Friend Culture: Does Diversity lead to Diverse Friendships?
Predictors of Ethnically and Racially Diverse Friendships

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Abstract

Huge demographic changes are taking place in the US in regard to migration and population representation: Currently, racial and ethnic minorities make up more than half of the children born in the U.S., which is mainly caused by increasing numbers of immigrants coming to the US.

This has major consequences for the new generations: Looking at the future of U.S. race and ethnicity, it is often assumed that children are growing up being more confronted with diversity than older cohorts. This refers to the fact that higher numbers of children have been exposed to more diverse schools and neighborhoods, have been living in more diverse neighborhoods and have eaten more diverse food and watched more diverse TV. Thus, we can assume that this development will affect attitudes of people and lead to more openness and tolerance among the different ethnicities. However, in this research we will show that there is a substantial part of sociology stating that this growing diversity has actually had the counterfactual effect: decreasing trust and friendship levels. This sentiment also derives from the fear that racially segregated residential patterns represent ghettos, which prevent integration.

In this research we want to analyze what determines how much people are engaged in cross-racial friendships, and what role age, housing situation and other independent variables have in influencing these attitudes and behavior. Therefore we are introducing a Zero-Inflated Log-Based Approach to Measuring Diversity.

We want to understand in what ways the racial and ethnic composition of the CBSA might influence these friendship decisions. We hypothesize that the cultural diversity of friendship networks will be determined by both individual choices and characteristics and the constraints imposed by one's interaction context meaning the community level diversity and segregation. Based on a multilevel analysis of survey data from the Social Capital Community Benchmark Survey (SCCBS) we want to look at community level diversity while controlling for individual level characteristics.

The results are interpreted in the wider context of American demographic and social change, focusing on the dynamic processes of population and social change rather than simply geography.

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1. Introduction

As the percentage of people with a different racial and ethnic background is growing both in number and percentage, we can derive some implications for the generations to come: We can assume that younger generations are growing up being more confronted with diversity than older cohorts. At this point, logic would also suggest that the more diverse a society or group of people is, the more diverse the friendships within that group would be. This logic is based purely on the macrosociological perspective of exposure to others and increased opportunities for the development of relationships with others unlike one's self. While logic seems to underscore opportunities for increased diversity, among scholars of diversity, segregation and changing minority- majority representation, there tends to be a discussion of whether immigration and ethnic diversity tend to reduce or strengthen social solidarity, interethnic friendships and trust, thus major components of social capital in general.

Robert Putnam probably is the most prominent figure in this discussion. He has demonstrated that residents of ethnically diverse neighborhoods' had lower trust, altruism and levels of community participation. He also showed that large immigrant groups or rapid increases of immigration have a tendency of creating a feeling of threat and competition between ethnic groups (Alesina and LaFerrara 2000; Alesina and Glaeser 2004). Kahn and Costa analyzed studies published around 2000, and showed that all of them causally connected diversity to lower levels of social capital. Greater ethnic diversity was linked, for example, to lower school funding, welfare state expenditures and trust in others. These observations also have support from outside the US, for instance from the Berlin Social Science Center (WZB), which is currently conducting a "Ethnic Diversity and Collective Action Survey" and confirms the negative relationship between ethnic diversity and communities' collective efficacy and trust. On the other hand there are those authors stating that greater variety raises the chances for interethnic connection and the construction of bonding and bridging ties. In reference to the contact hypothesis (Allport 1954), interethnic contact is associated with more harmonious intergroup relations, at least if particular conditions are fulfilled. However, some of the authors also believe that contact alone does not encourage bridging ties that can lead to increased levels of trust

(Allport 1954, Pettigrew 1997), but instead requires the necessity of formally and informally constructed social networks. In this regard, increasing numbers of intermarriage and higher rates of multiracial and multiethnic self- identification seem to show that there is a blending of races and a "blurring of the color line" (Alba 2012). Furthermore, there is also research showing a weakening of racial boundaries while focusing on younger cohorts, which grow up with multiracial self-identification and more tolerance.

In short, we would state that there is a diversity-paradox (Oliver: 2010): According to theory, ethnic diversity has both negative and positive consequences on the levels of diversity of inter-group relations experienced in one's life (see Stolle et al., 2008). We would like to begin by examining these different approaches and try to find common denominators and discover contextual differences. In regard to this paradox, we will also refer to the analysis done by Eric Oliver in his book "The Paradox of Integration" (2010), where the author manages to capture the complexity of "higher and lower levels of racial animosity" (p. 5) in a very thoughtful way.

In this paper, we will then continue to analyze in what way friendship diversity is affected by linking individual level characteristics like age, socio-economic background, level of social interaction, etc. ecological characteristics and the way this relationship is influenced by the level of diversity and segregation you are exposed to in your neighborhood. The information we are hoping to gain is whether diversity, segregation and minority population size in the US are increasing or lowering the probability to have friends outside your own race and ethnicity. We have decided to look at friendship with people of other racial/ethnic groups since this measure gathers operationalizes a more intimate indicator of the experience of diversity in everyday life than if you just ask a person which general interracial contact he or she has. However, it is important to call to mind that friendship is a measure that is not easily understood and captured, because it is highly subjective and thus difficult to interpret. Perhaps this bias can also be seen as an advantage, as it shows us something about the way people subjectively perceive their interethnic ties and reduces objective bias introduced with a "one-size-fits-all" question about friendship.

While other studies have dealt with whites' friendship ties to other ethnicities (black, Hispanic, and Asian) and those groups' ties to whites, we have constructed a continuous diversity measure of friendship for each group. Another major difference to other studies like Souza's ""Some of my best friends are …": Interracial Friendships, Class, and Segregation in America" (2005) is that we do not look at the dichotomous variable "Do you have a personal friend who is (white, black, Hispanic, Asian)?", which is also offered in the 2000 Social Capital Community Benchmark Survey (SCCBS), but rather looked at the number of friends a person has for each group that is not one's own ethnic or racial group. Initially, when we got interested in the topic, we looked at the simple binary question in the SCCBS of whether a person has an out-group friend of a certain background or not (Table 1).

This table shows that there is an extremely high level of homogeneity among friendship groups. Our expectations is that this extremely high level of homogeneity is likely linked to macrosociological conditions of residential segregation, exposure, and class differences that might contribute to these high levels of friendship segregation evident in table above. In our study, we control for residential segregation and race differences in an ecological setting with a goal of understanding the extent to which patterns of residential segregation limit social interaction in the context of measuring friendship diversity with a less restrictive measure compared to past research.

There are two reasons why we think this research topic is necessary: First of all, the effect of more diversity on psychological outcomes associated with trust and the feeling of safety has been analyzed, but the effect on a subjective measure of friendship has not. Secondly, most research looks at individual level characteristics or an aggregate level of data. However, we are choosing a multilevel approach in order to capture cross level interactions that may exist when individuals with certain socio-demographic characteristics reside within a neighborhood with certain ecological characteristics. So our central question is: How does segregation influence the formation of interracial friendships above and beyond existing individual level characteristics associated with a propensity to be in diverse friendship networks?

2. Demographic Background

In 2011, Census data showed that 50.4 percent of the children born in the U.S. have a racial and ethnic minority background, which is mainly caused by decades of heavy immigration growth.

This implies that in the years to come the US will have a population that is no longer divided into majority white and a minority of other ethnic groups. This rapidly increasing demographic shift holds dramatic effects for the future population composition and is quickly becoming the foundation for a number of growing policy debates. As the Pew Hispanic Center has shown, the immigration influx is currently slowing down, which is partly due to strengthened border control to the US, changing push and pull factors regarding the US economy and the countries of origin, a long-term decline in birth rates in Mexico and increased citizenship fees. This is especially true for Mexican immigration to the United States, which recently stopped increasing after about 40 years of constant growth. However, migrant numbers are still strong and currently seem to be normalizing after the end of the recent economic recession, per Census data from period of July 2011 to July 2012. This is particularly true for migrants aged 20-29, who migrate to the US in huge numbers and move to cities like Houston, Austin, Washington DC, Denver and Portland. These immigration dynamics impact the current numbers of residents, but also having a strong impact on the fertility distribution and life expectancy of the US population, implying that these dynamics will add to the growing proportion of former minority population, while the number of whites will decline proportionally according to Frey's analysis of the Census projections for 2060 (graph 1).

