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Strategies for origin-based surveying of international migrants

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Abstract

This paper addresses methodological challenges of investigations of international migration, including difficulties in obtaining information about representative samples of migrants and both their origin and destination location. Our project used an origin-based sample with a destination focused survey and interviewed 91% of migrants from a community in Nepal to any destination and shares techniques employed. Our procedures and high response rate constitute a significant improvement in survey methods that permit the creation of unbiased data on migrants and allow the study of migration in conjunction with origin communities.

Keywords

data collection method; international migration; origin-based sampling

1. Introduction

International migration is one of the most difficult demographic behaviors to measure. As Jasso et al. (2000:127) stated, '[i]n perhaps no other area of demographic and social science research has there been such a persistently large gap between information needs and existing data. Consequently, many fundamental questions remain unanswered.' Although lack of sufficient and appropriate data for studying migration has been lamented for decades (Bilsborrow et al. 1997; Durand and Massey 2006), there have been slow but steady improvements in the measurement of migration. Origin-based sampling is one important development, where researchers use a representative sample of households in one place (the origin) to locate migrants living elsewhere. While this strategy shows promise, the implementation of origin-based sampling and surveying of migrants in destination places has been threatened by high costs and logistical difficulties, limiting its reach and effectiveness.

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We report on a survey that effectively used origin-based sampling to interview a representative sample of migrants from Nepal to any destination and linked that information to data about their families and communities in Nepal. Although studies have attempted similar goals, this project is unique in achieving a 91% response rate¹ of migrants from one origin area living in *any destination*. This project's main contribution is empirically demonstrating that origin-based sampling with destination focused surveying is an effective survey method to for migrant populations.

Our methodological article presents response rates, describes procedures, and analyzes factors associated with migrant contact and response. Our procedures include methods for securing a representative sample, tailoring contact protocols to changing respondent circumstances, securing cooperation for interviews, using social networks, and utilizing cell phone technology. Use of these procedures and achieving high response rates for a global survey of migrants constitutes a significant improvement in survey methods, which permits creation of unbiased migrant data and allows examination of origin communities. Use of these methods can substantially enhance research capabilities to study not only migration but also other demographic and economic behaviors such as marriage, childbearing, health and well-being, and remittance.

Notably, this project studies one origin area, which limits confidence that a high response rate could be attained from other origin areas. There are important historical, cultural, socio-political, geo-climatic, and economic differences among sending and receiving countries, and methodological challenges faced by migration studies vary both by origin and destination country. However, many of the key differences in survey difficulties stem from differences between receiving countries, and the living and working conditions, work and vacation schedules, and telecommunication availability of migrants living in each place. For example, our experience in interviewing Nepali migrants in countries as different as Qatar and Canada suggests that surveys of other migrants in Qatar, Canada, and other countries, could also achieve high response rates. Our strategies to interview a representative sample of migrants will likely have substantial relevance for studies of other migrant-sending countries. Conducting such studies is crucial to confirm this assertion.

This study focuses on high response rate as an indicator of survey success. Of course, response rates are just one measures of survey quality, which is also influenced by item non-response, measurement error, interviewer effects, sampling errors, etc. (Groves and Couper 1998; Groves, Singer, and Corning 2000; Groves and Lyberg 2010). While we do not address those aspects of survey quality, research suggests that some of them are likely associated with sampling and interviewing strategies (Couper 2011; Tourangeau and Smith 1996; Smith and Kim 2015; West, Axinn and Ghimire 2015). Future studies are necessary to address these key concerns in origin-based sampling and destination focused surveying of migrants. Our goal is to demonstrate that origin-based sampling with destination focused surveying strategies hold great potential, are possible and within reach for future studies.

¹Multiple ways exist to calculate response rate. We use AAPOR's RR5 response rate formula (AAPOR 2016).

2. Methodological challenges in migration studies

A major difficulty in migration studies is that migration inherently involves at least two places: origin and destination. This means that a thorough study of international migrants requires information about people living in the origin area and the migrants at their destination. Of course, a study of out-migration could estimate out-migration rates and selection in out-migration by focusing only on the origin site and exits from that area. This strategy has been successfully applied to both retrospective and prospective designs by prominent migration and demographic studies such as the Mexican Migration Project (MMP), the Chitwan Valley Family Study (CVFS) in Nepal, Migration between Africa and Europe project (MAFE) and the Nang Rong project in Thailand (Massey and Espinosa 1997; Piotrowski et al. 2013; Rindfuss et al. 2007).

However, without information about the migrant after s/he leaves the origin area, these studies do not account for the fluidity inherent in migration. Migration is not a single event, but a process that occurs over time and can involve migration and permanent settlement, return to the origin community, multiple migrations and return cycles, or a series of moves to different locations (Williams, Thornton, and Young-DeMarco 2014). These issues are made even more complex by the fact that migration out of a community can include a seemingly infinite number of destinations, as migrants can move anywhere in the world.

Alternately, studies based entirely on a destination site, such as the New Immigrant Survey in the U.S. (Jasso et al. 2000), focus only on migrants at one location. These studies cannot thoroughly address the personal histories that accompany migrants to their new places of residence. Migrants' behaviors and beliefs, once residing in their destination, might be a replication of 'normal' behaviors at origin or an adaptation to the circumstances, norms, and values at the destination (Parrado et al. 2004). In addition, migrants today usually maintain ties with their origin communities through communications, remittances, and trips back to their origin homes. Thus, destination studies of migrant assimilation and adaptation of behaviors, values, and beliefs should include information on both the origin and destination communities (Bilsborrow et al. 1997; Massey 1987).

