Spatial homogamy in the Netherlands

Distances between partners before cohabitation

'Cupid may have wings, but apparently they are not adapted for long flights' (Bossard 1932)

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1 INTRODUCTION

'Cupid may have wings, but apparently they are not adapted for long flights'. This citation from Bossard (1932) summarizes the topic of this paper: the spatial dimension of the partner market. Research on the marriage market has a long tradition, especially research on similarity between partners, referred to as homogamy. Studies on assortative mating, the phenomenon that partners are more similar than expected by chance, have found that around the world individuals tend to look for a partner with similar characteristics. Couples are found to be similar regarding age, education, occupation, social origin, religion and geographical origin. Dutch people tend to marry endogamously, or within their own group, where the group is defined by age, race, religion, social origin, education, occupation and cultural behaviour (Hendrickx 1995, Uunk 1996, Smits 1996).

This paper adds the concept of spatial homogamy, defined as the similarity concerning geographical background or the tendency to choose a partner within close distance. The role of geographical distance or the spatial dimension of the partner market is underexposed in research on recent marriage patterns. In a number of international studies, spatial homogamy is mentioned (Mayfield 1972, Küchemann et al. 1974, Coleman 1979, Fisher 1980, Coleman and Haskey 1986, Clegg et al. 1998, Duncan and Smith 2002). Research on the spatial component of marriage markets has predominantly been done in the United States and the United Kingdom. In the United States in the 1940s and 50s, so-called propinquity studies were conducted, in which the proximity of bride and groom before marriage is examined. Examples of these studies are Bossard (1932) in Philadelphia, Davie and Reeves (1939) in New Haven, Koller (1948) in Columbus, Ohio, and Ellsworth (1948) in Connecticut. Most studies found that the number of marriages declines as the distance between potential spouses increases. For example, Bossard (1932) found that one third of all married couples lived within five or less blocks from each other before marriage.

A few decades later, Mayfield (1972) investigated geographical distances between marriage partners in India. In the 1980s and 1990s some scientists in the UK examined the spatial dimension of the partner market. Coleman (1979) found that 25 percent of couples in Reading, UK, were born less than 10 kilometres apart, and 50 percent lived within 5 kilometres from each other when they met. Similarly, Coleman and Haskey (1986) found that for about half of the marriages in their study in England and Wales in 1979, the average distance between the places of residence before marriage was less than 5 kilometres, and the most common 'marital distance' was 1 kilometre, while the mean was found to be 25 kilometres. Clegg et al. (1998) did similar research for the Outer Hebrides for the period 1955-1990 and found regional differences. Duncan

and Smith (2002) describe local and regional differences in the partner market and speak of the 'geography of the family'.

For the Netherlands, the existing studies are mostly outdated or based on historical data. An overview of different historical studies that prove the existence of geographical endogamy in the Netherlands is given by Van Poppel and Ekamper (2004). Most studies examine marital horizons of specific cities or provinces, such as the cities of Delft, Arnhem and Gouda (as discussed in Van Poppel and Ekamper 2004) and the province of Zeeland (Kok 1998, cf Van Poppel and Ekamper 2004). Older studies on especially mixed marriages deal mostly with religion, such as Polman (1951), Van Leeuwen (1959), and Dekker (1965). De Hoog (1982) found that more than 60 percent of respondents in a small survey lived less than 11 kilometres from each other when they met; 29 percent lived one to five kilometres from each, and for 14 percent of the respondents the distance was less than one kilometre. Boekholt (1990) studied the radius of action of potential marriage candidates in the province of Drenthe and finds that 35 percent of marriage partners came from the same parish, 31 percent came from adjoining parishes, and 15 percent came from subsequent parishes, for the period 1611-1811. Villages on sandy soil, located in the centre of the province, were found to be more open to partners from outside than villages on the eastern and western border. The radius of action of marriage patterns in Drenthe was found to be considerable, with marriages declining in number with increasing distance from parishes. Borders of parishes, provinces or even countries did not act as significant barriers in the search for a partner. More important factors were economic relations and religion. Important trade routes symbolizing the economic relations with neighbouring regions in Germany caused a high rate of intermarriage with these regions.

Polman (1951) found that geographical and confessional factors had a very strong influence on the determination of marital choice in the Netherlands, for the periods 1902-1917 and 1936-1948. Polman compared proportions of persons marrying a partner from the same municipality, from the same province, from another province, or from abroad. In the period 1902-1917, the percentage of marriages between persons from the same municipality decreased from 67 to 61 percent. From 1938 to 1948, the percentage of marriages between persons both from the same province declined from 89 to 87 percent. The decrease was mostly at the expense of an increase in marriages with persons from other provinces.

After this literature review on studies about spatial homogamy, the next section outlines how distance affects partner choice.

2 THE ROLE OF DISTANCE IN PARTNER CHOICE

Based on the literature review, the role of geographical distance is underexposed in research on partner choice. This paper aims to explore the level and variation of the role of geographical distance in partner choice in the Netherlands, and to detect spatial patterns in spatial homogamy in the Netherlands. How does geographical distance play a role in the partner choice process? Four ways in which distance influence partner choice are discussed below.

First, people tend to choose partners who live nearby. Bossard (1932) was the first to report that people tend to marry people who live in close proximity, and his work was followed by many, primarily American studies that drew similar conclusions. Propinquity, or proximity, increases the likelihood of unplanned social encounters between strangers or acquaintances that offer opportunities for interaction, and therefore directly influence partner choice directly. Moreover, people who live close to each other often attend the same schools, shop in the same stores, and so on, increasing the opportunities for meeting probabilities (Goode 1982).

Second, bridging distance means time, energy and costs. In former times, relationships crossing large distances were rare since travelling was either impossible or very costly. Nowadays, travelling is easier, less costly and less time-consuming, but distance still plays a role in meeting people. Moreover, the interplay of distance and information seems to govern the so-called 'information field' that people have. Information consists of the knowledge an individual has of the world, and this information field is the spatial distribution of that knowledge (Morrill and Pitts 1967, p. 405-406). According to Walmsley and Lewis (1993), information fields can be divided in two types: activity space and indirect contact space. Activity space pertains to all those locations with which an individual has regular, almost day-to-day contact. It therefore comprises a well-known, geographically restricted area. Indirect contact space lies beyond the area of the individual's day-to-day contacts, and familiarity with it partly depends upon information from the mass media and other public information sources (Walmsley and Lewis 1993, p. 179). For both types of information fields, distance decay arises in the accuracy and amount of information an individual possesses. The concept of information fields relates to the concept of the social circle: a group of people with whom one has regular contacts. These contacts may be based on family, friendships, education, work, or the neighbourhood. Social circles have some geographical limitation (as noted by Goldman et al. 1984, building on Henry's (1972) and Keyfitz' (1985/1977) work on social circles), and within these geographical areas potential partners are met. Distance is thus apparent in the spatial structure of the social circle.

Third, the population is unevenly distributed over space. Therefore, the spatial distribution of eligible partners influences the opportunity to meet potential partners. The composition of the population determines the group of 'eligibles', or the potential partners that are available. This leads us to the next manner in which distance influences partner choice.

Lastly, social and cultural groups are geographically clustered. This has been referred to as 'differential association': people tend to live amongst people like themselves (Rauch 2003). Socio-economic strata and cultural resources tend to cluster together in space, since people with similar characteristics tend to live in same kinds of neighbourhoods, go to the same schools, and so on (Winch 1971/1958). In the older propinquity studies, it was found that within cities, cultural areas could be defined, based on place of birth, religion, occupation and income. Davie and Reeves (1939) stated that this segregation within the city may be the basic explanation of residential propinquity and marriage. Many studies have found that people tend to choose (marriage) partners who are like themselves, especially regarding social status, education, but also regarding cultural resources such as lifestyles created by religion, ethnicity, dialect and regional identity. Similar cultural resources in a relationship lead to mutual confirmation of each other's behaviour and world views, and produces social confirmation and affection (Kalmijn 1998, Van Poppel and Ekamper 2005).

Demographic factors affecting spatial homogamy

As few is known about the role of distance in partner choice, the objective of this paper is to explore the level and variation of the role of distance in partner choice. The extent to which people choose a partner, who is spatially homogamous, is influenced by the classic demographic factors or age, sex and household position.

Age influences social circles, which act as places where one meets potential partners. People in their teenage years are usually in education for a considerable period. People in their twenties have a higher probability to be either in secondary education or in the labour market. Elderly people might have smaller spatial circles, and so on. Age and stage in the life course thus influence the kind of potential partners one meets, and also the location where these persons are met. From other studies, it was found that with rising age at marriage/ cohabitation, the distance between spouses/ partners before shared living gets shorter (e.g. Coleman and Haskey 1986, Clegg et al. 1998). Coleman and Haskey (1986), in a study in England and Wales in 1979, found that the average marital distance for men is relatively low for those who marry in their teens, is rising for men marrying in their thirties and is decreasing for older grooms. Clegg et al. (1998) also found that older grooms married at shorter distances in the Outer Hebrides after 1915. The reasons for this age pattern are not clear; there may be cohort or life course effects at work,

reflecting the either increasing or decreasing mobility in the life course. Expectations on the effect of age on spatial homogamy are thus ambiguous. However, it seems logical to assume that with rising age, the distance between partners decreases.

The role of **sex** in spatial homogamy is also not apparent. Mulder and Wagner (1993) found that women are more likely to move long distances for reasons of marriage. This may mean that women are more likely to move in with their partners than the other way around. However, from a study by Coleman (1977) it was found that men are more likely to move from their birthplaces than women are. We may expect longer migration distances of women to their partner, while men may have moved further away from their birthplace.

Household position also affects the social circle in which one moves around. For instance, young people who live in the parental home meet other people in other places compared to those living alone. This study explores whether those who live alone before cohabitation/ marriage travel longer distances to find a partner than those in other household positions.

