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Social Networks and Immigrant Integration: Experimental Evidence from Sweden

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Response to Reviewers:	

Social Networks and Immigrant Integration: Experimental Evidence from Sweden*

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April 21, 2022

Abstract

Immigrant integration is key to realizing the potential of international migration in economic development. However, integration is often thought to be hampered by immigrants' limited social networks beyond their co-ethnics. We study how contact with natives affects immigrants' social and economic outcomes through a field experiment. We have partnered with an NGO in Sweden that annually matches over one thousand pairs of native Swedes and immigrants for informal meetings to promote new social connections and facilitate integration. Using an RCT and a combination of survey and administrative register data, we will study how such matches with native Swedes affect immigrants' social relations and values, and whether they lead to better labor and housing market outcomes via access to information or referrals. We will also examine changes in immigrants' attachment to their country of origin and remittances to family and friends outside Sweden.

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Study pre-registration: AEARCTR-0006714. This trial was registered in the AEA RCT Registry on May 28, 2021. Following this review process, the pre-analysis plan was updated on April 21, 2022.

Proposed timeline: The study will be completed by 2025. The intervention begins in 2021–2022. The intervention will last approximately 12–18 months in order to achieve the desired sample size. The final follow-up surveys will be collected in 2023–2024 and the final register data in 2025, after which we will conduct the final data analysis.

1 Introduction

Economists increasingly recognize the role of international migration in economic development (Clemens, 2011). Migrants from developing countries often see higher incomes (Clemens et al., 2019) while their family members back home may benefit through remittances (Yang and Choi, 2007; Yang, 2008; Gibson and McKenzie, 2011; Gibson et al., 2018). International migration can benefit origin countries through a number of other channels,[1] while destination countries may also experience important economic effects.[2] However, to maximize the potential of migration for development, it is critical that immigrants are able to participate in the social and economic lives of their destination countries. While countries such as the United States have an immigrant labor force participation exceeding that of natives (Bureau of Labor Statistics, 2021), many developed countries struggle to integrate migrants—and especially refugees—into their labor markets (Algan et al., 2010; Brell et al., 2020; Fasani et al., 2022). Even when working, immigrants may hold more precarious jobs with higher risk of unemployment (Arai and Vilhelmsson, 2004; Bratsberg et al., 2018; Borjas and Cassidy, 2020; Fasani and Mazza, 2020). The low labor market attachment of immigrants parallels other integration challenges such as segregation, discrimination, and social exclusion. Sociologists have documented slow progress in social integration across multiple dimensions (Ager and Strang, 2008). In Sweden, for example—a country that has experienced a large increase in its share of foreign-born population over the last decade—immigrants often reside and work in ethnically segregated neighborhoods and workplaces, have limited language proficiency, and experience little contact with natives (Fangen, 2010; Statistics Sweden, 2019). Immigrants also display low levels of generalized trust and attachment to Sweden (Puranen, 2019).

Many scholars and policymakers believe that immigrants' limited social networks beyond co-ethnics are a key impediment to their integration, and that more contact with natives is a potential solution. For example, proponents of refugee dispersal policies often cite increased contact with natives as a way to expedite language acquisition and labor market entry (for example, SOU, 2004; Hernes et al., 2019). However, studying this question is difficult as

[1] For instance, emigration may affect human capital investments by affecting the returns to education, and return migrants may transmit know-how and resources to origin areas that can have beneficial impacts on the economy and reduce inequality (McKenzie and Rapoport, 2007; Beine et al., 2008; Khanna and Morales, 2017; Theoharides, 2018; Bahar et al., 2019; Fernández-Sánchez, 2021; Khanna et al., 2022). Moreover, migrants may remit cultural and political values that promote better governance (Spilimbergo, 2009; Docquier et al., 2016; Barsbai et al., 2017; Tuccio et al., 2019). Migration can also be a powerful tool for reducing global poverty and inequality (Milanovic, 2012).

[2] For example, through more innovation (Hunt and Gauthier-Loiselle, 2010; Kerr and Lincoln, 2010; Moser et al., 2014; Sequeira et al., 2020), trade (Burchardi et al., 2019), lower prices (Cortes, 2008; Bound et al., 2017), and increased labor market specialization (Foged and Peri, 2016).

social networks are hard to observe empirically and potentially shaped by unobserved immigrant characteristics that may also affect integration outcomes. While a growing empirical literature, guided by the "contact hypothesis" (Allport, 1954), has studied native-immigrant contacts, it has mainly focused on its impact on the preferences, beliefs, and behavior of natives (for example, Edo et al., 2019; Finseraas et al., 2019; Bursztyn et al., 2021; Steinmayr, 2021). Much less is known about the consequences of such contacts for immigrants.

In this study, we will use a randomized controlled trial (RCT) to evaluate a novel program that promotes social inclusion of immigrants in Sweden, in order to assess the causal effect of contact with natives on immigrants' social, economic, and cultural integration. Specifically, we have partnered with the largest non-governmental organization (NGO) of its kind in Sweden, *Nya Kompisbyrån* (NKB).[3] NKB organizes a program that matches pairs of immigrants and native Swedes for informal meetings. Participating immigrants are predominantly from low- and middle-income countries (LMICs) in Africa, Asia, and South America, with many being refugees. For instance, over 90% of the immigrants in our pilot study come from LMICs.[4]

The nominal goal of the meetings is to help immigrants improve their Swedish language skills, but the program also aims to promote intercultural understanding, strengthen immigrants' social networks, and improve their inclusion in Swedish society. Moreover, meetings with native Swedes may alleviate asymmetric information issues, allowing natives to signal the immigrant's ability to potential employers in their network. NKB works in 15 cities as well as online, and matches several thousand individuals each year. Since its inception in 2014, the organization has matched over 40,000 natives and immigrants. However, despite the fact that NGOs such as NKB have taken on important roles in immigrant integration and are often funded by local governments and public grants, no academic study has yet evaluated the causal effect of such initiatives (Mousa, 2020).

Via an online platform, NKB creates matches between volunteer immigrants and natives by finding individuals with similar interests and demographics. However, many more immigrants than natives typically register with NKB, meaning that not all immigrants can be matched to a native contact. Such oversubscription provides a natural opportunity to introduce a randomized evaluation by controlling the assignment of matches.[5] Our evaluation will use a pairwise-randomization design where, for each native that signs up, NKB will select

[3]The name translates to "The New Buddy Bureau".

[4]38% of the immigrant participants in our pilot study (N=296) come from low-income, 28% from lower-middle-income, and 24% from upper-middle-income countries, as per the 2021 World Bank classification.

[5]This also facilitates ethical considerations of the study as our intervention will not change the total number of matches that NKB would otherwise have made. Ethics approval for the study was obtained from the Swedish Ethical Review Authority on October 22, 2020.

two potential immigrants as matches. An automated system will then randomly assign one of the immigrants to meet with the native Swede while the other is placed in the control group. Individuals in both groups, as well as natives, are surveyed for one year following registration with NKB. We will also link individuals to administrative register data from the period spanning both one year before and one year after registration, enabling an in-depth view of the integration process over time. Individuals in the control group are not allowed to be matched within 12 months.

Our research questions cover three general areas, based on the multidimensional integration index developed by the Immigration Policy Lab (IPL) at Stanford University and ETH Zurich (Harder et al., 2018). First, we study how contact with natives affects immigrants' social interactions with native Swedes, their Swedish language skills, and attachment to Sweden, as well as their knowledge of Swedish bureaucracy and institutions. Second, we will assess if such contact has an effect on their economic outcomes in the labor and housing markets. Third, we will also measure if it has any effects on immigrants' attitudes and beliefs regarding gender equality, trust, and individual freedom—that is, three cultural aspects that distinctly characterize the Swedish society (Puranen, 2019). As secondary outcomes, we will, for example, examine changes in immigrants' attachment to their country of origin and remittances shared with family and friends outside of Sweden. Our survey data will also track the frequency of meetings as well as their topics of conversation.

Although the study will not exploit any exogenous variation specifically designed to causally identify one particular mechanism behind any effects, the detailed surveys will still allow us to descriptively investigate and distinguish between potential mechanisms, such as improved language skills, better access to information on housing or job opportunities, or native contacts providing referrals. By linking participants to the detailed Swedish registers, we will also measure outcomes without attrition over a period of up to one year post treatment. These register data will allow us to validate the survey data as well as analyze attrition, selection, and external validity. Furthermore, we plan to investigate heterogeneity in treatment effects based on the characteristics of both the immigrant and the native in a match, as well as their joint pair characteristics. For instance, separating effects by gender and refugee status are of particular interest as women and refugees often fall behind in both social and economic integration (Statistics Sweden, 2019).

1.1 Context and pilot data

Our study takes place in Sweden, which has seen a rapid increase in immigration during recent years.[6] Immigrant labor market attachment is relatively weak, with an unemployment rate of 19% among foreign-born individuals compared to 5% among natives in 2020.[7] Refugees tend to fare worse than other immigrants, with lifetime fiscal costs estimated to be approximately 7,200 euros per refugee and year (Ruist, 2018). Our pilot survey with 296 immigrant participants in NKB's program attests to their limited social networks and the difficulties they face in navigating the Swedish labor and housing markets.[8] For instance, 27% of the respondents do not know any natives and another 24% know at most two (see Figure 1). 29% have not met any natives in the last two months for social events such as coffee, lunch or dinner. Over the same recall period, 22% did not have any conversations with natives via phone, text or any social media.[9]

On a scale from 1 ("very difficult") to 10 ("very easy"), 42% of the immigrants choose the former in describing their experience in finding a job or housing. One in five is highly dissatisfied with their current occupation. Two-thirds have searched for a job in the last six months and one-fourth of them did so via personal contacts. Half have searched for housing during the same period and 30% of them via personal contacts. The perceived return to networks in the labor market is also high. On a 10-point scale to what extent they think that "luck and networks" versus "effort" matters the most for immigrants' economic success in Sweden, one in four answers in the most extreme for the former option. When asked about their intent for joining the program, 92% of the immigrants indicate that they want to practice Swedish, 66% report a wish to find a new friend, and 37% hope to get help finding a job or housing.

Existing descriptive survey evidence from NKB suggests large potential benefits for the participating immigrants. Historically, a majority of matched pairs continues to meet after their first contact, indicating that a large fraction of matches results in meaningful and sustained relationships. In addition, 28% of the job-searching participants indicate that they have received a job or internship via their native Swedish contact. A majority also reports experiencing a greater level of inclusion and understanding of Swedish society as well

[6] In 2020, the foreign-born population share in Sweden was 20%, compared to 11% in 2000.

[7] Ages 16–64. Data from Statistics Sweden's Labour Force Surveys (LFS).

[8] Pilot sample was recruited over the period March 11 to July 7, 2021. Due to the COVID-19 pandemic, NKB launched the option to meet online and these data refer to such digital meetings. Anecdotally, however, many of these digital meetings have in fact been followed by in-person contact.

[9] The absence of contact is symmetric: 36% of the 132 native respondents do not personally know any immigrants and 50% have not met any immigrants in the last two months in a social setting. Consistent with the literature, there is also a notable contrast in values regarding trust, individualism, and gender equality (see Figure 2).

as increased self-confidence.

We also see strong correlations between having natives in one's network and different aspects of integration: For a set of social and economic outcomes (as defined in Table 1), Table 2 reports the mean differences between participating immigrants who do not know any native Swedes beyond their family (27%) and those who know at least one (73%). In addition, Figures 3–6 plot predicted mean outcomes against "number of natives one knows" grouped into quartiles, controlling for whether the respondent answered the survey in Swedish or English. First, there is a positive correlation between the number of natives in the network and engagement with natives in the form of physical meetings and conversations (Figure 3). Immigrants who know more natives are more likely to perceive them as "open and welcoming" (as opposed to "closed and reserved") and feel a stronger connection with Sweden (Figure 4). They also find it easier to navigate local bureaucracy (for example, migration authority, healthcare, and schools) as well as the labor and housing markets (Figure 5). Finally, presence of natives in one's social network has a strong positive correlation with employment and satisfaction with current financial and housing situation (Figure 6). Although these relationships should not be interpreted as causal, they do suggest that the program may potentially have important benefits for immigrants' social and economic outcomes.

1.2 Theory and mechanisms

There are strong theoretical reasons to believe that contact with natives can affect the social, economic, and cultural outcomes of immigrants. Interpersonal contact is by nature a complex phenomenon and several mechanisms may contribute to a treatment effect. Distinguishing between mechanisms is important in this setting, not least because of how it may shape policy implications. For example, if the main mechanism for any treatment effects is improved language skills, one policy recommendation may be to further expand access to language classes (see also Section 5.3 on policy implications). However, since we evaluate integration in several dimensions, different mechanisms might apply to different outcomes. Below, guided by theories in economics and sociology, we discuss the potentially key mechanisms that may underpin any treatment effects.

The first mechanism we consider is network effects. Examples include if the native offers a job or housing directly, helps signal the immigrant's traits by providing a referral, or uses his or her own social network to help the immigrant. This mechanism is most relevant for labor market and housing outcomes. A large body of evidence highlights the role of social networks for labor market outcomes (Beaman, 2016). Networks can mitigate asymmetric information problems, thereby raising match quality and productivity as well as lowering

the separation rate (Beaman and Magruder, 2012; Burks et al., 2015; Brown et al., 2016; Dustmann et al., 2016; Pallais and Sands, 2016). Referral-based hiring may also address potential moral hazard (Heath, 2018). These effects appear to be especially important for groups with weak starting positions, for example, those with less experience or credentials such as young adults and immigrants (Kramarz and Skans, 2014; Schmutte, 2015). Indeed, several studies have found that immigrants who live in ethnic enclaves, where they have a larger network of co-ethnics, fare better in the labor market (Edin et al., 2003; Damm, 2009; Beaman, 2012; Patacchini and Zenou, 2012; Andersson et al., 2014; Hainmueller et al., 2017). Social isolation, on the other hand, may explain immigrants' tendency to cluster into sectors and occupations by ethnicity (Patel and Vella, 2013; Kerr and Mandorff, 2021). Hiring within origin-country groups is common (Åslund et al., 2014). However, while there is a substantial body of literature on how co-ethnic networks affect labor market outcomes, little attention has been devoted to studying the role of natives in the social network. Social ties are sometimes argued to be effective even when they are relatively weak (Granovetter, 1973), while others find strong ties having a larger impact (Kramarz and Skans, 2014; Goel and Lang, 2019).

As the social networks of natives are typically larger and more closely connected to the labor market than those of immigrants, providing immigrants with access to natives' networks is commonly believed to have substantial benefits. Indeed, several studies have documented positive correlations between native-immigrant contact and integration outcomes (de Vroome and van Tubergen, 2010; Lancee, 2010; Marinucci and Riva, 2020). Referrals may improve outcomes in the housing market as well, especially in light of evidence of discrimination against immigrants responding to housing opportunities (Ahmed and Hammarstedt, 2008; Gusciute et al., 2022).

A second mechanism is natives providing immigrants with more or better information. This is related to, but separate from, the network effect in the sense that ties do not directly help by leveraging their social network or revealing information about the immigrant, but they do so indirectly by helping the immigrant navigate society and the labor or housing markets. Immigrants typically have more limited access to information and may rely on co-ethnic social networks to navigate their host societies. Barsbai et al. (2020) find, for instance, that sharing more information with Filipino immigrants about settlement in the United States reduces the likelihood of them seeking support from organizations of fellow immigrants. Hence, our intervention may lower the reliance of immigrants on co-ethnic contacts while increasing their integration into the native social networks as well as the information gained through these networks.

Third, the intervention's nominal goal is to help immigrants improve their Swedish lan-

guage skills. Previous studies have found that language proficiency has a positive effect on employment and income (Dustmann and Fabbri, 2003; Bleakley and Chin, 2004; Rooth and Åslund, 2006; Lochmann et al., 2019). Better Swedish language skills may facilitate immigrants' integration both directly and indirectly. It may improve their productivity (especially in non-manual occupations), enhance their understanding of Swedish society and culture, help in navigating the labor market, as well as work as an important signal for potential employers.

Finally, if contact with natives leads to greater social inclusion and identification with Sweden, this may also have an impact on, for example, immigrants' labor market outcomes. The so-called "contact hypothesis" in social psychology states that meaningful contact between groups reduces prejudice and improves collaboration (Allport, 1954).[10] The previous literature has tested this hypothesis in different environments and often found that majority groups change their attitudes after experiencing more contact with minorities (Dustmann and Preston, 2007; Hainmueller and Hopkins, 2015; Bansak et al., 2016; Dinas et al., 2019). Relevant for our study, prior research has tested whether native Swedes are more favorable towards immigration as a result of higher exposure to foreigners (Andersson and Dehdari, 2021). However, the question of how the immigrants themselves are affected by such contact has remained relatively unexplored.

Immigrants who have more contact with natives may experience less social isolation and feel a stronger connection with Sweden. Such contact can also change immigrants' beliefs about how sociable natives are as well as affect their cultural assimilation via changing values in areas such as trust and gender equality. That is, immigrants might adapt to the Swedish culture through direct horizontal socialization, as opposed to vertical parental socialization (see, for example, Bisin and Verdier, 2011). If intercultural contact leads to a process of acculturation (Berry, 1997) and increases the immigrants' connection with Sweden, this may also improve labor market outcomes (Casey and Dustmann, 2010; Nekby and Rödin, 2010).

1.3 Contribution

While recent literature has studied contact between natives and immigrants, it has mainly focused on its impact on natives' preferences about immigration (see, e.g., Edo et al., 2019; Finseraas et al., 2019; Bursztyn et al., 2021; Steinmayr, 2021). Much less is known about the consequences for immigrants. In a review of the literature on refugees' economic integration, Mousa (2020) concludes that programs that connect refugees to locals are associated with

[10] In line with the theory, our setting should be apt for supporting the beneficial effects of contact if the matched pairs have repeated and cooperative interaction, common goals, and equal relations (Allport, 1954).

positive outcomes, but that there is a lack of causal evidence. An important contribution of this project, therefore, is estimating the causal effects of native-immigrant contact on the outcomes of immigrants (rather than natives).