In order to better understand the changes on a neighborhood level, John Logan and Wenquan Zhang (2010) address the question of Global Neighborhoods, which seem to increase steadily in number, causing more than half of urban dwellers to reside in neighborhoods, where minorities are substantially represented. This prospective has stimulated a lot of analysis on diversity and the implications this development has for social cohesion and trust from the level of "…the nation, to the region, the metropolitan area, to the neighborhood, to the household, to the body." (Wright 2011: 22).

3. Literature Review

A. Theory on Trust and Diversity

The debate on diverse friendship ties is a rather new field, although friendship as such has been the object of sociological research before. Friendship, as part of what sociologists refer to as social capital, is often viewed as a resource helping to improve quality of life (Bourdieu 1986, Putnam 1993). However, when it comes to diversity, scholars have focused on trust rather than studying friendship. As there is not much theory on friendship outside of the development of social networks for a general purpose of increasing, maintaining, and promoting social mobility. Here we will focus on the work that has been done on diversity and social cohesion in general as concept outside of the utility of individual level friendship from a Bourdieuian perspective.

As we have stated before there are several authors with a negative perception of what diversity "does" to social communities. As with most discussions in this debate, we want to start off by looking at Putnam's distinction between "bridging" and "bonding" social capital. If, in the case of bridging, the trust towards a primary group is transferred on to society, then the "bonding" social capital creates identity and trust within the group, but not towards outsiders. What Putnam did was to look at the most trusting places in the US such as New Hampshire and Montana, rural areas in West Virginia and East Tennessee, and cities such as Bismarck, North Dakota and Fremont, Michigan, which tended to be homogenously white. The least trusting places were the Los Angeles, San Francisco, and Houston, which are highly diverse cities. Even after controlling for other variables such as civic participation, age, education, crime rates, etc. this negative relationship between ethnic diversity and social capital persisted. This led Putnam to the conclusion that diversity actually causes certain community problems. He notes that whilst this withdrawal is universal, it is particularly evident in disadvantaged, high crime, ethnically heterogeneous neighborhoods. In Putnam's view, ethnic diversity itself seems to encourage withdrawing from society (2007: 155) and it is this "hunkering" that he considers the most proximate mechanism associated with low social cohesion and trust in Western societies.

Drawing on surveys in the United States and Canada, Stolle et al. (2008) find that white majorities in both countries are significantly more likely to report lower interpersonal trust when they live in neighborhoods that are ethnically diverse. However, they find that interaction among neighbors decreases the negative effects of diversity on trust. There are many other scholars that have similar findings, but conclude that the lower social interaction and trust associated with ethnic diversity is due to social disadvantage tied to the neighborhood itself and not tied to the individuals. Most recent research reveals that residents living in disadvantaged communities are significantly more likely to distrust their community than those living in middle class or richer neighborhoods (Putnam: 2007, Stolle/ Soroka/ Johnston: 2008). The people in these neighborhoods experience powerlessness and a lack of social support and therefore start mistrusting others and withdraw from society. However, this resource-driven approach stands in contrast to Putnam‘s position, because diversity as such is not seen as the actual problem.

In contrast, Portes and Vickstrom argue that a “Preoccupation with declining expressions of trust and with alleged effects of diversity serves to detract attention from real and far more urgent problems.” (Portes/Vickstrom 2011: 16). Eric M. Uslaner, who is also a strong critic of Putnam’s work, is currently working on a paper called “Diversity, Segregation, Trust, and Altruism”, where he argues that diversity is not the reason for lower levels of trust. Instead, it is residential segregation that isolates people from those who are of a different racial or ethnic background. Segregation is one of the key reasons why contact with people, who may be different from the mainstream population, does not lead to greater trust. Uslaner argues that the only way to actually increase trust among residents is to encourage living in an integrated community and having friends of diverse backgrounds. One of the reasons is the idea that increased levels of interracial contact will eventually make people more open and tolerant. In their text “Race and the City: Neighborhood Context and the Development of Generalized Trust” (2004) Melissa J. Marschall and Dietlind Stolle explore the ways in which racial context and social interaction work both independently and jointly to shape individuals’ propensity to trust others. Similarly, they find out that the diversity of interaction settings is a highly important condition for the development of trusting relationships. Thus, they argue that diversity creates better social trust by putting people in touch with each other that are unlike

themselves.

Research in this area has also extensively focused on diversity and friendship in educational settings (mainly schools and universities). Chang's (1996) multi-institutional study of interracial interaction indicated that, in general, greater racial diversity in the student population leads to greater frequency of socialization across race. Thus, we have observed that one can say that studies in school settings tend to be rather optimistic. This means that the effect of diversity on trust and interethnic friendships mainly is a positive one when the interaction between the different ethnicities and races takes place in a given formal setting. Thus, it is important to look at diversity-effects in social units where people can avoid intergroup contacts (countries and neighborhoods) compared to social units where intergroup contacts cannot be avoided such as for examples class rooms or workplaces (Marschall/ Stolle, 2004, Pettigrew/Tropp 2006).

In his book "The Paradoxes of Integration" Eric Oliver points out that the effects of integration differ tremendously, depending on which geographical level one is examining. He concludes that analyses conducted at larger metropolitan levels show higher racial intolerance and negative perceptions of the other (particularly for white majority), but also stresses that diversity in integrated neighborhoods leads to less racial resentment. However, Oliver also points out that racial tolerance also means less connection to community, which shows that social capital cannot be understood as a phenomenon per se, but needs to be differentiated into what Durkheim referred to as "mechanical" and "organic" diversity.

Furthermore, there are many country comparison studies, which have emerged giving evidence that the US might be exceptional in in regard to the support for the conflict hypothesis (e.g., Alesina/Ferrara, 2002; Putnam, 2007; Stolle, Soroka/Johnston, 2008). Western countries outside the U.S. have more mixed approaches, but overall more positive views of interracial relations. Some authors have pointed out that this discrepancy could be due to the type of immigration policy regime (multicultural, assimilation, segregation) or the type of welfare state regime

(social-democratic, liberal, conservative, family-oriented) predominant in the studied country. Additionally, the general attitudes towards people with other ethnicities than oneself (degree of openness) might also be an important indicator.

B. Theory on Friendship

In the era of Facebook and other modern ways of demonstrating, organizing and publically showing your friendships (which is an interesting "closed" study case), an increasing number of researchers are interested in the way social networks are influenced by diversity.

How does friendship tie into this trust debate? While thinking about this paper, we were not so much interested in trust, because research has shown that it is a rather passive emotional sentiment, which does not have to lead to further action. However, we do believe that it is a preliminary necessity to friendship (which is why we will control for it in our research). As we have explained previously, there is a difference between bonding social capital and bridging social capital (Putnam 1993). Bonding happens within a group of individuals, for instance a neighborhood, and might lead to trust and positive feelings towards a community, while bridging social capital can precipitate action in addressing a neighborhood problems and building up friendship networks. We believe that another problem of friendship theory is that most literature we found has focused mainly on American or in general western middle class, leaving out ethnical and racial minorities and their friendship patterns within their own group and in relation to out- group members.

Xavier de Souza Briggs' paper "Some of my best friends are …": Interracial Friendships, Class, and Segregation in America" demonstrates that diverse environments make it more possible to create friendships, because people are not naturally opposed to other ethnicities as is suggested by group threat theory, but might be unable to establish social bridges due to work restrictions, school and residential segregation, etc., which makes it easier for high status SES to have friends and contacts of other ethnicities and cultures.

