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Conducting Community Research in Rural China –Addressing the Methodological Challenges of Recruiting Participants in Rapidly Changing Social Environments

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Abstract

Background—The paper addressed a unique challenge for public health and community research in rural China, i.e., the very large percentage of young adults that comprises a highly mobile working population that has been an essential component of the country's economic transformation. Fluid local demographic patterns potentially have a substantial impact on sample representativeness and data validity.

Methods—This report is based upon a cross sectional survey with face-to-face interviews of residents aged 16–34 years in rural communities of Mianyang, Sichuan Province, China. Two waves of fieldwork and other strategies were adopted in response to recruitment challenges.

Results—1654 of 3008 potential participants took part in the study; this constituted 98% of those individuals approached and 55% of the persons enumerated in the local household registration system (*hukou*). Analyses revealed substantial differences among those who were interviewed during September and October 2005, versus those seen during the Chinese Lunar New Year of 2006 when many migrant workers and students returned to their homes. Both groups together differed from those who were unavailable during either recruiting episode.

Discussion and Conclusions—We discuss potential responses to associated methodological challenges, including, (1) permanent *hukou* mismatches; (2) temporary *hukou* mismatches; (3) difficulties faced by potential participants to fully understand the purpose of research, the informed consent process, and specific research questions; and (4) appreciation of the importance of local social networks, as they pertain in particular to rural China. These findings underscore that there may be a need to make “on-the-ground” adjustments to varying local conditions to maximize sample representativeness and data validity.

Keywords

Epidemiology; Rural Community; China; Methodology; Recruitment

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Introduction

Community level research poses unique challenges in rural China, where the social and population landscape has been changing in rapid response to the extraordinary transformation of the country's economy during the past 30 years. This report is based upon a research project on suicide-related morbidity including suicidal ideation, planning, and attempts in rural China, entitled: "Prevalence and Correlates of Suicide Morbidity in Rural Chinese Aged 16–34 Years" (Dai et al, 2011). It involved extensive efforts to recruit participants in rural areas of Sichuan, China, a process fraught with many potential hurdles.

Addressing these challenges proactively was a key element in the conduct of the project, and likely to be of critical importance for future community-level research of morbidity and mortality, as well as intervention efforts in rural China. Although our study was conducted to examine the epidemiological profile of suicide-related morbidity among rural dwellers, the challenges that we encountered apply to other types of research; e.g., those studying emerging infectious diseases, substance misuse, or changing patterns of illness that may be associated with economic transformation—diabetes, cardiovascular ailments, and other conditions frequently encountered in developed economies. The population in rural China is especially fluid in young and middle adulthood, when individuals participate in the economy as "migrant" or "mobile" workers while the official system of registering and reporting vital data remains unchanged.

China accounts for approximately 21% of the world's population, yet as recently as 2002, 44% of the world's suicides among males and 56% of all suicides among females (Phillips *et al.*, 2002). Suicide rates in rural China are three-fold those of urban areas. It accounts for 3.6% of all death in China and 19% of all deaths among those 15–34 years old. While there are accumulating mortality data regarding suicide in China, there are few community-level studies of suicide related morbidity. The work described in this report was conducted from August 2005 through February 2006. Even as the burden from suicide may change over time, the practical lessons from conducting our research will reach well beyond this more focused field of study.

Our sampling was built on the official Chinese Household Registration System (*hukou*), which divides the population into "agricultural", i.e., "rural", and "non-agricultural", i.e., "urban", sectors. It may be the most important determinant of differential privilege in China, influencing access to jobs, education for one's children, housing, and health care, and (formally, although no longer in practice) the right to move to a city. *Hukou* mobility (the change from "agricultural" *hukou* to "non-agricultural" *hukou*) was difficult to accomplish in the past, and remains a reality of Chinese life even in present times of economic transformation (Wu & Treiman, 2004). While there have been discussions in the public press in China during recent years regarding potential alterations to the *hukou* system, there are no announced near-term plans.

