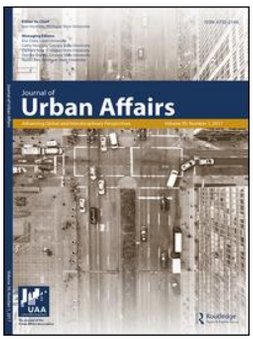

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The street level and beyond: The impact of ethnic diversity on neighborhood cohesion and fear of crime among Dutch natives and nonnatives

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ABSTRACT

Ethnic diversity is increasing in most Western societies. Research suggests that these increasing levels of diversity could result in less neighborhood cohesion and more fear of crime. In this article, we examine both hypothesized outcomes of ethnic diversity, using survey data of the Dutch Safety Monitor 2014 in combination with detailed register data. The effects of diversity on neighborhood cohesion and fear of crime are simultaneously assessed at 3 spatial levels: districts, neighborhoods, and streets. The results of the multilevel analyses show that ethnic diversity is modestly related to less neighborhood cohesion and more fear of crime at specific spatial levels. The patterns are largely similar for natives and nonnatives. We found, in addition, that recent increases in diversity are unable to explain differences in neighborhood cohesion and fear of crime. Altogether, our study provides a nuanced understanding of diversity effects in the Dutch context.

Introduction

The population of Western countries is becoming increasingly ethnically diverse (Crul, 2016; Meissner & Vertovec, 2015) and, as a consequence, an increasing number of people reside in ethnically diverse neighborhoods and streets. Ethnic diversity in the residential environment may lead to more mutual understanding between ethnic groups and a greater tolerance toward diversity (e.g., Townley, Kloos, Green, & Franco, 2011; Wessendorf, 2014). Alternatively, researchers have argued that living in an ethnically heterogeneous environment may have certain negative consequences for its inhabitants. The current article focuses primarily on the latter. Negative effects of diversity include declining levels of social cohesion and rising levels of fear of crime.

The claim that ethnic diversity harms cohesion has attracted widespread scholarly interest after the introduction of Putnam's (2007) "constrict hypothesis." According to this hypothesis, ethnic diversity in the living environment challenges social solidarity and decreases social trust among all ethnic groups. The assumed detrimental effect of diversity on cohesion has been studied frequently, resulting in mixed findings (for overviews, see Portes & Vickstrom, 2011; Van der Meer & Tolsma, 2014). Overall, the different studies tend toward the conclusion that ethnic diversity has negative effects on neighborhood-related indicators of cohesion in particular and not on other dimensions of cohesion, such as generalized trust and citizen participation (Morales, 2013; Van der Meer & Tolsma, 2014). Why and under which circumstances diversity deteriorates neighborhood relations is still unsettled (Koopmans, Lancee, & Schaeffer, 2015).

In addition to lower levels of cohesion, ethnic diversity is considered to be associated with a second negative consequence: increased levels of fear of crime. This line of reasoning suggests that living in close proximity to ethnic others induces fear (Merry, 1981). Research on ethnic

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diversity and fear of crime has been conducted almost exclusively in the American context (Chiricos, Hogan, & Gertz, 1997; Covington & Taylor, 1991; Moeller, 1989; Pickett, Chiricos, Golden, & Gertz, 2012). The relationship between these variables is underresearched in the European context of diversity. To our knowledge, only one study has explicitly analyzed the association between ethnic diversity and fear of crime (among Belgian natives) at a local European level (Hooghe & De Vroome, 2016). This lack of research is surprising because feelings of unsafety experienced by residents of ethnically mixed neighborhoods are a major social and political issue in a range of Western European countries, including Sweden, France, Great Britain, and the Netherlands, which is the focus of this study (Müller & Fischer, 2015).

Ethnic diversity and the extent to which it affects social cohesion or fear of crime are generally studied separately; scholars focus either on cohesion or on fear of crime. These negative outcomes of diversity can, however, be explained by similar mechanisms (Van der Meer & Tolsma, 2014). Accordingly, we will examine both cohesion and fear of crime and their associations with ethnic diversity. The overall aim of the study is to refine our understanding of the two diversity effects. We will use data of the Dutch Safety Monitor 2014 (N = 86,382) in combination with individual-level register data from Statistics Netherlands. The respondents to the Safety Monitor live across the entire Netherlands, in areas with varying levels of ethnic diversity. In total, approximately 80% of all districts (*wijken* in Dutch) and around 60% of the neighborhoods are included in the survey. On an index from 0 (total homogeneity) to 1 (total heterogeneity), these contextual units have an average diversity level of approximately 0.30.

Our article aims to contribute to previous research in the following three ways. First, we will analyze whether the associations between ethnic diversity and the two outcome variables—neighborhood cohesion and fear of crime—are the same for both Dutch natives and nonnatives. Although this issue is not entirely unexplored (e.g., Lancee & Dronkers, 2011; Tolsma, Van der Meer, & Gesthuizen, 2009), scholars generally assume that the effect of diversity—especially on cohesion—is negative both for natives and nonnatives (Demireva & Heath, 2014). It has also been common practice for researchers to study the consequences of diversity based on samples composed only of native respondents. This has nevertheless led to generalizations of the effect of diversity in societies at large (Bécares, Stafford, Laurence, & Nazroo, 2011). It is, however, reasonable to expect that diversity effects are contingent on ethnic background: for the native majority, more diversity translates to living with fewer co-ethnics. For minorities, the reverse holds true (Schaeffer, 2013). Living with similar others may contribute to neighborhood cohesion and generate feelings of safety. We therefore examine to what extent the diversity effects on neighborhood cohesion and fear of crime are moderated by ethnic background. We distinguish between respondents with and without a migration background.

Second, we will explicitly consider which spatial scale(s) is most appropriate to study diversity effects. Instead of focusing on one specific context, we will simultaneously assess the relationship between ethnic diversity on the one hand and neighborhood cohesion and fear of crime on the other hand at three spatial levels: districts, neighborhoods, and street segments. Although it is still unusual to include multiple contextual levels in the same analysis, such a multiscale approach is considered to be more appropriate to research contextual effects (Boessen & Hipp, 2015). The more common approach—looking exclusively at diversity within neighborhoods—ignores the potential eroding effect of ethnic diversity at lower or higher spatial levels. Omitting these levels may also result in overestimating the role of ethnic diversity at the neighborhood level and, consequently, misleading research conclusions (Opdenakker & Van Damme, 2000). In addition, the street segments provide the unique opportunity to assess to which extent ethnic diversity in the microcontext (e.g. Dinesen & Sønderskov, 2015) is associated with neighborhood cohesion and feelings of safety and to examine whether the effects of diversity are the strongest within smaller contexts.