Linking information about migrants at destination with information about themselves, their families and communities at origin allows rigorous investigations of theoretically important and policy relevant questions about migratory behavior and its consequences that have long been of interest to scholars, but have been hampered by insufficient data. In addition to advancing the study of migration, linking information about migrants at their destinations with information about their origin communities and families would benefit other areas of study as well, such as marriage, fertility, and health and wellbeing. Surveys in one area routinely exclude migrants from their samples, even if those individuals are still considered members of the household and are only temporarily away. This seldom recognized but potentially important selection problem produces sample biases because the excluded migrants are often young adults, male, and people with a higher education and skill set (Massey 1987; Massey and Espinosa 1997). The inability to sample migrants is an additional source of attrition for panel studies, which often suffer from high attrition from other sources (Rindfuss et al. 2007).

Given these concerns and the potential for scientific advancement if appropriate data were available, social research would benefit from surveys that include the following types of information in one integrated study: 1) representative samples of origin communities that include migrants; 2) information about origin families and communities; 3) information about migrants' behaviors and experiences in the destination community; and 4) information about destination areas.

Towards these goals, migration researchers have developed a particular sampling-survey method that is based on the place of origin but uses a destination focused survey. This method addresses deficiencies of solely origin-focused or solely destination-focused survey methods. Given the present lack of a specific name for this method, we call it origin-based sampling with destination focused surveying. With this term we intend to indicate that the sampling is based on the origin population, but the survey itself captures information from the migrants at their destinations. For the origin-based sampling part of this method, researchers begin with representative samples of individuals from one geographic area, the origin (Massey and Capoferro 2004; McKenzie and Mistiaen 2009), and use interviews with individuals and households at the origin to obtain information on these communities and their current residents. Respondents are also asked to identify members of their households who are not currently residents and provide contact information for them. For the destination focused surveying part of this method, investigators then track and interview the migrants at their current location. This method is ideal because it provides a representative sample of migrants that is connected to information from their families and origin communities.

The problem with this strategy is that cost, logistical, and technological difficulties substantially reduced its effectiveness. For example, the MMP used this method to link information about origin communities with a sample of Mexican migrants in the U.S., but has a restricted sample size due to cost constraints (Massey 1987). A second project that used elements of origin-based sampling and destination focused surveying is the MAFE, which identified individuals from communities in Dakar, Senegal and their family members who were residents in France, Italy, or Spain (Beauchemin and González-Ferrer 2011). They obtained contact information for only 32% of migrants and this contact information was correct for only 52% of those cases. These low contact rates limit the studies' representativeness perhaps suggesting that origin-based sampling with destination focused surveying might not be an effective method for obtaining information about migrants and their destinations.

On the other hand, the Mexican Family Life Survey (MxFLS) implemented the origin-based destination focused approach (Rubalcava et al. 2009) and obtained a response rate of over 90% of migrants to the U.S. (Velásquez et al. 2015). We believe this is the first documented attempt at origin-based sampling across international borders with high response rates. However, given that all MxFLS migrants were tracked to just one destination country (U.S.) and that country shares a border with Mexico, it is unclear if such response rates could be replicated in other settings and with streams of migrants who travel to different countries.

We used origin-based sampling with destination focused surveying techniques to locate and interview the vast majority of Nepali migrants in our sample. With careful and flexible

procedures and use of new technologies, we obtained a 91% response rate with Nepali migrants in 37 countries. This high response rate demonstrates that origin-based sampling with destination focused surveying is possible on a global scale and holds significant potential for advancing migration and demographic research.

3. Historical background of Nepal and migration

Our study setting, the western Chitwan Valley, lies in south central Nepal. Until the Nepalese government promulgated the Foreign Employment Act of 1985, international labour migration was primarily limited to India. This Act ignited streams of international migration to countries other than India (Kollmair et al. 2006; Thieme and Wyss 2005).

Recent data for 2013/14 shows that Nepalis migrated to 131 countries for work. The number of permits issued for international labor migration increased dramatically from 220,000 in 2008/09 to 522,000 in 2013/14, a more than 130% increase within a six-year period (Government of Nepal 2015).

Although India, Japan, and Hong Kong were the major destinations until the late 1990's, the booming economies and construction made the Persian Gulf and East Asia increasingly popular destinations. Malaysia, Qatar, and Saudi Arabia were the most frequent destinations, with 196,497, 124,050, and 96,887 migrant workers respectively in 2014/15 (Government of Nepal 2015). However, because of free borders, low transportation costs, and shared culture, India continues to receive a large number of Nepali migrants (Seddon et al. 2002).

4. Approach to origin-based sampling with destination focused surveying and contact strategies in Nepal

This study incorporates several ideas documented in research: 1) the extensive experience of migration projects to interview large fractions of their target populations (Massey and Capoferro 2004; Ortiz and Ballon 2007; Rindfuss et al. 2007); 2) the extensive experience of researchers who sought to maintain respondent participation in domestic panel studies (Freedman et al. 1980; Thornton et al. 1982); and 3) extensive setting-specific experiences documented in a long-term panel study in Nepal (Axinn et al. 2012). The application of these ideas and the addition of several carefully implemented strategies resulted in a migration study yielding response rates of 77% within the first six months and 91% within 26 months.

We attribute these high response rates to our ability to integrate a number of important elements into one effective approach: 1) building our study on an existing panel study; 2) relying upon subsequent contacts with the migrants' households at the place of origin; 3) utilizing multiple social networks; 4) employing mixed-method, multi-mode data collection approaches including mobile phone and internet technology; 5) allowing time for an extended field period; 6) exercising flexibility in study procedures; and 7) tailoring interview situations to fit respondents' backgrounds. We discuss the survey process and each of these strategies below.

