Friendship networks and the formation of interethnic unions: A dynamic analysis of the children of immigrants

Pascale I. van Zantvliet, Tilburg University

Matthijs Kalmijn, Tilburg University

Abstract

This article examines the effect of the composition of friendship networks during early adolescence on the likelihood of entering an interethnic union. We analyze panel data from the Children of Immigrants Longitudinal Study (CILS), which followed 14 year olds into their early twenties. We extend previous research by simultaneously examining the effect of the social context and personal networks and by broadening the type of unions under consideration (i.e., dating and cohabiting unions, in addition to engagements and marriage). We hypothesize that, as a result of both opportunities and preferences, ethnically varied friendship networks will positively affect the likelihood of entering an interethnic union. Our second hypothesis is that the effect of the social network will diminish when controlling for friendship networks because of the intermediary role it plays. Last, we expect that the effect of the friendship network is stronger for entering interethnic marriage than interethnic cohabitation, and stronger for interethnic cohabitation than interethnic dating, as a result of normative pressures.

1 Introduction

Interethnic group relations are considered an important indicator of the erosion of social barriers between groups. Not surprisingly, many scholars have studied the incidence and prevalence of different types of relations between ethnic groups, such as friendship (Fong and Isajiw 2000; Moody 2001; Powers and Ellison 1995; Quillian and Campbell 2003) and marriage (Joyner and Kao 2005; Kalmijn and Van Tubergen 2006; King and Bratter 2007; Qian and Lichter 2007; Rosenfeld and Kim 2005; Van Tubergen and Maas 2007). However, few studies have related these two types of relationships (Clark-Ibánez and Felmlee 2004), although it is likely that friendship networks affect the formation of interethnic unions. Our main hypothesis is that having an ethnic heterogeneous network of friends during early adolescence will positively affect the likelihood of entering an interethnic union later in life. In this study, we will test this hypothesis using longitudinal data on the early adult life courses of children of immigrants.

By exploring to what extent having an interethnic network during early adolescence affects the likelihood of entering an interethnic union, this study extends prior research in three ways. First, we focus on social networks instead of the broader social contexts these networks are selected from, such as neighborhoods, schools or voluntary associations (Feld 1981; Kalmijn and Flap 2001; Lievens 1998). Prior studies have mainly focused on the effect of these social contexts on partner choice (Emerson, Kimbro, and Yancey 2002; Hwang, Saenz, and Aguirre 1997; Lievens 1998), but we argue that the network plays an important role in this process. The process of partner choice may be considered a filter process. People spend their time in certain social contexts. Within these social contexts, individuals form social ties with others who are participating in the same activities (Feld 1981; Mollenhorst, Völker, and Flap 2008). Thus, socials ties are only with a select group of people from the social context. This select group becomes part of an individuals' core network. The composition of this network may be different from the composition of the social context it was selected from. Yet, it is this core network that generates the pool of potential partners rather than the social context, since the partner is often chosen from within or via this network. In other words, we argue for an intermediary role of the network in the process of union formation. Former studies have often implicitly taken this process for granted. We thus expect that the effect of the social context on the formation of interethnic unions will diminish or disappear once we control for the effect of the friendship network.

Second, we contribute to the understanding of the association between network composition and interethnic unions by improving prior studies methodologically. As pointed out by Martinovic, Van Tubergen & Maas (2009), most research on interethnic contacts has been cross-sectional in nature. However, a correlation between having interethnic friends and being

involved in an interethnic union does not clarify the mechanism that causes this association (Clark-Ibánez and Felmlee 2004). One explanation is that interethnic friendship networks will positively affect the formation of interethnic unions because they provide opportunities for meeting outgroup members and create positive normative support for involvement in an interethnic union. Another explanation is that the effect runs in the opposite direction. Individuals who are involved in an interethnic union meet outgroup members via their partner. Over time, these outgroup members may become friends and become part of their core network. Both causal pathways may contribute to the association between interethnic networks and interethnic unions. If this is true, the estimates that are found with cross-sectional data are biased due to reversed causality. The use of panel data in this paper allows us to test the first explanation and estimate the effect of interethnic friendship networks on the likelihood of interethnic union formation without the bias of reversed causality.

Third, our analysis on interethnic unions focuses on a range of romantic relationships, and not just on marriage. More specifically, we examine dating, cohabiting unions and marriage. In the past decades, cohabitation without being married has become more common (Kennedy and Bumpass 2008). Accordingly a growing body of literature has focused on various aspects of unmarried cohabitation. Partner choice and involvement in interethnic unions are two of the aspects that have been studied. Schoen and Weinick (1993) for example showed that the pattern of partner choice among cohabiters differed from married individuals. In line with a so-called 'looser bond'-perspective, results showed that cohabiters focus more on short-term and achieved characteristics and less on long-term and ascribed characteristics. The propensity for educational homogamy was higher among cohabiters, while age and religious homogamy were lower among cohabiters. Blackwell and Lichter (2000; 2004) argued that choosing a partner is a winnowing process in which homogamy increases as couples make the transition to a more formalized union type, e.g., from dating to cohabitation, and from dating to marriage. They found support for their hypothesis and showed that religious and racial homogamy increase as couples progress on the continuum from dating to marriage (Blackwell and Lichter 2004). These results are in line with the findings of Joyner and Kao (2005) who studied the prevalence of interracial unions among dating, cohabiting, and married couples. Joyner and Kao found that interracial unions are more common among persons who date or cohabit than among married persons (Joyner and Kao 2005). Additionally, Joyner & Kao demonstrated an age decline in the prevalence of interracial unions. This decline is partly the result of two processes. First, the formation of interracial unions has increased in recent years. Second, interracial couples are less likely to make the transition to marriage. The friendship network may play a role in explaining the latter process. Homogeneous networks may exert social pressure not to enter interethnic unions, and this pressure may be

