Migration, Friendship Ties, and Cultural Assimilation*

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Abstract

We study migrants' assimilation by analyzing whether friendship with natives is a measure of cultural assimilation and by investigating the formation of social ties. Using the German Socio-Economic Panel, we find that migrants with a German friend are more similar to natives than those without along several important dimensions, including concerns about the economy, interest in politics and a host of policy issues. Turning to friendship acquisition, we find that becoming employed, time spent in the host country, the birth of a child, residential mobility and additional education acquired in the host country are significant drivers of social network variation.

Key words: Culture, Social Network Formation, Ethnic minorities.

JELL Classification: A14, J15, J61.

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I. Introduction

Immigrant assimilation – a process of convergence of immigrant behavioral and attitudinal outcomes to the outcomes of the native-born – is a complex phenomenon. It may occur along some dimensions (language, citizenship acquisition, or employment), but not necessarily along others (religiosity). It may also be very heterogeneous across destinations, origins, or both. Assimilation is mostly a one-way, absorptive process, whereas integration also reflects the extent to which receiving societies are willing to engage with immigrants, accept them, and provide them with equal rights and opportunities to express their behaviors and preferences along with the native-born. As such, integration is mostly framed by specific measures and policies adopted by the destination country, which affect the inclusion of immigrants into different life dimensions. A good understanding of assimilation processes is thus crucial to the design of effective integration policies, and the objective of this paper is to contribute to this goal in two ways. First, we analyze to what extent friendship with natives can be seen as a measure of cultural assimilation. Second, we study the determinants of the formation of social network ties in the host country.

The political and academic debate surrounding assimilation and integration has a long-standing tradition in the United States, while attention to immigration and other minority-related concerns is relatively novel in Europe. In particular, much of the existing literature focuses on the economic impact of immigration (see for example, Manacorda, Manning and Wadsworth 2012) and the issue of "identity" has been investigated in relation to labor market outcomes (Mason 2004; Constant and Zimmermann 2008; Battu and Zenou 2010). The key question in these studies is whether immigrants that identify strongly with the host country perform better in the labor market than immigrants that do not. Still, several important issues have not yet received enough attention in the economics literature. In particular, do immigrants to Europe identify themselves with the culture, values and beliefs of the country which they have chosen as their new home, or with beliefs and values of their origin country? Furthermore, what are the factors shaping cultural assimilation patterns, and what is the role

of inter-ethnic contact? Modood et al. (1997) and Manning and Roy (2010) investigate some of these aspects. Both studies (as many others focusing on the US) are based on subjective measures of cultural assimilation. Vidgor (2013) takes instead a broader perspective, using objective indicators to measure the extent of *economic*, *cultural* and *civic* assimilation in the United States. In this paper, we follow this approach and measure cultural assimilation using information on the friendship patterns between native and migrants. Moreover, we extend the existing literature by analyzing the determinants of the formation of social networks between migrants and natives.

Our investigation is made possible by the use of unique information on friendship formation contained in the recent waves of the German Socio-Economic Panel (SOEP) for the years 1996 to 2011. The survey over-samples the resident immigrant population and contains extensive information on various dimensions of ethnic identity and preferences. We exploit three specific features of this data: *(i)* the detailed information on cultural issues - including crime, environmental protection and the political domain - that are salient to the native population; *(ii)* the friendship roster, that allows us to distinguish German and non-German friends; *(iii)* the longitudinal dimension, which allows us to both control for individual fixed effects and make progress in the identification of the causal link between friendship formation and important life-course events such as educational attainment, employment, marriage, childbirth and residential mobility.

We begin our analysis by discussing the extent to which friendship with natives can be considered a measure of cultural assimilation by comparing attitudes between natives and migrants with or without German friends. Our descriptive evidence shows that friendship with natives is associated with greater "similarity" between migrants and natives along several important dimensions, ranging from concerns about the respondent's own economic condition, to interest in politics and salient policy issues. This evidence also holds when we condition on a variety of individual characteristics.

Building on these results, we then turn to the main analysis carried out in the paper,

which examines the factors that shape social networks ties in the host country. We focus on foreign born individuals that do not have a German friend when they answer the question on friendship for the first time, and exploit the longitudinal dimension of our data to identify the predictors of a German friend acquisition, while controlling for individual, time invariant, unobservable characteristics. We also consider possible differences in terms of drivers for the first German friend or for multiple German friends, finding no substantial differences.

Our analysis reveals that the acquisition of a German friend is influenced by the number of years the migrant has spent in Germany, the birth of a child, getting a job, relocation decisions, and most importantly by whether he/she has acquired further education in Germany. Different socio-demographic groups present interesting deviations from this general tendency. Among others, we find that first generation migrants from Turkey, which are the largest group in the German population with a direct migration background, are characterized by a flatter friendship acquisition pattern than migrants from Southern and Eastern Europe. In other words, holding everything else constant, Turkish migrants on average need to spend more years in Germany than Southern-and Eastern-Europeans before they acquire a German friend. Moreover, getting a job does not seem to affect the likelihood of having German friends for Turks, while it does matter for South-European migrants. This suggests that Turkish migrants are often working in segments of the labor market in which they do not have intense contact with native Germans.

The paper unfolds as follows. Section 2 reviews the related literature while highlighting the contribution of the paper. Section 3 describes the data, and Section 4 discusses the extent to which friendship with natives can be considered a measure of cultural assimilation. We present our main results on the determinants of friendship formation in Section 5. Section 6 reproduces the analysis for different sub-samples of the population. Section 7 concludes.

II. Related literature

This paper contributes to two strands of literature. The first strand investigates the cultural assimilation of migrants, whereas the second focuses on the formation of social networks and their effects on socio–economic outcomes.

According to Gordon's structural assimilation theory, "the large-scale entry into the cliques, clubs, and institutions of the host society is the keystone in the arch of assimilation" (Gordon 1964).[1] Several recent contributions to the economic literature on cultural assimilation have incorporated features from psychology (e.g. Berry, 1980) and emphasized how individuals can simultaneously identify with two different cultures. Most notably, Bisin and Verdier (2000) formalize the incentives associated with cultural transmission dynamics and the circumstances leading to a tendency towards cultural homogeneity or the maintenance of cultural diversity. In their setting, cultural transmission is shaped as the result of the interaction between purposeful socialization decisions inside the family ("direct vertical socialization") and indirect socialization processes like social imitation and learning from the peers ("oblique and horizontal socialization").[2] Empirical tests of such theories are, however, rare, mainly because of limited data availability. An interesting exception is represented by the recent work by Casey and Dustmann (2010), who study the process of identification with home and host countries, and the association between both identities and labor market outcomes. Focusing on Germany, the authors exploit the longitudinal dimension of the SOEP to study the intergenerational transmission of identity from a generation to the next (vertical channel), finding a strong transmission of ethnic traits between parents and children. In this paper, we instead operationalize horizontal socialization as the ethnic composition of the immigrant's friendship network. Our descriptive analysis in Section 4 contributes to this

[1] In a similar vein, there is a literature that uses intermarriage as a measure of social assimilation (Meng and Gregory 2005).

[2] There is also a rapidly emerging economic literature on oppositional cultures – namely situations where minority individuals adopt cultural categorizations and prescriptions defined in opposition to those of the mainstream group, with corresponding social behaviors associated with significant economic costs at the individual level (see for instance Battu and Zenou 2010; Bisin et al. 2011).

literature by providing novel evidence on the importance of inter–ethnic contact in cultural assimilation patterns.

A second interesting study has been carried out by De Palo, Faini and Venturini (2006). Using data from the European Community Household Panel, the authors investigate the assimilation of immigrants in the host country by analyzing a question on the number of interactions between the respondent and his/her neighbor. Their results suggest that non-EU migrants tend to socialize less with natives, even after controlling for individual characteristics. They also find that migrants' behavior tends to slowly assimilate to that of natives. Finally, they suggest that education has a significant impact on the type of social activities undertaken by the individuals. More-educated people tend to relate somewhat less with close neighbors, but socialize more intensively with the broader community. Our analysis is also based on eliciting preferences from individual immigrants but has a broader scope – we tackle several additional dimensions of social and cultural assimilation and focus on the role of friendships with natives in shaping preferences.