Our study was built directly on CVFS, a large-scale ongoing panel study of communities, households, and individuals from the western Chitwan Valley (Barber et al. 1997). From 1997–2008, CVFS launched a monthly household-level interview and collected household information for each household member (Axinn et al. 2012). Any household or household member moved outside the sample neighborhood, but remaining within Nepal, was followed and interviewed in person but individuals or households moved outside of Nepal were dropped from the study.

In 2008, the CVFS launched a new panel study collecting household and individual interviews using the same sample neighborhoods as in 1997. The 2008 sample was selected from individuals who were currently residents in the selected households. The 2008–2012 study collected a series of follow-up interviews with households and individuals three times per year during the next four years.

Our sample of migrants for this study was selected from the same households that provided the sample of household residents for the 2008–2012 panel study. We defined migrants for this study as people who were not residents in the households, but who were still considered members of the household by resident household members. This definition is commonly used in migration studies. The information used to determine eligibility for the migration sample was collected from adult household members responding to a CVFS household-level interview. We allowed CVFS household respondents to decide whether each absent household member was still considered a family member². These procedures yielded a sample of 1,009 individuals from 770 sample households who were residing internationally in 37 countries at the time of the 2008 CVFS household census. Our study sample is comprised of 1,009 individuals.

Table 1 shows 55% of migrants were concentrated in the Persian Gulf/Middle East/North African countries; 25% in India; approximately 10% in North America/Europe/Australia; and 10% in other East Asian. The vast majority (90%) of migrants were males. Of the 1,009 person sample, we interviewed 915 people. Our response rate is influenced by a 93.46% contact rate (943 of 1,009 people contacted). Of these contacts, we were unable to interview 28, producing a refusal rate of 2.97%.

Funding availability required two waves of data collection. In 2009, we began surveying Nepali migrants in six Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates). In early 2011, we broadened our reach to include Nepali migrants irrespective of destination. We followed the same data collection

²This strategy, often used in migration studies, is better at identifying individual migrants and usually underrepresents household migration and women migrants (who more often move with the household (Ibarrarán and Lubotsky 2007)). However, the CVFS followed both individuals and households from the original sample in 1996, to any destination. The study continued to follow both individuals and households that were subsequently included in the 2008 sample. Because of this long tracking history (since 1996), the study likely does not underrepresent female and household migrants. Further, as shown in our data, unlike Mexican migration to the U.S., a vast majority of Nepali migration involves individual labor migration to India, the Persian Gulf, and East Asian countries. In most of these countries, Nepali migrants are not eligible for permanent residency status therefore it is extremely uncommon to move households to those countries. While Australia, Canada, the US and some European countries allow permanent residency status, only a small fraction of Nepali households have migrated to those countries. During our data collection period of 2008–2012, 20 households out of 2684 (0.74%) moved internationally; we interviewed 13 of them (65% of migrant households). Thus, we lost 0.26% households over four years of data collection. Because of both low household migration and follow-up of migrated households, concerns of household and female migrant underrepresentation are not likely a threat to our results.

protocol for both waves, producing closely comparable data. Response rates vary by region but are high in all cases—the Persian Gulf/Middle East/North African region boasts the highest response rate (95%), North America/Europe/Australia has the lowest rate (74%), with India and other East Asian countries falling in the middle (88% and 90% respectively).

Strategies that we believe improved our ability to both contact migrants and encourage their participation are presented below. Our non-contact and refusal rates were low, increasing our confidence in the efficacy of these strategies. Naturally, monetary cost and benefit of strategies will vary by geographic context and funding.

4.1 Building on a panel study

Literature from prominent migration studies has documented several advantages of designing a migrant study on an ongoing panel at the place of origin (Rindfuss et al. 2007). A well-designed panel study can provide: 1) invaluable information about migrants; 2) a sample of migrants from a representatively-selected group of households; 3) setting-specific cultural knowledge, research experience, and research protocols; 4) existing respondent trust of interviewers and the survey operation; and 5) a cadre of trained and experienced personnel who help in locating and securing domestic respondents' cooperation and conduct international interviews. Building on the CVFS panel study was a strong contributor to our high response rates.

The CVFS spans 20 years. While this duration undoubtedly increased respondent trust and familiarity with the study, there is no reason that a shorter panel study could not incur the same benefits of origin-based sampling with destination focused surveying. In fact, the many existing shorter panel studies would likely be appropriate baselines for origin-based sampling.

4.2 Relying on migrants' origin households for contact information

Identifying potential sample migrants at place of origin is one of many required steps. Once respondents are identified, contact information must be obtained. Our most important source for contact information was the migrant's household in Chitwan. Whenever the household interview revealed that a family member was living outside the home, we asked for contact details. Because we anticipated that locating large numbers of migrants would be difficult, we gathered as much contact information as possible. Thus, we administered a brief survey about each migrant that included asking for addresses, telephone numbers, email addresses, and whether the migrant was planning to return to Nepal, either for a visit or permanently, within the next year.

We discovered that efforts to collect residential addresses for migrants were ineffective. A major impediment to obtaining useful addresses was that most Nepali migrants to the Persian Gulf, India and East Asian countries—particularly the wage workers—resided in labor camps provided by their employers and did not have usable residential addresses. Even with a private address, postal systems in several countries often did not have adequate resources to maintain updated records of residential addresses. The vast majority of migrant addresses proved invalid.

We encountered other contact issues with migrants in North America/Europe/Australia, where migrants have more dispersed and individualized settlement patterns. When attempts to obtain contact information at place of origin failed, the larger time differences and high cost of international calls made it difficult to obtain contact addresses by calling migrants at their destinations. In some cases, when migrants had applied for asylum or were in the process of permanent residency, families did not want to share contact addresses. Likewise, attempts to collect email addresses had little value, except for those in North America/Europe/Australia. Few migrants had personal email accounts, and for those who did, none of their origin households had their email addresses.