The *hukou* registration serves as the foundation for the Mortality Registry System (MRS) (*i.e. Chinese Ministry of Health vital registration system*) and the Disease Surveillance Point System (DSP) (*i.e. Chinese Academy of Preventive Medicine disease surveillance system*)—the two national surveillance systems related with suicide and other vital data. However, the two national systems are not complete systems; the MRS covers about 10% of population (110 million individuals) and DSP covers about 1% of population (10 million individuals). The 10% sample of MRS is not nationally representative but is collected from locations with relatively good reporting mechanisms, thus containing an over-representation of urban areas. DSP only covers one tenth of the size of MRS, though it is more representative (Phillips *et al.*, 2002). These incomplete, partially representative systems also are not sufficiently

flexible to support dynamic epidemiological research. For example, the *hukou* does not include any information about a person's mobility status—whether someone is a worker. Thus, if a worker dies far from home, the death may be 'mis-located' in statistical reports based on *hukou*.

The term, "migrant worker," has different meanings around the world. In China, this term typically is applied to people with an "agricultural" *hukou* who leave their rural home villages for urban areas to perform non-agricultural work for part or the whole of the year. It emerged in China since 1980s as a by-product of two seemingly opposite policies, i.e., *hukou* (established in 1958 to control resource distribution and internal migration), and "Open and Reform" (initiated in 1978 to liberalize the economy and encourage people to move to areas where workers were needed for industrial expansion). Along the path of China's rapid urbanization and expansion of coastal industrial zones, the size of migrant workers has rapidly increased to approximately 200 million in 2002 (Study Group, 2006). As 84% of them are aged 16–40 years, which covers the specific age span of our target population, this phenomenon drew our attention from the first stages of planning our research project.

In this paper, we describe the study that we conducted, its sampling results – including those ascertained on two different occasions and the characteristics of those missed – and how we addressed specific sampling challenges. We then consider suggestions for future community-level studies based on the lessons from our study.

Methods

Sampling

The Survey and Behavioral Ethics Committee of The Chinese University of Hong Kong approved this study. The protocol conformed to the provisions of the Declaration of Helsinki and all subjects gave informed consent. The methods for the overall study are described in detail elsewhere (Dai *et al.*, 2011). The project was conducted in the vicinity of Mianyang, the second largest area of Sichuan Province, and subsequently the region most affected by the earthquake of 12 May 2008. Located in southwest China, Sichuan Province has been a traditional place for exporting migrant workers, though itself is a major economy in China.

According to 2004 statistics, Mainland China had a population of 1.3 billion, with rural urban ratio of 58.2% vs. 41.87%. Sichuan had a population of 86 million, with rural urban ratio of 77.7% vs. 22.3%. Mianyang had a population of 5.3 million, with rural urban ratio of 77.3% vs. 22.7%. The average annual income of rural residents was RMB2936 (approximately USD354) for the whole of China, RMB2580 (approximately USD311) for Sichuan Province, and RMB2551 (approximately USD308) for Mianyang, while our sample has a weighted average annual income of RMB2740 (approximately USD330).

China's administrative division is a three-tier system, dividing the country into provinces, counties/cities, and towns in hierarchy. A village is the most fundamental rural unit of Chinese administrative system – a small rural community. A town is composed of a group of villages (rural) and a small township area (urban). Ten (10) rural villages were selected by cluster stratified random sampling from Mianyang's two districts, one city, and six counties; within these, 3008 possible subjects aged 16–34 years were identified using comprehensive enumeration of potential subjects registered in these villages based upon *hukou*.

Recruitment

An "on the ground" network involving local government and health officials, in tight collaboration with Mianyang Center for Disease Control and Prevention (CDC) and its

regional CDCs, played an important role in the recruitment of subjects. This collaboration was facilitated by multiple pre-visits of the City of Mianyang and the villages by the principle investigators, meetings with officials of Mianyang CDC systems, pre-visits of interviewers to the selected villages and the towns where the villages were located, to address recruitment challenges.

The interviews were conducted in two waves to maximize participation; “Wave 1” was sampled in the late summer 2005, before the fall harvest time; and “Wave 2” was sampled in January and February 2006 to coincide with Chinese Lunar New Year in order to take advantage of the tradition of individuals returning for a family reunion at this time, as during the pre-visits we became aware that a large portion of potential subjects were away from their hometown for the majority of the year to do migrant work elsewhere.

For each wave we sought to notify every potential participant, using a written notice, and in-person introductions, telephone contacts, and local broadcasts beforehand. During interview days in each village, each interviewer with the help of local personnel, i.e., village heads, village doctors, and sometimes town health or political officials, approached possible subjects by inviting them to interview sites or making family visits. This was important in those rural villages that were difficult to access by our interviewers, especially as they were not uniformly knowledgeable about local roads and less traveled areas, and several villages were large geographically. All participants were compensated for their time, RMB10 (approximately USD1.25) during Wave 1 and RMB20 (approximately USD2.50) during Wave 2.