In addition to these studies, several contributions in the sociological literature investigate the cultural assimilation of immigrants. Most related to our analysis is a recent paper by Diehl and Schnell (2006), who carry out a descriptive trend analysis for selected host- and homeland indicators of immigrant assimilation in Germany. For this purpose, the authors use a subsample of the German Socio-Economic Panel (SOEP) consisting of guest-workers from Southern Europe and Turkey (*Sample B*).[3] The authors find a pattern suggesting stagnation in social and cognitive assimilation over time, as well as large discrepancies between different generations of migrants. Importantly, they find that the share of immigrants with German friends is substantially higher among second generation migrants, a result that is consistent with what we find in this paper using the entire sample of foreign born in the SOEP.

The second strand of the literature to which we contribute focuses on the formation of

[3] *Sample B* contains information on individuals who arrived in Germany between 1950 and 1973 from five Southern European countries. For this reason, *Sample B* is not representative of the entire foreign population in Germany. Our analysis includes instead all migrants surveyed in the SOEP, with the goal of having a sample that represents the entire foreign population in the country.

social networks and on their importance for socio-economic outcomes, including immigrants' labor market outcomes (see for example Frijters, Shields, and Price 2005; Battu, Seaman, and Zenou 2011; Patacchini and Zenou 2012).

From a theoretical point of view, several studies have proposed friendship formation models that highlight various possible trade-offs in the creation of social ties between "similar" and "dissimilar" individuals. For instance, a recent paper by De Marti and Zenou (2011) develops a friendship formation model, where agents belong to different communities. Two individuals from the same community face a low cost of establishing a link between each other, whereas the cost of forming a relationship for two individuals of different communities diminishes with the rate of exposure to members of the other community. The authors show that in several equilibrium configurations inter-community links prevail. In fact, even if inter-community links can be very costly for the agents involved, they offer them direct access to sections of the network that would not be accessible otherwise. Patacchini and Zenou (2006) analyze instead the importance of friendship composition in explaining school performance differences between students of different races.[4] In their model, each adolescent chooses the share of same-race friends and the level of effort to be invested in education acquisition. Individuals face a trade off between the type of friends they interact with and their subsequent educational achievement. More specifically, the idea is that on the one hand, a black adolescent would like to have as many black friends as possible,[5] but on the other, he/she values education and knows that since white parents are more educated than black parents, having white friends is likely to result in better educational outcomes. As a result, the choice of the share of black and white friends is carried out taking into account its expected impact on educational achievement. A similar trade–off can be used to describe the friendship choices of immigrants in the host country. On the one hand, immigrants may

[4]In an interesting and related paper, Austen-Smith and Fryer (2005) show that ethnic minorities face a tension between signalling their type to the outside labor market and signaling their type to their peers: signals that induce high wages can be signals that induce peer rejection.

[5]The idea that blacks prefer to interact with blacks while whites prefer to interact with whites is well-documented in economics (see e.g. Cutler, Glaeser and Vigdor 1999), sociology, and psychology (Hallinan and Tuma 1979; Clark and Ayers 1988).

prefer to interact with people belonging to their own culture of origin; on the other, they are interested in accessing the native social network, as this is likely to help to improve both their own employment opportunities and the prospects of their children.

From an empirical point of view, an assessment of the importance of social networks on individual outcomes is challenging. The main difficulties faced by most of the existing studies are due to reverse causality and omitted variables bias. In fact, data on social networks are not easily available, and most of the existing literature carries out cross-sectional analyses. One potential concern is that the correlation between the number and/or quality of social contacts and, for example, the probability of finding a job may simply be driven by the fact that social contacts change because an individual finds a job. Furthermore, the presence of unmeasured factors could affect both social group formation and outcomes. Most of the existing studies looking at the determinants of friendship ties are restricted to specific environments, such as a classroom, a school, or a college in the US (see, for instance, Mayer and Puller 2008; Fletcher, Ross and Zhang 2013). In a recent paper, Carrell, Sacerdote, and West (2013) conduct a policy experiment in which Air Force Academy students are assigned to work groups intended to maximize the performance of the lowest ability students. They find that in their treatment group, students sort into subgroups based on ability, eliminating the positive peer effects identified in earlier studies. This indicates the need for further information on how friendships form before policies can be suggested.[6]

As for the more specific issue of what are the determinants of inter–ethnic contact, there exist also some evidence from the sociological literature. Martinovic, Van Tubergen and Maas (2009) analyze the drivers of contact with natives for immigrants in the Netherlands in both a cross–sectional and longitudinal setting. Their results suggest that education in the host country, language proficiency and regional concentration of immigrants are positively associated with interethnic contact. In a recent paper, Martinovic, Van Tubergen and Maas (2014) focus instead on the German case and use the guest-worker sample of the

[6]See Alesina and Giuliano (2011) for an investigation of the importance of social capital for policy purposes.

SOEP (*Sample B*) for the period 1985-1999. Their findings highlight how language skills, permanent settlement intentions and employment positively influence contact with Germans. Importantly, inter-ethnic contact is measured by an index based on self-reported information about interactions between natives and migrants.[7] In this paper, we use instead an approach that is well-established in economics for estimating consumers' preferences: revealed preference theory (Mas-Colell et al., 1995).[8] According to this approach, individual preferences can be inferred from individual choices. We thus measure the propensity to assimilate in the host country using friendship choices. Next, instead of investigating the consequences of these choices on economic outcomes (as done in many of the existing studies), we consider the determinants of these choices.

Our paper thus contributes to the literature by presenting an analysis of migrants' friendship formation in the host country, where the existence of a friendship tie is directly observed, variations in friendship ties and socio-demographic characteristics are observed over time, and individual unobserved heterogeneity is taken into account. Moreover, we systemically incorporate economic, non-economic, and regional factors in explaining migrant friendship with natives.[9]

III. Data

The data used in our analysis come from the SOEP and cover the years 1996 to 2011. The SOEP is a representative, individual-level longitudinal data set on persons, families and households in Germany. Initiated in 1984, the SOEP over–sampled the resident immigrant population. Out of the 6,000 households contained in the first wave of the study, 4,500

[7]More specifically, the questions are: "Did you have close contact with Germans since your arrival?", "Did you visit Germans last year?" and "Were you visited by Germans last year?". For each question the possible answer categories are "yes" or "no".

[8]See also Currarini et al. (2010) who use a similar approach to infer homophily behaviors among adolescents in the US.

[9]Note that studying the impact of friendship choices on wages, employment opportunities, or political attitudes would require to jointly model network formation and behavior over networks. This is an interesting but challenging empirical exercise, which is left for further research.

households had a German head, and 1,500 were instead led by a foreign-born individual. As of 2011, over 12,000 households are surveyed, involving more than 20,000 individuals. An important feature of the dataset is the provision of detailed information on respondents' immigration history, like country of birth and ethnicity (see Wagner, Frick and Schupp (2007) for a detailed description).

The data are particularly suited for the purpose of our analysis because they contain repeated information on a boost sample of immigrants over a long period of time. In the first part of our study, in which we investigate the association between having a native friend and cultural assimilation, we focus on all working-age individuals (i.e. between 18 and 64 years old) living in West Germany. In the second part of the paper, in which we analyze the determinants of friendship acquisition, we consider all first generation migrants who have no German friend in the first spell in which we have information on friendship.

In four recent rounds of the survey (1996, 2001, 2006 and 2011), all participants were asked to provide information on their network of relationships. In particular, the survey contains information on the respondent's three closest friends, and on their country of birth. In 2011, the question used for this purpose reads "... Please think of three people outside of your household who are important for you, personally. They can be relatives or non-relatives." (question 126).[10] Additional questions allow also the identification of the origin of each of the friends, distinguishing among "From the former West Germany", "From the former East Germany" and "From another country".

Our main analysis use answers to this question to construct a dummy variable indicating whether the respondent has at least one German friend.[11] Summary statistics by year of

[10]While the question used in the 2006 round is identical to the one used in 2011, it is slightly differently phrased in 2001 and 1996. In particular, in 2001 it reads "Now some questions about your friends and acquaintances: Please think of three friends or relatives or other people whom you go out with or meet often. Please do not include relatives or other people who live in the same household as you"; in 1996 it is instead given by "Now some questions about your circle of acquaintances: Consider the three persons with whom you have a close friendship and with whom you meet the most. These can be relatives as well as non-relatives, but they may not belong to your household."