Regional patterns of spatial homogamy

In many studies, regional differences were found concerning marital distances, for instance Clegg et al. (1998) found regional differences for the Outer Hebrides, and Bozon and Héran (1987) found regional differences concerning meeting places in France. The spatial variation in the role of distance in partner choice within a country may have different underlying reasons. First, the size and density of a population determine the number of people living in close proximity, and therefore influences the opportunities for social contacts, as mentioned before. Given the longer average distance to other people in the population, people living in peripheral areas have to travel longer distances, or have to search over longer distances to potential partners. Besides distance, water masses such as seas or rivers, or borders may act as physical barriers to meeting partners. Based on the geography of the Netherlands, we expect larger distances between partners in the peripheral areas in the north and southwest.

Second, cultural differences in a region may have an apparent spatial expression, or: regional patterns of partner choice may reflect regional cultural differences in a region. Regional differentiated phenomena such as denomination and dialect may act as important markers of regional identity. According to Trudgill (1983), language acts as an important defining characteristic of ethnic group membership. In the Netherlands, linguistics studies reveal that the regional distribution of dialects is mainly caused by the distribution of social contacts (Heeringa and Nerbonne 2002, Nerbonne et al. 2005). Therefore, this dialect geography may have an impact on regional patterns of spatial homogamy. Although the Netherlands is a small country,

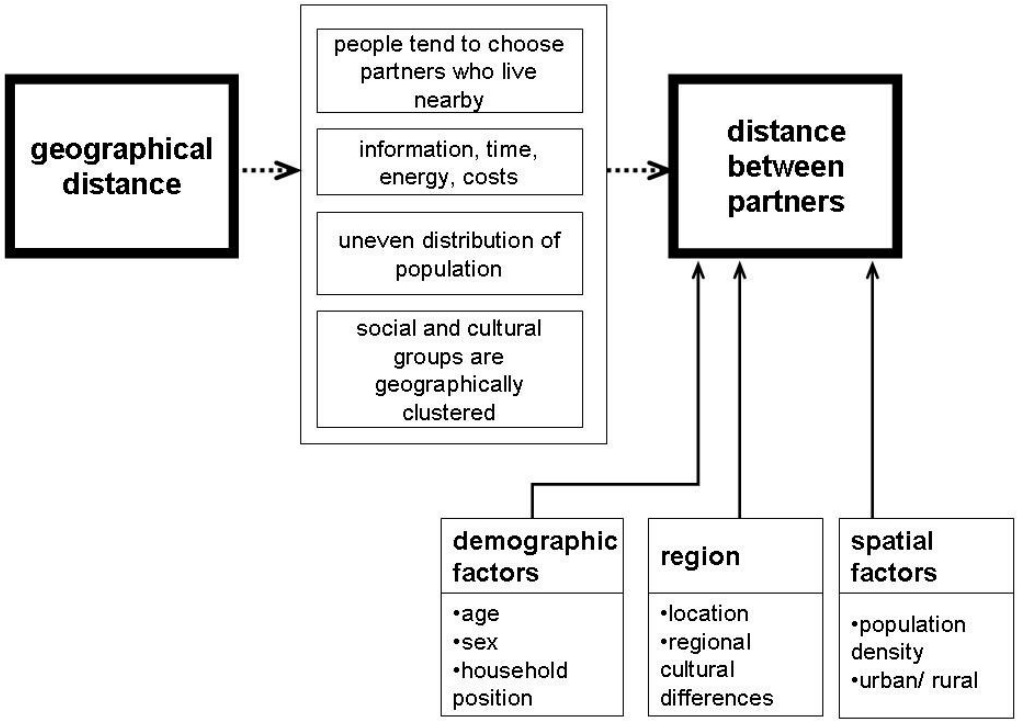
there are also clear religious differences (Knippenberg 1998). The Bible Belt, a strip of towns and villages stretching from the southwest to the north, inhabited by a high proportion of Orthodox Calvinists, is characterised by somewhat deviant demographic behaviour as compared to the rest of the country, with more traditional views on marriage, and relatively high fertility levels (Haandrikman and Sobotka 2002). The religious geography may therefore also impact on patterns of spatial homogamy, as we know that especially the re-reformed denominations have a strong tendency to marry endogamously (Hendrickx 1994). People prefer to search for partners in areas where the preferred cultural characteristics are expected to be dominant. Regions, in which these characteristics are considered to be less, are avoided for partner selection. In this way, partner choice is reflected in the existence of spatially clustered regional groups, or spatial barriers. Examples may be two adjacent villages, where the inhabitants of one village avoid persons from the other village for partner choice.

Spatial factors affecting spatial homogamy

Spatial factors that affect spatial homogamy are affects of population density or the distinction between urban and rural. The relation between population density and partner choice seems straightforward, but is ambiguous. On the one hand, a higher population density in urban areas may lead to shorter distances between partners, since a city should be large enough to have enough potential marriage partners for its inhabitants. In other words, geographic homogamy is expected to be greater in large cities. Van de Putte (2003) in his study on nineteenth century Flemish cities finds that migrants in larger cities tend to marry each other, since they come from far and are 'strangers' to the native population. Rural migrants may be less similar to the native population, and may be more inclined to marry within the own group. Furthermore, in larger cities the division urban-rural is much stronger than for smaller cities, and therefore inhabitants of larger cities are more inclined to find a partner within the city borders. On the other hand, high population density may also lead to increased distances between partners, because larger cities give the opportunity to develop new value orientations and open mindedness. People in large cities may have more contacts and opportunities that enable them to meet partners in a larger variety of meeting places that are distributed in a larger 'space', or the probability that people have wide social circles increases with the increasing urbanisation of society (Blau 1977).

Figure 1 summarizes the above in a conceptual model.

Figure 1. Conceptual model



The research questions based on the literature review and conceptual model are the following:

- What is the level of spatial homogamy for Dutch couples?
- How do distances between the former addresses of partners relate to demographic characteristics of the partner?
- Can **regional** (e.g. north-south, east-west), **spatial** (e.g. urban/rural) and **cultural** (e.g. based on religion or dialect) patterns in spatial homogamy be identified?

3 DATA AND METHOD

Partner choice may be studied by looking at different outcomes. In this study the focus is on partners who start a shared living, taken as the outcome of the partner choice process. Manting (1994) defines a union as a sexual and intimate relationship between a man and a woman in which the permanence of the relationship is assumed and a *common residence* is shared (p. 13, italics added). This definition implies that shared living marks the start of a union. In the Dutch context, this implies that unions entail persons who are married, have a registered partnership, or those living together without a formal status. For the remaining part of the paper, we refer to this

whole group as 'cohabiters'. By choosing cohabiters we focus on the outcome of the partner choice process.

Spatial homogamy is operationalised by comparing the former addresses and the birth places of new cohabiters. The addresses the year before cohabitation as well as the address five years prior to cohabitation are considered to approximate the distance between partners at the time of their meeting and before that. Moreover, the geographic origin of partners is considered: their birthplace. Birthplace is taken as the starting point of the life course. We expect that birth places are further apart than former addresses (Coleman and Haskey 1986), since migration before and after cohabitation or marriage is much more extensive than in the past.

3.1 Population register

The data used for this study comes from the Dutch population register, the 'Gemeentelijke Basisadministratie' (GBA). The GBA is a decentralised automated population registration system, managed by the different municipalities. In the register, information on each registered inhabitant of the country is stored. Each individual can be identified through a personal identification number (PIN), enabling the linkage of spouses, children, and parents. So-called personal lists (PL) contain information on the person, the parents, marriage, registered partnership, widowhood and divorce, the address and the offspring (Prins 2000).

The quality of the municipal population registers are of outstanding quality (Prins 2000). In the Netherlands, house moves have to be reported. Young people are known to be more often incorrectly registered than other groups, causing the registered address to be different from the residential address. The greatest group causing problems in the registration are emigrants who fail to report their departure. When the person cannot be traced or proof is found that the emigration has taken place, the person concerned is registered to be emigrated. There is no estimate of the percentage of inhabitants that are not registered, but according to Statistics Netherlands, the number of unregistered inhabitants is not likely to be very high (Prins 2000). People that are most likely to be missed are those residing illegally in the country. Hoogteijling (2002) estimated the number of illegal residents to be between 46 thousand and 116 thousand. Besides illegal residents, some specific groups such as foreign diplomats and NAVO-soldiers and their families are not registered in the GBA because of legal reasons (Hoogteijling 2002). Asylum seekers can be registered only if they have resided in the country for more than six months.

3.2 Household statistics

In this study, couples that start a shared living are examined, i.e. both married and unmarried people who cohabit. Marriages are carried out by the local registrar, who reports these events to the municipal population department. Registered partnerships, which resemble marriages, are also documented in the GBA. People who choose for an unmarried cohabitation, may choose to have cohabitation contract, however, these are registered at the notary, and not at the municipality. Therefore, data on these couples have to be gathered in a different way: by using household statistics.

Household statistics are constructed by linking the personal lists of people living at the same address. This is done by linking the different PINs to each other. For instance, by detecting the PINs of a child's parents, a family living at one address can be determined. Statistics Netherlands derive household statistics on an annual basis, every year on the first of January. The statistics include the number of households divided into different *household types*, and the persons living in households divided into *household positions* (Harmsen and Israëls 2003). The different types and positions are displayed in table 1 and 2.

For most individuals, the household position can be derived directly. The derivation is based on the relationships of people to the reference person, marital status, and possibly, children. If someone lives alone at a certain address, this person is classified as single. Because the GBA contains information on parents and partners, the relationship child-parent and husband-wife can be identified. If two people moved to the same address at the same date, Statistics Netherlands classifies them as a two-person household. In 93 percent of all persons in the GBA, the household position can be classified in one of the above ways.

Table 1. Household positions

Code	Household position
1	Child
2	Single
3	Partner in unmarried couple without children
4	Partner in married couple without children
5	Partner in unmarried couple with children
6	Partner in married couple with children
7	Parent in single-parent household
8	Reference person[1]
9	Other member of a household
10	Person in institutional household

Table 2. Household types

Code	Household type
1	Single-person household
2	Unmarried couple without children
3	Married couple without children
4	Unmarried couple with children
5	Married couple with children
6	Single-parent household
7	Other household
8	Institutional household

[1] Multi-person households are classified according to the reference person. The reference person is a statistical entity. In heterosexual relationships the reference person is the man, in homosexual relationships it is the older of two persons (Harmsen and Israëls 2003).