Our final contribution is that we further explore the conditions under which diversity has negative consequences by including a time dimension. More specifically, a dynamic measure of ethnic diversity will be added to the analyses to capture changes in the level of diversity. Rather than

solely relying on a static measure of ethnic diversity, we will also consider how rapidly a context's level of ethnic heterogeneity has changed. The underlying argument is that recent increases in ethnic diversity are more disruptive to cohesion and feelings of safety than stable levels of diversity (Pickett et al., 2012; Schaeffer, 2014).

To sum up, our research examines two specific consequences of ethnic diversity and is aimed at gaining a more nuanced understanding of how diversity is related to fear of crime and neighborhood cohesion. More specifically, we investigate (a) to what extent the diversity effects are moderated by ethnic background, (b) at which spatial level the diversity effects are most prevalent, and (c) to what extent rapid increases in ethnic diversity are related to less neighborhood cohesion and more fear of crime.

Theoretical framework

The current study builds primarily on literature that centers on the downsides of living in a diverse residential context. This literature suggests that ethnic homogeneity—as opposed to ethnic diversity—fosters cohesion and feelings of safety. In the next section, two mechanisms are presented that explain why diversity deteriorates neighborhood cohesion and generates feelings of unsafety.

Local communities may, however, also benefit from diversity. We will briefly elaborate on these positive diversity effects. The beneficial consequences of diversity are often explained with reference to Allport's (1954) contact hypothesis, which posits that interethnic contact fosters social trust and solidarity between groups by diminishing stereotypes. Building on this hypothesis, community psychologists have suggested that inhabitants of diverse settings are more likely to develop respect for or tolerance toward diversity because ethnically diverse environments offer more opportunities to have contact with diverse others (Neal & Neal, 2014; Townley et al., 2011). In addition, ethnographic research conducted by Wessendorf (2014) shows that interactions between different ethnic group members can lead to more mutual understanding and acceptance of difference, especially in super-diverse contexts where no majorities are present. It appears that whether diversity is considered as potentially beneficial or harmful to a local community depends on the phenomena under study. Because of our focus on neighborhood cohesion and fear of crime, we are more likely to find negative diversity effects. We will now expand on the two mechanisms that may underlie these effects.

Anomie, social disorganization, and threat

Since the introduction of Putnam's (2007) constrict hypothesis, numerous scholars have examined the supposed negative effect of diversity on social cohesion and a range of related phenomena within various countries, including the United States, Great Britain, and the Netherlands. In contrast, the relationship between ethnic (or racial) composition and fear of crime has mainly been studied in the context of American neighborhoods.

To explain the detrimental consequences of diversity, Van der Meer and Tolsma (2014) have explicated two mechanisms—the anomie mechanism and the threat mechanism—that are likely to underlie the negative diversity effects. The anomie mechanism emphasizes how diversity and its different facets—in terms of linguistic diversity and diversity in social norms—cause feelings of anxiety and uncertainty among inhabitants of ethnically diverse environments. Consequently, residents avoid interaction and hence socially isolate themselves from their (co-)residents. When an environment is increasingly perceived as unfamiliar, feelings of insecurity will increase as well—in the same way that the ability to interpret and order an environment improves feelings of safety (e.g., Blokland, 2008). In an "orderly" environment, inhabitants know who to trust and what to expect. Disorder, by contrast, signals a loss of having such control. In these environments, residents will feel more vulnerable and thus more fearful (Covington & Taylor, 1991).

The logic of the anomie mechanism shares similarities with social disorganization theory. Of particular importance in this regard is the work of Shaw and McKay (1942), who identified three structural factors, one of which is ethnic heterogeneity, that lead to disruption of community social organization and, ultimately, increases in crime and delinquency rates.[1] The theory suggests that ethnic diversity hinders communication and interaction among inhabitants, thereby thwarting the ability of communities to maintain social order and control delinquent and other forms of deviant behavior. Shaw and McKay (1942) refer primarily to "urban areas" or "local communities" when discussing the forces of social disorganization. More recent formulations of social disorganization theory have introduced the concept of *collective efficacy* in order to improve our understanding of why crime rates vary within cities. Collective efficacy refers to the process of activating or converting social ties among neighborhood residents in order to achieve collective goals, such as control over crime (Sampson, 2010). Research showed that inhabitants are more willing to take collective action in contexts that are perceived as socially cohesive. This relationship is in particular strong in ethnically homogeneous neighborhoods (Collins, Neal, & Neal, 2016). Differences in collective efficacy are considered a major source of variation in crime, over and beyond structural characteristics of the neighborhood (Sampson, 2010). When collective efficacy is reduced, or inhabitants experience it as such, fear of crime could increase as well. Greenberg (1986) labels this perspective the "social-control model" of fear of crime (p. 46). Environments that are judged as unpredictable, unfamiliar, and beyond the control of oneself or one's community may generate a sense of disquiet and, ultimately, a feeling that "anything could happen" (Jackson, 2009, p. 385). In such an unpredictable context, feelings of safety and neighborhood cohesion are negatively affected.

The second mechanism is mainly inspired by so-called conflict theory and proposes that ethnic diversity fosters competition between ethnic groups over scarce goods such as jobs and housing and over nonmaterial resources such as morality and identity (Van der Meer & Tolsma, 2014). This (perceived) competition and conflict translates into feelings of threat. Originally, the argument is primarily about an in-group versus an out-group and how the settlement of the latter group spurs competition between these groups and, at the same time, improves solidarity within a group (Blalock, 1967; Quillian, 1995). The presence of minority groups is also being associated with feelings of threat among the (native) majority and, thereby, is considered as a determinant of fear of crime (Hooghe & De Vroome, 2016). In the case of diversity and in the light of the constrict hypothesis, it is expected that living in close proximity to ethnic others results in generalized negative effects—both within and between the different groups. A possible explanation might be that diversity intensifies the processes of competition and threat; the more dissimilarity in people's direct surroundings, the more they feel that their status and habits are under threat (Scheepers, Schmeets, & Pelzer, 2013). These processes will result in general feelings of hostility and uncertainty, ultimately causing fear of crime and a hesitation to mingle with others.