stronger as one progresses along the relationship continuum (i.e., from dating to cohabitation to marriage). This would explain why making the transition to marriage is less likely for interracial couples, and why the increase in the formation of interethnic unions among young couples mainly concerns dating unions. Unfortunately, with the exception of the studies by Blackwell and Lichter (2000; 2004) and Joyner and Kao (2005), dating unions have rarely been analyzed in the sociological literature. Our third contribution to the existing literature on exogamy is that we study interethnic dating and interethnic cohabitation in addition to interethnic marriage.

2   Theory and past research

2.1   Theory

The sociological literature on intermarriage has pointed to two factors that influence the choice of a spouse, i.e., preferences for certain personal characteristics and constraints of the marriage market in which candidates search for a spouse (Kalmijn 1998). In this section, we will set forth the arguments about preferences and constraints and employ them to arrive at our main hypothesis. Our main hypothesis is that having an ethnic heterogeneous network of friends during early adolescence positively affects the likelihood of entering an interethnic union later in life.

First, there is the argument of opportunities. The choice of a partner is conditional upon the pool of potential partners an individual can choose from (Blau 1977). In general, opportunities to meet similar others are larger than opportunities to meet dissimilar others (Kalmijn & Flap, 2001). As a result, ingroup partners are overrepresented in the pool of potential partners and endogamy is more likely than exogamy. A heterogeneous friendship network offers opportunities for meeting potential partners of a different ethnic origin. These opportunities are offered in two ways. First, friends may be potential partners. But since networks contain few opposite-sex members (Feiring 1999; Kalmijn 2002), this effect is probably not large. Second, and more importantly, the partner may be met via the core network. For example, an individual can meet the sister or niece of a friend. Note that this potential partner belongs to the entire network of the friend, which, in contrast to the core network, contains a substantial proportion of opposite-sex members. Some of the ties in the entire network are likely to be homogenous with respect to ethnicity, e.g., ties to family members or ties with neighbours. Friends of a different ethnic group can act as a bridge to outgroups, and thereby, offer opportunities for contact with potential interethnic partners that ego would otherwise not have had.

The second reason for expecting our hypothesis lies in preferences. People generally have a tendency to choose an ingroup partner, because the social distance between themselves and an ingroup member is smaller than between themselves and an outgroup member. Social distance is determined by ingroup identification and prejudice against the outgroup. Identification with the ingroup develops over time (Phinney 1989). After categorizing oneself as a member of a social group, individuals may identify with this social group. Strong ingroup identification may be reduced in case the individual has an interethnic friendship network, because the individual observes that outgroup members are similar in characteristics other than ethnicity. Weak ingroup identification limits the social distance between oneself and outgroup members and increases the

likelihood of considering an outgroup member as a potential partner. Second, social distance between the self and an outgroup member is larger as a result of prejudice. Outgroup members are stereotyped by characteristics of their social group. In case the characteristics of these stereotypes are viewed as negative or more dissimilar from the characteristics of the ingroup, outgroup members are less likely to be considered as a potential partner. This occurs even if the stereotype does not reflect the reality for the group as a whole or a particular member of that group. Negative stereotyping of outgroups thus decreases the likelihood of considering an outgroup member as a potential partner. The contact hypothesis (Allport 1954) states that personal contact between groups may foster positive attitudes towards the outgroup. Interethnic contact with friends during adolescence is especially likely to influence attitudes, since contact between friends is characterized by frequent and positive interaction (Pettigrew 1998). By reducing prejudice against the outgroup an interethnic friendship network may thus decrease the social distance between an individual and an outgroup member. As a result, outgroup members are more likely to be considered as a potential partner.

Preferences for endogamy are also held by third parties, such as family and friends. Ingroup marriage assures that group values, norms and traditions are maintained. Third parties prevent exogamy by normative pressure and sanctioning individuals who enter an interethnic union (Kalmijn 1998; Kreager 2006). Because adolescents have a strong need for belonging (Baumeister and Leary 1995), they are particularly sensitive to normative pressure and sanctions of their friends. Group sanctions may be less severe or may even be absent, when friendship networks are heterogeneous. Within such friendship networks, the norm of endogamy is less likely to prevail, and as a result, sanctioning of outgroup partner choice is less likely. Also, it can be expected that the prejudices of family and friends weaken as a result of their contact with the actors' friends and positive interethnic experiences shared by the actor.

In sum, the effect of heterogeneous friendship networks on the likelihood of entering an interethnic union is the result of both opportunities and preferences. If we find an effect of interethnic friendship networks, this is no guarantee that both affect the formation of interethnic unions. By looking at the interaction between having a heterogeneous network and involvement in different types of unions, we are able to disentangle the two mechanisms. We expect that the effect of being involved in a heterogeneous friendship network is weaker for dating than for cohabitation, and weaker for cohabitation than for marriage. The reason for expecting this lies in the preferences of third parties. As argued above, normative pressures of endogamy are likely among those who have a homogeneous network, but not among those who have a heterogeneous network. Among the former group, we expect that normative pressures become stronger when the

union is considered to be more permanent. This implies that normative pressure is stronger for cohabitation than for dating, and stronger for marriage than for cohabitation. A more permanent union has a higher chance to result in offspring. In case the union is interethnic, ethnic groups may fear that their customs and traditions are not passed to the next generation and, to prevent this, exert stronger normative pressures for more permanent unions. The effect of the friendship network on interethnic union formation should thus interact with the type of the union. The argument about opportunities does not imply such an interaction.

