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Remain Single or Live Together:

Does Culture Matter?

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ABSTRACT

This paper studies the role of culture in determining the decision to live together (as married or unmarried couples). To examine this issue, we utilize data on firstgeneration immigrants who arrived to the United States at or before the age of 5. We follow the epidemiological approach, indicating that the dissimilarities in the behavior of young-arrival immigrants originating from different countries, who grew up and live in the same country, can be interpreted as evidence of the existence of a cultural effect. Results show a positive and statistically significant relationship between the cultural proxy, that is, the proportion of individuals living together by country of origin, and the immigrant choice of living with a partner. We extend this analysis to the examination of both married and unmarried cohabitation, separately, and to an exploration of the formation of same- or different-origin couples. In all cases, our findings suggest an important role of culture. The results are robust after controlling for several home-country observable and unobservable characteristics, and to the use of different subsamples. With respect to the transmission of culture, we show empirical evidence of horizontal transmission of culture.

Keywords: Culture, Immigrants, Live together, Marriage, Cohabitation

JEL Codes: J12, J15, Z13

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1. INTRODUCTION

Why does an individual choose to live with a partner? According to the World Values Survey (WVS), around 50% of the individuals living together (as married/unmarried couples) are very satisfied with their life (during the period 2010 to 2014), whereas only 38% of the individuals not living with a partner (single/never married, divorced/separated or widowed) report the same level of satisfaction with their life. These dissimilarities in the level of satisfaction are also observed in other waves of the WVS and in other measures of wellbeing. For example, in the period 1989 to 1993, the WVS reveals that more than 80% of the individuals living with a partner approved of their life at home but, when responders do not live with a partner, less than 65% approved of it.² Taking those differences into account, it can be argued that individuals choose to live with a partner because their happiness is more likely to be higher. Of course, this quick glance at the WVS does not provide a unique response to the variations in the level of satisfaction of individuals that depend on marital status. Men and women who tend to be more optimistic and happier can be more likely to live with other people, while living together or maintaining a relationship may not be so easy for unstable and/or unhappy people (Stutzer and Frey 2006). Social norms may also influence the perception of the level of satisfaction in each particular marital status (Diener et al. 2000; Kalmijn 2009; Soons and Kalmijn 2009). Individuals who remain without a partner as single or divorced are ostracized in some countries, decreasing their level of satisfaction, because that way of living is different from that established by the social norms (Furtado et al. 2013; Kalmijn and Groenou 2005; Kalmijn and Uunk 2007). Then, it is not beyond the bounds of possibility that, if an individual does not want to be ostracized, they will follow the social norms (or culture) and will decide to live with a partner, pointing to the culture as a potential factor in the way-of-life decision. We focus on that issue in this analysis by exploring whether culture impacts the living-together decision.

Getting married or living together as married can be affected by multiple factors that have been explored in the literature. Gary Becker, the Nobel laureate

¹ Individuals are classified as very satisfied with their life if they report a level of satisfaction of 8, 9 or 10

² The WVS only includes a question relative to the satisfaction with the life at home, in the wave 1989-1993.

researcher of the economics of the family, had a particular interest in the marriage decision, focusing on the gains of marriage versus remaining single (Becker 1973). The exploration of the determinants of the living-together decision has not lost its importance in the literature. Stevenson and Wolfers (2007) revise the changes and the driving forces of marriage, divorce, and cohabitation, suggesting that the characteristics of individuals, such as their race, gender, and their educational level, appear to be related to the choice of marital status. Economic conditions (Ahituv and Lerman 2011; Bellido and Marcén 2017; González-Val and Marcén 2016), family laws (González-Val and Marcén 2012a; 2012b; 2016; Bellido and Marcén 2017; Stevenson and Wolfers 2007), religion (Lehrer 2004; Lehrer and Chiswick 1993), parenthood (Bellido et al. 2016; Steele et al. 2005) and welfare reforms (Bitler et al. 2004) also appear to affect the transitions into and out of marriage. To our knowledge, none of the prior literature examines the issue proposed here; that is, the potential effect of culture on the decision to live with a partner.

The importance of culture is a pertinent question for almost all of the researchers, but it is not easy to measure. Culture is normally defined as a set of beliefs and preferences that varies across space, time, and social groups (Fernández, 2007). Similarly, culture is described by UNESCO (2001) as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group. Not only does this encompass art and literature, but it also includes lifestyles, ways of living together, value systems, traditions, and beliefs. This definition is interesting for our work, since it suggests that ways of living are part of the culture of a society. Our goal is to explore whether those aspects of culture do play a role in the living-together decision. To do that, we follow the epidemiological approach (Fernández 2007) by exploring the behavior of immigrants who arrived in the US at or before the age of 5, and whose ethnicity or country of origin is known. In order to capture the effect of culture, we exploit the variation in the proportion of individuals living with a partner (as married or unmarried couples) by country of origin. As the epidemiological approach establishes, since immigrant attitudes are probably similar to the preferences and beliefs of their parents, forbears, and ethnic communities, differences in the proportion of individuals living with a partner (married or unmarried) by home country can be interpreted as evidence of the existence of a cultural effect.

This study contributes to the literature on the effect of culture on socioeconomic and demographic variables, which is becoming more and more common (Fernández 2011; Giuliano 2016). Related to our research are those studies that examine the impact of culture on living arrangements (Giuliano 2007), and divorce (Furtado et al. 2013). Giuliano (2007) finds that those individuals originating from countries whose counterparts leave the nest later in life are more likely to delay the decision to live without their parents. Furtado et al. (2013) show a positive relationship between the home-country divorce rates and the probability that the immigrants originating from those countries report being divorced. In addition, utilizing methodologies quite analogous to ours, there are several papers showing a role of culture on women's labor force participation and fertility (Bellido et al. 2016; Contreras and Plaza 2010; Fernández 2007; Fernández and Fogli 2006; Fernández and Fogli 2009; Marcén et al. 2016), unemployment (Brügger et al. 2009), self-employment (Marcén 2014), the search for a job (Eugster et al. 2016), and even on the math gender gap (Nollenberger et al. 2016).

Our sample is obtained from the 5% Integrated Public Use Microdata Series (IPUMS) of the 2000 US census (Ruggles et al. 2015). The cultural proxy is calculated by utilizing data from the Integrated Public Use Microdata Series International (IPUMS International), Minnesota Population Center (2015), which allows us to measure the variable of interest more precisely by age and education, as in Marcén et al. (2016). Results point to culture as an important factor on the living-together decision. This is maintained after adding controls for unobservable characteristics (including country of origin fixed effects), regardless of the definition of the cultural proxy, and using different subsamples. Although, in the main analysis, we only consider the ethnic origin of heads of household, we have re-examined the effect of culture, taking into account the fact that individuals can live together with a partner of the same or different country of origin. If the impact of culture is meaningful, we would expect a greater role of culture on couples

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³ The 2000 US Census was also used by Furtado et al. (2013) for an analysis of the effect of culture on divorce. As those authors explain, the choice of this dataset is due to the availability of sufficient data on first-generation immigrants for each country of origin, taking into account all our sample selection requirements, which are described in the Data section. In our case, the 2000 US Census is also appropriate in having enough countries of origin because the number of countries with information on the IPUMS International, used to calculate the cultural proxy, is considerably greater around the year 2000. This is explained in detail below.

having the same country of origin than on those with different ethnic origins. That is what we observe. It is also worth noting that a separate gender analysis has been considered, to mitigate the concerns that the use of a sample of heads of household, who have traditionally been men (Hobbs and Stoops 2002), may generate. Our findings do not vary, but male householders appear to be more affected than female householders, which is not surprising if it is assumed that female householders are less likely to follow the traditional social norms.

In our main analysis, living together includes both married and unmarried couples. Unmarried cohabitation is accepted, even legally, as a variety of marriage in many countries, so that the only difference between married couples and those couples living together as married is that the former have a marriage license, while the latter do not (Lewin 1982; Smock 2000; Stevenson and Wolfers 2007). However, in other countries, unmarried cohabitation is socially accepted as a temporary phase before marriage (Bumpass and Lu 2000; Stevenson and Wolfers 2007). In this framework, the social norms regarding marriage could be different from those of unmarried cohabitation, which can generate doubts as to whether we are capturing the social norms affecting marriage decisions or those affecting unmarried cohabitation. To tackle this issue, we have divided the sample between married and unmarried couples. We find that culture is important in both cases.