We also contribute to the broader literature exploring the determinants of immigrant integration, ranging from language skills (Dustmann and Fabbri, 2003; Lochmann et al., 2019) to neighborhood composition (Edin et al., 2003; Beaman, 2012; Abramitzky et al., 2020; Bratsberg et al., 2021), and the effects of active labor market policies (Butschek and Walter, 2014). Specifically, we study the role of non-co-ethnic social networks in shaping migrant outcomes, whereas a large literature has focused on the presence of co-ethnics in migrant destinations (Munshi, 2003; Martén et al., 2019; Munshi, 2020).

Another contribution is the experimental evaluation of an NGO-driven intervention for immigrant integration. NGOs are pervasive in the field of integration across the globe and often have innovative approaches based on voluntary participation as well as low operating costs (Lundberg et al., 2011; Schmidtke, 2018; European Economic and Social Committee, 2020; Mousa, 2020). In Sweden, for instance, the government identifies civil society as an important actor for integration and many such organizations receive substantial amounts of government funding (Soininen, 2006; Osanami Törngren et al., 2018). Yet, despite public and private investments, there is a lack of knowledge on the effect of civil society organizations in this domain. This mirrors the general lack of impact evaluations of local-government active labor market policies (Panican and Ulmestig, 2017). As such, this project also contributes to a small but growing body of experimental work evaluating civil society organizations in developed countries (Behaghel et al., 2014).

Moreover, social and economic integration is often slower for female immigrants than for their male counterparts, as manifested in the persistent gender gap in employment rates among immigrants in Sweden (Statskontoret, 2018). As limited social networks and mobility might be more binding for immigrant women, they could benefit more from contact with natives. Hence, we will generate evidence on gender-specific returns to social network in particular (Sanyal, 2009; Kandpal and Baylis, 2019; Andrew et al., 2020; Anukriti et al., 2020), and on gender differences in social program effectiveness in general. Similarly, our heterogeneity analysis for refugees will add to the growing literature on ways to improve integration outcomes for this vulnerable group of immigrants living in both developed and developing countries (Caria et al., 2020; Hussam et al., 2021; Fasani et al., 2022).

Finally, by studying the impact on remittances, we will contribute by assessing how a program aiming to increase immigrants' social inclusion in the host country may affect the welfare of non-migrating network members in the origin country (Rapoport and Docquier, 2006; Yang, 2011).

2 Research design

2.1 Intervention and random assignment

NKB works to bring together immigrants and native Swedes for informal meetings in order to increase social inclusion. Individuals who want to take part in NKB's program register on their website as either new or established Swedes. Self-identifying as a new Swede ("immigrant") means that the individual wants to practice Swedish, while being an established Swede ("native") represents someone who is a long-term resident and fluent in Swedish. Participation is free and open for all individuals aged 18 years or older. During registration, individuals provide basic demographic information as well as report their personal interests. All individuals who register with NKB and accept the terms and conditions are considered participants in the study. Table 3 compares the immigrant and native participants during the pilot study with their respective groups in the population. The program participants—both immigrants and natives—are younger, more likely to be female, and have lower employment rates. Immigrants from Asia and Africa are substantially over-represented in the participant pool vis-à-vis their shares in the broader foreign-born population. Over 50% of the immigrant participants come from six countries: Syria (18%), Iran (9%), Eritrea (8%), Turkey (7%), Afghanistan (6%), and Iraq (3%), from which Sweden has received a significant share of recent refugees.

Once individuals have registered, a caseworker attempts to find a match for them. We begin by describing the matching process as it works prior to our study: For any individual, a computer program automatically creates a list of individuals with a high predicted match quality. The program predicts match quality based on a formula which, for any pair of individuals, assigns points for each interest that candidates have in common (for example, sports, politics, music, books, etc), as well as for having similar age, gender, municipality of residence, or both having children.[11] The formula also takes into account possible binding constraints such as individuals living near the same city or whether any of the participants has indicated a wish to be matched within their age range or gender. Moreover, NKB requires that any matched pair has at least two interests in common. Candidates may also write free-text information about themselves and why they wish to be matched. The caseworker makes the final decision on matches.[12]

[11] The variables and the associated points (in parentheses) are as follows: absolute age difference ≤ 5 years (3); same gender (3); residence municipality (3); having children (2); interest in animals (2), IT/technology (2), nature/outdoor life (2), exercise (2), sports (2), art/culture (2), soccer (2), cooking (2), music (2), politics (2), travel (1), walking (1), books (1), family (1), and movies/TV series (1). Hence, the overall measured match-quality can range from 0–36.

[12] On the registration form, the participants also report their occupational status (employed; looking for jobs; pensioner; or student) and whether they have any formal education or training, with the possibility of

Once a match has been created, NKB sends information about the match to both individuals, encouraging them to contact each other and meet as soon as possible. The aim of the program is to allow individuals to meet a new potential friend, practice speaking Swedish, and promote mutual cultural understanding. It is up to the matched pair to decide whether or how often to meet and under what circumstances. Common activities when meeting for the first time are getting coffee or taking a walk together. NKB encourages matched individuals to meet at least once and, historically, a majority of individuals have met with their match at least twice (even though there are no requirements to do so). This indicates that the intervention creates meaningful relationships for a large share of the participants.

Not all individuals who register with NKB can be matched. In general, there is a much larger number of immigrants than natives that register, meaning that many immigrants have to wait extended periods of time before receiving a match, or cannot be matched at all. By contrast, most natives are quickly matched to an immigrant after registration.

We now describe how our study will introduce random assignment of matches: In order to preserve as much of NKB's original matching protocol as possible, particularly its experience in creating successful matches, we will employ pair-wise randomization. Specifically, given the relative scarcity of natives, our design lets NKB caseworkers select two immigrants as potential matches for each native that signs up, with randomization of the match occurring between such pairs of immigrants. The process of selecting the two potential matches is the same as before, that is, the computer program recommends potential matches and the caseworker decides which two immigrants should be selected. Once two candidates have been selected, the computer program randomly assigns one of the immigrants to be matched with the native Swede while the other is placed in the control group. Individuals in the control group are not allowed to be matched within 12 months.[13]

Treatment status will not be blinded after assignment as participants will naturally know their treatment status. If individuals from the control group contact NKB to ask why they have not been matched to a native contact, they will reply in a standard fashion noting that the demand for matches is high and that it is difficult to find matches for everybody.

providing corresponding details as free-text information. The matching formula does *not* incorporate this information, but the caseworker can when choosing potential matches. We will control for these variables in all our analyses.

[13]While it is possible that individuals in the control group are matched to native Swedes via similar organizations, this is not straightforward for several reasons. First, NKB is the largest provider of matched meetings and is highly oversubscribed, meaning that other organizations are also likely to be oversubscribed and may not have the capacity to match everyone in our control group. Second, NKB is active in multiple cities across Sweden, all of which may not be served by a similar organization. As a result, even if individuals in the control group find matches outside of NKB, this will likely happen with a significant delay, meaning that our short-term follow-ups will be less affected. We will also ask them directly if they have participated in similar programs in our surveys.

While further randomization, sub-treatments or nudges would be interesting, this is left outside the scope of this project as it would either not be in line with our aim of following NKB's original program as close as possible, or be infeasible due to sample size limitations.

2.2 Sample and statistical power

All individuals who register to take part in NKB's program and accept the terms and conditions of the study are eligible for inclusion in our sample. It is not possible to participate in NKB's program without agreeing to participate in the study. Since individuals can register with NKB at any time, we will add study participants on a rolling basis. We will stop when we have accumulated 1,000 matched pairs. The sample size will then consist of 2,000 immigrants, evenly divided into treatment and control groups, as well as 1,000 natives.

Only immigrant participants who respond to the baseline survey are included in this sample. This condition is imposed in order to increase the likelihood that respondents answer the follow-up surveys, given that baseline respondents likely have a higher willingness to participate in surveys (Broockman et al., 2017). Using register data as well as data from the NKB sign-up form, however, we will also be able to examine how the study sample compares to the NKB participants who do not answer the baseline survey. In Section 3.2 we describe how we will send reminders and offer incentives to ensure high response rates.

Under standard assumptions of 5% significance level, 80% power, and 70% response rate in the survey (response rate was 71% for the pilot), this implies a minimum detectable effect size (MDES) of 0.15 standard deviations in the outcomes measured using survey data. We consider this to be a small effect. For example, a 0.15 standard-deviations improvement corresponds to increases of 7% and 14% in the variables "Easy to navigate local bureaucracy" (1–10) and "Worked positive hours last month" (0–1), respectively. The later rounds of follow-up surveys may potentially see higher attrition. However, this would have a relatively small impact on power. For instance, assuming a response rate of 50% instead of 70%, the MDES is 0.18 standard deviations.

Attrition will be close to zero for outcomes measured using register data. Assuming no attrition yields an MDES of approximately 0.13 standard deviations. In addition, all estimates of MDES mentioned above are conservative as including baseline covariates will likely lead to higher precision.[14]

Following Porter (2018), we also estimate the MDES accounting for multiple hypothesis testing corrections.[15] With five outcomes, 80% power for any individual outcome, and the

[14]For example, the MDES with 70% response rate declines to 0.14 standard deviations given a 0.3 correlation between baseline covariates and the outcome.

[15]To summarize, Porter (2018) proposes simulating the joint distribution of test statistics under null and

Benjamini-Hochberg step-up procedure to control the false discovery rate (FDR) (Benjamini and Hochberg, 1995; Bryan et al., 2021), the estimated MDES is 0.154, which is marginally higher than the unadjusted MDES of 0.150 above.[16] We pre-specify a modification of the Benjamini-Hochberg step-up procedure, as proposed by Benjamini et al. (2006), which potentially has higher power (Anderson, 2008)—see Section 4.2.

2.3 Primary hypotheses

Our primary hypotheses relate to the effects of the immigrant-native match in five separate domains or families, in line with the theories discussed in Section 1.2. For each family of outcomes using survey data, we will create a control-group normalized standardized index following Kling et al. (2007). Below we specify these families as well as a brief description of the corresponding outcomes and their data sources.[17] Appendix A provides further details on the construction and content of these outcomes.

In particular, we specify the following hypotheses. For immigrants, the match with a native Swede improves:

Hypothesis P1: **social networks**, as measured by an index aggregating the frequency and nature of contact with native Swedes who are not members of the immigrant's family (survey);

Hypothesis P2: **social inclusion**, as represented by an index covering self-reported proficiency and confidence in spoken Swedish, perceived ease in navigating Swedish bureaucracies (such as, migration or tax authorities), attachment to Sweden, and feeling of inclusion in the Swedish society (survey);

Hypothesis P3: **labor market outcomes**, as captured by (a) an index aggregating occupational status, earnings, perceived ease in navigating the labor market, and satisfaction with current occupation and financial situation (survey), and (b) employment status and monthly labor income (administrative registers);

alternative hypotheses given assumptions regarding the correlational structure between these statistics and MDES across outcomes, among other things. These joint distributions are used to estimate raw p-values to which we can apply a correction such as the Benjamini-Hochberg step-up procedure (Benjamini and Hochberg, 1995; Bryan et al., 2021). These multiplicity-adjusted p-values are then used to estimate power.

[16] Other parameters and assumptions are as follows: 5% significance level, 70% response rate in the survey, 47 covariates (as specified in Equation (1) below), no correlation between the test statistics, zero predictive power of baseline covariates, and that there are effects equal to the estimated MDES on all five outcomes. Furthermore, the corresponding power to detect this MDES for at least four of the five outcomes is 73%. From the pilot, pair-wise correlations between the five primary outcome indices—upper-bounds for correlations between the test statistics—range from 0.10 to 0.34. Incorporating these positive correlations would improve power. Finally, we use 10,000 replications for the simulation.

[17] As the administrative register data sometimes will be measured at a different frequency and for a slightly different sample, these variables will not be included in the survey indices but analyzed separately.

Hypothesis P4: **housing market outcomes**, as measured by (a) an index aggregating the nature of housing contract, perceived ease in navigating the housing market, and satisfaction with current housing (survey), and (b) average income in the neighborhood of current residence (administrative registers);

Hypothesis P5: **cultural assimilation**, as summarized by an index aggregating attitudes and beliefs about gender equality, trust, and individualism (survey).

2.4 Secondary analyses

2.4.1 Secondary outcomes

We will also consider the following hypotheses as non-primary to shed light on any effects found in the primary analyses. These hypotheses roughly match the topics of the respective primary hypotheses. However, we do not specify the direction of effects as they are theoretically ambiguous in many cases. Measurement details are in Appendix B.

Hypothesis S1: *Social networks.* The match affects the immigrant participant's engagement with the assigned native (incidence and frequency of contact), and take-up of similar programs outside of NKB (survey).

Hypothesis S2: *Social inclusion.* The match changes the immigrant participant's perception of how sociable natives are, their reliance on local co-ethnic contacts in navigating bureaucracies (such as, migration or tax authorities), and their attachment to the country of origin.

Hypothesis S3: *Labor market outcomes.* The match affects whether the immigrant participant searches for employment, and remittances they send to family and friends outside Sweden (survey), as well as their participation in public active labor market programs, how much they receive as income from self-employment, social security benefits and transfers (administrative registers).

Hypothesis S4: *Housing market outcomes.* The match has an effect on whether the immigrant participant searches for housing (survey), square meter of housing space per inhabitant at current residence, and the share of native-born in their current neighborhood of residence (administrative registers).

Hypothesis S5: *Cultural assimilation.* The match affects the immigrant participant's beliefs on the role of effort versus luck-and-network in immigrant labor market success and around discrimination against immigrants in the labor market, their expectations around cultural assimilation, as well as their overall life satisfaction (survey).

2.4.2 Heterogeneous effects

Our analysis of heterogeneous treatment effects involves the following lines of inquiry (measurement details in Appendix C):

Immigrant characteristics: Does the treatment effect depend on the following *immigrant* characteristics in baseline?

- *Gender* (administrative registers): Immigrant women often lag behind their male counterparts in social and economic integration (Statskontoret, 2018; OECD, 2020). A contributing factor could be conservative gender norms in their countries of origin around social relations and mobility (Neuman, 2018). Our pilot survey finds that the female participants know fewer natives, feel isolated more often, and are less likely to be employed. Indeed, the fact that over 60% of the immigrant participants are female itself may reflect higher demand for such interventions in that group. In light of these pre-existing differences in social and economic outcomes, we hypothesize that the treatment effects can be different for female immigrants.

- *Refugee status* (administrative registers): Refugees are another group of interest given the persistent gap in their integration vis-à-vis other immigrants (Brell et al., 2020). The literature has identified language skills and social networks to play a critical role in refugee integration (Edin et al., 2003; Evans and Fitzgerald, 2017; Auer, 2018; Fasani et al., 2022). Given our intervention's focus on widening social networks to include natives, as well as improving language skills, it may have a different effect on refugee participants. As mentioned earlier, a significant share of the immigrant participants during our pilot study are presumably refugees.[18]

- *Stated intention to join NKB* ("improving language", "making friends", or "getting help with job or housing"; survey): The outcome of the match partially depends on the intent and expectations of the participants. For instance, in our pilot survey, over one-third of the immigrant participants states "getting help with job or housing" as one of the objectives for signing up. An immigrant with such an intent may have differential labor market effects compared to someone whose (stated) preference is to make a new friend. We will examine heterogeneity as a function of such intent.

- *Baseline values of the five primary outcome indices* (as listed above in Section 2.3; survey): In all the primary outcome domains, treatment effects may depend on the

[18]Neither our survey nor the NKB registration form asks for refugee status, but these data are available in the administrative registers that we will use.

immigrant participant's relative position in the baseline distribution. For instance, immigrants who do not know *any* native Swedes in baseline may benefit more from the match in widening their social network. Similarly, immigrants with weaker initial labor market attachment may differentially benefit from the program in terms of searching for and/or finding jobs. As such, we will assess heterogeneity by whether immigrant participants are above or below the median in the baseline distribution of the five indices.

Native characteristics: Does the treatment effect depend on the following baseline characteristics of the assigned *native*?[19]

- *Swedish versus non-Swedish background of the native* (administrative registers): Given the literature on the importance of co-ethnic networks in improving labor market outcomes for immigrants (see Section 1.2), we will test for differential treatment effects across individuals matched with natives that have a Swedish versus a non-Swedish background.[20] We will not restrict attention only to co-ethnic or co-national matches, but instead consider the broader case of non-Swedish background.

- *Social networks index* (frequency of social contact with immigrants; survey): Whether the match yields a meaningful conversation and, in turn, a sustained relationship, may depend on the matched native's prior contact and experience with immigrants (Bursztyn et al., 2021). Natives with prior exposure and engagement with immigrants, for instance, might have a better understanding of the latter's culture and the constraints they face in labor markets. Although the native participants might already be positively selected on prior immigrant exposure and willingness to help, our pilot survey shows that one in three participating natives does not personally know any immigrants and only one in two has recently met an immigrant in a social setting. Hence, we will examine heterogeneity by whether the matched native is above or below the median on a social network index constructed using the natives' baseline data.

- *Disposable income* (administrative registers): Given the hypothesized mechanisms of access to information or referrals, the matched native's labor market performance may play a critical role in facilitating the immigrant's job search. For instance, Hensvik and Skans (2016) find that firms' referral-based hiring depends on the productivity of the

[19]Since the NKB registration form does not ask for this information, variation in these characteristics are plausibly exogenous conditional on variables used by the matching formula or observed by the case-worker.

[20]Non-Swedish background is defined as either the native or one of their parents being born outside of Sweden. Recall that "natives" as used in this study is defined as any individual who has lived in Sweden for a long time and speaks fluent Swedish.

incumbent workers. Therefore, we plan to examine heterogeneity by personal income of the assigned native as a proxy for their productivity.