In order to understand friendship in a meaningful way, you must also be able to quantify it. Currently, there is no consensus on how to measure friendship. In general, friendship is seen as multidimensional. Friendship needs to be classified in terms of tie strength, which is a

combination of the amount of time, the emotional intensity, the intimacy and reciprocal services that characterize the tie (Granovetter: 1973). Friendship ties are conscious actions, compared to neighbor trust or even co-worker ties (that are involuntary), and they involve frequent face-to-face contact and communication. Friendship ties are important sources of emotional aid, companionship and assistance (Wellman/Wortley: 1990), and they are ranked high among the things that matter most in life (Klinger: 1977).

However, in the SCCBS, one of the few studies that look into the issue of friendships, the term "friend" as such is a problematic notion for analysis, as it is not well-defined and left up to the interviewee to decide upon. We don't know if the respondent means a close friend, with whom one interacts, towards whom one has affection, and with whom the relationship has already existed for some time. On the other hand, he or she could refer to more distant friends that are still important sources of information, but might blur the outcome. This is a problem of network analysis, we need to consider in the design of this study and while interpreting the results. As Souza pointed out there often is a tendency of over-stating actual interracial contact and closeness. One of the reasons that might lead to such a bias is the wish to give answers that seem favorable and to avoid the perception of racial prejudice by reporting "some" out-group friend (Souza 2005: 20).

C. Theory on Segregation and Diversity

While segregation is sometimes seen as a troublesome manifestation of selective self-segregation, it is mainly understood as a process showing exclusion and eviction, which leads to lower social and economic well-being of minority group members (Massey/Denton 1993). In general, high values of measured segregation are therefore associated with a lack of social integration that is threatening to the social cohesion of society. On the other side, there is also a far more positive perspective, stating that segregation in general seems to be declining in settings with high numbers of people from many different racial and ethnic groups, "perhaps because this mix decreases the intensity of antipathy between any two particular groups" (Iceland 2002).

Therefore, in our hierarchically structured analysis we want to look at the way segregation impacts diversity of friendships in the presence of individual neighborhood characteristics.

The association between segregation and negative outcomes has been questioned before, looking at the social solidarity in diverse neighborhood, which historically has preceded and enabled integration. Segregation has been used in public debates to express several different ideas. Massey and Denton have reformed that view on segregation by understanding segregation as a "multidimensional construct…" which should "…encourage research into the many ways that segregation can affect people's lives. Its effects are easier to imagine in terms of concrete spatial outcomes such as evenness, exposure, concentration, centralization, and clustering, than in terms of the ambiguous idea of "segregation""(Massey/ Denton 1988: 311-312). Problems exist with these measures to some degrees as there can be diversity in neighborhoods, but this does not automatically mean a decline of segregation in an area. In his text "The Racially Fragmented City? - Neighborhood Racial Segregation and Diversity Jointly Considered" Richard Wright argued that diversity and segregation are related, but not necessarily opposites or as Wright puts it, he prefers a view that "resist(s) the temptation to conflate them into a single continuum of racial variability." (Wright 2011: 3).

4. Methods

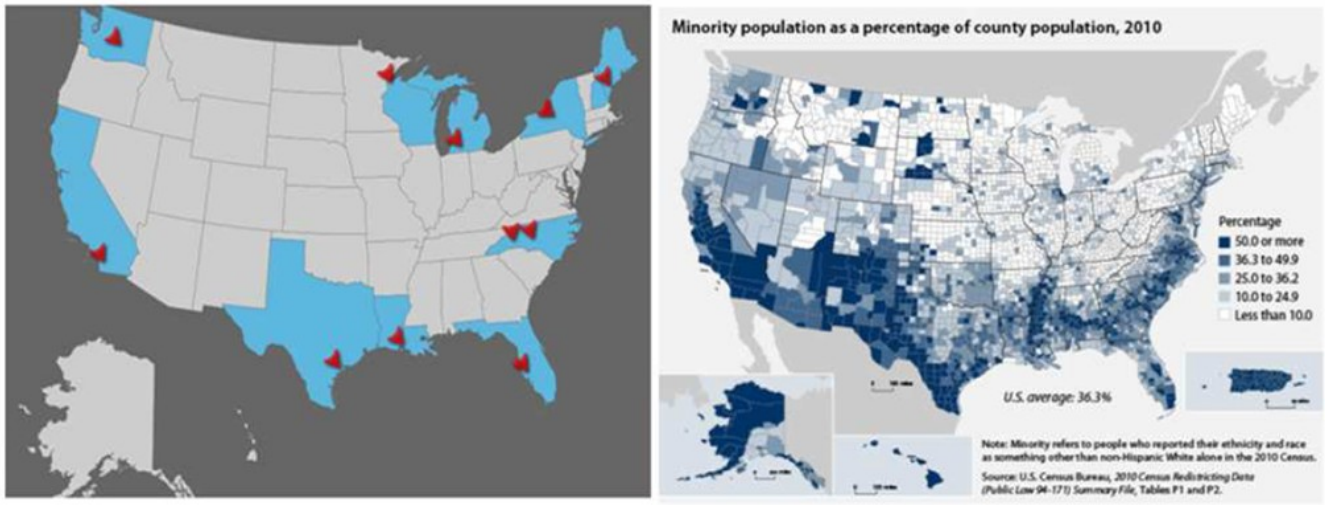
a. Data

We will use data from the Social Capital Benchmark Survey (SCCBS), which was conducted by telephone using random-digit-dialing and is the biggest survey ever conducted on civic engagement. The SCCBS has measures describing the diversity level of friendship networks. It looks at the general tendency of having a friend of different ethnicity, but also accounts for the number of interracial friendships each person has and how often he or she interacts with them.

In a hierarchical multilevel model, we will conduct an OLS regression for individual level variables such as age, educational attainment, income, gender, house ownership, US citizenship, but also taking into account the neighborhood segregation level. We make use of the U.S. Census 2010 tract information at the neighborhood (CBSA) level, which has been combined with the 2006 data of the SCCBS. This allows one to observe relationships between individual characteristics such as ethnicity, age and social trust; and neighborhood

characteristics such as crime rates, poverty and crucially stated, racial diversity.

A major deficit of the study is that, as with the 2000 survey, the 2006 Social Capital Community Benchmark Survey was fielded in communities where a local foundation was willing to serve as the sponsor. Altogether, the 2006 survey was carried out in 20 "communities" (defined as a town, a city, a county, a multi-county metro area, or an entire state), as well as with a national sample of 2741 adults who are supposed to be representative of the entire U.S. population. This figure relates the sampled locations to the actual minority population distribution in the US.



Graph.1 Location of considered SCCBS-Communities in comparison to distribution of minority population is US (Census, 2010)

b. Measures

Our dependent variable is the level of racially and ethnically diverse friendships, which we want to measure by analyzing the number of the out-group friendships as identified by each respondent for each out-group ethnicity or race. In order to obtain a continuous variable that serves as an indicator of a person's general diversity of friendship, we took the logs of peoples' percentage of each out-group ethnicity and sum them up.

Most research on the topic of friendship diversity has measured the outcome as a single dichotomous or count measure in response to the question "Do you have a personal friend who is (White, Black, Hispanic, Asian)?" (See Chang 1996; Souza 2005; Porter and Brown 2008;

Porter 2010; Porter and Emerson 2013 for examples). The outcomes most likely results in one of five options;

1) From Souza (2005): A series of variables indicating a friend of a specific racial/ethnic group (1=yes, 0=no) for each racial/ethnic group available for analysis.
2) From Porter and Brown (2008): A single indicator of having at least one friend that is a different race than the respondent (1=yes, 0=no)
3) From Porter (2010): A count of the number of racial/ethnic groups that the respondent reports having friends.
4) From Antonio (2001): An indicator of having a specific proportion of friends from a single category that pass a predetermined threshold (i.e. 50% of friends are white).
5) From Chang (1996): A count indicator of the "frequency of interaction" the respondent had with member of different racial/ethnic groups.

While all of these are useful and have contributed to our understanding of friendship diversity, they lack the ability to capture the complexity associated with individual level measures of multi-group racial/ethnic friendship diversity.

