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Mexican women and migration: the effects of education and family status

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MEXICAN WOMEN AND MIGRATION:
THE EFFECTS OF EDUCATION AND FAMILY STATUS

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DEDICATION

This thesis is dedicated to the people I most admire and aspire to live and love like, my

role models and parents, Joyce and Jorge Aravena. Everyday I find a reason to

appreciate being your daughter all over again.

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ABSTRACT

Much existing research on migration of Mexican women has focused on those who migrate to the United States. However, most Mexican female migrants move within the country. This study asks two interrelated questions: (1) Does education, marital status, and the number of children influence Mexican women's migration status and (2) are there any differences in the way these factors affect internal versus international migration. Data from the Mexican Migration Project (2001) collected during the winter months of 1987-1997 (N=7610) are employed and three models are constructed, where non-migrants serve as the reference category. These models are also used to examine differential effects of these determinants for internal and international migrants. I find that higher educational attainment consistently increases the likelihood of internal migration. Among migrants, having some college education is a strong predictor of internal migration. In addition, being single increases the likelihood of being a migrant. I also find that larger family size decreases the odds of being an international migrant, but it has no such effect on internal migration. I conclude that beneficial returns to increasing educational attainment for women encourage their migration within Mexico, regardless of the number of children. Moreover, the temporary nature of international migration and the pattern of migrating prior to marriage (thus, usually prior to having children) contribute to the different effects of education and number of children on internal and international.

INTRODUCTION

Since the mid-nineteenth century, the United States has fostered a peculiar

migration relationship with Mexico, sometimes encouraging and other times discouraging

the flow of Mexican immigrants into the United States. Prior to 1965, the majority of

immigrants were European in origin. After this time, the majority of legal immigrants to

the United States have been from Central and South America, with Mexican immigrants

comprising the largest share. For example, in 1995, Mexico sent 18 percent of all legal

immigrants to the United States (U.S. INS 1996).

For over a decade, there has been growing support for the existence of a new

pattern of Mexico-U.S. migration in which moves become part of a chain of labor

movements that increasingly link cities in Mexico and the United States (Lozano-Ascencio

et al. 1997; Bean et al. 1990). This chain of movements is proposed as an alternative to

what other scholars claim is a basic continuity in the pattern of Mexican migration to the

United States (Durand et al. 2001). What is not contested, however, is the fact that since

1965, the presence of women among migrants to the United States has remained constant

or increased slightly (Donato and Kanaiaupuni 2001; Zlotnik 1995).

Within Mexico, patterns of migration have varied considerably. In the 1960's,

internal migration was almost exclusively rural to urban and exhibited diverse regional

origins and destinations (Lozano-Ascencio 1997). Currently, some scholars argue that

there is a pattern towards migration between urban labor markets, with a distinctive south

to north direction (Marcelli and Cornelius 2001). In contrast to Mexican migration to the

United States, women in internal Mexican migration streams have consistently

outnumbered males (De la Paz Lopez et al. 1993; Todaro 1976).

Earlier migration research often ignored the presence of women or simply dismissed them as associational migrants who were following their husbands. Recent studies have made great strides towards correcting this misconception (Cerrutti and Massey 2001; Donato and Kanaiaupuni 2001; Kanaiaupuni 2000; Donato 1993; Pedraza 1991). Yet, there are still many issues related to the role of women in migration that remain underanalyzed.

For example, despite the acknowledged presence of women in both Mexico – U.S. migration streams and internal Mexican migration streams, few studies have compared determinants of migration among women in different migration patterns. This study seeks to address this issue by examining the effects of three independent variables, educational attainment, marital status, and number of children as well as several control variables on the dependent variable, Mexican women's migration status.

As a first step of this study, the relevant literature is reviewed. Next, a conceptual framework and hypotheses for the study are provided. After a section with information on the data, methods, and analytic strategy, the findings from the analyses are discussed. The study closes with a summary and concluding remarks. In sum, in this thesis I will examine the effects of educational attainment and family situation on the likelihood of being an internal and international migrant. Furthermore, I will also test for differences in these effects for internal versus international migration.

REVIEW OF THE LITERATURE

<u>MEXICO – U.S. MIGRATION HISTORY</u>

As a result of U.S. policies like the 1942 Bracero program encouraging temporary labor migration from Mexico, 'Operation Wetback' of the 1950s forcibly repatriating Mexican migrants, and the 1965 amendments to the Immigration and Nationality Act of 1952 removing national origin quotas, the composition of migrant inflow to the United States has changed dramatically. There has been a significant shift away from predominantly European migrants towards Asian and Hispanics – primarily Mexican – recorded during the time period of 1950 to 1980 (US INS 1992; Bean and Fix 1990). Furthermore, after the 1965 amendments, many Mexican women migrated with U.S. visas to reunite with their families (Donato and Kanaiaupuni 2001).

The United States' response to this trend was the Immigration Reform and Control Act of 1986 (IRCA) and the 1990 amendments to IRCA. A noteworthy outcome of the former policy was the legalization of unauthorized immigrants already established in the United States since 1982 and of those who had worked as agricultural laborers for a minimum of 90 days in 1986. This last category consisted almost exclusively of Mexican males granted entrance to the United States under the auspices of the Seasonal Agricultural Worker program (SAW). As a result, over two million Mexicans petitioned for and were granted legal U.S. residency (Durand et al. 2001; Donato et al. 1992; Bean et al. 1990).

The 1990 Amendments were ostensibly designed to continue the family reunification agenda initiated with IRCA by allocating visas to family members of IRCA's newly legalized migrants each year between 1992 and 1994. Limitations for granting the additional 150,000 visas the Amendments allotted, however, specified that 140,000 visas

were for immigrants with special or high occupational skills. The remaining 10,000 visas were for individuals with at least $500,000 to invest in a new business that created at least ten jobs (Weeks 1999).

Legal migration from Mexico during the 1980s reached approximately 3 million persons, with another 800,000 estimated undocumented Mexican arrivals (Durand et al. 2001). Moreover, official U.S. government statistics estimate that 12 million Mexicans entered the United States as temporary visitors during the 1980s (US INS 1992). The vast majority of residents in high out-migration rural communities in Mexico now have relatives based in the United States who provide a continuous flow of information about employment opportunities as well as direct assistance in finding jobs and housing in the United States (Cornelius 1993). In sum, although the aforementioned policies were designed to change the composition of migrant stock and decrease the size of migrant flows into the United States, in actuality they served to perpetuate and expand the flow of legal and undocumented immigrants from Mexico.

Finally, the variability of Mexico – U.S. migration must be considered in this history. The largely temporary nature of current and past Mexico – U.S. migration is extensively documented (Roberts et al. 1999; Massey et al. 1994; see Bean et al. 1987; Ranney and Kossoudji 1983; Jones 1982). This type of system "rests on a structure of economic opportunities in the place of origin that, while insufficient for the full subsistence of a household, can maintain a family provided that one or more members of the household become labor migrants" (Roberts et al. 1999). Some studies have found that an increasing proportion of migrants eventually settle permanently in the United States (Roberts et al. 1999; Lindstrom 1996). Additional evidence suggests that the intention to

settle permanently in the United States and the feminization of the Mexican migration flow are positively related (Marcelli and Cornelius 2001). But other studies dispute these findings, proposing instead that return migration has actually increased, going from 15 per 100 in 1970 – 1974 to 25 per 100 in 1990 – 1994 (Durand et al. 2001).

INTERNAL AND INTERNATIONAL MIGRATION

Given the long history of Mexican migration to United States, it is practical to explore the relationship between Mexico-U.S. migration (international migration) and migration within Mexico (internal migration). Relatively unexplored until recently, the limited existing literature indicates that, historically, "international migration could be viewed as an alternative to internal urban-rural migration" (Lozano-Ascencio et al. 1997). But a consensus has not been reached among scholars on the present relationship of these two streams. Some studies argue, that internal and international migration are two separate processes, while others support the idea that these two migration streams are more closely related than they were in the past.

Evidence supporting the argument for two distinct processes can be found as early as 1885 in the theory of stage or hierarchical migration, first identified by Ravenstein as his second law of migration. In the case of international migration, direct movement from rural areas to international destinations seems to have been the norm. This is especially true when considering the case of migrants from Western and Central Mexico who had developed strong economic and social ties with the agricultural regions of California, Arizona, and Texas (Durand et al. 2001). Internal migrants, however, traditionally move first to provincial centers and then larger cities within Mexico, such as Monterrey. This

last more closely resembles the "current of migration" originally proposed by Ravenstein (Browning 1969).

Further support for this perspective is found in Corona and Chiapeto's (1982) analysis of the relationship between internal and international migration in Mexico. In their study, the authors compare socio-demographic profiles of international migrants with and without internal migration experience. Among their findings, they conclude that the flows of internal and international migrants are composed of different persons. Moreover, they suggest that the existence of two separate streams could indicate unique "push" factors for each type of migration. Stark and Taylor (1991) reach a similar conclusion in their study of the role of absolute income versus relative deprivation incentives for internal and international migration in LDC households: "Contrary to the assumption that all types of migration can be attributed to the same explanatory variables, [their] results suggest that a specific type of migration constitutes a response to a specific configuration of variables" (1177). In a review of determinants of internal and international migration from rural Mexico, García-España (1992) finds that households in which land is owned are more likely to have a family member who migrated to the United States, and internal migration is highest among those who work community-owned land. This last point suggests that the poorest migrants are likely to move internally rather than to international destinations, which is consistent with the general observation that it takes resources to migrate.

