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Acquaintances or Familiar Strangers? How Similarity and Spatial Proximity Shape Neighbour Relations within Residential Buildings

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ABSTRACT

While scholars have long established that city dwellers choose with whom to develop relationships on the basis of social proximity, spatial proximity remains the basis for neighbour relations involving greetings, social conversation, and the exchange of services. Few studies have systematically compared the respective roles of spatial and social proximity in neighbour relations. In this paper, we investigate these two factors through statistical analysis of four social network datasets representing relationships within four rented apartment buildings in Geneva, Switzerland. Using a measure of distance that takes into account how the layout and materiality of buildings shape relationships through accessibility, visibility and audibility, we compare the effects of spatial proximity with the effects of individual determinants and similarity. Our study also breaks new ground by comparing weak ties – between people who interact regularly – and “invisible ties”, or ties to familiar strangers. Our study confirms that spatial proximity increases the likelihood of weak ties and questions the underlying mechanisms. It also shows that in addition to sociability, familiarity and anonymity are constitutive dimensions of neighbouring, even at the scale of buildings.

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Introduction

In dense urban areas, housing is a setting where social relations are characterized by spatial proximity, but not always by social proximity. This makes neighbour relations an unavoidable subject for studying the respective roles of social and spatial proximity in shaping relationships. On the one hand, scholars have long established that city dwellers

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choose with whom to develop relationships based on social proximity (Wellman 1979). On the other hand, spatial proximity remains the basis for neighbour relations involving greetings, social conversations and the exchange of services.

Urban sociologists have found concurrent effects of physical proximity and of social proximity in the development of relations between neighbours (Cabrera and Najarian 2015; Hipp and Perrin 2009; Kleit 2005). However, such systematic evidence exists only for low-density single-family neighbourhoods, while a growing proportion of people live in apartments. In countries such as Germany, Spain, Italy or Switzerland, more than half of the population lives in apartment buildings (Eurostat 2021). Qualitative studies suggest that residents mainly recognize and interact with neighbours on the same floor (Arviv and Eizenberg 2021; Thompson, Easthope, and Davison 2022), and that shared paths and common areas within buildings shape opportunities for contact (Gifford 2007; Nguyen et al. 2020). This article seeks to explore statistically the role of spatial proximity in neighbour relations within apartment buildings, while considering the residential building as more than just a backdrop for neighbour relations. We argue that materiality – and not just space – shapes social relations. To this end, we developed a measure of physical proximity that takes into account how the spatial layout of built environments affect patterns of encounters or avoidance and how the material environment shapes relationships between building occupants (Power 2015).

A second contribution of this paper consists of a comparison between two different types of relations. The individual determinants of neighbourhood sociability (conversations, visits, exchange of services) have been extensively studied, showing the positive impact of homeownership, length of residence and presence of children. Scholars also demonstrated how neighbour similarity when it comes to these variables predicts relations which can be regarded as weak ties. However, qualitative studies highlight the relevance of “public familiarity” (Blokland 2003), of “lighter touch forms of sociality” (Thrift 2005, 145), of relationships characterized by a “friendly distance” (Crow, Allan, and Summers 2002) and by “friendly recognition” (Kusenbach 2006). In previous work we have conceptualized such relationships as “invisible ties” (Felder 2020; Felder 2021), i.e. relationships with neighbours that one recognizes or knows about. How such relationships are determined by social and spatial proximity remains unclear.

In this paper, we measure the concurrent effects of individual determinants, of social proximity (similarity) and of spatial proximity, both on weak ties and on what we call invisible ties, or ties to familiar strangers. On the one hand, we show who is likely to contribute to sociability, and with whom one is likely to interact. On the other hand, we analyse who is more likely to contribute to familiarity by being known as a familiar stranger, and by whom. Our analyses rely on four social network datasets created from transcripts of interviews with tenants of four rental apartment buildings in the city centre of Geneva, Switzerland. These interviews were qualitatively analysed in a previous paper (Felder 2020).

We first review studies that analysed neighbour relations from a social network perspective. We pay attention to how such relations have been conceptualized and measured, and then review studies that examine the role of individual determinants and of spatial proximity within buildings. The following section describes how our research design fills a gap in the literature by analysing statistically relations within buildings, and by considering relations pertaining not only to sociability but also to

familiarity. After describing our findings, we will discuss them by arguing for a three-dimensional approach to neighbour relations.