Inasmuch as we were unable to use addresses—physical or virtual—in locating respondents, we had to rely on either making contact by telephone or on waiting to conduct an interview until after the migrant returned to Nepal.

4.3 Utilizing social networks to obtain contact information

We discovered that while the initial CVFS household interview was important in identifying target migration study respondents and their locations, it was insufficient for obtaining the necessary telephone contact information. This led to special efforts in obtaining contact information by using multiple people in migrants' social networks. We attempted to collect migrant telephone numbers by employing four strategies, each discussed below in order of implementation.

4.3.1 CVFS regular household-level interviews—We expected to obtain the majority of migrant telephone numbers during the household interview. Yet, Table 2 shows we only collected telephone numbers for 30% of migrants during initial interviews. This was due partly to elderly household members often being the respondents in the household interviews; they are often illiterate, and do not have contact numbers available.

4.3.2 Household revisits—In cases where we were unable to obtain migrant telephone numbers during the initial interview, we revisited the household to talk to other members. These household members generally included spouses or siblings of migrants. Through revisits, we collected contact numbers for another 42% of migrants.

4.3.3 Other social networks—For the remaining 28% of migrants for whom we did not get contact information from households, we explored migrants' wider social ties and networks at place of origin and destination. The origin-based social networks that were most useful were social groups such as youth clubs, saving and credit groups, and mothers groups. These groups are common in Nepali communities and create strong social ties, and continue to be important for migrants after they leave. Migrants commonly rely on group members at the origin site for several important tasks like keeping an eye on their children, spouse, or girlfriend and help with financial matters such as paying loans or investments. Importantly, migrants often share their personal contact details and maintain regular contact with group members. Members of social networks were another valuable source of contact information.

Additionally, many Nepali migrants form and maintain close ties with social groups at destination places and commonly share personal information with those groups, including

contact numbers and work schedules. Some of these groups are extensions of their groups in Nepal. Migrants at destination places also create regional and ethnicity-based welfare and social groups such as the Chitwan Ekata Samaj Qatar and the Magar Samaj Qatar. Some of the members of these destination-based groups were also respondents in our migrant sample, creating opportunities for us to contact the groups and obtain migrant contact details. We did this by first asking migrants' households in Chitwan about their affiliation with any of these groups. We also asked other members of the social groups at the origin about affiliations of migrants with destination-based groups. The long history of CVFS and the trust built over time between the study, households, and social groups likely facilitated requests for contact information and group affiliation.

Social media is emerging as a new avenue of networking and could prove useful for obtaining contact information. However, because of low levels of social media use by the migrants in our study, we did not use this source.

Of the 282 migrants for whom we did not get contact information from households, we were able to obtain telephone contacts through origin and destination social networks for 21% (60 out of 282). Overall, Table 2 shows, by implementing one or more of these strategies we collected telephone information for 787 (78%) migrants.

4.3.4 Ongoing tracking and panel follow-up—Locating and interviewing migrants is an ongoing and dynamic process requiring efforts to update migrant location and contact information over time. The ongoing CVFS design was instrumental in tracking changes in migrant location in destination countries and for migrants returning to Nepal. The CVFS recorded residential moves and locations of each family member. This information was crucial in tracking migrants, updating their contact information, and ultimately interviewing them by telephone or face-to-face.

4.4 Employing mixed-method data collection and state-of-the-art technology

—To maximize migrant participation rates we used a mixed-method, multi-mode data collection strategy. Many migrants were not planning to return to Nepal within the study period, requiring a telephone interview strategy. Alternately, many migrants had no telephone access, but were planning to return to their origin households, requiring a face-to-face interview strategy in Nepal. Moreover, several migrants returning to Nepal settled outside the study area, requiring either telephone or face-to-face interviews, as necessitated by location and telephone access. We interviewed 91% of sample respondents; 65% by telephone and 35% in person. These numbers indicate that interviewing respondents when they returned from abroad was a key factor. The majority (66 individuals) of non-interviews were those for whom we could not obtain any contact information.

Our ability to conduct a large number of interviews from Nepal to other countries required the use of effective communication technology, particularly mobile telephone and internet technology. This required considerations of both access and cost.

4.4.1 Access to telephone technology—Most Nepali migrants had access to mobile telephones. This was the case even in the Persian Gulf countries where labor migrants are

provided residential facilities by employers. These facilities were generally confined camps with limited access to the outside world and no landline communication facilities. However, wireless telephone technology made it possible for many migrants to connect with the outside world; mobile phones can be easily purchased, do not require a permanent address or legal status, and are easily transferable. Additionally, because migrants to the Persian Gulf are housed in camps with four to five migrants sharing a single room, they frequently share resources, including mobile phones. Therefore, even if only a small fraction of migrants has mobile phones, those phones are often available for use by others sharing the same living quarters. Over 95% of telephone interviews were completed using mobile telephones.

4.4.2 Cost—The cost of interviewing is another challenge in migration studies. However, current communication technology has reduced the cost in three important ways. First, with the improvements in wireless technology and market competition, the price of telephone service has been steadily declining. Second, with the increasing availability of high-speed internet services for interviewers, telephone interviews can be completed at a fraction of the landline cost. Finally, in many countries, including Asia and the Persian Gulf, there are no charges for incoming calls. This means that migrants may receive calls from interviewers without charge. These features were instrumental for obtaining respondent cooperation and managing costs.

Although improvements in communication technologies were instrumental in our efforts, we faced several challenges. First, we experienced connection problems; poor connections made it difficult for the interviewer and migrant to understand each other and calls were frequently dropped. Second, migrants' mobile telephones sometimes lacked fully charged batteries, preventing completion of some interviews in a single call. Thus, a large fraction of interviews required multiple calls, increasing the burden and complexity of completing the interviews.

