

## Extended Abstract - PAA

### **Migration and Networks: Unpacking the Processes of Migrant Social Capital Diffusion**

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#### **Abstract**

What role do social networks play in migration? More specifically, how do past and potential migrants exchange information and resources through their social networks; and which networks are most important for this transmission of migrant social capital? Do social networks passively facilitate the spread of information and resources, or can migration decisions themselves play a role in restructuring certain types of networks? And finally, what is the role of central actors in this diffusion process? Multi-level, longitudinal data from 22 rural Thai villages are used to address these questions regarding the interplay between social networks and migration, thereby more carefully specifying the effect of mezzo-level structural factors upon individual migration decisions and the consequent macro-level results of the cumulative processes of migration.

## **Extended abstract**

### **Introduction**

What role do social networks play in migration? More specifically, how do past and potential migrants exchange information and resources through their social networks; and which networks are most important for this transmission of migrant social capital? Do social networks passively facilitate the spread of information and resources, or can migration decisions themselves play a role in restructuring certain types of networks? And finally, what is the role of central actors in this diffusion process?

This paper makes use of a compellingly rich longitudinal dataset to address these questions regarding the interplay between social networks and migration, thereby more carefully specifying the effect of mezzo-level structural factors upon individual migration decisions and the consequent macro-level results of the cumulative processes of migration.

### **Motivation**

Numerous studies have affirmed Doug Massey's claim (1990) that the accumulation and transmission of migration experience within a community can lead to a process of 'cumulative causation' whereby migration becomes self-sustaining as migrant social capital is distributed ever more evenly throughout the origin population (Dunlevy 1991; Massey, Goldring, and Durand 1994; Massey and Espinosa 1997). Digging down a level, other recent research has suggested that the nature of community social networks can play an important role in determining how efficiently and evenly this 'migrant social capital' is distributed (Kanaiaupuni 2000; Fussell and Massey 2004; Garip 2008; Garip and Curran 2009). This prior research into the role of social networks in bringing about the conditions of 'cumulative causation,' however, has largely relied upon proxy measures for network density and heterogeneity – assuming network effects rather than observing and measuring them directly.

In this paper, we go a step further toward unpacking with precision the processes of cumulative causation. Rather than rely on proxies and suppositions, we employ direct measures of social networks at various levels of analysis (individual, household, village) and across three panel waves spanning over 15 years. These longitudinal network measures allow us to shed a great deal more light on the central role that social networks play in creating differential outcomes for actors embedded in different contexts, even once the processes of cumulative causation are fully underway.

## Data

In this paper, we make use of an extremely rich survey dataset from the Nang Rong district of Thailand, which was collected in three waves – 1984, 1994, and 2000 – by the University of North Carolina and Mahidol University in Thailand. Propitiously, these data span a period during which Thailand experienced a marked expansion of its manufacturing sector, thereby swelling dramatically the demand in urban centers for migrants from rural regions such as Nang Rong.

Of the 51 original villages from which data was collected in 1984, we make use of a subset of 22 of these villages that have complete follow-up data from the subsequent 1994 and 2000 waves. Each of the three survey waves includes information on individual demographics, household assets, and village characteristics, with census-like coverage for each village. In follow-up waves, all original interview subjects were re-interviewed, along with all new village members. To the extent possible, all village members who had migrated out of the village during the time follow-up interviews were conducted were tracked down and re-interviewed in their migrant destinations. A remarkable 44% of village members were found and re-interviewed in this manner.

These data provide almost unparalleled opportunities to measure the diffusion of migratory behavior, or ‘migrant social capital,’ through community social networks. For one thing, almost every person who has lived in any of the 22 study villages between 1984 and 2000 is included in the dataset, so we do not have to rely upon a random sample for our analysis.

Furthermore, in the 1994 and 2000 survey waves, each respondent was asked to provide a complete, retrospective migration history of everywhere they had lived since 1984. Thus, not only do we have demographic information on almost every member of every village, we also have a nearly complete life history record of everywhere each villager has lived between 1984 and 2000. When these records are collated together, they constitute 138,319 person-years of observations for 8,580 individuals in 1,748 households in 22 villages over a 16 year period.