The final section presents evidence suggesting that culture can be transmitted horizontally. Using Census data, we are not able to study whether culture is transmitted vertically, that is, from parents to their children, since, unfortunately, there is no data on parents' characteristics. However, we are able to examine whether an increase in the concentration of individuals of the same country of origin has an effect on the number of individuals who choose to live with a partner. As Furtado el al. (2013) and Marcén et al. (2016) show, that relationship may reflect the sensitivity of immigrants to the community in which they live, providing empirical evidence of a possible horizontal transmission of culture. These findings reinforce the idea that culture is important in the decision to live with a partner.

The remainder of the paper is organized as follows. Section 2 presents the empirical strategy. Section 3 describes the data. Baseline results and robustness checks are discussed in Section 4. Finally, section 5 sets out our main conclusions.

2. EMPIRICAL STRATEGY

Measuring culture can be tricky, because of the interrelation among economic conditions, institutions, and social norms (Fernández 2007; Sevilla 2010), but Fernández (2007) proposes an empirical strategy to disentangle the effect of culture from that of markets and institutions, claiming that the epidemiological approach is a useful instrument to determine whether culture is an important factor in human behavior. Following that approach, we use data on immigrants who arrived in the US at a young age and whose country of origin or ethnicity is known. Those young-arrival immigrants have all grown up in the same country, so that, if only institutions and markets are important to the decision to live together, the home-country proportion of their counterparts living together (as married or unmarried couples) should have no impact on the decisions of those immigrants residing in the US. On the other hand, if culture does play a role in living arrangements, we would expect to detect a relationship between the behavior of the immigrants living in the US and that of their counterparts in their countries of origin. To test this issue, we estimate the following equation:

$$Y_{ijk} = \beta_0 + \beta_1 HCLT_i + X_{ijk} \beta_2 + \delta_k + \eta_i + \varepsilon_{ijk}$$
 (1)

where Y_{ijk} is a dummy variable that takes value 1 when immigrant i of cultural origin j living in state k reports living together (in a married or unmarried couple), and 0 otherwise. Our measure of culture, $HCLT_j$, is the proportion of individuals of country of origin j living with their partners. We revisit the definition of the cultural proxy below. In any case, if culture plays a role here, immigrants from countries whose counterparts tend to choose to live together as married or unmarried couples in a high proportion, should maintain similar behavior in the US. Then, β_1 should be positive. This is based on the idea that immigrants form their own attitudes based on perceptions of role models within their ethnic communities (Furtado et al. 2013), and also through family socialization (Bisin and Verdier 2000; Bisin et al. 2004). Parents may instill in their children beliefs and preferences about the predominant or customary way of living in their home

⁴ As in Furtado et al. (2013), we use a linear probability model for simplicity. Our conclusions are maintained applying a probit model; see Table A1 in the Appendix.

⁵ We have repeated the whole analysis with/without those individuals reporting being married with their partner absent. Our results do not vary. All our robustness checks are available upon request.

countries. The vector X_{ijk} includes individual characteristics, such as gender, race, age, and education level. As Stevenson and Wolfers (2007) show, racial differences in marital status do exist (see also Brien 1997). Blacks normally enter into marriage later in life and even, sometimes, never marry. Since our sample includes individuals of different races, the coefficient picking up the impact of culture could be capturing racial differences, in addition to, or rather than, a cultural effect. To address this issue, we have incorporated three dummies to control for the race of the individuals (White, Black, and Asian). The inclusion of gender is also necessary because we choose those first-generation immigrants who are heads of household and, as the literature suggests, women who are more financially independent are more likely to divorce (Jalovaara 2003; Weiss and Willis 1997) and women who divorce are less likely to remarry (Buckle et al. 1996; Gierveld 2004). Other research indicates that the age of the individuals and their level of education can have an effect on marital status for reasons independent of culture (Goldstein and Kenney 2001; Stevenson and Wolfers 2007). As before, these factors must be incorporated in our specifications. Controls for unobserved characteristics of the areas where our first-generation immigrants live are added by using state fixed effects, denoted by δ_k and for the country of origin unobserved characteristics, by introducing country of origin fixed effects, η_i .8 Standard errors are clustered at the home country level, in order to account for any within-ethnicity correlation in the error terms.⁹

We have extended our work by using alternative methodologies in order to explore the choice of living with a partner of the same ethnicity, or not. This is explained in detail in Section 4.

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⁶ The omitted race is *other races*. Those with more than one race have been eliminated from the analysis. The entire analysis has been re-estimated with/without race controls and results do not vary. We have also considered a sample of White individuals and our findings are unchanged, reinforcing that it is the cultural effect that we are observing.

⁷ The IPUMS USA and the IPUMS International define the head of household as any household member in whose name the property is owned or rented.

⁸ The inclusion of the country of origin fixed effects is not possible in all specifications (see below). We have re-run the analysis replacing the state fixed effects with Metropolitan Statistical Areas (MSA) fixed effects, and we do not find substantial differences. Results do not change including/excluding the country of origin fixed effects.

⁹ All estimates have been repeated with/without weights and with/without clusters and we do not find differences.

3. DATA

In our main analysis, we use data from the 5% Integrated Public Use Microdata Sample (IPUMS) of the 2000 US census (Ruggles et al. 2015). 10 Our sample consists of first-generation immigrants, who arrived in the US when they were 5 years old or younger and whose country of origin is reported. 11 These immigrants all grew up under US laws, institutions, and markets, but their attitudes are likely to reflect the attitudes of their parents and ethnic communities. We include individuals aged 25 to 64 because everyone in this sample can legally live with a partner. They have probably completed schooling and are below the retirement age. The 2000 US Census data allows us to identify unmarried couples, legallymarried couples, and those not living with a partner. 12 We select those immigrants who are heads of household or householders in order not to inflate the number of marriages/unmarried couples by including just one observation per household and not two observations (one for each member of the couple, which would be equivalent to considering two different marriages. 13 We revisit this issue below. Our main sample contains 22,941 observations of heads of household who are first-generation immigrants, originating from 34 different countries. ¹⁴

We cannot use a sample of second-generation immigrants, as other papers do, because there is no information on parents' birth place in the 2000 US Census. Nonetheless, our sample of young arrivals can be considered quite similar to a sample of second-generation immigrants. In both cases, those individuals (young-arrival first-generation immigrants and second-generation immigrants) have been exposed to US markets and institutions almost their entire lives. They are unlikely to suffer language barriers or the immigration shock (Fernández 2007; Fernández and Fogli 2006, 2009; Furtado et al. 2013; Giuliano 2007; Marcén et al. 2016).

¹⁰ As mentioned above, with that dataset, we have enough observations for 34 countries of origin, which allows us to obtain reliable results with all our sample selection requirements.

¹¹ Countries of origin with less than 20 observations per country have been removed from our analysis, following the recommendation of prior literature, since with only a few observations it is hard to assume that the immigrants represent the population composition of their country of origin.

¹² We only include heterosexual couples since same-sex couples were not allowed to marry in all countries during the period considered. There are only 16 heads of household that can be classified as having a same-sex partner.

¹³ Among those household-head first-generation immigrants, we include those living in an identifiable statistical metropolitan area in order to maintain the same sample as in the cultural transmission analysis (see below).

¹⁴ We use all the observations from countries where we have information on the cultural proxy in the IPUMS International. We include those immigrants originating from countries of origin where married and unmarried couples are identified in the Census data.

Then, as Furtado et al. (2013) indicate, a sample of young-arrival first-generation immigrants can be useful in examining whether a cultural effect exists. It is true that there are other US Censuses containing information on second-generation immigrants, but the last one of those was the 1970 US Census. Because marriage patterns have changed in recent decades (Thornton and Young-DeMarco 2001; Stevenson and Wolfers 2007), we prefer to use more recent data.

The cultural proxy is measured as the home-country proportion of individuals living with their partners, utilizing data from the Integrated Public Use Microdata Series International (IPUMS International). 15 To calculate this variable, we have chosen country-of-origin Censuses as close as possible to the year 2000 (see Table A2 in the Appendix). In this setting, it is assumed that the behavior of those immigrants who respond to the 2000 US Census is similar to the behavior of their counterparts in their country of origin in that same period of time. 16 The IPUMS International allows us to construct the cultural variable by age and education level. This is important, since most of the conclusions of prior studies on the effects of culture are based on the assumption that culture does not differ within each country of origin, which generates some concerns on the validity of the results. The composition of immigrants living in the US can be different from that of the individuals living in their country of origin. For example, immigrants living in the US can be younger and more educated than the individuals living in their country of origin. Then, their behavior can vary from that captured by the cultural proxy. In addition, if the attitudes toward living together also change by age group and education, the use of just one measure of culture by country does not take into account that heterogeneity. To tackle these potential problems, we follow the proposal of Marcén et al. (2016) and calculate the cultural proxy by country of origin, age, and education level.

