golley & Kong, 2013, p. 35). Migrant children also face a certain degree of alienation and misunderstanding by teaching staff, in addition to a need to enter the labour market at an early age to financially support their families. These prompt their decisions to leave school prematurely (Wong, Chang, & He, 2009, p. 821; Xiao, 2011). For example, Jane Golley and Sherry Tao Kong (2013, p. 20) found that the average years of schooling of local urban dwellers and rural migrant cohorts were 12.27 and 9.44 respectively.

Aside from receiving education at *ad hoc* schools, other rural migrant cohorts had received the majority of their education at rural school before migrating to cities for work or otherwise. Based on data from 1993, 1997 and 2000 at provincial and county-level, published in the *Chinese Education Finance Yearbook*, nationwide primary schools indicated increasing rural-urban gaps in budgetary spending on operating expenses, including salary expenses (Wang & Gao, 2013, pp. 30, 33, 35). The relatively low salary levels and poor working conditions faced by rural teachers, relative to their urban counterparts, are significant impediments to attracting better-quality teachers in rural regions (*ibid.*, p. 66). As a consequence, schools located in poor, rural regions are often staffed by graduates from lower-tier academic institutions, rendering unsatisfactory teaching quality and hampering the academic development of rural students (Wang & Guo, 2013, p. 71; Peng, 2015). For example, in West China, the pass rate for Chinese Language in urban public schools was 100%, relative to 66.9% in rural village schools. (Wang & Li, 2009, p. 77). The dropout rate of lower secondary school was 2% in urban public schools, but 36.8% in rural village schools (*ibid.*, p. 80).

The relatively low educational attainment of migrant cohorts limits their opportunities to develop metropolitan networks (Knight, Sicular, & Yue, 2013, p. 184). They are

therefore particularly vulnerable when claiming job security or social welfare (Shi, Luo, & Sicular, 2013, p. 28; Yue, 2015, pp. 15-6; Murphy, 2002, p. 69).

Bao Liang Zhong, Tie Bang Liu, Sandra Chan, Dong Jin, Chi Hu, Jing Dai, & Helen Chiu (2015, p. 2), and Yang Cao and Zhenhui Liu (2015, p. 464), measured the levels of social wellbeing of poorly educated rural migrant workers. They found that rural migrant workers with an education of junior high school level or below suffered from lower earnings, worse working conditions and greater social strain, when compared to their better educated counterparts (Zhong *et al.*, 2015, p. 5; Cao & Liu, 2015, p. 465). Findings corresponded with results obtained from alternative studies (e.g. Zhu, Wang, Fu, Zhou, Zhao, & Wang, 2012, pp. 497, 501; Frenkel & Chongxin, 2015, pp. 262, 266, 268).

Some existing Chinese literature addresses how lower educational attainment impacts on rural migrant workers' social wellbeing. However, relevant literature fails to take social connections into consideration when measuring such wellbeing. This dissertation will, in part, focus on understanding the links between academic qualification and rural migrant workers' opportunities to secure social resources.

Research Aims and Questions

Existing literature rarely explores how internal migration, and its implications of poor educational attainment, affect social wellbeing among rural migrant workers, particularly in the Pearl River Delta (珠江三角洲) and the Yangtze River Delta (长江三角洲). Regions along both deltas include Guangdong, Shanghai, Jiangsu, Zhejiang and Anhui – areas where significant numbers of rural migrant workers are situated (e.g. Fong & Tong, 2015; Zhang, 2015). This dissertation adopts a holistic, comparative approach and studied both rural migrant workers and local rural dwellers within the above two delta regions, alongside other areas which were either home or hosting cities of most rural migrant workers. A total of 15 provinces/cities with the greatest concentration of rural migrant workers - including Guangzhou, Shenzhen, Nanjing and Shanghai - were examined. The aim was to understand whether internal migration *per se* is associated with unique social vulnerability among rural migrant workers. To achieve this aim, this dissertation compared the extent of social exclusion faced by rural migrant workers and local rural dwellers, both holding rural *hukou* status, in most circumstances. The research question under investigation was whether rural migrant workers encountered social exclusion to a greater extent than local rural dwellers.