For the remaining 7 percent of the population, the probability that persons living at the address form a household is calculated on the basis of an imputation model. This logistic regression model is based on findings from the Labour Force Survey about relations between background variables. The model is described in Israëls and Harmsen (1999) and Harmsen and Israëls (2003). The variables found to be statistically significant in the logistic regression model are:

- Age difference between the two persons
- Average age of the two persons
- Degree of urbanisation
- The number of never married persons at the address
- Interaction of age difference by same sex
- Interaction of average age by same sex
- Interaction of number of never married persons by same sex
- Sex of the eldest combined with sex of the youngest person

On the basis of this model, some persons may be classified with an incorrect household position. For instance, two persons living together as a couple might be incorrectly classified as two households. Statistics Netherlands conducts a correction every year to check for inconsistencies. In the case of two persons getting married in year t+1, the former household positions are checked. If these two persons were living at the same address at time t, with household positions single, other or the like, these household positions are corrected to partner living in a couple.

In this study we are interested in couples who start living together at the same address. To locate these 'new cohabiters' we select persons who experienced a transition in household position, to living together (either married or non-married, with or without children). Given the household positions and household types, those persons who on 1 January 2005 occupy household position 3, 4, 5 or 6 (see table 1) and did not occupy any of these positions on 1 January 2004, are selected. Later, persons who lived together with a partner on 1 January 2004 and lived together with another partner on 1 January 2005 are selected. The largest part of the new cohabiters is unmarried, meaning that a large part of the household positions is imputed. Harmsen and Israëls (2003) found that for 46 percent of new cohabiters in 2002, the household position was imputed.

The resulting dataset for 2004 consists of 386,000 individuals. Out of these, 60,000 turned out to live on the same address on 1 January 2004. These individuals are not new cohabiters and have been assigned an incorrect household position (Steenhof 2002). They most probably started living together at an earlier stage. Due to changes in the household composition, for instance, by a person moving out of the house, the classification was not correct. Therefore it was decided to

leave these 60,000 persons out of the analysis. After clearing, the dataset contains 320,538 individuals, or 163,269 couples who started cohabiting in 2004.

For these 320,538 individuals we examine their current address as compared to their former addresses. As proxies for the meeting place of partners, we examine the address of partners just before cohabitation, and the address five years prior to cohabitation. The address at birth completes the geographical structure of the life course.

The GBA contains information on all people registered in the Netherlands. For the larger share of the persons in our data, information is added on the current (2005) and former (2004) address. In case the former address was abroad, the address is missing. The address on 1 January 2000 is added to give more body to the life course perspective. Birth municipality is available for all persons registered in the GBA. For persons born in the Netherlands, the municipality code is given; if a person is born abroad, the name of the birth place is given (for instance 'Paramaribo'). There are some disadvantages of taking the birth municipality as a proxy for birth place. People might live close to the border of one municipality while their future partner lives just on the other side of the border, leading to a distance which in our study can be far apart, while in reality it is much shorter. Moreover, births in hospitals also lead to biased results. However, birth municipality is the only available option.

Some basic variables are added, such as birth year, sex, marital status, current and former household type and position, for every individual in the dataset. Moreover, information on the date when the person moved to this address, and, if relevant, the date on which the marital status was changed, is added to the new cohabiters. The last step is to match partners to each other. This is done by linking partners on matching addresses.

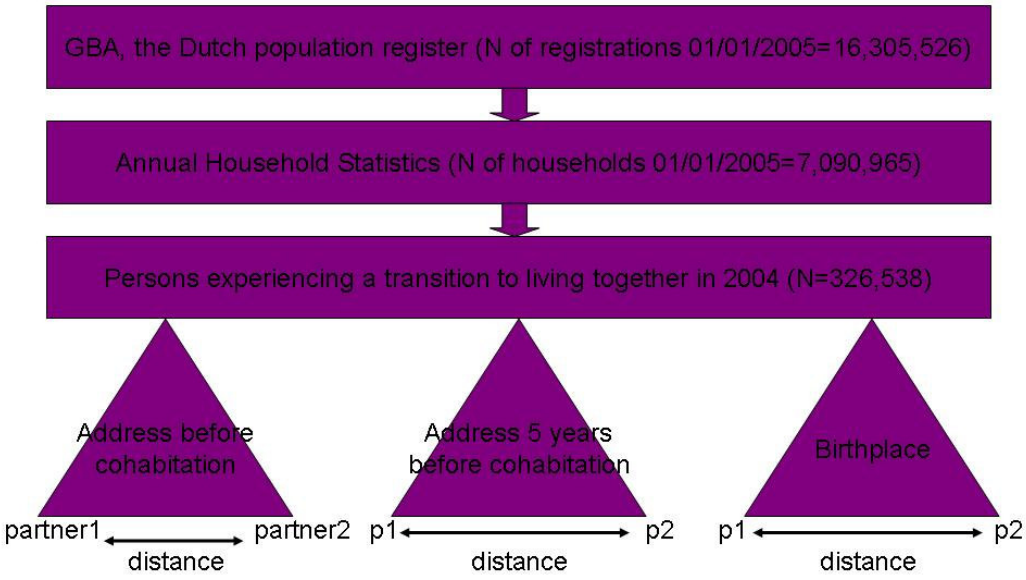
3.3 Measuring distance

Spatial homogamy is measured by computing the distance between the former addresses of both partners. To compute the distance between addresses, we use geographic coordinates. In the Netherlands, the system of the 'Rijksdriehoeksmeting' or shortly the RD-system, is the national geographical reference system in use. The RD-system consists of about 5,600 points from which the mutual locations are determined. Every point is determined by two coordinates: the x-coordinate which goes from west to east, and the y-coordinate which goes from south to north. The coordinates of these RD-points are called RD-coordinates. Originally, the x0,y0-point was a the OLV-tower in Amersfoort, in the middle of the country, but presently the origin is located 100 kilometres southeast of Paris, resulting in positive values for all coordinates in the country.

Initially, the RD-points were church towers and other clearly visible points in the landscape; but at present most points are identified using the Global Positioning System (GPS).

For this study we use ACN-coordinates (Adres Coördinaten Nederland) which are based on the RD-coordinates. ACN is a digital file based on postal addresses. ACN-coordinates consist of an x- and y-coordinate, measured in the RD-system, which uniquely identify each individual address through the 6-digit postal code and the house number. There are about 7 million addresses identified through ACN-coordinates, covering 95 percent of all addresses. In most cases, the location of the coordinates is in the building itself. In a few cases the coordinates are in the centre of the parcel of the address. For our dataset, we have linked all address information (6-digit postal code + house number + house letter + other additions) to an ACN file of 1 January 2005. Distances between partners (between former addresses) are then calculated by computing the (Euclidian) distance by applying Pythagoras' theorem to the ACN-coordinates of the addresses. The resulting distance is in meters.

Figure 2. Data and method of the study



Moreover, the distance between partners at birth is measured by calculating the distance between the RD-coordinates of the geographical midpoints of the birth municipality of both partners. The coordinates of the centroids of municipalities can differ over the years because of municipal redivisions. In 1900, the Netherlands consisted of 1121 municipalities, as compared to 458 in 2006. Especially in the period after 1960, many villages and towns were rearranged across existing and new municipalities. The coordinates of the centroids of the municipalities are obtained by combining the birth municipality with the year of birth of the partner. Since the oldest

person in the dataset is born in 1900, and because of the above mentioned changes in municipalities, the geographical midpoints of all ever-existing municipalities in the 20th century had to be calculated for every single year from 1900 onwards. The resulting distance is again in meters. If this distance is zero, both partners were born in the same municipality. Figure 1 summarizes the data and method.

4 RESULTS

This section answers the research question posed in section 2 of the paper. FIrst, a short overview is given of characteristics of the new cohabiters. In section 4.2 the question on the level of spatial homogamy will be answered. In the three subsequent sections, demographic factors affecting spatial homogamy, and regional and spatial patterns of spatial homogamy are discussed. Section 4.6 discusses the distance between the current address of the new cohabiters and the address of the partners before cohabitation.

4.1 Characteristics of new cohabiters

The final dataset contains 326,538 persons, or 163,269 couples. Of these, 11 percent are same-sex couples. 75 percent of the persons are never married, while 9 percent are married. Of all never married persons, 10 percent married just before or at cohabitation (table 3).

Table 3. Marital status of new cohabiters compared to the situation one year before cohabitation

		1 January 2005				
		never married	married	widowed	divorced	total
1 January 2004	never married	89.4	10.6	0.0	0.1	100.0
	married	3.0	80.3	0.6	16.2	100.0
	widowed	0.0	24.0	76.0	0.0	100.0
	divorced	0.2	17.3	0.0	82.6	100.0
	N	205,265	55,243	5,507	38,366	304,381

A cross tabulation of former and current household positions reveals that half of all new cohabiters were living alone before they started cohabitation, 30 percent were living in the parental home, while 9 percent was living with another partner. Another 8 percent was living as a single parent, and 4 percent were living in other household. Table 4 shows that of the partners who are currently married, 50 percent were living alone before cohabitation, while 15 percent were single parents. Of the unmarried cohabiters, 48 percent were living alone before, 31 percent was living with their parents, while more than 9 percent was living with another partner.

Table 4. Household positions before and after cohabitation (%)

		1 January 2005 married	unmarried
1 January 2004	living with parents	24.3	31.2
	living alone	50.0	48.3
	living with partner	4.4	9.5
	single parent	14.7	6.7
	other	6.0	3.7
	institution	0.7	0.6
	total	100.0	100.0

Table 5 shows the household positions of men and women before cohabitation (without same-sex couples). Of the new cohabiters, men were living alone more often; women were more often single parents before.