To date the most useful approach seems to be that of Fischer (2008), who had operationalized friendship diversity as the likelihood that two randomly chosen friends will belong to different racial and ethnic groups. In order to calculate friendship diversity, students were asked how many of their 10 closest friends belong to each of the four racial groups (White, Black, Hispanic, and Asian). Fisher's Proportion-Based Racial/Ethnic Diversity Measure was computed as:

$$1- \sum(p(g)^2)$$

where the sample proportion (p) of each racial/ethnic group (g) is squared and then summed across four groups. That product is then subtracted from one to give a measure of the likelihood that two randomly chosen friends will belong to different ethnic groups. The measure ranges from 0, when the individual's friends are all from the same racial group, to 0.75, when friends are equally distributed across the four racial/ethnic groups.

It is apparent that Fisher's (2008) approach is the most useful in terms of measuring friendship diversity. While the operational definition is the "likelihood" two random friends being from different racial/ethnic groups, it is an obvious proxy for the "diversity"

of friendships across multiple groups. We take Fisher's proportion-based approach and extend it slightly to operationalize a continuous scale of friendship diversity. In order to do this, we take the same proportional approach, but instead of squaring and subtracting the products from 1, we introduce a zero-inflated log based approach. The Log-Based Diversity Measure is computed as:

$$\Sigma \ln((p*100)+1)$$

where the proportion of friends in each racial group (p) is multiplied by 100 to move the proportion to a whole percentage. This whole number is then inflated by one (1). This zero-inflation process increase all zero (0) shares to one (1) and allows for the log to be taken. It is necessary to inflate a zero to one in order to log the share as you cannot take the log of zero but the log of one is equal to zero. Thus, a log of the share equal to one (zero percent in observation) is accounted for in the summation process as a zero (or what it actually contributes to the diversity measure in real life). The final step in the calculation is to sum all of the logged shares to produce the final scale which continuously ranges from 4.61 -13.03. A result of 4.61 would be the product of an individual who had all of their friends in a single racial/ethnic category as the natural log of 101 (100%) is equal to 4.16 plus the natural log of the 3 categories represented by zero percent, which amounts to 4.16 + 0 + 0 + 0 = 4.16. This would indicate the lowest levels of friendship diversity given all friends are in a single racial/ethnic category. On the other end of the scale, a score of 13.03 would indicate a high level diversity with an equal distribution (25%) of friends in each of the four racial/ethnic categories. In proof, the 25 percent would be represented by 3.25 (natural log of 26) and would be summed across all four groups 3.25 + 3.35 + 3.25 + 3.25 = 13.03. Again, the resulting scale ranges from 4.61 – 13.03 and captures the even distribution of friends across the racial and ethnic categories in a manner similar to that of Fisher (2008) with higher scores indicating higher levels of diversity.

Since larger friendship groups are theoretically more likely to be racially/ethnically diverse from a probabilistic standpoint, we included the size of friendship groups as a friendship group variable to control for this possible confound. Our independent variables are based on theory and our hypothesis and are situated on two different levels of analysis, as we will show in the following:

First Level Independent Variables

a) Socio-demographic status

For socio-demographic status, we included data regarding the age and gender of a person. Age is recorded in years on a continuous scale. Gender is coded one for female and zero for male. Furthermore, we included citizenship status as an independent variable, because we believe that people, who have been accepted as part of society and can be certain of staying in this country, show different forms of building up friendships outside their own group with people, who might not be part of their immediate network. We will also consider race and ethnicity. Although we would have enjoyed a non- pan-ethnic approach to this topic, the SCCBS distinction of possible out-group friends into Black, White, Asian and Hispanic made such a path impossible. Graph 2 shows the distribution of the population considered; after all missing data had been removed. On an individual level, we are primarily interested in the role the neighborhood plays for the individual and their friendship behavior. It is important to note that studying neighborhood-level data comes with inherent problems of self-selection bias, because a large proportion of residents in a given area decided to move there and therefore will be more likely to have friends of other ethnicity and race, rather than being randomly selected. We need to keep this in mind when interpreting, as there was no way of controlling for this bias.

Feeling towards neighborhood

In the SCCBS survey, respondents were asked whether they felt comfortable in their neighborhood or not. I think this is an interesting variable, because people who feel more comfortable might have different diversity behavior than people, who are not happy with their neighborhood.

Length of residence

Individuals who have lived in a given neighborhood for a long time are more likely to have more friends in general. Robert Sampson (1988) found that length of residence was linked to increased social ties and participation in social leisure activities at both the individual

and neighborhood level.

Homeownership

Both the individual's length of residence and home ownership are of major importance to the generation of social capital. Owners are more likely to live in one location for a longer period of time and are more likely to have an increased sense of concern for the neighborhood due to their financial investment in their own home. Home ownership increases residents' life satisfaction, which is the same for quality of neighborhood, and was shown to be an important individual characteristic contributing to the formation of social capital in several studies (Sampson 1988).

General Trust

This analysis also captures the extent to which trust influences the way an individual shapes his or her friendships. As part of interpersonal trust, generalized trust refers to the trust that people have for people in general, no matter whether or not the individual knows them. Generalized interpersonal trust was measured in this survey by asking participants to indicate the extent to which they agreed with the statement: Generally speaking, would you say that people can be trusted or that you can't be too careful in dealing with people?

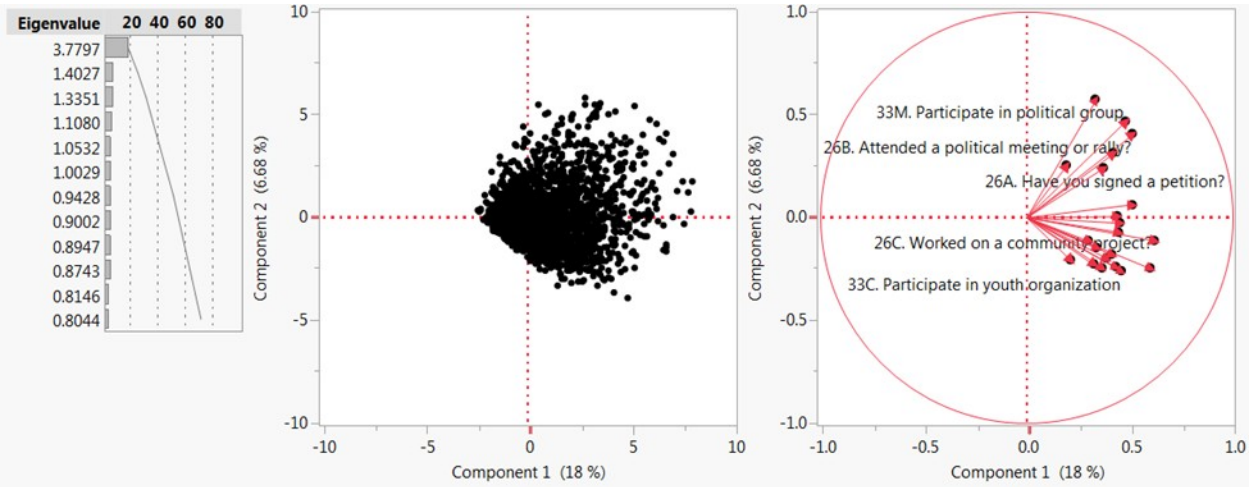
Socio-economic status

In order to measure socio-economic status (SES) we rely on a very crude measure of income and education, which captures the amount and the type of education that the respondent has completed. Income itself could only be included very simplistically, because extremely high numbers of people with missing data (42 percent of the respondents did not reply when asked to provide more acute income data).

Social Participation

The SCCBS offers rich data on social and political life, participation, and informal socializing in the subject communities and beyond. In order to grasp the way a person is

actively intertwined with his or her neighborhood and broader society, we have decided to construct a new "social participation" variable through factor analysis (see Table 2 for a closer description of the included variables and their loadings).



The results show that there are two main components: political activity and social activity with loadings in two different directions.

Does your Ethnic and Racial Background give you a sense of who you are?
We assume that people, who lay great importance on their personal race or ethnicity will be less inclined to have diverse friendship networks. Our hypothesis is that people, who define themselves in this way, will search for friends of similar background in order to strengthen their self-esteem.