Prior research

Previous studies testing Putnam's (2007) constrict hypothesis have concluded that ethnic diversity is consistently associated with only certain components of social cohesion and, more specifically, with neighborhood-related indicators of cohesion (Morales, 2013; Van der Meer & Tolsma, 2014). In British studies in particular, it is found that more ethnic diversity in the neighborhood is related to less neighborhood cohesion (Bécares et al., 2011; Laurence & Bentley, 2016; Twigg, Taylor, & Mohan, 2010). A similar picture emerges when considering the outcomes of Dutch research that primarily examined the effect of ethnic heterogeneity on forms of citizen participation, on generalized or interethnic trust, and, most frequently, on indicators related to neighborhood cohesion. These results show that frequency of contact with neighbors is especially negatively influenced by ethnic diversity (Gijsberts, Van der Meer, & Dagevos, 2012; Scheepers et al., 2013; Tolsma et al., 2009; Völker, Flap, & Lindenberg, 2007). Other dimensions of cohesion such as trust or volunteering seem to be unaffected by ethnic diversity (Lancee & Dronkers, 2011; Tolsma et al., 2009). It appears

that the relationship between diversity and cohesion depends on the components under study. Moreover, Abascal and Baldassarri (2015) argued—based on a replication of Putnam's (2007) original analysis—that the association that Putnam found between diversity and generalized trust is spurious; levels of trust are better explained by individual differences and contextual economic disadvantage. Other scholars have shown that the association between ethnic diversity and contact disappears after controlling for the ethnicity of the neighbor an inhabitant may have contact with (Tolsma & Van der Meer, 2018).

In American studies on the relationship between ethnic diversity and fear of crime, diversity is generally equated with the (perceived) proportion of African American residents (Chiricos et al., 1997; Covington & Taylor, 1991; Moeller, 1989; Pickett et al., 2012) and, to a lesser extent, Hispanics (Eitle & Taylor, 2008). Results indicate that the (perceived) racial composition in the living environment is associated with fear of crime. In particular, White residents living in a "Black" neighborhood are more likely to experience fear, presumably because Whites stereotypically associate the presence of Black residents with violence and crime (Pickett et al., 2012; Quillian & Pager, 2001). Key in this hypothesis is the concentration of minority groups (in this case, of Black residents) and *not* the level of diversity.

In the European context, cross-national research has shown that when inhabitants describe their neighborhood as an area where many migrants live, higher levels of fear of crime are reported (Semyonov, Gorodzeisky, & Glikman, 2012). The actual size of the migrant population at the country level is, however, unrelated to fear of crime and feelings of safety in the neighborhood (Semyonov et al., 2012; Visser, Scholte, & Scheepers, 2013). More recently, Hooghe and De Vroome (2016) concluded in their study on fear of crime in Belgian communities that the actual level of non–European Union nationals in municipalities—rather than the perceived composition—is positively related to fear of crime among Belgian natives.

The role of ethnic background

With few exceptions, scholars in the European context tend to assume that the hypothesized effects of diversity are similar for both the native majority and ethnic minorities (e.g., Gijsberts et al., 2012; Scheepers et al., 2013; Völker et al., 2007) or only study the effects among native respondents (e.g., Dinesen & Sønderskov, 2015; Hooghe & De Vroome, 2016; Sluiter, Tolsma, & Scheepers, 2015; Tolsma & Van der Meer, 2017).[2] It is, however, reasonable to expect that the effects of living in diversity are different depending on whether an individual is a native or not. For members of the native majority, living in an area with high diversity means living among fewer co-ethnics and more minorities. For nonnatives, high diversity tends to translate to living with other minorities and their co-ethnics (Schaeffer, 2013). Because people are more likely to interact with similar others (McPherson, Smith-Lovin, & Cook, 2001), we expect that the negative diversity effects are less prevalent for ethnic minorities. To investigate this possibility, we will examine whether the effects on neighborhood cohesion and fear of crime are moderated by ethnic background.

A multiscale approach

In addition to distinguishing between different ethnic backgrounds, we adopt a multiscale approach (e.g., Boessen & Hipp, 2015) aimed at producing a more complete and interdependent understanding of the diversity effects by including three different spatial levels (street segments, neighborhoods, and districts) in the same model. In previous research, scholars have often relied on neighborhoods to measure residential context. Perceptions of insecurity and neighborhood cohesion, however, do not necessarily align with how neighborhoods are administratively defined. These perceptions may also be affected by processes operating at lower or higher spatial scales. Because larger and smaller contexts are added to the analysis, we are able to examine at which spatial scale ethnic diversity has the strongest effect on neighborhood cohesion and fear of crime. The ways in

which aggregation affects the results under study is a familiar issue in spatial statistics and is known as the modifiable areal unit problem (Oberwittler & Wikström, 2009).

For theoretical and methodological reasons, we expect stronger diversity effects at a smaller spatial scale. Theoretically, it is often assumed that the negative effects of ethnic diversity are most pronounced in smaller contexts (Putnam, 2007) because people spend most of their free time in their immediate residential surroundings (Öberg, Oskarsson, & Svensson, 2011). Inhabitants might thus be more aware of the ethnic composition of smaller contexts (Sluiter et al., 2015). Consequently, we expect that streets and neighborhoods more accurately reflect people's daily experiences with ethnic heterogeneity than larger contexts, such as districts. Researchers have frequently tested diversity effects within the context of neighborhoods because the neighborhood is in most cases the smallest unit of analysis available (for recent exceptions, see Dinesen & Sønderskov, 2015; Tolsma & Van der Meer, 2017). Our data, however, allow us to examine the relationship on an even smaller scale: street segments (six position postal codes), which in most cases represent one street or one side of a street.

For methodological reasons, it is also preferable to zoom in on smaller units of aggregation when studying contextual effects (Oberwittler & Wikström, 2009). At a smaller spatial level, areas tend to be more homogeneous in their structural characteristics. Increased homogeneity within these smaller contextual units will be reflected in enhanced statistical power to detect contextual effects (Hipp, 2007).[3] When data are analyzed at a higher level of aggregation—lumping together areas with different levels of diversity—more subtle diversity effects will render insignificant because the degree of spatial homogeneity is watered down. This inconsistency caused by using different scales of aggregation is known as the scale problem, one of the subproblems of the modifiable areal unit problem (Wong, 2009).