[11]In a robustness check we will also separately investigate the drivers of the acquisition of the first German friend, and of multiple German friends. See Table 5 for more details.

survey are reported in Table 1.

[INSERT TABLE 1 APPROXIMATELY HERE]

We identify three subgroups of the population: Natives, first generation migrants and second generation migrants. Natives are individuals who are born in Germany from parents who have no migration background; first generation migrants are individuals who are born outside of Germany and second generation migrants are individuals who are born in Germany, but have at least one parent of migrant origin.[12] Almost 80% of the individuals in this group have German citizenship - either by birth or through naturalization. Table 1 reveals that natives are very likely to report that they have at least one German companion. In fact, in every year of our sample, over 99% of them indicate this to be the case.[13] As for migrants, a clear pattern emerges. First, they tend to be less likely to have built a friendship with a native than their German counterparts. Moreover, there is a substantial gap between first and second generation migrants. While on average more than 80% of the individuals in the latter group report to have a German friend, this figure declines to only 55% for first generation immigrants. Similar differences have been found by Diehl and Schnell (2006) for the SOEP subsample of South-European and Turkish guest-workers.

IV. Native friend acquisition and assimilation

Is friendship with natives an indicator of cultural assimilation? The rich information provided by the SOEP includes a series of questions that allow us to elicit individual opinions on a variety of issues as well as other measures of cultural integration. Combining this information with data on the relationships migrants have built with natives allows us to highlight a series of interesting patterns that speak to the role that friendships might have on cultural

[12]A parent is of migrant origin if he/she was born abroad or if he/she was born in Germany but had no German citizenship by birth.

[13]The differences in the number of observations are mainly due to changes in the sample size of the SOEP over time. For example, new individuals were added in 1998, 2000, 2002, and 2006

assimilation. Table 2 reports summary statistics on answers to twelve such questions. Part a) compares natives and first generation migrants, whereas part b) compares natives and second generation migrants.

[INSERT TABLE 2 APPROXIMATELY HERE]

We start by considering a group of questions that focus on the respondent's engagement in politics and preferences in the political domain. The first captures the respondent's engagement in politics and the local society (question 3 of the 2011 survey), and is coded as one if the respondent has provided "Volunteer work in clubs or social services"; or/and has been active ".. in a citizens' group, political party, local government", and coded 0 otherwise. We find that 38% of native Germans report to be socially active in their free time (column 1 of Table 2a), but when we look at foreigners, we see that only 18% of first generation migrants do the same (column 2). In columns (3) and (4) we further disaggregate our data and look at migrants with a German friend (column 3) and without one (column 4). While 19% of migrants with a German friend are actually involved in social activities, the figure for migrants without German friends is 4% lower and as shown in column (5) of the table, the two figures are statistically different from each other. Even clearer patterns emerge when we consider second generation migrants (see Table 2b). While they are in general more likely to be socially active than first generation migrants (26% reports to be so), the difference between migrants with and without German friends increases to 6%.

Next, we investigate whether the respondent is interested in politics, using answers to the question "Generally speaking, how much are you interested in politics?" to construct an indicator variable that is equal to one if the survey participant replied to be "Very interested", and zero otherwise. We also consider whether the individual leans towards the left (i.e. he declares to support the SPD, the Greens and the PDS/Linke)[14] or whether

[14]The acronym SPD stands for *Sozialdemokratische Partei Deutschlands*, or Social Democratic Party of Germany. The PDS is the *Partei des Demokratischen Sozialismus* or Party of Democratic Socialism was a left wing party which in 2007 changed name to become "Die Linke" (The Left).

he leans towards conservative parties (i.e. he supports the CDU, the CSU or the FDP).[15] Interestingly, native Germans appear to be substantially more interested in politics in general than both first and second generation migrants. Furthermore, there is a large and statistically significant difference between first generation migrants with and without German friends. In fact, the former are 8% more likely than the latter to be interested in the running of domestic affairs, and even larger differences exist among second generation migrants with and without German friends (see Table 2b). When it comes to the ideological orientation of the respondent, while we find no significant differences between native Germans and first generation migrants, our results indicate that second generation migrants are significantly less likely to lean conservative (and correspondingly more likely to lean towards the left) than natives. Furthermore, on average, having or lacking a German friend only affects the political orientation of second generation migrants, whereas for first generation immigrants we do not observe any significant difference in support for conservative or left parties.

We turn now to consider a number of questions which elicit preferences on a variety of policy dimensions. The typical query reads, "What is your attitude towards the following areas – Are you concerned about them?", and the answers can take three possible values: "Very concerned", "Somewhat concerned", "Not concerned at all". For each topic addressed, we construct an indicator variable "$WorriedX''$ which equals one if the respondent indicates that he is "Very concerned" about a particular issue, and zero otherwise.

Three of the questions asked deal directly with economic concerns. The first one focuses on the individual's own economic situation (*WorriedOwnEcon*); the second one continues to look at the respondent's own position, but considers instead whether he is worried about his own job security if he is in employment (*WorriedJob*); finally, the third question focuses on a broader topic, i.e. whether the respondent is worried about the introduction of the Euro in place of the Deutsche Mark (*WorriedEuro*). Several interesting patterns emerge. First,

[15] These acronyms stand respectively for *Christlich Demokratische Union Deutschlands* or Christian Democratic Union of Germany (CDU); *Christlich-Soziale Union* (CSU), or Christian Social Union, active in the federal state Bavaria and *Freie demokratisch Partei* (FDP) or Free Democratic Party.

when we consider the queries focusing on the individual's position, we can see that natives are less likely to be worried about their circumstances than migrants. This is true when the comparison is carried out vis-a-vis second generation migrants, but the effect is even stronger when the comparison involves first generation migrants. Furthermore, both when looking at first and second generation migrants, we can see that individuals without a German friend are significantly more likely to signal concerns about their status than individuals with a German friend. In particular, for first generation migrants the difference amounts to 7.8%, whereas for second generation migrants it is even larger, reaching 16.6%. Very similar patterns emerge when we look at individual concerns about job security. At the same time, when turning to broader questions, like in the case of the introduction of the Euro, the preference patterns among the various groups appear much more similar, and, in particular, there is no statistically significant difference depending on whether first generation migrants have a German friend or not, whereas second generation migrants without German friends appear to be significantly more worried about the Euro than their counterparts with a native companion.

Three other questions deal with policy issues that are salient among the native population - crime ($WorriedCrime$), environmental protection ($WorriedEnv$) and hostility towards foreigners or minorities ($WorriedXeno$). While first generation migrants are in general more concerned about crime than their native counterparts, there are no significant differences between those who have a relationship with a native and those who do not. On average, second generation migrants appear very similar to natives in this regard, even if there are significant differences between those with and without a German friend. At the same time, native Germans are more concerned than immigrants about the environment, and this is especially true when we consider first generation arrivals. Interestingly, also in this case, first generation migrants with German friends have preferences closer to those of the natives, and as a result are significantly more worried about the environment than those without German friends, whereas there seem to be no differences among second generation migrants.

As for concerns towards xenophobia, we find that first generation migrants without German friends are 6% more likely to be concerned about hostility towards foreigners and minorities than those who have a German friend, and this gap is even larger when we focus on second generation migrants, reaching 11.5%.

The last two questions we use consider another measure of cultural assimilation, namely proficiency in and usage of the majority's language. In particular, the first question focuses on self reported language skills, and we have constructed a dummy variable (*FluentGerman*) coded as one if the individual claims to speak good or very good German. The second looks instead at the main language spoken at home and we have constructed an indicator (*GermanAtHome*) coded as 1 if the respondent reports that he speaks mostly German at home. Not surprisingly, language proficiency and usage of German as the main language in the household are higher for second generation than for first generation migrants. Importantly, both first and second generation migrants with German friends report significantly better local language skills than their counterparts without a German companion. Similarly, migrants with German friends are also more likely to use German as the main language at home.

