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Explaining Urban Migration from Mexico City to the USA: Social Networks and Territorial Attachments

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ABSTRACT

Using a representative survey on a municipality in Mexico City, the article explores the relevance of both social networks and place attachments for US migration. By comparing households with and without migrants, the logistic regression models show that social networks make emigration more selective with respect "education", but less selective regarding "sex" and "marital status". These results shed new light on the mechanism through which social networks operate in urban settings. Even if a municipality that is very homogeneous in terms of poverty and employment opportunities, variations on the socio-demographic profile of the would-be emigrants to the USA are found depending on the household's social networks. As for territorial variables, the general impression is one of placelessness, apart from attachment to the municipality, but here again social networks act as an intervening variable.

INTRODUCTION

Emigration from Mexico to the United States has risen spectacularly since the 1980s (Passel, 2004; Zúñiga et al., 2004; Corona and Tuirán, 2008). "Geography" is a cause and consequence of this rising trend in numbers, since international emigration has spread from Western Mexico to the whole country (96.2% of Mexican municipalities have immigrants in the USA, according to 2000 Census data; Zúñiga et al., 2004). This geographical expansion in Mexico has a correspondence in the USA, as Mexican immigration into the States can be found in both the countryside and urban settings alike, with large cities possessing a relevant share of the international out-flows (Marcelli and Cornelius, 2001; Lozano, 2002; Massey, 2008). Not only are migrants more urban, but they have more years of formal education and show a greater tendency to live more permanently in the USA (Cornelius, 1992; Marcelli and Cornelius, 2001), although it has been argued that these trends have been somewhat exaggerated (Durand et al., 2001). Thus more US places are pictured as destinations for Mexico's international flows, resulting in a more diverse geography of origin-destination flows between Mexico and the USA (Zúñiga and Hernández-León, 2005; Díaz McConnell, 2008; Massey, 2008), even if the three "classical" destination states (California, Texas and Illinois) still concentrate half of the Mexican out-flows for the period 2004-09, according to the latest 2009 ENADID data.

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The greater proportion of urban migrants in Mexican international out-flows has also been documented by large national Mexican official surveys (e.g. Marcelli and Cornelius, 2001; Lozano, 2002). As a complement, qualitative research for major Mexican cities has concluded that economic crises have hit the middle classes badly and triggered migration from Mexican cities (e.g. Hernández-León, 1999; Roberts et al., 1999), suggesting that cities are more sensitive to switches in economic cycles than rural areas. However, for others scholars there are no obvious linkages between crises and structural changes, and out-migration in urban settings (as it is in rural Mexico, Hernández-León, 2008).

In this context this article focuses on international migration from Valle de Chalco-Solidaridad, a municipality which is part of the Mexico City Metropolitan Area, using representative survey data. In this way, it fills a gap in the literature, since studies on international migration from urban settings, and particularly Mexico City, are still scarce. The article has two related but separate goals, namely to examine what Mexican migration from Valle de Chalco-Solidaridad reveals about the functions and dynamics of social networks as compared to rural-based networks, and to test whether and to what extent territorial and place attachments affect the likelihood of migration to the USA. Theoretically the article takes into account the social networks' theoretical framework and sheds light from a different angle on a classical theory that has mainly been tested in rural settings in Mexico. Also the article takes an original geographical stance and explores the role of place attachment in understanding out-migration patterns. This perspective has barely been explored in migration studies, and when it has been, the approach has been qualitative.

After the theoretical review, the article introduces Valle de Chalco-Solidaridad which can be seen as an example of contemporary migration out-flows from urban Mexico. Later the article centres on the survey details, the characteristics of the questionnaire, and the variables that are relevant to the analysis. The methodology is especially designed to test the impact of both traditional socio-demographic factors, such as age and education, and territorial variables, as predictors of urban migration to the United States. Thus the results section presents various regression models in which households with migrants are separated from those without migrants.

THEORETICAL BACKGROUND

Social networks and Mexican urban migration to the USA

The bulk of the empirical research on social networks between Mexico and the USA has mainly been constructed from evidence from rural Mexico (and small to medium-sized cities in Mexico). However, a new body of literature on urban migration to the USA that has emerged slowly but decisively since the 1990s has challenged previous theoretical assumptions about the nature of Mexican migration regarding the role of social networks (e.g. Hernández-León, 1999; Roberts et al., 1999; Flores et al., 2004; Fussell and Massey, 2004; Hernández-León, 2008; Mendoza, 2009). This research has suggested that social networks are less dense and more specialized in cities than in the countryside (Hernández-León, 1999; Flores et al., 2004), thus urban migrants and are more likely to be either permanent or temporary in the USA (instead of creating transnational links, as rural migrants are supposed to do; Roberts et al., 1999). Using Mexican Migration Project data, it has been demonstrated empirically that urban dwellers rely on kinship contacts to support US migration yet do not resort to friendship and (non-kin) networks based on the place of residence (Flores et al., 2004). Indeed many of the social networks of Mexican urban migrants in the US have their roots in their rural origins, building up complex routes in which cities are just a step toward international migration (Rivera-Sánchez, 2007; López and Runsten, 2004). Without strong ties, urban settings do not provide the conditions for the expansion of social networks, so preventing the consolidation of self-sustained international flows and cumulative causation (Fussell and Massey, 2004).