Research Hypotheses

Chinese studies are inclined to rely on contemporary Western sociological theories, rather than developing their own frameworks of analysis (Huang, 2005, p. 94). This dissertation therefore adopts Pierre Bourdieu's interpretation of social capital (Savage, 2015, p. 46; Savage, Devine, Cunningham, Taylor, Li, Hjellbrekke, Roux, Friedman, & Miles, 2013, p. 223; Atkinson, 2015, pp. 62-3; Atkinson, 2010, p. 11). Pierre Bourdieu's pioneering interpretation of class focused within and beyond economic contexts. He, in part, incorporated social and cultural capital into the understanding of class (Savage, 2015, p. 46). Scholars, including Bourdieu, argue social capital refers to resources as per the exhibition of social networks and associations with certain

parties, families and names, that is in favour of creating life chances, enhancing wellbeing and realising upward mobility (Bourdieu, 1998; Shapovalova, 2013, p. 156; Savage, 2015, p. 62; Savage *et al.*, 2013, p. 223; Atkinson, 2015, p. 63). Such a definition applies in Chinese contexts, as social networks are a major determinant of social mobility (Jackson, Luijckx, Pollak, Vallet, & Werfhorst, 2008, p. 370)

Circumstances which inflict social challenges on rural migrant workers reduce their workplace efficiency and capacity for work, potentially compromising national economic growth (Wang, Liu, Zheng, Liu, & You, 2017, p. 1386; Liu, Ma, He, Xie, Xu, Tang, Li, Hao, Wang, Zhang, Ng, Goding, Fraser, Herrman, Chiu, Chan, Chiu, & Yu, 2011, p. 210). In the late 2000s, rural migrant workers contributed approximately 16% - 24% of GDP, in addition to around 33% - 40% of net income in rural China (Wang, 2010, p. 218). It is therefore crucial to ensure rural migrant workers can maximise their social wellbeing in order to enhance the economic contribution. Furthermore, discrimination and alternative forms of social exclusion are human rights abuses, prompting the need for early identification and intervention (World Health Organisation, 2013).

This dissertation outlines five hypotheses accordingly:

Hypothesis 1: Less educated rural migrant workers were particularly disadvantaged in their access to social welfare, relative to their better educated counterparts.

Hypothesis 2: Less educated rural migrant workers were particularly disadvantaged in securing social networks, relative to their better educated counterparts.

Hypothesis 3: Rural migrant workers were more socially vulnerable, relative to their local rural counterparts.

Ethics

This study received approval from the Rural Urban Migration in China (RUMiC) team to conduct secondary data analysis in accordance with an end user license agreement obtained from the Institute of Labour Economics (IZA) to analyse data for this dissertation.

Research Design and Data

RUMiC Data

Data from the RUMiC 2007-8 datasets was used for analysis. The RUMiC is a large-scale longitudinal and representative survey of rural and urban Chinese populations from 2008 to 2012, and Chinese rural migrants from 2008 to 2013 (Zhao, 2015, pp. 88-9; Lee & Zhao, 2015; Zhang, 2017, p. 115; Akgüç, Giulietti, & Zimmermann, 2014). The RUMiC consists three of independent surveys: The Rural Household Survey (RHS), the Urban Household Survey (UHS), and the Migrant Household Survey (MHS). The RUMiC was a joint venture of researchers at the Australian National University, the University of Queensland and the Beijing Normal University, with support from the Research Data Center of the IZA, a team led by Dr. Nikos Askitas (Fang, Gunderson, & Lin, 2015; Fang, 2017, p. 15). The RHS was carried out

