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Published in:
Rural Sociology

DOI:
[10.1111/ruso.12213](https://doi.org/10.1111/ruso.12213)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Gieling, J., Haartsen, T., & Vermeij, L. (2019). Village Facilities and Social Place Attachment in the Rural Netherlands. *Rural Sociology*, 84(1), 66-92. <https://doi.org/10.1111/ruso.12213>

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Village Facilities and Social Place Attachment in the Rural Netherlands*

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ABSTRACT Economies of scale and increased mobility have led to the closure of many village facilities. Most residents do not rely on locally available facilities anymore for their primary function. However, facilities are also meeting places. A decline in facilities may therefore negatively influence residents' social place attachment. This article examines which facilities impact residents' social place attachment. It also explores whether different facilities impact the social place attachment of different groups of residents differently. In our analyses, we make a distinction between rural areas near and away from urban areas. Based on structural equation modeling, we conclude that in rural areas, both near and away from cities, cafés and supermarkets may well matter for residents' social attachment. In contrast to common expectations, community centers, primary schools, and sports facilities were not shown to enhance social place attachment. Considering the increasing self-reliance of local communities, these findings raise doubts about the use of public services to revitalize local communities.

Introduction

For decades, the number of facilities in many western European rural areas has been steadily declining (Woods 2011). Concerns about facilities disappearing have mainly focused on two functions of these facilities. First, facilities are said to deliver important primary services in the everyday lives of villagers, allowing them to shop for groceries, take their children to school, and engage in leisure activities within the village. Second, they are claimed to perform a social function as a “beating heart,” a “social infrastructure,” and “third places.” Spontaneous interactions at these facilities are believed to contribute to local ties and thus foster social cohesion (Haartsen and van Wissen 2012; Oldenburg 1991). Since the

* The usual disclaimer applies. Also, we would like to thank prof. Henk Folmer and the anonymous reviewers for their helpful comments on earlier drafts of this paper.

late 1950s, the preservation of local meeting places has been put forward as a necessary condition for social cohesion, which in turn should safeguard livability in rural areas facing depopulation (Kaal 2011).

From the 1960s onward, the geographical scope of many people's lives has been greatly extended, especially that of rural dwellers. This includes their social orientation: Present-day rural residents have access to extensive social networks outside their village (Boyle and Halfacree 1998). Improved mobility allows residents to combine a pleasant rural lifestyle with good access to urban networks and services. In the Dutch rural context, the daily transport of residents takes up to an hour of travel time or more, on average, and 35 kilometers daily (Steenbekkers and Vermeij 2013; Van Wee, Rietveld, and Meurs 2006). As a result, many have become less dependent on their immediate surroundings for facilities and social contact (Broadbridge and Calderwood 2002; Stockdale 2014). Local policy-makers have recognized this increase in outward orientation and freedom of choice on the part of rural residents, and have changed their priorities from providing facilities within the village to improving connections between villages and cities to guarantee the accessibility of facilities within the wider region (Hospers 2012; Thissen and Loopmans 2013).

In a densely populated country like the Netherlands, accessibility to facilities is not an issue for most people (Steenbekkers and Vermeij 2013). Supermarkets, primary schools, and sports facilities are often available within driving distance, so most residents do not rely on facilities within their village for their primary function anymore. However, concerns regarding the loss of their social function have remained or have even increased, as voiced by both residents and politicians (Brereton et al. 2011; Egelund and Laustsen 2006). In the era of state rollback, in which rural communities are increasingly held responsible for the quality and development of local society, social attachment has become an important resource for citizen activity (Gieling and Haartsen 2017). Several studies have demonstrated that social place attachment predicts the willingness of residents to become active in local society (Agnitsch, Flora, and Ryan 2006; A. Walker and Ryan 2008). The question we pose here is to what extent do village facilities contribute to residents' social place attachment?

Understanding social place attachment as the social relations that connect residents to their local environment, we follow social network theorists arguing that social networks require meeting opportunities to develop (e.g., Kalmijn and Flap 2001; Völker, Flap, and Lindenberg 2007). This implies that social networks depend on the way life is organized and that villagers' social place attachment depends on the local meeting opportunities. Local meeting opportunities have strong

competition, because many residents work, go to school, or grew up elsewhere. And village facilities are certainly not the only meeting opportunities: Villagers may also meet in the shops and schools in neighboring towns or villages, in public space, or over the garden fence. However, many villagers strongly feel that village facilities offer the necessary meeting opportunities to create the social place attachment that they value.

So far, studies on the social function of facilities in rural settlements suffer from two methodological shortcomings. First, many quantitative studies treat availability of facilities as an aggregated variable, thus not taking into account that different types of village facilities may affect residents' social attachment differently (see Auh and Cook 2009; Goudy 1977; McKnight et al. 2017). Other, qualitative studies focus on one specific type of village facility and ignore the role of other village facilities (see Markham and Bosworth 2016; Svendsen 2010). In order to assess each facility's unique contribution to residents' social place attachment, different types of village facilities need to be included in one model.

Second, rural areas are not homogeneous and therefore it is likely that similar facilities may have a different social significance in different types of rural areas (Egelund and Laustsen 2006). For residents living in relatively remote rural areas, alternative facilities outside the village will often be farther away, with the result being that both the primary function and the social function of facilities remain relatively important, especially to those who are less mobile. Residents living in villages near urban centers are generally well connected to the city and are therefore less dependent on what their village has to offer. These villages near cities attract relatively affluent in-migrants, for whom the central location is a valuable asset (Benson and O'Reilly 2009; Bijker, Haartsen, and Strijker 2013). For them, whether facilities are present in villages may matter less for their social attachment.

