Cross-border ties and self-rated health status for young Latino adults in Southern California

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Abstract

At the same time that health researchers have mostly ignored the cross-border nature of immigrant social networks, scholars of immigrant "transnationalism" have left health largely unexamined. This paper addresses this gap by analyzing the relationship between cross-border ties and self-rated health status for young Latino adults living in the greater Los Angeles area (n=1268). Findings based on an ordered logistic regression analysis suggest that cross-border relationships may have both protective and adverse effects on overall health status. Specifically, those reporting a period of extended parental cross-border separation during childhood have lower odds of reporting better categories of self-rated health, all else equal. Conversely, a significant positive association was found between having a close relative living abroad and self-rated health status for foreign-born respondents when interacted with immigrant generation (foreign versus U.S.-born). Given the findings of significant negative and positive relationships between cross-border ties and self-rated general health status, I discuss the implications for future research on the social determinants of immigrant health.

Keywords

U.S.A.; Latino immigrant health; cross-border social ties; self-rated health

Introduction

Recent research on Latino immigrant health in the U.S.A. has focused on the role of social ties as a determinant of health outcomes (Eyler et al., 1999; Mulvaney-Day et al., 2007). However, the research on social ties and Latino health gives little consideration to the cross-border relationships that some immigrants and their children maintain after migrating (Chun & Akutsu, 2004). Conversely, research on cross-border social ties has largely ignored the influence of hometown relationships on immigrant health (e.g. Levitt & Jaworsky, 2007). This paper begins to address this gap by examining the relationship between cross-border ties and self-rated health status for 1.5 generation (foreign-born, but arrived as children) and second-generation (U.S.-born) Latino adults in Southern California.

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Background

Data from the 2006 National Survey of Latinos show that over half of respondents remitted money, 40% made weekly phone calls and 20% traveled to their countries of origin in the past year (Soehl & Waldinger, 2010). While scholars have been interested in the health influences of cross-border ties on those who remain in countries of origin (Creighton et al., 2011), there has been less attention to how these relationships contribute to the health of immigrants themselves.

Nevertheless, a small number of studies have documented the potential importance of integrating research on immigrant health and cross-border ties. These studies have focused on psycho-social implications of maintaining cross-border ties with close family members (Murphy & Mahalingam, 2004; Viruell-Fuentes & Schulz, 2009) as well as the mental health consequences of cross-border separation (Falcón et al., 2009; Suárez-Orozco et al., 2011).

Another relevant set of studies focuses on health as a motivating factor for cross-border activity, including the use of cross-border health services. For example, visits home might be motivated by a lack of access to healthcare in the U.S. (Wallace et al., 2009). Even if immigrants are not able to cross the border to receive health care, they might call upon family ties in their countries of origin for medical advice or to send pharmaceuticals (Heyman et al., 2009; Menjívar, 2002b). Given the potentially important linkages between cross-border ties and health, the present study extends findings from primarily qualitative studies and examines the relationship between cross-border ties and health using survey data from young Latino adults living in Southern California.

This study focuses on young adults who either immigrated as children (1.5 generation) or are the U.S.-born children of immigrants (2nd generation). Young adults comprise an important segment of the Latino population in the U.S. In 2010 16% of Latinos in the U.S. were between 20 and 40 years old; the median age for Latinos was 27 years old, compared with 42 years for non-Hispanic whites and 32 years for non-Hispanic blacks (Pew Hispanic Center, 2012). Latinos in young adulthood face a number of adversities from childhood onward that may negatively impact their health, including discrimination (Pérez et al., 2008), barriers to health care access (Flores et al., 1998), low educational attainment and poverty (Telles & Ortiz, 2008). In this context, the study of cross-border ties and health may be important for young Latino adults, given findings from qualitative studies that cross-border ties might have both protective and adverse health effects for the children of immigrants, discussed in further detail below.

What are cross-border ties?

Cross-border social ties have been described within the framework of "transnationalism". Scholars of transnationalism observe that immigrants often remain connected to places of origin even as they settle and assimilate into the context of reception (Basch et al., 1994). "Transnational life" may include a range of domains: economic activities, such as engaging in commerce or funding hometown public works projects; political engagement, including voting or involvement in political campaigns in one's country of origin; and cultural forms, such as continued participation in hometown celebrations and churches (Levitt & Jaworsky, 2007; Smith, 2006).

The emphasis in the present analysis is on cross-border social ties, which include personal contacts among close family members abroad and may span economic or cultural domains of transnationalism through remittances or continued celebration of hometown festivities (Smith, 2006). However, these cross-border relationships may not even involve movement –

they may involve phone calls or sending remittances that may generate feelings of both a sense of belonging within one's family still living abroad and the social stress that may come with fulfilling familial obligations across borders (Viruell-Fuentes, 2006; Viruell-Fuentes & Schulz, 2009).