in collaboration with the National Bureau of Statistics of China (NBSC) (Akgüc *et al.*, 2014). The NBSC is a deputy-cabinet level agency directly under the State Council of the People's Republic of China (PRC). Wave 1 (in 2008) of the RHS and MHS included detailed information about personal characteristics, educational attainment and occupational status, as shown in **TABLE 1** (Tani, 2015; Lee & Zhao, 2015). In the RHS, 8,000 households, with a total of some 32,000 respondents, were surveyed (ANU, 2014). The MHS interviewed approximately 5,000 households, with a total of 8,500 respondents (Tani, 2015; Meng, Kong, & Zhang, 2010; Lee and Zhao, 2015; Zhang, 2017, p. 115). Wave 1 data was collected throughout 2008 for the RHS; and between March and May 2008 for the MHS (Giulietti, Ning, & Zimmermann, 2012; IHSN, 2002; Meng *et al.*, 2010). Migrants were defined as individuals who had left their rural households and resided in urban regions for six months or longer (Meng *et al.*, 2010; Connelly & Maurer-Fazio, 2015; Kong 2010, p. 136; Démurger & Wang, p. 2016).

Statistical Methods

The software package STATA 14.2 was used for secondary data analysis.

Statistical Model

A total of 6 binary logistic regression models were built. In these models, sociodemographic variables – namely gender, age group, ethnicity and occupation status – were considered as confounding variables. Occupational status was measured by job nature and working hours. Educational level was treated as an independent variable. Each of the social exclusion components – defined as the presence of medical insurance, unemployment insurance and pension, and having financial, psychological and care giving help from people other than respondents' immediate families – was applied to the models as a response variable (Barry, 2002). Here care giving help refers to the ability of respondent to use their social networks to find people to take care of their dependent children, as well as elderly and disabled relatives.

Additionally, medical insurance, unemployment insurance and pension were either paid by employers or respondents themselves, or in combination. Alternatively, receiving help from people was measured based on whether respondents received financial, psychological and care-giving assistance in the past 12 months prior to undertaking surveys.

The formulas of inferential binary logistic regression model were written, as follows:

$$Y_{Medical} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

$$Y_{Unemployment} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

$$Y_{Pension} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

$$Y_{Financial} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

$$Y_{Psychological} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

$$Y_{Care-giving} = \alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}$$

where $Y_{CMDs} = \log(\text{Odds}_i)$;

$\text{Odds}_i = \log[\pi_i / (1 - \pi_i)]$;

$$\pi_i = \exp(\alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i}) / [1 + \exp(\alpha + \beta_{gender} X_{gender\ i} + \beta_{age} X_{age\ i} + \beta_{ethnicity} X_{ethnicity\ i} + \beta_{education} X_{education\ i} + \beta_{job} X_{job\ i} + \beta_{workinghours} X_{workinghours\ i})]$$

Measurement

There are limited factors enabling the conversion from rural to urban *hukou*, including entering higher education. As a result, a small percentage of local rural dwellers and rural migrant workers might hold an urban *hukou* (Treiman, 2012, p. 34; Yeung, 2013, p. 55). In the RHS and MHS, 6.19% and 1.88% of all respondents held an urban *hukou* respectively. This dissertation focuses exclusively on social exclusion faced by rural *hukou* holding populations.