The simple comparisons of means carried out in Tables 2a-2b thus suggest that having a friendship with natives tends to result in greater 'similarity' with them with respect to several important dimensions, including engagement in social activities, interest in politics, concerns about the respondent's own economic condition, salient policy questions, and language proficiency. At the same time, these patterns could be driven by characteristics of individual respondents that vary systematically with their immigration status. For this reason, we further investigate this question presenting the results of a series of linear probability models where answers to the questions discussed in Table 2 are related to having a German friend, controlling for a series of individual determinants. In particular, we run the following type of model:

$$Answer_{it} = \alpha + \sum_{j=1}^{4} \beta_j Migrant(j)_i + \gamma \mathbf{X}_{it} + I_t + \epsilon_{it} \quad (1)$$

where $Answer_{it}$ is the answer to one of the questions we have discussed above.[16] $Migrant(j)_i$ is a dummy variable indicating whether individual i is a migrant belonging to one of our four migrant types j: first generation migrants with German friends (*1stGenWGF*), first generation migrants without German friends (*1stGenNGF*), second generation migrants with German friends (*2ndGenWGF*), and second generation migrants without German friends (*2ndGenNGF*). $\mathbf{X}_{it}$ is a vector of controls that include gender, marital status, age, age squared, years since migration, years since migration squared, the presence of children in the household, educational attainment, work status, and changes in residential status since the last observation. All specifications also include year fixed effects I_t, that account for common unobserved shocks affecting all respondents, and ϵ_{it} is a zero mean error term.

[INSERT TABLES 3a-3c APPROXIMATELY HERE]

Tables 3a–3c report our results. In all of our specifications, the reference group is given by natives without a migration background. The broad patterns we have identified in Tables 2a-2b continue to hold. In fact, both first and second generation migrants with German friends appear to be more "similar" to natives than migrants without a German friend, even after controlling for individual characteristics, and the tests reported at the end of each panel suggest that the effect is on average larger for second generation than for first generation migrants. This result highlights how in the case of second generation migrants, having no German friends is a powerful proxy for lack of assimilation. More specifically, migrants with a local companion are more interested in politics, more likely to support conservative parties, and less likely to support left wing parties than their counterparts with no local connections. They are also less concerned about their own economic situation, job security, and xenophobic feelings. At the same time, once we control for the individual characteristics

[16] Germans in the SOEP are not asked about their language proficiency.

of the respondent, we find that having a German friend does not have an effect on social engagement in Germany for either generation of foreigners. The presence of such a link reduces instead concerns about the Euro and about crime for second generation immigrants, whereas it increases environmental concerns only for first generation immigrants.

V. What drives migrants' friendship choices?

The results of Tables 2a-2b and 3a-3c suggest that both first and second generation migrants with a German friend are more "similar" to natives than those without a local companion along several important dimensions, ranging from concerns about the economy and politics, to broad issues like the environment, crime and xenophobia. These dimensions are useful proxies for a foreigner's assimilation in the host country society, extending beyond the labor market outcomes that have been extensively studied in the economics literature (see the pioneering contributions of Chiswick (1978) and Borjas (1987)). Given that friendships can thus be considered an indicator of cultural assimilation, in this section we exploit the rich longitudinal nature of the SOEP to investigate the determinants of the acquisition of a German friend.

Our analysis will focus on first generation immigrants. This choice is motivated by three reasons. First, first generation migrants are very likely to have no German friends when they enter the country. This allows us to investigate the development of native friendship over time. Second, as shown in Table 1, the share of second generation migrants without German friends is relatively low in all observations periods. As a consequence, there is much less variation in friendship within persons over time. This is likely to yield unreliable point estimates using a fixed effects estimator. Finally, second generation migrants without German friends are a very special, self-selected group. Having no German friends, even if born and raised in Germany is an outcome that is likely to be explained by factors others than those relevant for the acquisition of friends by first generation immigrants. Therefore, our

analysis is carried out focusing on foreign born individuals that have no German friend when they answer the question on friendship for the first time. We run a series of specifications with individual fixed effects that take the following form:

$$\begin{aligned} GerFr_{it} &= \alpha + \beta_1 YSM_{it} + \beta_2 YSM_{it}^2 + \gamma_1 \mathbf{CMS}_{it} + \gamma_2 \mathbf{CC}_{it} \\ &+ \gamma_3 CEd_{it} + \gamma_4 CLo_{it} + \gamma_5 ForCon_{it} + \gamma_6 \mathbf{CEm}_{it} + \mu_i + \eta_{it} \end{aligned} \tag{2}$$

where $GerFr_{it}$ is an indicator variable taking a value equal to 1 if individual i has a German friend at time t. As we mention before, this information is available in four waves of the SOEP (1996, 2001, 2006 and 2011). At the same time, individual level characteristics are available at a yearly frequency, and as a result, we can exploit this data while studying the determinants of friendship acquisition.

Thus, YSM_{it} captures the number of years a foreign born individual has spent in Germany whereas $\mathbf{CMS}_{it}$, $\mathbf{CC}_{it}$, Ced_{it} ,CLo_{it},$\mathbf{CEm}_{it}$ are vectors of variables (in bold) or variables reflecting changes in the marital status, presence of children, education, location and labor market status of individual i that have occurred between the years in which we observe friendship. All time constant individual characteristics are captured by the individual fixed effects. With respect to the variables which capture changes in characteristics, we construct a dummy for each variable of interest X that is coded as 1 at time t if the variable X has changed between the last time we have observed friendship $(t-5)$ and one year before we observe actual friendship $(t-1)$, and coded 0 otherwise.[17]

More specifically, the vector $\mathbf{CMS}_{it}$ includes three variables: $Getmarried_{it}$, which indi-

[17]An exception is the first period of each individual for which we observe friendship. In this period all dummy variables which capture changes are set equal to 0. For the purpose of illustration, let us focus on marital status and think about an individual A who enters the sample in 2001. The first change in marital status can occur between 2001 and 2005. Therefore, all dummy variables capturing changes in marital status are 0 in 2001 by definition. This implies if A would be married throughout the whole observation period he/she would have no change in the respective dummy variable. The same would hold true if he/she would be never married. On the other hand, if A would be a single in 2001 and would marry in 2003, the dummy for married would change to 1 in 2006. If A is still married in 2011, the respective dummy changes again to 0.

cates that individual i becomes married in any of the four years between time $t-1$ and time $t-5$; $GetmarriedG_{it}$, which indicates that individual i become married to a German between time $t-1$ and time $t-5$; $GetDivorced_{it}$, which indicates that individual became single - either due to death of the partner or through divorce between time $t-1$ and time $t-5$. In a similar way, the vector $\mathbf{CC}_{it}$ captures changes in the presence of children in the household. Two possible events appear particularly interesting: the arrival of a child between time $t-1$ and time $t-5$ ($NewChild$) and the departure from the household of a child aged 16 or above between time $t-1$ and time $t-5$ ($LeavingChild$). CEd_{it} captures whether individual i has acquired a higher education level in Germany since we last observed his/her friendship status. CLo_{it} describes whether the individual has relocated between time $t-1$ and time $t-5$. This can happen if she/he has changed federal states, or if she/he has moved from an urban to a less urbanized area or from an less urbanized area to an urban area. An immigrant's choice to live in a particular neighborhood is likely to affect his/her immigrant's exposure to the foreign born population. For this reason, we additionally control for the one period lagged share of foreigners in the planning region $ForCon_{it}$ where the individual is resident.[18] $\mathbf{CEm}_{it}$ is a vector of changes in employment status that captures whether the individual has become employed between time $t-1$ and time $t-5$ ($Employed_{it}$) or has lost his or her job ($Unemployed_{it}$) within the same time interval. Finally, μ_i describes the individual specific time invariant component of the error term, while η_{it} is the idiosyncratic disturbance.

[INSERT TABLE 4 APPROXIMATELY HERE]

Our benchmark results are reported in Table 4. We start with a parsimonious specification in which we only control for years since migration and its square. Time spent in Germany has a positive but slightly decreasing marginal effect. After approximately 59 years

[18]West Germany, including Berlin, is divided in 75 spatial planning regions (*Raumordnungsregionen*). These are functional units situated between the state and municipal levels. We use the lagged foreigner share to capture changes in the regional concentration of immigrants between two observations on friendship. In line with the other explanatory variables, we therefore measure changes between the last observation on friendship and the year before we observe friendship again.

in the country, the chance of having a German friend starts to decrease with every additional year spent in Germany. It is important to notice though that no migrants in our sample of working age individuals has spent more than 50 years in Germany. In column (2) we add a series of controls capturing changes in marital status. Acquiring a partner does not have a significant effect, and this result also holds when the partner is German. We also find no effect if the individual loses a partner due to divorce or death. One possible explanation for this result is that these events are relatively rare in our sample, and thus their effect is imprecisely measured.