Neighbour Relations from a Social Network Perspective

Quantitative studies of neighbouring have examined three types of effects: individual (who is more likely to develop relations), dyadic (who is more likely to develop relations with whom) and contextual (what kind of environment, in terms of design, architecture and proximity, makes relations more likely). But before looking at the different analytical approaches and their results, it is necessary to unpack the notion of social ties in the context of neighbouring.

What Type of Neighbour Relations?

While authors distinguish between different types of ties, they tend to focus on relationships with the neighbours that respondents know best, or those with whom they have the most interaction: neighbours that respondents know by name (Campbell and Lee 1992), have spent a “social evening” with (Guest and Wierzbicki 1999), exchanged favours with (Perren, Arber, and Davidson 2004) or at least talked to (Gearhart et al. 2020; Hipp and Perrin 2009). However, qualitative studies have highlighted other types of neighbour relations, emphasizing the “wide-ranging forms of mutual knowing” (Richaud 2018, 572).

Authors have argued that the most basic form of relation consists in recognizing the other as a neighbour (Grannis 2009; Ruonavaara 2022). Others have argued that a “good neighbour” may be a familiar stranger keeping a friendly distance (Crow, Allan, and Summers 2002; Reid and Nicole Johnston 2015). Indeed, some people seem satisfied with simply knowing *about* their neighbours, as interacting with them may be time consuming (Guest et al. 2006). This attitude does not necessarily reflect a rejection of the ideal of a close-knit community, as Thompson and colleagues have pointed out. Their respondents were concerned “about the spectre of the over-friendly or intrusive neighbour and guarding their own time, energy and privacy – even when they desire a greater level of connection” (Thompson, Easthope, and Davison 2022, 10).

Neighbour relations therefore often take the form of “invisible ties” with neighbours who are recognized as familiar strangers (Felder 2020). These ties are invisible because they do not necessarily involve observable interaction, but also because they seem invisible to researchers who have traditionally focused on face-to-face relationships. However, researchers are increasingly paying increasing attention to these seemingly innocuous relationships that can affect our sense of safety (Zahnw, Zhang, and Corcoran 2020), of comfort and of belonging (Blokland and Nast 2014; Blokland et al. 2022; Glover 2021; Kusenbach 2006; Link, Señoret, and Valenzuela 2021; Prezza et al. 2001). Yet, the determinants of invisible ties between neighbours remain unclear. One of the reasons for this is the difficulty of measuring these connections using social network analysis tools, such as name generators. For instance, Henning and Lieberg (1996) identified what they called “acknowledgement contacts” in their study of neighbourhood networks, but lacking information about these neighbours that the respondents only recognize, the authors could not draw any conclusions about the role of proximity.

Individual Determinants and Homogeneity

Research has repeatedly shown that home ownership, the presence of children, and length of residence are positively associated with neighbouring activity (Authier and Cayouette-Remblière 2021; Campbell and Lee 1992; Guest et al. 2006; Lee, Campbell, and Miller 1991; Nation, Fortney, and Wandersman 2010). In contrast to tenants, homeowners seem to be more involved in local social life, because they stay – or intend to stay – longer (Hirvonen and Lilius 2019; Manturuk, Lindblad, and Quercia 2010; Mouratidis and Andersen 2023), and because they develop neighbour relations instrumentally, to protect their investment (Guest et al. 2006). Parents of young children also have incentives to interact with their neighbours and reasons to spend time around their home. Parents stand out as having greater knowledge of their neighbours, which Guest et al. (2006) explain by a concern to keep their children in good company. As for the length of residence, it essentially reflects having more time and opportunities to develop relations.

People with these characteristics are therefore more likely to become “socializers”, i.e. to take a central role in the sociability of their building. However, in an earlier paper we highlighted the importance of another central role: “figures” (Felder 2020). We argued that these residents – who are widely known to people with whom they have little or no interaction – support tenants’ sense of familiarity within the building. While Guest and colleagues tell us who may know their neighbours best, it is not yet known what predicts being known by one’s neighbours, and therefore what contributes to one becoming a “figure”. We assume, however, that like Jane Jacobs’ “public characters” (Jacobs 1992, 68), these people are particularly visible and recognizable, which may be the case for households with children, for the elderly (who spend more time around their home) and for long-term residents.

Studies analysing neighbouring at the dyadic level have shown that neighbour relations are likely to be homogeneous with respect to variables such as age, gender, socio-economic position, tenancy status, or length of residence (Authier and Cayouette-Remblière 2021; Hipp and Perrin 2009; Huckfeldt 1983; Tulin, Volker, and Lancee 2019). Common explanations for this homogeneity are homophily (a preference for relationships with people who are similar in some way), and context homogeneity (people develop relationships with the pool of others available to them) (Favre et al. 2022).