This literature indicates that the networks of urban migrants operate differently from those created in Mexico's rural settings. Explaining these differences, some scholars point to the more recent character of urban networks (Flores et al., 2004), the "rural" origins of many urban migrants who eschew the construction of a sense of community in Mexican cities (Massey et al., 1987; López and Runsten, 2004), the lack of trust in self-perceived violent contexts as the main reason for deterring information exchange in large Mexican cities (Mendoza, 2009) and the individual values that are supposedly dominant in urban settings (Roberts et al., 1999; Hernández-León, 2008). These explanations give some of the reasons for urban social networks of migrants being weak and mainly structured along family and household lines.

Little is known, however, about the circumstances and the mechanisms of how social networks play a role in increasing the probability of international migration from urban Mexico. Stemming from the literature, here it is assumed that networks are organized following family and household lines (and not constructed at the community level), so we would expect that households with international ties would behave in a different way from those without these connections. Furthermore, since urban ties are less dense and more specialized than rural networks, one may think that ties and contacts are more likely to be organized around specific lines and subgroups in urban settings (as is the case with industrial blue collar workers in the Monterrey-Houston circuit, Hernández-León, 2008). The weakness of social networks eventually raises the economic costs of migration, and prevents the expansion of migration to less educated groups (Massey et al., 1987; McKenzie and Rapoport, 2007). If this holds true for Valle de Chalco-Solidaridad, we may expect a positive selection in the out-migration flows toward the better educated.

The geographical perspective: Place and sense of place

This article also explores the relevance of sense of place (i.e. experiences, feelings and identity attributed to places by individuals) for migration decisions. The discussion on "sense of place" has been very extensive in Geography since the mid-1970s (e.g. Relph, 1976; Tuan, 1977; Massey, 1994; Rose, 1995). With few exceptions, the analytical potential of this concept has yet to be explored in the study of international migration (e.g. Halfacree and Boyle, 1993; Findlay and Li, 1997; Nagel, 2005). In these cases the approach has been phenomenological and the methodology qualitative. This is partly because senses of place have traditionally been associated with subjectivities and non-positivistic approaches.

Complementing this, the literature from psychology, ecology and environmental management agrees on the dual nature of "sense of place", and distinguishes two main dimensions: place identity and place dependence (Hummon, 1992). This literature generally prefers "place attachment" to "sense of place", even although this is mainly a question of preferences of terms (rather than meaning). Following this line of analysis, this literature understands "place dependence" in the context of the functional uses of places and how well they serve the achievement of people′s goals; whereas "place identity" refers to the emotional and symbolic meanings which are associated with particular settings (e.g., Williams et al., 1992; Jorgensen and Stedman, 2001; Hernández et al., 2007).

Place attachment in quantitative analysis has frequently been understood in residential terms. As an example, Brown et al. (2003), using a hierarchical linear modelling analysis, examined attachment to the home and to the neighbourhood in an area of gradual decline in Salt Lake City. Some results were predictable, such as that place attachment was high for home owners but not for others (e.g. despite longer times of residence, the white non-Hispanic population has fewer territorial attachments). Differently Lewicka (2010) found that the sole predictor of attachment and local identity in Poland was length of residence, no matter the number of moves, number of different places lived in for longer than three months, and the fact of working abroad or not.

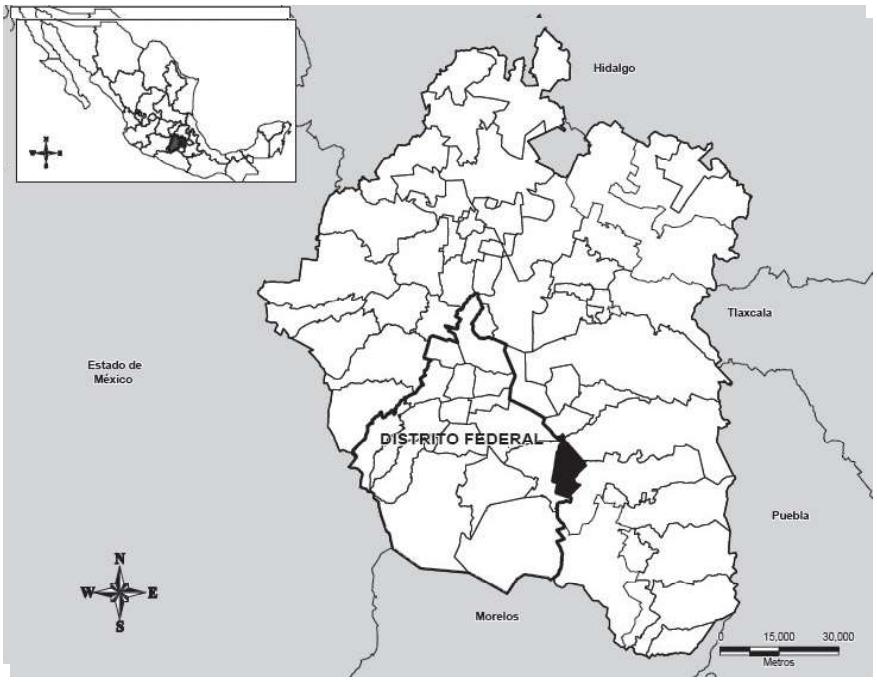
Following this line, the article analyses "place attachments" in Valle de Chalco-Solidaridad, as a way of explaining the likelihood of migration to the United States. The hypothesis that we want to test here is whether those individuals with higher territorial attachments show a lower likelihood of migration to the USA. We also explore the connections between social networks and territorial and place variables. Maybe when social networks are in operation, territorial attachments play a more marginal role in explaining outward-migration to the USA.