In column (3) we additionally account for changes in the presence of children in the household. We find that the birth of a child increases the likelihood of acquiring a native friend, whereas the departure of a child from the household does not play a significant role. This result is intuitive and can be explained by noting that a new child in the household is likely to increase the probability of a migrant interacting with the host society. This could be driven, for example by the need to bring him/her to day nurseries, kindergartens etc. In column (4) we additionally account for the effect of acquiring a higher level of education in Germany. We find that a migrant's exposure to the local educational system significantly increases the likelihood of acquiring a German companion. The magnitude of the effect is remarkable: investing in the acquisition of human capital in Germany increases the probability of having a German friend by approximately 22%, and this effect is remarkably robust (see columns 5 and 6). This is in contrast with the results of Martinovic, Van Tubergen and Maas (2014), who do not find any significant effect of changes in education on the acquisition of interethnic ties for guest-workers in Germany.

In column (5) we also account for changes in location, while at the same time controlling for the migrant's lagged exposure to foreigners in the region where he/she lives. While we find no impact of exposure to foreigners in the region, our results suggest that relocations play a positive role on the acquisition of German friendship, which is significant at the 10% level. A possible explanation is that relocation is often driven by new and better employment

opportunities. As a result, ceteris paribus, moving to a new area might increase the likelihood of interacting with natives in the workplace.

In column (6) we additionally consider in addition changes in employment status by looking at whether the individual has found or lost a job between $t-1$ and $t-5$. Our results suggest that becoming employed has a positive and significant effect on the likelihood of acquiring a German friend, which increases by 7%.[19] At the same time, becoming unemployed does not have a significant effect. These results suggest that the workplace shapes the formation of the social network, and also that, once established, this network is robust to employment loss.

[INSERT TABLE 5 APPROXIMATELY HERE]

The dependent variable we have used so far captures whether an individual has at least one German friend. In Table 5 we further investigate the determinants of friendship formation, by separately studying the acquisition of the first German friend (column 1) and of having multiple German friends (column 2). We use the same controls as in the benchmark specification of column (6) in Table 4. In particular, in column (1) we hold $GerFr_{it}$ artificially constant at 1 after an immigrant has acquired his/her first German friend, whereas in column (2) our dependent variable is a dummy equal to 1 if a person has more than one German friend. Comparing the results in column (1) with those in the benchmark, we generally uncover broadly similar patterns. The only exception is that now lagged exposure to foreigners in the region tends to decrease the likelihood of acquiring the first German friend, while changing location no longer appears to play a significant role. A similar pattern also emerges when we look at the determinants of acquiring multiple German friends in column (2). However, it is worth noting that, in terms of magnitude, an increase in the exposure to foreigners in the region has a more pronounced negative effect when it comes to explaining the acquisition of multiple German friends. This finding highlights the importance of the

[19]Similar effects have been discovered by Martinovic, Van Tubergen and Maas (2014). They find that immigrants who switch from unemployment into a manual job experience have more contacts with natives.

cultural environment in explaining the composition of social networks between individuals of different ethnic backgrounds.

Summing up, our analysis so far suggests that gaining a local friend is influenced by the number of years the migrant has spent in the host country, whether he/she has become employed, by the birth of a new child, relocation decisions, and importantly, whether he/she has earned an additional degree in the host country.

VI. Additional evidence

In Table 6 we build on these findings to investigate the possible presence of heterogeneous effects. In particular, using our benchmark specification of column (6) of Table 4, we repeat our analysis on different subsamples. In columns (1) and (2) we focus respectively on female and male respondents. In columns (3) and (4) we instead split the sample between low-skilled (column 3) and high-skilled individuals (column 4). Finally, in column (5) and (6) we distinguish between young (< 40) and older migrants (40+).

[INSERT TABLE 6 APPROXIMATELY HERE]

The comparison between females and males reveals the following results. First, years since migration and the acquisition of an education in Germany have comparable effects for the two groups. Second, having a new child appears to have an effect on the likelihood of acquiring a German friend for males, but not for females. A possible explanation for this finding is that fathers are more likely to spend more time with children outside of the household (in institutions like kindergartens or sports club). Third, a relocation increases the likelihood of having a German friend for male migrants, while we do not find a significant impact for females. This might be due to the fact that migrant households are disproportionately characterized by a "male-breadwinner" pattern. Changing locations might therefore be driven by new career opportunities for men which are likely to be associated with increased inter–ethnic contact at work. Finally, our results suggest that becoming employed has a

positive impact on the acquisition of a German friend for female but not for male respondents. We can think of at least two possible explanations for this finding. One argument is that ethnic segmentation in the German labor market is less pronounced for women than for men (Steinhardt 2011). This implies that female migrants are more likely to enter employment into jobs in which they interact with natives than male migrants and for this reason are more likely to find German friends by entering employment. A second possible argument is instead that the share of women entering employment is twice as large as that of men in our sample. The fact that we do not find a significant effect for men might thus simply be driven by the relatively low number of men entering employment during the observation period.[20]

Regarding the comparison between skilled and unskilled individuals, we find that time spent in the country and earning a new degree in Germany has a positive effect on the acquisition of a German friend for both groups of individuals. As expected, the education effect is more pronounced for high-skilled migrants, since the contact with natives is likely to increase with educational attainment. In other words, inter–ethnic contact is likely to be higher in universities than in evening schools or adult education centers. Furthermore, our results suggest that a greater share of foreigners in the region of residence decreases the probability of acquiring a German friend for high-skilled workers only. This might be driven by differences in the spatial segregation of unskilled and skilled migrants. In fact, for the US, Borjas (1998) finds a strong negative correlation between ethnic residential segregation and the educational attainment of migrants. In other words, while high-skilled migrants are likely to reside in mixed neighborhoods, unskilled migrants live in highly segregated areas. Therefore, moving to a region with fewer foreigners increases skilled migrants' chances to find German friends, while changes in the regional concentration of foreigners are minimal for low skilled migrants. Finally, we find a positive relationship between changes in the employment status and acquisition of German friends for skilled migrants, but no significant relation for low skilled immigrants. A possible explanation is that, like in the case of gender,

[20]For females, we observe a change from unemployed to employed in 10% of the observations, whereas the corresponding share for men is only 5%.

there are differences in the extent of ethnic occupational segmentation by skill levels. In fact, evidence for Germany reveals that occupational segmentation is less an issue among the skilled workforce (Steinhardt 2011).[21] High-skilled migrants are therefore more likely to take up jobs in which they have German co-workers than low skilled migrants.

When we split our sample by age we uncover significant differences regarding the influence of time spent in Germany. An additional year spent in Germany has a much higher effect on the likelihood to find a German friend for young migrants than for older ones. This supports previous work on social assimilation showing that young people are more likely to interact with people outside of the household, which is a necessary precondition to establish friendship with natives (see for example De Palo, Faini and Venturini 2006). In line with this reasoning, we also find a negative association between increasing regional co-ethnic concentration and inter-ethnic friendship for young migrants. The fact that we do not find any significant effect of a new child for older migrants is simply due to the very low share of childbirth in this age group (less than 1%). Finally, we find differences regarding the influence of entering employment which are likely to mirror differences in the extent of occupational segmentation between both groups.

In Table 7 we carry out a comparison of groups of migrants based on their country of origin. In column (1) we focus on individuals with a Turkish background, in column (2) we consider Eastern Europeans,[22] in column (3) we study individuals from Southern European countries,[23] and in column (4) we restrict our analysis to migrants originating in countries that used to be part of the former Yugoslavia.

By splitting the sample along nationality lines, the number of observations included in each specification drops substantially. As a result, the statistical significance of our findings tends to decline. These results have therefore to be interpreted with caution. Our evidence

[21] Steinhardt (2011) shows that ethnic occupational segmentation is higher among employees without any apprenticeship than among employees with secondary education and apprenticeship.

[22] These include individuals originating in Poland, Russia, Kazakhstan, Romania, Ukraine, Czech Republic, Hungary, Bulgaria, Slovakia (in descending order).