Empirical evidence suggests that the stronger the tie between two people, the more similar they are in a number of ways (Granovetter 1973, 1362). We therefore suppose that, compared to strong and weak ties, invisible ties connect people who are dissimilar. However, this needs to be tested empirically.

Spatial Proximity within Buildings

The greater the spatial proximity, the greater the likelihood of association. This long-standing argument still holds, as recently demonstrated in a review by Small and Adler (2019). However, studies of the influence of physical proximity on social relationships tend to focus on broad scales (e.g. regions, cities, neighbourhoods) and on strong ties (e.g. marriages, friendships). Few studies have focused on smaller scales, since Festinger et al. (1950) showed that physical proximity within housing blocks on the MIT campus was a strong predictor of friendships. One study has

shown that students living in the same residence were twice as likely to have exchanged emails, a factor multiplied by two for those living on the same floor (Marmaros and Sacerdote 2006). In these examples, however, respondents were not only physically close, they were also remarkably close socially and they shared a common focus: their studies.

On the contrary, residential contexts, at least in European urban centres, often remain socially heterogeneous despite the dynamics of segregation (Pisarevskaya, Scholten, and Kaşlı 2021). This heterogeneity can even be found within residential buildings (Baxter 2017; Maloutas et al. 2023). In such contexts, researchers tend to assume that neighbours interact selectively, based on the long-standing claim that “despite the physical proximity of city people, social distance prevails” (Bogardus 1926, 40). Systematic evidence exists only for low-density, single-family neighbourhoods. Focusing on a socially-mixed neighbourhood in Seattle (USA), Kleit (2005) showed that living next to each other, rather than behind each other, on the same street or further away, partly predicted relations, but that these were better determined by social similarity in terms of language, housing tenure and ethnicity. Hipp and Perrin (2009) studied a 150-housing unit neighbourhood in a US mid-sized town and showed strong concurrent effects of physical proximity and of social proximity variables such as wealth, presence of children, age, marital status and length of residence, on both weak and strong ties.

While these studies deal with horizontal proximity, cities are also vertical. In high-rise buildings, studies suggest that residents primarily recognize and interact with neighbours on the same floor (Arviv and Eizenberg 2021; Bochner et al. 1976; Ginsberg and Churchman 1985; Zito 1974), but the effect of this vertical proximity has not been investigated statistically. Moreover, besides horizontal and vertical distance, shared paths and common areas (e.g. corridors, entrances, stairs, lobbies, parking areas) within buildings also shape opportunities for contact (Gifford 2007; Nguyen et al. 2020).

The analysis of architectural or physical form “almost invariably brings into play the relationship between visibility (what you can see) and permeability (where you can go)” (Hanson 1999, 54). A notion of audibility should be added, considering how hearing one’s neighbours is a source of knowledge, but also of conflict (Crul, Steinmetz, and Lelie 2020; Schwarz 2015). As Power (2015, 258) put it: “neighbours sharing a floor might share common hallways and be able to access one another’s doors, while those immediately above and below may be connected by infrastructural flows and the ceiling/floor interface”.

However, authors also caution against determinism. For example, Mechlenborg (2022, 8) notes that for some residents of high-rises in Denmark, “going to the shared parking lot or laundry facility was an exercise in avoiding social contact [... while for] others, these spaces were potential platforms for conversations and social interaction”. Proximity could therefore influence not only the opportunities for interaction (and weak ties), but also the opportunities for developing familiarity (and invisible ties).

In summary, this review of the literature shows that prior studies have focused on sociability (who interacts with whom), while less is known about the realm of familiarity (who knows about whom). Concomitantly, despite the quantity and consistency of studies on neighbouring, systematic studies at the building scale are lacking. The aim of our paper is therefore to examine the effect of individual variables, similarity and proximity on the likelihood of weak ties, but also on the likelihood of invisible ties.

Research Design

Distinguishing the effects of spatial proximity from those of social proximity requires complete networks (also called “sociocentric networks”) with independent measures of spatial and social proximity. While a neighbourhood often has blurred and contested boundaries (Dean et al. 2019), an apartment building provides clear boundaries. This delineation, along with its small size (compared to a neighbourhood or city), allows for the collection of data on the relationships between all residents.