Table 1 presents the summary statistics for the main variables by country of origin. The first column shows large variations in the proportion of immigrants living together across home countries: from around 50 % in Haiti and Jamaica, to 83% in Romania. Since all those immigrants live under the same laws, institutions, and economic conditions, these large differences may indicate the

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¹⁵ As before, this has been calculated using a sample of heads of household aged 25 to 64.

¹⁶ This strategy is followed in the rest of the literature. It is worth noting that, as Fernández (2007) explains, culture adjusts very slowly and our results do not vary when we measure the cultural proxy in different years.

presence of different social norms regarding how individuals should live, with or without a partner. By looking at the home-country proportion of individuals living together in each country of origin, column 2, we cannot deduce a clear relationship between the behavior of the immigrants and that of their counterparts. Although, for example, the lowest proportion of immigrants living with a partner originate from Jamaica, and the country of origin with the lowest proportion of individuals living together (as married or unmarried couples) is also Jamaica, for other countries this is not so clear. The raw data also reveals dissimilarities across countries in the gender composition, level of education, and age of the immigrants; 69% of immigrants are men, with this varying from just 48% in the case of immigrants from the Dominican Republic, to 90% in the case of those reporting a Romanian origin. The age of the immigrants in our sample is around 39 years old, on average, with the youngest originating from El Salvador, at 33 years old, and the oldest from Austria, at 49 years old, on average. Overall, 31% of the immigrants have completed high school, with the lowest percentage being from Bolivia (7%), and the highest from Mexico and Portugal (more than 41%). Regarding those who have completed at least a college degree, the lowest percentages are observed among those originating from Mexico (34%), and the highest among those from Bolivia (86%). Fewer differences are observed in terms of race: 75% of the immigrants are white, with the immigrants originating from 5 of the 34 countries being predominantly non-white. Since there are differences across countries for all these variables, we consider that their incorporation in our analysis is necessary.

Attitudes to the living-together decision can vary within each home country and across age groups. For example, in some countries, individuals who decide to live with a partner when they are young can be stigmatized, whereas, in other countries, living together when individuals are young may be socially accepted. If this is transmitted to the behavior of our sample of immigrants, the incorporation of more controls cannot help us to take into account the cultural differences within each country. We propose a more precise measure of culture, redefining the cultural proxy by country of origin and age group. The home-country proportion of individuals living together by country of origin and age interval is reported in table 2, where four age intervals are considered: 25 to 34, 35 to 44, 45 to 54 and 55 to 64. The differences across countries and age intervals are not limited to

developing countries but, as Stevenson and Wolfers (2007) indicate, family ways of life vary widely across developed countries. Among those aged 25 to 34, 77% live with a partner, ranging from a low of 21% for Jamaica, to a high of 96% for Iran. In the case of Jamaica, the minimum proportion of individuals living together corresponds to that age group (25-34); however, in the case of Iran, the maximum proportion of individuals living with a partner is achieved by the youngest age group. This pattern of behavior is not limited to those countries alone. Among the 23 countries having more than 70% of individuals living with a partner in the first age interval (25-34), 14 achieve their maximum at that age group, and the rest (9) in the second age interval (35-44). However, all but 4 of the countries with less than 70% of individuals living together in the first age group achieve their maximum when they are aged 45 to 54. In the latest age interval (55-64), the lowest proportions are for those residing in Jamaica (less than 46%) and the highest for Iran (more than 83%). We recognize that, although those two countries (Jamaica and Iran) are the same as those observed in the first age group, the rest of the countries do not behave in a similar way. There are countries with low proportions of individuals living with a partner in the first age group but having a high proportion of individuals in the latest age group (see the case of the Netherlands).

Is that pattern of behavior mimicked by the immigrants living in the US? Figures 1 and 2 show the relationship between the proportion of immigrants living with their partners in the US, and the home-country proportion of individuals living with their partners by country of origin and age interval. We have only included 2 age intervals (the first and the last: 25-34 and 55-64) as an example. For those aged 25-34, there is a positive relationship between the two variables: the higher the home-country proportion of individuals living with their partner, the greater the proportion of immigrants (aged 25-34) living with their partners in the US. This is not so clear for the last age group, which may indicate that the cultural differences within the countries of origin may also be consequence of other characteristics of the individuals.

Social norms can differ depending on education level. It may be more socially acceptable for an individual to live without a partner if she/he is more educated, but it can be less acceptable for an individual with a low education level. This can also vary by age group. Then, as before, to address this issue, we

measure the cultural proxy by country of origin, education level, and age group, with the education groups being: not completed high school, completed high school, some college (1 to 3 years of degree studies), and more college (4 and more years of degree studies). The culture of each country of origin includes 16 different measures. In the next section, we show whether the redefinition of the cultural proxy is useful to better determine whether culture does, in fact, play a role in the decision to live with a partner.

4. RESULTS

a. Baseline Model

Table 3 presents the estimates for our main specification. As can be seen in column 1, our results are consistent with the literature. Men are more likely to report living together (married or unmarried), since, for example, they are more likely to remarry when they divorce (Furtado et al. 2013). Also, as prior studies suggest, black individuals are much more likely to live without a partner than individuals of other races (Stevenson and Wolfers 2007). The impact of age has an inverted U-shape, achieving the maximum at 40 years old, which is line with the literature suggesting that older individuals are more likely to be divorced, and so, to live without a partner (Furtado et al. 2013). Higher levels of education are related to lower probabilities of marriage or living together as married, although in the case of the college-educated with 4 or more years of degree studies, this is not so clear in all specifications. This could be due to the fact that the level of education is a potential factor in the choice of a different ethnic partner (Stevenson and Wolfers 2007), which can affect the probability of couple dissolution. We revisit the choice of a same or different ethnic partner in subsection 4.c.

With respect to our variable of interest, the estimated coefficient on the cultural proxy (HCLT) indicates that a higher proportion of individuals living together as married or unmarried couples in an immigrant's country of origin is associated with an increase in the probability that that immigrant reports living with a partner (see column 1). Taking the epidemiological approach, this empirical

¹⁷ For those countries that do not distinguish between some college and more college, we have measured the cultural proxy for the tertiary level of education. Results are maintained without the immigrants originating from those particular countries of origin.

¹⁸ Note that our sample only incorporates heads of household. The analysis by gender is described below.

evidence can be interpreted as a cultural effect. We must clarify that the cultural proxy is defined as the home-country proportion of individuals living together (as married or unmarried couples) in column 1. In that specification, there is only one measure of culture for each country of origin, which is the common strategy in the research of the impact of culture. Nevertheless, as we have explained above, with this approach we are not taking into consideration the possible cultural differences within each home country, which is also a common problem in the literature on cultural issues. Since the preferences and beliefs of individuals can vary depending on their age and education level, and this can also vary across countries, we have re-estimated the equation (1), by redefining the cultural proxy by age interval and country of origin, and by measuring the cultural proxy by age, education level, and country of origin. In this setting, there are 4 and 16 different measures of the culture for each home country, respectively. Estimates can be found in columns 2 and 3 of Table 3. In both cases, the redefinition of the cultural proxy in several categories for each country of origin permits us to include country of origin fixed effects in order to pick up the unobserved heterogeneity across countries. As in column 1, we detect a positive relationship between the home-country proportion of individuals living together (regardless of the categories included in the cultural proxy) and the probability that an immigrant lives with a partner in the US. The estimated coefficient is considerably greater (28%) in column 3 than in the other two columns, even after including the country of origin fixed effects, which suggests that we are measuring the cultural impact more precisely after considering the cultural differences within countries by age and education level. ¹⁹

Our findings point to culture being an important factor. We find that when the cultural proxy (HCLT) increases by 1 percentage point, there is a rise of around 0.17 percentage points in the probability that an immigrant reports living with a partner in the US. Therefore, because of the cultural effect, immigrants from the country with the highest HCLT, Iran, are about 10.2 percentage points more likely to be living with a partner in the US than immigrants from Jamaica,

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¹⁹ The rest of the regressions displayed in the paper only include the cultural proxy measured by age, education level, and country of origin, since this variable allows us to better capture the culture of each country of origin. For consistency, we have repeated the analysis with the previous measures of culture and our conclusions on the impact of culture are maintained, although there are variations in the magnitude of the effect.

the country of origin with the lowest HCLT. Adding Metropolitan Statistical Areas (MSAs) fixed effects rather than state fixed effects does not alter our conclusions (see column 4).²⁰

Given that the sample selection of immigrants only includes heads of household, we have also explored the possibility that gender issues could be driving our results. Householders have traditionally been men, normally the breadwinners in many traditional societies. If that traditional behavior, in which women form their identities based on wife and mother gender roles, and men on worker and breadwinner gender roles (Akerlof and Kranton 2000), is transmitted to the sample of immigrants, we would expect to observe a greater impact of culture on the male sample than on the female sample of householders, simply because women householders are less likely to follow the traditional social norms. To examine this issue, we have divided the sample by gender. Results are shown in columns 5 and 6 for men and women, respectively. The estimated points indicate that an increase in the home-country proportion of individuals living together increases the probability of living together for immigrants (men and women, separately) of those countries of origin. The magnitude of the coefficient is almost 19% greater in the case of the male sample than in the female sample, in line with our predictions. What is remarkable in this analysis is that even with a sample of less-traditional individuals (the sample of women householders) with respect to gender issues, we still observe that culture matters for the decision to live with a partner.²¹ Our results do not appear to depend on gender differences.