On the other hand, some studies argue that a closer relationship exists between internal and international migration. For example, some studies have found that migrants from villages first move to a Mexican city, gain construction-work experience there, and then move to the United States seeking similar work (Cornelius 1992). Others propose that

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the growth of export production in Baja California spawned a flow of internal migration from southern to northern Mexican states. From there, seven years after arriving in Baja California, half the migrants had continued on to the United States (Zabin and Hughes 1995). Although these studies also propose a form of stage migration, it is one where Mexicans are migrating in stages to the United States.

Cornelius (1992) further contends that more people entered the U.S.-bound migration stream as a result of Mexico's economic crisis of the 1980s. In conclusion, he posits that "…rather than simply absorbing internal migrants from the countryside and provincial cities as they have done for many years, Mexico's large urban centers today are serving increasingly as platforms for migration to the United States" (162-3).

A final body of literature relevant to the issue of connectedness centers on the role of the *maquiladora* industry in the border cities, and the border state of Baja California in Mexico. Here too, there is no consensus among scholars. The chief debate among migration researchers centers on whether the presence of this industry has served to deter potential U.S. migration or increase the flow by drawing people closer to the border. For example, Davila and Saenz (1986) concluded that there is no significant relationship between changes in *maquiladora* employment and changes in undocumented migration to the United States. Furthermore, although individuals may be attracted to the border zone in search of work, it has been found that unemployment there encourages some to continue northward (Rivera-Batiz 1986).

In an earlier study, however, Seligson and Williams (1981) reached paradoxical results. They noted that of their sample of the *maquiladora* industry, only 8 percent of the employees came from the interior of Mexico and of those, only 3 percent said they would

consider quitting their jobs and migrate to the United States. These findings have since been questioned in light of the researchers interviewing only current *maquiladora* employees. Thus, their conclusions rely on worker's expressions of future plans rather than actual events (Zabin and Hughes 1995). Interestingly, none of these studies examines the role of female migrants despite findings that they arguably comprise the largest percentage of *maquiladora* workers (Fernandez-Kelley 1983).

In this review of the literature on the connection between internal Mexican and Mexico-U.S. migration, two points are particularly noteworthy. First, no consensus can be reached on the existence of a link between the two based on the scant number of existing studies of the topic. And second, there has been no thorough examination of the role women migrants play in the link between the two streams. If we accept that, at a minimum, there currently exists some level of connection between internal and international migration, then findings from the present study might provide useful insights into the women who take part in these streams.

INTERNAL MIGRATION AND MEXICAN WOMEN

Across most countries, and certainly within Mexico, women account for a major proportion of the conventional rural-urban migration (Singelmann 1993; Morokvasic 1984; Sassen-Koob 1984 & 1982; Todaro 1976). Of the 3.6 million migrants enumerated by the 1990 Mexican census, women outnumbered men by nearly 100,000. Additionally, among lifetime Mexican migrants, women accounted for 52.2 percent of the total (De la Paz Lopez et al. 1993). In light of emerging theory relating internal Mexican migration with migration to the United States, this pattern of relative female dominance in total Mexican migration is of special interest to the present study.

Like their male counterparts, female migrants tend to be selected on the basis of specific characteristics. Nonetheless, the literature on female migration has tended to minimize the relevance of this selectivity. In fact, although there exists a broad range of literature on Mexican women (see García and Oliveira 1993; González de la Rocha 1991; Oliveira 1989), there is relatively little literature exclusively on female migrants in Mexico.

In a notable exception, De la Paz Lopez et al. (1993) contend that, "…in Mexico, most of the studies focusing on migration at the macro-level either disregard its female component altogether or focus only on the age and sex differentials on migration" (133). In their study, these researchers use information gathered by the 1990 Mexican census to explore the distinctive characteristics of female internal migrants and uncover broad patterns in internal female migration streams. In contrast to a relative female dominance in total migration, the authors find that women do not make up a majority among the recent migrants enumerated in the two border states, Baja California and Quintana Roo.

This last finding is of special importance for two reasons. First, it is relevant to the previous discussion on the role the *maquiladora* industry in Baja California might play in the connection between internal and United States migration. If we accept the finding that women are not attracted selectively to this industry then the debate on whether *maquiladoras* help stem or encourage the flow of female migration into the United States is moot. Second, this finding serves to underscore the fact that migration patterns for women are not necessarily generalizable across Mexican states – something that is not always considered in Mexican migration research. A similar conclusion is reached by Greenwood et al. (1981), in their examination of long-term trends in migratory behavior for Mexican men.

Marital Status. One of the characteristics conventionally accepted as closely associated with the propensity to migrate, particularly in the case of women, is marital status. Earlier studies of internal migration consistently found that married men (many accompanied by their families) and single women were most prevalent in Latin American migration patterns (Todaro 1976). Similarly, Thadani and Todaro (1979) provide evidence of a steadily expanding stream of female migration comprised of both the associational migration of wives and the autonomous migration of unattached women.

However, later research on Mexican internal migration does provide support for the view that female migration reflects family or household migration. It has been found that women who migrate, "…just as their male counterparts, are more likely to be married or in a consensual union than are non-migrants and are less likely to be single, separated, widowed, or divorced" (De la Paz Lopez et al. 1993:150). But whether this trend reflects the strong patriarchal traditions and gender role constraints on women's mobility in Mexico, as some researchers propose (Thadani and Todaro 1979), or women's lack of access to resources and exclusion from migration networks, as others propose (Kanaiaupuni 2000), has not been determined.

Educational Attainment. Another characteristic commonly considered in migration studies is educational attainment. Migrants usually constitute a selected group in terms of education (De la Paz Lopez et al. 1993; Todaro 1976). Women's (as well as men's) overall educational attainment in Mexico has risen steadily over the last fifty years. For example, García and Oliveira (1993) found that, in 1976, one in every two Mexican women did not have a sixth-grade education. By 1987, that ratio had fallen to one in three. What is more, younger cohorts exhibited higher levels of educational attainment than older

cohorts. In 1987, more than twice the women age 20-34 years had completed at least a high school education than their counterparts 35-49 years of age. And, based on 1990 Mexican census data, migrant women, as a whole, are found to have higher educational attainment than that of all non-migrant men. But recent research has noted that caution should be employed when interpreting trends in selectivity with respect to education and other age-dependent variables, because these trends can be confounded by steadily rising educational levels in Mexico (Durand et al. 2001). It is clear, then, that "[t]he role of education in shaping female migration patterns needs to be investigated in more detail, especially in light of the increasing educational attainment of women throughout the developing world" (Hugo 1993:62).

Despite limitations of existing data, it is clear that female internal migration in Mexico has grown both in size and complexity over the past 20 years. It is equally clear that research on the interconnection between Mexican and Mexico-U.S. migration places insufficient attention to the predominance of Mexican women in the internal migration streams. For instance, education is consistently one of the most significant explanations for such things as income contributions by household members in Mexico (Taylor 1987) and economic motivations to move (Hugo 1993). And, when researchers analyze education as a determinant of migration, Mexican women are found to have higher overall educational attainment than non-migrant men and women. Yet little or no research compares education levels of women who have previously migrated within Mexico to education levels of women who have migrated to the United States

Similarly, as a determinant of migration, marital status is acknowledged to positively affect women's propensity to migrate within Mexico if their spouses are

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migrants. Along these lines, some scholars propose that social norms, such as traditional gender roles in patriarchal cultures, can guide Mexican women's behavior in the migration process (Donato and Kanaiaupuni 2001; Kanaiaupuni 2000; Donato 1993). The present extent and influence of marital status is a topic of debate, but the fact that Mexican women are still predominantly associational movers is not. Yet, here too, there is little or no research comparing marital status among women who have previously migrated within Mexico and those who have migrated to the United States.

In short, there has been little consideration of female migration in the debate of a link between internal and international migration. The lack of research on what differences might exist in key determinants of migration, such as education and marital status, between women who migrate internally and internationally merits special attention given the scope of the present study. Furthermore, of the above studies, none consider the potential effect of having children. It seems reasonable to assume that having children might affect a woman's migration decision-making or, if evaluating consequences, that women with previous migration experience might have different a family size than women with no migration history. By focusing on women's educational attainment and family situations (marital status and children in the home), findings from the present study provide useful information that begins to address these issues.

INTERNATIONAL MIGRATION AND MEXICAN WOMEN

We now consider Mexican women's presence in the Mexico-U.S. migration stream. From 1930 – 1980, the United States had "…the perhaps unique experience of admitting more women than men as immigrants" (Zlotnik 1995:234). In her research on the south–to-north migration of women, Zlotnik uses data from 1982 – 1992 and

determines that the relative level of female migration into the United States is influenced by both the regulations establishing who qualifies for immigrant status (see Mexico – U.S. Migration History) and a variety of factors specific to the different areas of origin. She concludes that, in contrast to many European countries, immigration to the United States has been characterized by greater numbers of women than men over most years since 1975. These findings are widely accepted but due to data limitations acknowledged by the author, are not generalizable to all immigration into the United States.