Individuals identified during Wave 1 as being away from home were contacted at least twice during Wave 2. Those people who were away from their *hukou* on all occasions were defined as “unapproachable.” The *hukou* lists provided gender and age for each of the unapproachable residents; we were able to glean basic information about unavailable residents (e.g., reasons for absence from home) from interviewing family members, village heads, village doctors, and others.

Quality Control

Twenty-five local staff recommended by Mianyang CDC and its local CDCs completed training and twenty were selected based on a paper examination, and inter-rater reliability testing; performance during the training period and the Wave 1 fieldwork were used to select interviewers for Wave 2. The one-week training was rigorous, including introduction, mock interviews, and role-play, followed by a pilot study to further develop on-the-ground skills. An update after the initial training and a pilot study was given before Wave 1 fieldwork, and a booster training was provided before Wave 2 fieldwork. Ongoing supervision included audited interviews, daily checking of the finished protocols, and inter-rater reliability testing, as well as weekly meetings for all interviewers to discuss emerging issues or concerns.

Results

Participation

Wave 1 subjects were engaged and interviewed at a time of year that was neither holiday nor a busy farming period; Wave 2 subjects were recruited during a strategically chosen time to take advantage of the tradition of migrant workers returning to their home regions. “Unapproachable” people were defined as those we could not encounter during either wave, despite multiple visits. Figure 1 includes a flowchart of the study recruitment, including 1654 consenting participants, 98% of those approached and 55% of the 3008 enumerated potential subjects. Among the 995 unapproachable subjects for whom we were able to

gather socio-demographic data, 77% (811) were migrant workers living away at the time of the study, and 11% (113) had permanently moved from the region. We documented 289 unapproachable subjects with incomplete or no background data, and assumed that many or most of them also had departed permanently.

Difference of Groups

Table 1 shows the comparison of difference of groups - Wave 1 (n=708) versus Wave 2 subjects (n=946), and all recruited subjects (Wave 1 plus Wave 2, n=1654) versus those unapproachable subjects (n=995) for whom we could glean sufficient demographic information for comparison. The analyses revealed that, in most strata of most variables, the differences between the groups reached significance minimally at $p < 0.05$. In several key areas, there appeared to be differences along a continuum, from the data collected during the fall of 2005 (Wave 1) versus those from the winter 2006 (Wave 2), and finally in comparison to the demographic indicators collected regarding the registered residents who were unapproachable at either time (unapproachable). Overall, these trends involved age (younger individuals more often encountered during the New Year or not at all), gender (men), occupational status (more migrant workers but fewer farmers in Wave 2 or among the unapproachable), and education (although we recruited more high school and university students in Wave 2 when they returned home for the Lunar New Year Holiday). In contrast, there were no differences between Wave 1 and Wave 2 subjects in degree of rurality, suggesting that migration now is pervasive in Sichuan Province regardless of distance from urban or industrial areas.

It was notable, however, that distance from work site ("location") did appear to relate to how long people stayed away from home ("continuity") (Table 2). Thus, we counted the highest percentages of local and discontinuous workers in Wave 1 (local economic migrants), and the most distant and continuous workers among those we labeled "unapproachable," with Wave 2 respondents as intermediate, again pointing to potentially important differences among the individuals sampled at different times.

Discussion

Challenges and Responses of Recruitment

When designing this study we made two key decisions that differed from the approach others have taken to studying rural samples in China. First we chose sites distant from major urban centers in order to find a region that showed the full impact of China's extraordinary economic transformation—especially the mobility of young workers. Thus we avoided sampling close to Beijing, Shanghai, or the industrialized coast more generally, as these settings would have been less representative of the interior heartland of China where so much of the suicide burden has been evident. Second, we chose to comprehensively ascertain all members of these communities, rather than using probability sampling, in order to better understand the characteristics of who we 'captured' and who we missed. It was our view that this would give a more complete picture of the interplay between dynamic socio-economic processes and individual outcomes. This also necessitated repeated visits to maximize ascertainment and address the inconstant nature of "migrant" status.

By choosing to work in what might be considered a "typical" rural region, we were faced with a series of challenges that potentially had powerful effects on data validity and representativeness. We anticipate that such challenges will continue to confront future efforts to conduct morbidity and mortality research in today's China. Next we consider challenges and possible responses or solutions.

