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attachment among Norwegian and Dutch stayers
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Levels, predictors and meanings of place attachment among Norwegian and Dutch stayers in rural shrinking regions

Marieke van der Star & Cody Hochstenbach

Abstract

In many countries, social and economic disparities between regions appear to be on the rise, with the increasing demand for urban living mirrored by the decline of more peripheral regions. Increasingly often, this concerns shrinking rural regions. This paper focuses on residents' place attachment in two such regions: Sogn og Fjordane in Norway and Noord Friesland in the Netherlands. We study levels, predictors and meanings of place attachment by drawing on both quantitative survey data and qualitative in-depth interviews. Our findings reveal generally high levels of place attachment in both regions, likely reflecting stability among rural stayers. Women, the employed, long-term residents and those speaking the local language report significantly higher levels of attachment in both regions. Our qualitative material underscores that individual biographies are actively shaped by the social, cultural and physical dimensions of place. Respondents construct images of living in a rural idyll where a sense of normalcy, familiarity and natural quality is maintained. We argue these findings help understand why residents stay put in the face of regional decline.

Keywords: Regional shrinkage, population decline, place attachment, sense of belonging, Norway, The Netherlands

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Introduction

This paper studies residents' place attachment – which we understand as the bonding between individuals and their environment (Scannell and Gifford, 2010) – in the specific context of shrinking rural regions. People relate to their environment in important ways, as places take on personal meanings and come to figure in individuals' biographies (Fenster, 2005). Place attachment and the related concept of belonging have been studied in a variety of contexts, ranging from stable rural communities (e.g. Raymond et al., 2010) to rapidly changing urban neighborhoods (e.g. Brown et al., 2003; Pinkster, 2016). While few studies actually do so, we argue it is increasingly important to study place attachment in rural areas marked by population decline, to understand how residents staying put relate to their environment (cf. Haartsen and Venhorst, 2010).

In many countries, center-periphery divides appear to be on the rise. Larger cities and their metropolitan regions are the loci of economic and population growth. Conversely, peripheral and rural regions are increasingly marked by stagnating or declining populations and economies. These latter regions are typically dealing with a combination of selective outmigration, population ageing and declining economic opportunities (Wolff and Wiechmann, 2018; Haase et al., 2014). On the one hand, regional decline may negatively impact individuals' place attachment, as it represents a disruption that can contribute to feelings of loss and estrangement (Martinez-Fernandez et al., 2012). On the other hand, residents may also actively decide to stay or return for positive reasons (Hollander, 2011; Rérat, 2014; Guimarães et al., 2016), which would imply high levels of attachment. Furthermore, rural communities are typically characterized by high levels of residential stability and relatively strong social ties which may translate in high levels of attachment.

With this paper we aim to grasp residents' attachment to place in the specific spatial context of shrinking rural regions. Recognizing that place attachment is multifaceted as residents may be more or less attached to different aspects of place, we stratify place attachment according to different dimensions. To do so, we adapt and apply the conceptual model of place attachment developed by Raymond and colleagues (2010), who distinguished between place identity, place dependency, social bonding and nature bonding as relevant dimensions of place attachment. Their model is particularly suited for this study, as it has been developed in the context of a rural community. Our subsequent goals are threefold. First, we seek to gauge levels of place attachment among residents. Second, we aim to gauge how and to what extent place attachment differs among residents. In other words: we are interested in the individual-level predictors of place attachment. Third, moving beyond a quantitative perspective, we also seek to gain a deeper understanding of residents'

experiences and meanings of place. These aims are reflected in the following central research questions:

What are the levels and predictors of (different dimensions of) place attachment for residents of shrinking rural regions? What are the meanings these residents ascribe to place and place attachment?

In answering these questions, we turn to a comparative case study of two largely rural regions that are experiencing population decline: Sogn og Fjordane in Norway, and Noord Friesland in the Netherlands. To address the first question, gauging levels and predictors of place attachment, we conducted a unique and tailor-made survey among the residents of Sogn og Fjordane (N=471) and Noord Friesland (N=484). We analyze these data through multivariate regression models. To further grasp the meanings of place attachment in the individual biographies of residents, we subsequently conducted in-depth semi-structured interviews with residents of both regions (N=10 and N=8 respectively).

The paper progresses as follows: the next section presents a literature overview of studies on place attachment, key predictors and the particular case of shrinking regions. We then elaborate on our data and methods, before describing the specific context of both regions. Subsequently, our quantitative and qualitative findings on the levels, predictors and meanings of place attachment feed into a conclusion section.