The potential importance of cross-border social ties in the lives of immigrants seems clearer for the first generation, but less so for children of immigrants. It is generally accepted that members of the second generation participate less frequently and intensively in cross-border relationships than the first generation (Levitt & Waters, 2002). However, this does not necessarily render cross-border ties, whether direct or experienced through parents, unimportant for children of immigrants. Based on her research with Guatemalan youth in Los Angeles, Menjívar (2002a) argues that parents' cross-border ties may have an influence on the entire family, including for those in the 1.5 and 2nd generations. As a result, cross-border ties among children of immigrants may generate a sense of belonging in a broader extended family network or within an ethno-national community, rather than within a set of intimate, primary social relationships. It is also unclear whether cross-border ties are different for 1.5 versus 2nd generation young adults; members of these two generational groups may have very different cross-border relationships given that language, ethno-national identity and legal status may result in distinct orientations towards (parents') countries of origin for these two groups (Menjívar, 2002a). For example, those in the 1.5 generation may have stronger personal relationships with those in their country-of-origin given they have spent some part of their childhood abroad whereas parental cross-border ties might be more influential for those in the 2nd generation. In addition, individuals in the 1.5 generation who are undocumented are restricted in their ability to return to their country of origin compared with naturalized citizens or those in the U.S.-born 2nd generation.

Given the lack of quantitative research on the relationship between cross-border ties and immigrant health, and the potentially important implications for young Latino adults, this study seeks to address the following questions: to what extent do continued cross-border ties contribute to overall health status? How might parents' cross-border ties influence the self-reported health status of young Latino adults living in Southern California? How does the relationship between personal and parental cross-border ties and health differ between the 1.5 and U.S.-born 2nd generations? Before beginning the analysis, I turn to a review of the potential mechanisms linking cross-border ties and health.

Theoretical links between cross-border ties and health

Segmented assimilation theory—The relationship between cross-border ties and health is broadly supported by segmented assimilation theory, which was developed to describe the cultural and socio-economic integration of children of immigrants as part of post-1965 migration from Latin America and Asia in particular (Portes & Zhou, 1993). Rather than uniform acculturation into the American mainstream as the only option for children of immigrants, segmented assimilation theorists observe that children of immigrants might alternatively follow a path of dissonant acculturation, rejecting parental culture, or of selective acculturation, preserving parental language and culture as they simultaneously develop fluency in English and American mainstream culture.

The preservation of personal cross-border ties or the continued importance of parental cross-border relationships may be one marker of selective acculturation into the US mainstream (Levitt & Waters, 2002). Segmented assimilation theorists suggest that selective acculturation is indicative of more cohesive family relationships between children and their immigrant parents (Portes et al., 2009). Although findings for the link between selective acculturation, socio-economic and health-related outcomes in studies of young adult children of immigrants are mixed (Waters et al., 2010), increased family cohesion or support

has been linked to better health outcomes among Latinos in the U.S. (Mulvaney-Day et al., 2007). In addition, the family cohesion and strong sense of ethnic pride suggested by selective acculturation may serve as a buffer to the adverse effects of discrimination, in this case on health outcomes. Despite the broad relevance of the selective acculturation construct to the study of cross-border ties and health, I subsequently review a number of specific mechanisms that might explain this relationship.

Social support—Evidence from qualitative studies suggests the possibility that cross-border social ties offer an important source of social support, which may in turn influence health outcomes. Drawing on in-depth interviews with Mexican and Mexican American women in Detroit, Viruell-Fuentes and Schulz (2009) describe that while local ties in the U.S. provide instrumental support related to the demands of settling in a new, and often hostile, society, first-generation Mexican women in particular received social support from their parents and siblings abroad that provided them with "an alternative space of belonging" (Viruell-Fuentes & Schulz, 2009: 2171). This sense of belonging may be particularly supportive of one's emotional well-being in the context of immigration, which may engender feelings of isolation and loneliness alongside other adversities such as discrimination and occupational exploitation (Muñoz-Laboy et al., 2009). For many respondents, the sense of belonging that came with fulfilling familial roles was not easily replicated in the looser social networks developed in settlement communities that nonetheless provided migrant women essential informational, material and emotional support. This link between cross border ties and social support was additionally supported by an analysis of newly arrived Caribbean immigrants in New York for whom frequency of return visits and communication with family and friends abroad was significantly correlated with scores on a social support scale (Murphy & Mahalingam, 2004). Social support has also been linked to health through a number of mechanisms. For one, social support has been found to buffer the adverse effects of stress on both physical and psychological well-being (Kawachi & Berkman, 2001). Kawachi and Berkman (2001) suggest that even the perception of available social support in the event of future adverse circumstances might have a positive bearing on one's overall health.