Looking at Table 3 (see APPENDIX) shows that the average population studied here is around 49 years old and female (60 percent). The study has 74 percent White, 12 percent Black, 10 percent Hispanic and 1 percent Asian population. Most people have spent one to ten years in their neighborhood, are happy with it (86 percent) and own their home (74 percent). The average person in our sample has 0.7 children. The majority of people believe that people can be trusted in general. The distribution of education among the sample is pretty equal; with 31 percent havening finished only high school, 31 percent with a college degree, 21 percent with a bachelor degree and

17 percent, who finished graduate school. Roughly two thirds of the sample lives in a partnership.

Ecological Level Variables

As we have pointed out we will use a variety of different measures of segregation, while mainly looking at two different measures of segregation for both *evenness* and *exposure*. We constructed these multi-group, pair-wise diversity indexes at the micro- and metropolitan statistical area (CBSA) level using whole population counts from the Census 2010 data. While concentration and centralization did not seem as important to us in terms of influence on the diversity of friendship, we hypothesize that evenness, as a measure of the differential distribution of different populations, and exposure, meaning the potential contact between different groups, will be important indicators.

It is important to understand the level of analysis when computing and including measures of segregation in an analysis. In particular, it is important to understand that population segregation by race, class, etc. occurs at a neighborhood level within housing markets. While individuals are likely to be steered to different neighborhoods, or self-select different neighborhoods based on race/ethnicity; they are much less likely to move beyond a larger "city" catchment area. Thus, our use of CBSAs as catchment areas of potential ecological segregation represents the larger propensity of populations to segregate based on local conditions and may further be related to an individuals willingness, or opportunity, to associate with individuals unlike themselves.

The two measures we will take into account are dissimilarity, as the probably most widely used measure of segregation, and entropy (which is also referred to as the Theil Information Index). As Massey and Denton (1988) point out, dissimilarity measures the proportion of people in one group that would need to change their residential location in order for each neighborhood to have the same percentage of that group as the metropolitan area overall (an index of 0 means there is no segregation whereas an index of 1 means complete segregation, as 100 percent of the group's population would have to move for an

equal distribution). In order to have a second, more profound measure of evenness, we will look at the entropy index, which can vary from 0 to 1. It has a value of 0 when the subgroup proportions in every observational subarea are the same as the subgroup proportions in the entire region (complete integration). It has a value of 1 when each observational area is occupied by a single subgroup while the entire region has representation from more than one subgroup (complete segregation). As we can see from the summary statistics in Table 3, Black-White dissimilarity is highest at 51 percent, whereas White-Asian and White-Hispanic segregation are lowest (39 and 35 percent respectively). This means that half of the African-American population would need to move in order to achieve complete integration.

As for Entropy, we see that Blacks and Whites have the lowest entropy measure at 48 percent, while the Black-Hispanic index is at 75 percent, and 71% for Asians and Blacks. This is a reoccurring theme in segregation literature. While often we see "new immigrant" groups that are highly segregated due to the need for products and services that lead to eventual assimilation in a new context, we also find that they are generally better integrated (via segregation measures) from the 2nd generation on. That is not the case for Blacks in the US. Instead, scholars continually find that Blacks and Whites remain segregated from one another regardless of immigration/new resident status.

Furthermore, we have incorporated measures of exposure into our analysis: Interaction and isolation. These indices try to capture the likelihood for a minority person to live in the same area as a majority person. The interaction index measures the exposure of minority group members to members of the majority group as the minority-weighted average of the majority proportion of the population in each areal unit. The isolation index measures "the extent to which minority members are exposed only to one another," (Massey and Denton, p.288) and is computed as the minority-weighted average of the minority proportion in each area.

c. Analysis

In order to explain, why we chose using multilevel hierarchical modeling for our analysis, we aim to examine the following hypotheses:

H1. - Effect of diversity is negative and leads to less friendships with other ethnicities.

H2. - Effect of diversity is positive and leads to higher numbers of friendship.

H3. We hypothesize that it is the younger, men, higher educated, and ethnic and religious minorities that might be more successful at creating new, cross-cutting forms of social interaction and friendship.

H4. Opportunity for contact (macro structure): Interracial exposure in friendships will vary directly with the size of the out-group pool available in a local community.

H5. Segregation in neighborhoods and friendships: A given racial group's friendship exposure to out-groups will be positively associated with residential exposure to out-groups at the neighborhood level.

Our research design distinguishes a micro- and metropolitan level and an individual level in order to account for the fact that observations are nested within micro- and metropolitan areas. Thus, we used multilevel modelling to test the above-given hypotheses that individuals, nested within higher geographical settings, have diverse friendships given a matrix of individual-level covariates, CBSA- level covariates, and a matrix of cross-level interactions.

From our multilevel analysis we can conclude that the individual level characteristics play a major role in determining whether a person has diverse friendship networks or not.

Mixed model: $Diversity_{ij} = \gamma 00 + u0j + rij$

	Standard Deviation	Variant Component	d.f.	χ	p-value
INTRCPT1, u0	0.68758	0.47276	9	70.18245	<0.001

This fully reduced model is similar to a One-Way ANOVA and allows us to us the significance level to validate the use of a hierarchical linear model. The fact that the Chi-statistics is significant at the .001 level means that there is in fact significant between cluster variations that must be accounted for via the use of an HLM or some

other multilevel modeling scheme. This indicates that it is necessary to take an HLM or multi- level model approach to this analyzing this data.

Within an HLM framework, our modeling approach examines both level 1 (individual level) and level 2 (CBSA level) predictors of friendship diversity. The models are presented here:

Diversity of Friendship Level 1
= β0j + β1j(Age) + β2j*(Female) + β3j*(Self-esteem) + β4j*(Trust) + β5j*(Community rating) + β6j*(Homeownership) + β7j*(Kids) + β8j*(# Friends) + β9j*(US born) + β10j*(Income) + β11j*(1-10 years) + β12j*(10-20 years) + β13j*(+20 years) + β14j*(Partner) + β15j*(College) + β16j*(Bachelor) + β17j*(Graduate) + β18j*(Urban) + β19j*(Friends*Age) + β20j*(Political) + β21j*(Social) + rij*

Diversity of Friendship Level 2
= β0j = γ00 + γ01(pop_percentage1) + γ02*(pop_percentage2) + u0j*
= β0j = γ00 + γ01(segregation(a)) + γ02*(segregation(b)) + γ03*(segregation(c)) + u0j*

From the stated models above, this analysis aims to understand the effects of a series of socio-demographic individual level predictors of friendship diversity while controlling for the ecological context in which the individual resides at the CBSA level. In order to understand the unique effects across the three main racial/ethnic groups in our analysis (Asians excluded due to size restrictions), we run sub-models for Whites, Blacks, and Hispanics. These sub-models then allow for the unique understanding of the impact of segregation in the context of being "White", being "Black", or being "Hispanic". Ultimately, these are beneficial beyond traditional interaction terms because all 1st level and 2nd level results are relatable only to the subset of the population that has been characterized as that specific racial/ethnic group.

5. Results

a) Individual Level

Our initial models pool the data for a baseline understanding what is associated/predictive of friendship diversity across our entire population (Table 4.), we can summarize that

younger and male people are more likely to have diverse friendship networks. In regard to the age difference, it would be interesting to see whether this behavior difference is due to the fact that older people become less open towards out-groups in general as a "human" characteristic, or whether this due to the higher levels of diversity experienced by the younger cohorts in the past 40 years and changing level of general openness to others. Model 1 shows that in reference to whites, blacks have the second least diverse friendship patterns, followed by Hispanics and then Asians, who nearly have twice as diverse friendship circles as their white counterparts.

As expected, higher educational levels lead to higher diversity of friendships, which might be due to more awareness of cultural and ethnic biases towards out-group members or just the fact that educated people have been exposed to more diverse settings. Interestingly, the standardized beta coefficient is highest for college students when compared to people who only have a high school diploma. Again- we cannot causally disentangle whether this is due to the younger age and higher degrees of general openness among college-aged people or due to the fact that colleges tend to be more diverse than later education. In the overall model, homeownership, the quality of the neighborhood and the amount of time spend in the neighborhood were statistically significant: If you lived in your neighborhood for more than 20 years, the likelihood of having a more diverse friendship network decreases. People that ranked their community high, tended to have more diverse friendships, while homeownership lowered heterogeneous social interactions. Not surprisingly, if your self-perception was dependent on your race or ethnicity, you are less likely to have a diverse group of friends.