Challenge 1 – Permanent *hukou* mismatches—Officially, every suicide is designated to a person's *hukou*, irrespective of the site of death. However, given decades of social change, *hukou* lists often do not accurately define current residents; i.e., they continue to include a considerable number of individuals who have permanently relocated to other communities. At the same time, they fail to enumerate new residents, whether they married “into” a community or resettled there. In light of the heavy migration since “Open and Reform,” rural *hukou* tend to over count residents, while urban registers omit many.

Multiple factors have contributed to this phenomenon. China issued in 2003 its “Law of the Peoples Republic of China on Land Contract in Rural Areas,” which stipulates that the term of contract for arable land is fixed to an unchangeable period of 30 years, beginning 1 March 2003 (Web reference 1). The 30-year-fixed-contract remains unchangeable regardless of the change in the number of people within a family, and the change of their residence. This has served to reduce the incentive of rural residents to convert their *hukou* when they moved. Before 2003, contracted land would change hands if one's *hukou* shifted. Another factor reflects the reticence of urban centers to include migrants on their residential lists, even those who settle permanently, as this allows eligibility for health insurance and other locally supported benefits, including access for their children to the higher quality schools that typically are found in bigger cities. Thus, it is essential for any work that seeks to understand the mortality and morbidity associated with suicide and attempted suicide—or other community research on population health—to address the challenges posed when studying groups that include a large proportion of migrant workers.

Thus, deaths from suicide registered by *hukou* as “rural” may have occurred in urban locales far from home.

Responses—1) Most studies in rural China have chosen to collect what is available during the study period, i.e., excluding the subjects who do not live in the communities at a specified time. While this may be reasonable when exploring specific issues (e.g., local demand for health services), it does not suffice when studying a problem such as suicide, where incidence statistics are ‘assigned’ by *hukou*. Of note, 76% (2300 of 3008) of the *hukou*-registered residents eligible for our study did not reside in the selected communities during Wave 1. For any study seeking to build a comprehensive understanding of community-level conditions, we recommend using the *hukou* list as the basis for recruiting to keep consistency with the national surveillance system. It then behooves the investigator to define the apparent reasons for absence whenever possible, such as transitory migrant work versus permanent change of residence, as might occur with marriage. While it might be tempting to treat the list as fully representative, without qualifying the reason for an apparent loss of subjects, this ultimately will challenge the validity of one's findings. Also, most studies carried out in rural China have excluded mobile people, e.g. excluding those who do not reside in the communities for half a year or more. This is desirable in terms of study feasibility, yet it comes at the price of missing a large mobile segment of population, one that also is not registered in cities. 2) For future studies of deaths by suicide, it will be essential to record the *place of death* in addition to place of residence. This will allow research to determine the ratio of suicides that live locally versus those that occur at a distance, with clear definitions of “local” and “distance.” Where possible, it will be highly desirable to define time of residence away from *hukou*.

Challenge 2 – Temporary *hukou* mismatches—While many individuals consider themselves to be local residents, together with their children, spouses, and parents, a large percentage live away from their home communities, for example, performing migrant work or seeking advanced education. Among Wave 2 subjects (n=946), i.e., people who were unobtainable during Wave 1 and were recruited during the 2006 Lunar New Year Holiday,

16% of them (n=157) were students seeking education elsewhere and 58% of them (n=553) were migrant workers. Among potential participants who were “unapproachable” for both waves (n=1284), some continued to identify themselves as local residents, even though a substantial had moved permanently to other communities.

Responses—When we recognized this challenge during our pre-study visits to pilot and participating communities, we: 1) changed our recruiting strategy from one seeking a representative group of 2000 to the comprehensive population of 3008; 2) re-approached the field sites multiple times to recruit new subjects in each wave; 3) expanded data collection during the Chinese Lunar New Year holiday (Wave 2) when migrant workers and students often return home; 4) worked with local officials to learn whether a potential subject was available, and further to get their help in arranging recruitment; and 5) collected basic demographic information regarding unapproachable subjects by interviewing family members and local officials. This allowed us to eventually characterize group differences among those interviewed and those missed.