[23] That is, individuals originating in Greece, Italy, Portugal and Spain.

suggests that the average effects we have identified in Table 4 varies significantly among different ethnic groups in a number of instances. First, the influence of an additional year spent in Germany plays a similar role for migrants from Eastern and Southern Europe, while immigrants from Turkey, which are by far the largest group in Germany, and the former Yugoslavia exhibit a flatter pattern over time. In other words, ceteris paribus, migrants from Turkey and the former Yugoslavia have to spend more time in Germany than Eastern- and Southern- European migrants before they establish a friendship with Germans. One potential reason for this finding is the strong selective out-migration observed in the group of Southern-European migrants, which means that the less integrated people return to their home country (see, for example, Constant and Massey 2003). The individuals that we observe in our sample are thus the ones who are more likely to socialize with natives. Eastern European migrants do not share the same history, but they are also more likely to be integrated in the host country because they are young and high-educated. Indeed, most of them (two thirds in our sample) arrived after the fall of the iron curtain as new labor migrants.[24]

Another interesting note is that while we find a negative association between marrying a non-native and friendship with natives for Southern-European migrants, the impact of marriage is not significant in the full sample. This indicates that marriages among migrants may reduce interactions with the majority population. However, the marriage effect for South-Europeans is driven by few people and should therefore be taken with caution. Furthermore, the positive effect of childbirth in Table 4 appears to be mainly driven by the Eastern European migrant group. For all other groups, the corresponding coefficient is positive but not statistically significant. This is in line with findings from the literature on migrant children in Germany (Becker and Tremel 2006), which emphasizes the positive influence of parental education on child enrollment in preschool institutions. Due to their higher level of education, Eastern Europeans are more likely to send their children to preschools and thus to

[24]In our sample 56% of Eastern Europeans are younger than 40 in their first spell, and 70% have at least upper secondary education. For comparison, the corresponding share of skilled migrants among Turks is 36%, 32% among South-Europeans and 44% among Ex-Yugoslavians.

increase their interactions with natives.

Turning to the effect of becoming employed, the evidence we have uncovered in our benchmark specification appears to be mainly driven by Southern European immigrant groups. In fact, a positive employment shock has a particularly large and significant impact on the likelihood of acquiring a German friend for Southern Europeans, whereas this effect does not appear to be present for other immigrant groups. Moreover, Yugoslavian migrants seem to be much less likely to find German friends if they have lost their job recently. Finally, our estimates suggest heterogeneous effects of changes in location and regional concentration of foreigners. However, due to the small sample size, the coarse nature of our measure of migrant concentration and the limited number of location changes, these results are far from being conclusive. To make further progress in this direction, more detailed information about migrants' residential neighborhood characteristics is needed.[25]

VII. Conclusions

It is widely believed that migration is a growing and permanent part of Europe's future. For this reason, cultural assimilation of immigrants is at the forefront of the political debate and the study of inter-ethnic and interracial relationships has become an important field of research in recent years. Our analysis suggests that first generation migrants who have a German friend tend to be "more similar" to German natives than migrants who do not. This is an important finding, as it suggests that having a well-developed, native-including social network in the destination country might be an important driver of cultural assimilation. We also find that the educational achievement, the years spent in the host country, getting into work, and the presence of children are positively related to the probability of forming friendships with majority group members. The effects vary across different socio–demographic groups. Overall, our results suggest that labor market integration not only matters for economic reasons, but also for inter–ethnic contact and friendship. The same

[25]Unfortunately, this type of information is not available in the geocoded SOEP sample.

holds true for education in the host country. In other words, both labor market and educational institutions seem to be places for inter–ethnic friendship formation which will likely foster cultural assimilation.

Clearly, friendships are complex social relationships and it is difficult to draw straightforward conclusions about the determinants of social ties. In this paper, by making progress in addressing reverse causality issues and using individual fixed effects we have been able to tackle some of the important challenges in the empirical analysis of friendship formation.

Appendix: Description of variables

Tables 2, 3 a,b,c

SocialActive is a dummy coded as 1 if the respondent is socially active (active in any kind of unions, clubs, etc.), *StrongInPol* is a dummy coded as 1 if the respondent has strong interests in politics, conservative is a dummy coded as 1 if the respondent has preferences for conservative parties (CDU, CSU, FDP), *Left* is a dummy coded as 1 if the respondent has preferences for left parties (SPD, Greens, PDS). *WorriedOwnEcon* is a dummy coded as 1 if the respondent is very worried about his/own own economic situation, *WorriedJob* is a dummy coded as 1 if the respondent is very worried about job security, *WorriedEuro* is a dummy coded as 1 if the respondent is very worried about the introduction of the euro, *WorriedCrime* is a dummy coded as 1 if the respondent is very worried about crime, *WorriedEnv* is a dummy coded as 1 if the respondent is very worried about environment, *WorriedXeno* is a dummy coded as 1 if the respondent is very worried about xenophobia, *FluentGerman* is a dummy coded as 1 if the respondent reports that he speaks good or very good German, *GermanAtHome* is a dummy coded as 1 if the respondent reports that he speaks mostly German at home.

Tables 4-7 (Panel estimates)

GerFr is a dummy coded as 1 if the respondent has at least one German friend, *YSM*

measures the years since the immigrant has immigrated to Germany, *YSM2* squared *YSM*, *Getmarried* is a dummy coded as 1 if an individual married to a non-German between t-1 and t-5 and was not a married (single or widowed) in t-5, *GetmarriedG* is a dummy coded as 1 if an individual married to a German between t-1 and t-5 and was not a married (single or widowed) in t-5, *GetDivorced* is a dummy coded as 1 if an individual became single (due to divorce or being widowed) between t-5 and t-1 and was not a single (married or widowed) in t-5, *NewChild* is a dummy coded as 1 if a household between t-1 and t-5 has a child (younger than 16) and had no child (younger than 16) in t-5, *LeavingChild* is a dummy coded as 1 if a household has no child (younger than 16) between t-1 and t-5 in at least one year and had a child (younger than 16) in t-5, *CEd* is a dummy is coded as 1 if an individual has acquired a higher educational degree between t-1 and t-5, *CLoc* is a dummy coded as 1 if an individual changed his location between t-1 and t-5. A change in location is defined as moving from an urban to a rural area (or vice versa) or changing the planning region (Raumordungsregion), *ForCon* measures the regional share (at the level of planning regions) of foreigners at time t-1. In the first year of friendship observation the variable measures the actual regional share of foreigners, Unemployed is a is a dummy coded as 1 if an individual changed work status from working to not working between t-5 and t-1, *Employed* is a is a dummy coded as 1 if an individual changed work status from not working to working between t-5 and t-1.

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Table 1: Friendship and Migration – Summary Statistics

Year	Natives		2nd Generation Migrants		1st Generation Migrants	
	total	% with German friend	total	% with German friend	total	% with German friend
1996	5,594	0.996 (0.061)	525	0.806 (0.396)	2,305	0.512 (0.500)
2001	10,487	0.993 (0.081)	757	0.826 (0.380)	2,492	0.561 (0.496)
2006	10,414	0.994 (0.076)	847	0.809 (0.394)	1,882	0.575 (0.494)
2011	7,293	0.998 (0.042)	632	0.854 (0.353)	1,001	0.600 (0.490)
Overall	33,788	0.995 (0.069)	2,761	0.823 (0.382)	7,680	0.555 (0.497)
Individuals with at least two observations	27,780	0.996 (0.067)	2,037	0.561 (0.496)	6,141	0.837 (0.369)

Notes: We report number of observations, mean values and standard deviations (in parentheses). Sample: Individuals in working age (18-64), West-Germany.