The current study uses social network data to examine the relationships between neighbours in four apartment buildings. The four buildings were centrally located, in functionally and socially mixed areas of Geneva’s city centre, where 50% to 60% of the residents are non-Swiss. In this context, the buildings were unremarkable in terms of size and standard, with 14 to 21 apartments on six or seven floors (two or three apartments on each floor), a small lobby with mailboxes, an elevator, a front door leading directly onto the pavement, and a communal laundry room. Only building #4 was different: a courtyard separated two blocks of nine apartments, with doors facing each other in passageways. All the interviewees were tenants – like 90% of Geneva’s residents – who paid between 800€ and 3300€ a month in rent, depending on the size of the apartment and the number of years since the lease agreement was signed.

Based on the literature, we expect respondents to develop more weak ties if they have children, and if they are long-term residents. We also expect them to interact more with households that are similar to them in age, household type and length of residence. Regarding familiarity, we hypothesize that neighbours are more likely to be known only as familiar strangers if they belong to the oldest age group. We assume this on the basis of studies showing that elderly residents – while spending more time around their home and being more visible – struggle to socialize with other (working age) residents who have less time (Buffel and Phillipson 2019). With regard to spatial proximity, we hypothesize that, while controlling for individual determinants and the effect of similarity in relation to each variable, spatial proximity is positively correlated with weak ties, and negatively correlated with invisible ties. In other words, we expect that the closer people live to each other in the building, the more likely they are to interact, and the further away one lives from a neighbour, the more likely he or she is to be known as a familiar stranger.

Data Collection

The analyses focused on four data sets, each representing a building with between 14 and 21 apartments. The network data are derived from qualitative interviews conducted in 2015 with representatives of 46 out of 70 households, or 65% of the total. For the remaining 24 households, we have incomplete data resulting from informal discussions with them (if a formal interview could not take place) or with neighbours who know them. The interviews lasted approximately one hour and included a discussion on their housing history and neighbourhood practices. The second part of the interview was focused on a schematic representation of the building, with a square representing each apartment. Rather than asking respondents who they knew, we asked them to describe their relationship or what they knew about each household. At the end of the interview, participants were asked to complete a socio-demographic questionnaire.

Coding Social Ties

By reading the interview transcripts and listening to the recordings, we sorted the relationships into categories. When asked about a particular household, respondents gave three types of answer: “I know them”, “I see who they are but don’t know them”, and “I don’t know who lives there”. We have used the term “weak tie” - the term proposed by Granovetter (1973) to describe relationships with acquaintances (as opposed to the strong ties that bind us to friends) – to describe the first situation. We applied this category when Ego and Alter interacted regularly without being close, as in the case of this household mentioned by Frederic: “They are a couple with two children and I talk to him quite regularly too. It’s easy because they’re on the ground floor, so they meet everyone”. Another example is Sébastien and his upstairs neighbours: “We visit them sometimes. They had flooded our bathroom. That’s what connected us”.

To describe the second type of response, we used the notion of invisible ties, which describes relationships with people who are familiar strangers, such as this person described by Ali: “He’s a guy, he must be in his sixties. He may be an international civil servant; I do not see him regularly. I feel he travels a lot. With him it’s ‘hello, goodbye’. [Interviewer: And ‘How are you?’] No, not even that. It’s just ‘hello, goodbye’”. Sandro gives another example: “I see who it is [who lives in this flat], it is a couple who jog excessively, I often see them leaving in the evening in jogging clothes”.

We have described the third type of response as non-existent ties, when Ego is unaware of Alter’s existence, as in this other quote from Sandro: “On the third floor? I have absolutely no idea who lives there.

This typology (see Felder 2020) includes a fourth category – strong ties – which we abandoned because they were too rare to be treated statistically. Given that strong ties also involve interactions, we have grouped them with weak ties. An example from a relationship coded as a strong tie was described in these words: “Up there lives Sandrine, with whom I have become quite close [...]. We went on vacation together with her children. We do not see each other often but we have a really good relationship, we are intimate”. As Snow and colleagues explain, for a friendship to form requires two neighbours to share enough interests and to be available, which would explain why neighbouring involves more friendliness than friendships (Snow, Leahy, and Schwab 1981).

This categorization is a simplification of complex and multidimensional social relationships. For example, interactions between neighbours can range from congenial relationships, based on trust and mutual help, to light conversation with people one does not necessarily like, and even to arguments. However, these broad categories of ties can help us to understand the determinants of two different types of relationship: those that involve face-to-face interaction (weak ties) and those that mainly involve knowledge (invisible ties). Whereas Granovetter deliberately defined weak ties as the counterpoint to strong ties, we define them as the counterpoint to relationships that involve only vague knowledge of the other (and to which he refers with the somewhat paradoxical term of absent ties) (Granovetter 1973, 1361).