Future studies can benefit from future adaptations. Investigators should consider expanding their recruiting range to nearby or adjacent urban areas to include those residents from rural sample sites who work in not-too-distant settings (we might label these as “near-migrants”). They also may benefit from using telephone (and web-based) interviews for some out-of-town subjects to test its feasibility and validity for future research, with repeated contacts with migrant workers benefiting from the assistance of local family members. At the same time, investigators must be mindful that migratory status in China is, itself, rapidly changing and needs careful definition.

Challenge 3 – Difficulties faced by potential participants to fully understand the purpose of research, informed consent, and the research questions—

Many youth and young adults in rural China have only a primary school education and illiteracy is not uncommon; others have attended middle school. Together with different life context/experience/expectation based on the low living standard and substantial differences in cultural background between researchers and potential subjects, there are challenges that are both subtle and potentially substantial when administering complex protocols, such as the Chinese version of the NEO Personality Inventory. In addition, local accents and colloquial variations must be taken into consideration; many potential rural participants have greater fluency in one of China’s hundreds of dialects (including many of those whom we studied in rural Sichuan). In addition, although rural Chinese are usually very trusting and friendly people, they may still have unease with researchers who they do not know.

Traditional culture and social constraints also can play a role in reticence to speak with researchers, e.g., hesitancy of a woman whose husband is away from home, as a woman would not welcome a male interviewer’s visit without the presence of another’s company.

Responses—To address these issues we undertook a variety of measures: 1) Training local professionals (staff and workers from the local CDC) to serve as interviewers who spoke local dialect. 2) Selecting interviewers with ‘good people skills’ and local background with rigorous training and on-going supervision throughout the course of the study. 3) Working to sensitively assure that interviews were conducted in a manner respectful of privacy and traditional needs, including same-sex interviewers to subjects as far as possible to promote comfort and private setting. 4) Developing Chinese colloquially styled research items that were consistent with local ways of speaking, and use pilot administration of protocols to test the suitability of items for local respondents. 5) Preparing a set of “standard explanations, examples, and alternative questions” for issues and items that appeared to be prone to misinterpretation, based on the training and pilot test experience and discussion. 6) Publicizing the research through broadcasting, holding local meetings, and sending out

written notices to the potential subjects beforehand by local officials and helpers to explain the study and arrange recruitment. 7) Providing useful health information and education for participating subjects, or where appropriate for future studies, a medically useful test, e.g., Hepatitis B test.

Challenge 4 – Appreciate the importance of local social networks—

Communities throughout the world depend on local social networks and relationships. This is especially true in China and its rural regions. Local political and health officials can play a critical role in providing permission for the study and access to *hukou* lists, explaining the purpose of research to local residents who are not familiar with the researchers, and facilitating participant cooperation and recruiting. They can provide a local site for interviews, which can add extra comfort for residents who are uncertain about having interviewers enter their homes. Local support also is essential for overcoming many ‘practical’ barriers to implementing a research endeavor. In our study, we were confronted with rugged and mountainous terrain that was later the site for the May 2008 earthquake, a low population density, a large number of away-from-village residents, poor local transportation resources, and difficult communication. Locating potential participants without local assistance would have been impossible!

Responses. Substantial pre-study planning and local visiting was essential, with specific activities guided by local collaborators and leaders—

More specifically, we: 1) developed a clear understanding of local infrastructure and leadership dynamics, and in turn fostered collaborative working relationships with key local leaders; 2) increased local officials’ awareness of the significance of research endeavors and potential yield to health improvement; 3) facilitated local officials’ effort of accomplishing common objectives that relate to research and health improvement; and 4) facilitated communication between different working parties (Government/Health Bureau/CDC/Hospital in all hierarchical levels) to guarantee the realization of project details at local level.

Remaining Uncertainties

However much effort we expended to identify and respond to the challenges, there are remaining uncertainties that accompany the ever-changing situation in contemporary China. In order to keep consistency with current surveillance systems, i.e., the DSP and MRS, we sought to include all people whose *hukou* was listed in the study villages. At the same time, we did not seek to enroll for purposes of this study those who lived in the villages without a local *hukou* registration. We appreciate, as well, that future studies will need to grapple with the mismatch of the DSP and MRS and the mobile population of China. Perhaps one can define the population cohorts as residing subjects with local *hukou* registration, residing subjects without local *hukou* registration (such as women ‘married into’ a village), and migrant workers elsewhere with local *hukou* registration.