2.2 Past Research

Previous research on the role of networks in partner choice can be divided into three lines of research. These lines of research are presented in Figure 1. First, some authors investigate the association between the social context and partner choice. Second, some studies focus on the relationship between the social context and network composition. Third, studies have focused on the association between network composition and partner choice. This type of study is least common. We will discuss all three lines of research below. Not all of these studies focus on the aspect of race or ethnicity per se.
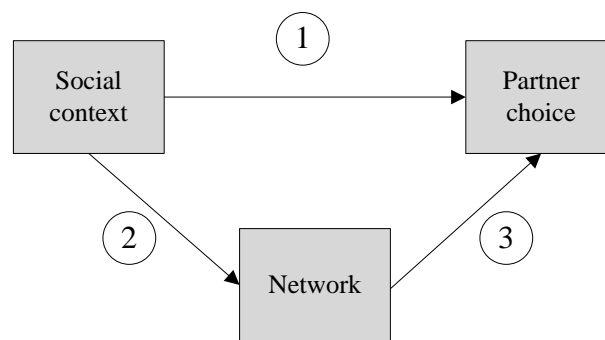

Figure 1. Social context and network effects on partner choice

Studies on the effect of the social context on partner choice, indicated by arrow 1, and the effect of the social context on personal networks, indicated by arrow 2, are both motivated by a supply-side perspective. Blau (1977) postulated that opportunities for social contact determine social associations. This claim has been confirmed on the macro-level showing that, for example, relative group size (Lieberson & Waters 1988) and geographic distributions (Wong 1989) affect endogamy rates. Some studies applied the supply-side perspective to examine the effect of microlevel interaction opportunities on partner choice and personal networks. These opportunities

are provided by the social context, i.e, settings such as schools and neighborhoods. Kalmijn & Flap (2001) showed that organized settings, such as schools, neighborhood and work, promote endogamy with respect to characteristics that were the basis of organizing that specific setting. For example, results showed that couples who went to the same school were more likely to be homogamous with respect to age, education, class origin and religiosity compared to couples who did not share this setting, and couples who shared a workplace were more similar in class destinations than couples who worked for a different firm. Thus, assortative mating is determined by assortative meeting. Mollenhorst, Völker and Flap (2008) replicated the finding that the social context affects similarity in personal relationships. Moreover, Mollenhorst, Völker and Flap showed that this finding also holds true for settings that were not institutionally organized, such as going out places. The social context can also negatively affect similarity. Emerson, Kimbro, and Yancey (2002) showed that heterogeneous social contexts have a positive effect on the likelihood of exogamy. Individuals who attended a racially mixed school and lived in a racially mixed neighborhood were more likely to be interracially married.

The effect of the social context on personal networks, indicated by arrow 2, has also been demonstrated by several studies. For example, the composition of individuals' core discussion networks reflected the composition of the social context where individuals got to know each other with regard to age, education, and sex (Mollenhorst, Völker and Flap, 2008). The social context may also actively promote opportunities for certain types of networks. This is demonstrated by studies on the effect of the school context. Interracial friendship dyads were promoted by racially heterogeneous schools, but discouraged in schools with many small racial minorities (Moody 2001; Quillian and Campbell 2003). The school context also promoted interracial friendships by providing opportunities to participate in extracurricular activities that were deliberately mixed with regard to race and mixing races within academic tracks (Moody 2001; Hallinan & Williams, 1989). Stearns, Buchmann and Bonneau (2009) examined the context effect of voluntary organizations on the friendship network among students. Results showed that members of a cultural or ethnic club had a higher proportion of same-race friendships than students who did not belong to such a club.

The third line of research, illustrated by arrow 3 in Figure 1, examines the effect of the network on partner choice. This type of study is least common. Clark-Ibánez and Felmlee (2004) have conducted the only study we are aware of that examines the effect of ethnic composition of the friendship network on interethnic romantic relationships. Results showed that the more heterogeneous the composition of the friendship network, the more likely it is that respondents indicated that they were or had been involved in an interethnic romantic relationship at least once. The authors pointed to several factors that could explain this result. In addition to the argument of

increased opportunity and the weaker norm of endogamy, they pointed to the cognitive effect networks have. Individuals gather information about potential partners in order to reduce uncertainty, and interethnic networks are assumed to provide more positive information about a potential interethnic partner than homogenous friendship networks do. The study by Clark-Ibánez and Felmlee (2004) clearly demonstrates that there is an association between interethnic friendship networks and interethnic partner choice, but because of the cross-sectional design of the study, it remains unclear whether interethnic friendship networks are a cause or a consequence of involvement in an interethnic union.

In this study, we aim to integrate these three lines of research. We will investigate the effect of the friendship network on partner choices later in life, as well as the effect of the social context on partner choice. Moreover, by analyzing both effects simultaneously, we further provide insight into the intermediary role of the friendship network.