For further evidence that our results are not affected by the heterogeneity across countries, we have repeated the analysis by including controls for observable characteristics of the countries of origin. We include the total fertility rate, the unemployment rate, GDP per capita (in constant 2010 \$US), the crude marriage rate, and a dummy variable for whether the predominant religion in a country of origin is Catholicism.²² We do not have information on all of these

²⁰ IPUMS USA defines a metropolitan area as a region formed by neighboring communities that

have a high degree of economic and social integration with the urban core. The population threshold to identify an MSA is 100,000 inhabitants.

²¹ It is surprising that, for the female sample, the coefficients picking up the effects of race and the cultural proxy are statistically significant, but not the rest of the controls (age, education level; see column 6). This should be taken with caution because of the small number of observations that we have for several countries of origin of the female sample.

²²The total fertility rate is defined as the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the

controls for the entire sample of countries of origin. We lose almost two thousand observations. Results are the same when we run the analysis with that reduced sample (see column 1 of Table 4). Cross-country differences in fertility behavior may be driving the marital decisions if, for example, those countries with greater preferences for having children (with high fertility rates) are also more likely to have their children when the parents are living together (as married or unmarried couples) influencing the marital decision. Similarly, dissimilarities in economic conditions (unemployment and GDP) across countries may have a different impact on marital behavior if, for example, those countries with worse economic conditions also have a greater necessity for more traditional families where a single mother has more difficulty living without a partner. The crude marriage rate can be considered as an alternative measure of culture with respect to the immigrants' decision to marry. Unfortunately, it is not useful for capturing the decision of living together as an unmarried couple. Then, we have incorporated that rate to the analysis in order to show that cross-country variations in the crude marriage rate have no effect on our estimates. To check whether our estimates are, in fact, capturing the effect of culture rather than religion differences, we have also added a control for whether the country of origin has Catholicism as the predominant religion. As explained in Furtado et al. (2013), those living in Catholic countries tend to be less likely to divorce, and so, more likely to live with a partner, since that religion usually stigmatizes divorced individuals. For instance, those who divorce are not permitted to remarry under that religion. Results are reported in Table 4. As shown in the second column, the estimated coefficient capturing the effect of culture is positive and statistically significant, providing additional evidence that we are capturing the effect of culture, rather than heterogeneity across countries.²³ We also run some simple robustness checks, including and excluding those countries with the highest number of observations and with the highest and lowest HCLT. In the third column, we drop Mexicans

fertility rates by age of a given year. Unemployment rate is the percentage of the total labor force, that is without work but available for and seeking employment. GDP per capita is gross domestic product divided by mid-year population. Crude marriage rates are the annual number of marriages per 1000 mid-year population. Data are collected for the year 2000 (or for the closer year if no data is available for that year) and come from the World Bank Data and from the UN Demographic Yearbooks. The information to elaborate the Catholic dummy variable came from The World Fact Book of the Central Intelligence Agency.

²³ We re-run the analysis including each of this observable characteristics at a time and our results do not change.

from our sample of first-generation immigrants, because they are the largest immigrant group. The fourth column reports the estimations without the first-generation immigrants from Germany, which is the country of origin with the oldest Census from the IPUMS International, in addition to being the country of origin of the second largest immigrant group. Immigrants originating from both Mexico and Germany have been eliminated in column 5. In column 6, we repeat the analysis without those from Jamaica, which presents the lowest HCLT, and without those from Iran, having the highest HCLT. Our findings do not vary. All the results described in this subsection suggest that culture plays an important role in the living-together decision.

b. The effect of culture on married and unmarried couples

Up to now, we have focused on the decision to live together as married or unmarried couples. Nevertheless, during recent decades, there have been changes in the demographics of marriage in many countries. As is shown in Figure 3, the crude marriage rate has decreased, especially since the early 1990s. That rate has been calculated for all countries, with the information available in the UN Demographic Yearbooks (several issues). The age at first marriage has also increased and more couples choose to cohabit rather than to marry (Bumpass and Lu 2000; Cherlin 2002; Manning et al. 2014). For individuals aged 20 to 30, this is more remarkable since the proportion of married individuals is almost the same as those who live with a partner as unmarried couple in 2011 (see Figure 4; data from the IPUMS International). At least in part, the different behavior of young individuals is being taken into consideration in our analysis defining the cultural variable by age group. However, it can be surmised that, since cohabitation is considered as an alternative to singlehood, rather than as an alternative to marriage in certain countries (Rindfuss and VandenHeuvel, 1990), our estimates may be capturing the cross-country differences in traditional laws regarding marriage, rather than the effect of culture on the living-together decision. For example, it is possible to argue that those countries having a high proportion of individuals living together are also those having more traditional social norms concerning marriage, and those countries having a low proportion of individuals living together are those where unmarried couples and the decision to remain single is

more widely accepted. To tackle this issue, we have re-run the entire analysis, separating the sample between married and unmarried individuals.

Table 5 reports our results. The cultural proxy is defined as the home-country proportion of individuals who report being married, by age and education level, in column 1, and where unmarried individuals have been excluded from our sample. Our variable of interest is calculated as the proportion of individuals who report living as an unmarried couple by age and education level, in the second column, where the married individuals are not included. The estimated coefficients on the cultural effect are in both columns positive and statistically significant, suggesting that culture plays a role. These results reinforce our previous findings, since it appears that the behavior of married or unmarried couples, separately, are not driving our results. In any case, we recognize that the estimates of the effect of culture on unmarried couples should be taken with caution, since the number of unmarried couples is quite low in several countries of the IPUMS International.

c. The effect of culture on same or different origin couples

In the previous analysis, we have only considered the country of origin of our householder first-generation immigrants as the indicator of culture. The decision to live with a partner is attributed to the preference of one of the members of the couple (the householder) and not to the beliefs and preferences of the other member, which may also be a determinant. In these circumstances, rather than having two alternatives: living together or not, immigrants have three possibilities: they can live without a partner, live with a partner of the same origin, or live with a partner of different origin. This is important for our analysis since, if culture matters, the impact of the cultural proxy (HCLT) should be lower in different-origin couples than in same-origin couples. In fact, ethnic intermarriage is seen as the "final step" in the immigrant culture assimilation process (Gordon 1964). To check this, we propose the use of a model for nominal outcomes, specifically a Multinominal Logit Model (MNL) in which we calculate a separate binary logit for each pair of outcome categories (Nervole and Press 1973). Formally, we estimate the following equation:

$$\ln \phi_{m|b} = \ln \frac{\Pr(y=m|\mathbf{x})}{\Pr(y=b|\mathbf{x})} = \mathbf{x}' \boldsymbol{\beta}_{m|b} \quad \text{for} \quad m=1 \text{ to } J$$
 (2)

In Equation (2), b is the base category and m varies from l to l, with l being the total number of outcome categories, in our case, three (living without a partner, living with a partner of the same origin, or living with a partner of different origin). The vector l includes all the variables defined in equation (1). Results are presented in columns 3 and 4 of Table 5. In order to analyze the dynamics among the outcome categories, we prefer the use of odds ratios, which is an intuitive method of interpreting the estimates (Greene 2008; Long and Freese 2006). Holding other variables constant, the changed factor in the odds of outcome category l versus outcome category l, when l increased by l0, equals:

$$\frac{\phi_{m|n}(\mathbf{x}, x_i + \delta)}{\phi_{m|n}(\mathbf{x}, x_i)} = e^{\beta_{i,m|n}\delta}$$