Pair characteristics: Does the treatment effect depend on the following baseline characteristics of the matched *pair*?

- *Match quality as estimated by NKB* (registration form): We leverage the fact that NKB selects the two best potential matches for each native prior to randomization. Match quality is determined based on an index that measures the similarity between a pair of individuals using factors such as age, gender, and personal interests. In line with the contact hypothesis, we would expect individuals who are more similar to have more meaningful contact and thus be able to form a better connection.

In addition, we will use the generalized random forests (GRF) algorithm proposed by Athey et al. (2019) to assess heterogeneity, where we will consider all variables listed above as well as some additional variables listed in Appendix Section C.4 (comprising, among other things, age, number of years spent in Sweden, and level of education). Note that, given the rapid progress in the field of machine learning in estimating heterogeneous treatment effects, there is a strong possibility that, at the time of analysis, there could be other algorithms more suited to our context.

2.4.3 Mechanisms

Based on our discussion in Section 1.2, we specify below the mechanisms we consider for outcomes in the labor and housing markets, and summarize how they are measured (see Appendix D for details). We focus on these two outcomes as there are concrete theoretical motivations to identify and distinguish between possible mechanisms for those.

Labor market outcomes

- *Social connection*: How connected one feels with Sweden and how often she or he feels isolated from the society.
- *Network effects*: Whether a personal contact offered a job or served as a referee.
- *Information*: Whether a personal contact shared information on how or where to look for jobs, and perceived ease in navigating Swedish bureaucracies.
- *Language skills*: Self-reported proficiency and confidence in spoken Swedish.

Housing market outcomes

- *Network effects*: Whether a personal contact offered a place to live or served as a referee.
- *Information*: Whether a personal contact shared information on how or where to search for housing, and perceived ease in navigating Swedish bureaucracies.
- *Language skills*: Self-reported proficiency and confidence in spoken Swedish.

We acknowledge that there are many other potential variables that could be mediating the effect of the match on labor and housing market outcomes. Above we have highlighted the ones that—motivated by existing theories and empirical evidence—seem to be more important a priori. As an exploratory supplement, for variables related to network effects and information, we will also perform the analysis on the sub-sample of respondents who have searched for a job (or housing) during the recall period.

3 Data

3.1 Data collection and processing

We will collect data from three sources: 1) surveys that we design and administer online; 2) NKB's registration form and matching data; and 3) Swedish administrative registers.

First, we will survey all participants, both natives and immigrants, to collect baseline data before treatment assignment. We will then conduct follow-up surveys 2, 6, and 12 months after treatment assignment. The participants can choose to answer the survey in Swedish or English.[21] The survey data have the benefit of allowing us to observe individuals shortly after individual matches have been created. In addition, the surveys will provide outcome data related to social networks, attitudes, beliefs, and other outcomes that are not available in the register data.

Second, data from NKB will cover basic demographic information as well as interests and match preferences that participants report upon registration. NKB will also provide data on estimated match quality and information on which case worker handled a particular match.

Third, we will also collect individual-level register data from Statistics Sweden on, among other things, gender, age, education, labor market outcomes, housing, household composition, basis for residence, country of citizenship, and country of birth. We will collect these

[21] In a small pilot survey, we also included several other languages such as Arabic, Dari, Somali, Amharic, and Tigrinya. Based on the metadata from that survey as well as conversations with a few respondents and NKB, we decided to have English and Swedish for the latest pilot.

data for the period spanning from one year before to one year after registration in NKB's program. The register data offer several benefits, especially in the Swedish setting where administrative data are particularly detailed. First, these data do not suffer from self-reporting bias. To the extent that treated individuals may feel a need to exaggerate their success, administrative records allow us to avoid this issue. Moreover, it will provide truthful information on individuals' immigration status, allowing us to reliably identify refugees from other immigrants. Second, we will have access to historical outcomes of each individual that goes further back than the survey data. Third, an important benefit of using administrative data will be no attrition, leading to greater precision as well as more robust internal validity. Most of the administrative data are delivered on a yearly basis. However, labor income is recorded at a monthly frequency, and hence we will observe even short-term movements in employment and earnings.

3.2 Variations from the intended sample size

Our study will recruit participants on a rolling basis as new individuals register with NKB. Arriving at the intended sample size of 2,000 individuals (1,000 matches) hence depends on the pace at which NKB creates matches. In 2019, NKB made approximately 1,500 matches, indicating that we would arrive at our target sample size in less than one year. However, a slower pace of matches could delay this process. We estimate that it will take 12–18 months to achieve our desired sample size.

It is unclear how the COVID-19 pandemic will affect recruitment of participants to the study. During 2020, NKB shifted all matches to a digital format and demand for such meetings was very high. While the present study will only focus on in-person meetings, it does not appear that demand for meetings has declined. Moreover, NKB is a well-established organization with funding from multiple sources, including the European Social Fund, Swedish government grants as well as grants from private foundations. Thus, we expect that NKB will continue its activities at a stable pace in the coming years with a return to in-person meetings.[22]

In order to reduce attrition in follow-up surveys, we will first send reminders via email and text messages. If there is still no response, we will call participants by phone and encourage them to answer the survey. In the pilot study, this had a large effect on response rates. Given that we have access to individuals' names, personal identification numbers, and contact information, tracking individuals over time is relatively simple as long as they remain in the country and agree to participate in the study. To further ensure high response

[22] As of April 2022, NKB was matching participants for meetings both in person (*Fikakompis*) and online (*Digitalkompis*).

rates, participants will be offered a small monetary incentive in the form of a lottery ticket or donation to a charity organization. In our pilot study, the 2-months follow-up survey had a response rate of 71%. For the outcomes that we can measure in the registers, our use of register data will imply minimal to no attrition.

4 Analysis

We will estimate analysis-of-covariance (ANCOVA) models of the following format:

$$y_{imkp} = \alpha + \beta T_{imkp} + \tau \mathbf{M}_{imkp} + \gamma \mathbf{X}_{imkp} + \delta_m + \phi_k + \varepsilon_{imkp}, \tag{1}$$

where y_{imkp} is the post-treatment outcome of individual i, observed in month m and year k, who belongs to the pair (stratification cell) p. T_{imkp} is an indicator for the individual being assigned to treatment, that is, being matched to a native (1 if treated; 0 otherwise). $\mathbf{M}_{imkp}$ is a vector of individual characteristics used by NKB to create matches, comprising age, gender, municipality of residence, whether one has children, occupation, education, and a series of dummies to indicate reported interests in animals, IT/technology, nature/outdoor life, exercise, sports, art/culture, soccer, cooking, music, politics, travel, walking, books, family, and movies/TV series. $\mathbf{X}_{imkp}$ is a vector of other pre-treatment individual covariates including outcomes from the baseline survey whenever available. Below, we describe how these are selected.[23] δ_m and ϕ_k are follow-up survey month and year fixed effects, respectively. ε_{imkp} is the idiosyncratic error term. Standard errors will be clustered at the *pair* level (de Chaisemartin and Ramirez-Cuellar, 2020).[24] The coefficient β is the intention-to-treat (ITT) effect of being matched to a native. We will run separate regressions to estimate the effects at the different follow-up rounds.

4.1 Selection of controls

For better precision, we will choose the vector of controls, $\mathbf{X}_{imkp}$, using the double-lasso method proposed by Urminsky et al. (2016). The list of potential controls comprises all

[23] For missing values of these covariates, we will replace them with zero and add corresponding dummy variables indicating missing information.

[24] We do not include pair fixed effects to avoid (a) substantial loss in effective sample size in the presence of attrition, and (b) concerns regarding inference with small strata sizes (Athey and Imbens, 2017). Instead, we are controlling for all the variables that the NKB program uses for matching as described above, as well as selecting an additional set of covariates using double-lasso for better precision as described below. Moreover, we cluster the standard errors at the pair level which, for inference with individual randomization, is equivalent to the specification with pair fixed effects (Bruhn and McKenzie, 2009; de Chaisemartin and Ramirez-Cuellar, 2020).

outcomes measured in baseline as well as variables used to investigate heterogeneity (as discussed earlier in Section 2.4.2 and listed in Appendix C).

4.2 Multiple hypothesis testing

For multiple inference correction, we adopt the false discovery rate (FDR) approach. In particular, alongside standard p-values, we will report q-values that control the proportion of incorrectly rejected null hypotheses across the *primary* families of outcomes defined *within* each data source (Benjamini et al., 2006; Anderson, 2008). We do not plan corrections for non-primary outcomes or across specifications for a given family.

4.3 Balance checks

We will perform balance checks for all outcomes and dimensions of heterogeneity specified above. The balance check entails two approaches: *i*) each variable will be regressed on the treatment dummy and $\mathbf{M}_{imkp}$, the vector of individual characteristics used by NKB to create matches; and *ii*) a joint orthogonality test where the treatment dummy will be regressed on a vector of all the left-hand-side variables in (*i*) (and the vector of matching variables).

4.4 Attrition

For the analyses using survey data, we will assess differential attrition by estimating Equation (1) using attrition as the outcome. We will also check for balance on the baseline covariates for the sample responding to follow-up survey(s).[25] Choosing covarirates by double-lasso potentially accounts for predictable differences in treatment status because of attrition. Moreover, in order to bound our treatment effect estimates—should there be evidence of differential attrition—we will estimate a version of Lee (2009) bounds proposed by Semenova (2020), which allows for a weaker monotonicity assumption and a large number of baseline covariates.

4.5 Heterogeneous effects

To assess heterogeneity in treatment effects using the pre-intervention characteristics of immigrants and natives (as specified in Section 2.4.2), we will estimate the following model:

$$y_{imkp} = \alpha + \beta T_{imkp} + \tau \mathbf{M}_{imkp} + \gamma \mathbf{X}_{imkp} + \lambda Het_{imkp} + \theta T_{imkp} * Het_{imkp} + \delta_m + \phi_k + \varepsilon_{imkp}, \quad (2)$$

[25] Specifically, the list of potential controls used to implement the double-lasso method.

where Het_{imkp} is the dimension of heterogeneity of interest and θ identifies the heterogeneous treatment effect. In the case of native (or pair) characteristics, they will vary only at the pair level.

Furthermore, as discussed earlier, we will follow Athey et al. (2019) and use the GRF algorithm to assess heterogeneous treatment effects based on a broader set of baseline characteristics.

5 Interpreting effects

5.1 Null effects

Our survey provides detailed measurements along possible chains of causation to facilitate a nuanced interpretation of results, including null effects. The survey covers details on the matches and meetings, overall social interactions, indicators of social inclusion, as well as economic and cultural outcomes. Building on the IPL multidimensional integration questionnaire (Harder et al., 2018), the survey is intended to cover areas that are likely to see an effect, as well as possible mechanisms for those effects. In addition, our survey is deployed both in the short-term (after 2 months) and long-term (6–12 months), in order to detect any possible short-lived effects. Therefore, to the extent that the treatment has an impact on relevant outcomes for immigrant integration at some point, we have designed the data collection protocol to be able to detect them as good as possible.

For instance, consider the primary Hypothesis P3, that is, that the treatment increases our index of labor market outcomes for immigrants. Suppose that we find a precise null effect on this index. Since we are collecting data on several potential mechanisms linking treatment to labor market outcomes, we can evaluate whether treatment leads to any changes along this causal chain. For example, suppose that we also find a significant increase in the social networks index (indicating increased contact with native Swedes), but a null effect on our measures of language skills. This would indicate that while the program increases contact, it does not have the intended effect of improving language skills, which may be a reason for the absent labor market effects.

Furthermore, we can evaluate treatment effects on other potential mechanisms, such as natives providing information about jobs or acting as references on job applications. Together, analyzing the variables along the potential causal chains from treatment to labor market outcomes will paint a detailed picture of what the treatment does—or does not—achieve. Alternatively, if the program has a positive impact on a plausible mechanism but we still find a null result on labor market outcomes, we may conclude that this mechanism

is less likely to be of importance for the labor market prospects of immigrants, or that the change in this mechanism may not be large enough to affect employment. This would have implications for policymakers interested in the process of integration and whether to fund initiatives such as the one organized by NKB.

To better contextualize the results—null or otherwise—we will also collect predictions of treatment effects on all primary outcome indices using the Social Science Prediction Platform. This will enable us to systematically compare priors with the study results. Moreover, should we find null effects, we could use the distribution of these priors to estimate *negative predictive value* (that is, given a null result, what is the probability that there is no true underlying effect).

5.2 Comparing results from survey and register data

For variables where we will have comparable data from our surveys and the administrative registers, such as for employment and earnings, there is a possibility that these results may differ in some cases. For instance, if informal employment opportunities contribute to labor market effects identified using the survey data, the estimates would probably be smaller in the register data which only records formal incomes and employment. We can use the supplementary data we collect via surveys to shed light on such differences. For instance, information on hours worked and the sector of employment may help us distinguish jobs that are more likely to be informal in nature.

Another possibility for differences in labor market outcomes between the survey and register data is that treated individuals may overstate their labor market achievements in the survey. Access to register data will thus provide a useful check on self-reported survey variables. In other words, both the survey and register data have their advantages and disadvantages. We thus regard them as providing complementary information, rather than being perfect substitutes.

5.3 Policy implications

Understanding the mechanisms behind any results will be important to assess the policy implications of our study. For example, if we find that the program improves labor market outcomes via an increase in language skills, this would suggest a case for further investments in language programs in a broad sense (not only via matching programs such as the one organized by NKB). A similar conclusion would hold if we find that results are due to improvements in information about how or where to search for jobs. However, if we find labor market effects to be driven by natives using their social networks in order to help

their immigrant match with finding jobs, such an effect would probably be well replicated in a matching program such as the one organized by NKB. Hence, a policy recommendation would then be to increase funding for such matching programs. Similar recommendations could be made if we find effects to be explained by increased social inclusion of immigrants. If we find no effects, this would also have important policy implications.

6 Conclusion

We aim to generate novel, experimental evidence on if and how contact with natives affects immigrant outcomes in the context of Sweden. As the social and economic integration of immigrants is of key importance to the long-term viability of emigration from poor countries, this topic should be of direct interest to economists interested in the effects of migration on poverty and development.

In contrast to past work focusing on the effects of contact on natives, we plan to study the implications for immigrants by partnering with the largest NGO that organizes meetings between these two groups in Sweden. Motivated by theory, pilot data, and prior empirical evidence, we consider a broad range of outcomes in the following domains: social networks and inclusion, labor and housing markets, and cultural assimilation. We will also assess changes in the immigrants' relationship with their country of origin and remittances they share with family and friends outside Sweden. Moreover, by combining data from multiple rounds of surveys and rich administrative registers, we will examine how any potential effects evolve over time. Taken together, these features enable our project to provide a comprehensive view on the consequences of introducing natives into the social network of immigrants.

7 Administrative information

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Institutional review board (ethics approval): This study has received ethics approval by the Swedish Ethical Review Authority (case number 2020-04824).

Declaration of interest: Karadja and Khan declare no conflicts of interest. Hammar declares no conflict of interest, but notes that his spouse was a co-founder of NKB. At the time of this study, the spouse was no longer employed by—nor had any other economic interest in—NKB. Both Uppsala University and NKB are aware of this connection and have not made any reservations regarding the project.

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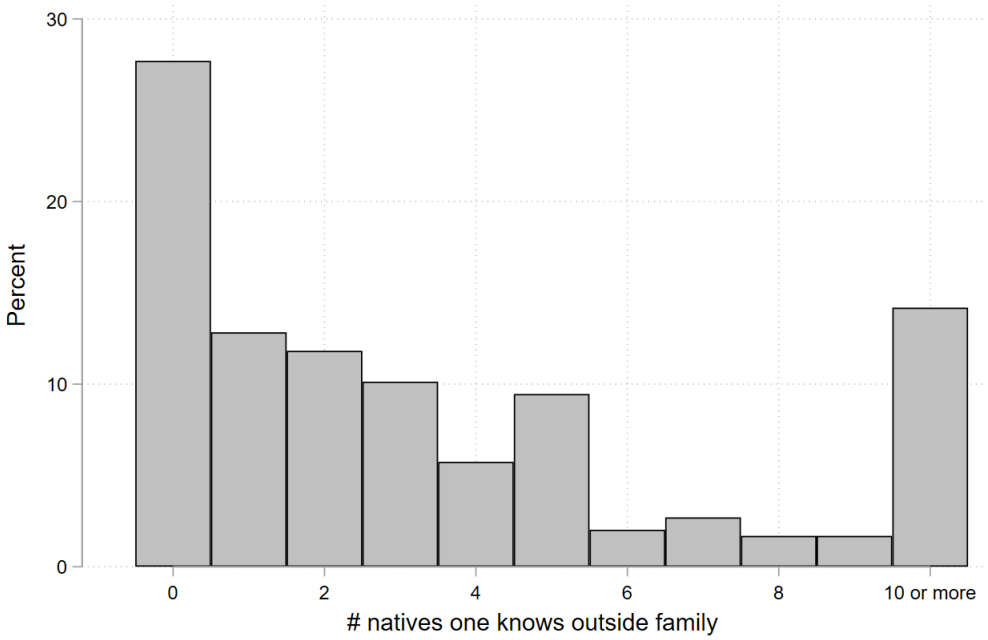
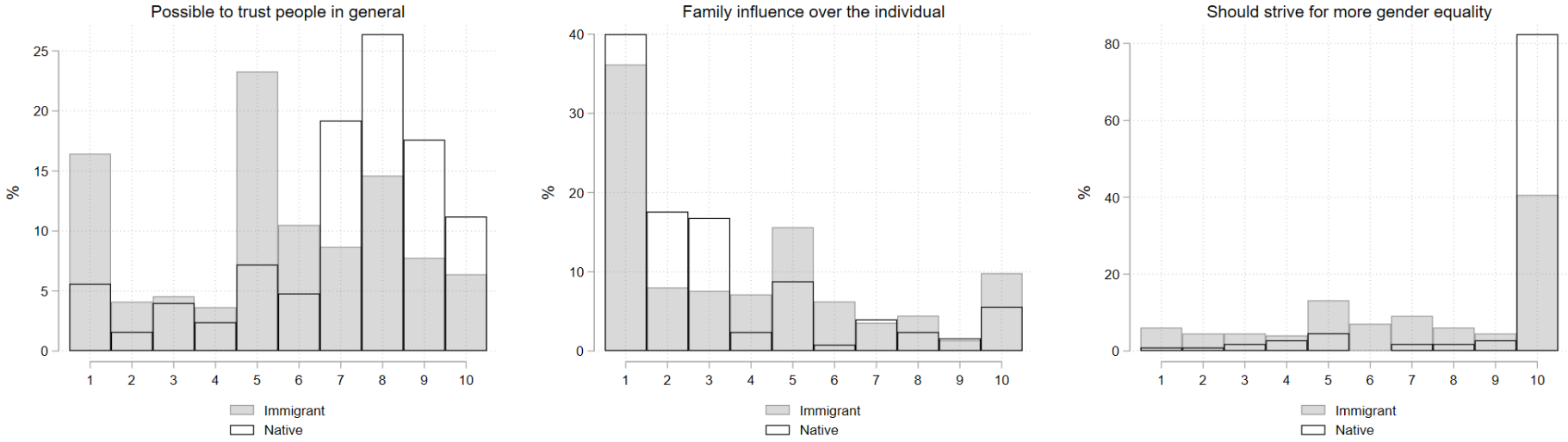
Figures