3   Methods

3.1   Data

We analyze panel data of the Children of Immigrants Longitudinal Study (CILS). This panel was designed to provide insight into the adaptation process of second-generation immigrants, who are defined as "native-born children of foreign parents or foreign-born children who were brought to the United States before adolescence" (Portes and Rumbaut 2001, p. 23). The first wave was conducted in 1992 among 8th and 9th grade second-generation pupils (n = 5262) in metropolitan areas in Florida and California. At that time, the pupils were approximately 14 years old. At school, pupils filled in a questionnaire. The second wave was conducted in 1995. Over 80% of the original sample participated again (n = 4288). Most respondents were interviewed at school. Those who were no longer at school or had moved were asked to fill in a self-completion questionnaire. A few respondents were interviewed by telephone. Also, a sample representing 50% of the parents of the pupils' follow-up sample was approached for telephone interviews. The third and last wave, conducted between 2002 and 2003, aimed at approaching all original respondents. Respondents were approximately 24 years old at that time. In total, 3613 respondents (69% of original sample) participated in the third wave, most of whom filled in a self-completion questionnaire. In sum, the CILS data enable us to analyze the life course of the second-generation from age 14 to age 24.

3.2   Measurement

Our dependent variable indicates whether the respondent is involved in an interethnic union at the time Wave 3 was administered. This variable is constructed from several variables measured at Wave 3, i.e., relationship status, respondents' ethnicity, and partners' ethnicity. We will discuss these variables below.

First, respondents provided information on their marital status by indicating whether they were married, engaged, cohabiting, single, divorced, or separated. Dating was not measured directly. For that reason, we use an indirect measure. Respondents who classified themselves as being single, divorced, separated, or other, but gave a valid response to questions concerning partner characteristics in another part of the questionnaire were classified as dating. Persons without a relationship were omitted from our analyses.

Second, respondents were asked to self-identify their race, and to self-identify their ethnicity. In case they were in a relationship, they also had to answer these two questions for their

partner. Answer categories for race were White, Black, Asian, Multiracial and other (respondents were asked to specify). The ethnicity question was an open question. We used both the race question and the ethnicity question to construct a new variable which we call '*ethnicity*'. This variable classifies respondents as non-Hispanic White, Black, Asian or Hispanic.

Ethnicity of the respondent was constructed in several steps. Respondents' self-identified race in Wave 3 was our starting point. Respondents who self-identified as 'other' were classified according to their specification. For example, if a respondent filled out 'other' and specified being Mexican, s/he was classified Hispanic. Respondents who could not be classified on the basis of their answer to the race question were classified according to their answer on the ethnicity question. For instance, respondents who self-identified their race as 'other' without giving a specification and subsequently self-identified as Philippine in the ethnicity question were classified as Asian. Additionally, all respondents who reported being White on the race question and identified their ethnicity as being Hispanic/Latin were classified Hispanic. Ethnicity of the partner is constructed in the same way and also results in classifying partners as non-Hispanic White, Black, Asian or Hispanic.

We use the term *interethnic union* to refer to a union in which the constructed ethnicity of the respondent does not correspond to the constructed ethnicity of his/her partner. All respondents who identified themselves or their partners as being multiracial were ommitted from analysis. For this group, it is unclear when a union should be considered interethnic, since no additional information was provided on their racial background. Analyzing the unions of multiracials separately will yield unreliable results because of the small sample size (n = 249). We did include a dummy to control for respondents who have parents of mixed national origin, but did not identify themselves as being multiracial.

Friendship network composition is based on a question how many friends had parents who were born abroad (i.e., non-immigrant network). Answer categories were none, some, and many/most. Respondents who had some or many immigrant friends answered a subsequent question about the main countries where those parents were born. It should be noted that these countries are therefore not person-oriented. Respondents could fill in as few or many countries as applicable (the maximum of countries mentioned was 9). Based on the birth country of the parents, assumptions were made about the most likely ethnicity of their friends, i.e., non-Hispanic White, Black, Asian or Hispanic. Based on these two questions, we are able to compare three groups. The first group has a non-immigrant friendship network. The second group has an immigrant friendship network, which is homogeneous with respect to ethnicity. The third group has an interethnic immigrant friendship network. We created two dummies to compare these groups. The dummy *non-*

immigrant network indicates whether the respondent has a non-immigrant friendship network (x = 1) versus an immigrant friendship network. The dummy *interethnic friendship network* indicates whether the immigrant friendship network is interethnic (x = 1) versus ethnically homogeneous.

We include three variables to assess the effect of the social context. *School composition* is a continuous variable measuring the proportion of pupils in school of a different ethnic group than the respondent. *Neighborhood composition* is a dummy variable based on information provided by the parents. Parents' were asked to indicate whom mostly lived in their neighborhood (answer categories were 'other persons born in my own country of birth', 'other foreign-born persons', 'White Americans', 'Black Americans', 'Hispanic-American', 'Asian-Americans', and 'other, please specify'). Those who checked 'other foreign-born persons' or checked a race box other than their own race were assigned score 1. Respondent who checked neither of these boxes were assigned score 0. We also include the composition of the parents' network. *Parents' network composition* was measured in a similar manner as composition of the neighborhood. Parents' were asked with whom they 'mainly socialized'. We are aware that using dummies to gauge the composition of the social context are not the best measure to estimate the effect accurately, and the results should be analyzed with caution.

Several control variables were included. Frequently discussed in the literature is the effect of educational achievement. Educational effects, both positive and negative, have been found for specific groups (Qian 1999; Sung 1990; Wong 1989), but the generalization of these effect is questionable (Gullickson 2006). We included educational achievement as an interval variable (1 = some high school, 9 = professional/doctoral degree, missing values were imputed with mean educational achievement). In addition, we included a dummy for currently being enrolled in school. Last, we included ethnicity to control for differences in endogamy rates between groups (Qian and Lichter 2007).