Table 2a: Friendship, Migration and Cultural Assimilation – Summary Statistics

	Native	1st Generation Migrant			Δ(3) and (4)	N
		All	With GF	No GF		
	(1)	(2)	(3)	(4)	(5)	(6)
SocialActive	0.381	0.176	0.193	0.155	0.038***	29,171
	(0.486)	(0.380)	(0.395)	(0.362)	(3.83)	
StrongInPol	0.394	0.202	0.238	0.156	0.0812***	41,397
	(0.489)	(0.401)	(0.426)	(0.363)	(9.09)	
Conservative	0.407	0.407	0.412	0.399	0.0129	19,038
	(0.491)	(0.491)	(0.492)	(0.490)	(0.60)	
Left	0.566	0.580	0.573	0.591	-0.018	19,038
	(0.496)	(0.494)	(0.495)	(0.492)	(-0.86)	
WorriedOwnEcon	0.176	0.303	0.268	0.347	-0.078***	41,287
	(0.381)	(0.460)	(0.443)	(0.476)	(-7.39)	
WorriedJob	0.0970	0.186	0.168	0.213	-0.045***	29,481
	(0.296)	(0.389)	(0.374)	(0.410)	(-3.92)	
WorriedEuro	0.229	0.202	0.200	0.204	-0.004	21,102
	(0.420)	(0.402)	(0.400)	(0.403)	(-0.30)	
WorriedCrime	0.409	0.429	0.423	0.436	-0.013	41,207
	(0.492)	(0.495)	(0.494)	(0.496)	(-1.16)	
WorriedEnv	0.305	0.251	0.264	0.234	0.030***	41,264
	(0.460)	(0.433)	(0.441)	(0.423)	(3.03)	
WorriedXeno	0.295	0.308	0.281	0.344	-0.063***	33,340
	(0.456)	(0.462)	(0.449)	(0.475)	(-4.91)	
FluentGerman	.	0.394	0.552	0.237	0.315***	4,812
	(.)	(0.489)	(0.497)	(0.425)	(23.60)	
GermanAtHome	.	0.655	0.790	0.512	0.278***	2,828
	(.)	(0.475)	(0.407)	(0.500)	(16.15)	

Notes: Columns (1) - (4): mean values, standard deviations in parentheses, Column (5): *t* statistics in parentheses, Column (6) number of observations. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 2b: Friendship, Migration and Cultural Assimilation – Summary Statistics

	Native	2nd Generation Migrant			Δ(3) and (4)	N
		All	With GF	No GF		
	(1)	(2)	(3)	(4)	(5)	(6)
SocialActive	0.381	0.259	0.269	0.212	0.057**	25,287
	(0.486)	(0.438)	(0.444)	(0.409)	(2.27)	
StrongInPol	0.394	0.274	0.298	0.159	0.138***	36,482
	(0.489)	(0.446)	(0.457)	(0.366)	(7.19)	
Conservative	0.407	0.281	0.295	0.156	0.140***	17,697
	(0.491)	(0.450)	(0.456)	(0.364)	(3.35)	
Left	0.566	0.700	0.685	0.833	-0.148***	17,697
	(0.496)	(0.459)	(0.465)	(0.375)	(-3.47)	
WorriedOwnEcon	0.176	0.239	0.210	0.376	-0.166***	36,385
	(0.381)	(0.427)	(0.407)	(0.485)	(-6.99)	
WorriedJob	0.0970	0.121	0.109	0.182	-0.073***	26,286
	(0.296)	(0.326)	(0.312)	(0.387)	(-3.02)	
WorriedEuro	0.229	0.221	0.202	0.324	-0.122***	19,018
	(0.420)	(0.415)	(0.402)	(0.469)	(-3.61)	
WorriedCrime	0.409	0.398	0.382	0.476	-0.095***	36,324
	(0.492)	(0.490)	(0.486)	(0.500)	(-3.80)	
WorriedEnv	0.305	0.299	0.297	0.308	-0.010	36,371
	(0.460)	(0.458)	(0.457)	(0.462)	(-0.44)	
WorriedXeno	0.295	0.323	0.304	0.418	-0.115***	30,223
	(0.456)	(0.468)	(0.460)	(0.494)	(-4.17)	
FluentGerman	.	0.635	0.738	0.368	0.370***	1,029
	(.)	(0.482)	(0.440)	(0.483)	(11.31)	
GermanAtHome	.	0.964	0.981	0.920	0.060***	724
	(.)	(0.186)	(0.137)	(0.271)	(3.02)	

Notes: Columns (1) - (4): mean values, standard deviations in parentheses, Column (5): *t* statistics in parentheses, Column (6) number of observations. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 3a: Friendship, Migration and Cultural assimilation:
Politics – Regression Analysis

Dependent variable:	(1) SocialActive	(2) StrongIntPolitics	(3) Conservative	(4) Left
(A) 1stGenWGF	-0.111***	-0.052***	-0.173***	0.194***
	(0.014)	(0.014)	(0.027)	(0.028)
(B) 1stGenNGF	-0.120***	-0.094***	-0.231***	0.260***
	(0.016)	(0.015)	(0.031)	(0.031)
(C) 2ndGenWGF	-0.085***	-0.033***	-0.089***	0.108***
	(0.013)	(0.012)	(0.022)	(0.022)
(D) 2ndGenNGF	-0.117***	-0.105***	-0.219***	0.255***
	(0.023)	(0.018)	(0.046)	(0.048)
Δ(A) and (B)	0.009	0.042***	0.058**	-0.066***
Δ(C) and (D)	0.032	0.072***	0.130***	-0.147***
N	30,844	43,811	19,844	19,844
R^2	0.064	0.159	0.042	0.039

Notes: OLS Estimates from linear probability models, robust standard errors in parentheses. Reference group: Natives without a migration background. (1) Regression on being socially active. (2) Regression on having strong interest in politics. (3) Regression on having a preference for a party from the conservative spectrum. (4) Regression on having a preference for a left party. Controls for gender, marital status, age and its square, years since migration at its square, children, education, work, regional foreigner concentration and change in location as well as year fixed effects are included. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 3b: Friendship, Migration and Cultural assimilation:
Economic Worries – Regression Analysis

Dependent variable:	(1) WorriedOwnEcon	(2) WorriedJob	(3) WorriedEuro
(A) 1stGenWGF	0.060***	0.045***	-0.001
	(0.013)	(0.014)	(0.017)
(B) 1stGenNGF	0.105***	0.072***	-0.015
	(0.016)	(0.017)	(0.020)
(C) 2ndGenWGF	0.017*	-0.002	-0.008
	(0.010)	(0.009)	(0.013)
(D) 2ndGenNGF	0.157***	0.062**	0.104***
	(0.023)	(0.025)	(0.032)
Δ(A) and (B)	-0.045***	-0.027**	0.014
Δ(C) and (D)	-0.140***	-0.064**	-0.112***
N	43,693	31,030	22,340
R^2	0.078	0.041	0.033

Notes: OLS Estimates from linear probability models, robust standard errors in parentheses. Reference group: Natives without a migration background. (1) Regression on having worries about the own economic situation. (2) Regression on having worries about job security. (3) Regression on having worries about the introduction of the Euro. Controls for gender, marital status, age and its square, years since migration at its square, children, education, work, regional foreigner concentration and change in residential status as well as year fixed effects are included. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 3c: Friendship, Migration and Cultural Assimilation:
Social Worries – Regression Analysis

Dependent variable:	(1) WorriedCrime	(2) WorriedEnv	(3) WorriedXeno
(A) 1stGenWGF	0.006	-0.007	0.020
	(0.015)	(0.014)	(0.016)
(B) 1stGenNGF	-0.012	-0.033**	0.088***
	(0.018)	(0.016)	(0.019)
(C) 2ndGenWGF	0.011	-0.012	0.023*
	(0.013)	(0.012)	(0.012)
(D) 2ndGenNGF	0.084***	-0.005	0.133***
	(0.025)	(0.024)	(0.028)
Δ(A) and (B)	0.018	0.026**	-0.068***
Δ(C) and (D)	-0.073***	-0.007	-0.110***
N	43,613	43,667	35,319
R^2	0.058	0.019	0.031

Notes: OLS Estimates from linear probability models, robust standard errors in parentheses. Reference group: Natives without a migration background. (1) Regression on having worries about crime. (2) Regression on having worries about the environment. (3) Regression on having worries about xenophobia. Controls for gender, marital status, age and its square, years since migration at its square, children, education, work, regional foreigner concentration and change in residential status as well as year fixed effects are included. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 4: Friendship Formation in the Host Country – Benchmark Results