Of the 1180 possible directed ties in the four buildings, 27 are coded as strong ties and are grouped with the 182 weak ties ($N = 209$). 354 are coded as invisible ties, 188 as non-existent and 429 are missing and thus excluded from the analysis. These are the ties of the

households that we were not able to interview. However, we know the incoming ties for these households if they were mentioned. These invisible and weak ties are considered here as our dependent variables and we will try to measure the probability of such ties according to the characteristics of the households and the configurations of each of these dyads (spatial proximity and social similarity).

It is important to note that the networks resulting from this coding work represent ties between households, not individuals. Although 35.7% of households had only one person, investigating households rather than individuals helps to simplify data collection, but also better represents the way neighbours talk about each other. Indeed, respondents often talked about their relationships with people in a household as if it were a single entity (the Smiths, those with the cat, etc.).

Measuring Spatial Proximity

The measure of physical proximity combines assessments of visibility (whom you can see) and accessibility (where you can go) – following the Space Syntax methodology (Hillier, 2007) – and adds an assessment of audibility (whom you can hear). We constructed a score based on floor difference and adjacency, building on our knowledge of tenant practices. The households that were considered the closest (score of 0) were those that were both on the same floor and side by side. Sharing one or more walls gives greater audibility, and being “next door” increases both accessibility and visibility. Other households on the same floor but not directly adjacent have a score of 1.

As they are not as visible as those on the same floor, households one floor above or below were given a score of 2, except for those exactly above or below (score of 1). Our qualitative data suggests that this form of adjacency provides audibility and induces contact (necessary for noise management, for example).

Finally, all households located more than one floor away were given a score of 3. Given that tenants have few opportunities to go to floors other than their own (all buildings have a lift), a difference of two, three or four floors does not make much difference. However, as everyone has to go through the ground floor to get in and out, we have given ground floor households a score of 2 (unless there is a floor difference of 1 and/or adjacency, in which case the other rules apply). Table 1 shows a simulation based on a household living on the 3rd floor of building 3.

The rules for calculating this distance score can be summarized as follows:

Table 1. Example of distance calculation with a household living on the 3rd floor in the building 3.

	Left	Middle	Right
6th floor	3	3	3
5th floor	3	3	3
4th floor	2	2	1
3rd floor	1	0	EGO
2nd floor	2	2	1
1st floor	3	3	3
Ground floor	2	2	2

- on the other side of a shared wall: 0
- on the other side of a shared floor or ceiling: 1
- on the same floor, but not on the other side of a shared wall: 1
- one floor apart: 2
- two or more floors apart: 3 (except if ground floor: 2)

Building 4 has a different layout. It consists of two blocks of nine apartments, facing each other and separated by a courtyard. Tenants access their apartment via a single staircase and elevator, which then lead to external walkways, above the courtyard. Within one block we applied the above rules. However, because the tenants can see those on the opposite block entering and leaving their apartment from one side, we considered them to be as visible as if they lived on the same floor. They were therefore given a score of 1.

Across the four buildings, the 1180 possible relationships have an average distance score of 2.01 ($SD = .99$), with 87 (7.4%) relationships coded as 0, 312 (26.4%) as 1, 282 (23.9%) as 2 and 499 (42.3%) as 3.

Measuring Social Proximity

The socio-demographic variables were collected in two ways. For the interviewees, we used the questionnaire they filled in at the end of the interview. For those we did not interview, we were able to gather some information (on age, length of residence, type of household) from what others told us. The credibility and validity of these data were strengthened by comparing them over several interviews.

The socio-demographic variables we have chosen are those for which research has shown a strong impact on neighbourhood relations. We capture length of residence using three analytical categories derived from the discourse of the tenants in the building, who generally spoke of long-term residents (the longest established households, 41.4%, generally living in the building for more than 20 years) and newcomers (32.9%, arrived less than two years before). Those who did not fit into either category were grouped in an intermediate category (25.7%). This variable provides information not only on the length of time spent in the building, but also on which cohort of tenants moved in at around the same time, even if this may be several years apart.

Household composition and the presence of children were considered using the following categories: single people (40%), couples (21.4%) and families with children (38.6%). We included an age variable to test the hypothesis that older residents are more likely to become familiar strangers and to test the effect of age homophily. As the variables concern the household and not just the respondent, we work with four broad age categories: less than 40 (32.9%), 41–60 (45.7%) and more than 60 (21.4%).

From these data we reconstruct dyadic variables to show popularity effects (whether certain categories of households are more likely to be cited as weak or invisible ties) and similarity effects (how likely is one household to cite another as a weak or invisible tie, given that these households have similar characteristics in terms of age, household composition and length of residence). For each of these dimensions, we create binary variables indicating whether the dyad consists of households with similar characteristics or not.