3.3   Analyses

We will perform logistic regression analyses to test our hypotheses. First, we will test a model with control variables only. Second, we will add measures of opportunity, such as school composition, the composition of the neighborhood one lives in, and the composition of the parents' network. Third, we will assess the effect of having an interethnic friendship network, and examine whether this explains effects found in the first two models. Once we have established the

effect of the friendship network, we will test whether this effect is different for different type of unions. This interaction effect is tested in Model 4.

4 Results

4.1 Descriptives

Our analyses focus on respondents who are involved in a union. Of the respondents who participated in the third wave, fifty-five percent had a partner at the time of the interview (n = 1829). We excluded all respondents who were not involved in a union, or who had missing values on one of the independent variables, which resulted in an analytical sample of 1433 respondents. Table 1 reports the descriptive statistics of the analytical sample and shows that marriage and dating are common union types. Only 10 % of the respondents cohabits with his/ her partner without being married. How many of the unions are interethnic? In total, about a quarter of these unions are interethnic. Although among all types of unions, exogamy is uncommon, analyses do reveal that the prevalence of interethnic unions differs between union types. Marriages are least often interethnic (24%), dating unions are somewhat more often interethnic (19%), and cohabitation is most often interethnic (35%). These descriptive findings are not fully in line with the expectation that interethnic unions become less likely as an individual progress along the relationship continuum.

The results also show that it is rare to only have non-immigrant friends during early adolescence. Most respondents had friends whose parents were not born in the United States. About 40% of these respondents had an interethnic friendship network. Interethnic friendship networks mostly consisted of group members of one other ethnic group (75%), whereas only few networks consisted of group members with two or three other ethnic groups (25%).

The ethnic composition of the schools that respondents attended varies substantially. Half of the respondents attended a school in which their ethnic group constituted at least half of the pupil population. Only 5% of the respondents attended a school in which their ethnic group was a small minority group (i.e, make up less than 10% of the pupil population). Did ethnic groups differ in the type of school they attended? This was indeed the case. Most Whites (60%) and all Asians attended schools in which their ethnic group constituted less than half of the pupil population. By contrast, the majority of Hispanic respondents (63%) attended schools in which Hispanics constituted at least half of the pupil population. Blacks were evenly divided over schools in which they constituted either more or less than half of the pupil population. These differences have consequences for the opportunities that were provided by the school context to interact with other ethnic groups.

Besides the school context, we also looked at the neighborhood context and the parents' network. There are large ethnic differences in the type of neighborhood respondents lived in. Only 12% of Whites and 17% of Blacks lived in a mixed neighborhood. Hispanics were somewhat more likely to live in such a neighborhood. One out of four Hispanics did so. Asians most often lived in a mixed neighborhood (43%). Parents' network was not likely to be mixed. One in 10 respondents had parents who had a mixed network. This does not differ by ethnicity.

4.2 Interethnic friendship networks

Table 2 presents the results of the logistic regression models. Model 1 provides insight into the prevalence of interethnic unions along the relationship continuum. The results show that marriages are less likely to be interethnic than cohabitation and dating unions. The odds that a cohabiter has an interethnic partner are 2.2 times higher than the odds that a married person has an interethnic spouse [exp(.769)], and those who date are 1.4 times more likely to be in an interethnic union than those who are married [exp(.298)]. Model 1 also shows that the likelihood of being involved in an interethnic union differs between ethnic groups. Whites are most likely to have a partner of a different ethnic group. The difference in involvement in interethnic unions is especially large between Whites en Blacks. The odds that Whites are involved in an interethnic union are 5.9 times higher than the odds that Blacks are involved in such a union [exp(1.779)]. In addition, we find that respondents with mixed parentage are more likely to have an interethnic partner than respondents with same parentage [exp(.693)=2.0].

In the second model, we control for opportunities for interethnic contact provided by the social context during early adolescence. Do these opportunities affect the likelihood of having an interethnic partner? The school context, i.e., proportion of other-ethnic pupils in the pupil population, does have a clear effect. Attending a school that is attended by many pupils of other ethnic groups than the own ethnic group positively affects the likelihood of being involved in an interethnic union. An increase of 25 per cent point of other-ethnic pupils in the pupil population increases the odds of involvement in an interethnic union by 1.3 times [exp(25*0.01027)]. In contrast to the effect of the school context, opportunities provided by the neighborhood and the parents' network do not appear to have an effect on the likelihood of choosing an interethnic

partner. There is no difference between those who live in an ethnically mixed neighborhood and those who live in a homogeneous neighborhood. Neither do we find a difference between individuals whose parents had an mixed network and individuals whose parents had a homogeneous network.

Does the effect of the social context on interethnic union formation change once we control for the composition of the friendship network during young adolescence? The results of Model 3 show that this is the case. The results first provide clear support for our hypothesis that an ethnically mixed friendship network increases the likelihood of being involved in an interethnic union. Compared to individuals who had a homogeneous immigrant friendship network during adolescence, individuals who also had friends of a different ethnic group are more likely to have an interethnic partner. To be exact, the odds are 1.7 higher [exp(.507)]. Furthermore, results show that individuals who had a non-immigrant network were as likely to have an interethnic partner as individuals who had a homogeneous immigrant network.