Existing literature suggests that Han Chinese individuals enjoy far more educational, occupational and social opportunities than the rest of 55 ethnic minority groups in China. Many of these minority groups face unique, diverse, socioeconomic barriers to education and employment, therefore this dissertation focused entirely on the Han Chinese migrant population (Hannum, 2002, p. 95; Gallagher *et al.*, 2009, p. 24). As shown in **TABLE 5** and **TABLE 6**, over 99% in the RHS and 98% in the MHS of all respondents were Han Chinese. Daniel Fu Keung Wong *et al.* (2005, p. 32) argued rural migrant workers are predominantly male and under the age of 35. According to the 2009 NBSC data, 51.19% of rural population and 65.1% of rural migrant worker population nationwide were male. Furthermore, 45.73% and 61.60% of the rural and rural migrant worker population were 30 years old or younger (NSBC, 2009; Chan, Ngai and Chan, 2010). Correspondingly, approximately 60% and 50% of local rural samples were self-identified as male and under the age of 35. Additionally, around 60% of rural migrant samples each described themselves as male and under the age of 35 (**TABLE 5** and **TABLE 6**). All confounders - namely “gender”, “age” and “ethnicity” - were denoted as $X_{gender\ i}$, $X_{age\ i}$, $X_{ethnicity\ i}$. For the variable “age”, both the RHS and MHS contained some underaged samples, as low as the age of 1 in some cases, who could not possibly respond to the set of questionnaires themselves. This indicated underlying flaws during data collection, which jeopardised the validity of the data. However, the number of underaged samples was very small (In the unprocessed MHS dataset, 451 samples aged 6 or below and 770 aged 12 or below; in the unprocessed RHS dataset, 1,332 samples aged 6 or below and 3,091 aged 12 or below) in both surveys, so any errors in data collection should be limited.

The legal retirement age in China is 60, although local rural dwellers and rural migrant workers running small businesses were not bound to the statutory retirement age due to the absence of an employment contract (James, 2007, p. 60). It is

noteworthy that samples might under-report their ages, as a result of their socioeconomic need to continue working rather than retire, therefore this dissertation analysed samples aged below 64 but not 60. Furthermore, according to the *People's Republic of China (PRC) Labour Law*, the minimum age for working was 16 (Library of Congress, 2015). Sample data included in this dissertation restrictively aged between 16 and 64.

According to the Xinhua News Agency (2004) and the State Statistical Bureau (2001), some 16% of migrant populations had, at most, completed elementary school and 52% of migrant populations finished junior secondary school or below. Statistics from these two sources corresponded to the MHS, where approximately 15% had, at most, graduated from elementary school and 54% from junior secondary school (**TABLE 5** and **TABLE 6**). In rural China, approximately 90% of the population completed primary school (Li, 2009, p. 14). Data echoed the RHS demonstrated around 85% of rural samples finished primary education. The variable “education level” was denoted as $X_{education\ i}$. Post-secondary education level referred to those who completed their schooling in polytechnic colleges or post-secondary vocational programmes – including TV/correspondence training programmes – and tertiary education.

As rural migrant workers are often undereducated and lower-skilled, occupational mobility is relatively low when compared to their local urban dweller counterparts. Rural migrant workers aiming to occupationally mobilise can, to some extent, compete for a limited range of technical or non-technical jobs (Wong, He, Leung, Lau, & Chang, 2008, p. 483; Yu & Hu, 1998). Data from the RHS and MHS demonstrated that the number of local rural dweller samples and rural migrant samples respectively undertaking manual work were both approximately 60% (**TABLE 5** and **TABLE 6**). The variable “job nature” was denoted as $X_{job\ i}$.

As an alternative to working for an hourly wage, Puilam Law and Yinni Peng (2008, p. 60) argued rural migrant workers, in part, preferred starting a business that required low levels of skill - for example, garment production or mobile phone selling. Although NBSC statistics failed to indicate the number of rural migrant workers engaging in individual or family businesses, data analysed as part of this dissertation revealed corresponding rural migrant samples were less than 20%. The percentage of rural migrant samples working for individual or family business almost doubled that of their local rural counterparts.

The majority of rural migrant workers were employed in factories, as well as the construction and services industries (Knight *et al.*, 1999). They engaged in physically demanding positions, jobs that local urban dwellers usually disdained (Roberts, 2000, p. 183). Moreover, they worked long hours, as many as 10 -12 hours per day, 6 -7 days per week (Tan, 2000, pp. 292-3; Park, 2008, p. 45). According to 2009 NBSC statistics, on average, migrants worked for 58.4 hours per week (Xu, 2013, p. 244). This dissertation established the cut-off points of the variable “working hours” (per week) as 60/61 and 120/121 accordingly (**Table 5** and **Table 6**). The variable “working hours” was denoted as $X_{workinghours\ i}$. Rural migrant samples on average worked for 64.5 hours per week.¹ Additionally, 87.8% of rural migrant samples