Analytical Strategy

To test our two hypotheses and answer our research question, we first performed a series of binary logistic regressions using QAP (Quadratic Assignment Procedures, LRQAP) tests and then combined the results in a meta-analysis. Similar to common regression analyses, LRQAP is used to assess the effect of predictor variables on outcome variables but uses a specific procedure to test the significance of the results based on matrix permutations. While regular logistic models and t-tests are not well suited because network data typically violate the assumption of independent observations, LRQAP is a multivariate method that is well suited to estimating network dependent variables statistically. It is recommended when the primary interest is not structural network effects, but rather the effects of explanatory variables, such as those we are interested in in this study, where the structure of the network, especially the degree distribution, is controlled for (Snijders 2011). In LRQAP, regression coefficients are calculated using maximum likelihood, and p-values are calculated by comparing the observed matrices with several (1000 in our case) randomly permuted matrices (Dekker, Krackhardt, and Snijders 2007; Krackardt 1987).

We first ran a series of logistic models estimating the probability that a household is cited as a weak tie rather than an invisible ties or a non-existent-tie. In a second step, we estimated another series of models to determine the probability that a household is cited as an invisible tie rather than as non-existent-tie.

Results

The models are composed of three sections: the upper one concerns the effect of the spatial distance between two households on the probability that they are linked

Table 2. Who has a weak tie with whom?

		Model 1		Model 2		Model 3	
		Coef	Sig	Coef	Sig	Coef	Sig
Intercept		0,553		0,873		0,524	
Spatial distance		-0,262	***	-0,249	***	-0,259	***
Popularity	Less than 40 (ref. 41–60)	-0,014				0,020	
	More than 60 (ref. 41–60)	-0,278				-0,207	
Newcomers (ref. not long-term resident and not newcomer)		-0,564	***			-0,520	***
Long term residents (ref. not long-term resident and not newcomer)		0,605	***			0,690	**
Live as a couple without children (ref. Single)		0,118				0,394	*
Live with children (ref. Single)		0,508	**			0,656	***
Similarity	Same age category			0,123	*	0,125	*
	Both newcomers			-0,674	*	-0,077	
	Both not long-term resident and not newcomer			0,376		0,309	
	Both long term residents			0,784	***	0,190	
	Both live single			0,369		0,770	***
	Both live as a couple without children			-1,382	**	-1,616	**
Both live with children				0,057		-0,256	
Log Likelihood		-767,703		-783,657		-750,972	
N obs		750		750		750	
N ties		209		209		209	

Note: Dependent variable: strong or weak ties between two household, Binary logistic regression with QAP tests (1000 permutations), significance levels: * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Who has an invisible tie with whom?

	Model 4		Model 5		Model 6	
	Coef	Sig	Coef	Sig	Coef	Sig
Intercept	0,924		1,053		0,851	
Spatial distance	0,235	**	0,218	**	0,228	**
Popularity						
Less than 40 (ref. 41–60)	–0,385				–0,451	*
More than 60 (ref. 41–60)	0,153				0,074	
Newcomers (ref. not long-term resident and not newcomer)	–0,059				0,070	
Long term residents (ref. not long-term resident and not newcomer)	0,120				–0,098	
Live as a couple without children (ref. Single)	0,101				0,279	
Live with children (ref. Single)	0,933	***			0,797	***
Similarity						
Same age category			–0,084		–0,108	
Both newcomers			–1,027	**	–0,869	**
Both not long-term resident and not newcomer			0,229		0,181	
Both long term residents			1,234	*	1,155	*
Both live single			–0,391		–0,118	
Both live as a couple without children			–1,221	**	–1,243	**
Both live with children			1,112	*	0,560	
Log Likelihood	–494,647		–491,544		–693,633	
N obs	541		541		541	
N ties	354		354		354	

Note: Dependent variable: Invisible ties between two household, Binary logistic regression with QAP tests (1000 permutations), significance levels: * $p < .05$; ** $p < .01$; *** $p < .001$.

by a weak tie (Table 2) or an invisible tie (Table 3). Even if the models measure distance, we will refer to the effect of proximity to remain consistent with the rest of the argument, thus operating a reverse interpretation. The middle section measures the effect of several variables on the popularity of a household, i.e. its probability of being cited as weak or invisible tie by a respondent. The lower section measures similarity effects: the extent to which the similarity between two households in relation to certain individual variables determines their chance of being linked by a weak or invisible tie. A coefficient greater than zero indicates a positive relationship while a value less than zero signifies a negative relationship.