Social stress—The effect of social ties on health does not always result in the positive outcomes implied by social support. Social ties can also generate conflict and excessive obligation and burden, resulting in increased stress, with negative implications for health (Kawachi & Berkman, 2001). In a study of Puerto Rican migrants, who have the legal flexibility to come and go as U.S. citizens, Falcón and authors (2009) suggest that the constant migration of core members of an individual's social network has the potential to provoke instability and conflict within social networks, associated with adverse effects on health. The countervailing effects of support and conflict must be kept in mind when interpreting results related to social ties and health. In addition, the context in which social ties occur, whether under adverse conditions of poverty or the stressful circumstances of migration must be considered (Menjívar, 2000).

Ethnic identity—Scholars examining cross-border ties among children of immigrants, including those working within the framework of segmented assimilation theory, have suggested a link between cross-border ties and ethnic identity (Levitt & Waters, 2002; Smith, 2006). Cross-border relationships may provide children of immigrants greater exposure to ethno-national language, culture and history, strengthening ethnic identity amidst pressures to assimilate into the American mainstream (Levitt & Waters, 2002). Ethnic identity may be an important mechanism linking cross-border ties and health for children of immigrants in particular, given that these cross-border relationships may resonate more with a sense of belonging within a family or ethnic group than within a close

personal social network (Smith, 2006; Wolf, 2002). Support for this suggestion was observed in a study of recent Caribbean immigrant young adults in New York for whom a positive sense of ethnic identity was significantly correlated with frequency of cross-border communication with family and friends (Murphy & Mahalingam, 2004).

What is less clear is the degree to which a sense of belonging within an ethno-national community, or the strengthening of an ethnic identity, may be supportive of health outcomes. Some research suggests that ethnic identity may have a positive influence on mental health outcomes by improving self-esteem (Phinney, 1990). Increased self-esteem related to ethnic identity may mitigate the adverse effects of perceived discrimination on health (Yip et al., 2008) and ethnic identity has been found to be inversely associated with perceived discrimination among Latinos in the U.S. (Pérez et al., 2008; Yip et al., 2008). While findings of studies linking ethnic identity to Latino health have been mixed (Cook et al., 2009), the balance of theory and evidence points to the potential for ethnic identity to serve as a mechanism linking cross-border ties to health, particularly for the 1.5 and 2nd generations.

Family separation—The final mechanism potentially linking cross-border social ties and, in this case, worse overall health status, is that of family separation. The potentially detrimental effects of parental cross-border separation were observed in a longitudinal study of immigrant adolescents in New York; those who had been separated from their parents due to immigration were significantly more likely to report depressive and anxiety symptoms than those who did not experience separation shortly after reunification (Suárez-Orozco et al., 2011). These negative effects appeared to diminish over the course of the seven-year study period, although such stressful life experiences may continue to have cumulative emotional and even physiological effects over the life-course (Viruell-Fuentes, 2006). While studies have examined the effects of cross-border separation through adolescence (Chaudry et al., 2010; Menjívar, 2002a; Suárez-Orozco et al., 2011) little is known about the effects of such separation through young adulthood.

The theories and available evidence linking cross-border ties and health suggest the following three hypotheses:

Hypothesis 1: Measures of cross-border relationships, with the exception of parental separation, will be positively associated with a self-rated measure of overall health status. Although the extant studies of cross-border ties and health and the mechanisms of social support and ethnic identity suggest a more direct link between cross-border ties and mental health outcomes, mental health status may contribute to an overall sense of one's health.

Hypothesis 2: For 2nd generation respondents, parents' cross-border relationships will have a stronger relationship with overall health status than respondents' direct cross-border ties. Given that respondents from the 1.5 generation have spent some time, however short, in their country of origin, their health may be more strongly influenced by personal ties they have with family and friends abroad.

Hypothesis 3: Cross-border separation from parents during childhood will be associated with poorer overall health status.

Methods

Study

The data come from the 2004 study of Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA) (Rumbaut et al., 2004), a telephone survey of young

adult children of immigrants living in five counties of the greater Los Angeles area. The IIMMLA employed a multistage random sampling scheme achieved through random digit-dialing of households in all five counties using probability proportionate-to-size, excluding areas with a high concentration of white non-Hispanic households, and targeted geographic and race-ethnic samples. At the household level, adults between 20 and 40 years old were randomly selected using the "next recent birthday" method. Institutional Review Boards at University of California, Irvine and University of California, Los Angeles approved the original survey; the present study makes use of de-identified, public use secondary data and was therefore exempt from further human subjects review.

The analysis is limited to the 1276 Mexican/Mexican-American and Central American young adults who immigrated before the age of 15 (the 1.5 generation) or who have at least one parent born abroad (the second generation). As part of data collection, respondents who had one Central American and one Mexican parent were classified as Central American in order to reach quotas for targeted ethnic/racial strata. After excluding cases missing values on any included variable, the analytical sample is 1268 respondents.