¹ **Note:** 64.5 hours per week is the midpoint of 60 to 69 hours per week range.

worked for 84.5 hours per week or fewer.² Samples' lengths of weekly working time corresponded to aforementioned literature and statistics, revealing that rural migrant workers, on average, worked for approximately 60 hours per week and, in most circumstances, worked no more than 84 hours per week (i.e. 12 hours x 7 days = 84 hours per week). In China, it is noteworthy that the Central Government recommends the standard working-hour system, suggesting all employees nationwide should work for 40 hours per week on average (i.e. 8 hours x 5 days = 40 hours per week) (Shanghai Government, 2008).

As it was unlikely that an employee would work more than 120 hours per week, this dissertation exclusively focused on the comparison between samples working 60 hours or fewer per week, and those working over 60 hours but no more than 120 hours weekly.

All variables mentioned above were categorised as explanatory variables, or independent variables. Alternatively, in all given inferential statistical models, the dependent variables were the presence of medical insurance, unemployment insurance, pension, financial help, psychological help and care giving help. They were denoted as $Y_{Medical}$, $Y_{Unemployment}$, $Y_{Pension}$, $Y_{Financial}$, $Y_{Psychological}$ and $Y_{Care-giving}$ respectively. Here these dependent variables were all seen as dummy variables, coded as 0 or 1 (TABLE 7, 8, 9, 10, 11 and 12). Since only the head of a household was asked to fill out the information regarding their access to social welfare and social networks in the RHS and MHS, the vast majority of respondents were not required to report such details. This dissertation removed all samples who failed to disclose their social conditions in both surveys. As a result, 9,565 respondents from the RHS and 7,515 respondents from the MHS were included for data analysis.

As rural migrant workers reside in cities but do not hold an urban *hukou*, they cannot receive social welfare designated for rural or urban residents. A study conducted by Wang Feng *et al.* (2002, p. 521) found that as few as 14% and 10% of rural migrant workers benefited from health insurance and pension plans respectively. In contrast, as many as 79% and 91% of their urban counterparts received health insurance and pension plans respectively. These migrant cohorts also struggled to maintain or create rural and urban social networks. This dissertation therefore examined whether rural migrant cohorts were particularly disadvantaged in claiming social resources.

Data Analysis

Cross-tabulation was employed in order to assess the relationships between each categorical confounding or explanatory variable, and the response variable. Then, Chi-square tests were performed to examine whether there was statistical evidence to suggest an association between two variables at 0.05 significance level. Next, logistic regression was performed for RHS and MHS data separately, for the purpose of measuring the associations between social resource components and each of the sociodemographic or socioeconomic predictors, keeping all other variables constant.

² **Note:** 84.5 hours per week is the midpoint of 80 to 89 hours per week range.

Findings

Cross-tabulations

Data revealed that the higher educational attainment migrant samples achieved, the more likely they were to secure the benefits of social welfare and networks. For example, 4.47%, 7.69%, 29.90% and 61.45% ($p < 0.05$) of samples who only completed elementary school received unemployment insurance, pension, financial help and psychological help respectively. However, 20.30% of samples who finished post-secondary education benefited from unemployment insurance, 32.47% from pension, 30.57% from financial help and 72.05% from psychological help ($p < 0.05$) (**TABLE 7, 8 & 9**).

It is noteworthy that, apart from psychological help, less than 35% ($p < 0.05$) of all migrant sample groups by educational level obtained social welfare or help from their social networks (**TABLE 7, 8 & 9**). In comparison, nearly all local rural samples received medical insurance (**TABLE 10**). Additionally, over 40% ($p < 0.05$) of local rural samples, regardless of educational attainment, enjoyed financial and psychological help if needed (**TABLE 11 & 12**). Slightly over 35% ($p < 0.05$) of local rural samples who finished post-secondary education were able to access to a pension (**TABLE 11**).