Given these theoretical and methodological considerations, we expect that the negative effects of ethnic diversity are larger at a smaller level (in our case the street segment) and weaker in larger contexts. Our expectations are in line with the findings of Dinesen and Sønderskov's (2015) study on the relationship between ethnic diversity and social trust, showing that ethnic diversity in the microcontext—measured by an 80-m radius around a respondent—is most strongly related to social trust.

Although the diversity effects are more likely to be pronounced at the street segment and neighborhood levels, we expect that our two outcome variables are also affected by diversity in the larger district context. In two recent studies on respectively intra-neighborhood social capital and trust in neighbors, Dutch scholars observed that the impact of diversity is not necessarily stronger at a smaller spatial scale (Sluiter et al., 2015; Tolsma & Van der Meer, 2017). Considerable diversity effects were found as well in spatial units larger than the neighborhood, suggesting that it is not only the smaller neighborhood context that matters. Because people's daily activities generally take place in relatively large areas, ethnic diversity effects may be also detected in larger spatial contexts (Boessen & Hipp, 2015).

Changes in ethnic diversity

Lastly, we consider the role of dynamic ethnic diversity (i.e., increases or decreases in diversity in a certain period of time) compared to static levels of diversity (i.e., the level of diversity in a specific year). This allows us to examine the role of changing levels of ethnic diversity under the constrict hypothesis. Other researchers have argued previously that such a time dimension should be included when testing the constrict hypothesis (Hooghe, Reeskens, Stolle, & Trappers, 2009; Schaeffer, 2014). The underlying argument is that (rapid) increases in diversity generate more threat, social disorganization, and anomie than stable levels of heterogeneity. It might even be the case that these increases, as opposed to stable levels of ethnic diversity, drive down social cohesion and erode neighborhood ties. Most research on the constrict hypothesis has, however, focused on current levels of diversity rather than on changes in diversity over time. Although some cross-national studies include dynamic measures of ethnic diversity (Gesthuizen, Van der Meer, & Scheepers, 2009;

Hooghe et al., 2009; Kesler & Bloemraad, 2010), these measures are rarely applied in within-country studies (for exceptions, see Dinesen & Sønderskov, 2012; Schaeffer, 2014). The same holds for research on fear of crime (for an exception, see Pickett et al., 2012).

Hypotheses

We derive four hypotheses from our theoretical framework:

Hypothesis 1: In contexts with more ethnic diversity, people experience less neighborhood cohesion (1a) and more fear of crime (1b).

Hypothesis 2: Ethnic diversity has a stronger effect on neighborhood cohesion for natives than for nonnatives (2a). The same holds for fear of crime (2b).

Hypothesis 3: Ethnic diversity has a stronger effect on neighborhood cohesion in smaller contexts (3a). The same holds for fear of crime (3b).

Hypothesis 4: In contexts with rapid increases in ethnic diversity, people experience less neighborhood cohesion (4a) and more fear of crime (4b).

Other determinants of neighborhood cohesion and fear of crime

Ethnic diversity and changing levels of diversity are obviously not the only determinants of neighborhood cohesion or fear of crime. There is a considerable amount of literature on other individual and contextual factors that may explain differences in cohesion and fear of crime. Rather than discussing all of these determinants at length, we will examine a selection.

As for cohesion, some scholars consider economic disadvantage—instead of diversity—as the key element undermining neighborhood relations. Research has shown that deprivation damages the sense of community; being disadvantaged and living in a disadvantaged environment undermines the willingness to interact and engage socially, thereby decreasing the sense of belonging (Laurence, 2011; Letki, 2008). Because ethnically diverse areas also tend to be the more disadvantaged areas, it is crucial to take the context's level of deprivation into account. The same holds for deprivation at the individual level.

Regarding fear of crime, the incidence of crime and individual differences regarding age, gender, ethnicity, and economic status are considered relevant predictors. Although the linkage between crime and fear of crime lacks consistent empirical support (Rountree, 1998), research has provided some evidence for a relationship between crime and fear of crime (Ferraro & Grange, 1987; Taylor, 2001). The individual determinants relate to the so-called vulnerability hypothesis, which aims to explain why certain groups of individuals—the elderly, women, ethnic minorities, members of the lower class—report relatively high levels of fear without being victimized more often. The hypothesis posits that these groups feel more unsafe because they see themselves as more physically or socially vulnerable to victimization (Brunton-Smith & Sturgis, 2011; Eitle & Taylor, 2008).

Research design

Data

We draw on data from the Safety Monitor 2014 and Statistics Netherlands. The Safety Monitor is a survey on crime-related feelings of insecurity and victimization. Its sample is drawn from the municipality population register. In total, 86,382 respondents (38.8% of the total sample) completed the self-administered questionnaires, either online (47.9%) or through a written questionnaire (52.1%; Statistics Netherlands, 2015). Because we want to track diversity levels over a 5-year period, we only include those respondents who live in districts and neighborhoods for which the diversity levels are available in the years 2009–2014. There are 67,446 respondents who meet this

criterion. The smaller sample size can be explained by the frequent changes to how districts and neighborhoods are categorized, making it difficult to compare diversity scores across time. The selected respondents reside in 2,136 districts, 7,080 neighborhoods, and 67,446 street segments.

Data from the Safety Monitor were merged with nonpublic individual register data ("microdata") from Statistics Netherlands. Access to microdata is granted under specific conditions (Statistics Netherlands, 2017). The register data contain the ethnicity of all Dutch inhabitants and information on the economic situation of all Dutch households. The crime rate and changes in ethnic diversity were also derived from Statistics Netherlands and are publicly available at the district and neighborhood levels.

Defining contexts

We include the following contextual units in our analyses: (a) street segments, (b) neighborhoods, and (c) districts. These administratively defined areas vary considerably in population size. Districts are, in terms of both size and population, the largest entity we distinguish in our article. The average population size of a district in the Netherlands is 6,157 inhabitants. Dutch districts are subdivided into several neighborhoods, which have an average size of 1,400 inhabitants. Street segments (or six position postal codes) are the smallest contexts we consider. This spatial unit represents in general a part of a street and has on average only 40 inhabitants.