VALLE DE CHALCO-SOLIDARIDAD

Valle de Chalco-Solidaridad, on the outskirts of Mexico City (Figure 1), is a fascinating point of observation for the different migration flows in operation in Mexico today. This new municipality (officially created in 1994) has grown as a consequence of internal migration flows; many of them from the Mexico City Metropolitan Area. Valle de Chalco-Solidaridad, along with other urban areas in Mexico, is expelling emigrants to the USA. Thus, a "classical" process of suburbanization and peri-urbanization of Mexico City, with the poor being put aside to isolated peripheries (Aguilar, 2002), co-exists in the municipality with a diminishing process of urban-rural migration and increasing international out-flows to the USA. These processes are not unconnected, with some scholars suggesting that migration to Mexico City is a step preceding international migration for many (Rivera-Sánchez, 2007; López and Runsten, 2004).

Valle de Chalco-Solidaridad is located in the Eastern part of the Mexico City Metropolitan Area, in Estado de México (Figure 1). Its population increased dramatically in the 1980s and 1990s, with its population being 357,645 inhabitants in 2010 (INEGI, 2011). The growth of the municipality is

FIGURE 1
VALLE DE CHALCO-SOLIDARIDAD (BLACK), ESTADO DE MÉXICO, ON MEXICO CITY METROPOLITAN AREA



partly due to the (chaotic) expansion of the Metropolitan Area. A mid-1990s household survey concluded that almost 90 per cent of the residents lived in another municipality within the Mexico City Metropolitan Area before moving into Valle de Chalco-Solidaridad. The reasons for in-migration to Valle de Chalco-Solidaridad were related to the housing market (i.e. previous dwelling was rented or lent) and marginally to family formation (Hiernaux, 1995).

As for labour market dynamics in the municipality, Hiernaux (1999) calculated that a third of the jobs in the periphery of Mexico City are of low qualification, unstable and poorly paid. Without good wages, under short-term contracts, without health or unemployment benefits, the Mexico urban working poor are increasingly isolated (García and De Oliveira, 2001). For the specific case of Valle de Chalco-Solidaridad, Escobar et al. (2006) point out that the lack of working options in the municipality is the reason why many young people see international migration as a real choice, despite the obvious difficulties of crossing the border illegally.

METHODOLOGY

The article is based on the May 2007 Migration, Place and Employment in Valle de Chalco-Solidaridad (Estado de México) (EMLE-VCS in its Spanish acronym). This is a randomized representative survey of 759 households from the municipality of Valle de Chalco-Solidaridad (confidence interval 95 per cent, 2 σ, P = Q = 50, error 3.6 per cent). Using probabilistic techniques, census blocks were randomly chosen from the cartography of the municipality by census tracts (AGEBS in Mexico; INEGI, 2007).

The 2007 EMLE-VCS questionnaire consisted of four parts. The first was a household roster that listed all household members at the time of the survey in May 2007, and basic demographics for each person (e.g. sex, age, marital status, education level and relationship to respondent). A total of 759 households were surveyed, representing information on 3,488 individuals. Part two of the questionnaire specifically focused on US migration. Here information on first and last trips, work in the USA, legal status and return (if this was the case) was collected. Specifically, out of 759 households, 146 had at least one member who had migrated to the USA, representing 19.2 per cent of the total numbers. Calculating on the basis of these 203 individuals with international migration experience, return rates reached 40 per cent. This high return rate concurs with the 2009 ENADID data (30.2% for the whole country and the period 2004-09). Most of the interviewees (70.3%) had only made one trip, mainly in 2000-07 (half of the 203 migrants to the USA who were found in our survey made their first trip in this period).

Part 3 of the questionnaire was specifically addressed to heads of household. Here data on the labour and migration trajectories of the household head and spouse were collected. Finally Part 4 took a geographical stance. Specifically, people were asked to choose between different sentences ranked in conformity with people's attachment to places (i.e. home, municipality of residence, place of origin, USA), and to mention three adjectives (or words or sentences) that define, according to their views, the different places of their migration trajectory. In a latter encoding stage these words were classified into five groups, depending on positive and negative intensities. This scale was found to be significantly consistent with the other territorial variables, with correlations being positive between the open question on opinions and the scales that have been constructed from closed questions.

Variables and models

The article presents different logistic regression models designed to measure probability of emigration to the USA. The question on attachment to the USA. which comes from a closed question is

used as the dependent variable for constructing the models. Thus the dependent variable is constructed as a dichotomy variable from the possible answers. Only those who chose the phrase "If I could, I would live in the USA" were considered to be would-be USA migrants (1). The other place attachments (neutral –"I would like to visit the USA, but I wouldn't live in the country" and negative –"I am not interested in the USA") were classified as non potential emigrants (0). Only 10.7 per cent of all the interviewees said that they would migrate to the USA, if the possibility came up (Table 1).