Dependent and Key Independent Variables

The dependent variable is a measure of self-rated health status. Respondents were asked if in general, their health was "excellent, very good, good, fair or poor". Due to the small number of "fair" and "poor" responses, these were grouped into one category, yielding a four-category measure, whereby higher scores represented better health. Self-rated health status has been shown to be significantly associated with a number of chronic physical and mental health outcomes, including mortality (Idler & Benyamini, 1997). The validity of the self-rated health measure for Latinos is comparable to that of other race/ethnic groups, particularly among Latinos who have spent longer periods of time in the U.S. (Finch et al., 2002). Despite the overall validity of the measure for Latinos, there are important differences in the Spanish-language version of the self-rated health status measure, whereby "fair" in the English version is translated into the more positive "*regular*" in the Spanish version (Bzostek et al., 2007). Given this consideration, language of interview is included as control variable.

Five measures of cross-border relationships are tested in each model. For the variable of cross-border separation, respondents indicated whether or not their parents returned to their country-of-origin for at least six months while they were children. Those who answered "yes" were then asked whether or not they accompanied their parents on this extended return. These two questions were combined to create a single variable with three categories: 1) no extended parental visit to country-of-origin, 2) extended parental visit to country-of-origin and respondent accompanied parent and 3) extended parental visit to country-of-origin and respondent did not accompany parent (i.e. was separated during this time).

The remaining four cross-border variables measure 1) whether or not respondents' parents ever sent remittances to their country-of-origin; 2) whether or not respondents still have a close relative who lives in their or their parents' country-of-origin; 3) if respondents themselves have ever sent remittances to relatives in their or their parents' country-of-origin; and 4) if respondents have ever visited their or their parents' country-of-origin as an adult. For all cross-border variables, "don't know" and "refused" responses were coded as negative for that particular cross-border relationship. Finally, interaction terms were tested between each of the cross-border measures and generation status (1.5 versus 2nd generation) to assess differences in the relationship between cross-border ties and health for each of these groups.

Covariates

Age, gender and two measures of socio-economic status are included. The socio-economic measures include education (some college or more compared to high school diploma or less education) and a three-category measure of 2003 household income. In creating the income measure, 87 (6.7%) cases with missing data were coded to the median income of $30,000–49,999.

Immigration Measures

Indicators of generation status (1.5 versus 2nd generation) and ethno-national origin (Mexican/Mexican-American or Central American) are included. In addition, respondents were marked as having at least one parent who entered with documentation if either their mother or father entered with one of the following: legal permanency with a green card; a student, tourist or temporary work visa; a border-crossing card; or as a refugee. Although it is possible that individuals who entered with documentation may have become undocumented after entry by overstaying, this measure may indicate some of the conditions of reception that respondents may have faced as children due to parents' legal status at entry (e.g. poor access to health care or other benefits), as well as the conditions of migration. A measure of respondents' legal status at the time of the study indicates whether respondents are U.S. citizens, legal permanent residents or neither of the two. Three cases missing data on this measure were excluded. Age at immigration in years was calculated for the 1.5 generation only.

Local Social Ties

Four variables of local social ties were included to control for the effect of cross-border ties above and beyond these nearby relationships. These include a continuous measure of the number of individuals living in the respondent's household. A second variable indicated the total number of close relatives living in the Los Angeles area, but not in the household. The "don't know" responses (n=34 or 2.7%) were coded to the median of 10 close L.A.-based relatives. Due to the skewed distribution of close, non-household family members in L.A. (e.g. two thirds of respondents had 30 or fewer close L.A.-based relatives, but many had nearly 100 such connections), this measure was transformed into a binary variable cut off at the median with response categories of "fewer than 10" and "10 or more" close relatives. A third variable assessed whether or not respondents belonged to any "community organizations, work related organizations, sports teams, or other non-religious organizations". A fourth measure assessed involvement in religious organizations based on frequency of attendance at religious services; a binary measure was created to indicate religious attendance several times a year or more versus once or twice a year or less. It is possible that the final two measures are indicative of both local social ties and cross-border involvement, since home country attachments are often enacted through organizations in the reception context, such as hometown associations or religious organizations (Levitt & Jaworsky, 2007). Such distinctions are not possible given the data, but should be kept in mind when interpreting the results.

Analyses

Descriptive statistics were calculated for all variables. Multivariate regression analyses were done using ordinal logistic regression models with the four-category self-rated health measure. Model 1 includes main effects measures of cross-border ties and all covariates except for local social ties measures. Model 2 adds interaction terms between generation status and cross-border ties. For parsimony, only interaction terms that were significant in bivariate analyses were included. Model 3 adds measures of local social ties; only those local ties measures significant in bivariate analyses were included. Likelihood ratio statistics

are included to compare model fit. The proportional odds assumption was tested using the OMODEL function and the results suggest that model satisfies the restriction in ordered logistic regression that variable coefficients are equal across categories (χ^2 = 36.9, p=0.25). Analyses were completed with STATA V. 12.