Neighborhood cohesion and fear of crime

In our analysis, two outcome variables are distinguished: neighborhood cohesion and fear of crime. The former is measured through a set of six items. These items include the following: people in this neighborhood hardly know each other, people in this neighborhood socialize pleasantly, I live in a cozy neighborhood where people help each other out and do things together, I feel at home with the people living in this neighborhood, I am satisfied with the population composition of the neighborhood, and I have a lot of contact with other neighbors (answer categories: *agree completely, agree, neither agree nor disagree, disagree*, and *disagree completely*). The first item—people in this neighborhood hardly know each other—was recoded to ensure that a higher score corresponds to a more positive view on the neighborhood. A factor analysis indicated that all six items load onto a single factor (see Table A1 in Appendix for details). The six items also appear to form a unidimensional scale, accounting for 59.77% of the variance. The scale is based on the average of at least four valid answers and is internally consistent with a Cronbach's α of .86.

There has been considerable debate on the appropriate operationalization of fear of crime. Although a clear consensus on its measurement is lacking, scholars agree that fear of crime is a multidimensional concept (Brunton-Smith & Sturgis, 2011; Ferraro & LaGrange, 1987). Our measure of fear of crime combines three different dimensions and focuses on elements related to behavior, threat, and risk (Skogan, 1996). More specifically, we construct a scale consisting of five items. Respondents were asked how often they do not answer the door during evening hours; avoid certain areas in their neighborhood, feel unsafe walking in their neighborhood or being home alone during the evening, and are afraid of being victimized (answer categories: *seldom or never, occasionally*, and *frequently*). A factor analysis resulted in one single factor (see Table A2 in Appendix for details). The items also proved to form a unidimensional and internally coherent scale, explaining 52.91% of the variance with a Cronbach's α of .85. The fear of crime scale represents the average of at least three valid answers. A higher score on the scale indicates more fear of crime.

(Changes in) ethnic diversity

To measure the static level of ethnic diversity, a Herfindahl-Hirschman index (HHI) was constructed for each context based on its ethnic composition in 2014. The HHI represents the probability that

two randomly selected individuals within the same context are of a different ethnic background. Its value varies between the 0 (total homogeneity) and 1 (total heterogeneity). Most Dutch researchers measure diversity either by the percentage of non-Western migrants or an HHI based on the proportion of seven different groups (e.g., Gijsberts et al., 2012; Lancee & Dronkers, 2011) or less (e.g., Vervoort, Flap, & Dagevos, 2011). Our study uses a more fine-grained measure of diversity and distinguishes between 18 different categories in order to do full justice to a context's level of diversity. The categorization is an geolinguistic classification, predominantly based on language and religion and refined with information on the political system of the country of origin (Jennissen, Engbersen, Bokhorst, & Bovens, 2018).[4] The dynamic measure of ethnic diversity captures the changes in diversity for a 5-year period. For each neighborhood and district, an individual regression slope was estimated based on the level of diversity in the years 2009, 2010, 2011, 2012, 2013, and 2014 (Pfister, Schwarz, Carson, & Jancyzk, 2013). This measure is, due to data limitations, based on the share of non-Western migrants and is not available at street level.[5]

Control variables

Several control variables are included at the contextual level. To measure the degree of economic disadvantage, an index was constructed that combines the percentage of low-income households, the average income of the context, and the percentage of households for which social security is the main source of income (e.g., Vervoort, 2012). Before constructing the index, the distribution of average income was reversed and all indicators were standardized. Lastly, the mean of the standardized indicators was calculated. To control for crime, we include the registered number of reported burglaries. This variable represents the incidence of burglary per 1,000 members of the population in 2014 in a neighborhood and district and is included in the analysis on fear of crime. Due to data restrictions, we cannot control for the incidence of burglary within street segments.

We also control for a range of variables at the individual level. The individual control variables are age (in decades), gender, education level, presence of children in the household, whether social benefits are the main source of income, ethnicity, and income level. In the analysis on fear, we also control for burglary victimization. This variable is self-reported and is measured by asking respondents whether they have becen victims of burglary during the last 5 years. The descriptive statistics for all variables are presented in Table 1. Missing values are either included as dummy variables (education level, social benefits, ethnicity, income level, and burglary victimization) or deleted listwise (other variables).

Analytical strategy

In order to take into account the nested structure of the data, we carried out linear multilevel regression analyses with random slopes. Street segment variables were included at the individual level because the values of these variables are unique for each respondent.[6] To determine whether all contextual levels should indeed be included in our models, three different intercept-only (or null) models were estimated and compared for both neighborhood cohesion and fear of crime.[7] For both outcome variables, the three-level models proved to have the best fit, so we decided to estimate three-level models. This suggests that our multiscale approach is necessary. Based on the three-level intercept-only models, the intraclass correlations (ICCs) were calculated. The ICC indicates how much variation in the respondents' answers can be attributed to each contextual level. The ICC values indicate that only a low proportion of the variance can be attributed to the contextual levels. More specifically, the proportion of variance attributed to the neighborhood and district levels for neighborhood cohesion is respectively 0.08 and 0.04. For fear of crime, the ICC values differ between 0.05 (district level) and 0.01 (neighborhood level). Because multilevel models are designed to analyze variables from different levels and their interactions simultaneously (Hox, 1995), we consider multilevel modeling the preferred way to analyze our nested data.

Table 1. Descriptive statistics for individual and contextual variables.

	Min.	Max.	Mean	SD
Neighborhood cohesion	1	5	3.44	0.73
Fear of crime	1	3	1.27	0.41
Age in decades	1.5	10.3	5.14	1.81
Gender (ref. = male)	0	1	0.52	
Education				
Low (= ref.)	0	1	0.31	
Middle	0	1	0.28	
High	0	1	0.32	
Children (ref. = none)	0	1	0.41	
Social benefits main income source (ref. = yes)	0	1	0.92	
Ethnicity				
Dutch (= ref.)	0	1	0.83	
Western	0	1	0.09	
Moroccan	0	1	0.01	
Turkish	0	1	0.03	
Surinamese and Antillean	0	1	0.03	
Other non-Western	0	1	0.03	
Income				
First quintile (= ref.)	0	1	0.13	
Second quintile	0	1	0.21	
Third quintile	0	1	0.20	
Fourth quintile	0	1	0.21	
Fifth quintile	0	1	0.23	
Victim of burglary (ref. = not)	0	1	0.13	
Street segment				
Ethnic diversity	0	0.90	0.31	0.23
Economic disadvantage	−9.05	14.65	−0.01	0.54
Neighborhood				
Ethnic diversity	0	0.88	0.36	0.21
Economic disadvantage	−4.500	5.63	0.01	0.83
Burglary	0	230	5.51	3.39
Δ Ethnic diversity	−15	9.37	0.15	0.56
District				
Ethnic diversity	0	0.84	0.37	0.21
Economic disadvantage	−3.98	4.25	0.05	0.93
Burglary	0	47.62	5.55	2.89
Δ Ethnic diversity	−5.31	7.46	0.15	1.28