Binary logistic regression

Keeping all confounding variables and other explanatory variables constant, the higher the educational attainment, the higher the odds of receiving unemployment insurance and pensions among rural migrant samples. Specifically, the ratio of benefit from unemployment insurance to those who had completed junior middle school, senior middle school and post-secondary school were 2.04 ($p < 0.01$), 3.08 ($p < 0.01$) and 4.48 ($p < 0.01$) times higher than those who had completed elementary school. Furthermore, the likelihood of providing a pension to those who had completed junior middle school, senior middle school and post-secondary school were 2.06 ($p < 0.01$), 4.17 ($p < 0.01$) and 5.54 ($p < 0.01$) times higher than those who had graduated from elementary school (**TABLE 13 & 14**).

Discussion

Data revealed less educated rural migrant samples were, to a large extent, exposed to greater social vulnerability than their more educated counterparts. The lower their educational attainment levels, the less likely they were to receive social welfare – measured by unemployment insurance and pensions. This data was supported by existing literature, arguing poorly educated rural migrant workers often experienced worse social wellbeing and working conditions than their better educated counterparts (Zhong *et al.*, 2015, p. 5; Cao & Liu, 2015, p. 465; Zhu *et al.*, 2012, pp. 497, 501; Frenkel & Yu, 2015, pp. 262, 266, 268). As a result, in response to **Hypothesis 1**, the lower the educational background of rural migrant workers, the more disadvantaged they were in terms of the access to social welfare.

Findings in this dissertation demonstrated a positive association between educational attainment and social networks among rural Chinese migrants. Here better educated

rural migrant samples secured more financial help and psychological help, relative to their less educated counterparts. The assistance was of particular importance when compensating for the exposure to social strain and financial constraints faced by rural migrant cohorts (Song & Sun, 2016; Cheung, 2013, p. 122; Bankston & Zhou, 1997; Kulis *et al.*, 2009; Noh & Avison, 1996; Young, 2001; Xiao, 2011; Qian, 2017, p. 212; Song, 2014, p. 359). These findings supported **Hypothesis 2**, where less educated rural migrant workers were especially disadvantaged in securing social networks.

Additional findings demonstrated the disparities in social welfare and networks between rural migrant samples and local rural samples. Rural migrant groups were excluded from the access to social welfare and networks, relative to their local rural counterparts. This data echoed **Hypothesis 3** and presented rural migrant workers as uniquely socially vulnerable, when compared with local rural dwellers.

Conclusions

In response to the research question, this dissertation stated that rural migrant workers encountered a greater degree of social exclusion than local rural dwellers. Rural migrant workers, on average, gained access to far fewer social resources, in terms of social welfare and networks, relative to local rural counterparts. Therefore, in response to the research aim, this dissertation found internal migration *per se* was associated with unique social vulnerability.

Within rural migrant cohorts, research findings demonstrated educational attainment was an important indicator of social wellbeing. Better educated rural migrant groups enjoyed more social welfare and were able to access to more help from individuals within their social networks. If this dissertation addressed tertiary and post-secondary education separately, findings could further indicate whether rural migrant samples with a tertiary education gained access to substantially more social resources than their less educated counterparts. However, this dissertation cohabited tertiary and post-secondary education due to the limited sample sizes in both educational categories. Combining samples from these two groups facilitated data analysis through running cross-tabulations, building regression models and undertaking significance tests.

Rural migrant cohorts securing tertiary education and post-secondary education were exceptional. As mentioned, rural migrants receiving higher education can convert their rural *hukou* to an urban *hukou*. In doing so, those holding an urban *hukou* can gain benefits from all social welfare designated for local urban dwellers. As a result, social inclusion faced by rural migrant cohorts might significantly increase once they have gained entry to higher education. However, without the separation of tertiary and post-secondary education in data analysis, these potential claims could not be verified.

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Resources

Not applicable.