Table 5. Household positions of men and women before cohabitation (%)

		Females							
		living with parents	living alone	living with partner	single parent	other	insti-tution	total	N
Males	living with parents	19.1	8.3	1.9	1.6	0.9	0.1	31.9	79,317
	living alone	11.0	24.7	6.0	8.7	2.0	0.3	52.7	131,317
	living with partner	1.8	4.5	0.0	1.8	0.4	0.1	8.6	21,343
	single parent	0,1	1.2	0.3	0.8	0.1	0.0	2.5	6,139
	other	0.9	1.5	0.4	0.7	0.2	0.0	3.8	9,483
	institution	0.1	0.2	0.1	0.1	0.0	0.0	0.6	1,414
	total	33.0	40.5	8.6	13.8	3.6	0.5	100.0	
	N	82,137	100,863	21,488	34,342	8,869	1,314		249,013

4.2 Distance between partners

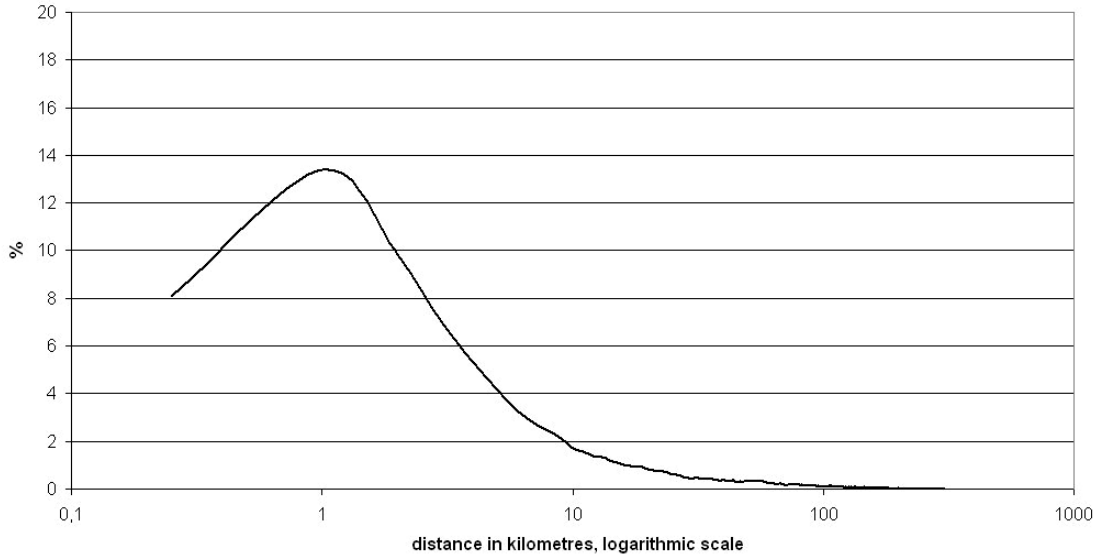
The level of spatial homogamy or the role of geographical distance in partner choice in the Netherlands is examined by comparing the distances between partners just before cohabitation, five years before cohabitation, and at birth. The distance between Dutch partners before cohabitation is on average 23 kilometres. Fifty percent of all new cohabiters finds their partner within 6 kilometres. The distance five years before cohabitation increases to an average of 28 kilometres. At birth, the distance between the future cohabiters amounts to 46 kilometres. The distance between partners thus decreases over the life course (table 6).

Table 6. Distance indicators

	Distance just before cohabitation	Distance 5 years before cohabitation	Birthplace distance
Mean	23 km	28 km	46 km
Median	6 km	8 km	24 km
Maximum	304 km	298 km	308 km

Figure 2 shows the distance decay that occurs in the distances between partners before cohabitation. A distance of one kilometre between partners is most common among new cohabiters in the Netherlands: more than 13 percent of all couples lived one kilometre from each other before cohabitation. From the graph it is apparent that most partners are found at very short distances; very few people find their partner beyond 10 kilometres. Dutch partners are spatially homogamous according to this definition.

Figure 3. Distance decay: distance between partners before cohabitation*



* Distances are rounded to whole numbers. The shortest distance is 250 meters: the average in the distance class 0-499 meters.

Figure 3 compares the different distances before cohabitation. Fifty percent of all partners lived within 6 kilometres of their partners one year before cohabitation, within 8 kilometres 5 year before cohabitation, and within 24 kilometres at birth. The figure shows the decrease of distances between partners over the life course. At birth, partners lived much farther from each other than just before cohabitation. Very few people lived more than 100 kilometres from each other just

before (6 percent) or even five years before cohabitation (8 percent), but at birth 16 percent did so.

Figure 4. Distance between partners in kilometres just before, five years before cohabitation and at birth

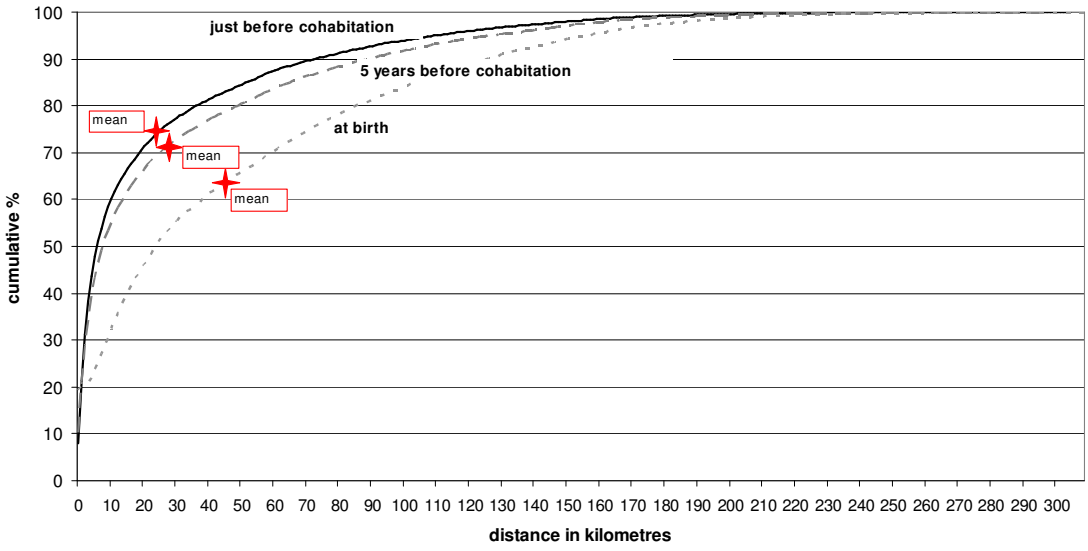


Table 7 shows the frequency distribution of the distances between partners for several distance categories. At birth, more than 18 percent lived in the same municipality.

Table 7. Frequency distribution of distances between partners who started living together in 2004

	Distance before cohabitation		Distance 5 years before cohabitation		Birthplace distance	
	N	%	N	%	N	%
Same place	698	0.3	11,001	4.6	43,251	18.3
0-1 km	42,268	15.0	27,028	11.4	3,414	1.4
1-5 km	86,304	30.6	60,566	25.6	7,142	3.0
5-10 km	37,807	13.4	29,881	12.6	20,622	8.7
10-20 km	32,787	11.6	28,038	11.8	33,005	13.9
20-30 km	17,691	6.3	15,176	6.4	22,772	9.6
30-50 km	20,321	7.2	18,506	7.8	25,179	10.6
50-100 km	26,790	9.5	27,221	11.5	43,357	18.3
>100 km	17,146	6.1	19,641	8.3	38,421	16.1
No data	44,708	-	89,507	-	89,555	-
Total	326,538	100.0	326,538	100.0	326,538	100.0

4.3 Demographic factors affecting spatial homogamy

In this study, a limited number of indicators is examined that may play a role in distance decay in partner choice, and is investigated in a descriptive way. First, demographic factors affecting spatial homogamy are examined.

Figure 5 shows the average distance between partners before cohabitation by age. The expectation of a decreasing distance with increasing age, holds true. People who start cohabitation at very young ages, on average have a much higher distance (34 km) to their partner. At very old ages (above 80) , distances between partners decrease to less than 15 kilometres.

Figure 5. Average distance between partners in kilometres just before cohabitation, by age

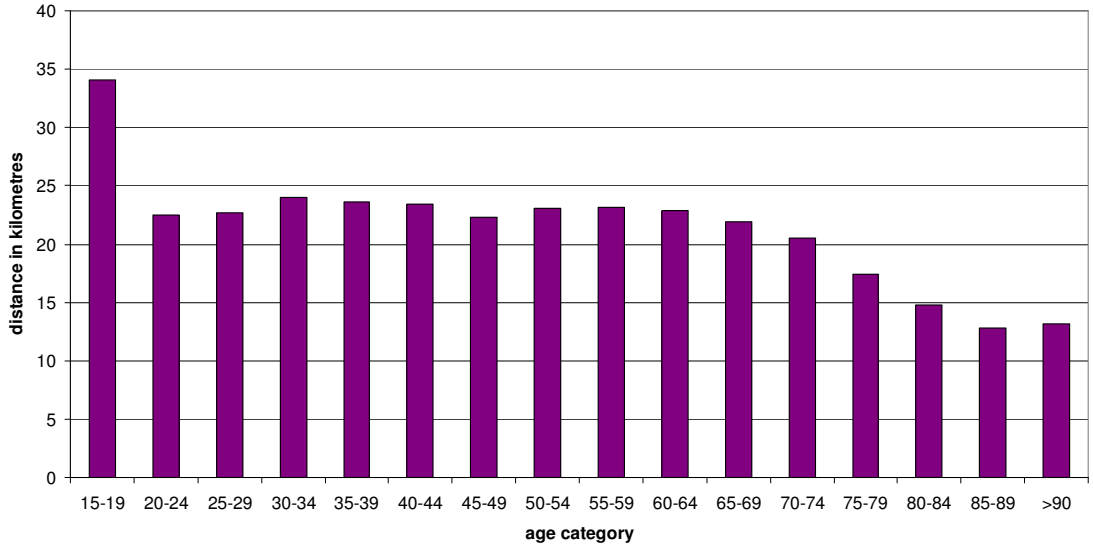


Figure 6 shows the average distance between partners before cohabitation, by current marital status. Most striking is the observation that people who were widowed before cohabitation (N=6,648) have the lowest distances to their partners. Figure 7 shows the distances between partners by former household position of new cohabiters. Former singles (people living alone) have the highest distances between partners. People who were living in the parental home before cohabitation find their partner at the shortest distances. People living in institutions before cohabitation have an average distance of almost 30 km between partners (not displayed in the figure).