For a unit change in x_i , $\delta = 1$, the odds of m versus n are expected to change by a factor of $\exp(\beta_{i,m|n})$, holding all other variables constant. For a standard deviation change in x_i , $\delta = s_{x_i}$, the odds of m versus n are expected to change by a factor of $\exp(\beta_{i,m|n} \times s_{x_i})$. To simplify the odds analysis, the odds ratios can be presented in an odds-ratio plot (Long and Freese 2006). Figure 5 shows the odds ratios for the estimates presented in Table 5. The independent variables are represented in separate rows. The horizontal axis indicates the relative magnitude of the coefficients associated with each outcome category. The numbers correspond to the outcome categories: "1" denotes living without a partner, which is the base category in that figure, "2" living with a partner of the same origin, and "3" living with a partner of different origin. The distance between a given pair of outcome categories indicates the magnitude of the effect, and the statistical significance is shown by drawing a line between categories for which there is no statistically significant coefficient at the 5% level of significance. Results suggest that the cultural proxy is important in the choice of the living status of immigrants. In the case of the HCLT, categories 2 and 3 are to the right of category 1, then the greater the home-country proportion of individuals living together in an immigrant's country of origin, the more likely it is that that immigrant choice is living with a partner of the same (outcome

category 2) or of different origin (outcome category 3).²⁴ Also, the greater the HCLT, the more likely are individuals to choose living with a partner of the same ethnicity since outcome category 2 is to the right of outcome category 3. Those are interesting results because, in the literature, papers can be found that use ethnic intermarriage as a measure of intergenerational assimilation rates of immigrants, (Card et al. 2000; Furtado 2015): the greater the extent of ethnic intermarriage, the greater the scope of the intergenerational assimilation process. However, we cannot dismiss the possibility that parents, or the ethnic communities where immigrants live, instill in those immigrants the preferences for not living with a partner. Then, ethnic intermarriage may not well capture the intergenerational assimilation process, or even the social distance between ethnic groups. Another noticeable result that the odds-ratio plot reveals is that of the education controls. It is observed that the higher the level of education the more likely are individuals to choose living with a partner of a different country of origin, then the category chosen is not living with a partner, and the less likely category is living with a partner of the same country of origin. More educated individuals may be better able to adapt to different cultures, making them more likely to live with a partner outside of their ethnicity (Furtado and Theodoropoulos 2011). In addition, the more educated are less likely to reside in ethnic enclaves, which makes it difficult to find potential spouses of the same ethnicity (Furtado and Theodoropoulos 2011). This can explain the results for the education variables presented in the paper. All the empirical evidence presented here provides additional evidence of the existence of a cultural effect.

d. Cultural Transmission

To provide supplemental evidence that we are capturing the effect of culture, the exploration of the possible transmission of culture can be useful. It can be suggested that culture has no effect on the decisions of couples, because immigrants simply reproduce their own parents behavior, living together if they live with a partner, and not living together if their parents do not do that. To address this point, we would have liked to control for whether the immigrant's parents were living together, but this information is not available in the Census

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²⁴ As before, the cultural proxy is measured in this case by age, education level, and country of origin.

data. We can analyze whether culture has been transmitted horizontally, through neighbors, friends, or the ethnic communities in which immigrants live, but not the vertical transmission of culture; that is, the transmission of culture through parents (grandparents or other ancestors). Local communities can sustain culture either by providing role models for acceptable family actions, or by punishing conduct different from the norm (Fernández and Fogli 2009). In this framework, we can study whether immigrants are sensitive to the ethnic communities. As Furtado et al. (2013) suggest, the stronger relationship between the cultural proxy and the decision of living together in predominantly same-ethnic communities may be interpreted as empirical evidence that culture is horizontally transmitted. To explore this issue, following Bertrand et al. (2010), we consider the possible existence of network effects with the following model:

$$Y_{ijk} = \beta_0 + \beta_1 P_{jk} + \beta_2 P_{jk} * HCLT_j + X_{ijk} \beta_3 + \delta_k + \gamma_j + \varepsilon_{ijk}$$
 (3)

where P_{jk} is the proportion of immigrants from the same country of origin j in each metropolitan area k, γ_j represents the country of origin fixed effects, and ε_{ijk} is the error term. The remaining variables have been defined above. The country of origin fixed effects capture any unobservable determinant of couple's behavior that varies by home country. Our variable of interest is the interaction between ethnic concentration and the home-country proportion of immigrants living with a partner (as married or unmarried couples). If there is a horizontal transmission of culture, an increase in the concentration of same-ethnicity individuals should increase the probability of living with a married or unmarried partner, more for immigrants originating from countries with a high proportion of couples living together than for those from countries with a low proportion of couples living together. Then, we would expect β_2 to be positive.

Table 6 presents our results. As seen in the first column, the coefficient capturing the effect of ethnic concentration is not statistically significant (see column 1). The same occurs after adding the cultural proxy in column 2. The estimated coefficient on the HCLT remains similar. It is positive and statistically significant in column 2. The interaction between both variables (the ethnic concentration and the HCLT) is introduced in column 3. In that case, the

coefficient on the ethnic concentration is negative and statistically significant, and the interaction term is positive and statistically significant, which may indicate that, depending on the HCLT level, the effect of the ethnic concentration varies from positive to negative. To easily interpret this, we focus on column 4. The results indicate that an increase of 10 percentage points in the concentration of immigrants from Jamaica leads to a decrease of 0.18 in the probability of living with a partner (married or unmarried) for Jamaicans in the US (the home-country proportion of couples living together in Jamaica is 0.34). However, the same 10 percentage-point increase in the concentration of Iranians results in a 0.07 increase in the probability of living with a married or unmarried partner for Iranian immigrants (the home-country proportion of couples living together in Iran is 0.93). According to this finding, only for those immigrants originating from countries where the proportion of couples living together is greater than 0.76, it is found that an increase in the concentration of individuals of the same ethnic community appears to increase the probability of living with a partner (married or unmarried). In addition, the higher the home-country proportion, the greater is the increase. For the rest, an increase in the concentration of individuals of the same ethnic community appears to decrease the probability of living with a partner (married or unmarried). Then, these results appear to suggest the existence of a horizontal transmission of culture. We observe that, for high levels of HCLT, immigrants are sensitive to the behavior of their ethnic communities, increasing the probability of living with a partner. However, for low levels of HCLT, the concentration of same-ethnic individuals clearly discourage immigrants from choosing to live with a partner. Certainly, we are not claiming that this is a fullproof method of identifying the transmission of culture but, as all the remaining results in this paper, our findings suggest that, not only do laws and institutions affect immigrant's decisions about living with a partner, but that culture may also play a role.

5. CONCLUSIONS

Why is the decision to live together as married or unmarried of such concern? In the literature, economists, sociologists, and other researchers have given many alternative responses to that question, primarily focusing on reproductive reasons (having children), on children's outcomes, legal issues, and on economic incentives. Although these various responses are common in the majority of the countries, there are still considerable differences across countries in the number of individuals who decide to live with a partner. In addition, living together is not always the best option, since in some cases men - and especially women - are trapped in problematic and even violent relationships (Lehrer and Son 2017). Then, we wonder why the numbers of individuals living together vary so much from one country to another. In our work, we show that social norms (culture) may be an important factor in the decision to live together as a married or unmarried couple.

To isolate the effects of culture from those of markets and institutions in determining the individuals' decisions about living with a partner (as married or unmarried), we have followed an epidemiological approach (Fernández 2007). We have based our work on US data on young-arrival immigrants who subsequently grew up under the same laws and institutions. Since immigrants' attitudes are probably similar to the preferences of their parents, forebears and ethnic communities, we use dissimilarities in the proportion of couples living together by country of origin to document the extent of the impact of culture.

Results show a positive and statistically significant effect of our proxy of culture on the likelihood that an immigrant chooses to live with a partner (married or unmarried). We see our findings as evidence that cross-country variations in laws and institutions cannot entirely explain the observed variations in the proportion of immigrants living with their partners in the US. This is in line with the work of Furtado et al. (2013), who finds that culture also appears to be a determinant in divorce decisions. Our estimates are robust to controls for observable and unobservable characteristics by country of origin, to the use of different subsamples, and to the redefinition of the cultural proxy. Empirical evidence also suggests that differences in attitudes regarding unmarried cohabitation do not drive our results. Separately, culture affects both married and unmarried cohabitation.

The exploration of the formation of same- or different-origin couples provides supplemental empirical evidence in favor of the effect of culture on the living-together decision. Clearly, it is observed that the greater the home-country proportion of individuals living together, the more likely are those immigrants originating from that country of origin to choose living together as married or

unmarried couples, regardless of their partners' ethnicity. It is worth noting that the choice of a partner of the same ethnicity is the more likely option for those originating from countries with a high proportion of individuals living together. This is interesting for the literature that uses ethnic intermarriage as a measure of intergenerational assimilation rates of immigrants, (Card et al. 2000; Furtado 2015) since our estimates suggest that parents preferences relative to the choice of living without a partner can also be transmitted to their children, which in turn raises doubts about the utilization of ethnic intermarriage as a proxy of intergenerational assimilation.