In an earlier study, Tyree and Donato (1986) also found that more women than men emigrated to the United States from most regions of the world, with a few notable exceptions – Mexico among them. The authors attribute this discrepancy to the lower socioeconomic status of women in Mexican society and support this with a comparison of female immigrants from Central and South America and Mexico. Without fail, women from Central and South America exhibited higher status, greater educational attainment, and more affluence than female migrants from Mexico.

Currently, migration from Mexico to the United States is the largest sustained flow of immigrants anywhere in the world. Although less than immigration from other countries, Mexican women constitute a large and increasing share of this predominantly male phenomenon. For instance, Cerrutti and Massey (2001) find that among undocumented migrants, the percentage of females leaving Mexico rose from 11 percent during 1959-1965 to 28 percent in 1990-1995. They further note that Mexicans are selected into U.S. migration by a highly gendered process whereby women become international migrants either through parental influence and migration experience or by following their spouses. This last finding could prove very important to the future of

Mexico-U.S. migration research. If daughters are in fact becomingly increasingly active in international migration streams, that participation could indicate a broader labor market strategy on their part. Perhaps more significantly, it might underscore the increasing entrenchment of Mexico-U.S. migration where patriarchal norms and gender-linked power differences within households are decreasingly constraining female's migration decisions.

Family Situation. Family situation also has varying impacts on male and female migration. Typically, women have been considered associational migrants who migrate as a result of a husband's move. In Mexico, a traditional division of productive and reproductive labor has been theorized to encourage married women and those with young children to remain home while men migrate. Men's migration can be tied to the economic necessities of marriage and children and the needs of a growing family. But women's migration does not increase with family formation. Moreover, "[s]tudies have found that early marriage and childbearing deter, while older children and extended family members enhance, women's mobility" (Kanaiaupuni 2000: 1315).

These findings are not without contradictions. Donato and Kanaiaupuni (2000) found that marriage had a negative effect on migration, whereas Kanaiaupuni (1995) found significantly higher odds of out-migration among cohabiting women. Furthermore, Cerrutti and Massey (2001) suggest that even though the initial motivation for female migration may relate to family rather than labor force considerations, a job may become relevant after the fact. This possibility was put forward earlier by Kanaiaupuni (2000: 1336); "…economic motivations are hidden under the pretext of an associational move, which not only represents the 'proper' reason for migration in many social contexts, but also the mode that most facilitates entry into the United States."

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Classic studies by Arizpe (1981) and others have shown that family structure and marital status generate opposite patterns of migration for men and women. Despite this, few studies on Mexico-U.S. migration have considered the effect of minor children on women's propensity to migrate, choosing instead to focus on marital status as the primary variable in family reunification hypotheses. A notable exception is Kanaiaupuni's (2000) analysis of Mexican women who migrate to the United States. She finds that women generally migrate before marrying. However, having minor children has no significant effect on women's migration across marital status categories, but creates a substantial elevation of risk of first migration among men. She concludes that migration more often signifies family separation than reunification among married couples and that having children did not further reduce the likelihood of migration.

Educational Attainment. As with internal Mexican migration, migration researchers often examine human capital characteristics, most often in the form of educational attainment. For example, George Borjas (1990) has argued that recent cohorts of Mexican immigrants possess comparatively paltry human-capital endowments, particularly educational attainment. Durand et al. (2001) also find that international movement from Mexico has become less selective with respect to education.

Kanaiaupuni (2000) proposes that a gendered reconsideration of such findings is necessary to understand migration patterns. With regard to human capital, she posits that both the extent of the investment and the accrual of benefits are shaped by structural and normative forces. Further, she contends that, with regard to educational attainment in Mexico, male migrants to the United States are negatively selected because internal labor market advantages yield greater rewards to more educated men. On the other hand, more

highly educated than uneducated women self-select for U.S. migration. One possible explanation for this relationship provided by the author is that in patriarchal societies such as Mexico, where women have to overcome traditional norms to work, there is a gap in the returns to education men and women receive. Moreover, evidence suggests that educated women experience greater gender discrimination and few occupational rewards in Mexico. Therefore, they may benefit less than men from migrating internally as opposed to internationally (Kanaiaupuni 2000; De la Paz Lopez 1993).

Unlike Durand et al. (2001) and Borjas (1990), Marcelli and Cornelius (2001) find that migrants have become more selective with respect to education. In San Diego County, for example, they find that the proportion of recent Mexican migrant cohorts with ten years of education has been rising steadily since the mid-1980s. And in rural Mexico, mean years of education among recent migrants to the United States rose from 3.09 in 1976 to 4.75 in 1995. Moreover, migrants to the United States had higher levels of educational attainment than the community mean. Based on these findings, the authors conclude that migrants appear to be more selective in terms of education. This study is innovative in its use of data from both California and Mexico; unfortunately, the researchers do not consider the role of female migrants in their analysis. Given the positive relationship between higher levels of education and women's U.S. migration observed by Kanaiaupuni (2000), findings based only on male migrants provide limited, and at times contradictory, information towards the understanding of current female migration patterns.

Several important points are raised by the preceding studies. First, it is apparent that Mexico-U.S. migration has fewer numbers of women, as well as varying determinants with diverse significance for men and women. Second, although educational attainment

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and marital status are implemented as determinants of migration in most studies of this population, there is little research on the effect of children, minor or otherwise, as a determinant of women's migration status. For instance, if women often migrate internationally as a result of husband's migration, regardless of the number of minor children, we could reasonably expect that the number of children Mexican women have would have relatively little effect on their migration status. However, if prohibitive cultural norms constrain women from having children until marriage and women most often migrate before marriage, then this relationship becomes more complex. Third, as we saw with research on internal migration, little attention has been placed on differences, or, for that matter, similarities, among key determinants of migration between women who migrate within Mexico and those who migrate to the United States. And finally, few if any studies have considered the potential long-term effects on educational attainment and family situations of Mexican women with previous international migration experience who return to Mexico and live there permanently. If we take for granted the existence of constraining social norms that restrict female mobility in Mexico, we should examine the effects of these norms on the marital status of previously single women who have disregarded them. It is possible that women might have inclination or opportunity to marry once settled in Mexico. Although the present study does not propose to answer this last question, its discussion serves to emphasize the limited amount of information researchers have gained regarding Mexican women and their migration experience (for research on women's status and migration experience see Donato and Kanaiaupuni 2000; Lim 1993).

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Conceptual Framework. The field of migration theory is vast and the case of Mexico-U.S. migration especially complex. Research indicates that the "…sheer volume, diversity and long history of Mexican migration to the United States make[s] Mexican migration a highly differentiated phenomenon" (Roberts et al. 1999). As the review of previous studies demonstrates, the exact size and pattern of this phenomenon and its level of interconnectedness with internal Mexican migration are very much contested among migration researchers. Moreover, the role of women as participants in these processes remains vastly unexplored.

Previous research on Mexican women's internal migration was most often the result of male-oriented internal migration studies and sex differentials found in these streams. As a result, we know that females predominate in this flow, but there is limited information on gender-specific determinants and outcomes. For example, there has been little or no consideration of the effect of number of children as a determinant of female internal migration.

Research on Mexican women's international migration is increasingly gender-specific. However, this literature is limited by an almost exclusive focus on women who choose to settle permanently in the United States. For example, results from Kanaiaupuni's (2000) examination of gendered differentials in determinants of Mexican migration indicate that females are positively selected on education for migration to the United States (when compared to men) and that marital status contributes significantly in their decision to move. But this research does not consider differences in these same

determinants between women with previous U.S. migration experience who emigrate permanently and those who return to Mexico.

In an effort to bridge that gap, the present study focuses on two key determinants of Mexican women's migration status: educational attainment and family situation.

Hypotheses. I expect to find a positive association between higher levels of education and migration. Previous research indicates that women who migrate to the United States are positively selected on education. Similarly, women who migrate internally are positively selected on education. Some research suggests that women can expect fewer returns to their education in Mexico and this may, in turn, provide them with a greater impetus to migrate internationally. Moreover, it is proposed that, due in part to the difficulty of overcoming traditional norms to work, women may benefit less than men from migrating internally as opposed to internationally. For these reasons, I propose that higher education will be positively associated with U.S. migration compared to migration within Mexico. This last effect is derived, in large part, from existing research alluding to the prevalence of patriarchal social norms in Mexico (Donato and Kanaiaupuni 2000; Pedraza 1991; Tyree and Donato 1987). Thus, I propose the following hypotheses based on the effects of educational attainment on migration status:

> H1: Higher levels of educational attainment will increase the odds of U.S. migration for women, when compared to non-migrants.
>
> H2: Higher levels of educational attainment will increase the odds of Mexican migration for women, when compared to non-migrants.
>
> H3: Higher levels of education will increase the odds of U.S. migration for women, when compared to Mexican migrants.