Figure 6. Average distance between partners in kilometres just before cohabitation, by marital status after cohabitation

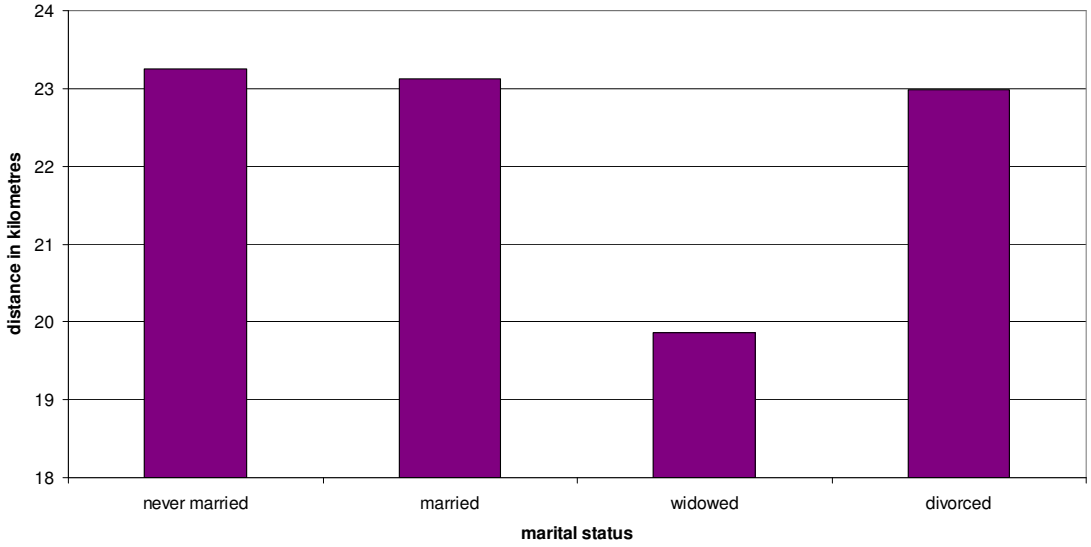
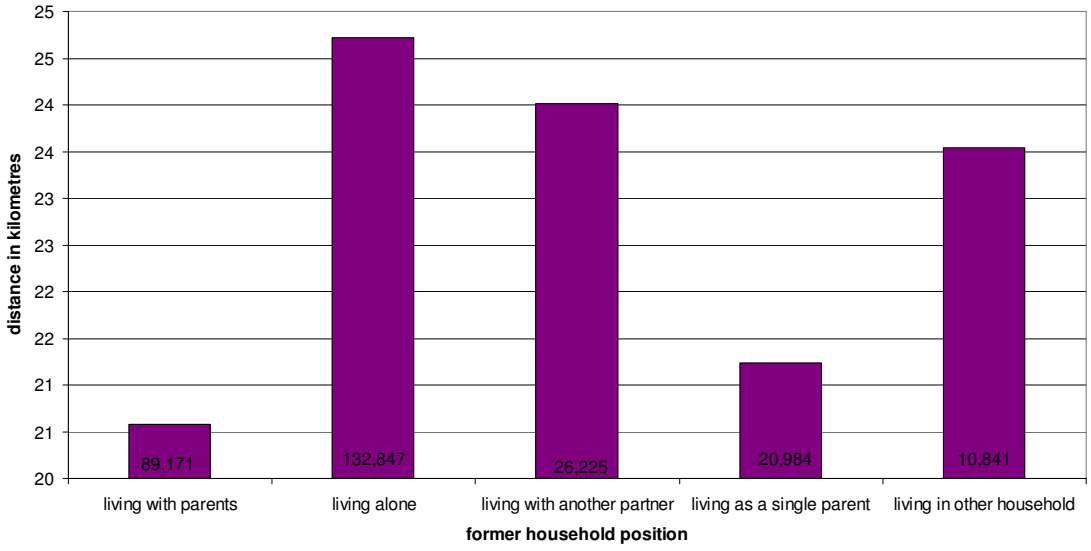


Figure 7. Average distance between partners in kilometres just before cohabitation, by former household position



4.4 Regional patterns of spatial homogamy

Figure 8 shows the average distances between partners, just before cohabitation, for the 483 municipalities of the Netherlands in 2004. As expected, higher distances are found in peripheral areas, mainly in the North: especially on the Wadden-Islands and in the provinces Groningen, Fryslân and Drenthe, and in the South-west (province of Zeeland). Table 8 shows the top 10 municipalities with the lowest and highest distances between partners in 2004. The lowest distances are found in especially some (former) fisherman's villages, which are spread out over the country. The municipalities with the highest distances are primarily located in the upper north and in the southwest (Zeeland), which are the most peripheral areas of the Netherlands.

Table 8. Top 10 municipalities with lowest and highest average distances, in kilometres

Municipalities with lowest distances	km	Municipalities with highest distances	km
Urk	9.2	Schiermonnikoog	51.3
Maasdonk	9.4	Terschelling	51.2
Edam-Volendam	9.8	Winsum	46.9
Rijnsburg	10.4	Ameland	45.1
Bunschoten	12.0	Vlieland	42.7
Rucphen	12.1	Thorn	42.6
Renswoude	12.2	Sluis	40.8
Hengelo (Gld.)	12.7	Veere	40.7
Katwijk	13.1	Texel	37.7
Noordwijkerhout	14.0	Dirksland	37.6

Table 9 and 10 also show places with high and low distances, by 4-digit postal code. The table shows only those postal codes with at least 50 observations, since in some of the 4,000 postal codes very few people started living together. An interesting finding is that a postal code area in Rotterdam appears in the list with lowest values. The highest values are again found in the upper north (Groningen and around) and south (Maastricht).

Table 9. Top 10 of 4-digit postal codes with lowest average distances, in kilometres

Postal code areas with the lowest distances and at least 50 observations			
Postal code	Town/ village	Municipality	Average distance
1132	Volendam	Edam-Volendam	6.8 km
1131	Volendam	Edam-Volendam	9.1 km
5386	Geffen	Maasdonk	9.3 km
8321	Urk	Urk	9.5 km
4714	Sprundel	Rucphen	9.5 km
6464	Kerkrade	Kerkrade	9.7 km
5076	Haaren	Haaren	9.7 km
6463	Kerkrade	Kerkrade	9.7 km
3751	Bunschoten	Bunschoten	9.9 km
3029	Rotterdam	Rotterdam	9.9 km

Figure 8. Average distance between new cohabiters just before cohabitation, per municipality

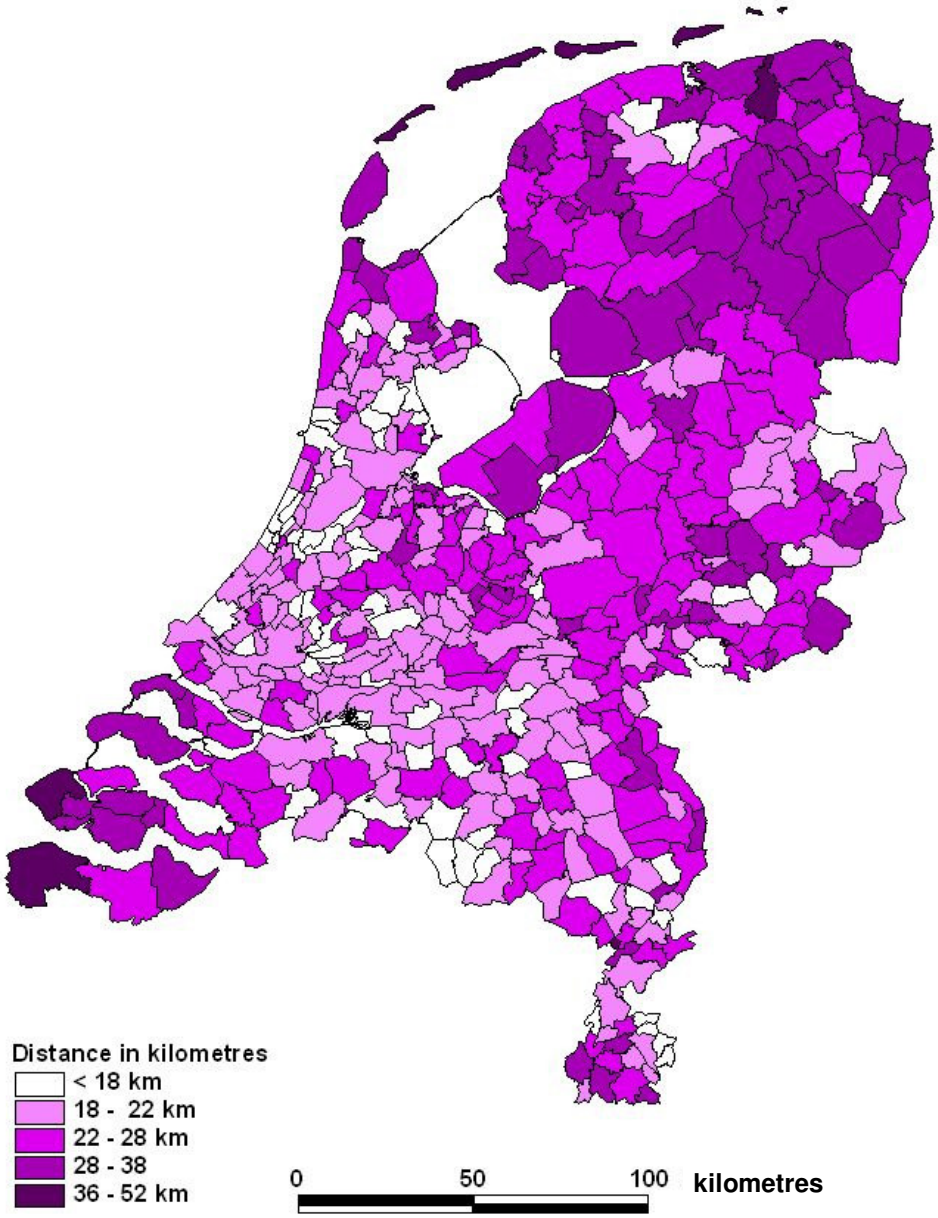


Table 10. Top 10 of 4-digit postal codes with highest average distances, in kilometres