A key explanatory variable of the models is the household migration experience. This may help understand the way that social networks operate, in the sense that we compare patterns of migration behaviour depending on the fact of having (or not) social networks in the household. Here we differentiate two types of households as regards migration: (i) those with any sort of migrants (i.e. any member of the household who is now in the USA, or has been in the past), and (ii) households with return migrants. Out of 759 households, 19.2 per cent had or had had a person who had participated in a migration stream to the USA, and 11.7 per cent had return migrants (Table 1).

With the dependent variable being the probability of migration to the USA, and the household US experience used as a grouping variable, the independent variables were classified into two groups: (i) socio-demographic characteristics of the interviewed person; and (ii) territorial and place variables. Following a classical approach in migration studies, we suppose that migration differs according to age, education and marital status. Because the survey was not specifically addressed to household heads, women outnumber men in the final survey numbers. As for education, only 11.2 per cent had university studies, whereas the percentage of those who had not finished primary school amounted to 19.1 per cent. Even if there is a slightly tendency for households with migrants to have less university graduates than those without migrants, this is compensated by higher levels of secondary school graduates among the former group. Married people dominate the survey, comprising more than half of all four groups. This is consistent with the average age of the survey, which is about 39-40 years in all cases. Single people constituted about 16-17 per cent, with no substantial differences per group (Table 1).

As for the territorial variables, the breakdown of frequencies by households' experience of the USA displays different views between the groups regarding attachment to Valle de Chalco-Solidaridad. More negative feelings towards the municipality are observed amongst those in the household who have migration experience. The opposite is found with respect to the USA. Those interviewees who live in households without any US experience have mainly neutral opinions on the States, with only 8.1 per cent saying that they would emigrate, if they could. This number rises to 28.9 per cent for people who have direct migration experience (or indirect, through any member of the household). As for return migrants, these figures are very similar: 28.6 per cent of those in households with return migrants would eventually decide to live in the USA (compared with a mere 8.4 per cent for those in households without return migrants). In short, migration seems to have an impact on how people feel about places. Finally the survey is balanced regarding place of birth, with 56 per cent of the interviewees being born in the Mexico City Metropolitan Area (Table 1).

EXPLAINING MIGRATION FROM MEXICO CITY TO THE USA

The different models for estimating probabilities of migration to the USA allow us to identify differences in migration behaviour depending on household US experience. Following a classical approach in migration studies, some models only contemplate socio-demographic characteristics (plus the fact of having US migration experience in the household) as independent variables. For others we introduce the territorial and place variables. This method of model construction implies two assumptions that need to be tested. First, in separating models according to the household expe-

TABLE 1

PROFILE OF THE INTERVIEWED RESIDENTS OF VALLE DE CHALCO-SOLIDARIDAD, BY TYPE OF HOUSEHOLD

	All Households	Households with migrants	Households without migrants	Households with return migrants	Households without return migrants
N	759	146	613	89	670
Migration					
International migrants in households					
No	80.8				
Yes	19.2				
Return migrants in households					
No	88.3	39.0			
Yes	11.7	61.0			
Socio-demographic variables					
Gender					
Female	65.1	58.2	66.7	56.2	66.3
Male	34.9	41.8	33.3	43.8	33.7
Education					
No education or unfinished primary	19.1	19.2	19.1	18.0	19.3
Primary education	34.9	37.0	34.4	37.1	34.6
Secundary education	34.8	37.0	34.3	36.0	34.6
University and above	11.2	6.8	12.2	9.0	11.5
Marital status					
Single (never married)	15.7	16.6	15.5	16.9	15.6
Married	57.7	56.6	57.9	61.8	57.1
Cohabitation (no married)	16.8	15.9	17.0	13.5	17.2
Widow / Divorced	9.9	11.0	9.6	7.9	10.1
Age (years at survey / average)	39.7	39.0	39.9	38.8	39.8
Territorial and place variables					
Place of birth					
Mexico City	56.0	50.7	57.3	51.7	56.6
Elsewhere in Mexico	44.0	49.3	42.7	48.3	43.4
Home attachment					
Weak	33.4	37.5	32.4	36.8	32.9
Neutral	44.9	45.4	44.9	47.1	44.7
Strong	21.7	17.4	22.7	16.1	22.4
Attachment to Valle Chalco					
Weak	43.0	54.3	41.3	55.2	41.4
Neutral	31.6	24.5	32.7	23.0	32.8
Strong	25.4	21.3	26.0	21.8	25.9
Attachment to the place of origin					
Weak	32.7	32.8	32.7	32.5	32.8
Neutral	42.6	45.3	42.0	45.0	42.3
Strong	24.7	21.9	25.3	22.5	25.0
Attachment to the US					
Weak	39.4	34.3	40.1	36.9	39.7
Neutral	49.9	36.7	51.8	34.5	51.9
Strong	10.7	28.9	8.1	28.6	8.4

TABLE 2

LOGISTIC REGRESSION MODELS FOR MIGRATION TO THE U.S., BY TYPE OF HOUSEHOLD (ALL MIGRANTS)