The ways in which culture is transmitted has also been explored. We provide additional evidence to reinforce the notion that our estimates are capturing the effects of culture. Because of data restrictions, we can only examine the horizontal transmission of culture. Results appear to reveal a marked sensitivity of immigrants to the behavior of their communities, and in this way, our findings provide evidence that culture plays an important role in couples' decisions. Of course, one interesting issue for further research is an exploration of the mechanisms through which culture may be operating.

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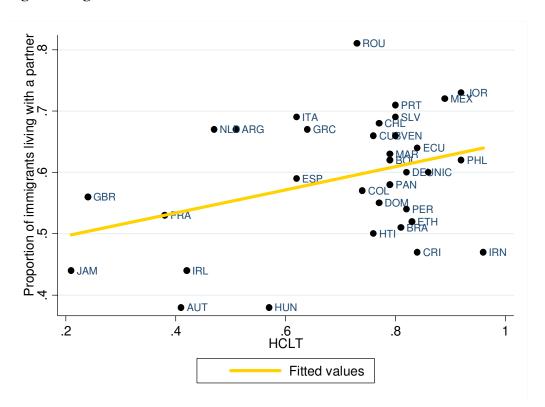
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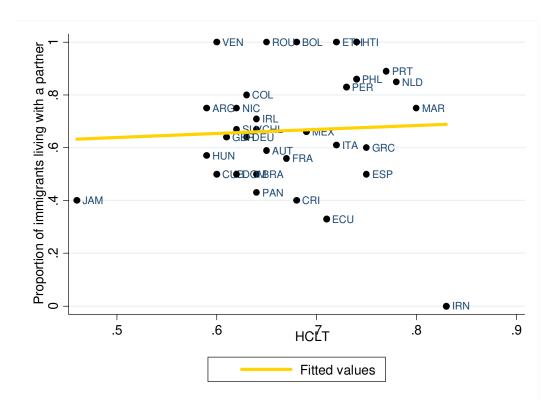
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Figure 1: The proportion of immigrants living with a partner in the US, and the proportion of individuals living with a partner in their respective countries of origin. All aged 25 to 34.



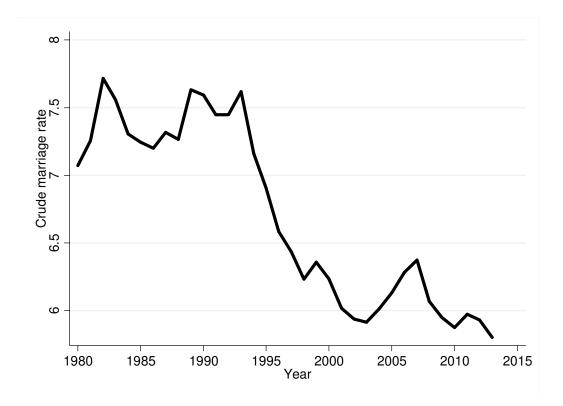
Notes: The home-country proportion of individuals living with a partner (married or unmarried), calculated using data from the IPUMS International, is plotted on the x-axis, while the proportion of immigrants living with a partner of those countries of origin, calculated using data from the 5% IPUMS of the 2000 US census, is plotted on the y-axis. In both cases, individuals aged 25 to 34 are considered.

Figure 2: The proportion of immigrants living with a partner and the proportion of individuals living with a partner in their respective countries of origin: All aged 55 to 64.



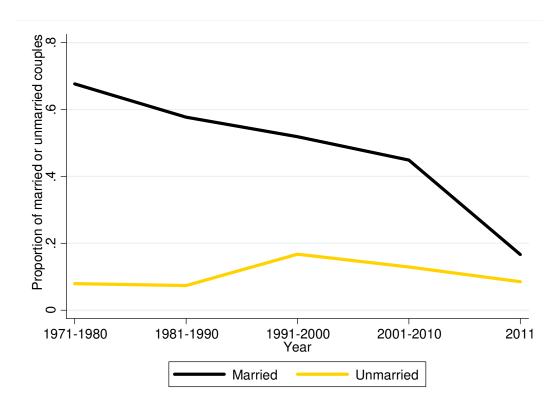
Notes: The home-country proportion of individuals living with a partner (married or unmarried), calculated using data from the IPUMS International, is plotted on the x-axis, while the proportion of immigrants living with a partner of those countries of origin, calculated using data from the 5% IPUMS of the 2000 US census, is plotted on the y-axis. In both cases, individuals aged 55 to 64 are considered.

Figure 3: Evolution of the crude marriage rate from 1980 to 2014.



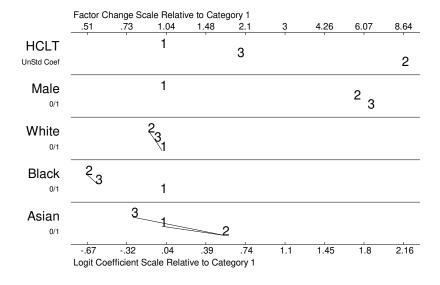
Notes: Data come from the UN Demographic Yearbooks (several issues). The crude marriage rate represented in this figure has been calculated using information on all countries with available data for the period considered.

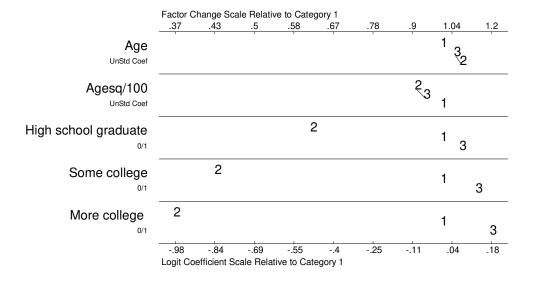
Figure 4: Evolution of married and unmarried couples from 1970 to 2011: individuals aged 20 to 30.



Notes: Data come from the IPUMS International.

Figure 5: Remain single (outcome 1), live with a same-origin partner (outcome 2), or live with a different-origin partner (outcome 3): using a Multinomial Logit.





Notes: Robust standard errors. With respect to the sample, see notes to Table 3. The numbers correspond to the outcome categories: 1 indicates not living with a partner, 2 indicates living with a partner of the same country of origin, and 3 indicates living with a partner not having the same country of origin. The additive scale on the bottom axis measures the value of $\beta i,m|n$ δ . The multiplicative scale on the top axis measures $\exp(\beta i,m|n)\delta$. The statistical significance is shown by drawing a line between categories for which there is no significant coefficient at the 5% level.