FIGURE 1: NATIVES IN IMMIGRANT SOCIAL NETWORK



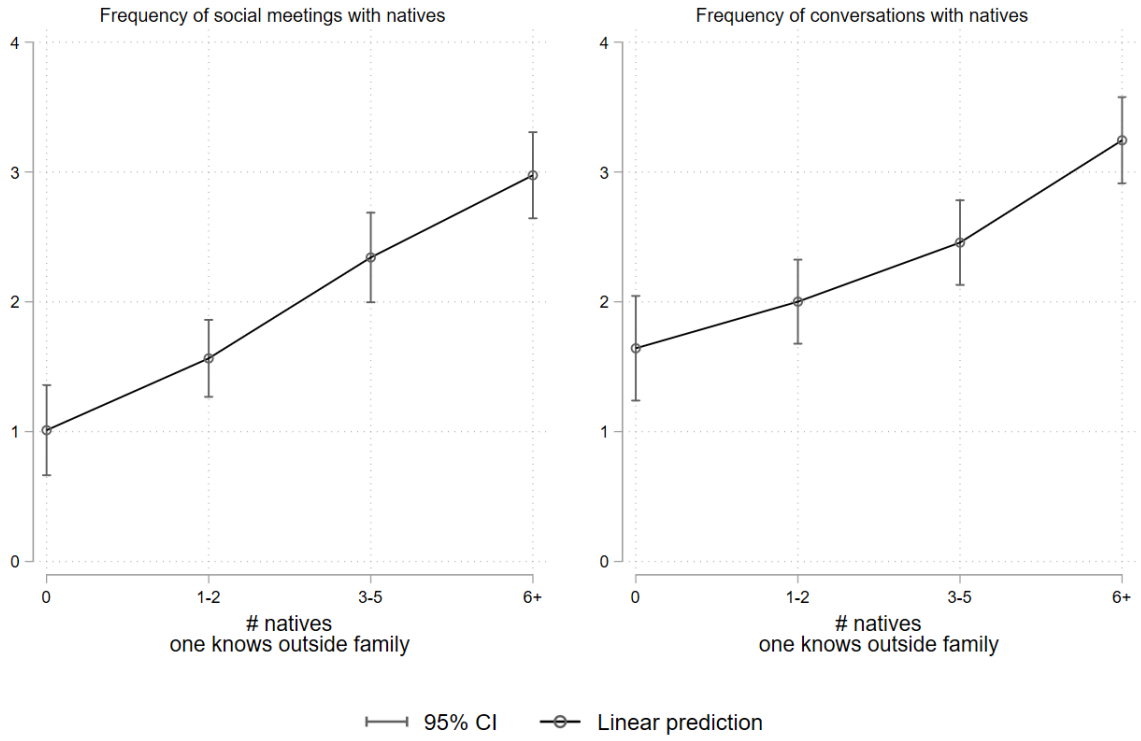
Note: The corresponding survey question is: *How many established Swedes do you know who are not part of your family?*

FIGURE 2: VALUES REGARDING TRUST, INDIVIDUALISM, AND GENDER EQUALITY



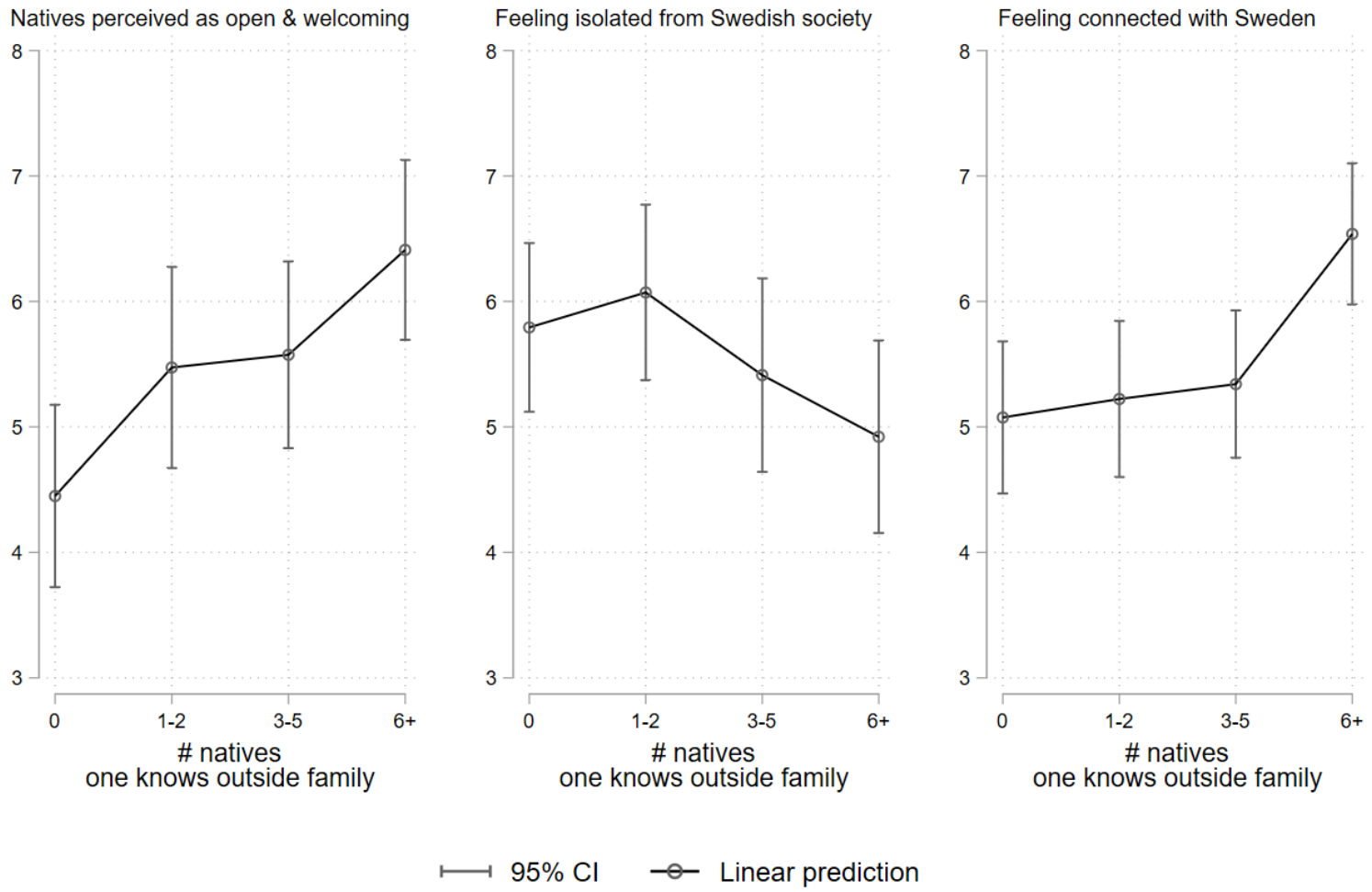
Notes: All outcomes range from 1–10. See Table 1 for details on variable definitions.

FIGURE 3: SOCIAL NETWORK AND CONTACT WITH NATIVES



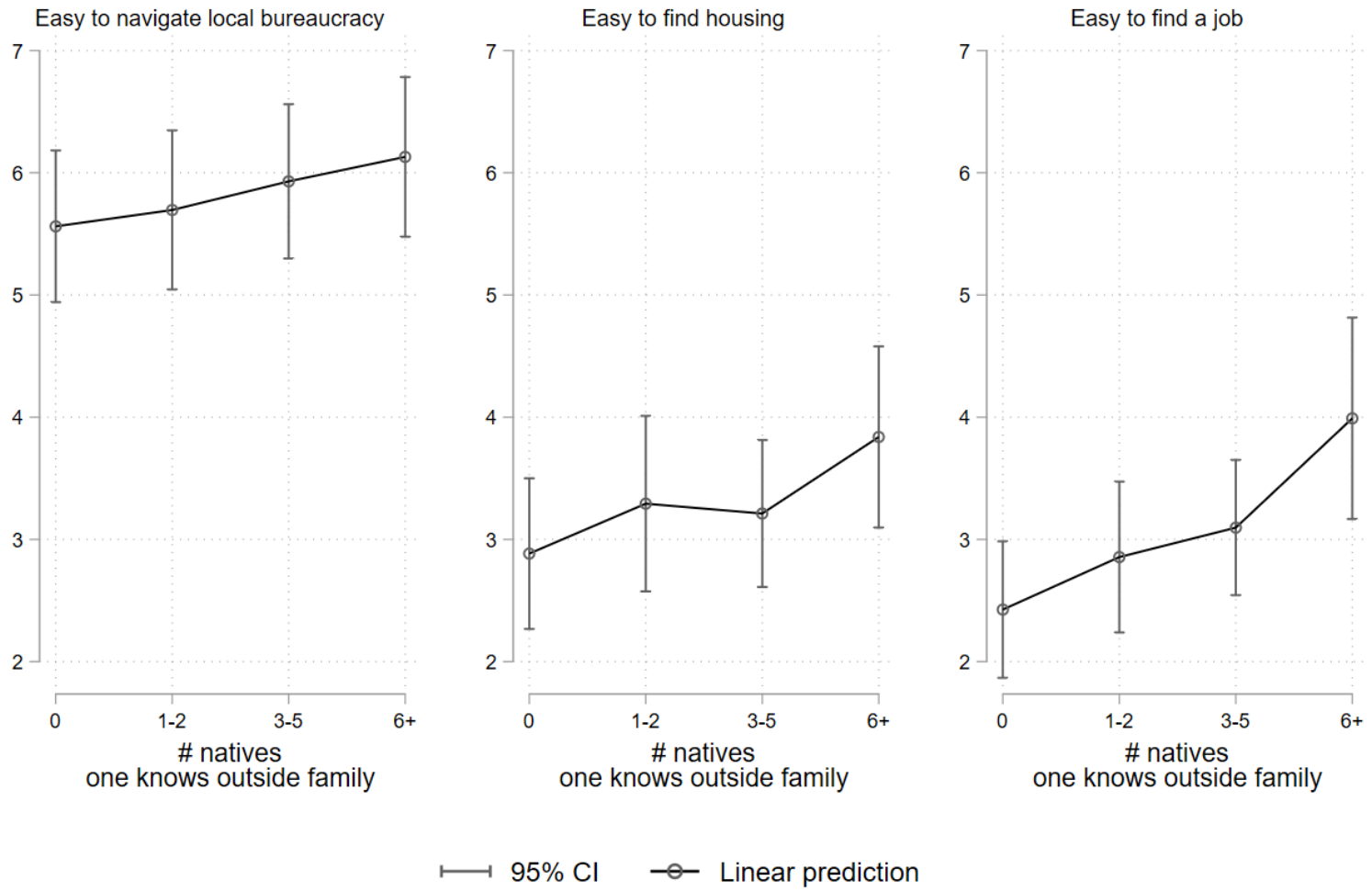
Notes: All outcomes range from 0–5. See Table 1 for details on variable definitions. All regressions include survey-language fixed effects. Confidence intervals are based on robust standard errors.

FIGURE 4: NATIVES IN SOCIAL NETWORK AND PSYCHOLOGICAL OUTCOMES



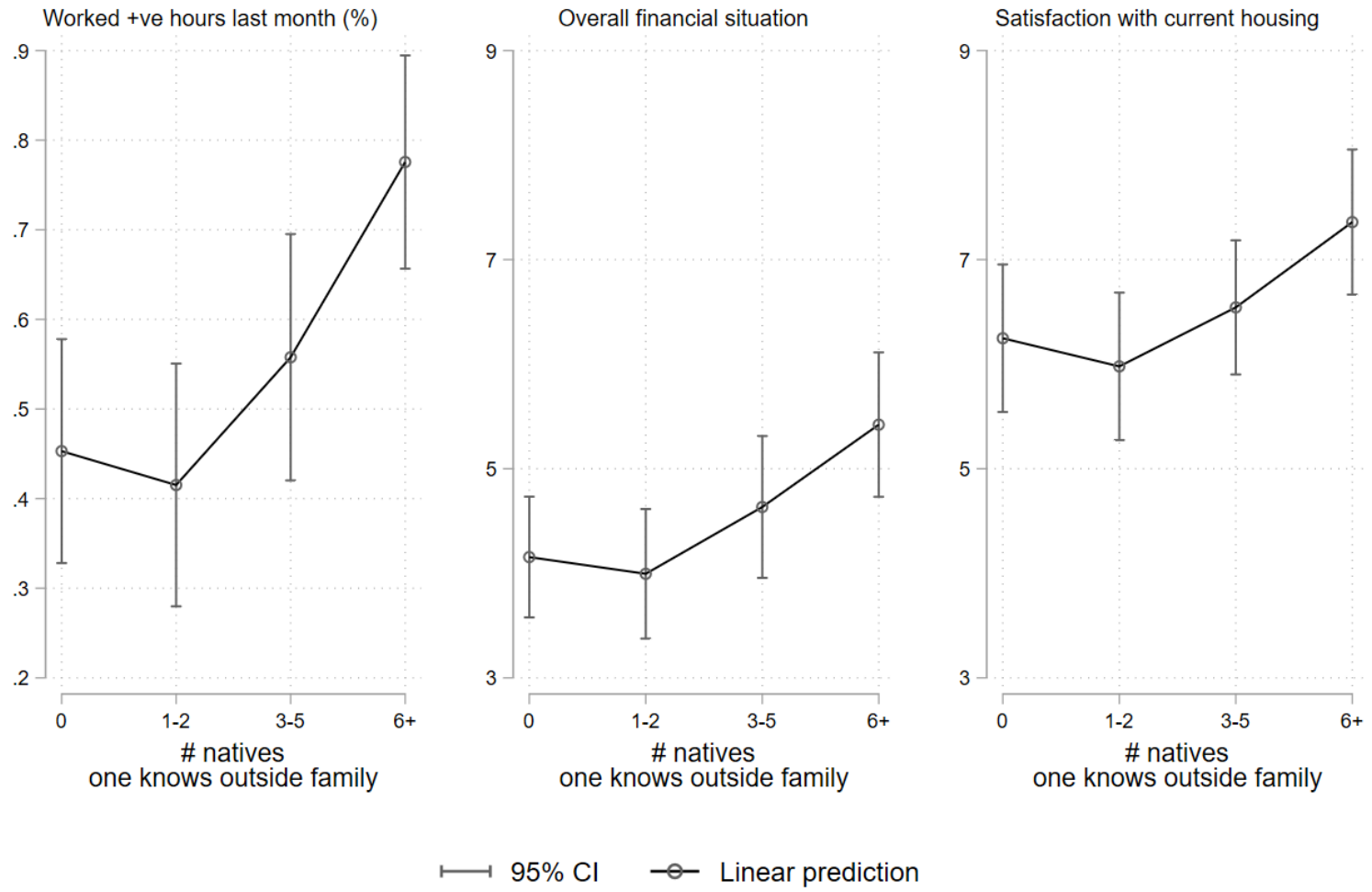
Notes: All outcomes range from 1–10. See Table 1 for details on variable definitions. All regressions include survey-language fixed effects. Confidence intervals are based on robust standard errors.

FIGURE 5: NATIVES IN SOCIAL NETWORK AND NAVIGATIONAL OUTCOMES



Notes: All outcomes range from 1–10. See Table 1 for details on variable definitions. All regressions include survey-language fixed effects. Confidence intervals are based on robust standard errors.

FIGURE 6: NATIVES IN SOCIAL NETWORK AND OUTCOMES IN THE LABOR AND HOUSING MARKETS



Notes: The last two outcomes range from 1–10. See Table 1 for details on variable definitions. All regressions include survey-language fixed effects. Confidence intervals are based on robust standard errors.