	All households		Households with migrants		Households without migrants	
	Model 1 exp (β) n = 733	Model 2 exp (β) n = 664	Model 3 exp (β) n = 139	Model 4 exp (β) n = 124	Model 5 exp (β) n = 594	Model 6 exp (β) n = 540
Migration						
International migrants in households						
No	ref	ref				
Yes	2.578***	2.713***				
Socio-demographic variables						
Gender						
Males	ref	ref	ref	ref	ref	ref
Females	0.530**	0.600*	1.290	1.086	0.488**	0.485**
Education						
Unfinished primary	ref	ref	ref	ref	ref	ref
Primary education	1.494	1.056	4.514*	3.732	0.792	0.645
Secundary education	1.291	0.993	9.681**	10.445**	0.662	0.460
University and above	1.051	0.679	15.211**	28.533**	0.402	0.207**
Marital status						
Single	ref	ref	ref	ref	ref	ref
Married	0.550*	0.482*	1.560	2.698	0.283**	0.260**
Cohabitation (no married)	0.702	0.631	0.315	0.357	0.674	0.591
Widow / Divorced	0.770	0.697	1.333	1.759	0.565	0.559
Age	0.992	0.992	1.025	1.035	0.976	0.978
Territorial and place variables						
Place of birth						
Mexico City		ref		ref		ref
Elsewhere in Mexico		0.761		0.550		0.874
Home attachment						
Weak identification		ref		ref		ref
Neutral identification		1.269		1.259		1.550
Strong identification		2.063		1.377		2.847*
Attachment to Valle Chalco						
Weak identification		ref		ref		ref
Neutral identification		0.244***		0.435		0.126***
Strong identification		0.334**		0.524		0.212***
Attachment to place of origin						
Weak identification		ref		ref		
Neutral identification		0.962		0.245**		1.315
Strong identification		1.007		1.024		0.900
Constant	0.217**	0.413	0.012***	0.014**	1.005	1.914
n	733	664	139	124	594	54

* < 0.1 ** < 0.05 *** < 0.01.

rience, and following networks theory and accumulative causation assumptions, we may think that emigration from households with emigration experience would have different characteristics from those without emigration. Secondly, controlling by territorial and place variables, the hypothesis that those households in Mexico with higher territorial attachments have lower probabilities of emigration to the USA can be tested.

TABLE 3

LOGISTIC REGRESSION MODELS FOR MIGRATION TO THE U.S., BY TYPE OF HOUSEHOLD (RETURN MIGRANTS)

	All households		Households with return migrants		Households without return migrants	
	Model 7 exp (β) n = 733	Model 8 exp (β) n = 664	Model 9 exp (β) n = 84	Model 10 exp (β) n = 78	Model 11 exp (β) n = 649	Model 12 exp (β) n = 586
Migration						
Return migrants in households						
No	Ref	ref				
Yes	5.004***	4.762***				
Socio-demographic variables						
Sex						
Males	Ref	ref	ref	ref	ref	ref
Females	0.632*	0.597*	1.254	1.159	0.498**	0.489**
Education						
Unfinished primary	Ref	ref	ref	ref	ref	ref
Primary education	1.251	1.144	5.447*	6.738*	0.763	0.603
Secundary education	1.404	1.110	19.272***	60.511***	0.732	0.541
University and above	1.057	0.741	22.292**	172.307***	0.416	0.210**
Marital status						
Single	Ref	ref	ref	ref	ref	ref
Married	0.465*	0.448*	1.757	5.558	0.286***	0.236***
Cohabitation (no married)	0.701	0.619	0.373	0.554	0.620	0.473
Widow / Divorced	0.838	0.764	2.914	6.739	0.492	0.398
Age	0.990	0.995	1.055	1.091*	0.977	0.981
Territorial and place variables						
Place of birth						
Mexico City		ref		ref		ref
Elsewhere in Mexico		0.722		0.398		0.809
Home attachment						
Weak identification		ref		ref		ref
Neutral identification		1.136		0.831		1.428
Strong identification		1.931		1.535		2.728*
Attachment to Valle Chalco						
Weak identification		ref		ref		ref
Neutral identification		0.277***		0.929		0.117***
Strong identification		0.349***		1.440		0.220***
Attachment to place of origin						
Weak identification		ref		ref		
Neutral identification		1.011		0.103**		1.319
Strong identification		1.040		0.844		0.865
Constant	0.216*	0.365	0.004***	0.001**	0.937	1.886
n	733	664	84	78	649	586

* < 0.1 ** < 0.05 *** < 0.01.

Data show that the fact of having US migrants in the household increases the odds of international migration more than twofold (2.578 and 2.713; Table 2). These probabilities are even higher if the household contains return migrants (5.004 and 4.762; Table 3). The differences are minimal,

however, when controlled by territorial and place variables. This is to say that households that have relatives living in destination areas, or members with experience in those areas, are more likely to send migrants than those who do not. In other words, the experience of international migration in the households facilitates further movement to the USA. These results are consistent with the large literature on social networks.

Also in line with the literature, women have a 40 per cent less probability than men of deciding on an international move. However, when observing the odds of female international migration in the models depending on the household migration experience, we observe remarkable differences. Thus gender is not significant for households with migrants, whether they are return migrants or not, whereas in those without migration experience the variable plays the expected role (Tables 2 and 3). For the latter group, the probability of migration for females is almost half that observed for men. The next question to answer is why the variable "sex" is not significant for households with migrants. It seems that having migrants in a household helps overcome the barriers that may be associated with people′s gender. Maybe this is related to the role of social networks for urban migrants, which may operate in ways different to those of rural settings, with urban females having more autonomous social networks in cities, and being less dependent on the more numerous male-dominated networks. So networks as a whole are not significant for explaining migration patterns for females in the case of households with migrants.