In additional analyses (not shown in Table), we distinguish between individuals whose immigrant network only consisted of their own ethnic group, individuals whose immigrant network consisted of one other ethnic group, and individuals whose immigrant network consisted of at least two other ethnic groups. The findings show that the effect of the friendship network is larger for those individuals whose network was more diverse. Compared with the odds that an individual with a homogeneous immigrant friendship network is involved in an interethnic union, the odds for involvement were 1,5 times higher for individuals whose network consists of one other ethnic group [exp(.443)], and 2 times higher for individuals whose network consists of at least two other ethnic groups [exp(.699)].

The effect of the school context remains significant and declines only slightly once we control for the friendship network. Compared to Model 2 the odds ratio declines by 6% [100-0.964/0.01027]. In other words, the effect of the school context does not appear to operate via the friendship network. Moreover, the results show that the effect of the school context has an essential direct effect in addition to the effect of the friendship network. Standardized coefficients reveal that the effect of school composition is slightly larger than the effect of the friendship network (1.543 and 1.338 respectively). The effects of the neighborhood and the parents' network remains insignificant.

In Model 4 we include the interaction effect of friendship networks and union type to gain insight into the question of whether the effect of the friendship network on interethnic unions differs by type of union. The interaction does not reach significance, which suggests that the effect of having an ethnically mixed friendship network does not differ significantly for married individuals compared to either cohabitants or daters. This is in contrast to our hypothesis.

17

5   Conclusion

The goals of this paper are twofold. First, we set out to provide more insight into the formation of interethnic unions by examining the role of the friendship network. Second, we extended earlier theoretical work by studying to what extent personal networks explain the association between the social context and partner choice that has been found in previous studies (Emerson, Kimbro, and Yancey 2002; Kalmijn 1994).

Interethnic unions have been the subject of several studies. Research on the formation of such unions shows that social contexts play a significant role. Living in a racially mixed neighborhood and attending a racially mixed school increases the likelihood of forming an interethnic union (Emerson, Kimbro, and Yancey 2002). The role of the friendship network on interethnic unions has received little attention (Clark-Ibánez & Felmlee, 2004). It remains unclear whether and to what extent friendship networks affect the formation of an interethnic union. In line with prior research on exogamy (Kalmijn 1998), we employed arguments of preference and opportunity to explain why having interethnic friendship network during adolescence increases the likelihood of being involved in an interethnic union.

The argument of preferences distinguishes between preferences hold by the individuals and preferences hold by third parties. Both individuals and third parties have a preference for endogamy, albeit for different reasons. Individuals prefer endogamy because the social distance to an outgroup member is larger. However, individuals who have an interethnic friendship network have a weaker ingroup identification and hold fewer prejudice against the outgroup, and, thus, experience smaller social distance to outgroup members. Third parties prefer endogamy to assure that group values, norms and traditions are maintained. Exogamy is prevented by normative pressures and through sanctions of interethnic unions. Interethnic friendship networks are not likely to promote this norm of endogamy. For these reasons, we expect individuals who have an interethnic friendship network to be more likely to have an interethnic partner.

Opportunities affect partner choice by determining the pool of potential partners an individual can choose from. Since opportunities to meet similar others are larger than opportunities to meet dissimilar others, endogamy is more likely than exogamy. Prior research has confirmed this idea by showing that the composition of the social context affects the likelihood of endogamy. Yet, we hypothesized that the friendship network was important for providing opportunities to meet potential partners. An interethnic friendship network increases opportunities to meet other-ethnic individuals by acting as a bridge to outgroup members. In line with this reasoning, we argued that interethnic friendship networks increase the likelihood of having an

interethnic partner, and that the effect of the social context may, at least partly, run via the friendship network.

The analyses provided clear support for our first hypothesis. Individuals who had an interethnic friendship network were more likely to choose an interethnic partner later in life. In addition, analyses showed that the more different ethnic groups were present in someone's friendship network, the higher the odds that this individual later chooses an interethnic union compared to an individual who did not have an interethnic friendship network.

In order to examine which mechanism is responsible for the effect of the friendship network, we examined whether the effect of having an interethnic friendship network differed between union types. We hypothesized that if third parties' preferences for endogamy influence partner choice, these preferences are expressed more strongly in case the union is considered to be more permanent. More specifically, we argued that the effect of having an interethnic friendship networks was stronger for cohabitation than for dating, and stronger for marriage than for cohabitation. We found no support for this hypothesis, which suggests that preferences of third parties do not play an important role in the effect of social networks. Rather, these results suggest that the effect of the friendship network mainly works via opportunities on the one hand and preferences held by the individual on the other.

Our second goal was to examine the role of the social context and the social network simultaneously. The analyses showed that only the school context affects interethnic partner choice. The neighborhood context and the parents' network did not affect partner choice significantly. The school context had a substantial effect on involvement in an interethnic union. The more outgroup members were present in the pupil population, the higher the likelihood of choosing an interethnic partner. Contrary to our expectations, the effect of the school context did not diminish substantially when controlling for the effect of the friendship network. Thus, we found little support for the intermediary role of personal networks. What did we find? We showed that both social contexts and friendship networks directly affect partner choice.

Two explanations may be offered for the finding that friendship networks do not have an intermediary role. Our first argument for expecting an intermediary role of the friendship network was that the friendship network provides good opportunities to find a partner, because they act as a bridge to outgroup members. The social context could provide opportunities for superficial contact, but this would not directly result in a union. Yet, our results suggest that individuals sometimes select their partner randomly from a social context. This individual does not become part of the friendship network before becoming someone's partner.