Tables

Table 1: Variable definitions

Variable	Survey question	Options
Number of natives one knows outside family	How many established Swedes do you know who are not part of your family?	Ranges from 0–10 (capped at 10 or more)
Frequency of social meetings with natives	How often have you met with an established Swede who is not part of your family in the last 2 months? (For example, for fika/coffee, lunch, dinner, or social activity.)	Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)
Frequency of conversations with natives	How often have you had a conversation with an established Swede who is not part of your family in the last 2 months? (For example, via telephone, SMS, Facebook, WhatsApp, Instagram, or other social media.)	Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)
Natives perceived as open and welcoming	Do you think that established Swedes are closed and reserved or open and welcoming?	1 (Closed and reserved) to 10 (Open and welcoming)
Feeling isolated from Swedish society	How often do you feel isolated from the Swedish society?	1 (Never feel isolated) to 10 (Always feel isolated)
Feeling connected with Sweden	How connected do you feel with Sweden?	1 (No connection at all) to 10 (Very close connection)
Easy to navigate local bureaucracy	Is it easy or hard for you to navigate Swedish bureaucracy? (For example, Migrationsverket, Skatteverket, health care, schools, police.)	1 (Very difficult) to 10 (Very easy)
Easy to find housing	Is it easy or hard for you to find housing in Sweden?	1 (Very difficult) to 10 (Very easy)
Easy to find a job	Is it easy or hard for you to find a job in Sweden?	1 (Very difficult) to 10 (Very easy)
Worked positive hours last month	How many hours per week did you typically work last month?	1 if positive hours; 0 otherwise
Overall financial situation	How is your overall financial situation?	1 (Very poor) to 10 (Very good)
Satisfaction with current housing	How satisfied are you with your current housing?	1 (Very dissatisfied) to 10 (Very satisfied)
Overall financial situation	How is your overall financial situation?	1 (Very poor) to 10 (Very good)
Satisfaction with current housing	How satisfied are you with your current housing?	1 (Very dissatisfied) to 10 (Very satisfied)
Possible to trust people in general	Generally speaking, do you think that most people can be trusted in Sweden or that you need to be very careful in dealing with people?	1 (Need to be careful) to 10 (People can be trusted)
Family influence over the individual	Do you believe that individuals should decide by themselves how to live their lives or should the family also decide?	1 (Individuals should decide) to 10 (Family should also decide)
Should strive for more gender equality	Do you think we should strive for greater equality between men and women in Sweden?	1 (No, do not agree at all) to 10 (Yes, agree completely)

Table 2: Natives in social network and immigrant outcomes

Variable	(1) Does not know any native outside family N	Mean/SD	(2) Knows at least one N	Mean/SD	T-test difference (1)–(2)	Normalized difference (1)–(2)
Frequency of social meetings with natives (0–5)	82	1.02	214	2.27	–1.24***	–0.76
		(1.60)		(1.50)		
Frequency of conversations with natives (0–5)	82	1.65	214	2.54	–0.90***	–0.55
		(1.84)		(1.48)		
Natives perceived as open and welcoming (1–10)	63	4.52	159	5.77	–1.24***	–0.43
		(2.92)		(2.84)		
Feeling isolated from Swedish society (1–10)	65	5.68	159	5.54	0.14	0.05
		(2.76)		(2.84)		
Feeling connected with Sweden (1–10)	74	5.16	184	5.64	–0.47*	–0.19
		(2.74)		(2.46)		
Easy to navigate local bureaucracy (1–10)	74	5.58	184	5.90	–0.32	–0.12
		(2.68)		(2.55)		
Easy to find housing (1–10)	72	2.89	179	3.43	–0.54	–0.20
		(2.66)		(2.68)		
Easy to find a job (1–10)	68	2.49	166	3.27	–0.79**	–0.31
		(2.39)		(2.55)		
Worked positive hours last month (%)	64	0.45	154	0.58	–0.13*	–0.25
		(0.50)		(0.50)		
Overall financial situation (1–10)	68	4.15	166	4.67	–0.52	–0.21
		(2.40)		(2.54)		
Satisfaction with current housing (1–10)	72	6.24	179	6.60	–0.37	–0.13
		(2.99)		(2.71)		

Notes: Robust standard errors. All regressions include survey-language fixed effects. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 3: Comparison of program participants and their population counterparts

	Immigrants		Natives	
Variable	Program participants	Population	Program participants	Population
Mean age (years)	34.9	45.4	41.1	50.8
Female (%)	61.5	49.5	76.0	50.0
Employed (%)	54.1	65.9	62.0	84.4
Continent of origin (%)				
Asia	55.4	37.6		
Africa	19.0	11.0		
Europe	17.8	45.1		
South America	5.2	3.9		
North America	2.2	2.0		
Oceania	0.4	0.3		
Country of origin (%)				
Syria	18.2	7.9		
Iran	8.9	4.2		
Eritrea	7.8	2.2		
Turkey	7.4	2.7		
Afghanistan	6.0	2.9		
India	3.7	2.0		
China	3.4	1.7		
Iraq	3.4	7.4		

Notes: For the population statistics, natives and immigrants correspond to individuals born in and outside Sweden, respectively. Note that this is slightly different from the definitions used in the program and study. Mean age in the population is estimated for individuals aged 18 years or older to be consistent with the minimum age requirement for NKB participants. Age of participant immigrants ranges from 18–61 with a mean (median) of 35 (33) years. Age of participant natives ranges from 19–76 with a mean (median) of 41 (41) years. Employment rate for immigrant participants comes from the pilot survey: anyone who worked at least one hour per week in the last month is considered to be employed. Employment rate for native participants is calculated using their self-reported main occupation on the NKB registration form. Employment rates in the population (aged 18–64) come from Statistics Sweden's Labour Force Surveys (LFS) where employment is defined as working for at least one hour in the last week. For country of origin, we only report countries with a minimum share of 3% among the immigrant participants; corresponding population shares are estimated for individuals aged 18 years or older.

Appendices

A Primary outcomes

A.1 Survey data

As discussed in Section 2.3, given the multiplicity of outcomes, we will group our primary survey outcomes into families as listed below. For each family, we will create control-group normalized standardized indices following Kling et al. (2007). All these outcomes will be available at 2, 6, and 12 months post treatment assignment (that is, since the randomization date).

- **Social network index**

  Social network size

  – *How many established Swedes do you know who are not part of your family?* [Ranges from 0–15 (capped at 15 or more)]

  Social network intensity

  – *How often have you met with an established Swede who is not part of your family in the last 2 months?*[26] *For example, for fika/coffee, lunch, dinner, or social activity.* (Figures in parentheses represent the associated scores.) [Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)]

  – *How often have you had a conversation with an established Swede who is not part of your family in the last 2 months? For example, via telephone, SMS, Facebook, WhatsApp, Instagram, or other social media.* (Figures in parentheses represent the associated scores.) [Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)]

- **Social inclusion index**

  Language skills

  – *How well can you speak Swedish?* [1 (Not well at all) to 10 (Very well)]

  – *How confident are you in speaking Swedish?* [1 (Not confident at all) to 10 (Very confident)]

[26] The recall period for this and the following questions will be 2 months for the first follow-up. For the 6 and 12 months follow-ups, the corresponding recall periods will be 4 and 6 months, respectively.

Navigational outcomes

- *Is it easy or hard for you to navigate Swedish bureaucracy? For example, Migrationsverket, Skatteverket, health care, schools, police.* [1 (Very difficult) to 10 (Very easy)]

Psychological outcomes

- *How connected do you feel with Sweden?* [1 (No connection at all) to 10 (Very close connection)]
- *How often do you feel isolated from the Swedish society?* [1 (Always feel isolated) to 10 (Never feel isolated)]

- **Labor market outcome index**

Occupational status

- *What is your main occupation?* (Figures in parentheses represent the associated scores.) [Working, permanent position (*tillsvidare*) (5); Working, temporary position (*tidsbegränsad*) (4); Working, paid by the hour (4); Self-employed (5); Internship (3); Active labor market program (ALMP; for example *etableringsprogrammet* or *snabbspår*) (2); Retired (2); Unpaid household work (for example, home with children) (2); Unemployed (1)]
- *Have you had any job in the last 2 months?* [1 (Yes); 0 (No)]
- *How many hours per week did you typically work last month?* (For options spanning between 1 and 40 hours, we will use the mid-point for each category. The last option will be coded as 41.) [Did not work (0); 1–5; 6–10; 11–15; 16–20; 21–25; 26–30; 31–35; 36–40; 41 or more]

Earnings

- *What was your income from work after taxes last month?* (For options covering positive earnings below SEK 50,000, we will use the mid-point for each category divided by 1,000. The last option would be coded as 50.) [Did not work last month (0); Less than SEK 1,000; 1,000–2,500; 2,500–5,000; 5,000–10,000; 10,000–15,000; 15,000–20,000; 20,000–25,000; 25,000–30,000; 30,000–40,000; 40,000–50,000; More than SEK 50,000]
- *How is your overall financial situation?* [1 (Very poor) to 10 (Very good)]

Satisfaction with current occupation

- *How satisfied are you with your current occupation?* [1 (Very dissatisfied) to 10 (Very satisfied)]

Ease of labor market navigation

- *Is it easy or hard for you to find a job in Sweden?* [1 (Very difficult) to 10 (Very easy)]

- **Housing market outcome index**

  Housing contract

  - *What kind of contract do you or your family have for your housing?* (Figures in parentheses represent the associated scores.) [I/we own the house/apartment (including *bostadsrätt*) (4); Renting first hand (3); Renting second hand (2); Living in someone else's house (not a family member/partner) (1)]

  Satisfaction with current housing

  - *How satisfied are you with your current housing?* [1 (Very dissatisfied) to 10 (Very satisfied)]

  Ease of housing market navigation

  - *Is it easy or hard for you to find housing in Sweden?* [1 (Very difficult) to 10 (Very easy)]

- **Cultural assimilation index**

  Generalized trust

  - *Generally speaking, do you think that most people can be trusted in Sweden or that you need to be very careful in dealing with people?* [1 (Need to be careful) to 10 (People can be trusted)]

  Individualism versus family

  - *Do you believe that individuals should decide by themselves how to live their lives or should the family also decide?* [1 (Family should decide) to 10 (Individuals should decide)]

  Gender equality

  - *Do you think we should strive for greater equality between men and women in Sweden?* [1 (No, do not agree at all) to 10 (Yes, agree completely)]

A.2 Register data

We will consider the following primary outcomes measured in the administrative registers. For each outcome, we describe how it is measured and at what frequency, as well as its source

registry. Note that neither direct measures of social networks, nor subjective indicators such as social inclusion or cultural values and beliefs, are available in the registers.

- **Labor market outcomes**

  Monthly earnings

  – *Wages and salaries* from the Swedish Tax Agency's payroll register, available at a monthly frequency. We will evaluate at 2, 6 and 12 months post-randomization. (We will winsorize at the 99th percentile and apply the inverse hyperbolic sine transformation.)

  Monthly employment

  – *Employed or not employed*, computed using wages and salaries from the the Swedish Tax Agency's payroll register, available at a monthly frequency. Individuals with positive earnings will be defined as employed, and individuals with zero earnings as unemployed. We will evaluate at 2, 6 and 12 months post-randomization.

- **Housing market outcomes**

  Neighborhood status

  – *Average income in the neighborhood of current residence*, computed using average disposable income in the demographic statistics area (**DeSO**)[27] in which the individual is registered, using data from Statistics Sweden's *Income and tax register* (IoT) and *Total population register* (RTB).

[27]There are approximately 6,000 **DeSO** areas in Sweden, each consisting of 700–2,700 inhabitants.

B Secondary outcomes

We will consider the following outcomes as non-primary, assessed in order to shed further light and details on any effects found in the primary analyses. Note that these outcomes will not be generated into indices.

B.1 Survey data

- **Social networks**

  Experience with NKB

  - *Have you been matched with a Fikakompis by Nya Kompisbyrån in the last 2 months?* [1 (Yes); 0 (No)]
  - *Have you met with your Fikakompis since you were matched?* (Figures in parentheses represent the associated scores; 0 would also apply in the absence of a match.) [Yes, once (1); Yes, twice (2); Yes, three times or more (3); No, but we have made plans to meet (0.5); No, and we have not made any plans to meet (0)]
  - *Whether someone has had at least one meeting with their Fikakompis* [1 (Yes); 0 (No)]

  Experience with other similar programs

  - *Have you been matched with a buddy through any other buddy program or initiative in the last 2 months?* [1 (Yes); 0 (No)]
  - *Have you met with your buddy since you were matched?* (Figures in parentheses represent the associated scores; 0 would also apply in the absence of a match.) [Yes, once (1); Yes, twice (2); Yes, three times or more (3); No, but we have made plans to meet (0.5); No, and we have not made any plans to meet (0)]

- **Social inclusion**

  Perception of natives' sociability

  - *Do you think that established Swedes are closed and reserved or open and welcoming?* [1 (Closed and reserved) to 10 (Open and welcoming)]

  Reliance on local co-ethnic networks

  - *How often do you rely on your local co-ethnic contacts to navigate bureaucracies? For example, Migrationsverket, Skatteverket, health care, schools, police.* [1 (Never) to 10 (Always)]

Attachment to country of origin

- *How connected do you feel with your country of origin?* [1 (No connection at all) to 10 (Very close connection)]

- **Labor market outcomes**

  Labor market activities

  - *Have you looked for a new job in the last 2 months?* [1 (Yes); 0 (No)]

  Remittances

  - *Have you sent any money to family or friends outside of Sweden in the last 2 months?* [1 (Yes); 0 (No)]
  - *Approximately how much money per month did you send?* (For options covering positive remittances below SEK 10,000, we will use the mid-point for each category divided by 1,000. The last option would be coded as 10.) [Did not send any money (0); 100–500; 500–1,000; 1,000–2,000; 2,000–3,000; 3,000–4,000; 4,000–5,000; 5,000–6,000; 6,000–7,000; 7,000–8,000; 8,000–9,000; 9,000–10,000; More than SEK 10,000]

- **Housing market outcomes**

  Housing market activities

  - *Have you looked for housing in the last 2 months?* [1 (Yes); 0 (No)]

- **Cultural assimilation**

  Beliefs

  - *Do you think a new Swede can be successful in Sweden if they just work hard, or is it more about luck and having a good network?* [1 (Hard work matters most) to 10 (Luck and network matter most)]
  - *Do you think that new Swedes are discriminated against when it comes to getting a job here?* [1 (No, not at all) to 10 (Yes, agree completely)]
  - *How much do you think new Swedes should adapt to Swedish culture and traditions?* [1 (They should not adapt at all) to 10 (They should adapt completely)]

  Life satisfaction

  - *Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom*

of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? [0 (Bottom) to 10 (Top)]

B.2 Register data

- **Labor market outcomes**

  Yearly employment

  – *Employed or not employed*, computed using **SyssStat11** from Statistics Sweden's *Longitudinal integrated database for health insurance and labour market studies* (LISA), available at a yearly frequency (refers to employment status in November each year).

  – *Days in unemployment*, computed using **ALosDag** from the LISA database.

  – *Days in part-time unemployment*, computed using **ADelDag** from the LISA database.

  Yearly income

  – *Total labor income*, computed using *sammanräknad förvärvsinkomst* from the IoT database (refers to yearly income). (We will winsorize at the 99th percentile and apply the inverse hyperbolic sine transformation.)

  – *Disposable income*, computed using *disponibel inkomst* from the IoT database.

  – *Business income*, computed using *inkomst från näringsverksamhet* from the IoT database.

  – *Total transfers and benefits*, computed using *transfereringar* from the IoT database.

  – *Unemployment benefits*, computed using **ArbLos** from the LISA database.

  – *Benefits for education* (*aktivitetsstöd/utbildningsbidrag*), computed using **UtbBidrfrom** from the LISA database.

  – *Establishment benefits for newly arrived immigrants* (*etableringsersättning*), computed using **EtablErs** from the LISA database.

  Active labor market program (ALMP) participation

  – *Participating in a program with activity support*, computed using **AfProgram** from Statistics Sweden's *Longitudinal database for integration studies* (STATIV), available at a yearly frequency.

  – *Total income from participation in ALMP*, computed using **AmPol** from the LISA database.

- *Number of days in "nystartsjobb"*, computed using **ANysDag** from the LISA database.

- **Housing market outcomes**

  Housing space

  - *Housing space per inhabitant at current residence*, computed using living area in housing in square-meters (available in Statistics Sweden's *Apartment register*) divided by the number of inhabitants in housing (using **Fastighet/Lagenhet** in the STATIV database).

  Neighborhood segregation

  - *Share of native-born in the neighborhood of current residence*, computed using the **DeSO** area in which the individual is registered and data from the RTB database.

C Heterogeneity analyses

Below, we list the native, immigrant, and pair characteristics of interest for our heterogeneity analyses, and their respective data sources.

C.1 Immigrant characteristics

- **Survey data** (baseline values)
  - *Baseline outcome index values*
  - *Intention to join NKB* [Learn better Swedish; Meet a new friend; Get help finding a job or housing]
- **Register data** (from the latest year prior to the match)
  - *Gender*, from the LISA database [1 if female; 0 otherwise]
  - *Refugee status*, computed using **FlyKat** from the STATIV database [1 if refugee; 0 otherwise]

C.2 Native characteristics

- **Survey data** (baseline values)

  Social outcomes index

  - *How many new Swedes do you know who are not part of your family?* [Ranges from 0–15 (capped at 15 or more)]
  - *How often have you met with a new Swede who is not part of your family in the last 2 months? For example, for fika/coffee, lunch, dinner, or social activity.* (Figures in parentheses represent the associated scores.) [Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)]
  - *How often have you had a conversation with a new Swede who is not part of your family in the last 2 months? For example, via telephone, SMS, Facebook, WhatsApp, Instagram, or other social media.* (Figures in parentheses represent the associated scores.) [Every day (5); A few times per week (4); A few times per month (3); A few times in the last 2 months (2); Once (1); Never (0)]
- **Register data** (from the latest year prior to the match)

- *Non-Swedish background*, defined as being either born outside of Sweden or having at least one parent born outside of Sweden; computed using the LISA database and Statistics Sweden's *Multi-generation register* (FLERGEN).
- *Personal disposable income*, computed using the IoT database.

C.3 Pair characteristics

- **NKB match data**

  Match quality as estimated by NKB

  - *Match quality*, calculated using the following variables (and the associated points in parentheses): absolute age difference ≤ 5 years (3); same gender (3); residence municipality (3); having children (2); interest in animals (2), IT/technology (2), nature/outdoor life (2), exercise (2), sports (2), art/culture (2), soccer (2), cooking (2), music (2), politics (2), travel (1), walking (1), books (1), family (1), and movies/TV series (1). Hence, the overall measured match quality can range from 0–36.