4.5 Conducting data collection over an extended time period

We recognized from the outset that this project's complexity would likely require an extensive field period to locate and interview migrants. Additionally, a long period of data collection is particularly useful to complete interviews from those without legal status at their destination. These respondents were sometimes afraid to discuss personal circumstances from their destination, preferring in-person interviews upon return to Nepal. Overall, Figure 2 shows we interviewed 77% of respondents within six months; 86% in 12 months, and 91% in 26 months. Most of the interviews completed after month six were face-to-face interviews conducted in Nepal. Of the 519 telephone interviews 459 (88%) were completed within the first six months. However, face-to-face interviews of returning migrants continued to increase, resulting in a final overall response rate of 91% by the end of 26 months. Although it took a field period of more than two years to reach the 91% mark, our response rates at six and 12 months indicate that even with an abbreviated field period, we attained notable response rates.

4.6 Exercising flexibility in study procedures

In addition to allowing more time for the field period, it is crucial to provide flexibility in other aspects of the interviewing process. Often, non-participation in surveys is not due to disinterest in the study, but rather to personal circumstances. These circumstances could include (but are not limited to) odd work schedules, long working hours, restricted mobility, and legal status. Therefore, it is important to offer a flexible window of time to complete interviews so that respondents can fit them into their schedules.

We exercised extensive flexibility to accommodate respondents' schedules, preferences, and needs. Our interview staff was located in Nepal, in a different time zone from our migrants. This required interviewers to keep the respondents' local time in mind and adjust their work hours accordingly. As shown in Figure 3, the interview time greatly varied by mode of interview. While the majority (64%) of face-to face interviews were conducted during morning hours (6 AM to 11 AM in Nepal) just one third of the telephone interviews were completed during that time period, as interviewers considered the actual time of day in destination countries.

Also, migrants' work schedules are likely to vary according to the socio-political and cultural context of the destination location and the type and nature of the migrants' employment. For example, workers in Gulf Cooperation Council countries frequently have Fridays off, whereas other countries generally provide Saturdays and Sundays as days off work. Consequently, and as shown in Figure 4, Friday was the most common day to conduct a telephone interview. On the other hand, face-to-face interviews administered in Nepal were evenly distributed Sunday through Thursday.

Likewise, it is important to have cultural knowledge of destination locations, as extended holidays are often closely associated with religious and cultural practices (i.e., Christmas, Ramadan, Dashara, and Diwali). This affects migrants' availability for interviews, even if they are from different cultural backgrounds that have little to do with these holidays at the destination location.

Respondents' availability also depends on the nature of their work. For example, a factory worker may work at night and be available during the day. Alternatively, a domestic worker's schedule may be irregular, with no free time until late at night after the household chores are completed. Moreover, migrants are often under financial pressure to earn as much income as possible, and therefore may be especially willing to work overtime hours. After considering these and other complexities, we tailored interviewer schedules to respondents' availability, and created a 24/7 telephone service center so that respondents could call us when they had time to make an appointment or to complete the interview.

Interviewers were trained and instructed to respect the respondents' personal circumstances and to stop the interview if a situation required it, resuming the interview at a more convenient time. As shown in Figure 5, a substantial fraction (60%) of telephone interviews were completed in two or more sessions whereas the majority (77%) of face-to face interviews in Nepal were completed in a single session.

4.7 Tailoring the interview situation to fit the respondent's background

Completing surveys requires careful attention to maintain respondents' cooperation. This requires a host of methods to ensure that the respondent is properly introduced to the study, is convinced that the study is legitimate and worthwhile, and feels rapport with the interviewer. Such efforts are even more important in surveys of international migration. It is particularly challenging to secure cooperation over the telephone from respondents who are away from home, who may be in a different time zone, or who may have conflicting work schedules or cultural obstacles.

We staffed our interviewer pool with well-trained and experienced interviewers who had worked on CVFS for several years. In some cases, the respondent had been a participant in the 1996–2008 CVFS and had been interviewed for that project by one or more of the staff hired for this project. This likely had a positive impact on the respondents' confidence in the interviewers' legitimacy. On the other hand, some migrant respondents had not participated in the 1996–2008 CVFS nor was anyone from the interviewing staff known to them. In such cases, interviewers gathered information about the respondent's household before the interview took place in order to have familiarity with the respondent's family. In both types of scenarios, interviewers often relayed messages to the respondent from families back home. Interviewers were instructed to reference cultural and current events going on in Nepal at the beginning of the conversation with the respondent. Interviewers also offered to pass on messages from the respondent to his/her family in Nepal. We believe that interviewers' high level of familiarity with the migrants' households, combined with their willingness to assist with communications between the migrants and their families, was instrumental in building rapport and earning respondents' trust.

We also recognized the importance of understanding cultural context, social norms and practices. For example, social interactions are highly gendered in Nepal. Even over the telephone, women generally prefer to talk to other women, and men prefer to talk to other men, unless there is official or other important business. The gendered nature of communication in Nepal leads to the cultural perception that women would only call men in order to relay important information. Therefore, because a large number of our migrant respondents were male, we staffed our interviewing team with over 85% female interviewers in an effort to demonstrate the importance of our calls.

With these practices in place, we found almost all respondents appreciated receiving a call from their home country, as it represented a tie with their home communities. It is important to note that we achieved a 91% response rate despite longer interview times exacting as a disadvantage. We used the same basic questionnaire with our migrants as the CVFS did with respondents to obtain comparable information from migrants and non-migrants. In addition to the lengthy basic questionnaire, we added a modest-sized migration questionnaire, resulting in an average overall interview time of 90 minutes. Under normal circumstances we would expect an interview of this length to dampen response rates, however if that occurred during this study, the effect was negligible.