Results

Sample Characteristics

The majority of respondents reported excellent or very good health while 12% reported fair or poor health status (Table 1). Respondents were in their late-20s on average and just over half had completed some college. Nearly half of respondents reported a household income between $20,000 and $49,999 although a full 20% reported household incomes of less than $20,000.

The majority of respondents were in the 2nd generation and two-thirds were Mexican or Mexican-American. On average, respondents in the 1.5 generation (foreign-born) arrived in the U.S. during early childhood. The vast majority of respondents (80%) were either US-born or naturalized citizens; the remaining respondents were either legal permanent residents (13%) or undocumented (7%). The majority of respondents also had at least one parent who entered the U.S. with documentation.

Respondents' Cross-border and Local Ties

Nearly 80% of respondents reported having a close relative in their or their parents' country of origin (Table 2). Most also reported that their parents had ever remitted money (66%) although just over a third ever remitted money themselves. A full two-thirds of respondents reported making a trip to their or their parents' country of origin as an adult. With relation to cross-border separation, 21% of respondents reported that their parents made an extended return visit home during their childhood; 13% reported that they did not accompany their parent on this extended visit, suggesting cross-border separation. In addition, respondents reported a mean of four people household members, although half had more than 10 close family members living in the Los Angeles area (non-household). A minority (14%) belonged to a community organization although nearly 70% frequently attended religious services at least several times a year or more.

Multivariate Analyses

Model 1 includes main effects of cross-border ties and covariates except for measures of local social ties (Table 3). The measure of age at arrival was excluded both because it was not significantly associated with health status in bivariate analysis (not shown) and because it was relevant for the 1.5 generation only. The findings suggest that only the main effects indicator of parental separation is significantly associated with health status. Specifically, those who reported a period of separation from their parents due to a return to their country-of-origin had significantly lower odds (OR 0.60; 95% CI = 0.44, 0.82) of indicating better categories of self-rated health status (e.g. "excellent" versus "very good", "good" versus "fair/poor", etc) compared to those whose parents never made an extended return trip, all else equal.

Model 2 adds terms interacting immigrant generation with parents' history of remittance sending, and with having a close relative in respondent or parents' country-of-origin. Interaction terms between immigrant generation and the remaining cross-border ties variables were not significant in bivariate analysis (not shown) and were excluded. The non-significant interaction term between parents ever remitting abroad and immigrant generation suggests that the relationship between parental remittance history and self-rated health does

not vary by immigrant generation. However, the odds ratio for the main effects measure of parents ever remitting money suggests that reporting parents have a history of remitting abroad is associated with significantly greater odds (OR: 1.39; 95% CI = 1.05, 1.84) of better overall health status compared whose parents never remitted abroad for the omitted category of 2nd generation respondents only, all else equal. Note that in the equation for estimating effects of parental remittance history for the 2nd generation, the omitted category, only the main effects term remains; the interaction coefficient is multiplied by zero (i.e. $X_{1.5 \text{ gen}} = 0$), and therefore falls away from the equation, although it is not significant in any case.

Conversely, the effect of having a close relative on health status does appear to differ significantly by immigrant generation. Specifically, the odds ratio for the main effects of having a close relative in one's country of origin suggests that for the omitted category, or the 2nd generation, the odds of better health status are not significantly different compared to those with no close relatives abroad (OR: 0.86, 95% CI = 0.63, 1.18), all else equal. As above, when estimating the effects of having a close relative abroad for the omitted category, the interaction coefficient falls away given that it includes a zero value for the immigrant generation term.

On the other hand, if the 1.5 generation is set as the omitted category, the odds of better health are estimated to be significantly greater for those with a close relative abroad compared with those with no close relative abroad for this generational group (OR: 1.89; 95% CI = 1.15, 3.11, not shown), all else equal. The ratio of these two odds ratios, for 2nd and 1.5 generations, is expressed by the interaction term in the model (OR: 2.19; 95% CI = 1.23, 3.92), confirming the significant differences in the effect of having a close relative abroad on the odds of better self-rated health status for the different generational groups.

Model 3 adds the two measures of local social ties that were significantly associated with health status in bivariate analyses (not shown): the binary measure of close relatives (non-household) living in L.A. and the measure of community organization participation. The significant findings for the measure of childhood separation and interaction terms between generation status and cross-border ties remain largely unchanged, suggesting that the associations between cross-border ties and health status persist even when controlling for nearby social ties. Of the two local social ties indicators, belonging to a community organization remains significantly associated with better overall health (OR: 1.36; 95% CI = 1.01, 1.83) compared with not belonging to a community organization.