C.4 Additional variables used in machine learning

- **Immigrant characteristics**

  Baseline survey

  - *Whether the respondent knows any native Swede who are not part of their family* [1 (Yes); 0 (No)]

  Administrative registers

  - *Age in completed years* (LISA database)
  - *Highest completed education* (LISA and STATIV databases) [array of dummy variables for the different categories]
  - *Years in Sweden* (STATIV database)

- **Native characteristics**

  Values index (baseline survey)

  - *Generally speaking, do you think that most people can be trusted in Sweden or that you need to be very careful in dealing with people?* [1 (Need to be careful) to 10 (People can be trusted)]

- *Do you believe that individuals should decide by themselves how to live their lives or should the family also decide?* [1 (Family should decide) to 10 (Individuals should decide)]
- *Do you think we should strive for greater equality between men and women in Sweden?* [1 (No, do not agree at all) to 10 (Yes, agree completely)]

  Assimilation expectations (baseline survey)

- *How much do you think new Swedes should adapt to Swedish culture and traditions?* [1 (They should not adapt at all) to 10 (They should adapt completely)]

  Administrative registers

- *Age in completed years* (LISA database)
- *Gender* (LISA database) [1 if female; 0 otherwise]
- *Highest completed education* (LISA database) [array of dummy variables for the different categories]
- *Unemployed* (LISA database) [1 if unemployed; 0 otherwise]

- **Pair characteristics**

  NKB match data

- *Age distance in years* [absolute difference in years]
- *Same gender* [1 if same gender; 0 otherwise]

D Mechanisms

To analyze potential mechanisms behind any effects, we will consider the following survey data variables.

- **Labor market outcomes**

  Social connection

  - *How connected do you feel with Sweden?* [1 (No connection at all) to 10 (Very close connection)]
  - *How often do you feel isolated from the Swedish society?* [1 (Always feel isolated) to 10 (Never feel isolated)]

  Network effects

  - *Whether a personal contact offered a job or served as a referee* [1 (Yes); 0 (No) including cases where the respondent did not search for jobs during the recall period]

  Information

  - *Whether a personal contact shared information on how (for example, help with writing application or CV) or where to look for jobs* [1 (Yes); 0 (No) including cases where the respondent did not search for jobs during the recall period]
  - *Is it easy or hard for you to navigate Swedish bureaucracy? For example, Migrationsverket, Skatteverket, health care, schools, police.* [1 (Very difficult) to 10 (Very easy)]

  Language skills

  - *How well can you speak Swedish?* [1 (Not well at all) to 10 (Very well)]
  - *How confident are you in speaking Swedish?* [1 (Not confident at all) to 10 (Very confident)]

- **Housing market outcomes**

  Network effects

  - *Whether a personal contact offered a place to live or served as a referee* [1 (Yes); 0 (No) including cases where the respondent did not search for housing during the recall period]

  Information

– *Whether a personal contact shared information on how or where to search for housing* [1 (Yes); 0 (No) including cases where the respondent did not search for housing during the recall period]

Language skills

– *How well can you speak Swedish?* [1 (Not well at all) to 10 (Very well)]
– *How confident are you in speaking Swedish?* [1 (Not confident at all) to 10 (Very confident)]

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dist/tex/generic/pgf/math/pgfmathfunctions.integerarithm
etics.code.tex))) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/math/pgfmathfloat
.code.tex
\c@pgfmathroundto@lastzeros=\count188
)) (c:/TeXLive/2020/texmf-dist/tex/generic/pgf/math/pgfint.code.tex)
(c:/TeXLiv
e/2020/texmf-dist/tex/generic/pgf/basiclayer/pgfcorepoints.code.tex
File: pgfcorepoints.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@picminx=\dimen165
\pgf@picmaxx=\dimen166
\pgf@picminy=\dimen167
\pgf@picmaxy=\dimen168
\pgf@pathminx=\dimen169
\pgf@pathmaxx=\dimen170
\pgf@pathminy=\dimen171
\pgf@pathmaxy=\dimen172
\pgf@xx=\dimen173
\pgf@xy=\dimen174
\pgf@yx=\dimen175
\pgf@yy=\dimen176
\pgf@zx=\dimen177
\pgf@zy=\dimen178
)
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorepathconstruct.cod
e.tex
File: pgfcorepathconstruct.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@path@lastx=\dimen179
\pgf@path@lasty=\dimen180
)
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorepathusage.code.te
x
File: pgfcorepathusage.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@shorten@end@additional=\dimen181
\pgf@shorten@start@additional=\dimen182
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorescopes.code.tex
File: pgfcorescopes.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgfpic=\box47
\pgf@hbox=\box48
\pgf@layerbox@main=\box49
\pgf@picture@serial@count=\count189
)
```

```
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoregraphicstate.code
.tex
File: pgfcoregraphicstate.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgflinewidth=\dimen183
)
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoretransformations.c
ode.tex
File: pgfcoretransformations.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@pt@x=\dimen184
\pgf@pt@y=\dimen185
\pgf@pt@temp=\dimen186
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorequick.code.tex
File: pgfcorequick.code.tex 2020/01/08 v3.1.5b (3.1.5b)
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoreobjects.code.te
x
File: pgfcoreobjects.code.tex 2020/01/08 v3.1.5b (3.1.5b)
)
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorepathprocessing.co
de.tex
File: pgfcorepathprocessing.code.tex 2020/01/08 v3.1.5b (3.1.5b)
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorearrows.code.tex
File: pgfcorearrows.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgfarrowsep=\dimen187
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoreshade.code.tex
File: pgfcoreshade.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@max=\dimen188
\pgf@sys@shading@range@num=\count190
\pgf@shadingcount=\count191
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoreimage.code.tex
File: pgfcoreimage.code.tex 2020/01/08 v3.1.5b (3.1.5b)

(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoreexternal.code.tex
File: pgfcoreexternal.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgfexternal@startupbox=\box50
)) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorelayers.code.te
x
File: pgfcorelayers.code.tex 2020/01/08 v3.1.5b (3.1.5b)
)
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcoretransparency.code
.tex
File: pgfcoretransparency.code.tex 2020/01/08 v3.1.5b (3.1.5b)
)
```

```
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorepatterns.code.tex
File: pgfcorepatterns.code.tex 2020/01/08 v3.1.5b (3.1.5b)
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/basiclayer/pgfcorerdf.code.tex
File: pgfcorerdf.code.tex 2020/01/08 v3.1.5b (3.1.5b)
))) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/modules/pgfmoduleshapes.code.te
x
File: pgfmoduleshapes.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgfnodeparttextbox=\box51
) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/modules/pgfmoduleplot.code.tex
File: pgfmoduleplot.code.tex 2020/01/08 v3.1.5b (3.1.5b)
)
(c:/TeXLive/2020/texmf-dist/tex/latex/pgf/compatibility/pgfcomp-version-
0-65.st
y
Package: pgfcomp-version-0-65 2020/01/08 v3.1.5b (3.1.5b)
\pgf@nodesepstart=\dimen189
\pgf@nodesepend=\dimen190
)
(c:/TeXLive/2020/texmf-dist/tex/latex/pgf/compatibility/pgfcomp-version-
1-18.st
y
Package: pgfcomp-version-1-18 2020/01/08 v3.1.5b (3.1.5b)
)) (c:/TeXLive/2020/texmf-dist/tex/latex/pgf/frontendlayer/tikz.sty
(c:/TeXLive
/2020/texmf-dist/tex/latex/pgf/utilities/pgffor.sty
(c:/TeXLive/2020/texmf-dist
/tex/latex/pgf/utilities/pgfkeys.sty (c:/TeXLive/2020/texmf-
dist/tex/generic/pg
f/utilities/pgfkeys.code.tex)) (c:/TeXLive/2020/texmf-
dist/tex/latex/pgf/math/p
gfmath.sty (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/math/pgfmath.code.tex))
(c:/TeXLive/2020/texmf-dist/tex/generic/pgf/utilities/pgffor.code.tex
Package: pgffor 2020/01/08 v3.1.5b (3.1.5b)
(c:/TeXLive/2020/texmf-dist/tex/generic/pgf/math/pgfmath.code.tex)
\pgffor@iter=\dimen191
\pgffor@skip=\dimen192
\pgffor@stack=\toks30
\pgffor@toks=\toks31
)) (c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/frontendlayer/tikz/tikz.code.tex
Package: tikz 2020/01/08 v3.1.5b (3.1.5b)

(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/libraries/pgflibraryplothandlers.co
de.tex
File: pgflibraryplothandlers.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgf@plot@mark@count=\count192
\pgfplotmarksize=\dimen193
)
```

```
\tikz@lastx=\dimen194
\tikz@lasty=\dimen195
\tikz@lastxsaved=\dimen196
\tikz@lastysaved=\dimen197
\tikz@lastmovetox=\dimen198
\tikz@lastmovetoy=\dimen199
\tikzleveldistance=\dimen256
\tikzsiblingdistance=\dimen257
\tikz@figbox=\box52
\tikz@figbox@bg=\box53
\tikz@tempbox=\box54
\tikz@tempbox@bg=\box55
\tikztreelevel=\count193
\tikznumberofchildren=\count194
\tikznumberofcurrentchild=\count195
\tikz@fig@count=\count196
(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/modules/pgfmodulematrix.code.tex
File: pgfmodulematrix.code.tex 2020/01/08 v3.1.5b (3.1.5b)
\pgfmatrixcurrentrow=\count197
\pgfmatrixcurrentcolumn=\count198
\pgf@matrix@numberofcolumns=\count199
)
\tikz@expandcount=\count266

(c:/TeXLive/2020/texmf-
dist/tex/generic/pgf/frontendlayer/tikz/libraries/tikzli
brarytopaths.code.tex
File: tikzlibrarytopaths.code.tex 2020/01/08 v3.1.5b (3.1.5b)
))) (c:/TeXLive/2020/texmf-dist/tex/latex/float/float.sty
Package: float 2001/11/08 v1.3d Float enhancements (AL)
\c@float@type=\count267
\float@exts=\toks32
\float@box=\box56
\@float@everytoks=\toks33
\@floatcapt=\box57
) (c:/TeXLive/2020/texmf-dist/tex/latex/amsmath/amsmath.sty
Package: amsmath 2020/01/20 v2.17e AMS math features
\@mathmargin=\skip49
For additional information on amsmath, use the `?' option.
(c:/TeXLive/2020/texmf-dist/tex/latex/amsmath/amstext.sty
Package: amstext 2000/06/29 v2.01 AMS text
(c:/TeXLive/2020/texmf-dist/tex/latex/amsmath/amsgen.sty
File: amsgen.sty 1999/11/30 v2.0 generic functions
\@emptytoks=\toks34
\ex@=\dimen258
)) (c:/TeXLive/2020/texmf-dist/tex/latex/amsmath/amsbsy.sty
Package: amsbsy 1999/11/29 v1.2d Bold Symbols
\pmbraise@=\dimen259
) (c:/TeXLive/2020/texmf-dist/tex/latex/amsmath/amsopn.sty
Package: amsopn 2016/03/08 v2.02 operator names
)
\inf@bad=\count268
LaTeX Info: Redefining \frac on input line 227.
```

```
\uproot@=\count269
\leftroot@=\count270
LaTeX Info: Redefining \overline on input line 389.
\classnum@=\count271
\DOTSCASE@=\count272
LaTeX Info: Redefining \ldots on input line 486.
LaTeX Info: Redefining \dots on input line 489.
LaTeX Info: Redefining \cdots on input line 610.
\Mathstrutbox@=\box58
\strutbox@=\box59
\big@size=\dimen260
LaTeX Font Info:    Redeclaring font encoding OML on input line 733.
LaTeX Font Info:    Redeclaring font encoding OMS on input line 734.
\macc@depth=\count273
\c@MaxMatrixCols=\count274
\dotsspace@=\muskip16
\c@parentequation=\count275
\dspbrk@lvl=\count276
\tag@help=\toks35
\row@=\count277
\column@=\count278
\maxfields@=\count279
\andhelp@=\toks36
\eqnshift@=\dimen261
\alignsep@=\dimen262
\tagshift@=\dimen263
\tagwidth@=\dimen264
\totwidth@=\dimen265
\lineht@=\dimen266
\@envbody=\toks37
\multlinegap=\skip50
\multlinetaggap=\skip51
\mathdisplay@stack=\toks38
LaTeX Info: Redefining \[ on input line 2859.
LaTeX Info: Redefining \] on input line 2860.
) (c:/TeXLive/2020/texmf-dist/tex/latex/appendix/appendix.sty
Package: appendix 2020/02/08 v1.2c extra appendix facilities
\c@@pps=\count280
\c@@ppsavesec=\count281
\c@@ppsaveapp=\count282
) (c:/TeXLive/2020/texmf-dist/tex/latex/amsfonts/amssymb.sty
Package: amssymb 2013/01/14 v3.01 AMS font symbols
) (c:/TeXLive/2020/texmf-dist/tex/latex/doublestroke/dsfont.sty
Package: dsfont 1995/08/01 v0.1 Double stroke roman fonts
) (c:/TeXLive/2020/texmf-dist/tex/latex/tools/bm.sty
Package: bm 2019/07/24 v1.2d Bold Symbol Support (DPC/FMi)
\symboldoperators=\mathgroup6
\symboldletters=\mathgroup7
\symboldsymbols=\mathgroup8
LaTeX Font Info:    Redeclaring math alphabet \mathbf on input line 141.
LaTeX Info: Redefining \bm on input line 209.
) (c:/TeXLive/2020/texmf-dist/tex/latex/morefloats/morefloats.sty
Package: morefloats 2015/07/22 v1.0h Raise limit of unprocessed floats
(HMM)
```

```
(c:/TeXLive/2020/texmf-dist/tex/latex/kvoptions/kvoptions.sty
Package: kvoptions 2019/11/29 v3.13 Key value format for package options
(HO)
(c:/TeXLive/2020/texmf-dist/tex/generic/ltxcmds/ltxcmds.sty
Package: ltxcmds 2019/12/15 v1.24 LaTeX kernel commands for general use
(HO)
) (c:/TeXLive/2020/texmf-dist/tex/generic/kvsetkeys/kvsetkeys.sty
Package: kvsetkeys 2019/12/15 v1.18 Key value parser (HO)
))
Package morefloats Info: Maximum number of possible floats asked for: 36
(morefloats)             (i.e. 18 more floats).
(morefloats)             LaTeX might run out of memory before this
(morefloats)             (in which case it will notify you).
) (c:/TeXLive/2020/texmf-dist/tex/latex/booktabs/booktabs.sty
Package: booktabs 2020/01/12 v1.61803398 Publication quality tables
\heavyrulewidth=\dimen267
\lightrulewidth=\dimen268
\cmidrulewidth=\dimen269
\belowrulesep=\dimen270
\belowbottomsep=\dimen271
\aboverulesep=\dimen272
\abovetopsep=\dimen273
\cmidrulesep=\dimen274
\cmidrulekern=\dimen275
\defaultaddspace=\dimen276
\@cmidla=\count283
\@cmidlb=\count284
\@aboverulesep=\dimen277
\@belowrulesep=\dimen278
\@thisruleclass=\count285
\@lastruleclass=\count286
\@thisrulewidth=\dimen279
) (c:/TeXLive/2020/texmf-dist/tex/latex/placeins/placeins.sty
Package: placeins 2005/04/18  v 2.2
) (c:/TeXLive/texmf-local/tex/latex/aries/setspace.sty
Package: setspace 2000/12/01 6.7 Contributed and Supported LaTeX2e
package
Package: `setspace' 6.7 <2000/12/01>
) (c:/TeXLive/2020/texmf-dist/tex/latex/sectsty/sectsty.sty
Package: sectsty 2002/02/25 v2.0.2 Commands to change all sectional
heading sty
les

LaTeX Warning: Command \underbar  has changed.
               Check if current package is valid.


LaTeX Warning: Command \underline  has changed.
               Check if current package is valid.