Furthermore, I expect that there will be a negative association between being married or in a consensual union and international migration. The majority of women who

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migrate to the United States more often do so prior to marriage. And the majority of

women who *emigrate* to the United States do so to join their husbands. Women captured

by this sample – of persons residing in Mexico – that are found to be U.S. migrants,

therefore, may be predominantly unmarried or, if married, not married to a U.S. migrant.

Moreover, it is possible that the prevalence of patriarchal social norms in Mexico might

lead to negative social repercussions for women who break with gender norms and become

internal migrants. Thus, I further theorize that there will be a similar effect of marital

status on the likelihood of internal migration. For these reasons, I propose the following

set of hypotheses based on the effects of marital status on migration:

> H4: Being married or in a consensual union will decrease the odds of U.S.
> migration for women, when compared to non-migrants.

> H5: Being married or in a consensual union will decrease the odds of Mexican
> migration for women, when compared to non-migrants.

Last, I expect that the number of children in the household will not have a

significant effect on women's migration status. Research has shown that having minor

children in the home does not deter women from migrating to the United States. Although

it is possible that social pressure might curb mothers' migration within Mexico, I theorize

that the prevalence of extended family in the residences in Mexico might serve to

overcome this constraint and enable female mobility. For this reason I do not expect that

having children will have the same negative effect on the odds to migrate as being married

will. Simply put, women are less likely to leave their husbands in the care of extended

family than their children. Given this, I propose the following set of hypotheses based on

the effects of children in the household on migration status:

> H6: The number of children in the household will not affect the odds of internal or
> international migration for women, compared to non-migrants.

H7: The number of children in the household will not affect the odds of international migration for women, compared to internal migrants.

The inclusion of all three independent variables in the final model is the best method of testing their importance in predicting the likelihood to migrate. I have no reason to believe that these variables will behave differently than when their respective effects are not controlled for. In fact, I expect that the effects of educational attainment and marital status will persist when controlling for all other variables. I further expect that even in the presence of control variables will not yield any effect on migration status.

DATA AND METHODS

DATA DESCRIPTION

The source of these data is the Mexican Migration Project (MMP), which is funded by grants from the National Institute of Child Health and Human Development and the William and Flora Hewlett Foundation. My analysis draws on a survey of 34 Mexican communities conducted during the winter months of 1987-1988 through 1995-1996. The communities are located in the Western and Central states of Mexico – *Jalisco, Michoacan, Guanajuato, Nayarit, Zacatecas, Guerrero, San Luis Potosí* and *Colimas* – the traditional heartland for migration to the U.S. (Durand et al. 2001).

A common criticism of these data is the perceived lack of generalizability, given the apparent selection of traditionally migrant sending (to the U.S.) communities in the sample (Escobar and Roberts 1998). However, MMP investigators contend that they sought to include a range of population sizes, ethnic compositions, and economic bases rather than choose communities known to contain U.S. migrants. In fact, the MMP data incorporate a wide range of migration prevalence ratios "ranging from one community where just 9 percent of adults have gone to the U.S. to another where 60 percent have migrated" (Cerrutti and Massey 2001:189). While not representative of all Mexican immigrants, the data nevertheless contain a broad cross-section of households and communities.

Within each community, a simple random sample of 200 households was drawn although in smaller settlements fewer households sometimes were chosen and in a few cases, larger numbers were taken. Sampling frames were constructed by conducting a house-to-house census, usually of the entire town. In large urban areas this was not

possible and specific working-class neighborhoods were selected and sampled instead. As a result, the community samples are representative of dwellings occupied during the winter months of the survey year.

Respondents were interviewed using ethnosurvey methods, designed to both collect information on migration between Mexico and the U.S. and overcome specific problems with official immigration statistics (Massey and Zenteno 2000). The questionnaire gathers information from each person in the household about their first and last trips within Mexico and the U.S. as well as other social and demographic information for all household members. In a comparison of MMP data with those compiled from Mexico's *Encuesta Nacional de la Dinámica Demográfica* (ENADID), Massey and Zenteno (2000) found that the former's sampling errors are small and yield biases that are substantively unimportant while the latter's potential for specification error and selection bias may seriously compromise results. In an earlier study of Mexican survey research, Escobar and Roberts (1998) had similar criticisms regarding ENADID data.

Earlier studies utilizing MMP data have focused primarily on male migrants because the great majority of migrants in the sample are male (Donato et al. 1992; Massey et al. 1990; Massey et al. 1994; Massey and Singer 1995). Later studies have conducted separate analysis for males and females and even focused exclusively on females (Cerrutti and Massey 2001; Donato and Kanaiaupuni 2000; Kanaiaupuni 2000), but with almost no attention to Mexican women whose migration experience is internal, focusing instead on women who migrate internationally. In the present study, I focus exclusively on women, categorizing them according to migration status.

The dependent variable in this study is the migration status of women. Because the MMP survey design presumes male heads of household, the sample is limited to those women listed as heads of household or spouses of head of household as they are the only females for which a complete migration history is gathered. The sample is further restricted to women age thirteen or older (Taylor 1987; Stark and Taylor 1989; 1991), residing in Mexico at the time of survey, and not currently on their last migration.

The argument might be made supporting further definition of the sample by selecting women whose migration experience is exclusively labor-related or completely independent of labor reasons. While this distinction might serve to more clearly define the differences between specific types of incentives to migrate, either labor-related or not, this is not the primary intent of the study. Rather, the intent here is to focus primarily on differences in the effects of key determinants on women's migration status. Results from analyses limited only to labor-migrants, for example, would be far less generalizable.

The dependent variable (N=7610) is divided into three categories (see Table 1): having no migration experience (N=6312), having migrated only within Mexico (N=867), and having migrated only to the U.S. (N=431). This categorization is accomplished using MMP information on destination of first migration, length of stay during first migration, age at first migration, and past U.S. and Mexican migration experience. Following Taylor (1987) and Taylor and Stark (1989 & 1991), only migrations of one month or more at age thirteen or older are considered upon evaluation of migration. Additionally, all previous U.S. and Mexican migratory trips are taken into account, and women are classified as having Mexican migration experience if they have migrated only within Mexico and have

had no previous U.S. migration experience. Likewise, women are classified as having U.S. migration experience if they have migrated only to the U.S. and have had no previous Mexican migration experience. For the sake of clarity and brevity, women with Mexican migration experience will be called "internal migrants" and women with U.S. migration experience will be referred to as "international migrants" in the ensuing analyses. The reference category, or women with no migration experience, will be called "non-migrants."

Of the initial sample (N=7715), 105 cases were excluded due to past experience in both internal and international migration. Although this group merits further attention, there is little existing research that investigates determinants of migration among individuals with both type internal and international migration. The possibility of confounding findings from the present study precluded maintaining this group in the final sample.

INDEPENDENT VARIABLES

The independent variables of the study are educational attainment and family situation – composed of marital status and number of children. The educational structure in Mexico, especially within communities having large numbers of migrants, is such that years of schooling often exhibits clear stages – the completion of primary school or 6 years of education, or the completion of secondary school or 12 years of education. Shifting from one stage to another can result in a vast difference in interpretation. For this reason, I operationalize education by recoding the continuous years of education data into six sets of dummy variables. Categories conventionally used in studies including Mexican educational attainment were created: no formal education, less than 6 years, 6 years, 7 – 11 years, 12 years, and some college (Donato 1993; Kanaiaupuni 2000; Cerrutti and Massey

2001). As a small innovation, I formed separate categories for 7 – 11 years (some high school) and 12 years (completed high school) rather than including all education 7 – 12 years into one category. Justification for this method is found upon review of the distribution within each category (see Table 1). For example, of internal migrants, 14 percent have 7 – 11 years of education while only 6 percent have completed high school. International migrants also have 14 percent with 7 – 11 years but only 3 percent with completed high school education. By operationalizing education in this manner, I am less likely to lose information on variation between the groups typically found in these populations. Having no formal education is the reference group in all analyses.

As noted in the preceding review of the literature, there has been little attention placed on the effect of family situation on migration apart from the consideration of marital status. In the present study, (following Kanaiaupuni [2000]), family situation is comprised of two variables, a measure of marital status and a measure of the number of children residing in the household.

Marital status is operationalized as a set of dummy variables: married or in a consensual union, never married, widowed, and divorced or separated. The combination of married and consensual union into one category is supported by research finding that consensual unions are a historical and cultural trait of Mexican society, and that the legalization of consensual unions over the course of a couple's life is typical (Garcia and Oliveira 1993; Oliveira 2000). Additionally, the combination of divorced and separated women into one category is supported by the same research where it is also found that the proportion of divorced and separated individuals in Mexico has risen notably among

women during the period 1960 – 1990. Being married or in a consensual union is the reference category in all analyses.

Due to the survey design it is impossible to ascertain the number of children actually born to the woman in the sample residing in the household. A proxy that counts the total number of children residing in the household is used instead. This is at least adequate, if not more accurate a measure according to studies citing kinship links in households and communities. In these cases, women are found to rely on a reciprocal relationship with others in the their network for essential material and moral support, including the sharing, borrowing, and lending of children (Kanaiaupuni 1998; Aymer 1997). Further support for this proxy can be found in Taylor's (1987) study where he determined that it is not uncommon for other members of the household head's extended family, including grandchildren and daughters-in-law, to reside in the household. The number of children residing in the household is also operationalized as a set of dummy variables, with categories: no children, 1 – 4 children, 5 – 8 children, and 9 or more children in the household. Although the range of children in the household ranged from none to 19, having more than 9 children in the household was uncommon in comparison to the other categories. Having no children in the household is the reference category in all analyses.