Table 1: Summary statistics by country of origin

Country of origin	Proportion of immigrants living together	Home- country cultural proxy	Man	White	Black	Age	High school graduate	Some college	More college	Observations
Argentina	0.7	0.6	0.73	0.9	0.01	38.16	0.24	0.25	0.48	179
Austria	0.67	0.58	0.73	0.99	0	48.91	0.27	0.22	0.48	279
Bolivia	0.72	0.77	0.62	0.72	0	38.66	0.07	0.41	0.45	29
Brazil	0.59	0.75	0.59	0.87	0.02	37.86	0.21	0.23	0.5	145
Chile	0.64	0.73	0.64	0.84	0	37.79	0.13	0.29	0.57	75
Colombia	0.64	0.7	0.74	0.69	0.01	36.46	0.25	0.28	0.41	320
Costa Rica	0.62	0.78	0.57	0.66	0.03	37.16	0.24	0.34	0.42	76
Cuba	0.68	0.69	0.7	0.91	0.02	38.93	0.27	0.32	0.37	1,390
Dominican Republic	0.56	0.72	0.48	0.29	0.12	36.54	0.33	0.27	0.26	283
Ecuador	0.67	0.8	0.68	0.6	0.01	36.94	0.22	0.38	0.37	149
El Salvador	0.64	0.72	0.65	0.36	0.01	33.43	0.38	0.2	0.22	158
Ethiopia	0.52	0.81	0.65	0.65	0.35	34	0.26	0.23	0.52	31
France	0.63	0.57	0.69	0.93	0.06	41.53	0.26	0.26	0.45	810
Germany	0.64	0.76	0.7	0.93	0.05	40.66	0.28	0.28	0.41	6,385
Greece	0.65	0.75	0.73	0.98	0.01	40.32	0.2	0.28	0.47	281
Haiti	0.5	0.79	0.52	0.07	0.89	35.83	0.2	0.29	0.44	109
Hungary	0.59	0.61	0.73	0.99	0	47.39	0.32	0.21	0.46	112
Iran	0.54	0.93	0.67	0.97	0.01	36.62	0.16	0.19	0.66	122
Ireland	0.58	0.61	0.67	0.99	0.01	42.43	0.32	0.29	0.38	168
Italy	0.71	0.73	0.73	0.98	0.01	41.66	0.35	0.24	0.37	1,149
Jamaica	0.51	0.34	0.57	0.1	0.88	35.1	0.28	0.3	0.4	249
Jordan	0.81	0.91	0.81	1	0	38.77	0.35	0.35	0.26	31
Mexico	0.72	0.82	0.71	0.43	0	35.88	0.41	0.22	0.12	5,217
Morocco	0.68	0.84	0.68	0.97	0.01	40.63	0.24	0.28	0.46	97
Netherlands	0.71	0.68	0.73	0.92	0.01	44.08	0.3	0.28	0.4	306
Nicaragua	0.65	0.76	0.65	0.51	0	36.49	0.37	0.32	0.21	71
Panama	0.6	0.73	0.62	0.75	0.17	41.34	0.26	0.32	0.42	395
Peru	0.59	0.79	0.71	0.64	0.01	37.85	0.19	0.3	0.46	139
Philippines	0.63	0.87	0.69	0.22	0.03	35.97	0.17	0.31	0.5	1,000
Portugal	0.74	0.81	0.74	0.99	0.01	36.49	0.41	0.24	0.18	296
Romania	0.83	0.71	0.9	0.98	0	40.76	0.37	0.22	0.37	41
Spain	0.61	0.73	0.64	0.91	0.03	34.65	0.25	0.31	0.41	353
United Kingdom	0.61	0.53	0.68	0.92	0.05	41.5	0.28	0.3	0.4	2,362
Venezuela	0.66	0.72	0.66	0.93	0.01	39.99	0.21	0.21	0.56	134
Average	0.66	0.73	0.69	0.75	0.05	39.09	0.31	0.27	0.34	
Std. Dev.	0.47	0.10	0.46	0.43	0.21	8.73	0.46	0.44	0.47	

Notes: Data from the 5% microdata sample of the 2000 US Census, IPUMS USA. The sample contains 22,941 observations of immigrants, aged 25 to 64, originating from 34 different countries.

Table 2: Proportion of individuals living with a partner in each country of origin by age group.

Country	25 to 34	35 to 44	45 to 54	55 to 64
	years old	years old	years old	years old
Argentina	0.51	0.64	0.63	0.59
Austria	0.41	0.61	0.66	0.65
Bolivia	0.79	0.8	0.75	0.68
Brazil	0.81	0.78	0.72	0.64
Chile	0.77	0.78	0.72	0.64
Colombia	0.74	0.74	0.68	0.63
Costa Rica	0.84	0.8	0.75	0.68
Cuba	0.76	0.73	0.66	0.6
Dominican Republic	0.77	0.75	0.69	0.62
Ecuador	0.84	0.82	0.77	0.71
El Salvador	0.8	0.76	0.68	0.62
Ethiopia	0.83	0.84	0.77	0.72
France	0.38	0.59	0.67	0.67
Germany	0.82	0.86	0.75	0.63
Greece	0.64	0.79	0.8	0.75
Haiti	0.76	0.83	0.8	0.74
Hungary	0.57	0.65	0.62	0.59
Iran	0.96	0.95	0.91	0.83
Ireland	0.42	0.68	0.68	0.64
Italy	0.62	0.75	0.77	0.72
Jamaica	0.21	0.33	0.42	0.46
Jordan	0.92	0.95	0.9	0.83
Mexico	0.89	0.84	0.78	0.69
Morocco	0.79	0.88	0.86	0.8
Netherlands	0.47	0.71	0.77	0.78
Nicaragua	0.86	0.78	0.7	0.62
Panama	0.79	0.77	0.71	0.64
Peru	0.82	0.82	0.78	0.73
Philippines	0.92	0.91	0.84	0.74
Portugal	0.8	0.85	0.82	0.77
Romania	0.73	0.76	0.73	0.65
Spain	0.62	0.76	0.77	0.75
United Kingdom	0.24	0.5	0.62	0.61
Venezuela	0.8	0.75	0.68	0.6
Average	0.77	0.76	0.73	0.67
Std. Dev.	0.19	0.13	0.06	0.05

Notes: The home-country proportion of individuals living together by country of origin and age interval has been calculated using information from the International IPUMS. See Table A1 in the Appendix.

Table 3: The effect of culture on the living-together decision

Dependent Variable: Living together as married or unmarried couples	(1)	(2)	(3)	(4)	(5)	(6)
Home-country proportion of	0.135***	0.148**	0.173***	0.181**	0.196**	0.165***
individuals living together	(0.047)	(0.063)	(0.063)	(0.066)	(0.096)	(0.042)
Male	0.412***	0.410***	0.410***	0.409***		
	(0.011)	(0.011)	(0.011)	(0.011)		
White	-0.041***	-0.016*	-0.016*	-0.019**	-0.011	-0.025**
	(0.012)	(0.008)	(0.008)	(0.008)	(0.009)	(0.011)
Black	-0.151***	-0.127***	-0.124***	-0.126***	-0.150***	-0.110***
	(0.021)	(0.018)	(0.018)	(0.018)	(0.019)	(0.026)
Asian	-0.092***	-0.027	-0.025	-0.025	-0.052***	0.025
	(0.012)	(0.021)	(0.020)	(0.021)	(0.017)	(0.052)
Age	0.012***	0.011***	0.009***	0.009***	0.019***	-0.007
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
$Age^2/100$	-0.015***	-0.013***	-0.012***	-0.012***	-0.020***	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)
High school graduate	-0.049***	-0.036***	-0.033***	-0.030***	-0.036***	-0.021
	(0.007)	(0.011)	(0.010)	(0.009)	(0.008)	(0.027)
Some college	-0.062***	-0.043**	-0.035*	-0.032*	-0.036*	-0.033
	(0.013)	(0.019)	(0.018)	(0.017)	(0.019)	(0.024)
More college	-0.059***	-0.036	-0.028	-0.025	-0.045*	0.0004
	(0.018)	(0.023)	(0.022)	(0.020)	(0.024)	(0.028)
State fixed effects	Yes	Yes	Yes	No	Yes	Yes
MSA fixed effects	No	No	No	Yes	No	No
Country of origin fixed effects	No	Yes	Yes	Yes	Yes	Yes
Observations	22,941	22,941	22,941	22,941	15,887	7,054
\mathbb{R}^2	0.175	0.179	0.179	0.189	0.033	0.042

Notes: The home-country proportion of individuals living together as married and unmarried couples is calculated using information from the IPUMS International. The sample, obtained from the 5% microdata sample of the 2000 US Census, consists of immigrants aged 25 to 64 who arrived in the US at or before the age of 5 and who report a country of origin. In the first column, the home-country cultural proxy has been calculated by country of origin. The second column incorporates the cultural proxy measured by country of origin and age group (25-34, 35-44, 45-54 and 55-64). In the rest of columns, our variable of interest has been calculated by country of origin, age group, and education level. Column 5 only incorporates immigrant men, and column 6 only incorporates immigrant women. Estimates are weighted. Robust standard errors, clustered by country of origin, are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table 4: Robustness checks

Dependent Variable: Living together as married or unmarried couples	(1)	(2)	(3)	(4)	(5)	(6)
Home-country proportion of	0.129***	0.191***	0.145***	0.178***	0.136***	0.205***
individuals living together	(0.036)	(0.023)	(0.033)	(0.028)	(0.035)	(0.033)
Male	0.421***	0.419***	0.418***	0.411***	0.405***	0.421***
	(0.008)	(0.008)	(0.011)	(0.009)	(0.012)	(0.007)
White	-0.042***	-0.024***	-0.015	-0.024***	-0.023	-0.021***
	(0.015)	(0.008)	(0.020)	(0.008)	(0.022)	(0.006)
Black	-0.159***	-0.127***	-0.116***	-0.111***	-0.110***	-0.135***
	(0.021)	(0.016)	(0.020)	(0.023)	(0.028)	(0.016)
Asian	-0.082**	-0.062*	-0.056	-0.059	-0.063	-0.052
	(0.037)	(0.033)	(0.044)	(0.041)	(0.053)	(0.033)
Age	0.008***	0.008***	0.009**	0.010***	0.012**	0.007**
	(0.003)	(0.003)	(0.004)	(0.003)	(0.006)	(0.002)
$Age^2/100$	-0.011***	-0.011***	-0.012**	-0.013***	-0.015**	-0.009***
	(0.003)	(0.003)	(0.005)	(0.004)	(0.007)	(0.003)
High school graduate	-0.045***	-0.035***	-0.014	-0.041***	-0.032	-0.034***
	(0.006)	(0.009)	(0.019)	(0.008)	(0.019)	(0.009)
Some college	-0.053***	-0.039**	-0.005	-0.048***	-0.021	-0.036*
	(0.012)	(0.017)	(0.020)	(0.014)	(0.024)	(0.018)
More college	-0.050***	-0.034	0.003	-0.051***	-0.019	-0.030
	(0.017)	(0.022)	(0.021)	(0.016)	(0.018)	(0.023)
Total fertility rate		-0.004	-0.015	-0.007	-0.015	-0.011
		(0.011)	(0.014)	(0.012)	(0.015)	(0.011)
Unemployment rate		-0.001	0.001	0.000	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
GDP pc		0.005	0.003	0.005	0.004	0.004
		(0.004)	(0.005)	(0.004)	(0.006)	(0.004)
Crude marriage rate		0.010	0.003	0.013	0.005	0.018***
		(0.009)	(0.010)	(0.009)	(0.011)	(0.006)
Catholic population		0.049***	0.039***	0.076*	0.055*	0.051***
		(0.011)	(0.011)	(0.040)	(0.028)	(0.011)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21,210	21,210	15,993	14,825	9,608	20,839
\mathbb{R}^2	0.183	0.184	0.179	0.183	0.174	0.185