) (c:/TeXLive/2020/texmf-dist/tex/latex/tools/xr.sty
Package: xr 2019/07/22 v5.05 eXternal References (DPC)
) (c:/TeXLive/2020/texmf-dist/tex/latex/threeparttable/threeparttable.sty
Package: threeparttable 2003/06/13  v 3.0
```

```
\@tempboxb=\box60
) (c:/TeXLive/2020/texmf-dist/tex/latex/tools/longtable.sty
Package: longtable 2020/01/07 v4.13 Multi-page Table package (DPC)
\LTleft=\skip52
\LTright=\skip53
\LTpre=\skip54
\LTpost=\skip55
\LTchunksize=\count287
\LTcapwidth=\dimen280
\LT@head=\box61
\LT@firsthead=\box62
\LT@foot=\box63
\LT@lastfoot=\box64
\LT@cols=\count288
\LT@rows=\count289
\c@LT@tables=\count290
\c@LT@chunks=\count291
\LT@p@ftn=\toks39
) (c:/TeXLive/2020/texmf-dist/tex/latex/graphics/rotating.sty
Package: rotating 2016/08/11 v2.16d rotated objects in LaTeX
(c:/TeXLive/2020/texmf-dist/tex/latex/base/ifthen.sty
Package: ifthen 2014/09/29 v1.1c Standard LaTeX ifthen package (DPC)
)
\c@r@tfl@t=\count292
\rotFPtop=\skip56
\rotFPbot=\skip57
\rot@float@box=\box65
\rot@mess@toks=\toks40
) (c:/TeXLive/2020/texmf-dist/tex/latex/pdflscape/pdflscape.sty
Package: pdflscape 2019/12/05 v0.12 Display of landscape pages in PDF
(HO)
(c:/TeXLive/2020/texmf-dist/tex/latex/graphics/lscape.sty
Package: lscape 2000/10/22 v3.01 Landscape Pages (DPC)
)
Package pdflscape Info: Auto-detected driver: pdftex on input line 81.
) (c:/TeXLive/texmf-local/tex/latex/aries/subfig.sty
Package: subfig 2005/06/28 ver: 1.3 subfig package
\c@KVtest=\count293
\sf@farskip=\skip58
\sf@captopadj=\dimen281
\sf@capskip=\skip59
\sf@nearskip=\skip60
\c@subfigure=\count294
\c@subfigure@save=\count295
\c@lofdepth=\count296
\c@subtable=\count297
\c@subtable@save=\count298
\c@lotdepth=\count299
\sf@top=\skip61
\sf@bottom=\skip62
) (c:/TeXLive/2020/texmf-dist/tex/latex/base/alltt.sty
Package: alltt 1997/06/16 v2.0g defines alltt environment
) (c:/TeXLive/2020/texmf-dist/tex/generic/ulem/ulem.sty
\UL@box=\box66
```

```
\UL@hyphenbox=\box67
\UL@skip=\skip63
\UL@hook=\toks41
\UL@height=\dimen282
\UL@pe=\count300
\UL@pixel=\dimen283
\ULC@box=\box68
Package: ulem 2019/11/18
\ULdepth=\dimen284
) (c:/TeXLive/2020/texmf-dist/tex/latex/comment/comment.sty
\CommentStream=\write4
Excluding comment 'comment') (c:/TeXLive/2020/texmf-
dist/tex/latex/hyperref/hyp
erref.sty
Package: hyperref 2020/01/14 v7.00d Hypertext links for LaTeX
(c:/TeXLive/2020/texmf-dist/tex/latex/pdftexcmds/pdftexcmds.sty
Package: pdftexcmds 2019/11/24 v0.31 Utility functions of pdfTeX for
LuaTeX (HO
)
(c:/TeXLive/2020/texmf-dist/tex/generic/infwarerr/infwarerr.sty
Package: infwarerr 2019/12/03 v1.5 Providing info/warning/error messages
(HO)
)
Package pdftexcmds Info: \pdf@primitive is available.
Package pdftexcmds Info: \pdf@ifprimitive is available.
Package pdftexcmds Info: \pdfdraftmode found.
) (c:/TeXLive/2020/texmf-dist/tex/generic/kvdefinekeys/kvdefinekeys.sty
Package: kvdefinekeys 2019-12-19 v1.6 Define keys (HO)
) (c:/TeXLive/2020/texmf-dist/tex/generic/pdfescape/pdfescape.sty
Package: pdfescape 2019/12/09 v1.15 Implements pdfTeX's escape features
(HO)
) (c:/TeXLive/2020/texmf-dist/tex/latex/hycolor/hycolor.sty
Package: hycolor 2020-01-27 v1.10 Color options for hyperref/bookmark
(HO)
) (c:/TeXLive/2020/texmf-dist/tex/latex/letltxmacro/letltxmacro.sty
Package: letltxmacro 2019/12/03 v1.6 Let assignment for LaTeX macros (HO)
) (c:/TeXLive/2020/texmf-dist/tex/latex/auxhook/auxhook.sty
Package: auxhook 2019-12-17 v1.6 Hooks for auxiliary files (HO)
)
\@linkdim=\dimen285
\Hy@linkcounter=\count301
\Hy@pagecounter=\count302
(c:/TeXLive/2020/texmf-dist/tex/latex/hyperref/pd1enc.def
File: pd1enc.def 2020/01/14 v7.00d Hyperref: PDFDocEncoding definition
(HO)
Now handling font encoding PD1 ...
... no UTF-8 mapping file for font encoding PD1
) (c:/TeXLive/2020/texmf-dist/tex/generic/intcalc/intcalc.sty
Package: intcalc 2019/12/15 v1.3 Expandable calculations with integers
(HO)
) (c:/TeXLive/2020/texmf-dist/tex/generic/etexcmds/etexcmds.sty
Package: etexcmds 2019/12/15 v1.7 Avoid name clashes with e-TeX commands
(HO)
)
```

```
\Hy@SavedSpaceFactor=\count303
Package hyperref Info: Option `colorlinks' set `true' on input line 4421.
Package hyperref Info: Hyper figures OFF on input line 4547.
Package hyperref Info: Link nesting OFF on input line 4552.
Package hyperref Info: Hyper index ON on input line 4555.
Package hyperref Info: Plain pages OFF on input line 4562.
Package hyperref Info: Backreferencing OFF on input line 4567.
Package hyperref Info: Implicit mode ON; LaTeX internals redefined.
Package hyperref Info: Bookmarks ON on input line 4800.
\c@Hy@tempcnt=\count304
(c:/TeXLive/2020/texmf-dist/tex/latex/url/url.sty
\Urlmuskip=\muskip17
Package: url 2013/09/16  ver 3.4  Verb mode for urls, etc.
)
LaTeX Info: Redefining \url on input line 5159.
\XeTeXLinkMargin=\dimen286
(c:/TeXLive/2020/texmf-dist/tex/generic/bitset/bitset.sty
Package: bitset 2019/12/09 v1.3 Handle bit-vector datatype (HO)
(c:/TeXLive/2020/texmf-dist/tex/generic/bigintcalc/bigintcalc.sty
Package: bigintcalc 2019/12/15 v1.5 Expandable calculations on big
integers (HO
)
))
\Fld@menulength=\count305
\Field@Width=\dimen287
\Fld@charsize=\dimen288
Package hyperref Info: Hyper figures OFF on input line 6430.
Package hyperref Info: Link nesting OFF on input line 6435.
Package hyperref Info: Hyper index ON on input line 6438.
Package hyperref Info: backreferencing OFF on input line 6445.
Package hyperref Info: Link coloring ON on input line 6448.
Package hyperref Info: Link coloring with OCG OFF on input line 6455.
Package hyperref Info: PDF/A mode OFF on input line 6460.
LaTeX Info: Redefining \ref on input line 6500.
LaTeX Info: Redefining \pageref on input line 6504.
(c:/TeXLive/2020/texmf-dist/tex/generic/atbegshi/atbegshi.sty
Package: atbegshi 2019/12/05 v1.19 At begin shipout hook (HO)
)
\Hy@abspage=\count306
\c@Item=\count307
\c@Hfootnote=\count308
)
Package hyperref Info: Driver (autodetected): hpdftex.
(c:/TeXLive/2020/texmf-dist/tex/latex/hyperref/hpdftex.def
File: hpdftex.def 2020/01/14 v7.00d Hyperref driver for pdfTeX
(c:/TeXLive/2020/texmf-dist/tex/latex/atveryend/atveryend.sty
Package: atveryend 2019-12-11 v1.11 Hooks at the very end of document
(HO)
Package atveryend Info: \enddocument detected (standard20110627).
)
\Fld@listcount=\count309
\c@bookmark@seq@number=\count310
(c:/TeXLive/2020/texmf-dist/tex/latex/rerunfilecheck/rerunfilecheck.sty
```

```
Package: rerunfilecheck 2019/12/05 v1.9 Rerun checks for auxiliary files
(HO)
(c:/TeXLive/2020/texmf-dist/tex/generic/uniquecounter/uniquecounter.sty
Package: uniquecounter 2019/12/15 v1.4 Provide unlimited unique counter
(HO)
)
Package uniquecounter Info: New unique counter `rerunfilecheck' on input
line 2
86.
)
\Hy@SectionHShift=\skip64
) (c:/TeXLive/2020/texmf-dist/tex/latex/lm/lmodern.sty
Package: lmodern 2009/10/30 v1.6 Latin Modern Fonts
LaTeX Font Info:    Overwriting symbol font `operators' in version
`normal'
(Font)                  OT1/cmr/m/n --> OT1/lmr/m/n on input line 22.
LaTeX Font Info:    Overwriting symbol font `letters' in version `normal'
(Font)                  OML/cmm/m/it --> OML/lmm/m/it on input line 23.
LaTeX Font Info:    Overwriting symbol font `symbols' in version `normal'
(Font)                  OMS/cmsy/m/n --> OMS/lmsy/m/n on input line 24.
LaTeX Font Info:    Overwriting symbol font `largesymbols' in version
`normal'
(Font)                  OMX/cmex/m/n --> OMX/lmex/m/n on input line 25.
LaTeX Font Info:    Overwriting symbol font `operators' in version `bold'
(Font)                  OT1/cmr/bx/n --> OT1/lmr/bx/n on input line 26.
LaTeX Font Info:    Overwriting symbol font `letters' in version `bold'
(Font)                  OML/cmm/b/it --> OML/lmm/b/it on input line 27.
LaTeX Font Info:    Overwriting symbol font `symbols' in version `bold'
(Font)                  OMS/cmsy/b/n --> OMS/lmsy/b/n on input line 28.
LaTeX Font Info:    Overwriting symbol font `largesymbols' in version
`bold'
(Font)                  OMX/cmex/m/n --> OMX/lmex/m/n on input line 29.
LaTeX Font Info:    Overwriting math alphabet `\mathbf' in version
`normal'
(Font)                  OT1/cmr/bx/n --> OT1/lmr/bx/n on input line 31.
LaTeX Font Info:    Overwriting math alphabet `\mathsf' in version
`normal'
(Font)                  OT1/cmss/m/n --> OT1/lmss/m/n on input line 32.
LaTeX Font Info:    Overwriting math alphabet `\mathit' in version
`normal'
(Font)                  OT1/cmr/m/it --> OT1/lmr/m/it on input line 33.
LaTeX Font Info:    Overwriting math alphabet `\mathtt' in version
`normal'
(Font)                  OT1/cmtt/m/n --> OT1/lmtt/m/n on input line 34.
LaTeX Font Info:    Overwriting math alphabet `\mathbf' in version `bold'
(Font)                  OT1/cmr/bx/n --> OT1/lmr/bx/n on input line 35.
LaTeX Font Info:    Overwriting math alphabet `\mathsf' in version `bold'
(Font)                  OT1/cmss/bx/n --> OT1/lmss/bx/n on input line 36.
LaTeX Font Info:    Overwriting math alphabet `\mathit' in version `bold'
(Font)                  OT1/cmr/bx/it --> OT1/lmr/bx/it on input line 37.
LaTeX Font Info:    Overwriting math alphabet `\mathtt' in version `bold'
(Font)                  OT1/cmtt/m/n --> OT1/lmtt/m/n on input line 38.
)
\c@theorem=\count311
```

```
(c:/TeXLive/2020/texmf-dist/tex/latex/natbib/natbib.sty
Package: natbib 2010/09/13 8.31b (PWD, AO)
\bibhang=\skip65
\bibsep=\skip66
LaTeX Info: Redefining \cite on input line 694.
\c@NAT@ctr=\count312
) (c:/TeXLive/2020/texmf-dist/tex/latex/l3backend/l3backend-pdfmode.def
File: l3backend-pdfmode.def 2020-05-05 L3 backend support: PDF mode
\l__kernel_color_stack_int=\count313
\l__pdf_internal_box=\box69
) (./HKK 2022 - Social Networks and Immigrant Integration.aux)
\openout1 = `"HKK 2022 - Social Networks and Immigrant Integration.aux"'.

LaTeX Font Info:    Checking defaults for OML/cmm/m/it on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for OMS/cmsy/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for OT1/cmr/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for T1/cmr/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for TS1/cmr/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for OMX/cmex/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for U/cmr/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Checking defaults for PD1/pdf/m/n on input line 51.
LaTeX Font Info:    ... okay on input line 51.
LaTeX Font Info:    Trying to load font information for OT1+lmr on input
line 5
1.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/ot1lmr.fd
File: ot1lmr.fd 2009/10/30 v1.6 Font defs for Latin Modern
)
*geometry* driver: auto-detecting
*geometry* detected driver: pdftex
*geometry* verbose mode - [ preamble ] result:
* driver: pdftex
* paper: <default>
* layout: <same size as paper>
* layoutoffset:(h,v)=(0.0pt,0.0pt)
* modes:
* h-part:(L,W,R)=(72.26999pt, 469.75502pt, 72.26999pt)
* v-part:(T,H,B)=(72.26999pt, 650.43001pt, 72.26999pt)
* \paperwidth=614.295pt
* \paperheight=794.96999pt
* \textwidth=469.75502pt
* \textheight=650.43001pt
* \oddsidemargin=0.0pt
* \evensidemargin=0.0pt
* \topmargin=-37.0pt
* \headheight=12.0pt
* \headsep=25.0pt
```

```
* \topskip=12.0pt
* \footskip=30.0pt
* \marginparwidth=44.0pt
* \marginparsep=10.0pt
* \columnsep=10.0pt
* \skip\footins=10.8pt plus 4.0pt minus 2.0pt
* \hoffset=0.0pt
* \voffset=0.0pt
* \mag=1000
* \@twocolumnfalse
* \@twosidefalse
* \@mparswitchfalse
* \@reversemarginfalse
* (1in=72.27pt=25.4mm, 1cm=28.453pt)

Package caption Info: Begin \AtBeginDocument code.
Package caption Info: subfig package v1.3 is loaded.
Package caption Info: float package is loaded.
Package caption Info: hyperref package is loaded.
Package caption Info: longtable package is loaded.
(c:/TeXLive/2020/texmf-dist/tex/latex/caption/ltcaption.sty
Package: ltcaption 2018/08/26 v1.4a longtable captions (AR)
)
Package caption Info: rotating package is loaded.
Package caption Info: threeparttable package is loaded.
Package caption Info: End \AtBeginDocument code.
ABD: EveryShipout initializing macros (c:/TeXLive/2020/texmf-
dist/tex/context/b
ase/mkii/supp-pdf.mkii
[Loading MPS to PDF converter (version 2006.09.02).]
\scratchcounter=\count314
\scratchdimen=\dimen289
\scratchbox=\box70
\nofMPsegments=\count315
\nofMParguments=\count316
\everyMPshowfont=\toks42
\MPscratchCnt=\count317
\MPscratchDim=\dimen290
\MPnumerator=\count318
\makeMPintoPDFobject=\count319
\everyMPtoPDFconversion=\toks43
) (c:/TeXLive/2020/texmf-dist/tex/latex/epstopdf-pkg/epstopdf-base.sty
Package: epstopdf-base 2020-01-24 v2.11 Base part for package epstopdf
Package epstopdf-base Info: Redefining graphics rule for `.eps' on input
line 4
85.
(c:/TeXLive/2020/texmf-dist/tex/latex/latexconfig/epstopdf-sys.cfg
File: epstopdf-sys.cfg 2010/07/13 v1.3 Configuration of (r)epstopdf for
TeX Liv
e
))
\AtBeginShipoutBox=\box71
Package hyperref Info: Link coloring ON on input line 51.
(c:/TeXLive/2020/texmf-dist/tex/latex/hyperref/nameref.sty
```

```
Package: nameref 2019/09/16 v2.46 Cross-referencing by name of section
(c:/TeXLive/2020/texmf-dist/tex/latex/refcount/refcount.sty
Package: refcount 2019/12/15 v3.6 Data extraction from label references
(HO)
) (c:/TeXLive/2020/texmf-
dist/tex/generic/gettitlestring/gettitlestring.sty
Package: gettitlestring 2019/12/15 v1.6 Cleanup title references (HO)
)
\c@section@level=\count320
)
LaTeX Info: Redefining \ref on input line 51.
LaTeX Info: Redefining \pageref on input line 51.
LaTeX Info: Redefining \nameref on input line 51.
(./HKK 2022 - Social Networks and Immigrant Integration.out) (./HKK 2022
- Soci
al Networks and Immigrant Integration.out)
\@outlinefile=\write5
\openout5 = `"HKK 2022 - Social Networks and Immigrant Integration.out"'.

LaTeX Font Info:    Trying to load font information for OML+lmm on input
line 6
6.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/omllmm.fd
File: omllmm.fd 2009/10/30 v1.6 Font defs for Latin Modern
)
LaTeX Font Info:    Trying to load font information for OMS+lmsy on input
line
66.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/omslmsy.fd
File: omslmsy.fd 2009/10/30 v1.6 Font defs for Latin Modern
)
LaTeX Font Info:    Trying to load font information for OMX+lmex on input
line
66.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/omxlmex.fd
File: omxlmex.fd 2009/10/30 v1.6 Font defs for Latin Modern
)
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <20.74> on input line 66.
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <14.4> on input line 66.
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <12> on input line 66.
LaTeX Font Info:    Trying to load font information for U+msa on input
line 66.

(c:/TeXLive/2020/texmf-dist/tex/latex/amsfonts/umsa.fd
File: umsa.fd 2013/01/14 v3.01 AMS symbols A
)
LaTeX Font Info:    Trying to load font information for U+msb on input
line 66.

(c:/TeXLive/2020/texmf-dist/tex/latex/amsfonts/umsb.fd
File: umsb.fd 2013/01/14 v3.01 AMS symbols B
```

```
)
LaTeX Font Info:    Trying to load font information for TS1+lmr on input
line 6
6.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/ts1lmr.fd
File: ts1lmr.fd 2009/10/30 v1.6 Font defs for Latin Modern
)
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <10> on input line 66.
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <7> on input line 66.
LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <5> on input line 66.

Underfull \hbox (badness 10000) in paragraph at lines 67--75

 []

[1

{c:/TeXLive/2020/texmf-var/fonts/map/pdftex/updmap/pdftex.map}] [2]

Package natbib Warning: Citation `clemens2011' on page 3 undefined on
input lin
e 97.


Package natbib Warning: Citation `Clemens2019place' on page 3 undefined
on inpu
t line 97.


Package natbib Warning: Citation `Yang2007' on page 3 undefined on input
line 9
7.


Package natbib Warning: Citation `Yang2008' on page 3 undefined on input
line 9
7.


Package natbib Warning: Citation `Gibson2011' on page 3 undefined on
input line
 97.


Package natbib Warning: Citation `Gibson2018' on page 3 undefined on
input line
 97.