Hence, this article assesses the relationship between availability of facilities and social place attachment by posing three questions. Which village facilities impact residents' social attachment? Do different facilities impact the social attachment of different groups of residents differently? And what are the differences between rural areas near and those away from urban areas when it comes to the impact those distances have on facilities? We aim to answer these questions by means of a structural equation analysis. This article first provides an overview of previous research on the relationship between village facilities and social place attachment. Then, we examine the indicators that influence social place attachment among rural residents. Our method is further explained in the "Methods" section, followed by the "Results" section. Conclusions and policy implications are drawn in the final section.

Social Place Attachment and Facilities

The Notion of Social Place Attachment

Place attachment is a multidimensional concept that refers to the emotional and affective bonds between a person and a place (Altman and Low 1992). In addition to physical and cultural dimensions of place, people can feel strongly “attached to a place because of the close ties they have in their neighborhood, generational rootedness, or strong religious symbolism of the place, that is, because of social factors” (Lewicka 2011:213). Although the overall intensity of attachment to the village has diminished over the years (Hunter and Suttles 1972), the social dimension of place attachment has remained relevant in the lives of most rural residents (Gieling, Vermeij, and Haartsen 2017; Mesch and Manor 1998).

Social attachment to a place can manifest in the number and strength of social bonds *within* the residential environment (Goudy 1977; Hidalgo and Hernández 2001). These bonds are produced through interactions and socialization with local family, friends, and neighbors (Jennings and Krannich 2013). In present-day villages, being part of a close-knit village community has become less self-evident than before. Rural residents have different intensities of engagement with village social life. Some rural residents are just happy being in a place without being actively involved in it (Forrest and Kearns 2001). These residents may have a good relationship with their direct neighbors, but that is where their social engagement ends. Others may actively seek a deeper involvement in the village community.

Many studies have emphasized the social importance of village facilities such as primary schools (Miller 1993), supermarkets (Clarke and Banga 2010), local cafés (Roberts and Townshend 2013), community centers (Svendsen 2010), and sports facilities (Spaaij 2009). The term “facilities” refers to a single physical building with a clear geographical and tangible location. On a day-to-day basis, village facilities perform various functions in a village society, including a social one. For example, a primary school’s main purpose is to educate children, but it also has a social function as an informal meeting place for parents and children, and sometimes by accommodating music and drama clubs (De Vries et al. 2016). Furthermore, a primary school may have a symbolic function, since it represents a healthy, viable, and prosperous community (Christiaanse and Haartsen 2017; Mormont 1983; Woods 2011).

In their function as meeting places, facilities may positively contribute to residents’ social attachment. However, different facilities generally attract different groups of residents. Residents who make use of a local supermarket are not necessarily inclined to also visit local cafés

and community centers. A greater variety of locally available facilities therefore increases the odds that people will meet, interact, and eventually form communities. In particular, when alternative options are located a great distance from the home environment, facilities take on greater importance by enhancing the strength and number of local bonds (Van den Berg, Kemperman, and Timmermans 2014; Völker et al. 2007).

The Social Relevance of Village Facilities for Different Groups of Residents

Rural populations are diverse in terms of local orientation, and it is unlikely that all residents will be affected by the availability of village facilities in a similar way (Kolodinsky et al. 2013). A relevant difference in this respect pertains to residents' degree of daily transport and residential mobility. Higher levels of car ownership, income, and health, which result in relative ease for a person to be able to reach potential destinations outside the village, have increased substantially in the last few decades (Schwanen et al. 2015; Smith, Hirsch, and Davis 2012). Although it can be safely assumed that mobile residents depend less than others on local facilities for their primary function, the social function of facilities may still matter to a proportion of the less mobile as well as mobile rural residents, albeit for different reasons.

When it comes to the role played by local facilities in small rural settlements, the effect of these facilities on less mobile residents' social attachment is expected to be profound. Less mobile residents, such as the elderly, the less affluent, and disabled residents, are the most dependent on local facilities for those facilities' primary as well as their social function. The degree of dependence on the local environment varies across the life course (Rubinstein and Parmelee 1992). In particular the elderly might become more dependent on local services when their physical capacities and driving skills diminish. The result is that a broad range of village facilities may have a strong social significance in their life (Dwyer and Hardill 2011; Erickson, Call, and Brown 2012). To less mobile residents, the disappearance of village facilities may even result in a "sense of loss" (Cook et al. 2007) or may threaten their identification as "rural" persons (Winterton and Warburton 2012).

The effect of the availability of facilities on social attachment for the less mobile is expected to be in sharp contrast to that of villagers who are regionally oriented. These mobile residents are assumed to be less dependent on what a village has to offer, since they do not have to rely on the primary and social functions offered by local facilities to live a

pleasant life in the countryside (Flaherty and Brown 2010; M. Walker and Clark 2010). Many mobile residents maintain strong connections with urban centers for professional and social reasons, which results in local facilities, such as supermarkets and community centers, not being visited often (Findlay et al. 2001). Pursuing this line of thought, we can expect that less mobile residents will be the most affected by local facilities, and that, for mobile residents, the relationship between social attachment and the availability of local facilities will be weak at best.