It is most likely that factors such as the presence of a migrant in the household or the age at time of survey will increase the odds of a woman being an internal or international migrant. It is my expectation that by including variables measuring both individual and household characteristics that I can control some of this effect.

CONTROL VARIABLES

      <u>Individual Characteristics</u>. There are two variables measuring individual characteristics that function as a set of controls: age of woman at time survey and the migration experience of family members in the household, specifically husbands, sons, and daughters. Age is straightforward and calculated as the respondent's age in years at time of survey. Given the sample specification of women age thirteen and older, the age range of the entire sample was 14 to 98 years of age. A preliminary review of the distribution of age indicated the presence of outliers, so ages 14 to 17 were included in with 18 year-olds and ages 86 to 98 were incorporated with the 85 year-olds. While age at time of survey is not expected to predict migration status, it is included as a control variable because recent studies have found that younger women are becoming increasingly mobile. Despite older women having more time and opportunity to migrate, it seems that younger age is an increasingly significant determinant of international migration (Cerrutti and Massey 2001). Age is operationalized as a continuous variable in all analyses.

      The second measure of individual characteristics is migration experience of family members in the household. Researchers have repeatedly established the existence of migration networks and their effects on individual risk to migrate (Durand et al. 2001; Kanaiaupuni 2000; Escobar and Roberts 1998; Lindstrom 1996; Donato et al. 1992). This phenomenon is often considered in a cumulative causation model of migration where each act of migration, regardless of consequences, makes future migratory movement more likely, for both the individual migrant and surrounding family members (Marcelli and Cornelius 2001). Given these findings, it is to be expected that family member's migration, and in particular partner's migration, is strongly associated with women's

migration. For this reason, I include measures controlling for the migration status of

women's partners (typically heads of households) and their sons and daughters. Detailed

migration histories for other relatives such as parents, aunts and uncles is limited only to

the heads of household's families (predominately males) and is therefore excluded from

this study. Six dummy variables are constructed, two for each of the male partners', sons',

and daughters' possible migration status – either internal, or international. The variables

are coded "1" if migration has occurred and "0" otherwise. The possibility that internal

and international migration might be correlated was tested and I found that the correlation

was not high enough (all $r < 0.182$) to warrant using only one general migration variable

per family member. In all analyses, migration experience of family members is

operationalized as series of dummy variables where the reference category is "0" or no

migration[1].

Household Characteristics. There are two variables measuring household

characteristics that function as a set of controls: household socioeconomic status (SES) and

the number of adult members residing in the household.

A measure controlling for household SES is necessary because we know that it

often takes a certain amount of resources to migrate (García-España 1992). In light of this,

it is probable that households with greater SES might be better equipped to endure the

absence of a breadwinner or caretaker while he or she migrates. Ideally such a measure

would include either individual or total household income information. However, we also

know that data on income are often unreliable and the nature of migration data in

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[1] Analyses were conducted on the entire sample rather than composing different sample for married and
unmarried women, therefore, women who did not have a partner received a "0" for husband's migration
status. Similarly, if the respondent (or her partner/head of household) had no sons or daughters, the variables
for sons migration and daughters migration were coded "0" as well.

particular, especially in the case of migration between Mexico and the U.S. makes accurate and consistent financial information especially difficult to obtain (De la Paz Lopez et al. 1993). For example, in their study on the total flow of dollars back into Mexico, Massey and Parrado (1994) review previous estimates of remittances and savings and then calculate their own figure resulting in a number that loosely resembles some earlier estimates. Yet upon comparison to Lozano Ascencio's (1993) figures, their estimation of the money remitted appears severely underestimated.

For this reason, migration researchers often compute a proxy for income that measures household SES based on a sum of the existence of certain assets. Following Donato and Kanaiaupuni (1998) and Kanaiaupuni (2000), I construct a continuous household SES measure based on the sum of five assets for each woman in the sample's household. They are: ownership of residence, ownership of business, ownership of agricultural land totaling 5 hectares or more, ownership of a vehicle and the presence of a telephone in the residence. A separate SES measure not including the presence of a telephone was also constructed but upon review of the descriptive statistics of all variables, I found that owning a telephone was a significant indicator for households in which women had U.S. migration experience. Thus, the continuous household SES measure in all analyses includes the presence of a telephone and ranges from $0 - 5$ assets.

The number of adult members residing in the household is included to control for the effect of household size on migration status. As previously noted, it is common in Mexican communities that extended families live in one household (Taylor 1987). It is possible that having more adults in the home might increase a woman's mobility by giving her the option of leaving children, should she have any, with extended family members.

Conversely, it is also possible that a larger household size might create greater demands on women and, in turn, restrict their mobility. MMP data include a measure for number of members in the household. The number of adult members in the household is operationalized by subtracting the total number of children from the number of members in the household. The resulting variable ranges from 1 to 18 adults. In all analyses, the number of adults residing in the household is operationalized as a continuous measure.

ANALYTIC STRATEGY

In the descriptive section of the study (Table 1) I discuss the variation in educational attainment and family situations among all three categories of the dependent variable: non-migrants, Mexican migrants (or internal migrants), and U.S. migrants (or international migrants). Additional noteworthy differences, both statistical and theoretical, between the distributions in the control variables are highlighted.

I then proceed with multinomial logistic regression analysis to test the three groups of hypotheses (Tables 2 and 3). I also test a third model where key independent variables of all hypotheses are included simultaneously (Table 4). In all three models, the effects of the independent variables are estimated first without and then with, the control variables. Women with no previous migration experience are the reference category in all three models.

Last, following Cerruti and Massey (2001), I use binary logistic regression to test for significant differences between the effects of the key independent variables on internal migration compared to international migration in all three models and note the occurrence of such significance in each of the respective tables (using [a]). Results from these analyses are not provided in tabular form, however, individual coefficients are provided as

necessary. In these analyses, internal migration is the reference category. For the sake of

clarity, the binary logistic regression model will be referred to as the "migrant-only" model

in the ensuing analyses.

FINDINGS

<u>SAMPLE DESCRIPTION</u>

Before estimating the regression models, I begin by describing the average characteristics of the sample. Table 1 shows that 11.4 percent of women in the sample (N=7610) have previous Mexican migration experience and 5.7 percent have previous U.S. migration experience, with the overwhelming majority (82.9 percent) having no migration experience. It is not surprising that international migrants make up the smallest category, since research consistently finds that there are more internal migrants than international migrants (Lozano-Ascencio et al. 1997; Zlotnik 1995).

Most non-migrant women have less than 6 years of education (59 percent). Similarly, the majority of international migrants (58 percent) have not completed primary education (58 percent). That proportion is substantially lower (48 percent) for internal migrants. The proportion of women with 7 to 11 years of education is fairly uniform across categories of migration status, averaging 14 percent. But the two highest levels of education display notable differences. About 3 percent of non-migrants have a high school education and another 3 percent have some college education. While international migrants show similar proportions (about 2 percent) in each of these categories, approximately 6 percent of internal migrants have a high school education and more than 13 percent have some college education. This last figure is more than four times greater than the percentages for both non-migrants and international migrants. These results indicate that internal migrants in the sample have higher levels of education than either non-migrants or international migrants.

The majority of women in the sample are married or in a consensual union, ranging from 77 percent for international migrants to 88 percent for non-migrants. However, women with either internal or international migration are almost twice as likely to be divorced or separated than non-migrants. Moreover, women who are migrants of any kind have a greater probability of being widowed. About 8 percent of non-migrants are widowed, compared to 11 percent for internal migrants and 15 percent for international migrants. Furthermore, almost 4 percent of internal migrants have never been married, while only 2 percent of non-migrants and U.S. migrants are in this category.

The number of women with no children in the household is small and consistent regardless of migration status, slightly less than 5 percent. Most women have 1 to 4 children in the household, ranging from 42 percent of non-migrants to 57 percent of internal migrants. No observable difference is present for women with 5 or more children. However, an interesting pattern is discernible regarding larger numbers of children in the household. Both non-migrants and international migrants have almost identical percentages for 5 to 8 children and 9 or more, approximately 32 percent and 14 percent respectively. But only 28 percent of internal migrants have 5 to 8 children and 11 percent have 9 or more. These figures indicate that, on average, internal migrants have fewer children in the household than non-migrants and international migrants.

The average age of women in the sample is slightly over 44 years. International migrants have the highest average age, 45.8 years, and non-migrants and internal migrants both average approximately 44 years.

As might be expected, women who are internal migrants have the largest percentage of husbands with Mexican migration experience, about 2 in 3, and

approximately 70 percent of women who have migrated to the U.S. have husbands with U.S. migration experience. In contrast, these same variables have almost identical proportions among non-migrants; about 34 percent of women have husbands with internal migration and another 34 percent have husbands with international migration. These numbers suggest that husbands' migration status is associated with women's migration status, which is consistent with findings from research that women are still primarily associational movers (De la Paz et al. 1993).