To test our four hypotheses, we need to estimate two models: one model to predict neighborhood cohesion and a second model to predict fear of crime. We add cross-level interactions to these models in order to analyze whether and to which extent potential diversity effects are different for natives and nonnatives. To avoid problems of collinearity, we cannot include all hypothesized cross-level interactions simultaneously in the same model but only a selection. We started with a base model that included all individual and contextual variables but no interaction terms. For our final model, we grand mean–centered the ethnic diversity variables and followed a stepwise procedure. As a criterion of entry and removal of the interaction terms, we use the significance of the parameter estimates ($p < .05$). The order of introduction is determined by improvement in model fit (e.g., Tolsma et al., 2009). For the final two models, we investigated the presence of multicollinearity using variance inflation factors. The resultant variance inflation factors were under or around 10, which is considered acceptable (Finch, Bolin, & Kelley, 2014).

Results

The descriptive statistics are presented in Table 1. The table shows that the average level of cohesion is 3.44 (on a scale ranging from 1 to 5) and the average fear level is 1.27 (on a scale from 1 to 3). We also examined to what extent native and nonnative respondents differ in their cohesion and fear scores. It appeared that natives experience slightly more cohesion and a bit less fear when compared

to nonnative respondents.[8] Independent sample *t* tests indicated that the differences in cohesion and fear levels are significant ($p < .001$).

The results presented below are based on our final multilevel regression models including individual variables, contextual variables, and a selection of cross-level interactions. We first discuss to what extent our measure of ethnic diversity affects neighborhood cohesion and fear of crime and to what extent the diversity effects are moderated by ethnicity. The role of changing levels of diversity will also be addressed. The results of the control variables are briefly discussed in the last section.

Ethnic diversity and neighborhood cohesion

Table 2 shows the results of the multilevel regression model predicting neighborhood cohesion. We find that more diversity at the street level and neighborhood level is associated with less cohesion. More specifically, an increase of 10% points of diversity at the street level decreases cohesion for nonnatives of 0.045 ($b = -0.452 \times 0.10$) and for natives of 0.057 ($b = (-0.452 + -0.121) \times 0.10$). At the neighborhood level, nonnatives and natives experience respectively 0.035 ($b = -0.348 \times 0.10$) and 0.058 ($b = (-0.348 + -0.231) \times 0.10$) less cohesion if diversity increases with 10% points. The composition of the larger district unit is unrelated to cohesion. This finding seems to prove that "small is better" (e.g., Oberwittler & Wikström, 2009): in the two smaller areas, significant diversity effects are detected. These diversity effects disappear at the larger aggregation scale. Hypothesis 1a,

Table 2. Multilevel linear regression analysis of neighborhood cohesion.

	B SE
Contextual levels	
Street segment	
Ethnic diversity	**−0.452 (0.048)** ***
Ethnic diversity * Natives	**−0.121 (0.052)** *
Economic disadvantage	−0.002 (0.005)
Neighborhood	
Ethnic diversity	**−0.348 (0.073)** ***
Ethnic diversity * Natives	**−0.231 (0.053)** ***
Economic disadvantage	**−0.055 (0.009)** ***
Δ Ethnic diversity	−0.009 (0.008)
District	
Ethnic diversity	0.118 (0.060)
Economic disadvantage	0.002 (0.009)
Δ Ethnic diversity	−0.015 (0.014)
Individual level	**0.018 (0.002)** ***
Age in decades	
Gender (ref. = male)	0.000 (0.005)
Education (ref. = low)	
Middle	−0.003 (0.007)
High	0.004 (0.007)
Children (ref. = none)	**0.117 (0.006)** ***
Social benefits main income (ref. = yes)	**0.058 (0.012)** ***
Ethnicity (ref. = Dutch)	
Western	−0.014 (0.009)
Moroccan	**0.148 (0.034)** ***
Turkish	**0.123 (0.026)** ***
Surinamese and Antillean	−0.009 (0.019)
Other non-Western	0.028 (0.019)
Income (ref = lowest)	
Second quintile	**0.034 (0.010)** ***
Third quintile	**0.050 (0.010)** ***
Fourth quintile	**0.054 (0.010)** ***
Fifth quintile	**0.085 (0.010)** ***
N	65,898

Note. *$p < .05$. **$p < .01$.***$p < .001$. Bold values indicate significant effects ($p < .05$).

which predicted lower levels of cohesion in contexts with more ethnic diversity, is thus supported within the two smallest contextual units. In line with Hypothesis 2a, it is shown that the diversity effects on cohesion are significantly stronger for natives than for nonnatives. This outcome suggests that inhabitants without a migration background are slightly more affected by rising diversity levels. More specifically, native respondents living in the most ethnically diverse streets and neighborhoods experience respectively 0.121 and 0.231 less cohesion (measured on a 5-point scale) compared to nonnative respondents, confirming Hypothesis 2a in neighborhoods and streets.

For both groups, we hypothesized that the diversity effects on cohesion would be larger at a smaller spatial scale. We find no consistent evidence for this third hypothesis. For nonnatives, a slightly larger effect of diversity is found at the street level. For natives, however, the opposite is the case. Consequently, Hypothesis 3a is not fully supported. We also consider whether our dynamic indicator of diversity, which captures the changes in diversity during a 5-year period, is associated with less cohesion. We find that increases in diversity within neighborhoods and districts are unrelated to neighborhood cohesion. Hypothesis 4a, predicting a negative relationship between increases in diversity and cohesion, is thus rejected.

Ethnic diversity and fear of crime

Regarding the effects of ethnic diversity on fear of crime, we observe in Table 3 that diversity measured at the level of the street, neighbourhood, and district is related to more fear of crime. Hypothesis 1b—more diversity results in more fear—is thus supported in all spatial contexts. More specifically, an increase in diversity of 10% within streets and districts is accompanied by 0.006 more fear (for streets: $b = 0.063 \times 0.10$; for districts: $b = 0.064 \times 0.10$). At the neighborhood level, the impact of diversity is slightly larger: in neighborhoods with 10% more diversity, nonnatives experience 0.023 ($b = 0.233 \times 0.10$) more fear and natives 0.015 ($b = [0.233 + -0.079] \times 0.10$).