An alternative view stresses the changing motivations behind social attachment. Gustafson (2009) and Halfacree (2012) argue that increased mobility may not necessarily weaken social attachment, but instead result in more diverse patterns of social attachment. Traditional and close-knit village communities with deeply rooted village bonds have turned into communities in which mobile rural residents choose their own degree and form of village attachment. Increased daily and residential mobility has resulted in people being able to reside in places that match their self-chosen identities and preferred (rural) lifestyle (Savage, Bagnall, and Longhurst 2005; J. Walker and Li 2007). From this perspective, facilities may become catalysts for establishing local social bonds. Mobile residents are less dependent on local facilities, but may be more motivated to attend specific facilities when they fit in with their self-elected lifestyle and are considered appropriate for “someone like me” (Savage 2010:132). Going to local cafés, community centers, and sports clubs can therefore be well-informed decisions and form an integral part of living the “rural idyll” (Markham and Bosworth 2016), including among highly mobile residents.

A Geography of Facilities

The availability of facilities may have a different impact on social attachment in different types of rural areas. In more remote rural areas, rural residents often have less freedom of choice when it comes to using facilities outside the village, since residents have to overcome the impediment of greater distances to reach alternative facilities. This may indicate that residents in remote rural areas will be more inclined to make use of facilities that are locally available. Less mobile residents may particularly rely on local facilities for those facilities’ primary function as well as their social function. This suggests that a wide range of local facilities in remote rural areas will particularly contribute to less social attachment on the part of mobile residents.

Most affluent and mobile lifestyle migrants often choose to live in popular villages near cities (Bijker et al. 2013). Although this group of

residents does not necessarily rely on the primary function of the facilities, because ample alternative facilities are available in a nearby city, they may like to use specific local facilities for social reasons, as part of their self-elected rural lifestyle. Facilities in villages near urban centers could therefore perform an important social function, particularly impacting the social attachment of affluent and mobile residents.

Facilities and Other Factors Affecting One's Social Place Attachment

We expect that facilities have remained meaningful in the lives of rural residents, while different facilities in different types of rural areas may impact residents' social place attachment differently. In this section, we explain expectations based on a literature review and ad hoc considerations in order to explore which village and individual characteristics affect social place attachment.

Village characteristics. A primary school is not only a venue for children's education but also a place where parents meet and interact with each other (Egelund and Laustsen 2006; Haartsen and van Wissen 2012). A primary school is therefore particularly likely to affect the social place attachment of residents with young children. However, M. Walker and Clark (2010) argue that residents with a shorter length of residency are less inclined to recognize the social value of the school within village society. These residents have a commitment to the village that is less strong, which results in school choice not necessarily being limited to the nearest school; alternative options outside the village may also be considered in order to find the "right" school for their children. In the Netherlands, secondary education is only available in larger towns and villages and is hence not relevant to include in this study.

Although only a minority of the rural population does a high proportion of food shopping in local supermarkets (Broadbridge and Calderwood 2002), the availability of a village supermarket can still be considered an important venue in the lives of less mobile, older, and disabled residents. These groups of residents often prefer to do their grocery shopping during the day, which may often lead to spontaneous meetings with fellow residents. Consequently, supermarkets may have a strong impact on their social contact (Clarke and Banga 2010).

Mount and Cabras (2016) elaborate on the impact of local cafés on village societies as places that create a sense of belonging and stimulate social cohesion among villagers. In rural areas, cafés are important centers for social involvement, especially if there are no alternative facilities with a social function (Hunt and Satterlee 1986). For young people in

particular, drinking practices are an important marker affecting their sense of belonging (Roberts and Townshend 2013). Moreover, mobile newcomers may make frequent use of local cafés, since they are often perceived as an important element of the “rural idyll” (Markham and Bosworth 2016).

A community center’s primary function is to foster social contact (Thissen and Droogleever Fortuijn 2012). Once successfully established, the community center functions as a meeting place where people from different generations and backgrounds come together and interact with each other (Svendsen 2010). However, Thissen and Droogleever Fortuijn (2012) found that it was mostly less-educated residents living in remote rural areas who frequently participated in community-center-related activities. Furthermore, it seems that community-based facilities are better able to meet the needs of women, especially older women, than of men (Dwyer and Hardill 2011).

Sports facilities are often regarded as a positive resource in rural societies, since they contribute to social capital and stimulate social interactions. The availability of sports facilities may have a profound impact on social place attachment, since long distances to sports facilities have a negative impact on sport participation (Steinmayr, Felfe, and Lechner 2011). According to rural sports participants, local sports clubs are “vital community hubs fostering social cohesion, local and regional identities and a shared focus and outlet” (Spaaij 2009:1143). However, Tonts (2005) argues that sports facilities can be perceived as “exclusive,” and some residents, such as in-migrants and the less educated, may face sociocultural barriers to participating on a village sports team.

Beyond considering a diverse range of local facilities, we postulate that community size has a positive effect on social place attachment. A larger number of village residents allows for more daily interactions with fellow residents, resulting in more extensive social ties than would be possible in smaller villages. Differences in village size are especially pronounced with respect to the relative number of friends and acquaintances through memberships in formal organizations (Goudy 1990; Kasarda and Janowitz 1974).

Individual characteristics. An important determinant of social place attachment on the individual level is length of residency. This variable has consistently been found to foster social attachment, because it normally takes time for people to establish social relationships in a new residential area (Brehm, Eisenhauer, and Krannich 2004; Scannell and Gifford 2010). However, the relationship between social attachment and length of residency is expected to be nonlinear. The social

attachment of residents who recently moved to the village might be limited during the first period they live in the village, but may substantially increase in subsequent years and will probably stabilize later on. Particularly in small villages, it is unlikely that the number of local contacts will increase substantially after a few years.