Postal code areas with the highest distances and at least 50 observations			
Postal code	**Town/village**	**Municipality**	**Average distance**
9951	Winsum	Winsum	57.5 km
6212	Maastricht	Maastricht	55.5 km
9723	Groningen	Groningen	54.9 km
8881	Terschelling	Terschelling	54.1 km
9673	Winschoten	Winschoten	48.0 km
7522	Enschede	Enschede	47.7 km
9712	Groningen	Groningen	46.8 km
6221	Maastricht	Maastricht	46.4 km
9919	Loppersum	Loppersum	45.3 km
6211	Maastricht	Maastricht	44.8 km

Figure 9 shows a map with the distribution of municipalities with percentages of partners that were found within 5 kilometres distance, while table 11 adds the top 10 municipalities with the highest and lowest percentages of partners who find their partner within 5 kilometres. A clear regional pattern does not appear. However, a closer look reveals that especially the fisherman's villages of Urk, Volendam, Katwijk and Rijnsburg have some of the highest values. In the municipality of Urk (which consists of one 4-digit postal code), 84 percent of all couples lived within five kilometres before cohabitation. Among the list of municipalities with very low values, very small villages are found. If these statistics are compared with those for 4-digit postal codes, a similar picture arises. New to the top-10 of high values (high percentage of partners found within 5 kilometres) are then two postal codes in The Hague, where more than 70 percent of partners were found within very close vicinity.

Table 11. Top 10 municipalities with lowest and highest percentages of partners found within 5 kilometres distance, 2004

Municipalities with lowest percentages	**%**	**inhabitants**	**Municipalities with highest percentages**	**%**	**inhabitants**
Hummelo en Keppel	15.8	4,498	Urk	84.1	16,748
Bennebroek	19.1	5,307	Edam-Volendam	72.1	28,063
Breukelen	19.4	14,416	Katwijk	69.9	41,535
Gaasterlân-Sleat	20.5	10,263	Venlo	61.4	97,780
Winsum	20.7	14,204	Rijnsburg	61.2	14,957
Muiden	20.7	6,647	Bunschoten	59.9	19,396
Heel	21.0	8,375	Vlissingen	59.4	45,199
Sint Anthonis	21.6	11,799	Valkenburg	59.2	3,768
Cromstrijen	22.2	12,980	Kerkrade	58.4	50,295
Waterland	22.5	17,150	Landgraaf	57.8	40,055

Figure 9. Percentage of partners who found their partner within 5 kilometres distance, 2004

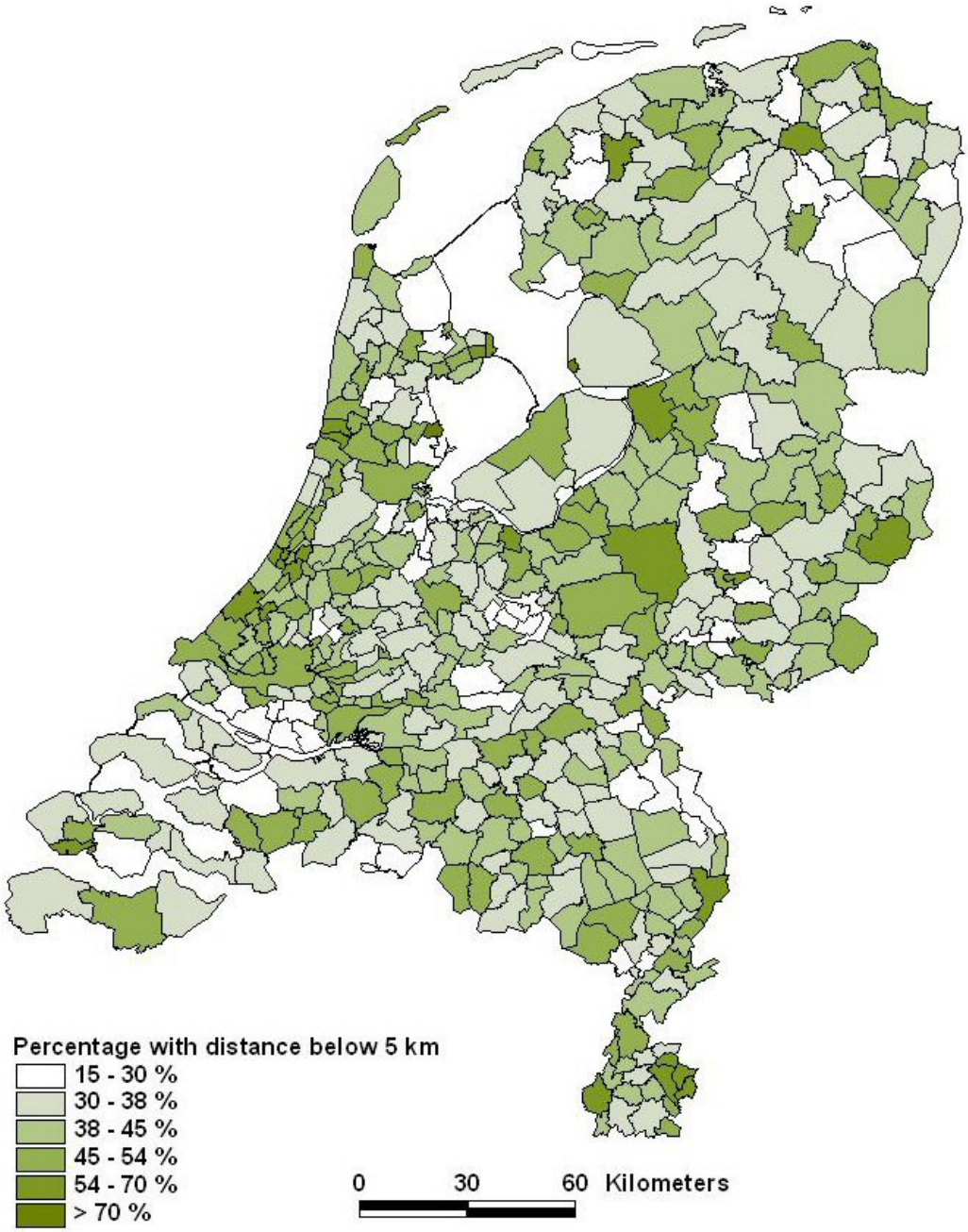
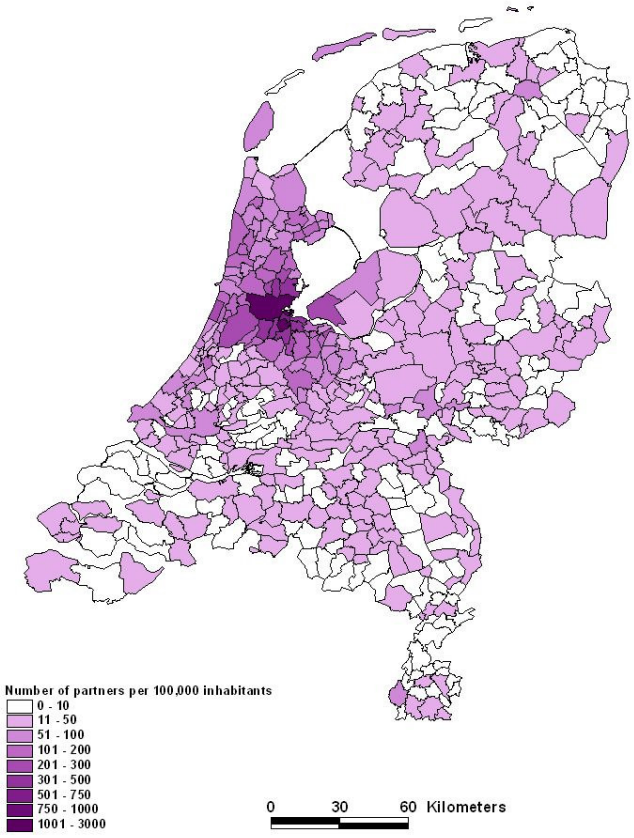


Figure 10. Number of partners per 100,000 inhabitants of former municipality of residence of new cohabiters in Amsterdam, 2004

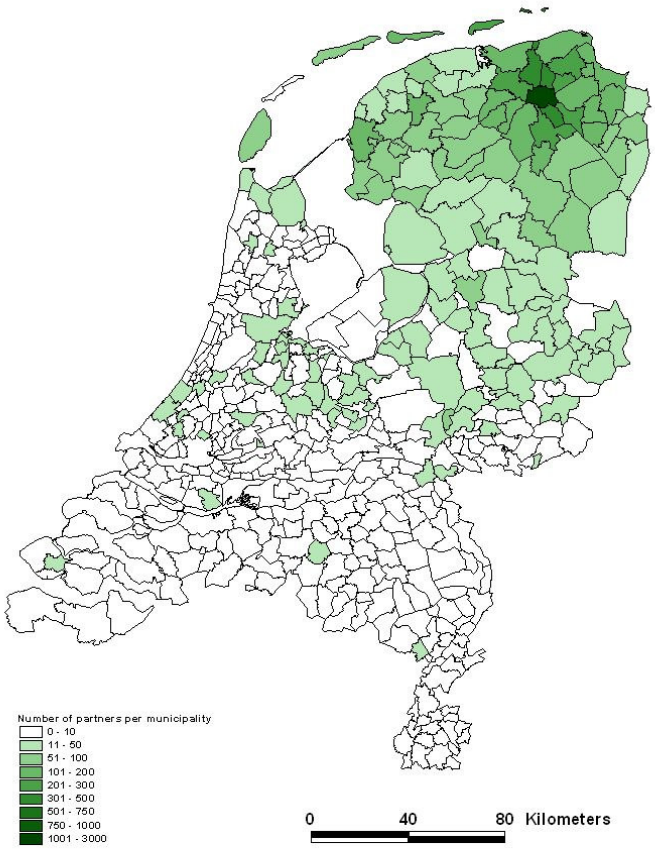


Figures 10 and 11 show the former municipality of residence of new cohabiters in Amsterdam and Groningen respectively, per 100,000 inhabitants of that municipality. In Amsterdam, about 24,000 people started cohabiting in 2004. On average, the distance between partners is 19.9 kilometres, while 50 percent of all partners lived within 5 kilometres before cohabitation. Of the new cohabiters, almost 53 percent started a shared living with a person who was at the time living in the municipality of Amsterdam as well. The area around Amsterdam is also relatively popular, but, partners come from the whole of the country to cohabit in the capital. In Groningen, almost 7,000 people started cohabitation between 1 January 2004 and 1 January 2005. The average distance between partners in Groningen is much higher: 37 kilometres, while the median is only 4 km. The orientation of partners in Groningen is much more regionally focussed: more than 75 percent of the new cohabiters are from the Northern Netherlands (including the provinces of Groningen, Friesland and Drenthe). About 55 percent of partners lived in the municipality of Groningen before cohabitation.