The strongest predictor of how diverse the friends of an individual are, is the general number of friends reported. People with a lot of friends tend to have more diverse friendships, whereas people with small circles of friends tend to have homogenous friend networks.

As indicated above, it is our goal to examine these models in an HLM framework with reference to specific racial/ethnic populations (Asians were excluded from this sub-group

analysis due to severe limitations in sample size, see Table 5).

For whites, homeownership, community rating, education and activeness had the largest effects. Whites tend to have less diverse friendships when they are homeowners, have lived in the neighborhood for more than 20 years, and have more diverse friends with increasing educational level, higher income and social and political activity. Interestingly, African-Americans have lower friendship diversity at younger ages and tend to have more heterogeneous friendship groups as they get older. However, in contrast to the White population, neighborhood characteristics such as homeownership, community rating and length of residence did not seem to matter at all. Education was significant, either. Instead, the total number of friends, social activity and income all contributed to more diverse groups of friends. While social activity seemed to be a strong predictor, political activeness did not seem to have any explanatory power. While neither Whites nor Hispanics were significantly influenced by their partnership status, African-Americans who are in partnerships have less diverse friendships than those, who are not.
For Hispanics, the overall narrative looks quite different from that of Blacks and Whites: Whether a Hispanic person was born in the US or not was highly significant for explaining how diverse the friendship network is: Hispanics, who are citizens of the US, are more likely to have diverse friendships than people, who are not. While none of the other groups showed any relation to general trust, Hispanics with higher general trust in people tended to have more diverse friendships than those Hispanics that believe that people cannot be trusted in general. Hispanics that classified themselves as living in urban areas were more likely to have diverse friendships, just as those that are politically and socially active and have reached higher levels of education.

In general, we should note that the overall explanatory power of the different models varied quite a bit: The Hispanic model had the highest percentage in variation that is explained by the constructed linear model (R-Square: 32 percent), whereas the White model explained 18 percent and the Black model 20 percent of the total in-group variation. Much of this is driven by the high collinearity of nativity with race/ethnicity (non-natives are almost exclusively Hispanic).

b) Ecological Context

Once ecological characteristics are introduced (Table 6.) we can conclude that the individual level characteristics play a major role in determining whether a person has diverse friendship networks or not. Even when introducing the second model (contextual level features) to sub-group models, these strong beta coefficients can only partially be explained away or decreased. However, effects of segregation on the friendship diversity of an individual vary strongly for Blacks, Whites and Hispanics.

Tables 6-8 include the race specific HLM models with both individual level and CBSA level indicators. Here we focus only the interpretation of Table 9 for formal presentation, but include all Tables for those interested.

When examining Table 9, we see the race/ethnic specific results associated the effects of multiple two-group segregation indices on individual levels of friendship diversity. First, and foremost, we find that when controlling for all individual level variables among the Hispanic respondents, the effect of CBSA level segregation has no significant effect on Hispanics. This seems to indicate that any variation in the diversity of friendship networks among Hispanics is related to the individual level variables included in the models. When one accounts for the fact that the R-Square associated with the Hispanic specific individual level model was almost two times as large as the Black or White model, it is clear that the individual level variables included are better predictors for Hispanics than the other two groups and as such account for variation that might otherwise be thought of as omitted and correlated with segregation for Blacks and Whites. When comparing White-Hispanic segregation, it appears that increased diversity of Whites and Hispanics leads to higher levels of diversity among Whites while increases levels of segregation (per the isolation index) reduce friendship diversity for Whites. Similarly, the only significant effect associated with Black-Hispanic segregation shows that as Blacks and Hispanics are more isolated, Blacks have significantly lower friendship diversity.

In comparison, Blacks and Whites report a number of interesting differences in terms of the results of the effects of segregation controlling for all other variables in the model. First, the Black and White models both report that Black-White segregation, per the dissimilarity index, is negatively related to friendship diversity. In the case of Whites, this is a statistically significant relationship whereby increases in the dissimilarity index (higher segregation) lead to lower levels of friendship diversity. The direction of the relationship is the same for Blacks but the results is not statistically significant. Similarly, Isolation negatively impacts White's friendship diversity, but not Blacks and diversity associated with the Interaction Index positively impacts White's friendship diversity but not Blacks.

Most interestingly, as the diversity (Entropy Index) score increases for Whites, there is a significant increase in diversity, while as the score increases for Blacks, there is a significant decrease in the diversity of friendships. This seems to indicate that segregation itself directly impacts White's levels of friendship diversity, but that there is more related to the individual level characteristics of Blacks, above and beyond, segregation that impacts their levels of friendship diversity. It is this directly opposite relationship that provides the grounds for much of the following discussion.

6. Conclusions and Demographic Context

Although diversity theoretically increases the likelihood of having diverse friendship networks, the results show that there needs to be a distinction between the different races and ethnicities. To begin with, minorities have higher levels of friendship diversity than whites given the simple macrosociological perspective that there are more opportunities for exposure to others unlike oneself. However, even among minority groups we find that segregation has very little to do with Hispanic levels of friendship diversity, but much to do with Black levels of friendship diversity. Also, not surprisingly it is the White-Black

segregation level that most impacts the levels of diversity of one's friendship network. This is not surprising given what we know about White-Black relationships in the US, both historically and in contemporary times.

The most interesting impact segregation has is the differential relationship of Black-White (Diversity) Entropy on friendship diversity. It is particularly interesting that increasing diversity, per Entropy, increases diversity of friendships for Whites, but decreases diversity of friendships for Blacks. *What is it that accounts for these different results? Why does ecological diversity increase friendship diversity for Whites, but decrease it for Blacks?* These are some of the questions that arise from these findings and need to be addressed both theoretically and empirically.

From an empirical standpoint, it seems that segregation is a stronger predictor of friendship diversity for Whites compared to both Hispanics and Blacks. There is something inherent about Whites, being in a context of increasing diversity that directly contributes to higher level so diversity among those they interact with. On the other hand, when Black-White diversity increases, we find that Black levels of friendship diversity actually decrease. In this case there seems to be something more than the simple organization of the population as a predictor of friendship diversity. It is much more likely that individual level characteristics override any potential positive effects of increasing population diversity. It is also possible that increasing population diversity gives Blacks a larger pool of other Blacks to associate with, thereby reducing there need to integrate into the larger population. This last description may even be unconscious or structurally directed as we know that Black-White relations in the US are particularly poor when compared to all other two group race interactions on a large scale. Thus, a more diverse population may actually mean less need to integrate.

Building on this theoretical perspective, this means that neither diversity (as in contact theory) nor individual level characteristics alone can be seen as the sole predictor of levels of friendship diversity, but that they are interdependent and vary for the different races and

ethnicities. However, what we can state is that segregation matters because it is linked to inequality: Especially for those minority groups, that are highly under-privileged like the Blacks, inequality and segregation matters more than for groups (especially for whites) with lower levels of group separation.

Thinking about these outcomes for the future of friendship is important for several reasons. Diversity of friendships serves as an indicator of how open people are to other races and ethnicities, not just through trust and positive attitudes, but through actually building up friendships with others. This also provides us with feedback about the role of neighborhood, a topic that has been the subject of much scholarly debate. A neighborhood comprised of people, who are actively engaged, have many friends whom they see frequently and are generally more trusting, is an open tolerant community, where people either learn to value more diversity or inherently are more diverse.

Trying to show the importance of friendship and its link to neighborhood characteristics and segregation, this study presents a multiethnic, multilevel framework for studying diversity of friendships. It uncovers that racial identity is related to how diverse people form their friendships. Racial differences are also strongly attributable to correlations with other individual-level variables, including education, age, gender, trust, length of residence and socio-political community involvement. An exploration of these groups' residential contexts sheds additional light on the root of these remaining friendship differences. Segregation is a very strong contextual variable in suppressing blacks' ability to build up friendships outside of their own group.