Level of education affects place attachment in two opposing ways. On the one hand, highly educated residents are generally more active in clubs and associations, which will positively affect their local social network. On the other hand, they are more outwardly oriented and therefore less committed to the local environment (Fredrickson et al. 1980; Gieling and Haartsen 2017). Furthermore, Fried (1984) has argued that more highly educated residents' place attachment is more dependent on the built environment and its natural qualities, while less-educated residents' place attachment is more likely to be affected by the strength of social ties. Hence, an a priori prediction as to the direction of the relationship between education and social place attachment is not possible.

Scholars have suggested that the relationship between age and social place attachment is U-shaped (Lewicka 2011). Young and old residents are generally less mobile and more dependent on the immediate living environment and are therefore expected to have a relatively large proportion of their social network living within the village (Wiles et al. 2009). Consequently, young and old residents make more use of local facilities and associations: Young residents often belong to one or more sports associations, while older residents often go to village community centers and supermarkets (Thissen et al. 2010). However, at an older age, social relationships are found to decrease in number and frequency of contact (Wrzus et al. 2013). Furthermore, in the last phase of their lives, the elderly withdraw from village social life due to physical constraints.

The composition of the household may also have an effect on place attachment (Garrison 1998). Having children is an important intermediary in generating social contacts, which, in turn, results in higher social attachment (Parkes, Kearns, and Atkinson 2002). Attending children's activities via school or sports associations provides an opportunity for parents to informally meet and interact with each other.

Women traditionally spend more time in their communities and thus develop stronger attachments to it (Bock 2010). It can therefore be expected that women will report higher levels of social place attachment than men. However, this may particularly apply to women from older generations.

The ability to get by financially is an important proxy when inquiring whether residents are committed to their living environment. People

with high incomes are normally better equipped to own a house, resulting in higher incentives to become more engaged with the local community (Dietz and Haurin 2003). Consequently, affluent residents are more likely to participate in various community activities, and to construct and maintain good social bonds with their neighbors (Diaz-Serrano and Stoyanova 2010). High-income residents who recently moved to the countryside are particularly believed to make frequent use of specific facilities, since they represent a self-elected interest in “living the rural idyll.” Such facilities include cafés, sports associations, and community centers.

A lack of mobility is an important determinant of whether residents rely on local facilities in their daily lives. Thus, we expect that having a physical or mental disability may significantly impact social place attachment. Both types of disability result in a higher dependence on the local environment, potentially causing a higher visitation rate to local facilities such as supermarkets and community centers. However, a disability might also lead to severe mobility constraints and an inability to reach any village facility. This could lead to feelings of loneliness and social exclusion (Gething 1997; Warburton, Scharf, and Walsh 2017).

Interactions. Based on the literature review and the overview of the observed predictor variables, we expect interactions to occur between specific facilities and individual characteristics (Table 1). After assessing the impact of village and individual characteristics on social place attachment, we add a number of interaction effects to the model. In particular, we expect the relationship between facilities and social place attachment to vary by age, households with children, length of residency, ability to get by financially, and disability.

Methods

Data and Research Context

The quantitative data we analyze in this article were collected by means of a paper and online questionnaire as part of the Socially Vital Countryside database 2014 survey, carried out by the Netherlands Institute for Social Research. The survey was conducted among a stratified sample of the rural population of the Netherlands, defined as the inhabitants of Dutch villages (<3,000 inhabitants) and outlying areas, in which residents living in remote rural areas are deliberately overrepresented. Only inhabitants with a minimum age of 15 years are included in the research. Statistics Netherlands randomly drew the sample from the Municipal Administration, with data collected in autumn 2014. There was no evidence of nonrandom dropout.

Table 1. Overview of Interaction Effects between Facilities and Individual Characteristics on Social Place Attachment.

Facility	Users
Primary school	Young and middle-aged residents
Supermarket	Elderly Residents with long length of residency Residents with disability
Pub	Young residents Residents with a long length of residency Affluent residents
Community center	Elderly Residents with a long length of residency Less-educated residents Women
Sports facility	Affluent residents Young residents Households with children More highly educated Affluent residents Residents without disability

The survey addresses a range of topics with regard to the participation, self-reliance, and quality of life of village residents, and consists of 59 closed questions. In total, 7,840 rural residents completed the survey, resulting in a response rate of 48 percent. We use only a selection of the total number of responses in this study. We include respondents living in villages of between 500 and 1,500 inhabitants, since discussions of the alleged relationship between facilities and social place attachment are most meaningful in these medium-sized villages. In smaller villages, facilities have already been gone for decades, and in larger villages, closure of the last remaining facilities is not an issue yet (Elshof and Bailey 2015). Moreover, residents living more than half a kilometer outside the village (self-reported) were excluded from the analyses, because it was difficult to determine to which service area they were oriented and feel connected to. Bearing these considerations in mind, we include 2,271 cases in the analysis.

Measurements

Our dependent variable “social place attachment” is a latent variable with six observed indicators. The first four indicators measure an individual’s number and strength of local social bonds, and the latter two indicators measure the relative importance of these local social bonds in an individual’s overall social network. The six indicators are: (1)

“Approximately how many village inhabitants do you know by their first name?” (2) “Approximately how many village inhabitants visit your home from time to time?” (3) “With approximately how many village inhabitants do you discuss personal matters?” (4) “Approximately how many village inhabitants could you ask for help? (for instance, with a small job around the house)?” (5) “Approximately how many of your acquaintances live in (or around) your village?” and (6) “Approximately how many of your friends live in (or around) your village?” Each indicator has five answer categories (1 = none or all live elsewhere to 5 = more than 50 or all live in the village).