The same pattern is also seen with daughters' migration status. Women who are Mexican migrants have a higher percentage of daughters who are internal migrants compared to women who are U.S. migrants, 8.7 percent to 3.5 percent respectively. Similarly, 17.6 percent of daughters of international migrants have international migration experience themselves, compared to 3 percent for daughters of internal migrants. As with husbands' migration, these same variables exhibit little variation among non-migrants.

Sons' migration experience is not quite as straightforward. Among internal migrants, about the same proportion of women in the sample have sons who are internal migrants (9 percent) as sons with international migration experience (8 percent). But of women who are U.S. migrants, 1 in 4 have sons with U.S. migration experience and only 2 percent have sons with Mexican migration experience. To a lesser degree, this last pattern is evident among non-migrants as well. In their case, 10 percent have sons with international migration experience with approximately half this amount (5 percent) having sons who are internal migrants. Based on these numbers, it is evident that although sons' international migration seems to be associated with women's international migration, the same relationship is not readily apparent for non-migration and international migration.

As described earlier in the study, household SES measures the possible ownership of five assets in the household: the residence, a business, agricultural land, a vehicle and a telephone in the household. Women with international migration have a mean SES measure of 2.2, indicating that on average they own at least two assets, whereas non-migrants and internal migrants average only 1.7. On one hand, these numbers might support findings that it takes resources to sustain a household during international migrants' absence (García-España 1992). On the other hand, they might be the result of greater remittances from international migration (Kanaiaupuni and Donato 1998; Massey and Parrado 1994).

The number of adults in the household exhibits little variation across the sample. Women who are international migrants have a slightly lower average number of adults in the household (1.9) than women who are non-migrants or internal migrants, both of whom average 2.1 adults in the household.

In sum, more women with internal migration have higher levels of education than in either of the other migration status groups. The largest proportion of women in all three groups are married or in consensual unions, and approximately half of all women have 1 – 4 children residing in the home. The average age of women in the sample ranges between 44 and 45 years, the average number of adults in the households is 2, and household SES ranges from 1.7 among non-migrants to 2.2 among international migrants. On average, women who are internal migrants predominantly have husbands who are internal migrants and women who are international migrants predominantly have husbands who are international migrants, while women who are non-migrants have the same percentage of husbands who are internal and international migrants.

TABLE 1. DESCRIPTIVE STATISTICS OF ALL VARIABLES

Independent and Control Variables	No Migration Mean	(SD)	MX Migration Mean	(SD)	US Migration Mean	(SD)
Independent Variables						
Education						
None (0-1)	0.204	(0.403)	0.152	(0.359)	0.141	(0.348)
< 6 years (0-1)	0.383	(0.486)	0.323	(0.468)	0.418	(0.494)
6 years (0-1)	0.219	(0.413)	0.192	(0.394)	0.247	(0.432)
7-11 years (0-1)	0.128	(0.335)	0.140	(0.348)	0.143	(0.351)
12 years (0-1)	0.034	(0.181)	0.061	(0.240)	0.028	(0.164)
13+ years (0-1)	0.033	(0.177)	0.131	(0.338)	0.023	(0.150)
Marital Status						
Married/Con. Union (0-1)	0.877	(0.329)	0.801	(0.399)	0.771	(0.421)
Never Married (0-1)	0.017	(0.130)	0.037	(0.188)	0.023	(0.151)
Widowed (0-1)	0.077	(0.267)	0.109	(0.312)	0.151	(0.358)
Divorced/Seperated (0-1)	0.029	(0.167)	0.053	(0.224)	0.056	(0.229)
Number of Children in HH						
None (0-1)	0.042	(0.201)	0.047	(0.212)	0.049	(0.215)
1 - 4 (0-1)	0.482	(0.500)	0.572	(0.495)	0.492	(0.501)
5 - 8 (0-1)	0.335	(0.472)	0.275	(0.447)	0.316	(0.466)
9+ (0-1)	0.140	(0.347)	0.106	(0.308)	0.143	(0.351)
Control Variables						
Age at Survey (18-85)	44.070	(15.179)	44.044	(14.858)	45.771	(15.367)
Migration Experience in HH						
Husband MX (0-1)	0.346	(0.476)	0.656	(0.475)	0.273	(0.446)
Husband U.S. (0-1)	0.343	(0.475)	0.299	(0.458)	0.688	(0.464)
Son MX (0-1)	0.047	(0.212)	0.089	(0.284)	0.021	(0.143)
Son U.S. (0-1)	0.103	(0.304)	0.082	(0.274)	0.254	(0.436)
Daughter MX (0-1)	0.029	(0.167)	0.087	(0.283)	0.035	(0.183)
Daughter U.S. (0-1)	0.026	(0.160)	0.030	(0.170)	0.176	(0.381)
Household Characteristics						
Household SES (0-5)	1.720	(1.185)	1.759	(1.208)	2.223	(1.251)
Adult Members in HH(1-18)	2.114	(0.966)	2.097	(0.893)	1.901	(0.745)

Source: Mexican Migration Project (2001)

REGRESSION ANALYSES[2]

Table 2 contains the results of regressing migration status on educational attainment and the control variables. To test the hypotheses (H1 and H2) that higher levels of education predict internal and international migration compared to non-migrants, a multinomial logistic regression model is estimated. The three outcome groups are women with no previous migration (the reference category unless otherwise specified), internal migrants, and international migrants. In addition, to test the hypothesis that higher education predicts U.S. migration over Mexican migration (H3), a binary logistic regression model, or migrant-only model is estimated, with internal migration as the reference category (significance noted on tables using [a], however coefficients from these analyses are not shown).

At the bivariate level (Table 2 left panel), it is evident that as education increases (beginning at 7 years or more), the odds of internal migration increase from 1.468 to 5.408 compared to the odds for non-migrant women with no formal education. A different effect is observed for international migrants compared to non-migrants. In this case, migration to the United States is most likely to occur when respondents have some education but no high school completion, with odds being the highest (1.635) for women with 6 years of education. These results provide little support for the first hypothesis, that higher levels of education will increase the odds of U.S. migration compared to non-migrants (H1) but

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[2] It is important to note that the nature of the sample is such that there will be disproportionate numbers of women in varying cells. For instance, of the 278 women with some college education, 10 are women with only U.S. migration, 53 with only Mexican migration, and the remaining 215 are non-migrants (these distributions are not provide elsewhere in the study). This being the case, some analysis will show very large odds and significance that shall be cautiously interpreted. In addition, although disproportionate, the proportions within migration status, the dependent variable, are consistent with findings of volumes of internal and international female migrants, and are therefore, normally distributed.

strong evidence that higher levels of education will increase the likelihood of being an internal migrant (H2).

Although some researchers propose that low returns to education for women might contribute to their decision to migrate internationally (Kanaiaupuni 2000; De la Paz et al. 1993), these finding show little support for the education-international migration relationship. Rather, it seems that the higher the level of education, the greater the increase in odds of internal migration. This effect is especially large for women with some college education, suggesting that at this level, in particular, returns to education might be sufficient within Mexico, thereby leading to more internal than international migration for these highly educated women.

Results from the migrant-only model indicate that having at least a high school education significantly reduces the odds of international migration compared to internal migration. Additionally, having some college education significantly decreases the odds of being an international migrant. This does not support the third hypothesis, that higher levels of education increase the odds of U.S. migration compared to internal migration (H3) but to some degree reflects findings from the multinomial model, where in both cases, higher levels of education are not indicative of international migration.

The possibility that the sample design is contributing to these results should be noted. While it is true that most migration studies find that women are positively selected on education for international migration, these studies usually focus on women that reside in the United States. Perhaps women with higher levels of education (high school or more) are positively selected to emigrate to the United States or migrate internally, and the next

lower levels (a primary education or some high school) are positively selected for

temporary migration to the United States.

TABLE 2. PARAMETER ESTIMATES OF THE EFFECTS OF EDUCATION ON MIGRATION

	MX	US	MX	US
	exp(B)	*exp(B)*	*exp(B)*	*exp(B)*
Independent Variables				
Education				
None	----	----	----	----
< 6 years	1.132	1.579**	1.335*	1.311
6 years	1.179	1.635**	1.538***	1.585*
7 - 11 years	1.468**	1.615**	2.026***	2.179***
12 years	2.409***[a]	1.180	3.243***	1.496
13+ years	5.408***[a]	1.027	7.951***[a]	1.364
Control Variables				
Age at Survey			1.109***	1.006
Migration Experience in HH				
Husband MX			4.104***[a]	0.598***
Husband US			0.766**	3.803***
Son MX			1.672***	0.398**
Son US			0.809	1.677***
Daughter MX			2.965***	0.856
Daughter US			1.227	4.576***
Household Characteristics				
Household SES			0.905**	1.240***
Adult Members in HH			0.989	0.750***
Intercept	-2.280***	-3.052***	-3.798***	-3.820***
-2 Log-Likelihood	72.715***		6612.847***	
Degrees of Freedom	10		28	
N	7610			

Note: Parameter estimates are exponential multinomial logistic regression coefficients
Source: Mexican Migration Project (2001)
* p< .05   **p< .01   ***p< .001
[a]Significant differences between Mexican and U.S. migration

Once the control variables are included (Table 2 right panel), the positive net effect of education on internal migration, relative to their non-migrating counterparts, continues to be present and becomes significant for all levels of education. Moreover, this effect on the odds of Mexican migration becomes stronger, providing compelling evidence that when controlling for other variables, the odds of women migrating internally increase with higher levels of education. This indicates that once we control common determinants including associational migration, there is a net effect of education on women's migration status. Here, as in the full model, results do not support the argument that traditional norms in Mexico may limit women's benefits from migrating internally (Kanaiaupuni 2000; De la Paz 1993).