Second, the results may also be explained by considering the effect the social context may have on individual preferences. Our hypothesis followed contact theory in arguing that personal

contact was essential to reduce prejudice and affect partner preferences and choice. Consequently, the social context could not affect partner choice. Whether the contact is personal or superficial may however be less important. Rather, the difference is between having interethnic contact and not having interethnic contact. Thus, superficial contact, as provided by an interethnic social context, positively affects attitudes towards other ethnic groups and thereby increases the likelihood of choosing an interethnic partner. This would be in line with the results of Vermeij, Van Duijn and Baerveldt (2009) showing that superficial contact reduces social discrimination in choosing friends.

We contribute to the literature on interethnic partner choice by showing the effect of the friendship networks. Future research can further contribute to our knowledge by improving upon the limitations of this paper. First, the use of panel data in our study was a great improvement on the cross-sectional studies that had examined the friendship effect so far. However, some measures were not optimal. The friendship network measure was not person-oriented. In addition, the neighborhood context and the parents' network could be improved. Second, our hypothesis that the effect of the friendship network was stronger along the relationship continuum found little support. This may be due to the low number of cohabitants. It would be interesting to test the hypothesis with a more representative sample.

Literature

Allport, Gordon W. 1954. *The Nature of Prejudice*. Cambridge, MA: Addison-Wesley.

Baumeister, Roy F. and Mark R. Leary. 1995. "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation." *Psychological Bulletin* 117:497-529.

Blackwell, Debra L. and Daniel T. Lichter. 2000. "Mate Selection Among Married and Cohabiting Couples." *Journal of Family Issues* 21.

—. 2004. "Homogamy among Dating, Cohabiting and Married Couples." *The Sociological Quarterly* 45:719-737.

Blau, Peter M. 1977. "A Macrosociological Theory of Social Structure." *American Journal of Sociology* 83:26-54.

Clark-Ibánez, Marisol and Diane Felmlee. 2004. "Interethnic Relationships: The Role of Social Network Diversity." *Journal of Marriage and Family* 66:293-305.

Emerson, Michael O., Rachel Tolbert Kimbro, and George Yancey. 2002. "Contact Theory Extended: The Effects of Prior Racial Contact on Current Social Ties." *Social Science Quarterly* 83:745-761.

Feiring, Candice. 1999. "Other-Sex Friendship Networks and the Development of Romantic Relationships in Adolescence." *Journal of Youth and Adolescence* 28:495-512.

Feld, Scott L. 1981. "The Focused Organization of Social Ties." *American Journal of Sociology* 86:1015-1035.

Fong, Eric and Wsevolod W. Isajiw. 2000. "Determinants of Friendship Choices in Multiethnic Society." *Sociological Forum* 15:249-271.

Gullickson, Aaron. 2006. "Education and Black-White Interracial Marriage." *Demography* 43:673-689.

Hwang, Sean-Shong, Rogelio Saenz, and Benigno E. Aguirre. 1997. "Structural and Assimilationist Explanations of Asian American Intermarriage." *Journal of Marriage and Family* 59:758-772.

Joyner, Kara and Grace Kao. 2005. "Interracial Relationships and the Transition to Adulthood." *American Sociological Review* 70:563-581.

Kalmijn, Matthijs. 1994. "Assortative Mating by Cultural and Economic Occupational Status." *American Journal of Sociology* 100:422-454.

—. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology* 24:395-421.

—. 2002. "Sex Segregation of Friendship Networks: Individual and Structural Determinants of Having Cross-Sex Friends." *European Sociological Review* 18:101-117.

Kalmijn, Matthijs and Henk Flap. 2001. "Assortative Meeting and Mating: Unintended Consequences of Organized Settings for Partner Choices." *Social Forces* 79:1289-1312.

Kalmijn, Matthijs and Frank Van Tubergen. 2006. "Ethnic Intermarriage in the Netherlands: Confirmations and Refutations of Accepted Insights." *European Journal of Population* 22:371-397.

Kennedy, Sheela and Larry Bumpass. 2008. "Cohabitation and Children's Living Arrangements: New Estimates from the United States." *Demographic Research* 19:1663-1692.

King, Rosalind Berkowitz and Jenifer F. Bratter. 2007. "A Path toward Interracial Marriage: Women's First Partners and Husbands across Racial Lines." *The Sociological Quarterly* 48:343-369.

Kreager, Derek A. 2006. "Guarded Borders: Adolescent Interracial Romance and Peer Trouble at School." *Social Forces* 87:887-910.

Lievens, John. 1998. "Interethnic Marriage: Bringing in the Context through Multilevel Modeling." *European Journal of Population* 14.

Martinovic, Borja, Frank Van Tubergen, and Ineke Maas. 2009. "Dynamics of Interethnic Contact: A Panel Study of Immigrants in the Netherlands." *European Sociological Review* 25:303-318.

Mollenhorst, Gerald, Beate Völker, and Henk Flap. 2008. "Social Contexts and Core Discussion Networks: Using a Choice-Constraint Approach to Study Similarity in Intimate Relationships." *Social Forces* 86:937-965.

Moody, James. 2001. "Race, School Integration, and Friendship Segregation in America." *American Journal of Sociology* 107:679-716.

Pettigrew, Thomas F. 1998. "Intergroup Contact Theory." *Annual Review of Psychology* 49:65-85.

Phinney, Jean S. 1989. "Stages of Ethnic Identity Development in Minority Groups Adolescents." *The Journal of Early Adolescence* 9:34-49.

Portes, Alejandro and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley: University of California Press.