We had access to data covering the average distance to a primary school, supermarket, and café for each respondent via a road network per village, and not the actual availability of facilities within each village. These proximity measures are derived from Statistics Netherlands, which annually publishes statistics on the average distance from a village or neighborhood to a specific facility. We used proximity measures from 2013. Because we included only respondents living within medium-sized villages, an average distance of 1,000 meters to a facility was taken to be an adequate way of assessing whether each facility was available in the respondent’s village. We cross-checked this assumption in one selected rural region by comparing our results with those of a second database containing data on the actual availability of facilities in this selected region: We found that differences were negligible.

The measurement procedure for the availability of community centers was different, since official statistics regarding community centers were not available. We used the question “Is there a community center available in your village?” from the Socially Vital Countryside 2014 survey as a proxy of community centers’ availability (comparable to the other facilities included in the structural equation model [SEM]). By measuring availability in this way, this study included all community centers that residents themselves perceive as a community center. These centers could be official and state-subsidized community buildings, but might also have a more informal and temporary character. It could therefore be that respondents living in the same village answered this question differently. Also, some respondents answered the question with “I don’t know,” possibly because they recently moved to the village or stay aloof from village social life and therefore are unaware whether their village has a community center, or because they are not sure whether a particular facility meets the criteria of a community center. In those cases, we determined whether a community center was available in their village by looking at answers given by respondents living in the same village and by using a Google search. As a result, we obtained

a reliable impression of the availability of community centers in the village where respondents live (nearby).

The Dutch Chamber of Commerce keeps track of all commercial and noncommercial businesses, associations, and foundations in the Netherlands. Using these data, we were able to calculate the number of organizations for each village, which were registered under the category of "sport." Unfortunately, the data were from 2016, so there was a small discrepancy between the moment of data collection of this variable and that of the others. Moreover, there was no information available regarding the size of each organization. Bearing these limitations in mind, we believe that the data from the Dutch Chamber of Commerce provide a valid proxy for the number of local sports facilities in each village.

In this study, "village size" is a continuous variable running from 500 (lowest) to 1,500 (highest). "Length of residency" is a categorical variable consisting of five categories (1 = 0 to 10 years, 2 = 11 to 20 years, 3 = 21 to 30 years, 4 = 31 to 40 years, 5 = 41 or more years). In our analysis, "educational attainment" has three categories (1 = primary school, 2 = secondary vocational education, 3 = higher education). Researchers have suggested that the relationship between age and social place attachment is curvilinear (Lewicka 2011). Therefore, we decided to use age squared in the analysis. "Type of household" measures the composition of the household divided into two categories (0 = household without children, 1 = household with children). We included "gender" as a dichotomous variable (0 = male, 1 = female).

We used two separate proxies to measure access to mobility. First, the extent to which residents are getting by on their total household income is a good indicator of their ability to get by (0 = [occasionally] encountering problems with getting by; 1 = never encountering problems with getting by). Second, even if residents do not encounter any financial problems, prolonged physical or mental constraints may still limit mobility options. We divided a respondent's potential problems with carrying out daily activities due to physical or mental constraints into two categories (0 = physical or mental disability, 1 = no physical or mental disability).

The village's geographical location relative to urban centers is expected to affect the relationship between availability of facilities and social place attachment. In order to determine whether residents living in villages near and far away from urban centers exhibit different foundations in social place attachment, this study examined separate models for both types of rural areas. We divided the respondents into two groups: those living in villages near cities and those living in remote rural areas. As studies from the Netherlands Institute for Social

Research do, we determined proximity to a city by assessing if a respondent is able to reach 150,000 people within 15 minutes' travel distance by road (Steenbekkers and Vermeij 2013).¹ These 150,000 people do not necessarily have to live in one city but can be divided over a number of smaller cities and villages. If a respondent is able to do this, then he or she is considered to be living in a village near a city, as opposed to living in a remote rural area. This way of measuring village relative level of remoteness allows us to take into account more relevant variables than number of kilometers such as density of infrastructure and natural barriers. However, it is important to bear in mind that the Netherlands is a relatively small, urbanized, and densely populated country. The areas indicated as far away from urban centers only are remote in a specific Dutch context, yet internationally they may be classified as an "intermediate region" (Brezzi, Dijkstra, and Ruiz 2011).

Table 2 provides descriptive statistics (means, standard deviation, minimum, and maximum) for all study variables.

Analysis

We used the structural equation modeling framework to examine the effect of village and individual characteristics on social place attachment. This concept is a latent variable: It can only be indirectly observed through observable indicators (Oud and Folmer 2008). A full structural equation model incorporates a number of independent variables to determine their effect on a latent construct. In essence, a complete SEM consists of two components: a measurement model and a structural model. The first is basically a confirmatory factor analysis that constitutes the latent variable. The links between the latent variable and its observed indicators are assessed. The latter component is similar to a regression structure between the independent variables and the latent variable. Because our data include a number of dichotomous variables, we apply the maximum likelihood estimator based on the matrix of polychoric correlations. We used the LISREL 9.2. software package (Jöreskog and Sörbom 1996).