Note: The home-country proportion of married and unmarried couples has been calculated by country of origin, age group, and education level in all estimations. We have excluded those immigrants originating from Mexico in the third column, those originating from Germany in the fourth column, and both have been excluded in column 5. Column 6 excludes immigrants from Jamaica and Iran. Estimates are weighted. Robust standard errors, clustered by country of origin, are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table 5: The effect of culture on married and unmarried couples, and on same- or different-ethnicity couples

Dependent Variable:	Married	Unmarried	Living together as same-origin couple	Living together as different- origin couple
Home-country cultural proxy	0.148**	0.151**	2.156***	0.689**
	(0.070)	(0.058)	(0.529)	(0.297)
Male	0.458***	0.060***	1.730***	1.853***
	(0.012)	(0.019)	(0.060)	(0.071)
White	-0.012	-0.035***	-0.112**	-0.054
	(0.009)	(0.008)	(0.049)	(0.052)
Black	-0.121***	-0.085***	-0.668**	-0.578***
	(0.017)	(0.018)	(0.324)	(0.089)
Asian	-0.032*	-0.018	0.553	-0.257***
	(0.017)	(0.036)	(0.501)	(0.097)
Age	0.016***	-0.015***	0.072*	0.050***
	(0.003)	(0.002)	(0.038)	(0.014)
$Age^2/100$	-0.018***	0.012***	-0.094*	-0.062***
	(0.004)	(0.003)	(0.051)	(0.017)
High school graduate	-0.035***	-0.028**	-0.478***	0.071*
	(0.010)	(0.012)	(0.047)	(0.040)
Some college	-0.037*	-0.047***	-0.831***	0.130***
	(0.021)	(0.012)	(0.088)	(0.042)
More college	-0.026	-0.060***	-0.983***	0.182***
	(0.024)	(0.010)	(0.104)	(0.052)
State fixed effects	Yes	Yes	Yes	Yes
Country of origin fixed effects	Yes	Yes	Yes	Yes
Observations	21,505	9,277	22,941	22,941
\mathbb{R}^2	0.214	0.049		

Note: The home-country has been calculated by country of origin, age group, education level in all estimations. In columns 1 and 2, the cultural proxy is defined as the proportion of individuals who are married and who are unmarried, respectively. Columns 3 and 4 include the proportion of individuals living together as married and unmarried couples. Columns 3 and 4 show the results of a Multinomial Logit Model. Estimates are weighted. Robust standard errors, clustered by country of origin, are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table 6: Horizontal transmission of culture

Dependent Variable: Living together as married or				
unmarried couples	(1)	(2)	(3)	(4)
Proportion of immigrants of the same origin by MSA	0.117	0.121	-2.518***	-3.173***
1 toportion of miningrants of the same origin by Mort	(0.095)	(0.098)	(0.428)	(0.272)
Home-country proportion of individuals living together	(0.050)	0.174**	0.106*	(3.272)
, hashermer		(0.064)	(0.052)	
Proportion of immigrants of the same origin by MSA x		(/	3.329***	4.153***
Home-country proportion of individuals living together			(0.531)	(0.348)
Male	0.410***	0.410***	0.410***	0.410***
	(0.011)	(0.011)	(0.011)	(0.011)
White	-0.019**	-0.016*	-0.016*	-0.017*
	(0.009)	(0.009)	(0.009)	(0.009)
Black	-0.131***	-0.125***	-0.124***	-0.127***
	(0.018)	(0.018)	(0.018)	(0.018)
Asian	-0.033	-0.026	-0.026	-0.029
	(0.024)	(0.021)	(0.021)	(0.023)
Age	0.013***	0.009***	0.010***	0.012***
	(0.003)	(0.003)	(0.003)	(0.003)
$Age^2/100$	-0.016***	-0.012***	-0.012***	-0.014***
	(0.003)	(0.003)	(0.003)	(0.003)
High school graduate	-0.035***	-0.032***	-0.026***	-0.026***
	(0.011)	(0.010)	(0.008)	(0.008)
Some college	-0.043**	-0.035*	-0.030*	-0.033**
	(0.019)	(0.018)	(0.016)	(0.016)
More college	-0.037	-0.027	-0.023	-0.027
	(0.022)	(0.021)	(0.020)	(0.019)
State fixed effects	Yes	Yes	Yes	Yes
Country of origin fixed effects	Yes	Yes	Yes	Yes
Observations	22,941	22,941	22,941	22,941
R^2	0.179	0.179	0.180	0.180

Note: The home-country has been calculated by country of origin, age group, education level in all estimations. Estimates are weighted. Robust standard errors, clustered by country of origin, are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Appendix

Table A1: The effect of culture on the living-together decision using Probit Models

Dependent Variable: Living together as married or unmarried couples	(1)	(2)	(3)
Home-country proportion of	0.420***	0.437**	0.518***
individuals living together	(0.144)	(0.193)	(0.201)
Male	1.121***	1.119***	1.119***
	(0.035)	(0.036)	(0.035)
White	-0.133***	-0.054*	-0.052*
	(0.038)	(0.028)	(0.028)
Black	-0.452***	-0.373***	-0.366***
	(0.066)	(0.057)	(0.055)
Asian	-0.291***	-0.087	-0.082
	(0.039)	(0.065)	(0.062)
Age	0.039***	0.036***	0.031***
	(0.009)	(0.008)	(0.009)
$Age^2/100$	-0.047***	-0.043***	-0.040***
	(0.010)	(0.010)	(0.010)
High school graduate	-0.167***	-0.125***	-0.117***
	(0.026)	(0.040)	(0.036)
Some college	-0.209***	-0.148**	-0.126*
	(0.050)	(0.068)	(0.065)
More college	-0.201***	-0.128	-0.104
	(0.065)	(0.080)	(0.076)
State fixed effects	Yes	Yes	Yes
Observations	22,941	22,941	22,941

Notes: The home-country proportion of individuals living together as married and unmarried couples is calculated using information from the IPUMS International. The sample, obtained from the 5% microdata sample of the 2000 US Census, consists of immigrants aged 25 to 64 who arrived in the US at or before the age of 5 and who report a country of origin. In the first column, the home-country cultural proxy has been calculated by country of origin. The second column incorporates the cultural proxy measured by country of origin and age group. In the third column, our variable of interest has been calculated by country of origin, age group, and education level. Estimates are weighted. Robust standard errors, clustered by country of origin, are in parentheses. *** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level.

Table A2: Home-Country Censuses from IPUMS International

Country	Year IPUMSI
Argentina	2001
Austria	2001
Bolivia	2001
Brazil	2000
Chile	2002
Colombia	2005
Costa Rica	2000
Cuba	2002
Dominican Republic	2002
Ecuador	2001
El Salvador	2007
Ethiopia	2007
France	2006
Germany	1970
Greece	2001
Haiti	2003
Hungary	2001
Iran	2006
Ireland	2002
Italy	2001
Jamaica	2001
Jordan	2004
Mexico	2000
Morocco	2004
Netherlands	2001
Nicaragua	2005
Panama	2000
Peru	2007
Philippines	2000
Portugal	2001
Romania	2002
Spain	2001
United Kingdom	2001
Venezuela	2001

Notes: This table shows the Censuses of the countries of origin utilized to calculate the cultural proxies.