Who is an Acquaintance?

As previous research has shown, the length of residence explains participation in neighbourhood sociability: Compared to the intermediate category, long-term residents are more likely to be reported as acquaintances, while newcomers are less likely to be identified as acquaintances. The longer we live in the same place, the more opportunities we have had to interact with neighbours. It is also not surprising that households with children are the most active neighbours in terms of sociability. Then, childless couples seem more often involved in sociability than singles, perhaps partly because they double their chances. Although age does not seem to affect the likelihood of being cited as a weak tie, residents tend to interact and get to know neighbours of the same age category.

Then, controlling for the popularity of families and childless couples as social partners (model 3), we observe a form of homophily between singles, who are significantly more likely to interact with each other than with households of different composition. However,

the effect of similarity is negative between childless couples, who are less likely to develop weak ties with each other compared to other combinations of household types. Last but not least, spatial proximity is a significant determinant of weak ties: neighbours living close to each other in the same building are more likely to interact. Our measure of proximity remains highly significant even after controlling for individual determinants and similarity effects.

Who is a Familiar Stranger?

Our results do not confirm our hypothesis that the oldest households are more likely to be familiar strangers, but they do show that the youngest households are the least likely to be familiar strangers (when we control for similarity effects, model 6). Although we did not expect other individual determinants, the model shows that households with children, if they are not acquaintances, are more likely to be familiar strangers. In other words, households with children rarely go unnoticed.

Surprisingly, measures of similarity do partly predict invisible ties. While length of residence per se does not seem to affect the likelihood of being considered a familiar stranger, our analysis shows that long-term residents are more likely to appear as familiar strangers to other long-term residents if they are not acquainted. In other words, it is unlikely that two long-term residents will remain completely unknown to each other, but it also shows that it is possible to live in close proximity for years and still remain familiar strangers. In fact, this type of relationship develops over time, which is why it is unlikely that members of a “newly” arrived household will appear as familiar strangers to other “newcomers”.

Finally, we can confirm the hypothesis regarding the negative effect of spatial proximity on being a familiar stranger: among neighbours with whom one does not interact, those living further away are more likely to be familiar strangers. The effect of proximity remains stable and significant even after controlling for individual determinants and for the effect of similarity.

Neighbouring in Three Dimensions

These results give us the opportunity to analyse neighbour relations along three dimensions. This could mean taking into account the interplay between verticality and the two dimensions of a horizontal plane. Indeed, while neighbouring is captured in its horizontal dimension in the case of single-family residential neighbourhoods, our study contributes to the study of vertical forms of coexistence (Arviv and Eizenberg 2021; Baxter 2017; Mechlenborg 2022). We argue that a fruitful way of thinking about the spatial organization of neighbour relations is to analyse how they are shaped by accessibility, visibility and audibility. Drawing on this discussion, we turn to another triad and argue that neighbouring is as much about sociability as it is about familiarity and anonymity. While the literature suggests that these three realms unfold hierarchically as a function of horizontal distance (sociability within the block, familiarity within the walking-distance neighbourhood, anonymity beyond it, see Kusenbach 2008), our study suggests that they are intertwined at a much smaller scale.

Then, while our study confirms that spatial proximity increases the likelihood of weak ties, we consider it necessary to question the underlying mechanisms. Indeed, we have seen that the literature emphasizes that social distance outweighs physical proximity. This may seem even more probable at the scale of a building: one might take the lift to simply ask a favour of a person one feels more socially close to. Moreover, there are good reasons to avoid interaction with those who, through poor soundproofing, are inadvertent witnesses to our private lives. So why do people interact more with their nearest neighbours?

Proximity creates more than just co-presence, enabling interaction and thus increasing the likelihood of establishing a relationship. Proximity increases accessibility, but also visibility and audibility. These three dimensions point to forms of interdependence that are stronger between neighbours living on the same floor or one above the other, and weaker between more distant neighbours. These forms of interdependence create motives for interaction.

Weak ties, or interaction between neighbours who are acquainted, are not necessarily based on sympathy or liking. Neighbour sociability does not necessarily resemble what Simmel described as “the play form of association”, “oriented completely about personalities” (Simmel and Hughes 1949, 255); it is also oriented around interdependencies (Blokland 2003). Accessibility creates opportunities for encounters on shared paths, but the sharing of these spaces also leads neighbours to negotiate and sometimes to argue. The passageways in Building 4 are a good example. These spaces are appropriated as living or storage space by some residents and used as circulation space by others. This issue leads neighbours living on the same floor to interact regularly.