A significant cross-level effect between diversity and ethnicity is detected within neighborhoods. The interaction shows that the diversity effect is slightly less prevalent for native respondents, indicating that nonnatives are more affected by neighborhood diversity than their native counterparts. When living in the most ethnically diverse neighborhoods, native respondents experience 0.079 less fear (measured on a 3-point scale) compared to nonnative respondents. We hypothesized, however, that the diversity effect on fear would be larger for native respondents. It follows that Hypothesis 2b does not hold: nonnatives' feelings of safety are not less affected by diversity, even though more diversity for this group implies living with more co-ethnics and other ethnic minorities. In addition, we find no evidence for the third hypothesis, which predicted a larger diversity effect in the street context and weaker effects in the larger neighborhood and district contexts. Instead, it is shown that the strongest effect of diversity is found within neighborhoods, leaving Hypothesis 3b unconfirmed. We also have to reject our last Hypothesis 4b, which predicted a positive relationship between increases in diversity and fear. There are, however, no significant effects of our dynamic measure of diversity.

Control variables

Table 2 reveals that various control variables are significantly associated with neighborhood cohesion. Older residents and respondents who are part of a household with children score higher on the neighborhood cohesion scale. This finding also holds for respondents belonging to higher income groups (compared to the lowest income group). Gender and a person's level of education are unrelated to cohesion. A statistically significant association between receiving social benefits and cohesion is reported as well, indicating that those who do not depend on social benefits experience more cohesion. Respondents with a Moroccan or Turkish background also report higher levels of cohesion. The contextual control variable economic disadvantage decreases cohesion only at the level of the neighborhood.

Table 3. Multilevel linear regression analysis of fear of crime.

	B SE
Contextual levels	
Street segment	
Ethnic diversity	**0.063 (0.011) *** **
Economic disadvantage	**0.007 (0.003) ***
Neighborhood	
Ethnic diversity	**0.233 (0.034) *** **
Ethnic diversity * Natives	**−0.079 (0.019) *** **
Economic disadvantage	**0.019 (0.005) *** **
Δ Ethnic diversity	0.000 (0.004)
Burglary	**0.002 (0.001) *** **
District	
Ethnic diversity	**0.064 (0.031) ***
Economic disadvantage	−0.001 (0.004)
Δ Ethnic diversity	0.005 (0.007)
Burglary	**0.006 (0.001) *** **
Individual level	**0.003 (0.001) ** **
Age in decades	
Gender (ref. = male)	**0.146 (0.003) *** **
Education (ref. = low)	
Middle	**−0.032 (0.004) *** **
High	**−0.073 (0.004) *** **
Children (ref. = none)	**−0.027 (0.004) *** **
Social benefits main income (ref. = yes)	**−0.058 (0.006) *** **
Ethnicity (ref. = Dutch)	
Western	−0.007 (0.005)
Moroccan	−0.011 (0.014)
Turkish	**0.047 (0.014) ** **
Surinamese and Antillean	**0.064 (0.011) *** **
Other non-Western	0.013 (0.009)
Income (ref = lowest)	
Second quintile	**−0.013 (0.005) ***
Third quintile	**−0.041 (0.006) *** **
Fourth quintile	**−0.059 (0.006) *** **
Fifth quintile	**−0.071 (0.006) *** **
Victimization experience (ref. = yes)	**0.181 (0.004) *** **
N	63,378

Note. *$p < .05$. **$p < .01$.***$p < .001$. Bold values indicate significant effects ($p < .05$).

Several control variables are also significantly related to fear of crime (Table 3). Fear of crime is higher among older respondents, women, victims of burglary, and those who rely on social benefits. In contrast, highly educated respondents and those with a higher income or with children in the household experience less fear of crime. Respondents with a Turkish and Surinamese background also report higher fear levels. These findings seem to confirm the hypothesis that vulnerable groups feel unsafe. As for the associations between the contextual control variables and fear of crime, there are significant effects of economic disadvantage and crime at specific spatial levels. Deprivation at the two lowest levels (street and neighborhood) increases fear of crime. Lastly, the number of reported burglaries is a relevant predictor for fear of crime within districts and neighborhoods.

Discussion and conclusion

Numerous scholars have recently examined the negative effects of living in an ethnically diverse environment. Following Putnam's (2007) constrict hypothesis, most research focused on outcomes related to social cohesion. Our study researched the effects of diversity on both neighborhood cohesion and fear of crime. In combination with our multiscale approach and time span of 5 years, we are able to provide a nuanced understanding of the role of ethnic diversity. Our results demonstrate that ethnic diversity aggregated at specific spatial levels is associated with less

neighborhood cohesion and more fear of crime. The first finding seems to confirm that ethnic diversity causes people to withdraw from social life. We also show that the consequences of diversity are not limited to the deterioration of cohesion: fear of crime may as well be affected by diversity. Our study is one of the first to empirically address this relationship between ethnic diversity and fear of crime in a local European context. The results suggest that the hypothesized mechanisms of threat and anomie are applicable to both neighborhood cohesion and feelings of unsafety.

Another main finding of our study is that similar patterns are observed for both native and nonnative respondents. These outcomes are (again) in line with the constrict hypothesis, which predicts an overall negative effect of diversity for all inhabitants, regardless of ethnicity. We did, however, find some slight differences in the degree to which our two groups of respondents are negatively affected by diversity. Natives living in diverse streets and neighborhoods experience slightly less cohesion when compared to nonnatives. The impact of neighborhood diversity on fear is, in contrast, larger for nonnatives than for natives. The direction of the studied relationships, however, does not differ according to ethnic background. It seems that all respondents react to a large extent in similar ways to increased diversity. The idea that for nonnatives the impact of diversity is less prevalent because diversity for this group is accompanied by more familiarity—in the form of co-ethnics or other minorities—is thus not fully supported, probably because inhabitants with a migration background have become a highly diverse group themselves (Jennissen et al., 2018).

In contrast to most previous research, we also explicitly examined the role of spatial scale by employing a multiscale approach. By taking into account the microcontext (streets) as well as larger contexts (neighborhoods and districts), we were able to demonstrate which contextual characteristics operate at which spatial scale. Most important, it was found that ethnic diversity at the street and neighborhood levels decreases cohesion, whereas fear is affected by diversity within streets, neighborhoods, and districts. The effects of diversity on cohesion seem to be more localized than the relationship between diversity and fear of crime.