Table 12. Top 5 of origin of number of partners per 100,000 inhabitants of former municipality of residence of new cohabiters in Amsterdam and Groningen, 2004

Amsterdam	N	Percentage of total number of new cohabiters	Number of partners per 100,000 inhabitants	Groningen	N	Percentage of total number of new cohabiters	Number of partners per 100,000 inhabitants
Amsterdam	12,553	52.9	1,704	Groningen	3,820	54.7	2,156
Diemen	169	0.7	703	Bedum	35	0.5	322
Amstelveen	390	1.6	499	Haren	60	0.9	316
Ouder-Amstel	65	0.3	498	Winsum	43	0.6	303
Landsmeer	37	0.2	357	Schiermonnikoog	3	0.0	300
Total	23,719	100.0		**Total**	6,980	100.0	

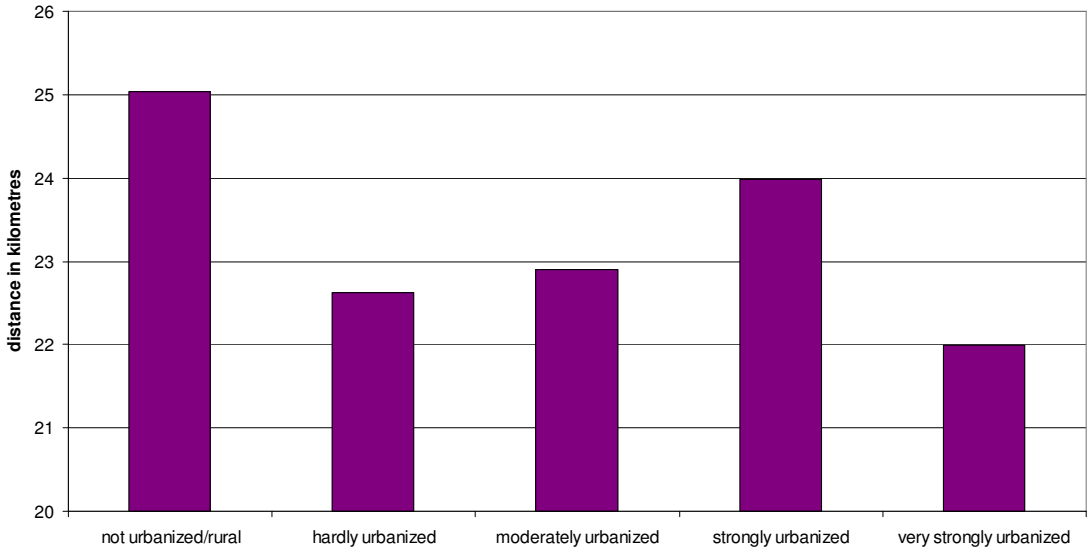
Figure 11. Number of partners per 100,000 inhabitants of former municipality of residence of new cohabiters in Groningen, 2004



4.5 Spatial patterns of spatial homogamy

In the Netherlands, regional patterns of spatial homogamy exist, as was found in the former sections. In general, Dutch people choose a partner who lives nearby, but the extent to which this is done differs over different regions in the country. To a large extent, the variation is related to the uneven distribution of people over space. In this section, the distance between partners is examined over different degrees of urbanization and population density. Figure 12 shows the average distance between partners for different levels of urbanization. As expected, the distance between partners is highest in rural areas: on average 25 kilometres. Interestingly, the distance is higher for strongly urbanized areas, but lower again for very strongly urbanized areas. For this reason, figure 13 splits up the distance between partners by population density.

Figure 12. Average distance between partners before cohabitation, by degree of urbanization*

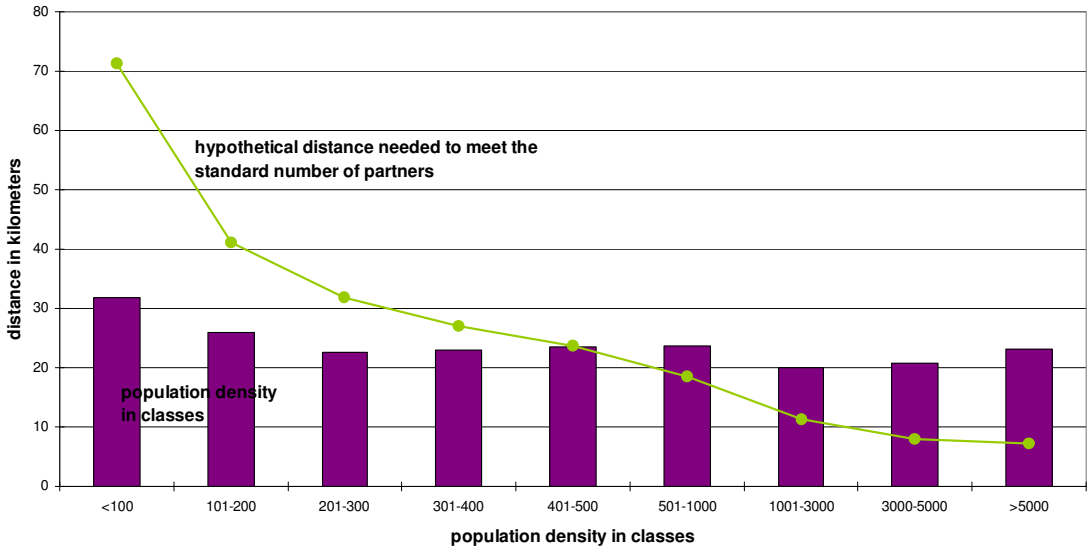


* Degree of urbanization is based on the number of addresses per square kilometres. The following classes are used, based on the classification by Statistics Netherlands: not urbanized (<500 addresses per km^2), hardly urbanized (500-1000), moderately urbanized (1000-1500), strongly urbanized (1500-2500), and very strongly urbanized (>2500 addresses per km^2).

Figure 12 shows average distances between partners before cohabitation by population density. The Netherlands has one of the highest population densities in the world: at present on average 481 persons live on a square kilometre of land. Our study shows that in areas with very low population density (below 100), the distance between partners is the highest: almost 32 kilometres on average. As population density increases, the distance between partners before cohabitation decreases. However, above a certain threshold value of population density, the

distance between partners increases again. With increasing very high population density, the distance between partners is increasing.

Figure 13. Average distance between partners before cohabitation, by population density, 2004



The average Dutch partner finds his or her partner over a distance of 23 kilometres. Given the average population density (481 persons/km^2), the number of partners the average Dutch person needs to meet to find a partner is 800,000 (the radius of the circle around the average person is 23 km, so the size of the surface is πr^2, so π*23*23*481 = 800,000). This 'standard number of partners' is different for different population densities. In figure 13, the line shows this hypothetical distance that is needed to meet the standard number of partners. In areas with extremely low population density, this hypothetical value is about 70 km. However, in this study it was found that people living in areas with this population density find their partner over a distance of 32 km on average. This might mean that in rural areas, people are less picky as far as partner choice is concerned. In strongly urbanized areas, partners are found at greater distances than in average size cities. Hypothetically, a person finds his or her partner within a circle of 7 kilometres. However, in the most urbanized areas, partners are found at an average distance of 23 kilometres. The city dwellers are thus much pickier than the people living in rural areas.

4.6 Migration distance

Besides examining the distance between partners before cohabitation, the distance between the current address of new couples and the address of the partner before cohabitation is examined. This 'migration distance' shows which distance persons 'travel' to their cohabitation address. For

the Netherlands, we found an average migration distance of 13 km, while the median distance is 2 km.

Table 13. Frequency distribution of migration distance for new cohabiters, 2004

Distance in classes	N	%
0 km	94.405	31.1
0-1 km	37.670	12.5
1-5 km	70.282	23.3
5-10 km	27.400	9.1
10-20 km	22.083	7.3
20-30 km	11.231	3.7
30-50 km	12.374	4.1
50-100 km	15.821	5.3
>100 km	10.042	3.3
No data	25.230	-
Total	326.538	100.0

From table 13 we see that 31 percent of all partners did not move; this means that one partner moved in with the other partner. Figure 13 shows the same, by sex. Women move in more with men than the other way around. Moreover, women travel longer distances than men do.