The multivariate analysis results for international migrants are similar as in the bivariate model, except that less than a primary education no longer has a significant effect on international migration. These results suggest that *some* high school education has a positive effect on international migration whereas higher education decreases those odds.

Overall, the control variables contribute significantly to this model, as is demonstrated by the large increase in the –2 Log-Likelihood from the bivariate model, 72.715 to 6612.847 in the multivariate model. In addition, the control variables operate in a manner consistent with previous migration research (Marcelli and Cornelius 2001; Donato and Kanaiaupuni 1998; De la Paz Lopez 1993). For example, it was expected that women, being primarily associational migrants, would be significantly affected by their husbands' migration status. Results indicate that husbands' internal migration significantly increases the odds of women's Mexican migration by 4.104 and significantly decreases their odds of international migration by 0.598. The reverse effect can be seen with

husbands' U.S. migration, where husband's international migration significantly increases the odds of women's international migration by 3.803 and significantly decreases the odds of women's Mexican migration by 0.766.

Results from the migrant-only model indicate that having a high school education is no longer a significant predictor of internal over international migration, but having some college education favors even more strongly internal over international migration. This suggests that once we control for common determinants of migration, such as husband's migration experience, having some college education is associated with internal migration. This does not support the hypothesized effect that among migrants, higher education would increase the likelihood of international migration (H3).

As a final observation on the relationship between educational attainment and migration status, I propose that the structure of the Mexican educational system, especially in communities like those sampled by MMP investigators, should be considered when examining the relationship between educational attainment and migration. From personal observations during field research in several of these communities in the state of San Luis Potosí, a pattern of education-migration became apparent. It was common for women (and men) to have to move from their origin communities to a larger city or community in order to attend high school as well as colleges or technical schools. This may cause individuals with higher levels of education, who have already moved, to be more likely to move again, in turn raising the level of education of people at risk to migrate.

Table 3 contains the multinomial logistic regression models of migration on marital status, number of children in the household, and the control variables. A migrant-only

model is estimated to examine the effects of both variables on internal migration versus international migration, with internal migration as the reference category. It was predicted that being married or in a consensual union would reduce the probability of being a migrant, either internal or international (H4 and H5). It was also predicted that having children in the household would not affect the probability of being a migrant (H6) nor would it affect the likelihood of international migration in the migrant-only model (H7).

Before including the control variables (Table 3 left panel), results indicate that women who are not married or in a consensual union (for any reason) are more likely to migrate internally compared to non-migrants. This effect is strongest for never married women whose odds of internal migration are 2.217 times higher than women who are married are or in consensual unions. In the case of international migration, there is no significant relationship between never married and migration, but both widowed and divorced/separated women have significant positive odds of U.S. migration. These findings lend some support for the hypotheses that being married or in a consensual union will negatively affect internal and international migration statuses (H4 and H5).

Results are comparable to studies that find women are more likely to marry prior to marriage and that marriage greatly restricts women's mobility. Furthermore, the lack of significance of being never married for predicting international migration might be a result of the strong associational nature of U.S. migration for women. Women who at one time or another were married to a migrant, despite their current marital status, had the

TABLE 3. PARAMETER ESTIMATES OF THE EFFECTS OF FAMILY SITUATION ON MIGRATION

	MX	US	MX	US
	exp(B)	*exp(B)*	*exp(B)*	*exp(B)*
Independent Variables				
Marital Status				
Married/Cons.Union	----	----	----	----
Never Married	2.217***	1.439	5.106***	5.332***
Widowed	1.659***	2.257***	4.120***[a]	10.689***
Divorced/Separated	1.991***	2.219***	5.518***	10.425***
Number of Children in HH				
None	----	----	---	---
1-4	1.346	0.930	1.089	0.685
5-8	1.883	0.815	0.670*	0.432**
9+	1.851	0.888	0.575*	0.316***
Control Variables				
Age at Survey			1.004	0.994
Migration Experience in HH				
Husband MX			6.440***	0.748*
Husband US			0.851	9.559***
Son MX			1.618**	0.401*
Son US			0.818	1.802***
Daughter MX			2.845***	0.843
Daughter US			1.213	4.436***
Household Characteristics				
Household SES			1.060*	1.392***
Adult Members in HH			0.977	0.736***
Intercept	-2.101***	-2.697***	-3.316***	-3.584***
-2 Log-Likelihood	136.832***		6042.413***	
Degrees of Freedom	12		30	
N	7610			

Note: Parameter estimates are exponential multinomial logistic regression coefficients

Source: Mexican Migration Project (2001)

* p< .05   **p< .01   ***p< .001

[a]Significant differences between Mexican and U.S. migration

possibility of making an associational move, however women who have never been married did not.

Also reported in Table 3 (left panel) is the analysis of the effect of number of children in the household on migration status. Based on these results, there does not appear to be any significant effect of the number of children on internal migration. Similarly, no significant effects for number of children on migration status are observed for international migrants. This last finding lends some support for the hypotheses that the number of children does not affect the likelihood of internal or international migration (H6).

The lack of effect of the number of children could be a result of the prevalence of extended households in Mexico. It is possible that this affords women greater mobility by providing them with childcare during migrations. Moreover, it is possible that the benefits of migration are sufficient to justify either leaving children temporarily, or perhaps provide enough resources to allow moving them as well.

The migrant-only model estimated to test the effect of marital status and number of children on internal and international migration simultaneously did not yield significant results. This supports the hypothesis that, among migrants, there is no differential effect of number of children in the household (H7).

Once the control variables are included (Table 3 right panel), the net effect of marital status and number of children on migration status displays a few important differences. The effect of marital status on the odds of internal migration is augmented and remains significant. Unlike the reduced model where never married was not significantly associated with international migration, when controlling for other variables, having never

been married is now a highly significant predictor of the odds of U.S. migration (5.332).

Nonetheless, the effects of being widowed or divorced/separated are almost twice those of

being never married, 10.689 and 10.425 respectively. It is probable that once age and

husbands' migration experience are controlled, the associational effect among women who

are widowed or divorced/separated is no longer present and not being married, regardless

of the reason, increases the likelihood of being a migrant (H4 and H5).

While the model with no control variables failed to yield significant support for the

hypothesized effect of number of children on migration status (H6), the multivariate model

provides partial support for the hypothesized effect. Having 5 to 8 children significantly

decreases the odds of internal migration by 0.670. This effect continues as the number of

children increases to 9 or more (0.575). This same relationship is observed among

international migrants. For example, in households with 5 to 8 children, the odds of

migrating to the U.S. decrease by 0.432. These results do not support the hypotheses that

children in the household would not affect the odds of being a migrant (H6), but they do

indicate that having more than four children in the household decreases the likelihood of

being a migrant.

One reason for the mixed results might be the simple financial burden of migrating.

We know that it takes resources to migrate, either to pay for the trip or support the family

during the migrant's absence. The possibility of accumulating enough resources to migrate

when there are 7 or 8 children in the household is not great. It is also probable that these

findings are partially the result of not having a time measure incorporated into the models.

In Mexico, women are usually married prior to having children. A measure that

distinguished between number of children prior to migration and after migration might

serve to reduce some of the effect of children on migration status, particularly if we control for marital status.

The control variables also contribute significantly to this model. In this case, the – 2 Log-Likelihood increases from 136.832 in the reduced model to 6042.413 in the multivariate model. Here too, the control variables operate in a manner consistent with previous research (Marcelli and Cornelius 2001; Donato and Kanaiaupuni 1998; De la Paz Lopez 1993). For example, husbands' Mexican migration significantly increases the odds of women's internal migration by 6.440 and significantly decreases the odds of women's U.S. migration by 0.748. The same relationship can be observed with regards to husbands' U.S. migration, where husbands' international migration significantly increases the odds of women's U.S. migration by 9.995 and significantly decreases their odds of internal migration by 0.851.

Results from the migrant-only model showed no significant differential effects of number of children among migrants (H7). When the effect of other variables is controlled, a positive association between widowed and international migration is present, where widowed women are 1.932 times more likely to migrate internationally than married women.