In addition to measures of cross-border and local ties, the socio-economic status measures are significantly related to health status. Having at least some college education and higher household income were each significantly associated with greater odds of better self-rated health status. Although respondents own legal status was not significant in the final model, parental legal status at entry was significant. In the final model, respondents with at least one parent who entered the U.S. as documented had significantly greater odds of reporting better categories of overall health status (OR: 1.37; 95% CI = 1.09; 1.72) compared to those for whom neither parent entered as documented.

Discussion

The analyses presented here show a mixed set of relationships between cross-border ties and overall health status for a sample of young Latinos living in Southern California. Consistent with findings from qualitative work, I show that cross-border ties may be associated with either better or worse health status, depending on whether these relationships afford a sense of belonging and identity that is protective of one's well-being, or whether they are

indicative of familial separation. In many cases, ties with one's hometown might be indicative of both a strong social network that helps buffer the stresses of immigration, discrimination and other adversities, as well as indicating separation. These countervailing forces may contribute to non-significant results found for some measures of cross-border ties in their effect on health. In addition, the relationship of these measures to health largely depended on generation status – whether respondents were foreign-born and migrated as children, or the U.S.-born children of immigrants.

To review, simply having a relative in one's country of origin was associated with significantly greater odds of reporting better health status for the 1.5 generation respondents only. Given the inclusion of the other measures of cross-border relationships in this model, this means that having a close relative in one's country of origin is associated with higher odds of better self-rated health status for 1.5 generation respondents regardless of actual visits to one's home country or remitting money to family members abroad. This positive relationship has been explained in qualitative research as one related to a sense of belonging in a family or ethnic community. In addition, Basch and colleagues (1994) suggest that participation in transnational life may serve as a form of resistance to inequality experienced in the host society, allowing immigrants to retain elements of power and respect associated with life in their country-of-origin as they encounter discrimination in reception communities. It may be that even limited cross-border participation, such as simply having a family member abroad, is associated with a sense of empowerment that is protective of self-rated health, at least for the foreign-born respondents in this analysis.

In addition, 2nd generation respondents reporting that their parents ever sent remittances to family members in their country of origin were associated with significantly greater odds of better overall health status compared with 2nd generation respondents who had no parental remittance history. These results might be in part reflected by findings from Wolf's (2002) ethnographic research with Filipino-American second-generation youth in California. She suggests that although parents were much more engaged in maintaining relationships with family and friends in the Philippines, children of immigrants "establish their identities, moral practices, educational goals, and careers within families that are deeply connected to the Philippines both symbolically and physically" (Wolf, 2002: 258). Personal cross-border activity for many in the 2nd generation may also be motivated by tourism or business, rather than participation in cross-border social life, perhaps explaining the non-significant relationships between personal cross-border ties and health. Overall, the findings reflect qualitative observations that even if cross-border ties are less frequent and no longer account for one's primary social network, but are practiced at the level of the family, they may be influential for the overall health status of children of immigrants – at least for this sample of children of Latino immigrants living in Southern California.

In contrast to these positive relationships, I show that for both generational groups, respondents' extended separation from a parent who returned to their country-of-origin during their childhood is significantly associated with poorer health. These results are consistent with research that suggests that cross-border ties indicate the stress of separation amongst intimate family members in addition to their implications for connectivity and support (Suárez-Orozco et al., 2011). These findings support Menjívar's (2002a: 539) suggestion that the celebratory responses to uncovering transnational social networks should be "tempered by the numerous costs and anxiety, dislocation and alienation these separations often produce", particularly in the case of parents and children.

In addition, the association between parental separation and lower odds of good health status point to the limits of selective acculturation as a complete explanation for the relationship between cross-border ties and health for children of immigrants. Structural factors, such as

family economic needs and conditions related to legal status, may lose focus in acculturation-based models (Viruell-Fuentes et al., 2012; Waters et al., 2010), but may be critical in generating extended parental cross-border separations and their potentially negative consequences for health (Suárez-Orozco et al., 2011). Other significant predictors of self-rated health for this sample of young Latino adults included education attainment, income and whether or not at least one parent was documented at entry, underscoring the importance of structural determinants of health.

There are several important limitations to note when interpreting this analysis. For one, the data used are unweighted, implying that results may not be generalized beyond this sample of young Latino adults in Southern California. This particular geographical, social and political context may have important implications for cross-border relationships and feelings of cross-border connectivity. For example, the proximity of the Los Angeles area to the sending countries of Mexican and Central American immigrants in this sample may facilitate more frequent personal contact within cross-border social networks.