	(1)	(2)	(3)	(4)	(5)	(6)
YSM	0.0558***	0.0550***	0.0539***	0.0515***	0.0506***	0.0490***
	(0.00431)	(0.00433)	(0.00434)	(0.00433)	(0.00436)	(0.00450)
YSM^2	-0.0005***	-0.0005***	-0.0005***	-0.0004***	-0.0004***	-0.0004***
	(9.12e-05)	(9.10e-05)	(9.04e-05)	(9.04e-05)	(9.06e-05)	(9.19e-05)
Getmarried		0.0632	0.0132	0.00401	-0.0189	-0.0184
		(0.0760)	(0.0778)	(0.0767)	(0.0820)	(0.0818)
GetmarriedG		0.0607	0.0782	0.0361	0.0356	0.0154
		(0.137)	(0.149)	(0.160)	(0.157)	(0.166)
GetDivorced		0.0966	0.0879	0.0869	0.0695	0.0651
		(0.0825)	(0.0810)	(0.0784)	(0.0773)	(0.0782)
NewChild			0.169***	0.126***	0.125***	0.127***
			(0.0482)	(0.0480)	(0.0481)	(0.0485)
LeavingChild			0.00633	-0.00997	-0.0130	-0.00911
			(0.0375)	(0.0371)	(0.0370)	(0.0367)
CEd				0.242***	0.229***	0.221***
				(0.0376)	(0.0380)	(0.0379)
CLoc					0.151*	0.145*
					(0.0871)	(0.0873)
ForCon					-0.164	-0.165
					(0.118)	(0.119)
Unemployed						-0.0290
						(0.0744)
Employed						0.0714*
						(0.0368)
Observations	3,280	3,280	3,280	3,280	3,280	3,280
R-squared	0.198	0.200	0.205	0.229	0.232	0.234
Number of persons	1,694	1,694	1,694	1,694	1,694	1,694

Notes: The table reports coefficients from a linear probability model. Robust standard errors, clustered at the individual level, are presented in parentheses. All specifications account for individual fixed effects. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 5: Friendship Formation in the Host Country – Alternative Measures of Friendship

	(1) First German Friend	(2) More than one German Friend
YSM	0.0631***	0.0347***
	(0.00444)	(0.00381)
YSM^2	-0.000412***	-0.000406***
	(9.38e-05)	(7.74e-05)
Getmarried	-0.0186	-0.0256
	(0.0626)	(0.0604)
GetmarriedG	0.0124	0.140
	(0.154)	(0.190)
GetDivorced	0.0619	0.0408
	(0.0539)	(0.0668)
NewChild	0.0966**	0.136***
	(0.0418)	(0.0473)
LeavingChild	-0.000971	-0.0156
	(0.0277)	(0.0298)
CEd	0.127***	0.145***
	(0.0303)	(0.0323)
CLoc	0.111	0.0739
	(0.0722)	(0.0651)
ForCon	-0.175*	-0.304***
	(0.0957)	(0.0990)
Unemployed	0.0341	-0.0350
	(0.0546)	(0.0521)
Employed	0.0446	0.0250
	(0.0274)	(0.0297)
Observations	3,280	3,280
R-squared	0.393	0.149
Number of persons	1,694	1,694

Notes: The table reports coefficients from a linear probability model. Robust standard errors, clustered at the individual level, are presented in parentheses. All specifications account for individual fixed effects. In column (1) we use an alternative measure of friendship and focus on the acquisition of the first German friend by keeping *GermanFriend* constant at 1 after it has once changed from 0 to 1. In column (2) the dependent variable is a dummy coded as 1 if a person has more than one German friend. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 6: Friendship Formation in the Host Country – Different Subsamples

	(1) Women	(2) Men	(3) Unskilled	(4) Skilled	(5) <40	(6) 40+
YSM	0.0505***	0.0475***	0.0458***	0.0465***	0.0425***	0.0764***
	(0.00626)	(0.00644)	(0.00790)	(0.00619)	(0.00755)	(0.00788)
YSM^2	-0.000504***	-0.000319**	-0.000457***	-0.000223	-0.000165	-0.000814***
	(0.000125)	(0.000134)	(0.000145)	(0.000142)	(0.000212)	(0.000139)
Getmarried	-0.0163	-0.0289	-0.0721	0.00525	-0.0968	0.0831
	(0.115)	(0.120)	(0.156)	(0.102)	(0.0904)	(0.172)
GetmarriedG	0.0157	-0.0412		-0.0143	0.0530	-0.0389
	(0.223)	(0.221)		(0.181)	(0.310)	(0.172)
GetDivorced	0.0146	0.114	0.0288	0.0693	-0.0642	0.0844
	(0.110)	(0.114)	(0.144)	(0.0995)	(0.130)	(0.111)
NewChild	0.0455	0.205***	0.143*	0.147**	0.148***	0.00474
	(0.0624)	(0.0717)	(0.0793)	(0.0650)	(0.0563)	(0.103)
LeavingChild	-0.0211	-0.00755	0.0699	-0.0478	0.0870	-0.0385
	(0.0505)	(0.0535)	(0.0487)	(0.0587)	(0.151)	(0.0426)
CEd	0.188***	0.250***	0.139**	0.291***	0.198***	0.239***
	(0.0548)	(0.0526)	(0.0623)	(0.0598)	(0.0558)	(0.0536)
CLoc	0.0866	0.202*	0.140	0.133	0.0980	0.233*
	(0.128)	(0.117)	(0.190)	(0.102)	(0.110)	(0.130)
ForCon	-0.163	-0.183	-0.118	-0.256*	-0.238**	0.145
	(0.152)	(0.199)	(0.193)	(0.146)	(0.115)	(0.240)
Unemployed	0.00451	-0.0688	0.0735	-0.147	0.0948	0.0121
	(0.101)	(0.111)	(0.114)	(0.112)	(0.102)	(0.100)
Employed	0.103**	0.0193	0.00466	0.109**	0.0615	0.140**
	(0.0463)	(0.0633)	(0.0532)	(0.0517)	(0.0508)	(0.0709)
Observations	1,679	1,601	1,578	1,702	1,473	1,807
R-squared	0.224	0.253	0.162	0.261	0.277	0.245
Number of persons	856	838	919	904	893	1,033

Notes: The table reports coefficients from a linear probability model. Robust standard errors, clustered at the individual level, are presented in parentheses. All specifications account for individual fixed effects. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.

Table 7: Friendship Formation in the Host country – Selected Ethnic Groups

	(1) Turks	(2) East-Europeans	(3) South-Europeans	(4) Ex-Yugoslavians
YSM	0.0175**	0.0669***	0.0565***	0.0207
	(0.00697)	(0.0118)	(0.0143)	(0.0148)
YSM^2	4.03e-05	-0.000456	-0.000402*	7.77e-05
	(0.000141)	(0.000421)	(0.000225)	(0.000282)
Getmarried	-0.136	-0.0452	-0.227**	0.0857
	(0.203)	(0.118)	(0.104)	(0.183)
GetmarriedG	0.0391	0.0737		
	(0.193)	(0.252)		
GetDivorced	0.0504	0.122	0.201	-0.0191
	(0.128)	(0.145)	(0.150)	(0.213)
NewChild	0.0338	0.234**	0.0948	0.244
	(0.0749)	(0.103)	(0.124)	(0.160)
LeavingChild	-0.0511	-0.0805	-0.0197	0.0909
	(0.0503)	(0.0789)	(0.0778)	(0.110)
CEd	0.194***	0.304***	0.203***	0.00544
	(0.0677)	(0.0660)	(0.0782)	(0.0882)
CLoc	0.464***	0.00885	0.183	0.219
	(0.173)	(0.131)	(0.194)	(0.367)
ForCon	-0.179	-0.511***	0.267	-0.384
	(0.226)	(0.174)	(0.269)	(0.402)
Unemployed	-0.184	0.0289	0.267*	-0.292**
	(0.128)	(0.137)	(0.145)	(0.132)
Employed	-0.00461	0.0903	0.295***	0.181
	(0.0489)	(0.0765)	(0.112)	(0.140)
Observations	1,143	899	574	417
R-squared	0.134	0.420	0.282	0.195
Persons	538	472	309	229

The table reports coefficients from a linear probability model. Robust standard errors, clustered at the individual level, are presented in parentheses. All specifications account for individual fixed effects. *** Significant at 1% level, ** Significant at 5% level. * Significant at 10% level. Sample: Individuals in working age (18-64), pooled, West-Germany. Detailed description of the variables in Appendix.