A variety of statistical indexes are available to evaluate the goodness of fit of a SEM, including the commonly used root mean square error of approximation, the relative chi square (χ^2/df), the goodness-of-fit index, the adjusted goodness-of-fit index, and the comparative fit

¹Specifically, the 15-minute travel time by road is based on the average travel time from a village to at least 150,000 people. Original data derived from Goudappel Coffeng, www.bereikbaarheidskaart.nl (National Accessibility Map), retrieved March 21, 2017.

Table 2. Means, Standard Deviations, Minimum, and Maximum of Study Variables (Rural Netherlands)

	Near Urban Areas (N = 555)			Away from Urban Areas (N = 1,716)				
	Mean	SD	Minimum	Maximum	Mean	SD	Minimum	Maximum
Social place attachment								
First name	4.20	.94	2 = 1 to 5 people	5 = more than 50	4.33	.88	1 = none	5 = more than 50
Visit you	3.00	.89	1 = none	5 = more than 50	3.03	.90	1 = none	5 = more than 50
Discuss personal matters	2.36	.84	1 = none	5 = more than 50	2.35	.85	1 = none	5 = more than 50
Ask for help	2.52	.85	1 = none	5 = more than 50	2.58	.88	1 = none	5 = more than 50
% friends live in village	2.07	1.12	1 = all live elsewhere	5 = all live in the village	2.27	1.21	1 = all live elsewhere	5 = all live in the village
% acquaintances live in village	2.28	1.05	1 = all live elsewhere	5 = all live in the village	2.40	1.10	1 = all live elsewhere	5 = all live in the village
Village characteristics								
Primary school	.79	.41	0 = not available	1 = available	.86	.35	0 = not available	1 = available
Supermarket	.50	.50	0 = not available	1 = available	.60	.49	0 = not available	1 = available
Café	.45	.50	0 = not available	1 = available	.52	.50	0 = not available	1 = available
Community center	.82	.38	0 = not available	1 = available	.81	.39	0 = not available	1 = available
Sport facilities	9.9	8.91	0 sports facilities available	60 sports facilities available	8.24	8.33	0 sports facilities available	62 sports facilities available
Village size	1007.71	291.58	500 inhabitants	1,490 inhabitants	980.98	291.3	500 inhabitants	1,500 inhabitants
Individual characteristics								
Sex	.47	.50	0 = male	1 = female	.52	.50	0 = male	1 = female
Age	54.08	18.66	15 years	96 years	52.31	18.88	15 years	100 years
Length of residency	3.19	1.50	1 = 10 years or less	5 = 41 years or more	3.15	1.48	1 = 10 years or less	5 = 41 years or more
Education	2.12	.78	1 = less education	3 = more education	2.04	.79	1 = less education	3 = more education
Household	.42	.49	0 = without children	1 = with children	.46	.50	0 = without children	1 = with children
Household income	.44	.50	0 = not getting by easy	1 = getting by easy	.41	.49	0 = not getting by easy	1 = getting by easy
Disability	.79	.41	0 = disability	1 = no disability	.80	.40	0 = disability	1 = no disability

N = 2271. SD = standard deviation.

index. The χ^2 is inappropriate for assessing the goodness of fit of the SEM in this study, since the number of observations for the group of residents living in remote rural areas is larger than 1,000; a number of variables are dichotomous and most variables are nonnormally distributed (Jöreskog and Sörbom 1996). Therefore, we assess the model fit by means of the root mean square error of approximation, the relative chi square, and the goodness-of-fit, adjusted goodness-of-fit, and comparative fit indexes.

Results

Descriptive Results

We divided the 2,271 observations into two groups: 555 observations (21 percent) living near urban centers and 1,716 observations (79 percent) living away from urban centers (Table 2). The descriptive results show that, on average, social place attachment is stronger in remote rural areas than in rural areas near cities. Moreover, the percentage of friends and acquaintances living within the village is higher in remote rural areas than in rural areas near cities. In other words, the social orientation of residents living in remote areas is more inwardly oriented. Furthermore, the number of fellow residents known by their first name as well as the most profound expression of social attachment—the number of people a respondent can ask for help—is considerably higher in remote rural areas.

In addition, primary schools, supermarkets, and cafés are more often available in remote villages, while in villages near urban areas, community centers and sports facilities are more often present. The data furthermore show that respondents living near urban areas are more often male, older, more highly educated, and more likely to live in a household without children than those residents living in remote rural areas. In addition, residents living near urban areas indicate that they cope more easily than those living far from urban areas. There is almost no difference between both groups in length of residency and disabilities.

Measurement Models

Variables included in the model are standardized (beta) coefficients. Consequently, the scales of the explanatory variables are irrelevant, and the estimated coefficients are directly comparable. Note that to render the model identified, we fixed the coefficient “first name” at 1, thus assigning a measurement scale to the unobserved latent variable “social

place attachment.” In addition, we expect that the indicators in the measurement model will be related to each other, making it likely that the error covariance between these indicators will be correlated. We used modification indexes as suggested by LISREL 9.2 to add an error covariance between various indicators to improve the model’s goodness of fit (Schumacker and Lomax 2010).

The measurement equations of the endogenous latent variable social place attachment—consisting of factor loadings, standard errors, and R^2 s—are presented in Table 3. For both groups, the loadings are significant at the .05 level and exceed the recommended minimum magnitude of .20 (Jöreskog and Sörbom 1996). The table furthermore shows some variation in the loadings across the two models. The indicator “first name” has the strongest loading in both models, and all other indicators load substantially on social place attachment. Particularly in remote rural areas, the estimated loading of “first name” is substantially larger than the others, indicating that social place attachment manifests itself more strongly through knowing many people’s first name than through other, more profound indicators of social relationships. In villages near urban centers, differences between the six indicators are less substantial, although “first name” and “visit you” correlate most strongly with social place attachment.