Figure 14. Average migration distance in kilometres, by distance class

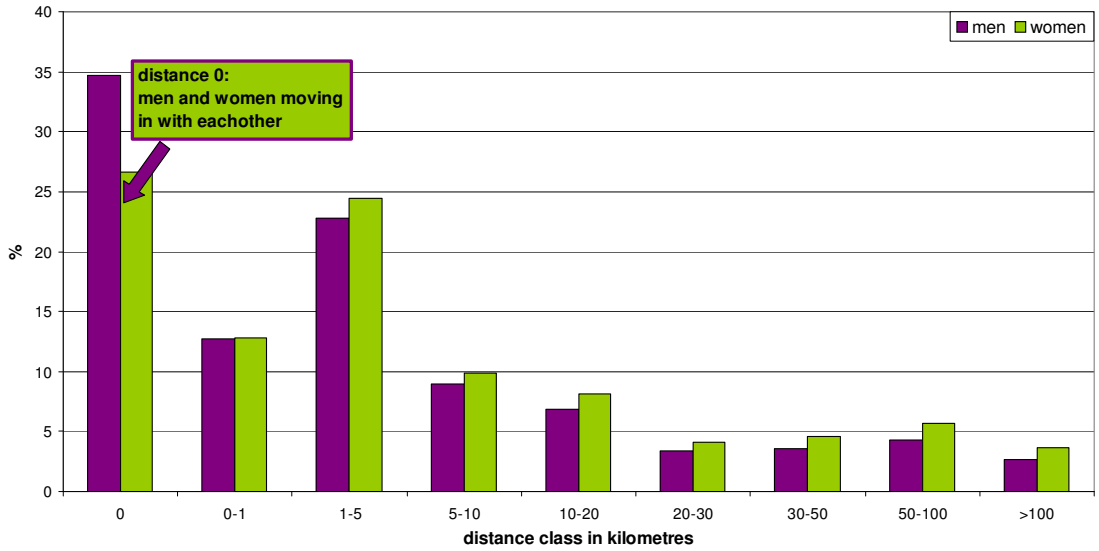
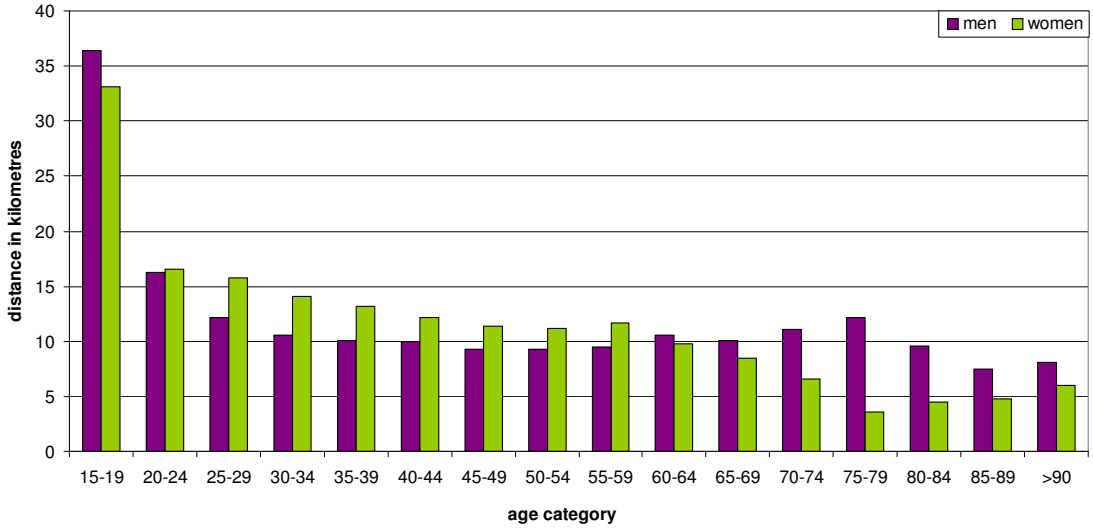


Figure 14 shows the average migration distance by age and sex. At younger ages and beyond age 60, men migrate over longer distances to their cohabitation address, while at ages 20-60, women travel the longest distances.

Figure 15. Average migration distance in kilometres, by sex and age



5 CONCLUSIONS AND DISCUSSION

5.1 Conclusions

The level of spatial homogamy of Dutch couples is high: on average partners choose a cohabitation partner who lived 23 kilometres away just before cohabitation. The most frequent distance between partners before cohabitation is 1 kilometre, and fifty percent of all new cohabiters lived within 5 kilometre from their partner just before cohabitation. Only 15 percent of the cohabiters lived more than 50 kilometres apart just before cohabitation.

At birth, partners lived on average 46 kilometres from each other. The most common distance between partners was found to be zero, meaning that most current cohabiters lived in the same municipality when they were born.

The influence of age on spatial homogamy is obvious. The distance between partners before cohabitation decreases with increasing age. Broken down into household position before cohabitation, we find that people living with their parents before cohabitation have the shortest distances to their partners. The widowed live closest to their partner before cohabitation, compared to the never married, married and divorced.

As expected, regional patterns of spatial homogamy show that distances between partners are shortest in the peripheral areas of the north and the southwest. Moreover, short distances are

found in (former) fishermen's villages, and in some areas in the cities of The Hague and Rotterdam. However, there are exceptions to these patterns, for which there are no explanations straightaway.

The spatial pattern of spatial homogamy indicates that distances between partners decrease with increasing level of urbanisation. However, at very high levels of population density, the distance between partners increases again.

5.2 Discussion

This paper describes patterns of spatial homogamy in the Netherlands in an exploratory way. The findings indicate high levels of spatial homogamy, and variation in spatial homogamy according to age and household position. Moreover, regional and spatial factors influence the distance between partners. The role of geographical distance in the process of partner choice seems to be obvious. Dutch people tend to choose a partner that lives close by. In areas with lower population densities in the north and southwest of the country, partners are found further away compared to areas with higher population densities. Short distances were especially found in urban areas, but also in former fishermen's villages and places where religion still plays an important role in everyday life. Therefore, the regional and spatial patterns of spatial homogamy found in this paper might reveal something about the distribution of groups in society, or the geographical clustering of social and cultural phenomena.

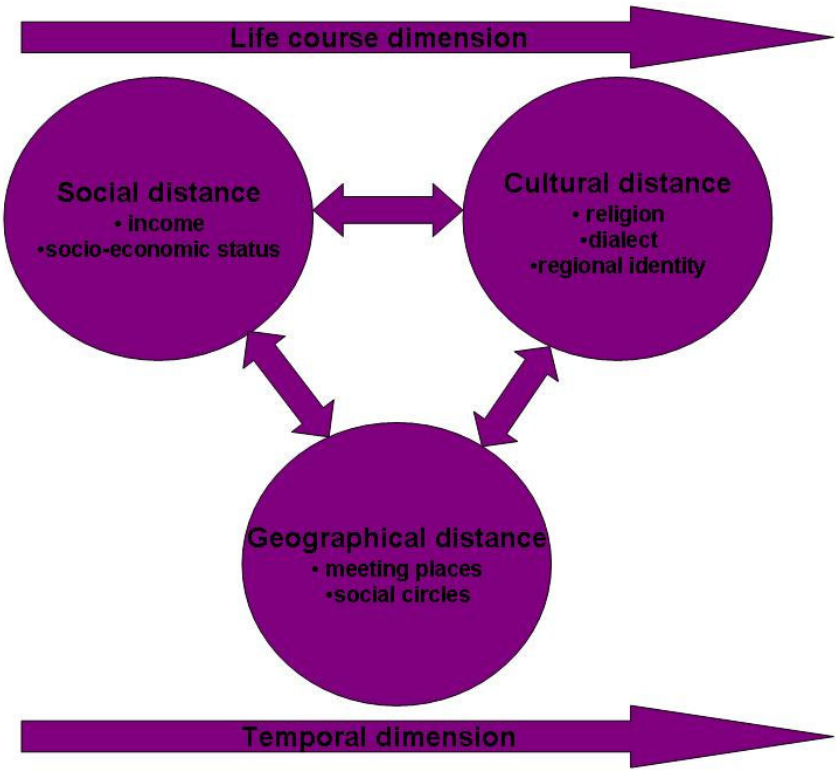
Patterns of partner choice may act as indicators of underlying sociological phenomena (Van de Putte 2003). Since patterns of partner choice reveal something about social groups and social borders in a society, they have been linked to social change (Smits 1996, Kalmijn 1998). Smits (1996) argues that marriage patterns are indicators for social openness and social cohesion in a society. A decrease of spatial homogamy may indicate a transition to a more open society. To examine if the level of spatial homogamy decreases in the Netherlands, further research will study how spatial homogamy vary across time. In the coming period, information on the period 1995-2003 will be added to the analysis.

The current paper has examined distances between partners for different household positions. This dimension is extended in the coming papers, by studying to what extent spatial homogamy is related to life course trajectories, and by investigating the spatial structure of the life course of Dutch people. Figure 16 shows the ideas for further research.

This PhD study intends to disentangle the relationships between social, cultural and geographical distance, in order to shed more light on the mechanisms in which distance affects partner choice.

In some of the areas with very short distances between partners, a large share of the population is re-reformed. But how religion or denomination actually affects geographical distance between partners should be examined further. Moreover, further research will focus on the role of dialect in partner choice. Do people choose partners who speak the same dialect? Based on religion, dialect and other factors, can one speak about regional identities that affect spatial homogamy?

Figure 16. Ideas for further research



As marital distances have been found to differ by social class (Coleman and Haskey 1986; Van Poppel and Ekamper 2004) and occupational class (Clegg et al. 1998), a further step in this study is to relate spatial homogamy to socio-economic status? Data to be used to answer this question will be data from the Social Statistical File of Statistics Netherlands, which will be linked to the population register data.

The role of geographical distance will be studied further by looking at the role of meeting places in the partner choice process. The spatial distribution of meeting places affects the chances of meeting a partner, and the study intends to examine universities and workplaces as meeting places with data from the Social Statistical File. Furthermore, meeting places as such change in time. With data from the Dutch Family and Fertility Survey questions about the neighbourhood and for instance internet as a meeting place, can be studied.

The geographical limitation of social circles will be studied at a later stage. Social circles act as places where one meets potential partners, and are influenced by age and stage in the life course. A qualitative approach is aimed at that should give more in-depth information on the spatial structure of social circles, and its influence on spatial homogamy.

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