Table 4 contains the parameter estimates of educational attainment, marital status, and number of children, on migration status (treating non-migration as the reference category). This model is included to test the predictive importance of the independent variables on migration status, net of each other as well as the control variables. Two multinomial logistic regression models were estimated, one with the three independent

TABLE 4.   PARAMETER ESTIMATES OF THE EFFECTS OF EDUCATION AND FAMILY SITUATION ON MIGRATION

	MX	US	MX	US
	exp(B)	*exp(B)*	*exp(B)*	*exp(B)*
Independent Variables				
Education				
None	----	----	----	----
< 6 years	1.176[a]	1.678***	1.294*	1.242
6 years	1.241[a]	1.883***	1.452**	1.426
7 - 11 years	1.515**	1.886***	1.761***	1.833**
12 years	2.485***	1.380	2.786***	1.242
13+ years	5.490***[a]	1.203	7.005***[a]	1.201
Marital Status				
Married/Cons.Union	----	----	----	----
Never Married	2.131***	1.501	4.600***	5.374***
Widowed	1.931***	2.435***	4.500***[a]	10.761***
Divorced/Separated	2.072***	2.334***	5.707***	10.533***
Number of Children in HH				
None	----	----	----	----
1-4	1.122	0.897	1.046	0.689
5-8	0.963	0.845	0.777	0.459**
9+	0.966	0.965	0.702	0.343***
Control Variables				
Age at Survey			1.012***	0.998
Migration Experience in HH				
Husband MX			6.618***	0.755*
Husband US			0.963	9.669***
Son MX			1.685***	0.408*
Son US			0.887	1.859***
Daughter MX			2.865***	0.823
Daughter US			1.136	4.337***
Household Characteristics				
Household SES			0.965	1.361***
Adult Members in HH			0.997	0.738***
Intercept	-2.465***	-3.170***	-4.094***	-4.034***
-2 Log-Likelihood	489.717***		6699.288***	
Degrees of Freedom	22		40	
N	7610			

Note: Parameter estimates are exponential multinomial logistic regression coefficients

Source: Mexican Migration Project (2001)

* $p < .05$ ** $p < .01$ *** $p < .001$

[a]Significant differences between Mexican and U.S. migration

variables and no control variables, and a second with all variables. Here too, a migrant-only model was estimated, where internal migrants were the reference category.

Results from the first analysis (Table 4 left panel) show no significant changes from findings in the initial analyses in the educational attainment and family situation models. Although there were small changes in the magnitude of the coefficients, none were large enough to affect the previously determined significance (or lack thereof) of the independent variables. Moreover, these minor changes did not alter the direction of any coefficients, regardless of significance.

Results from the migrant-only model show a significant difference in the lower two education categories that were not present in the education model. Having less than 6 years of education increases the odds of migration to the U.S. versus migrating internally (1.489). Similarly, completing a primary education will raise these odds to 1.628.

In the complete model (Table 4 right panel), controlling for family effects as well as other variables, resulted in a change of the effect of education on international migration. Unlike the model that considered only education and the control variables, here, having 6 years of education no longer significantly increases the odds of U.S. migration. This suggests that once family effects are controlled, having 7 to 11 years of education is the only consistent predictor of U.S. migration in the sample. Also, unlike the model that considered only family effects and the control variables, here, the number of children no longer has a significant effect on the odds of Mexican migration.

This indicates that once we control for education, the number of children in the household is not a valid determinant of internal migration for women. It is possible that these findings are a result of beneficial returns to increasing educational attainment for

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women in Mexico. In this case, women might earn enough to justify moving, regardless of

the number of children in the household, especially if they have an extended family to help

with the childcare. But with international migration, especially if is temporary (and

women in this sample have only been temporary migrants), it is not nearly as likely that

returns to women with lower educational attainment will justify this type of migration

strategy. More often than not, women would remain in Mexico and their spouses migrate

to the United States.

The influence of the control variables was consistent in this final model as well.

Here too, there were minor changes in the size of the coefficients, however, none were

large enough to affect previous findings of significance. Furthermore, these small changes,

regardless of significance, did not alter the direction of any coefficients.

SUMMARY AND CONCLUSIONS

Many of the findings from this thesis are similar to those of existing research on Mexican women and migration (Cerrutti and Massey 2001; Donato and Kanaiaupuni 2000; Kanaiaupuni 2000), but a few inconsistent results are observed. The first group of hypotheses of this study predicted that higher levels of education would increase the likelihood of international and internal migration compared to non-migrants and that among migrants, higher levels of education would increase the likelihood of being an international migrant. Results from the regression analyses provide partial support for these hypotheses. Increasing educational attainment consistently increases the odds of being an internal migrant. But only one level of educational attainment (some high school) increases the probability of being an international migrant. Moreover, having some college education increases the likelihood of being an internal migrant compared to an international migrant.

There is consistent support for the second set of hypotheses – that being married or in a consensual union would decrease the odds of being either type of migrant compared to non-migrants. In all models, when controlling for other variables, being single for whatever reason is strongly associated with being either an internal or international migrant. These results are consistent with other studies that find women migrate most often prior to marriage (Donato and Kanaiaupuni 2000; Kanaiaupuni 2000).

The final set of hypotheses predicted that the number of children would not affect the odds of women being internal or international migrants. Results from the analyses provide mixed support for these hypotheses. When not controlling of education, having a larger family (5 or more children) consistently decreases the odds of internal or

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international migration. However, once we control for education, having more children in the household only decreases the odds of being an international migrant. These mixed results support the existing literature, which also showed inconsistent findings for the effects of number of children on (Donato and Kanaiupuni 2000; Kanaiaupuni 1995).

The significant relationship between household migration experience (particularly husbands' migration status) and women's migration status is consistent, both in the analyses and with the literature (Taylor 1987). There is also a significant positive association between previous U.S. migration and higher mean household SES. In addition, all models show that as the number of adults in the household increases, the likelihood of being an international migrant significantly decreases. When this effect is considered together with the effect of number of children in the household, they seem to suggest that, as the total number of members in the household increases, the odds of women being international migrants decrease.

In sum, findings from this thesis indicate that higher education is associated with increased odds of internal migration but not U.S. migration. Moreover, being married or in a committed relationship is associated with decreased odds of any type of migration. The number of children, when it exceeds four, is negatively associated with international migration status, but no such effects exist for internal migration.

LIMITATIONS

This study has three limitations: the nature of the data, the definition of the sample, and the analytic strategy employed. The first limitation is an often-cited one in migration research, as well as in most areas of research. In this case, although the data yield valuable information from the Mexican side of the border, the sample design is such that it might

not be generalizable to the entire population of Mexican women. Although MMP survey designers argue against this possibility (Massey and Zenteno 2000), research by other scholars indicates that these data are high in migrant representation (Escobar and Roberts 1998). The implication, therefore, is that they are probably also overly representative of female migrants.

Second, possible variations in sample definition were previously discussed (see Data and Methods). As stated earlier, a valid argument might be made supporting further definition of the sample based labor and non-labor migration behavior. The nature of this study precluded the implementation of these distinctions, but the possibility of interesting and theoretically informative findings resulting from analyses with these sample limitations should not be ignored. In addition, the exclusion of women with both internal and international migration experience from the final sample limits the generalizability of findings from the study.

Finally, because the study was not designed to establish causal ordering, results from the analysis cannot be easily compared to findings in the current migration literature. Whereas this serves to emphasize the innovative nature of the present study and a potentially interesting theoretical perspective from which to consider female migration, further research must be conducted before causality can be established with confidence.

CONCLUSIONS

Despite these limitations, a major strength of this study is the focus on Mexican women and their migration experiences. Women's representation in the migration literature is improving, but many aspects of existing literature cannot be adapted by simply running regression models for female samples. The gendered differences observed in

migration streams, determinants, and outcomes (Cerrutti and Massey 2001; Kanaiaupuni 2000; De la Paz et al. 1993; Donato 1993; Thadani and Todaro 1979) underscore the need to investigate more than just women's immediate presence in migration patterns. It is just as imperative that the context of women's lives, both in sending and receiving communities, is considered. Moreover, with the increasing presence of Mexican women in both internal and international migration streams, there is a pressing need for scholars to consider the possibility of an interconnection between the two, and the role women play in these processes.

SUGGESTIONS FOR FUTURE RESEARCH

Future studies of this nature would benefit from theoretical and analytical models utilizing event-history analysis or comparable methods that could lead to interpretations in terms of propensity to migrate. Analysis of this kind would change the focus of the present study, but results from such methods, if models were constructed to examine Mexican women and their migration experience, would be more comparable to existing migration studies. This would, in turn, allow researchers to better assess previously foregone conclusions regarding female migration.

Furthermore, the possibility of a link between internal Mexican and Mexico-U.S. migration should be focused on Mexican women and their participation in the migration processes. Both their roles as migrants and, as non-migrants sustaining the migration streams, merits continued exploration.

Finally, the effect of previous migration experience on women's current status in Mexico beckons examination. Recent literature on the effects of children's educational attainment as a result of the "culture of migration" in Mexico shows that children are

increasingly likely to aspire to live and work in the United States. This aspiration lowers the odds that they will continue in school and, in turn raises the odds of their eventual out-migration to the United States (Kandel and Massey 2002). But what of women who have U.S. migration experience and reside in Mexico? Original research must be conducted to determine if Mexican women's gender-specific and age-specific issues (such as aspirations to marry or size of family) are equally affected by this culture of migration.

In spite of the weaknesses of the current study, the findings contribute substantive information to our knowledge about migration experiences of Mexican women. Examining this relationship in terms of differences among women residing in Mexico places focus on individuals who, despite the acknowledged beneficial returns to migration, especially in the case of U.S. migration, choose to return or remain in Mexico.

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