The reliabilities (i.e., the proportion of the variance of an indicator explained by its latent variable) are all relatively high within both models. The R^2 of “first name” is substantially larger than those of the other indicators. Some variation can be found in the reliabilities for social orientation in both types of rural areas: “First name,” “percentage friends live in village,” and “percentage acquaintances live in village” seem to contribute more to social place attachment in remote rural areas than in rural areas near urban centers.

Table 3. Standardized Coefficients of the Measurement Model (Final Model; Latent Variable = Social Place Attachment).

Indicator	Near Urban Areas			Away from Urban Areas		
	Coefficient	SE	R^2	Coefficient	SE	R^2
First name	.83**		.69	.95*		.90
Visit you	.71**	.06	.50	.61**	.04	.37
Discuss personal matters	.47**	.06	.22	.47**	.03	.22
Ask for help	.49**	.06	.24	.43**	.03	.19
% friends live in village	.59**	.06	.35	.69**	.04	.47
% acquaintances live in village	.60**	.06	.36	.71**	.04	.51

SE = standard error.

* $p < .05$, ** $p < .01$.

Structural Models

For both types of rural areas, we first estimated an initial model including all relevant variables (as discussed in the section “Facilities and Other Factors Affecting One’s Social Place Attachment”). We estimated the statistical significance of each indicator and, because of the large number of predictor variables, only deemed it significant if $p < .01$. In the final model, all interaction effects were simultaneously added to the initial model. Based on a stepwise backward deletion procedure, we deleted insignificant interaction effects one by one. The first interaction effect to be removed was the one that had the least impact on how the model fits the data. There are two ways to correctly determine the significance of interaction coefficients. First, we conventionally retained interaction effects with a significant coefficient. Second, we conducted a joint test between the main effect and the corresponding interaction on the model’s χ^2 . A significant decrease of χ^2 in models with both variables compared to models without both variables indicated whether the joint effect was statistically significant (Wooldridge 2006).

The overall goodness-of-fit indexes of the structural models showed that the critical values ranged from sufficient to excellent, and indicated that both initial and final models had good overall fit (Table 4; for details, see Hooper, Coughlan, and Mullen 2008). The final models indicated that 54 percent and 27 percent of the variation in social place attachment was explained by the explanatory variables in the two structural models. Another result was that the magnitudes and significance levels of the determinants of social place attachment varied across both types of rural area.

The initial models aimed to determine whether village facilities contributed to residents’ social attachment, in general terms. The results showed that the availability of a supermarket and a café were positively related to social place attachment, suggesting that their availability had a small but significant impact on residents’ social place attachment. Community centers, sports facilities, and primary schools showed no relationship with social place attachment in village societies, suggesting they had no positive effect on social place attachment. In fact, the availability of a primary school was found to negatively contribute to residents’ social attachment.

In both types of rural area, the initial models showed that length of residency and having children were the strongest predictors of social place attachment. When residents lived longer in a living environment, they had more opportunities to meet fellow residents, which would then increase their social place attachment. In addition, meeting other

Table 4. Standardized Coefficients of the Structural Models.

Explanatory Variables	Near Urban Areas		Away from Urban Areas	
	Initial Model	Final Model	Initial Model	Final Model
Primary school	-.08	-.10	-.12**	-.12**
Supermarket	.17**	.17**	.14**	.14**
Café	.09*	.11*	.10**	.10**
Community center	-.03	-.03	.04	.04
Sports facilities	.02	.02	.04	.04
Village size	-.04	-.03	-.02	-.02
Female	.07	.06	.02	.02
Age squared	.04	.08	-.03	-.05
Length of residency	.59**	.53**	.43**	.49**
Education	-.17**	-.17**	-.09**	-.09**
Household with children	.73**	.76**	.27**	.27**
No problems with getting by financially	.22**	.22**	.01	.00
No disability	-.09	-.11	.08*	.08**
Primary school * age				.04**
Supermarket * length of residency		-.02**		-.03**
Supermarket * age		.08**		.04**
Café * age		-.15**		-.06**
Café * length of residency		.12**		-.04**
R^2	.53	.54	.27	.27
RMSEA	.060	.052	.055	.048
χ^2/df	2.75	2.32	5.64	4.51
GFI	.96	.97	.98	.98
AGFI	.90	.90	.93	.93
CFI	.96	.97	.96	.98

RMSEA = root mean square error of approximation; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index.

* $p < .01$, ** $p < .001$.

residents came naturally through monitoring children's activities within the village. Less-educated residents reported higher levels of social place attachment. This could be because less-educated residents are more inwardly oriented and more strongly attached to the village social qualities than to its environmental qualities.

Affluent residents living in rural areas near urban centers reported higher levels of social place attachment, probably because this group of residents was found to be more active in village associations. Having a disability affected social place attachment in different ways, depending on the type of rural area. Disabled residents living in villages near urban centers reported high levels of social place attachment, while disabled residents living in remote rural areas reported low levels of social place attachment. Remote rural areas possibly do not meet the requirements

of residents with disabilities in transportation and specialized-service provision. This may cause disabled residents to find it difficult to consolidate social contacts, resulting in feelings of loneliness and isolation.