Education also shows different indicators, depending on the US household experience. For households with US migrants, education seems to be crucial to understanding urban international out-flows (Tables 2 and 3). With the exception of Model 4 for students with primary education, the models of households with migrants always show that the likelihood of emigration to the USA increases with years of education (up to university studies). Thus the odds of those with primary schooling are 4.51 (Model 3; Table 2), 5.45 (Model 9; Table 3) and 6.74 (Model 10; Table 3) higher than for those with no studies or unfinished primary education. For those with a university education, the probability of emigration is even higher, although we have to take a cautious approach here since the number of those with university diplomas is low in the subsample of households with migrants (eight) and households with return migrants (six). For the households without migrants, education does not generally play a significant role in explaining the probabilities of out-migration.

These data suggest that formal education only has an effect on emigration when social networks are in operation, with more educated migrants minimizing the risks of an (irregular) international crossing. These results are substantially different from those of Mackenzie and Rapoport (2007). Comparing communities with strong and weak networks, they found that the strengthening of social networks lowered the economic costs of emigration, and consequently expanded migration to less educated groups. In contrast, in communities with weak networks, they observed a positive selection toward the better educated, who have a greater probability of making an international move. Our data suggest the opposite.

A third socio-demographic variable which works differently depending on the household international migration experience is "marital status". This variable is not significant in the case of households with migrants. In contrast, the probabilities were significantly lower for married people in households without migrants, with the odds being a quarter of those observed for singles, irrespective of whether or not migrants have returned from the States. This evidence may point to the role of social networks in facilitating migration for all members of household, regardless of their marital status. In the absence of networks, married people think more carefully about making an international move.

The territorial and place variables are only introduced in some models, since we supposed that socio-demographic variables were more relevant for understanding the propensity to migrate to the U.S. This hypothesis proves to be correct because the only territorial variable which is always significant is attachment to the municipality. For households without migrants, this is remarkable since the fact of having strong (or neutral) attachment to Valle de Chalco-Solidaridad reduces the odds of emigration significantly to 65-67 per cent, compared to those who have a weak

identification with the municipality (Model 2, Table 2; Model 8; Table 3). It is striking that for those households with migrants this territorial variable has no statistical significance. The question is whether a strong attachment to the municipality decreases the probability of migration because attachment constrains migration, or because social networks (in households with migrants) render the role of attachment insignificant.

In any case, territorial attachments seem to be quite marginal in all other places. Thus, the fact of having born in Mexico City (or elsewhere in the country) has no impact on the odds for US migration. Explanations for this may be related to the fact that Valle de Chalco-Solidaridad is a recently-created municipality with high rates of in-migration. More intriguing is the probability of emigration to the USA observed for those with strong home attachment in households without migrants -twice that of those with weak home attachment (Tables 2 and 3). Home attachment, if significant, would be expected to operate in the opposite direction. One possible explanation is that "home attachment" relates to the physical dimensions of housing, and not to the emotional aspects of "home" (see also Lindón, 2005). From this perspective, those households without migrants may have the perception that migration helps improve the house (with "home attachment" – perhaps home improving- and "US migration" being hand in hand).

CONCLUSIONS

Literature on Mexico-USA migration has a long history, but it has mainly focused on Mexican rural areas (and/or small and medium-sized cities). By examining a survey of Valle de Chalco-Solidaridad, a municipality on the periphery of Mexico City, this article provides fresh information on urban migration to the USA and the role of social networks in urban settings. The article critically reviews previous theoretical assumptions about the nature of Mexican migration with regard to the role of social networks in organizing migration flows that were largely based on rural-origin datasets and case studies. Furthermore the household survey responds to the methodological challenges of conducting outward-migration research in large Mexican cities that few scholars have chosen to confront thus far. Finally the inclusion of a geographical approach that examines the role of sense of place is a relevant and original contribution, especially considering that, despite the interdisciplinary nature of migration studies, such an approach has rarely been used.

As a first conclusion of the research, it is somewhat unexpected that the survey respondents have no positive opinions or feeling toward any of the places that constitute their migration trajectory. Surprisingly enough, interviewees have a very low opinion of the USA, which suggests that international migrants from urban cities are not lured by positive images, but by other (economic) factors. Nevertheless the migration experience remarkably increases positive views on the USA, with individuals in households with international emigration experience having four times more favourable opinions on the States than those without emigration. This may encourage further emigration. Furthermore, these data challenge previous evidence on the inapplicability of the cumulative causation theory to urban-origin Mexican migration (Fussell and Massey, 2004), even if cumulative causation seems to occur within the limits of the household and the family, and does not expand to the municipality.