LaTeX Font Info:    External font `lmex10' loaded for size
(Font)              <8> on input line 97.
LaTeX Font Info:    External font `lmex10' loaded for size
```

(Font)   <6> on input line 97.

Package natbib Warning: Citation `Mckenzie2007' on page 3 undefined on input li
ne 97.

Package natbib Warning: Citation `Beine2008' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Khanna2017' on page 3 undefined on input line
 97.

Package natbib Warning: Citation `Theoharides2018' on page 3 undefined on input
 line 97.

Package natbib Warning: Citation `bahar2019migration' on page 3 undefined on in
put line 97.

Package natbib Warning: Citation `Fernandez2020' on page 3 undefined on input l
ine 97.

Package natbib Warning: Citation `khanna2020abundance' on page 3 undefined on i
nput line 97.

Package natbib Warning: Citation `Spilimbergo2009' on page 3 undefined on input
 line 97.

Package natbib Warning: Citation `Docquier2016' on page 3 undefined on input li
ne 97.

Package natbib Warning: Citation `Barsbai2017' on page 3 undefined on input lin
e 97.

Package natbib Warning: Citation `Tuccio2019' on page 3 undefined on input line

97.

Package natbib Warning: Citation `milanovic2012global' on page 3 undefined on i
nput line 97.

Package natbib Warning: Citation `Hunt2010' on page 3 undefined on input line 9
7.

Package natbib Warning: Citation `Kerr2010' on page 3 undefined on input line 9
7.

Package natbib Warning: Citation `Moser2014' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Sequeira2020' on page 3 undefined on input li
ne 97.

Package natbib Warning: Citation `Burchardi2019' on page 3 undefined on input l
ine 97.

Package natbib Warning: Citation `Cortes2008' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Bound2017' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Foged2016' on page 3 undefined on input line
97.

Package natbib Warning: Citation `bls2021' on page 3 undefined on input line 97
.

Package natbib Warning: Citation `Algan2010' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Brell2020' on page 3 undefined on input line
97.

Package natbib Warning: Citation `Fasani2018' on page 3 undefined on input line
 97.

Package natbib Warning: Citation `arai2004unemployment' on page 3 undefined on
input line 97.

Package natbib Warning: Citation `Bratsberg2018' on page 3 undefined on input l
ine 97.

Package natbib Warning: Citation `borjas2020adverse' on page 3 undefined on inp
ut line 97.

Package natbib Warning: Citation `fasani2020being' on page 3 undefined on input
 line 97.

Package natbib Warning: Citation `ager2008understanding' on page 3 undefined on
 input line 97.

Package natbib Warning: Citation `fangen2010social' on page 3 undefined on inpu
t line 97.

Package natbib Warning: Citation `sweden2019integration' on page 3 undefined on
 input line 97.

Package natbib Warning: Citation `puranen2019med' on page 3 undefined on input
line 97.

Package natbib Warning: Citation `sou2004' on page 3 undefined on input
line 10
3.

Package natbib Warning: Citation `hernes2019' on page 3 undefined on
input line
 103.

Package natbib Warning: Citation `allport1954nature' on page 3 undefined
on inp
ut line 103.

Package natbib Warning: Citation `edo2019immigration' on page 3 undefined
on in
put line 103.

Package natbib Warning: Citation `finseraas2019trust' on page 3 undefined
on in
put line 103.

Package natbib Warning: Citation `bursztyn2021immigrant' on page 3
undefined on
 input line 103.

Package natbib Warning: Citation `steinmayr2021contact' on page 3
undefined on
input line 103.

[3

]

Package natbib Warning: Citation `mousa2020boosting' on page 4 undefined
on inp
ut line 109.

Package natbib Warning: Citation `harder2018multidimensional' on page 4
undefin
ed on input line 114.

Package natbib Warning: Citation `puranen2019med' on page 4 undefined on
input
line 114.

[4]

Package natbib Warning: Citation `sweden2019integration' on page 5
undefined on
 input line 116.

Package natbib Warning: Citation `ruist2018' on page 5 undefined on input
line
119.

[5]

LaTeX Warning: Reference `meancomp' on page 6 undefined on input line
125.

[6]

Package natbib Warning: Citation `beaman2016social' on page 7 undefined
on inpu
t line 132.

Package natbib Warning: Citation `Beaman2012a' on page 7 undefined on
input lin
e 132.

Package natbib Warning: Citation `Burks2015' on page 7 undefined on input
line
132.

Package natbib Warning: Citation `Brown2016' on page 7 undefined on input
line
132.

Package natbib Warning: Citation `Dustmann2016' on page 7 undefined on
input li
ne 132.

Package natbib Warning: Citation `Pallais2016' on page 7 undefined on
input lin
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Package natbib Warning: Citation `Heath2018' on page 7 undefined on input
line
132.

Package natbib Warning: Citation `Kramarz2014' on page 7 undefined on
input lin

e 132.

Package natbib Warning: Citation `Schmutte2015' on page 7 undefined on input li
ne 132.

Package natbib Warning: Citation `Edin2003' on page 7 undefined on input line 1
32.

Package natbib Warning: Citation `Damm2009' on page 7 undefined on input line 1
32.

Package natbib Warning: Citation `Beaman2012' on page 7 undefined on input line
 132.

Package natbib Warning: Citation `Patacchini2012' on page 7 undefined on input
line 132.

Package natbib Warning: Citation `Andersson2014' on page 7 undefined on input l
ine 132.

Package natbib Warning: Citation `Hainmueller2017' on page 7 undefined on input
 line 132.

Package natbib Warning: Citation `Patel2012' on page 7 undefined on input line
132.

Package natbib Warning: Citation `Kerr2015' on page 7 undefined on input line 1
32.

Package natbib Warning: Citation `Aaslund2014' on page 7 undefined on input lin
e 132.

Package natbib Warning: Citation `Granovetter1973' on page 7 undefined on input
 line 132.

Package natbib Warning: Citation `Kramarz2014' on page 7 undefined on input lin
e 132.

Package natbib Warning: Citation `Goel2019' on page 7 undefined on input line 1
32.

[7]

Package natbib Warning: Citation `de2010employment' on page 8 undefined on inpu
t line 134.

Package natbib Warning: Citation `lancee2010economic' on page 8 undefined on in
put line 134.

Package natbib Warning: Citation `marinucci2020intergroup' on page 8 undefined
on input line 134.

Package natbib Warning: Citation `ahmed2008discrimination' on page 8 undefined
on input line 134.

Package natbib Warning: Citation `gusciute2020discrimination' on page 8 undefin
ed on input line 134.

Package natbib Warning: Citation `barsbai2020information' on page 8 undefined o
n input line 136.

Package natbib Warning: Citation `Dustmann2003' on page 8 undefined on input li
ne 138.

Package natbib Warning: Citation `bleakley2004language' on page 8 undefined on
input line 138.

Package natbib Warning: Citation `rooth2006utbildning' on page 8
undefined on i
nput line 138.

Package natbib Warning: Citation `Lochmann2019' on page 8 undefined on
input li
ne 138.

Package natbib Warning: Citation `allport1954nature' on page 8 undefined
on inp
ut line 142.

Package natbib Warning: Citation `allport1954nature' on page 8 undefined
on inp
ut line 142.

Package natbib Warning: Citation `dustmann2007racial' on page 8 undefined
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put line 142.

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on in
put line 142.

Package natbib Warning: Citation `dinas2019waking' on page 8 undefined on
input
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undefined o
n input line 142.

Package natbib Warning: Citation `BisinVerdier2011' on page 8 undefined
on inpu
t line 144.

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undefined on

input line 144.

Package natbib Warning: Citation `Casey2010' on page 8 undefined on input line
144.

Package natbib Warning: Citation `Nekby2010' on page 8 undefined on input line
144.

[8]

Package natbib Warning: Citation `edo2019immigration' on page 9 undefined on in
put line 149.

Package natbib Warning: Citation `finseraas2019trust' on page 9 undefined on in
put line 149.

Package natbib Warning: Citation `bursztyn2021immigrant' on page 9 undefined on
 input line 149.

Package natbib Warning: Citation `steinmayr2021contact' on page 9 undefined on
input line 149.

Package natbib Warning: Citation `mousa2020boosting' on page 9 undefined on inp
ut line 149.

Package natbib Warning: Citation `Dustmann2003' on page 9 undefined on input li
ne 151.

Package natbib Warning: Citation `Lochmann2019' on page 9 undefined on input li
ne 151.

Package natbib Warning: Citation `Edin2003' on page 9 undefined on input line 1
51.

Package natbib Warning: Citation `Beaman2012' on page 9 undefined on input line
 151.

Package natbib Warning: Citation `abramitzky2020leaving' on page 9 undefined on
 input line 151.

Package natbib Warning: Citation `bratsberg2021settlement' on page 9 undefined
on input line 151.

Package natbib Warning: Citation `butschek2014active' on page 9 undefined on in
put line 151.

Package natbib Warning: Citation `munshi2003networks' on page 9 undefined on in
put line 151.

Package natbib Warning: Citation `marten2019ethnic' on page 9 undefined on inpu
t line 151.

Package natbib Warning: Citation `munshi2020social' on page 9 undefined on inpu
t line 151.

Package natbib Warning: Citation `lundberg2011european' on page 9 undefined on
input line 153.

Package natbib Warning: Citation `schmidtke2018civil' on page 9 undefined on in
put line 153.

Package natbib Warning: Citation `eesc2020' on page 9 undefined on input line 1
53.

Package natbib Warning: Citation `mousa2020boosting' on page 9 undefined on inp
ut line 153.

Package natbib Warning: Citation `soininen2006public' on page 9 undefined on in
put line 153.

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 line 153.

Package natbib Warning: Citation `panican2017lokal' on page 9 undefined on inpu
t line 153.

Package natbib Warning: Citation `behaghel2013evaluation' on page 9 undefined o
n input line 153.

Package natbib Warning: Citation `Statskontoret2018' on page 9 undefined on inp
ut line 155.

Package natbib Warning: Citation `sanyal2009credit' on page 9 undefined on inpu
t line 155.

Package natbib Warning: Citation `kandpal2019social' on page 9 undefined on inp
ut line 155.

Package natbib Warning: Citation `andrew2020mothers' on page 9 undefined on inp
ut line 155.

Package natbib Warning: Citation `anukriti2020curse' on page 9 undefined on inp
ut line 155.

Package natbib Warning: Citation `caria2020adaptive' on page 9 undefined on inp
ut line 155.

Package natbib Warning: Citation `hussam2021psychosocial' on page 9 undefined o
n input line 155.

Package natbib Warning: Citation `Fasani2018' on page 9 undefined on input line
 155.

[9]

Package natbib Warning: Citation `rapoport2006economics' on page 10 undefined o
n input line 157.

Package natbib Warning: Citation `yang2011migrant' on page 10 undefined on inpu
t line 157.

LaTeX Warning: Reference `popcompare' on page 10 undefined on input line 170.

[10] [11]

Package natbib Warning: Citation `broockman_kalla_sekhon_2017' on page 12 undef
ined on input line 193.

[12]

Package natbib Warning: Citation `porter2018statistical' on page 13 undefined o
n input line 199.

Package natbib Warning: Citation `porter2018statistical' on page 13 undefined o
n input line 199.

Package natbib Warning: Citation `benjamini1995controlling' on page 13 undefine
d on input line 199.

Package natbib Warning: Citation `bryan2021randomizing' on page 13 undefined on
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Package natbib Warning: Citation `benjamini1995controlling' on page 13 undefine
d on input line 199.

Package natbib Warning: Citation `bryan2021randomizing' on page 13
undefined on
 input line 199.

Package natbib Warning: Citation `benjamini2006adaptive' on page 13
undefined o
n input line 199.

Package natbib Warning: Citation `Anderson2008multiple' on page 13
undefined on
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Package natbib Warning: Citation `kling2007experimental' on page 13
undefined o
n input line 208.

LaTeX Warning: Reference `outcome' on page 13 undefined on input line
208.

[13]

LaTeX Warning: Reference `secoutcomes' on page 14 undefined on input line
227.

[14]

LaTeX Warning: Reference `het_varlist' on page 15 undefined on input line
241.

Underfull \hbox (badness 10000) in paragraph at lines 241--242

 []

Package natbib Warning: Citation `Statskontoret2018' on page 15 undefined
on in
put line 246.

Package natbib Warning: Citation `/content/publication/ec98f531-en' on
page 15
undefined on input line 246.

Package natbib Warning: Citation `neuman2018source' on page 15 undefined
on inp
ut line 246.

Package natbib Warning: Citation `Brell2020' on page 15 undefined on input line
 248.

Package natbib Warning: Citation `Edin2003' on page 15 undefined on input line
248.

Package natbib Warning: Citation `evans2017economic' on page 15 undefined on in
put line 248.

Package natbib Warning: Citation `auer2018language' on page 15 undefined on inp
ut line 248.

Package natbib Warning: Citation `Fasani2018' on page 15 undefined on input lin
e 248.

[15]

Package natbib Warning: Citation `bursztyn2021immigrant' on page 16 undefined o
n input line 260.

[16]

Package natbib Warning: Citation `hensvik2016social' on page 17 undefined on in
put line 262.

Package natbib Warning: Citation `athey2019generalized' on page 17 undefined on
 input line 273.

LaTeX Warning: Reference `ml_varlist' on page 17 undefined on input line 273.

LaTeX Warning: Reference `mechanism_varlist' on page 17 undefined on input line
 277.

Underfull \hbox (badness 10000) in paragraph at lines 277--278

 []

[17] [18] [19]

Package natbib Warning: Citation `de2020level' on page 20 undefined on input li
ne 356.

Package natbib Warning: Citation `athey2017econometrics' on page 20 undefined o
n input line 356.

Package natbib Warning: Citation `bruhn2009pursuit' on page 20 undefined on inp
ut line 356.

Package natbib Warning: Citation `de2020level' on page 20 undefined on input li
ne 356.

Package natbib Warning: Citation `urminsky2016using' on page 20 undefined on in
put line 359.

LaTeX Warning: Reference `het_varlist' on page 20 undefined on input line 359.

[20]

Package natbib Warning: Citation `benjamini2006adaptive' on page 21 undefined o
n input line 362.

Package natbib Warning: Citation `Anderson2008multiple' on page 21 undefined on
 input line 362.

Package natbib Warning: Citation `lee2009training' on page 21 undefined on inpu
t line 368.

Package natbib Warning: Citation `semenova2020better' on page 21 undefined on i
nput line 368.

[21]

```
Package natbib Warning: Citation `athey2019generalized' on page 22
undefined on
 input line 377.


Package natbib Warning: Citation `harder2018multidimensional' on page 22
undefi
ned on input line 386.

[22] [23] [24]
Underfull \hbox (badness 10000) in paragraph at lines 413--414

 []


Underfull \hbox (badness 10000) in paragraph at lines 415--416

 []


Underfull \hbox (badness 10000) in paragraph at lines 417--418

 []

[25

]
No file "HKK 2022 - Social Networks and Immigrant Integration".bbl.

LaTeX Warning: File `figures/freq_eSknow.png' not found on input line
446.


! Package pdftex.def Error: File `figures/freq_eSknow.png' not found:
using dra
ft setting.

See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.446 ...aphics[scale=.3]{figures/freq_eSknow.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

LaTeX Font Info:    Trying to load font information for OT1+lmtt on input
line
446.
(c:/TeXLive/2020/texmf-dist/tex/latex/lm/ot1lmtt.fd
File: ot1lmtt.fd 2009/10/30 v1.6 Font defs for Latin Modern
) [26

]
```

```
LaTeX Warning: File `figures/culture_eS_nS.png' not found on input line
460.


! Package pdftex.def Error: File `figures/culture_eS_nS.png' not found:
using d
raft setting.

See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.460 ...ics[scale=.35]{figures/culture_eS_nS.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

[27


]

LaTeX Warning: File `figures/sanity2_eSquartiles.png' not found on input
line 4
71.


! Package pdftex.def Error: File `figures/sanity2_eSquartiles.png' not
found: u
sing draft setting.

See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.471 ...ale=.35]{figures/sanity2_eSquartiles.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

[28

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LaTeX Warning: File `figures/psy2_eSquartiles.png' not found on input
line 483.



! Package pdftex.def Error: File `figures/psy2_eSquartiles.png' not
found: usin
g draft setting.
```

```
See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.483 ...[scale=.46]{figures/psy2_eSquartiles.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

[29

]

LaTeX Warning: File `figures/navig_eSquartiles.png' not found on input
line 495
.


! Package pdftex.def Error: File `figures/navig_eSquartiles.png' not
found: usi
ng draft setting.

See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.495 ...scale=.46]{figures/navig_eSquartiles.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

[30

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LaTeX Warning: File `figures/econ2_eSquartiles.png' not found on input
line 507
.


! Package pdftex.def Error: File `figures/econ2_eSquartiles.png' not
found: usi
ng draft setting.

See the pdftex.def package documentation for explanation.
Type  H <return>  for immediate help.
 ...

l.507 ...scale=.46]{figures/econ2_eSquartiles.png}

Try typing  <return>  to proceed.
If that doesn't work, type  X <return>  to quit.

[31
```

```
]
Overfull \hbox (18.77882pt too wide) in paragraph at lines 528--558
 []
 []

[32


]

! LaTeX Error: File `tables/Mean_comparison_anyeSknow.tex' not found.

Type X to quit or <RETURN> to proceed,
or enter new name. (Default extension: tex)

Enter file name:
! Emergency stop.
<read *>

l.570                   }
          ^^M
*** (cannot \read from terminal in nonstop modes)


Here is how much of TeX's memory you used:
 19955 strings out of 480681
 364979 string characters out of 5908536
 608699 words of memory out of 5000000
 35180 multiletter control sequences out of 15000+600000
 624607 words of font info for 112 fonts, out of 8000000 for 9000
 1141 hyphenation exceptions out of 8191
 52i,11n,56p,2802b,427s stack positions out of
5000i,500n,10000p,200000b,80000s
!  ==> Fatal error occurred, no output PDF file produced!
```

Hammar, Karadja, and Khan have been equally involved in all parts of this research.