As we have emphasized, investigators face major challenges when conducting community-level studies of population health, especially when they potentially involve highly mobile participants. We used a strategy of visiting communities more than once in each wave, and timing the waves to ascertain different groups of migrant workers. We strongly recommend that future publications involving participants recruited in rural areas include sufficient information so that readers can more effectively assess local conditions, and appraise sample representativeness and data validity.

Lastly, we appreciate that similar recruitment challenges apply to other regions of China, especially industrial work zones and densely populated urban centers that serve as

destinations for the large number of mobile workers who regularly move back-and-forth between their rural homes and their semi-permanent sites of employment.

Conclusion

Conducting community-level research projects in China's rural settings poses a variety of diverse methodological challenges—some characteristics appear to be unique to China; others may be shared with studies in rural communities in other developing countries. Investigators who plan future studies in rural China will benefit from knowing in advance that they will need to be ready to make 'on-the-ground' adjustments to variable local conditions in order to maximize the validity and reliability of their research findings.

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Figure 1.
Recruitment of subjects

Table 1

Comparison of difference of groups among all subjects N (%)

Variables	Strata	Wave 1	Wave 2	W1 vs. W2	Recruited	Unapproachable	R vs. U
Number	All	708	946		1654	995	
Age	15–19	73(10.31)	281(29.70)	<0.0001	354(21.40)	212(21.31)	0.9534
	20–24	78(11.02)	141(14.90)	0.0214	219(13.24)	179(17.99)	0.001
	25–29	153(21.61)	185(19.56)	0.3055	338(20.44)	231(23.22)	0.0917
	30–34	404(57.06)	339(35.84)	<0.0001	743(44.92)	373(37.49)	0.0002
Gender	Female	413(58.33)	458(48.41)		871(52.66)	532(53.47)	
	Male	295(41.67)	488(51.59)	<0.0001	783(47.34)	463(46.53)	0.6869
	Other	64(9.04)	109(11.52)		173(10.46)	63(6.33)	
	Never	129(18.22)	399(42.18)		528(31.92)	381(38.29)	
Marital Status	Currently	515(72.74)	438(46.30)	<0.0001	953(57.62)	551(55.38)	<0.0001
	Student	25(3.53)	157(16.67)		182(11.03)	33(3.41)	
	Farmer	433(61.16)	166(17.62)		599(36.30)	30(3.10)	
	Other	45(6.36)	66(7.01)	<0.0001	111(6.73)	37(3.83)	<0.0001
Occupation	Migrant	205(28.95)	553(58.70)		758(45.94)	867(89.66)	
	0–3	108(15.28)	82(8.67)		190(11.49)	50(5.12)	
	4–6	255(36.07)	203(21.46)	<0.0001	458(27.71)	202(20.70)	<0.0001
	7–9	269(38.05)	442(46.72)		711(43.01)	604(61.89)	
Education	10	75(10.61)	219(23.15)		294(17.79)	120(12.30)	
	High	168(23.73)	233(24.63)		401(24.24)	219(22.01)	
	Moderate	232(32.77)	340(35.94)	0.2292	572(34.58)	400(40.20)	<0.015
	Low	308(43.50)	373(39.43)		681(41.17)	376(37.79)	

Note.

1 W1: Wave 1, W2: Wave 2, R: Recruited, U: Unapproachable

2. In Marital Status: “Never” means “Never Married”, “Currently” means “Currently Married”.

Table 2
Comparison of difference of groups regarding location and continuity of migrant work N (%)

Variables	Strata	Wave 1	Wave 2	W1 vs. W2	Recruited	Unapproachable	R vs. U
Number	All	708	946		1654	995	
Location of Migrant Work	NA	241(35.34)	285(31.08)		526(32.90)	101(11.49)	‡
	Local	135(19.79)	143(15.59)	‡	278(17.39)	136(15.47)	‡
	Distant	306(44.87)	489(53.33)	‡	795(49.72)	642(73.04)	‡
Continuity of Migrant Work	NA	241(35.34)	285(30.88)		526(32.77)	101(10.58)	‡
	Discontinuous	122(17.89)	117(12.68)	‡	239(14.89)	46(4.82)	‡
	Continuous	319(46.77)	521(56.45)	‡	840(52.34)	808(84.61)	‡

Note.

1. Proportional odds regression model shows the overall variance for all the strata reaches significance at .05 level.

‡ 2. Significant at .05 level,

‡ Significant at .01 level, 2-sided test.

3. NA: Not Migrant Workers, W1: Wave 1, W2: Wave 2, R: Recruited, U: Unapproachable