Accordingly the role of social networks seems to operate in contrasting ways, depending on the migration experience of the household. Sex, marital status and education play different roles in the models of households with or without migrants (regardless of whether they returned or are still in the USA). Therefore the role of social networks is so strong that it renders insignificant the effects of gender on international migration perspectives. This may be explained by the way in which gendered networks are created (and consolidated) in urban settings, with female networking being more specialized through gendered lines. This fits in with previous research which concludes that

urban-origin networks are more specialized than rural ones, although evidence on specialized gendered urban networks is rare in the literature. Our household survey adds evidence to this phenomenon from original Mexico City data. Similarly, the odds for emigration of married people are only representative for households without migrants. This can also be understood in the theoretical framework of social networks, in the sense that marital status is irrelevant for households with migration experience. That is to say, when social networks are in operation, all the members of the household may be susceptible to making an international migration, irrespective of their marital status.

Showing the opposite pattern, more educated people only show a greater tendency to migrate within the "safety net" of households with international links. So education does not increase the probabilities of migration *per se*, but it is only relevant when social networks are in operation, thereby reducing costs and risks for the better educated. In other words, there is only a positive selection of migrants if the support of social networks already exists. Our results challenge previous research concerning the operation of social networks as a means of explaining the likelihood of emigration among the better educated. We only found a positive selection toward those with more years of formal education, as having a greater probability of making an international move in households with US experience.

These results shed new light on the mechanism through which social networks operate in urban settings. Even in a municipality that is very homogeneous in terms of (high levels of) poverty and (low) employment opportunities, we found variations on the socio-demographic profile of the would-be emigrants to the US depending on the household′s social networks. In other words, not everyone is susceptible to emigration, despite structural adjustments in the economy and a general landscape of relative privation. The picture depicted of the Mexican urban emigrant in our survey is far beyond the images of a poorly educated young male that emerges from the rural area literature. Our data suggests that urban females may organize their own autonomous social networks, that the more highly educated in cities value their future in Mexico (and only try the adventure further north when they have the support of social networks), and that marital status is irrelevant for those with international ties and connections.

As for territorial attachments, the survey shows a general picture of "placelessness", with practically all the territorial and place variables playing no significant role in the models. This reflects the settlement history of the municipality of our study which may be the case for many low-income suburbs in Mexican cities. Urban sprawl, lack of services, and precarious jobs are all reasons for low territorial attachment and emigration. It is remarkable; however, that strong attachment to Valle de Chalco-Solidaridad reduces the odds of emigration significantly, although this is not the case for models that are exclusive to households with migrants. The crucial issue is whether a strong attachment to the municipality decreases the probability of migration because attachment constrains migration, or because social networks in households with migrants diminish the role of attachment. This question though is beyond the objective of this article, but it can be seen as a testable hypothesis for further research.

REFERENCES

Aguilar, A. G.
2002 "Las mega-ciudades y las periferias expandidas: Ampliando el concepto en Ciudad de México", *EURE. Revista Latinoamericana de Estudios Urbano Regionales*, 28(85): 121–149.

Brown, B., D.D. Perkins, and G. Brown
2003 "Place attachment in a revitalizing neighborhood: individual and block levels of analysis", *Journal of Environmental Psychology*, (23): 259–271.

Cornelius, W.
1992 "From soujournes to settlers: The changing profile of Mexican immigration to the United States", in J. Bustamante, C.W. Reynolds and R. Hinojosa (Eds), *US-Mexico Relations: Labor Market Interdependence*, Stanford University Press, Standford, CA, 155–195.
Corona, R., and R. Tuirán
2008 "Magnitud de la emigración de mexicanos a Estados Unidos después del año 2000", *Papeles de Población*, (57): 9–38.
Díaz McConnell, E.
2008 "The US destinations of contemporary Mexican immigrants", *International Migration Review*, 42 (4): 767–803.
Durand, J., D.S. Massey, and R. Zenteno
2001 "Mexican immigration to the United States. Continuties and changes", *Latin American Research Review*, 36(1): 107–127.
Escobar, A., et al.
2006 "Migration and development: Mexico and Turkey", *International Migration Review*, 40(3): 707–718.
Findlay, A.M., and F.L.N. Li
1997 "An auto-biographical approach to understanding migration: the case of Hong Kong emigrants", *Area*, 29(1): 34–44.
Flores, N.Y., R. Hernández-León, and D.S. Massey
2004 "Social capital and emigration from rural and urban communities", in J. Durand and D.S. Massey (Eds), *Crossing the Border: Research from the Mexican Migration Project*, Russell Sage, New York, 184–200.
Fussell, E., and D.S. Massey
2004 "The limits to cumulative causation: International migration from Mexican urban areas", *Demography*, 41(1): 151–171.
García, B., and O. De Oliveira
2001 "Heterogeneidad laboral y calidad de los empleos en las principales áreas urbanas de México", *Revista Latinoamericana de Estudios del Trabajo*, 7(14): 145–164.
Halfacree, K.H., and P. Boyle
1993 "The challenge facing migration research: the case for a biographical approach", *Progress in Human Geography*, 17(3): 333–358.
Hernández-León, R.
2008 *Metropolitan Migrants: The Migration of Urban Mexicans to the United States*, University of California Press, Berkeley.
1999 "¡A la Aventura!: Jóvenes, pandillas y migración en la conexión Monterrey-Houston", in G. Mummert (Ed), *Fronteras Fragmentadas,* El Colegio de Michoacán, Zamora, Michoacán, 115–143.
Hernández, B., M. C. Hidalgo, M. E. Salazar-Laplace, et al.
2007 "Place attachment and place identity in natives and non-natives", *Journal of Environmental Psychology*, (27): 310–319.
Hiernaux, D.
1995 *Nueva Periferia, Vieja Metrópoli: El Valle de Chalco, Ciudad de México*, Universidad Autónoma Metropolitana-Xochimilco, Mexico City.
1999 "Los frutos amargos de la globalización: Expansión y reestructuración metropolitana de la ciudad de México", *EURE. Revista Latinoamericana de Estudios Urbano Regionales*, 25(76): 57–78.
Hummon, D.M.
1992 "Community attachment: local sentiment and sense of place", in I. Altman and S. Low (Eds), *Place Attachment*, Plenum, New York, 253–278.
INEGI
2011 *Censo de Población y Vivienda 2010*, Instituto Nacional de Estadística y Geografía, Mexico City, http://www.inegi.gob.mx.
2007 *Cartografía Geoestadística Urbana: Municipio de Valle de Chalco-Solidaridad*, Instituto Nacional de Estadística y Geografía, Mexico City.
Jorgensen, B.S., and S. Stedman
2001 "Sense of place as an attitude: lakeshore owners′ attitudes toward their properties", *Journal of Environmental Psychology*, (21): 233–248.