5. Methodological comparison with other origin-based sampling destination focused surveying studies of migrants

In the above section, we describe many strategies that we believe improved our study and yielded a high response rate. However, given that almost any strategy to improve survey quality and/or response rates comes at the expense of time and money, it is also important to know which of our strategies were most effective. We quantified indicators of the efficacy of some of our strategies. For example, we obtained contact numbers for only 30% of our migrants on the first visit to their households but with subsequent visits to the household we obtained contact information for 42%. Explorations of social networks gained us contact details for an additional 6%. Clearly, multiple visits to households was the most effective strategy for gaining contact information. Using multiple modes of interview contact was also important, with 35% of our interviews completed in person when the migrant had returned home. Allowing a long field period was also a key, and raised the response rate from 77% at 6 months to 91% at 26 months.

Unfortunately, it is not possible to quantify the efficacy of the other strategies. However, we can gain some traction from comparing the strategies of CVFS to those of other studies that used origin-based sampling with destination focused surveying. For this purpose, we use the MxFLS, which achieved a 91% response rate (Rubalcava et al. 2009; Velásquez et. al 2015) and the (MAFE-Senegal) that achieved a 6% response rate (Beauchemin and González-Ferrer 2011). We choose these studies for comparison because they have vastly different response rates, but also because there is a sufficient amount of published information about the conduct of these studies and discussion of strategies and concerns to undertake a comparison.

The first notable comparison is that CVFS and MxFLS were both based on existing panel studies and both achieved 91% response rates. CVFS has been conducting the panel study since 1996 and MxFLS tracked migrants in 2005/2006 after a 2002 baseline. While there is a big difference in the duration of the panel studies (one wave for MxFLS and 12 years of multiple waves for CVFS), we still find high response rates in both studies. Alternately, MAFE-Senegal started migrant tracking efforts without an existing panel study and achieved a 6% response rate.

Our experience with CVFS indicates that building on an existing panel was a substantial benefit in gaining the trust of households and thereby obtaining contact information. Indeed, as Beauchemin and González-Ferrer (2011) described, a perceived lack of trust between households in both Senegal and in European destination countries is one of the main reasons that they obtained fewer contact details and had much higher refusal rates. This is despite the fact that MAFE-Senegal put substantial effort into developing trust, including media and leaflet dissemination about the study, public meetings, supervisor visits to households subsequent to the initial interviewer visit, clarifying their independence from government, explaining study purposes, etc. These are impressive efforts, but they still resulted in low response rates, suggesting that building on an existing panel study (and therefore some amount of trust and experience with the survey organization) might be more effective for achieving high response rates.

A second notable point is that CVFS and MAFE-Senegal put extensive efforts towards identifying migrant contact information through non-household sources. Both used neighbors, friends, and/or migrant organizations at place of origin and destination. CVFS gained an additional 6% response due to this strategy. MAFE-Senegal gained extra contact information, but also experienced higher refusal rates for contacts gained through non-household sources, quite likely due to lower trust. It appears that trust may be the major bottleneck in the MAFE-Senegal study and it is hard to quantify how other strategies would have worked better if there were a higher level of trust. In either case, there is evidence that non-household sources are useful for obtaining migrant contact information, but require substantial effort and are likely only effective within a context of trust of the survey organization.

6. Explaining variations in the contact rate

To better understand variations in response rates, we analyzed the factors that predict contact rates of migrants. Ideally, we would like to analyze both contact rates and refusal rates separately. Because the refusal rate was only 2.97% we only analyze the factors that affected contact rates. We used information from the 1,009 migrants for whom we were able to collect information.

We modelled the likelihood of survey participation based on various migrant's individual, household and community-level factors at the origin. Specifically, our data for this analysis comes from the household registry (ongoing prospective monthly demographic event registration), household survey, and neighborhood history survey.

6.1 Measures

Our outcome of interest, contact, is a dichotomous measure that records whether or not an eligible respondent for the migrant survey was *contacted* (but not necessarily interviewed) within the study period (26 months). As independent variables we include migrant's age in 2008, gender, ethnicity, marital status household size, distance of the household to an urban center and the region of migration destination. Table 3 presents descriptive statistics for all measures.

6.2 Analytical Strategy

We employed a multi-step analytical strategy to explain variation in contact rate. First, we looked at the percentage contacted by predictor categories (reported in Column 1, Table 4). Second, using logistic regression, we estimated a multivariate model of the migrant contact (Columns 2 and 3, Table 4).

7. Results

The results in Table 4 (Column 1) indicate that the contact rates were high for every group investigated, and the differences across groups were relatively small in absolute terms. The largest difference in contact rates was for the destination region variable, where there was a range of 20 percentage points in contact percentages between the lowest and highest contact regions, from a low of 78% for North America/Europe/Australia to 98% for the Persian

Gulf/Middle East/North Africa. The next largest difference in contact was the 10 percentage point difference across ethnic groups—ranging from 86% for Newars to 96% for Terai Janajatis.

Next in Column 2 (Table 4) we present the relative odds of being contacted estimated using the logistic regression. Because odds ratios report a comparison of one group to reference category, they can be very large even when the percentage point differences between the two groups are small. For example, the 4 percentage point difference between the percent contacted for those aged 25–29 (95%) and those aged 13–24 (91%) converts into a relative odds ratio of 1.88.

As show in the Table 4, region of destination is the strongest predictor of respondent contact. The odds ratio of 0.15 for India suggests that migrants in India had 85% lower odds of contact compared to migrants in the Persian Gulf/Middle East/North Africa (reference category). At 0.08, the relative odds of contact are even lower for migrants in North America/Europe/Australia. And for other Asian countries, the relative odds ratios of contact are low, at 0.19, compared to contact for migrants in the Persian Gulf/Middle East/North Africa.