In the final models, we added interaction terms between facilities and personal characteristics to determine whether different facilities impacted residents' social attachment differently. In villages near urban centers, the results showed that the contribution of a supermarket to social place attachment varied by age and length of residency. A local supermarket particularly affected the social place attachment of older residents. This is in line with expectations, since older residents are normally less mobile and may prefer shopping for groceries locally. The availability of a supermarket also affects the social place attachment of residents with a short length of residency, which may be because they specifically chose to move to a village containing a supermarket.

The availability of a café contributed to the social place attachment of young residents and residents with a long length of residency. These results concurred with the expected life course preferences of young and old residents. Young residents like to go out and use local cafés as a hub to strengthen local social bonds. Residents with a long length of residency, often older residents, are normally more inwardly oriented and may prefer to use local facilities such as cafés.

In remote rural areas, interaction effects from the supermarket yielded similar results to those reported in villages near cities. The social attachment of the elderly and residents with a short length of residency was significantly impacted by their availability. For cafés, we found one relevant difference: They most strongly contributed to the social attachment of residents with a short length of residency. This could be explained by noting that rural in-migrants, for whom village social life is an important quality of rural living, preferred to migrate to villages with a café. They were therefore more likely to make use of it. Furthermore, we found that the availability of a primary school in remote rural areas more negatively contributed to older residents' social attachment than to that of younger residents. This makes sense, since older residents are normally involved in activities and events related to primary schools to a lesser extent than younger residents are. This latter group may form a small yet close-knit social group consisting of residents with school-aged children.

Discussion

This article's primary objective was to explore the relationship between village facilities and social place attachment. Based on representative

data collected in rural areas in the Netherlands, we found a small yet significant positive relationship between cafés and supermarkets and rural residents' social place attachment. In addition, whereas for older residents a supermarket made more of a difference, for younger residents the café mattered more. This corresponds to expectations based on residents' life course preferences. More surprisingly, both cafés and supermarkets contributed a great deal, in relative terms, to the social place attachment of residents with a short length of residency. This could be an indication that a portion of rural in-migrants chose to make use of local facilities as part of a self-elected rural lifestyle. These in-migrants normally do not have access to a large local social network and visiting local facilities might foster social contact between in-migrants and residents with a longer length of residency. Hence, cafés and supermarkets may play an important role in the integration of socially oriented newcomers into existing rural communities, a proposition worth further investigation.

It is plausible that the relationships indicate a causal effect of facilities on social place attachment. Both supermarkets and cafés are places where villagers meet, and thus form and maintain social relations. However, a reverse relationship is also possible. Both are privately owned facilities and only remain available in a small rural settlement if economically viable. High levels of social place attachment may therefore cause these facilities to stay in business. In other words, their availability could also be interpreted as a consequence rather than a condition of social place attachment. Although we are not sure about the causal direction, the results indicate that both types of facilities have a social function in the village.

In contrast, the availability of a primary school, a community center, and sports facilities appeared unrelated to residents' social attachment, making it highly unlikely that they foster social place attachment. This is particularly striking, because all three are public facilities that are often believed to be important venues enhancing village community life. For this reason, local governments often invest in such facilities. In a time when rural residents are increasingly held responsible for the quality of local society, the notion that public facilities generate more engaged and active rural communities must be questioned.

The negative effect of the availability of a primary school on social attachment was unexpected. However, this concurs with some recent studies suggesting that school closure may also have a positive impact on village societies. Oncescu and Giles (2014) noticed that the loss of a primary school could spark community engagement, since residents had to set up new institutions and events in order to safeguard a sense

of community. These might be institutions that a local community needed more than a school (Egelund and Laustsen 2006). The closure of a primary school may even lead to enhanced social opportunities for leisure, as larger schools usually are better able to provide a diverse set of after-school activities. Consequently, parents and their children may spend more time in surrounding communities and establish more relations with people of their own age cohort, expanding their personal social circles beyond a small local school population (Oncescu and Giles 2012). In the Netherlands, village schools may help maintain social cleavages in a village, when children of the same village attend different schools. In other words, activities and social relationships in villages without a primary school may be more inclusive for all members of a village community.

Indicators that explain social place attachment in rural areas near cities and more remote rural areas do not differ much. One explanation could be that the Dutch countryside is spatially not very differentiated, since high levels of urbanization and population density ensure that facilities are always available within driving distance. However, there are indications that the social interaction of disabled residents in remote rural areas is a concern. The finding that disabled residents in remote rural areas have significantly less social attachment than residents without a disability may suggest that disabled residents encounter barriers to engaging in village society. Since the availability of public facilities was not found to have a strong impact on residents' social attachment, policy measures aimed at providing social opportunities for residents with disabilities through public facilities may have to be refined.

All in all, this article calls into question the assumption that the availability of village facilities is a necessary condition for social cohesion and social attachment. Social network theorists have argued that local meeting opportunities are a condition for the development of social place attachment (Völker et al. 2007). However, meeting other people in small rural settlements does not necessarily have to take place in local facilities. Alternative meeting places such as casual meetings at home, village events, digital village platforms, or facilities outside the village may also enable social contact. The prevailing policy assumption that local facilities, and in particular public facilities, are important meeting places fostering social attachment is not supported by this study's results. Other studies have also taken a critical stand on the added value of facilities in relatively urbanized and densely populated rural areas by demonstrating that facilities have scarcely any effect on migration figures (Amcoff, Möller, and Westholm 2011; Elshof et al.

2017) and livability (Haartsen and van Wissen 2012). This does not mean that village facilities are considered superfluous. They still may be important for specific groups of residents and may also perform a symbolic function affecting local identity. However, the long-term effect of disappearing facilities on a village's social qualities seems to be less devastating than often suggested.

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