Our study also showed that decreases or increases in ethnic diversity at the level of the neighborhood and district were unrelated to neighborhood cohesion and fear of crime. This outcome can be interpreted in multiple ways. A possible explanation is that current levels of ethnic diversity of these contexts are apparently better able to explain differences in neighborhood cohesion and fear of crime than sudden increases or decreases over the past 5 years. Another possibility is that, to better capture the dynamics of "time," a shorter (or longer) time period should be examined. Schaeffer (2014), for instance, considered increases in diversity during a 2-year period and found a negative association between these increases and social cohesion.

In addition to static and dynamic measures of ethnic diversity, other contextual variables were included in the analyses as well. In line with other research, our findings indicate that economic disadvantage—at specific levels—reduces cohesion and feelings of safety (Laurence, 2011; Tolsma et al., 2009). We also found evidence that people feel more unsafe in neighborhoods and districts with a higher burglary rate. These findings demonstrate that fear of crime is not entirely an irrational response, unrelated to objective crime threat (Brunton-Smith & Sturgis, 2011).

Despite the relevance of context, we should not exaggerate the role of contextual characteristics in explaining differences in neighborhood cohesion and fear of crime; these differences can be better explained by individual characteristics. It emerges that victims of burglary and vulnerable groups feel particularly unsafe. Vulnerable persons are those who feel physically vulnerable, such as females and the elderly, and inhabitants who feel socially vulnerable because they lack the means to reduce the likelihood of victimization (Eitle & Taylor, 2008). Inhabitants with lower education and income levels and those who rely on social benefits are considered socially vulnerable. The presence of children in the household is, in contrast, related to less fear and more cohesion. This may be because children bring their parents into more consistent contact with their neighbors and the community, creating more familiarity between the inhabitants (Hipp, 2009). Higher levels of cohesion are also reported among older inhabitants, a finding in line with other research (Lancee & Dronkers, 2011; Tolsma et al., 2009). Lastly, having a lower income and receiving social benefits are related with less

cohesion. This may be because those groups lack the means to move to a neighborhood of their choice and, as a result, feel trapped in their neighborhood (Hipp, 2009).

It should be noted that our study has certain limitations. Our measure of diversity correlates quite strongly with measures of ethnic concentration and, as a consequence, we are unable to empirically disentangle diversity from concentration.[9] As already observed by Gijsberts et al. (2012), it is therefore not possible to determine whether the presence of many different ethnic groups is harmful to cohesion and feelings of safety or rather the concentration of a specific group. Another limitation is the use of cross-sectional data. A causal effect of diversity on cohesion or fear of crime therefore cannot be assumed. Rather than reflecting causal relationships, the found cross-sectional associations may be a consequence of diversity having increased in areas that were already characterized by lower cohesion and more fear of crime. If minorities are more likely to settle in these areas, our associations might be driven by selection bias (for a more elaborate discussion of this point, see Laurence & Bentley, 2016). Longitudinal data are needed to make actual causal claims.[10]

Overall, our study provides a nuanced understanding of how specific characteristics at specific spatial levels are associated with fear of crime and neighborhood cohesion among native and nonnative inhabitants. Future research can build on this study by studying the interrelationships between cohesion and fear of crime (e.g., Boessen, Hipp, Butts, Nagle, & Smith, 2017; Collins & Guidry, 2018) and the way(s) in which diversity is related to these outcomes and, in addition, by examining more directly the mechanisms that underlie the negative effects of diversity.

Notes

1. The other two factors are residential instability and economic deprivation.
2. Putnam (2007) acknowledges that the impact of diversity is "definitely greater among whites." At the same time, it is written that the effect of diversity "is visible as well among non-whites" (p. 54). No empirical evidence is provided for these claims.
3. It should be noted that homogenous contexts could refer to heterogeneous characteristics, in our case ethnic diversity. Contexts could thus be "homogeneously heterogenic" within their area boundaries (Oberwittler & Wikström, 2009, p. 56).
4. We distinguish between people from Anglo-Saxon countries; German-speaking countries; Scandinavian countries; Mediterranean countries; Middle and Eastern Europe; Arabic countries; Latin America; sub-Saharan Africa; South Asia; Central Asia; Southeast Asia and the Pacific; East Asia; former Dutch colonies (Surinam, former Netherlands Antilles); Belgium; Indonesia; Morocco; the Netherlands; and Turkey.
5. Non-Western minorities are defined as those who are born in or who have at least one parent who was born in Africa, Latin America, or Asia (including Turkey). Because the share of non-Western minorities tends to correlate strongly with the HHI, researchers sometimes rely on the share of this group to measure ethnic diversity (e.g., Scheepers et al., 2013; Sluiter et al., 2015).
6. The street-level characteristics are individualized measures of context and are therefore included at the individual level. These individualized contexts of small size are considered "a promising avenue for further research" (Dinesen & Sønderskov, 2015, p. 565). Because the street segments are not treated as a separate contextual level, we do not need to worry about having too few respondents per street segment.
7. Specification of the three models: (a) individual and neighborhood; (b) individual and district; and (c) individual, neighborhood, and district. The models were compared based on their Akaike information criterion and Bayesian information criterion values, assuming that lower values indicate better model fit (Finch et al., 2014).
8. More specifically, the average cohesion scores differ between 3.48 (natives) and 3.27 (nonnatives) and average fear of crime levels between 1.25 (natives) and 1.38 (nonnatives).
9. Correlations between HHI18 and percentage non-Western minorities: 0.85 (neighborhood level) and 0.87 (district level).
10. A final limitation of the current article is that it does not capture more recent demographic trends, such as the rapid influx of refugees in 2015. One of the reviewers noted that, as a result, our findings may already be limited or in need of updating. We agree that these demographic changes could impact the results. At the same time, these developments emphasize the relevance of the current article.

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Appendix: Factor analyses

Table A1. Summary factor analysis of neighborhood cohesion.

Item	Factor loading
People hardly know each other	0.628
People socialize pleasantly	0.792
I live in a cozy neighborhood	0.855
I feel at home	0.856
I am satisfied with the population composition	0.695
I have a lot of contact with other neighbors	0.785
Eigenvalue	3.586
% of variance	59.77

Table A2. Summary factor analysis of fear of crime.

Item	Factor loading
Do not answer the door during evening hours	0.719
Avoid certain areas in the neighborhood	0.735
Feel unsafe walking in the neighborhood	0.831
Feel unsafe being home alone during the evening	0.768
Afraid of being victimized	0.753
Eigenvalue	2.095
% of variance	58.10