The final major advantage of these data, of course, lies in the direct measures of network ties that can be used to construct numerous social networks within our study region and at various units of analysis. At the village level, there are measures than can be used to link villages based on geographic factors (e.g. shared roads, bus routes, or proximity), agricultural practices (e.g. shared water sources, crops, markets, or equipment), or other social linkages (e.g. shared temple, health center, or recreational destinations). At the household and individual level, meanwhile, there are likewise abundant ways to construct social networks, based on geography (e.g. shared village or household), kinship (e.g. siblings, spouses, parents, children),

agricultural practices (e.g. help with the harvest, sharing of equipment), or other social linkages (e.g. friends in other households, group co-membership). Although many of these network ties were not measured in the 1984 wave of the survey, each network measure exists in some form in both the 1994 and 2000 waves, thereby allowing for analysis of how each of these networks might change over time.

## Methods

The many strengths of the data allow for a number of fruitful analytical undertakings.

First of all, the variety of direct network measures found in the data allow for the construction of numerous social networks. Once constructed, we can measure the transmission of migrant social capital through each network for every individual by simply totaling the number of trips abroad per alter for each ego in that particular network. Thus, we can generate a score for every individual measuring the amount of migrant social capital they accumulate through each of their networks. These scores can then be included as independent variables in a simple random-effects logit regression model<sup>1</sup> predicting an individual's propensity to migrate in a given year. Thereby we can actually determine which of the social networks included in our model is most influential in determining individual migration behavior. To this end, we are in the process of constructing two social networks – one based on sibling ties between households and the other based on shared agricultural practices between households – in order to judge which of these two plays a larger role in the diffusion of migration experience.<sup>2</sup> For our dependent variable, we use a binary measure of whether or not an individual migrates in a given year. For independent variables, we use the scores for migrant social capital for each network (mentioned above), as well as a number of other intervening and control variables. As intervening variables that can affect an individual's likelihood of migration, we include measures for age, sex, marital status, number of years in school, and wealth measured in land ownership. We also use various macro-economic controls to smooth out the variation in migration from year to year that is driven by factors extraneous to our analytical focus.

The second component of our paper will make use of the longitudinal nature of our data to see if the structure of the shared agricultural practices network

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<sup>1</sup> See Curran et al. 2005 pp. 254-255 for further details on the specification of a similar model that informs our current analysis.

<sup>2</sup> See Entwisle, Faust, and Rindfuss 2007 for evidence that sibling and work share networks – especially in these data – do not map onto each other nearly as neatly as some scholars have postulated they would, given the rural context.

remains constant even as migrant social capital diffuses through it or if, alternatively, the structure of the network itself changes as a result of this process of diffusion. That is, we will use the latest network analytical tools – specifically the longitudinal and dynamic network analysis capabilities of STATNET (see Handcock et al. 2008) – to get at the classic network question of whether selection or influence prevails when it comes to the spreading of migrant social capital through a potentially flexible social network.

Our third and final focus will be to re-run our initial set of random-effects logit regression models with a weighting for centrality, in order to see if an actor's greater centrality in a social network gives them outsized influence in the distribution of migrant social capital. While recent network analytical research indicates that centrality is often of great importance when it comes to the diffusion and adoption of new behavior (see Valente 2012), to date we are unaware of any migration research that formally accounts for the influence of central actors. Essentially there are two ways to go about developing such a centrality weighting. The first method would entail assigning a weight to each individual based on one of the formal measures of network centrality (e.g. betweenness, eigenvector), which are determined according to an actor's position within a network. An alternative method would be to qualitatively identify – based on occupation, age, or some other measure of respect or influence – the potentially most influential members of a particular network and to assign them scores accordingly. For considerations of ease and replicability, we will make use of the former method to assign centrality weights based on objective network position.

## **Conclusion**

The Nang Rong team at the University of Washington has spent several months cleaning, merging, and preparing the deeply rich and stunningly complex data from the UNC Nang Rong survey for the express purpose of conducting in-depth, meaningful, and innovative studies such as the one outlined in this abstract. Results are not yet available, but once we have completed construction of our sibling and work share social networks, we will be ready to run models that combine the latest theories and tools of network analysis with some of the richest data on migration and networks that we have at our disposal today.

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