In addition, because the data is cross-sectional, caution should be taken to not make a causal linkage between cross-border relationships and self-rated health status. The relationships between cross-border ties and health could easily be reversed from those I hypothesized. For example, better overall health status may enable respondents to visit their or their parents' home countries, all else equal. It is also possible that better health enables respondents to earn a sufficient income such that they can send remittances, although respondents' remittance sending was not significantly related to health in the analyses presented here. Additionally, the measures of legal status are limited in that undocumented status is not directly assessed, but also because respondents may under-report lack of documentation due to concerns about keeping immigration status confidential. However, if we expect that lack of legal documentation is associated with poorer health status (e.g. given poor access to health care or lower socio-economic status), and that respondents may under-report lack of documentation, the association between lack of documentation and self-rated health are likely underestimates.

A final set of limitations relates to omitted variable bias, whereby variables not considered in the model may confound the relationships observed between cross-border ties and health. These may include measures of poverty or social isolation within respondents' families that might be associated with the propensity to have made extended returns during childhood or rely on support from relatives living abroad – although the qualitative literature suggests that social isolation in the U.S. might mediate the relationship between cross-border ties and health rather than confound it (Viruell-Fuentes & Schulz, 2009). I have taken steps to control for local social ties, and in part to control for respondents' current social isolation. Nevertheless, further testing of childhood and family socio-economic covariates as well as formal mediation analyses using scales of social support, social stress, and ethnic identity are necessary for future research on this topic.

Despite the limitations of this study, the findings may have important implications for public health practice and policy. Given the interest in social support networks as part of health interventions for Latino immigrants (e.g. Eyler et al., 1999; Keller et al., 2011), it may be worthwhile to consider the expanded immigrant social network in these efforts even if this expanded network includes little personal contact. A more pressing set of recommendations come from the finding that childhood separations due to an extended return migration is associated with poorer overall health status during young adulthood. While such episodes of return migration may have been motivated by a range of circumstances unspecified in the IIMMLA survey, the effects of such separation may be of increasing concern in a climate where immigration raids and deportation of undocumented immigrants, often leaving behind

young, U.S. born children, has become an all too regular practice, with detrimental effects for health (Chaudry et al., 2010).

Overall, this analysis shows the potential importance of cross-border ties, even if they entail little "transnational" movement, as part of the social determinants of U.S. Latino immigrant health. The results compel further research into the relationship between cross-border ties and health, and particularly into the explanatory factors behind this relationship, and the implications for public health policy and practice.

Acknowledgments

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Research highlights

- Cross-border ties may be a significant part of the social networks of Latino adults in Southern California.

- Indication of cross-border ties is associated with better overall health for a sample of Latinos in Southern California.

- Cross-border separation from a parent is associated with lower health status for a sample of Latinos in Southern California.

Table 1

Socio-demographic and immigration measures for a sample of young Latino adults in the greater Los Angeles metropolitan area, (n=1268)

Socio-demographic Characteristics		
Age, y, mean (SD)	27.7	(0.2)
Female, no. (%)	639	(50.4)
Income, $, no. (%)		
19,999	262	(20.7)
20000–49,999	590	(46.5)
50,000	416	(32.8)
Educational Attainment, no. (%)		
High school or less (12 years)	590	(46.5)
At least some college (>12)	678	(53.5)
Spanish-language interview, no. (%)	156	(12.3)
Immigration Measures		
Generation, no. (%)		
1.5 generation	485	(38.3)
2nd generation	783	(61.7)
Ethno-national Group, no. (%)		
Mexican/Mexican-American	839	(66.2)
Central American	429	(33.8)
Age at immigration, y, mean (SD)[a]	5.8	(0.4)
Respondent Legal Status, no. (%)		
U.S. Citizen	1012	(79.8)
Legal Permanent Resident (LPR)	171	(13.5)
Neither U.S. Citizen or LPR	85	(6.7)
At least one parent entered U.S. with documentation, no. (%)	906	(71.5)
Self-rated health status, no. (%)		
Excellent	382	(30.1)
Very Good	384	(30.3)
Good	347	(27.4)
Fair/Poor	155	(12.2)

Source: Intergenerational and Immigrant Mobility in Metropolitan Los Angeles (IIMMLA), 2004.

Notes:

[a]Age at arrival calculated for foreign-born (1.5 generation) respondents only.

Table 2

Cross-border and local social ties for a sample of young Latino adults in the greater Los Angeles metropolitan area, (n=1268)

	n	(%) mean (SD)
Cross-border Ties		
Parents ever remitted money	836	(65.9)
R ever remitted money	503	(39.7)
R ever visited (parents') country of origin as an adult	837	(66.0)
Has close relative in (parents') country of origin	1013	(79.9)
Parents' ever returned to country of origin during R's childhood[a]		
No parental return	1002	(79.0)
Yes, and R accompanied parent	103	(8.1)
Yes, and R did not accompany parent	163	(12.9)
Local Ties		
Household members, no.		4.3 (0.05)
Number of close relatives (non-household) living in L.A.		
10	643	(50.7)
> 10	625	(49.3)
Belongs to a community group[b]	183	(14.4)
Frequently attends religious services[c]	878	(69.2)

Source: Intergenerational and Immigrant Mobility in Metropolitan Los Angeles (IIMMLA), 2004.