Lewicka, M.
2010 "On the varieties of people′s relationships with places: Hummon′s tipology revisited", *Environment and Behavior OnlineFirst*, published on September 8, as doi: 10.1177/001391651036491
Lindón, A.
2005 "El mito de la casa propia y las formas de habitar", *Scripta Nova. Revista Electrónica de Geografía y Ciencias Sociales*, 194(20), http://www.ub.es/geocrit/sn/sn-194-20.htm (accessed 29 October 2012)
López, F. H., and D. Runsten
2004 "El trabajo de los mixtecos y los zapotecos en California: Experiencia rural y urbana", in J. Fox and G. Rivera-Salgado (Eds), *Indígenas Mexicanos Migrantes en los Estados Unidos*, Cámara de Diputados LIX Legislatura, University of California at Santa Cruz, Universidad Autónoma de Zacatecas and Miguel Ángel Porrúa, Mexico City, 277–309.
Lozano, F.
2002 "Migrantes de las ciudades: Nuevos modelos de la migración mexicana a Estados Unidos", in B García (Ed.), *Población y Sociedad al Inicio del Siglo XXI*, El Colegio de México, Mexico City, 241–259.
Marcelli, E.A., and W. Cornelius
2001 "The changing profile of Mexican migrants to the United States. New evidence from California and Mexico", *Latin American Research Review*, 36(3): 105–131.
Massey, D.
1994 "A global sense of place", in D. Massey (Ed.), *Space, Place and Gender*, Polity Press, 146–156.
Massey, D.S. (Ed.)
2008 *New Faces in New Places: The Changing Geography of American Immigration*, Russell Sage Foundation, New York.
Massey, D.S., R. Alarcón, J. Durand, et al.
1987 *Return to Aztlan: The Social Process of International Migration from Western Mexico*, University of California Press, Berkeley, CA.
McKenzie, D., and H. Rapoport
2007 "Self-selection patterns in Mexico-US migration: The role of migration networks", *World Bank Policy Research Working Paper*, 4118.
Mendoza, C.
2009 "La emergencia de la migración internacional en la periferia empobrecida de la ciudad de México: Valle de Chalco-Solidaridad, Estado de México", *Migraciones Internacionales*, 5(2): 5–37.
Nagel, C.
2005 "Skilled migration in global cities from 'Other' perspectives: British Arabs, identity politics, and local embededdness", *Geoforum*, 36(2): 197–210.
Passel, J.
2004 *Mexican Immigration to the US: The Latest Estimates*, Migration Policy Institute, Washington DC, http://www.migrationinformation.org (accessed 29 October 2012).
Relph, E.
1976 *Place and Placelessness*, Pion, London.
Rivera-Sánchez, L.
2007 "La formación y dinámica del circuito migratorio Mixteca-Nueva York-Mixteca. Los trayectos internos e internacionales", *Norteamérica*, 2(1): 171–203.
Roberts, B. R., R. Frank, and F. Lozano
1999 "Transnational Migrants Communities and Mexican Migration to the US", *Ethnic and Racial Studies*, 22(2): 238–266.
Rose, G.
1995 "Geography and gender, cartographies and corporealities", *Progress in Human Geography*, 19(4): 544–548.
Tuan, Y-F.
1977 *Space and Place: The Perspectives of Experience*, University of Minnesota Press, Minneapolis.
Williams, D.R., M.E. Patterson, J.W. Roggenbuck, et al.
1992 "Beyond the commodity metaphor: examining emotional and symbolic attachment to place", *Leisure Sciences*, (14): 29–46.

Zúñiga, E., P. Leite, and A.R. Nava
2004 *La Nueva Era de las Migraciones: Características de la Migración Internacional en México*, Consejo Nacional de Población, Mexico City, http://www.conapo.gob.mx/publicaciones/nuevaera/era.htm (accessed 29 October 2012).
Zúñiga, V., and R. Hernández-León
2005 *New Destinations: Mexican Immigration in the United States*, Russell Sage Foundation, New York.