Proximity also enhances visibility, making it possible to recognize one’s neighbours, to determine who they are and to assess the extent to which they could be partners in interaction. While visibility is a condition for recognition, it also allows for control or even surveillance (Brighenti 2007). Proximity also means that neighbours see each other even when they do not want to. This means that visibility can work in different ways. In the case of next-door neighbours, decorations, objects and furnishings in the hallway can be casual conversation starters, but also subjects of negotiation. Visibility between two neighbours who occasionally pass each other in the hallway is of a different kind, and is more likely to lead to a familiar stranger type of relationship. It should also be noted that proximity does not necessarily mean visibility. If neighbours have different schedules, they may never see each other.

Finally, proximity also has a sonic dimension. Sound can turn into a nuisance and a source of conflict (Cheshire, Easthope, and ten Have 2021), but it is also a source of knowledge about the private lives of neighbours, which opens up the possibility of moral judgement, and also of empathy. With a similar range (and potential for knowledge, judgement or conflict), odour could also be considered as a dimension of proximity. Like sound, odours travel through walls, floors, stairs or ventilation systems. Sound and odour spread throughout the building, becoming a motive for interaction. It is clear here that the role of building materiality cannot be understood only in terms of its dimensions and forms, which bring people together or keep them apart. In addition to physical closeness, proximity also involves certain properties of doors, walls, floors, piping and ventilation systems. Thinking along these dimensions helps to elucidate the relevance of spatial proximity within a building. First, it is not only about opportunities for encounters, but also about interdependencies. Second, it is not only about physical closeness, but also about how materiality mediates this closeness, by allowing or even facilitating the mobility of people, gaze, sound and smell.

Conclusion

This case study explores dynamics of neighbouring in a specific type of building, urban context and socio-political context. Yet, it opens up avenues for broadening the understanding of neighbour relations from a social network analysis perspective. It suggests a way to avoid the dichotomy between sociability and anonymity by measuring familiarity as a network of invisible ties.

Sociologists have identified individual determinants of neighbourhood sociability and its homophilic tendency. Our results offer additional insight by showing the influence of spatial proximity within buildings on the formation of weak ties. These results thus relieve the need for greater precision in the use of terms such as “local ties”: the proximity of the neighbour we hear showering through the wall is not the same as the proximity of the neighbour who lives three floors up.

As for the determinants of familiarity, they remain elusive. Our results suggest that, compared to sociability, familiarity is less a matter of individual characteristics and homophily. Spatial proximity matters: familiar strangers are close enough to be visible, but they are not the closest ones; those are likely to be acquaintances. In our qualitative analysis, we suggested that “figures” (those who are known as familiar strangers to many of their neighbours) are particularly recognizable by their appearance or habits: they smoke a cigar, wear a jogging outfit or a pink coat (Felder 2020). Noticeability remains a dimension to be operationalized in surveys.

We rejected our hypothesis that the oldest residents were likely to be “figures”, but our “oldest” age category (>60) was perhaps too broad: active participation in social life becomes more difficult at older ages (Perren, Arber, and Davidson 2004) and until then, pensioners often have more free time than their younger neighbours. Nevertheless, we showed that the youngest residents are less likely to be familiar strangers. Furthermore, while a newcomer is less likely to be a familiar stranger to another newcomer, the opposite is true for long-term residents. The fact that long-term residents maintain invisible ties that do not develop into weak ties suggests that, like civil inattention, invisible ties can be based on a commitment to keep one’s distance and not go beyond signs of mutual recognition.

Finally, anonymity deserves to be treated as a constitutive dimension of neighbouring, and not only in large scale housing estates (Arviv and Eizenberg 2021). It is important to stress that the ties we have studied are not only “weak” or “invisible”, but also “non-existent”. Apart from the rare cases of very well-informed neighbours, residents of even modestly sized buildings do not recognize all their neighbours. Not only is spatial proximity at the building scale not sufficient to create social relations, it is also not sufficient to create opportunities for contact: some parts of one’s “own” building remain terra incognita. None of the interviewees expressed surprise or concern that they had no idea who might live on the top floor.

Future research could test how our distance measure performs in larger buildings, but also in cases where residents perceive each other as “them” and “us”, as in the case of the Jewish and Arab residents of the Israeli housing complex studied by Arviv and Eizenberg (2021). We can imagine a lesser importance of spatial proximity, just as in contexts where neighbourhood implies mistrust and fear, as in the case of the Iranian students in the Malaysian high-rise studied by Killias (2018).

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