Note:

[a] For returns of 6 months,

[b] Includes community organizations, work-related organizations, sports teams, or other non-religious organizations,

[c] For respondents who indicate attending religious services several times a year or more.

Table 3

Multivariable ordinal logistic regression analyses of self-rated health status for a sample of young Latino adults in the greater Los Angeles metropolitan area (n=1268)

	Model 1			Model 2			Model 3		
		OR	95% CI		OR	95% CI		OR	95% CI
Socio-demographic Characteristics									
Age, y	*	0.98	(0.96, 0.99)	*	0.98	(0.96, 0.99)	*	0.98	(0.96, 0.99)
Female		1.13	(0.92, 1.38)		1.11	(0.90, 1.36)		1.12	(0.92, 1.38)
Income, $a									
20000–49,999	*	1.40	(1.07, 1.84)	*	1.42	(1.08, 1.86)	*	1.41	(1.08, 1.85)
50,000–99,999	***	1.94	(1.42, 2.64)	***	1.98	(1.46, 2.70)	***	1.89	(1.38, 2.58)
At least some college (>12 years education)b	**	1.46	(1.17, 1.82)	**	1.46	(1.17, 1.82)	**	1.43	(1.14, 1.78)
Spanish-language interviewc	*	0.64	(0.45, 0.92)	*	0.65	(0.45, 0.93)	*	0.67	(0.47, 0.96)
Immigration Measures									
1.5 generationd	*	1.38	(1.03, 1.84)		0.96	(0.52, 1.75)		0.95	(0.52, 1.74)
Central Americane		0.87	(0.69, 1.09)		0.87	(0.70, 1.10)		0.89	(0.71, 1.12)
Respondent Legal Statusf									
Legal Permanent Resident (LPR)		0.87	(0.59, 1.27)		0.82	(0.56, 1.20)		0.83	(0.56, 1.21)
Neither Citizen or LPR		0.69	(0.41, 1.16)		0.68	(0.40, 1.14)		0.69	(0.41, 1.16)
At least one parent entered U.S. as documented	**	1.42	(1.13, 1.78)	**	1.41	(1.12, 1.77)	**	1.37	(1.09, 1.72)
Cross border ties									
Parents ever remitted money		1.19	(0.95, 1.50)	*	1.39	(1.05, 1.84)	*	1.40	(1.06, 1.85)
R ever remitted money		0.95	(0.76, 1.19)		0.94	(0.76, 1.18)		0.95	(0.76, 1.18)
Either parent visited country-of-origin for 6 mos.g									
Yes, and R accompanied parent		0.95	(0.65, 1.38)		0.95	(0.65, 1.39)		0.96	(0.65, 1.41)
Yes, and R did not accompany parent	**	0.60	(0.44, 0.82)	**	0.61	(0.45, 0.83)	**	0.62	(0.45, 0.84)
R ever visited (parents') country of origin as an adult		0.90	(0.71, 1.15)		0.91	(0.72, 1.15)		0.90	(0.71, 1.14)
Has close relative in (parents') country-of-origin		1.09	(0.84, 1.42)		0.86	(0.63, 1.18)		0.84	(0.62, 1.15)
Interaction Terms									
1.5 generation × parents ever remitted money					0.68	(0.43, 1.08)		0.68	(0.43, 1.08)

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
1.5 generation × close relative in (parents') country-of-origin			** 2.19	(1.23, 3.92)	** 2.26	(1.26, 4.04)
Local social ties						
>10 close relatives (non-household) in L.A.[h]					1.17	(0.95, 1.44)
Belongs to a community group					* 1.36	(1.01, 1.83)
Likelihood Ratio Chi-Squared Statistic	92.7 ***		101.4 ***		108.1 ***	

Source: Intergenerational and Immigrant Mobility in Metropolitan Los Angeles (IIMMLA), 2004.

Notes:

[a] 2003 household income, $19,999 is the reference,

[b] 12 years of education is the reference,

[c] English-language interview is the reference,

[d] 2nd generation (U.S.-born) is the reference,

[e] Mexican/Mexican-American is the reference,

[f] U.S. Citizen is the reference,

[g] this measure refers to extended visits during respondents' childhood, the reference is neither parent made an extended visit,

[h] 10 close relatives (non-household) in L.A. is the reference.

*
p<0.05,

**
p<0.01,

***
p<0.001