The high rates of contact in the Persian Gulf/Middle East/North Africa are likely associated with the fact that because of funding matters interviews in this region began in 2009 versus in 2011 in the other regions. That is, the period between the identification of the respondents in 2008 and the time for contacting them was only one year for the Persian Gulf/Middle East/North Africa region versus three years for the other regions. In addition, many migrants in the Persian Gulf/Middle East/North Africa region live in group quarters in camps provided by employers. These group quarters likely provide a network of respondents that facilitate the likelihood of contact and access to mobile phones, even if a particular migrant does not own one.

The lower contact with migrants in India might be related to the fact that India has an open border with Nepal and no legal barriers to work in the country. This means that a vast majority of Nepali migrants in India are working in non-formal sectors, as domestic workers, farm laborers, waiters, drivers etc. that do not require a formal address or formal contact information back home. In addition, as non-formal sector workers, these migrants are highly mobile and hard to track.

The low rates of contact for the migrants in North America/Europe/Australia exist despite the fact that many work in formal sectors, have structured daily schedules, and usually have formal contact addresses. However, migrants in these areas generally have exceptionally busy daily schedules, making contact with them more difficult. Additionally, the low contact rates in North America/Europe/Australia could have been at least partially the result of the migrants moving to these countries with their immediate family leaving fewer immediate family members back in Nepal to report their contact details to our interviewers³. Further,

³Note that multi-generational and extended family co-residence is common in Nepal. Thus it is not unusual for an individual, their spouse, and children to move to another country, but still be considered part of their parents' or siblings' (i.e. extended family) household in Nepal.

more migrants to these countries intend to stay permanently, and as we know from the literature, the longer migrants stay at a destination, the less connections they have with people at home.

Of our other independent variables, only marital status produced a substantial and statistically significant effect on contact. The odds ratio of 2.47 for ever-married suggests that being ever-married increases the odds of contact by 147% over those never married. This is likely because married migrants are more likely to have a spouse at the household of origin who give up-to-date contact information.

We also conducted a separate analysis of the factors that affected contact rates for migrants in the Persian Gulf/Middle East/North Africa. Results (not shown) are substantively equivalent to those for an analysis of migrants to other destinations. This pattern of results suggests that while contact rates for migrants in the Persian Gulf/Middle East/North Africa are higher than elsewhere, the factors that predict contact are not substantively different from migrants elsewhere in the world. Because of the smaller number of migrants in other world regions, we are unable to undertake this regionally specific analysis of contact rates for migrants in North America/Europe/Australia, and other Asian countries.

8. Conclusion and Discussion

This paper is motivated by the methodological challenges faced by studies of international migration. The difficulties of obtaining information from migrants about themselves, their origin communities, and their destination experiences produce limitations in studying both migration and a range of other topics. We refined and extended a set of strategies and protocols for collecting data from a representative sample of individuals from one origin area who migrated across international boundaries. We focus on procedures for drawing a representative sample of migrants, interacting with people in the sending communities to obtain up-to-date contact information, incorporating new communication technologies, and using networks in destination areas that would be appropriate for interviewing migrants anywhere in the world.

Our strategies included: 1) building our migration study on an existing panel study of individuals; 2) relying upon subsequent contacts with the migrants' households at the place of origin; 3) utilizing multiple social networks at both origin and destination; 4) employing mixed-method, multi-mode data collection approaches including mobile phone and internet technology; 5) allowing time for an extended field period; 6) exercising flexibility in study procedures; and 7) tailoring interview situations to fit the respondents' backgrounds.

We interviewed 77% within first six months, 86% of the migrants within 12 months and 91% by 26 months. However, the response rate varied by region, with the Persian Gulf/Middle East/North African region having the highest (95%) response rate and North America/Europe/Australia having the lowest (74%). We speculate that this difference in response rate is associated with migrant status. Migrants in the Persian Gulf/Middle East/North Africa, and other East Asian countries are primarily temporary labor migrants and are more likely to live in group quarters and maintain closer links with family than are migrants

in North America/Europe/ Australia. These two characteristics make it easier to contact migrants and require fewer steps.

Additionally, perhaps in part due to the less-than-desirable living conditions, migrant cooperation in India was very high; although contact rates in India were relatively low, once contact was established, a completed interview was likely to follow, resulting in a relatively high response rate. On the other hand, migrants in North America/Europe/Australia are likely to be more diverse, including students and professionals, and have individual living arrangements, which made contact more difficult. In addition, the larger time difference and cost of incoming calls might have contributed to slightly lower cooperation rates. In any case, overall response rates of this kind will permit examination of many questions about migration that have previously been difficult, if not impossible, to address. They also permit overcoming biases due to out-migration in surveys of other topics such as health, marriage, and childbearing.

Even for male individual migrations, a crucial question concerns whether our strategies and protocols could be implemented in a wide variety of origin and destination communities. While our study focused on many destination communities, it was limited to only one origin area in Nepal. There are important historical, cultural, socio-political, and economic differences among origin and destination countries, and challenges faced by migration studies vary by both origin and destination country.

Given that our approach includes a comprehensive list of plausible strategies and that MxFLS had similar success in interviewing Mexican migrants in the US, we expect that the overall strategies and approaches that we designed for studying Nepali migrants will be applicable elsewhere. For example, relying on an existing panel study to provide a representative sample of migrants and gain respondent trust and contact information is a standard survey procedure that should be applicable all over the world. Migrants from many countries around the world often have access to mobile phones. Employing mixed methods data collection and flexibility in study procedures, and tailoring the interview situation to fit the respondents' background should also be applicable regardless of migrants' destination or origin. However, effective surveys in other settings will require adaptation of these general approaches to fit the circumstances of both the sending and receiving communities. Country-specific implementation of interviewing strategies and protocols is an essential element for success of any international migration study. Furthermore, although electronic and social media were not very effective to locate and contact migrants in this study, given the rapid penetration in recent years of email and social media such as Facebook, Twitter and professional networks such as LinkedIn, these contact media and professional networks will likely join the mix of plausible modes of contact for future endeavors of origin-based sampling with destination focused surveying.