Two factors limit the scope of this study. Perhaps the most important is the decision to look at diversity in the friendship group by collapsed ethnicity and race categories. Secondly, as I have pointed out before, it is likely that reporting biases in the direct approach lead to an over-reporting of inter-racial friends. This approach focuses on race and ethnicity as the key characteristics and people search their memories for someone of the specified race who seems to meet the characteristic of being a friend. Future research should attempt to disaggregate these issues with more precise measurements of both race

and friendship. Finally, the paper as it stands now is incomplete and pooled data cross-level interaction terms should be introduced to understand the effects of "being" a specific race/ethnicity has above-and-beyond the main effects presented here.

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APPENDIX

Table 1. "Do you have an outgroup-friend?"
Binary Cross tabulation of Out-group-Friends by race and ethnicity, in Percent

	White	Asian	Hispanic	African-American
White Friend	0.99	0.83	0.74	0.81
Asian Friend	0.38	0.87	0.31	0.27
Hispanic Friend	0.51	0.50	0.92	0.44
African-American Friend	0.63	0.70	0.51	0.96

Table 2. Factor Analysis

Rotated Component Matrix		
	Political Participation	Social Participation
Have you signed a petition?	.427	.092
Attended a political meeting or rally?	.627	.143
Worked on a community project?	.229	.413
Participated in any demonstrations, protests, boycotts, or marches?	.696	-.067
Donated blood?	-.041	.097
Participate in self-help program	.107	-.017
Participates in organization affiliated with religion	.051	.048
Participates in sports club or league, or an outdoor activity club	-.031	.603
Participate in youth organization	.037	.174
Participate in parent association or other school support group	.062	.054
Participate in veteran's group	.081	.043
Participate in neighborhood association	.064	.313
Participate in seniors groups	.029	.118
Participate in charity or social welfare organization	.156	.319
Participate in labor union	.210	.212
Participate in professional, trade, farm, or business association	.130	.415
Participate in service or fraternal organizations	.176	.644
Participate in ethnic, nationality, or civil rights organizations	.541	.044
Participate in political group	.629	.232
Participate in literary, art, or musical group	.347	.259
Participate in hobby, investment, or garden club	.107	.653
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.		
Total Variance Explained	18.25%	12.2%

Table 3. Level 1 and Level 2 summary Statistics

Variable Name	N	Mean	St. D.	Minimum	Maximum
Measure of Friendship Diversity (DV)	***4077***	***8.41***	***2.61***	***4.61***	***12.88***
Age	4077	49.02	16.33	19	97
Female	4077	0.59	0.49	0	1
Self-Esteem based on Race and Ethnicity	4077	2.79	1.15	1	4
General Trust (0,1)	4077	0.51	0.5	0	1
Community Rating (1-4)	4077	0.86	0.34	0	1
Homeownership (0,1)	4077	0.74	0.44	0	1
Live with kids <17 (0,1)	4077	0.72	1.13	0	11
Hispanic or Latino	4077	0.1	0.29	0	1
White	4077	0.74	0.44	0	1
Black	4077	0.12	0.32	0	1
Asian	4077	0.01	0.11	0	1
Total Number of friends	4077	18.49	18.16	1	100
Born in US	4077	0.9	0.3	0	1
Income > (1) or < (0) than 30,000$	4077	0.73	0.44	0	1
NH- less than 1 year	4077	0.05	0.21	0	1
NH- 1-10 years	4077	0.59	0.49	0	1
NH- 10-20 years	4077	0.3	0.46	0	1
NH- +20 years	4077	0.06	0.24	0	1
Partnership (0,1)	4077	0.54	0.5	0	1
High school	4077	0.31	0.46	0	1
College	4077	0.3	0.46	0	1
Bachelor	4077	0.2	0.4	0	1
Graduate	4077	0.19	0.39	0	1
Urban (0,1)	4077	0.49	0.5	0	1
Social activity score	4077	0	1.01	-1.54	5.11
Political activity score	4077	0	1	-2.21	3.5
Black-White Isolation Index	12	0.4	0.31	0.06	0.94
Black-White Entropy Diversity Index	12	0.48	0.3	0.11	0.95
Black-White Dissimilarity Index	12	0.51	0.08	0.34	0.64
Black-White Interaction Index	12	0.91	0.07	0.78	0.99
Asian-Hispanic Isolation Index	12	0.69	0.27	0.09	0.96
Asian-Hispanic Entropy Diversity Index	12	0.74	0.25	0.16	0.97
Asian-Hispanic Dissimilarity Index	12	0.44	0.1	0.26	0.56
Asian-Hispanic Interaction Index	12	0.81	0.1	0.65	0.98
Black-Hispanic Isolation Index	12	0.71	0.31	0.08	1
Black-Hispanic Entropy Diversity Index	12	0.75	0.28	0.15	1
Black-Hispanic Dissimilarity Index	12	0.38	0.07	0.28	0.51
Black-Hispanic Interaction Index	12	0.57	0.28	0.04	0.93
Black-Asian Isolation Index	12	0.64	0.26	0.18	1
Black-Asian Entropy Diversity Index	12	0.71	0.23	0.28	1
Black-Asian Dissimilarity Index	12	0.49	0.08	0.38	0.62
Black-Asian Interaction Index	12	0.8	0.15	0.49	0.96
White-Asian Isolation Index	12	0.15	0.15	0.03	0.5

White-Asian Dissimilarity Index	12	0.39	0.1	0.23	0.51
White-Asian Interaction Index	12	0.96	0.04	0.88	0.99
White-Hispanic Isolation Index	12	0.44	0.36	0.05	0.97
White-Hispanic Entropy Diversity Index	12	0.51	0.33	0.1	0.98
White-Hispanic Dissimilarity Index	12	0.35	0.07	0.23	0.48
White-Hispanic Interaction Index	12	0.87	0.13	0.66	0.99

Table 4. Diversity of Friendships- Individual Level Regression

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	**7.347**	**.366**		**20.047**	**.000**
Age	**-.008**	**.004**	**-.049**	**-1.878**	**.061**
Female	**-.179**	**.089**	**-.034***	**-2.004**	**.045**
Asian	**.985**	**.401**	**.042****	**2.456**	**.014**
Black	**.231**	**.145**	**.029**	**1.586**	**.113**
Hispanic or Latino	**.301**	**.178**	**.034**	**1.695**	**.090**
Born in US	**.401**	**.166**	**.046***	**2.413**	**.016**
NH- 1-10 years	**-.135**	**.206**	**-.025**	**-.653**	**.514**
NH- 10-20 years	**-.373**	**.220**	**-.065**	**-1.697**	**.090**
NH- +20 years	**-.755**	**.266**	**-.070****	**-2.841**	**.005**
General Trust (0,1)	**-.003**	**.094**	**-.001**	**-.032**	**.974**
Homeownership (0,1)	**-.257**	**.114**	**-.043***	**-2.263**	**.024**
Live with kids <17 (0,1)	**.025**	**.043**	**.011**	**.579**	**.563**
Partnership (0,1)	**-.096**	**.096**	**-.018**	**-.997**	**.319**
Community Rating (1-4)	**.325**	**.132**	**.043****	**2.454**	**.014**
Total number of friends	**.059**	**.008**	**.412*****	**7.751**	**.000**
Total number of friends* Age	**.000**	**.000**	**-.169****	**-3.016**	**.003**
College	**.562**	**.114**	**.099*****	**4.924**	**.000**
Bachelor	**.472**	**.135**	**.073*****	**3.499**	**.000**
Graduate	**.502**	**.142**	**.075*****	**3.526**	**.000**
Social activity	**.191**	**.047**	**.073*****	**4.048**	**.000**
Political Activity	**.253**	**.044**	**.098*****	**5.761**	**.000**
Urban (0,1)	**.094**	**.089**	**.018**	**1.046**	**.296**
Self-Esteem based on Race and Ethnicity	**-.106**	**.040**	**-.047****	**-2.659**	**.008**
Income > (1) or < (0) than 30,000$	**.680**	**.116**	**.116*****	**5.844**	**.000**