Powers, Daniel A. and Christopher G. Ellison. 1995. "Interracial Contact and Black Racial Attitudes: The Contact Hypothesis and Selectivity Bias." *Social Forces* 74:205-226.

Qian, Zhenchao. 1999. "Who Intermarries? Education, Nativity, Region, and Interracial Marriage, 1980 and 1990." *Journal of Comparative Family Studies* 30:579-597.

Qian, Zhenchao and Daniel T. Lichter. 2007. "Social Boundaries and Marital Assimilation: Interpreting Trends in Racial and Ethnic Intermarriage." *American Sociological Review* 72:68-94.

Quillian, Lincoln and Mary E. Campbell. 2003. "Beyond Black and White: The Present and Future of Multiracial Friendship Segregation " *American Sociological Review* 68:540-566.

Rosenfeld, Michael J. and Byung-Soo Kim. 2005. "The Independence of Young Adults and the Rise of Interracial and Same-Sex Unions." *American Sociological Review* 70:541-562.

Schoen, Robert and Robin M. Weinick. 1993. "Partner Choice in Marriages and Cohabitation." *Journal of Marriage and the Family* 55:408-414.

Stearns, Elizabeth, Claudia Buchmann, and Kara Bonneau. 2009. "Interracial Friendships in the Transition to College: Do Birds of a Feather Flock Together Once They Leave The Nest?" *Sociology of Education* 82:173-195.

Sung, B.L. 1990. "Chinese American Intermarriage." *Journal of Comparative Family Studies* 21:337-352.

Van Tubergen, Frank and Ineke Maas. 2007. "Ethnic Intermarriage among Immigrants in the Netherlands: An Analysis of Population Data." *Social Science Research* 36:1065-1086.

Vermeij, Lotte, Marijtje A.J. Van Duijn, and Chris Baerveldt. 2009. "Ethnic segregation in context: Social discrimination among native Dutch pupils and their ethnic minority classmates." *Social Networks* 31:230-239.

Wong, M.G. . 1989. "A Look at Intermarriage Among the Chinese in 1980." *Sociological Perspectives* 32:87-107.

Table 1

	n	Mean/%	S.D.	Min	Max
Interethnic union (%)	1433	0.23	0.42	0	1
Friendship network (%)					
Non-immigrant	1433	0.04	0.20	0	1
Interethnic immigrant	1433	0.40	0.49	0	1
Social context (%)					
Pupil composition: proportion other	1433	47.37	29.06	1	100
Neighborhood: mixed	1433	0.28	0.45	0	1
Parents' network: mixed	1433	0.09	0.28	0	1
Union type (%)					
Married	1433	0.44	0.50	0	1
Cohabiting	1433	0.09	0.29	0	1
Dating	1433	0.46	0.50	0	1
Race (%)					
White	1433	0.05	0.21	0	1
Black	1433	0.07	0.25	0	1
Asian	1433	0.31	0.46	0	1
Hispanic	1433	0.58	0.49	0	1
Mixed origin	1433	0.14	0.34	0	1
Educational attainment	1433	3.93	1.71	1	9
Currently enrolled in school (%)	1433	0.47	0.50	0	1
Female (%)	1433	0.62	0.49	0	1
Age	1433	23.85	0.78	22	26

Table 2. Logistic regression of having an interethnic union on network and structural variables

	Model 1			Model 2			Model 3			Model 4		
	b		se	b		se	b		se	b		se
Female	0.267	*	0.14	0.234	*	0.14	0.232	*	0.14	0.24	*	0.14
Age	-0.053		0.09	-0.047		0.09	-0.039		0.09	-0.038		0.09
Race												
White	0			0			0			0		
Black	-1.779	***	0.38	-1.717	***	0.38	-1.565	***	0.39	-1.56	***	0.39
Asian	-1.119	***	0.28	-1.116	***	0.28	-0.85	**	0.29	-0.839	**	0.29
Hispanic	-1.128	***	0.27	-0.835	**	0.28	-0.652	*	0.28	-0.636	*	0.28
Mixed origin	0.693	***	0.17	0.636	***	0.18	0.646	***	0.18	0.643	***	0.18
Educational achievement	0.097	**	0.04	0.118	**	0.04	0.111	**	0.04	0.111	**	0.04
Enrolled in school	-0.059		0.13	-0.04		0.14	-0.055		0.14	-0.059		0.14
Union type												
married/ engaged	0			0			0			0		
cohabiting	0.769	***	0.21	0.759	***	0.21	0.737	***	0.22	0.985	***	0.31
dating	0.298	*	0.14	0.305	*	0.14	0.313	*	0.15	0.431	*	0.21
School composition				1.027	***	0.26	0.964	***	0.26	0.975	***	0.26
Neighborhood composition: mixed				-0.467		0.44	-0.436		0.44	-0.451		0.44
Parents' network: mixed				-0.034		0.61	0.107		0.6	0.09		0.61
Non-immigrant friendship network							-0.123		0.37	-0.238		0.58
Immigrant friendship network: homogeneous							0			0		
Immigrant friendship network: interethnic							0.507	***	0.14	0.697	***	0.22
Cohabiting * non-immigrant network										-0.46		1.31
Dating * non-immigrant network										0.358		0.77
Cohabiting * interethnic friendship network										-0.479		0.44
Dating * interethnic friendship network										-0.268		0.29
constant	0.284		2.11	-0.579		2.14	-1.09		2.16	-1.228		2.17
Chi2	67			84			98			101		
BIC	1559.7			1579			1579			1605.9		

* p<0.05, **p<0.01, *** p<0.001 (one-tailed tests)