The high response rates in our study of Nepali migrants around the world has demonstrated that origin-based sampling with destination focused surveying is possible and within reach of future studies. Other studies that used origin-based sampling with destination focused surveying are crucial for replicating and evaluating success in studying international migrants from other places of origin. In addition, given that response rates are only a partial

indicator of survey success, other indicators, such as item non-response, measurement error, interviewer effects, and sampling errors (Groves and Couper 1998; Groves, Singer, and Corning 2000; Groves and Lyberg 2010), need to be examined in the context of origin-based sampling and destination focused surveying strategies.

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Figure 1.
Response rates of International Migrant Survey by region.

Figure 2.
Response rates by time and interview mode.

Figure 3.
Percent of interviews completed by mode of interview and time of day.

Figure 4.
Percent of interviews completed by mode of interview and day of week.

Figure 5.
Percent of interviews completed by mode of interview and number of contacts.

Table 1.

Distribution of migrants by region and gender.

Region	Number of migrants			
	Male	Female	Total	Percent
Persian Gulf/Middle East/North Africa	515	35	550	55%
India	230	27	257	25%
North America/Europe/Australia	65	27	92	9%
East Asia/other countries	97	13	110	11%
Total	907	102	1009	100%
Total contacted			943	93.5%
Total interviewed (response rate)			915	90.7%
Total refused (refusal rate)			28	2.97%

Table 2.

Distribution of sources of migrants' contact telephone numbers.

Source	Number	Percent
CVFS regular household interview data collection	307	30%
Household revisit	420	42%
Other social networks at the place of origin	29	3%
Other social networks at the place of destination	31	3%
No contact number (both return migrants and non-contacts)	222	22%
Total	1009	100%

Table 3.

Descriptive statistics of measures used in the analysis of variation of contact rates (N=1,009).

Measure	Range	Mean	Std. Dev.
Contact for migrant interview	(0,1)	0.91	0.29
<i>Individual characteristics and experiences</i>			
Age in 2008	(13–67)	31.60	7.96
Cohort1 (age 13–24 years)	(0,1)	0.17	0.37
Cohort2 (age 25–29 years)	(0,1)	0.28	0.45
Cohort3 (age 30–34 years)	(0,1)	0.24	0.43
Cohort4 (age 35–39 years)	(0,1)	0.15	0.36
Cohort5 (age 40 or more years)	(0,1)	0.16	0.37
Gender (female=1)	(0,1)	0.14	0.34
Ethnicity			
Bhramin/Chhetri	(0,1)	0.44	0.50
Dalit	(0,1)	0.12	0.32
Newar	(0,1)	0.06	0.24
Hill Janajati	(0,1)	0.24	0.43
Terai Janajati	(0,1)	0.14	0.34
Ever married	(0,1)	0.86	0.35
<i>Household Characteristics</i>			
Total household size	(2–19)	7.04	3.16
1–5 persons	(0,1)	0.37	0.48
6–10 persons	(0,1)	0.48	0.50
10 or more persons	(0,1)	0.15	0.36
<i>Characteristics of origin community</i>			
Distance to urban centre (miles)	(0.04–17.70)	8.82	3.88
Within 5 miles	(0,1)	0.22	0.41
Within 6–10 miles	(0,1)	0.36	0.48
10 or more miles	(0,1)	0.42	0.49
<i>Destination</i>			
Persian Gulf/Middle East/North Africa	(0,1)	0.55	0.50
India	(0,1)	0.25	0.43
North America/Europe/Australia	(0,1)	0.09	0.29
East Asia/other countries	(0,1)	0.11	0.31

Table 4.

Contact rates by my major predictors of migrant contact.

Measures		<u>Multivariate logit</u>	
	Contact Rate (%)	Odds Ratio	Z-statistics
Age			
Cohort1 (age 13–24 years, ref group)	91	--	--
Cohort2 (age 25–29 years)	95	1.26	0.50
Cohort3 (age 30–34 years)	94	0.74	0.61
Cohort4 (age 35–39 years)	95	0.87	0.23
Cohort5 (age 40 or more years)	89	0.48	1.48
Gender			
Female	88	0.73	0.82
Male	94	--	--
Ethnicity			
Brahmin/Chhetri (ref. group)	93	--	--
Dalit	95	1.16	0.29
Newar	86	0.51	1.52
Hill Janajati	94	0.99	0.02
Terai Janajati	96	1.22	0.39
Marital status			
Ever married	94	2.47 *	2.20
Never married	88		
Household size			
1–5 persons (ref. group)	94	--	--
6–10 persons	94	0.93	0.23
10 or more persons	93	0.83	0.45
Distance to urban centre			
Within 5 miles (ref.group)	92	--	--
Within 6–10 miles	93	1.21	0.52
10 or more miles	95	1.27	0.65
Destination region			
Persian Gulf/Middle East/North Africa (ref.group)	98	--	--
India	89	0.15 **	4.67
North America/Europe/Australia	78	0.08 **	5.75
East Asia/other countries	91	0.19 **	3.42
- 2 Log L		413.628	
(df)		17	
N	1,009	1,009	

Note:

Odds ratios presented.

* $P < .05$,

^{**}
 $P < .01$. All tests are two-tailed.

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