R Square = .256, N = 5200

a. Dependent Variable: Measure of Friendship Diversity

b. $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 5. Diversity of Friendships by Racial Background (Standardized Beta Coefficients**)**

		White	Black	Hispanic
N		3896	596	468
1	(Constant)			
	Age	-.066*	.129*	.067
	Female	-.042*	.004	-.047
	Born in US	-.014	.041	.261***
	NH- 1-10 years	-.012	-.030	.025
	NH- 10-20 years	-.051	-.012	-.102
	NH- +20 years	-.062*	-.083	-.071
	General Trust (0,1)	-.012	.018	.103*
	Homeownership (0,1)	-.062**	-.019	-.001
	Live with kids <17 (0,1)	.013	.025	.032
	Partnership (0,1)	-.006	-.129**	-.008
	Community Rating (1-4)	.052**	.034	.102*
	Total number of friends	.397***	.717***	.299
	Total number of friends* Age	-.147*	-.513**	-.075
	College	.087***	.063	.147**
	Bachelor	.057*	.056	.153**
	Graduate	.079**	-.069	.109*
	Social activity	.060**	.144**	.088*
	Political Activity	.094***	.029	.092*
	Urban (0,1)	.016	-.057	.124**
	Self-Esteem based on Race and Ethnicity	-.065**	-.015	.053*
	Income > (1) or < (0) than 30,000$	.109***	.219***	.067

R Square (respectively) = .183 , .198, .329

a. Dependent Variable: Measure of Friendship Diversity

b. p<0.05, ** p<0.01, *** p<0.001

Table 6. Diversity of Friendships- Individual and Context Level Variables, for Whites

	Dissimilarity	Entropy	Interaction	Isolation
Constant	7.73***	6.74***	7.03***	21.22***
Black-White	**-5.24***	0.84*	0.91*	**-4.16***
Hispanic-White	5.22	**1.95*****	**1.74****	**-4.32***
Age	-0.02***	-0.02***	-0.02***	-0.02***
Female	-0.23**	-0.23*	-0.23*	-0.23*
Self-Esteem based on Race and Ethnicity	-0.16***	-0.16***	-0.16***	-0.16***
General Trust (0,1)	0.01	0.01	0.01	0.01
Community Rating (1-4)	0.41**	0.42**	0.42**	0.42**
Homeownership (0,1)	-0.39**	-0.38**	-0.38**	-0.38**
Live with kids <17 (0,1)	0.04	0.04	0.04	0.04
Total Number of friends	0.05***	0.05***	0.05***	0.05***
Born in US	-0.02	-0.02	-0.02	-0.02
Income > (1) or < (0) than 30,000$	0.58***	0.58***	0.58	0.58
NH- 1-10 years	0.04	0.05	0.05	0.04
NH- 10-20 years	-0.03	-0.03	-0.03	-0.03
NH- +20 years	-0.28	-0.27	-0.28	-0.28
Partnership (0,1)	-0.02	-0.02	-0.02	-0.02
College	0.32*	0.33*	0.33*	0.33*
Bachelor	0.15	0.15	0.15	0.15
Graduate	0.28*	0.29*	0.29*	0.29*
Urban (0,1)	0.12	0.11	0.10	0.10
Total Friends * Age	0.00	0.00	0.00	0.00
Political Activity	0.25***	0.25***	0.25***	0.25***
Social Activity	0.17***	0.17***	0.17***	0.17***

a. Dependent Variable: Measure of Friendship Diversity

b. $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 7. Diversity of Friendships- Individual and Context Level Variables, for African-Americans

	Dissimilarity	Entropy	Interaction	Isolation
Constant	8.04*	5.35**	5.44***	6.41
Black-White	-3.62	**-1.14***	-1.11	0.02
Black-Hispanic	-2.62	0.49	0.24	**-2.35****
Age	0.02	0.02	0.02	0.02
Female	-0.08	-0.08	-0.08	-0.08
Self-Esteem based on Race and Ethnicity	-0.01	-0.02	-0.02	0
Community Rating (1-4)	0.25	0.24	0.25	0.29
Homeownership (0,1)	0.12	0.13	0.13	0.09
Live with kids <17 (0,1)	0.07	0.06	0.06	0.07
Total Number of friends	0.09***	0.09***	0.09***	0.09***
Born in US	0.71	0.82	0.82	0.76
Income > (1) or < (0) than 30,000$	0.95***	0.97***	0.96***	0.92***
General Trust (0,1)	0.1	0.1	0.1	0.12
NH- 1-10 years	-0.06	-0.07	-0.06	0
NH- 10-20 years	0.01	-0.02	-0.02	0.08
NH- +20 years	-0.76	-0.8	-0.8	-0.75
Partnership (0,1)	-0.62*	-0.63*	-0.63*	-0.63*
College	0.3	0.3	0.3	0.31
Bachelor	0.43	0.42	0.42	0.45
Graduate	-0.4	-0.41	-0.41	-0.37
Urban (0,1)	-0.25	-0.25	-0.25	-0.21
Total Friends * Age	0.00***	0.00***	0.00***	0.00***
Political Activity	0.38***	0.38***	0.38***	0.38***
Social Activity	0.06	0.06	0.06	0.05

a. Dependent Variable: Measure of Friendship Diversity
b. $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 8. Diversity of Friendships- Individual and Context Level Variables, for Hispanics

	Dissimilarity	Entropy	Interaction	Isolation
Constant	1.06	4.02**	4.06	4.62**
Hispanic - Black	4.90	0.18	0.15	0.94
Hispanic - White	2.84	-0.03	-0.04	-1.25
Age	0.02	0.013	0.01	0.01
Female	-0.25	-0.25	-0.25	-0.24
Self-Esteem based on Race and Ethnicity	0.14	0.14	0.15	0.14
Community Rating (1-4)	0.64*	0.62*	0.62*	0.63*
Homeownership (0,1)	-0.06	-0.004	-0.05	-0.04
Live with kids <17 (0,1)	0.07	0.06	0.06	0.08
Total Number of Friends	0.04*	0.04	0.04	0.04
Born in US	1.38***	1.41***	1.42***	1.41***
Income > (1) or < (0) than 30,000$	0.39	0.37	0.37	0.41
General Trust (0,1)	0.63*	0.62*	0.62	0.63
NH- 1-10 years	0.18	0.16	0.16	0.17
NH- 10-20 years	-0.87	-0.88	-0.89	-0.87
NH- +20 years	-0.83	-0.95	-0.96	-0.94
Partnership (0,1)	-0.04	-0.03	-0.04	-0.03
College	1.00**	0.95**	0.95**	1.00
Bachelor	1.35**	1.25**	1.26	1.31
Graduate	1.15*	1.12*	1.12	1.12
Urban (0,1)	0.64**	0.65**	0.66	0.61**
Total Friends * Age	0.00*	-0.00	-0.00	-0.00
Social Activity	0.22*	0.24	0.24	0.23
Political Activity	0.24*	0.25*	0.25*	0.24*

a. Dependent Variable: Measure of Friendship Diversity

b. p<0.05, ** p<0.01, *** p<0.001

Table 9. Summary of *Level 2 Effects of different measures of segregation and diversity on the Diversity of Friends, by Race*

WHITE	Dissimilarity	Entropy	Interaction	Isolation
White - Black	-5.24*	0.84*	0.91*	-4.16*
White - Hispanic	5.22	1.95***	1.74**	-4.32*
BLACK	**Dissimilarity**	**Entropy**	**Interaction**	**Isolation**
Black - White	-3.62	-1.14*	-1.11	0.02
Black - Hispanic	-2.62	0.49	0.24	-2.35**
HISPANIC	**Dissimilarity**	**Entropy**	**Interaction**	**Isolation**
Hispanic - Black	4.9	0.18	0.15	0.94
Hispanic - White	2.84	-0.03	-0.04	-1.25