Literature review

Place attachment and belonging

The concept of place attachment is a highly researched theme within several scholarly disciplines and at different geographical scales. Place attachment finds its roots in humanistic geography, where scholars such as Relph (1976), Tuan (1974; 1977) and Buttner (1980) introduced the concept ‘sense of place’ to describe the emotional bond between the individual and the place. A few decades later a range of other terms have been brought into use, ranging from sense of place, sense of belonging, feeling at home and place attachment, used side by side in many different disciplines, often drawing on different methodologies (Hidalgo and Hernández, 2001). Place attachment can be described as an affective bond or link between people and specific places (Shumaker and Taylor, 1983). Some emphasize the emotional link with places (Hummon, 1992) and the cognitive connection to a particular setting (Low and Altman, 1992), while others suggest that place attachment is difficult to disentangle from simple residential satisfaction (Hidalgo and Hernández, 2001). Most discussions focus on people’s place bonding, individuals, families and groups who are connected to their local places (Scannell and Gifford, 2010).

Although different definitions exist, we define place attachment in this research as: a (positive) bond that develops between an individual or a group and their environment, which connects people to local places through different dimensions – e.g. personal, community and natural environment context (Williams and Vaske, 2003; Shumaker and Taylor, 1983; Hummon, 1992; Low and Altman, 1992; Hidalgo and Hernández, 2001; Scannell and Gifford, 2010; Raymond et al., 2010).

Following Raymond and colleagues (2010), we operationalize place attachment as a four-dimensional concept,¹ consisting of place identity, place dependency, social bonding and nature bonding. Place identity refers to general feelings about a specific place, both physically and symbolically, that contribute to who we are and how we define ourselves. Place dependency entails a functional connection between the place and the individual and the dependency on a place, e.g. the dependency on a place for employment. Social bonding represents the mutual social interaction between the individual and other people like family and friends resulting in a feeling of belongingness. Nature bonding refers to the connection between an individual and the physical environment, both in terms of explicit nature characteristics and in terms of implicit meaning (e.g. historical meaning of the landscape).

Besides place attachment, we draw on the more qualitative concept of *sense of belonging*, which can be defined as ‘a sense of ease with one’s surroundings’ and emphasises the importance of belonging in a context of the self and society (May, 2011, p.372). Following May (2011) and Antonsich (2010), belonging can be distinguished in two ways. On the one hand personal *place belongingness* entailing a feeling of being ‘at home’ and sense of self and on the other hand a *politics of belonging* where the identity of individuals is created by interacting with others and hence distinguishing between people that are similar and different resulting in a clear distinction between in- and outsiders.

The relationship between the individual and place attachment is multi-faceted. While a positive relation can affect the wellbeing of an individual (Junot et al., 2018; Scannell and Gifford, 2017; Rollero and De Piccoli, 2010), a negative relationship can result in place-based displacement, e.g. when the physical environment drastically changes (Pinkster, 2016; Rollero and De Piccoli, 2010; Duyvendak, 2011). Pinkster (2016) described in her study, conducted in a working-class neighborhood in Amsterdam, that residents experienced a loss of belonging due to neighborhood changes. Neighborhood gentrification can trigger a loss of belonging among low-income residents

¹ In contrast to Raymond and colleagues (2010), we capture ‘social bonding’ as one dimension, not distinguishing between family and friends bonding. We further consider place identity and place dependency as two separate concepts, rather than two poles of the same concept.

resulting in place-based displacement (Davidson, 2009). Furthermore, people can demonstrate an emotional attachment to a certain place, demonstrated by a strong aesthetic and sensory attachment to the environment (Pinkster and Boterman, 2017). These studies underscore that feelings of home can relate to home as a physical as well as symbolic place (Antonsich, 2010).

The scale and geography of place attachment

When studying place attachment, it is important to consider scale. Most place attachment research has been conducted at the neighborhood level, because residential satisfaction and attachment are typically rooted in the neighborhood, making this the most commonly used spatial context (Hidalgo and Hernández, 2001; Lewicka, 2011). In a 2010 study, Lewicka found 70% of studies focusing on the neighborhood, 20% on the dwelling and 10% on other scales.

Literature on place attachment in non-urban areas is scarce (Hidalgo and Hernández, 2001). The few studies conducted within rural areas, report relatively high levels of attachment (Hollander, 2011; Lewicka, 2005; Anton and Lawrence, 2014) with place identity playing an important role as the choice for rural living is partly driven by a symbolic connection to specific attributes of the area (McCool and Martin, 1994) such as social connections or environmental qualities (Gieling et al., 2017).

The studies combining place attachment in a rural context often concern the transition to adulthood and the intentions of young adults in staying or the propensity for coming back to the rural after finishing education (Haartsen and Thissen, 2014; Bjarnason and Thorlindsson, 2006; Thissen et al., 2010; Trelle et al., 2012; Rérat, 2014). Studies conducted within the rural context show that specific local characteristics play an important role in shaping belonging to rural village culture. Besides peace and quiet (Haartsen and Stockdale, 2018), the nostalgic aspect of rural village life is important as well. Stockdale and colleagues (2018, p.8) observe in their research that rural residents feel belongingness in the contrast between themselves and the urban lifestyle and “report nostalgically about the values that they perceive have been lost from cities but retained in the rural,” hence demonstrating a division between in- and outsiders in valuing social and physical characteristics of the rural village life.

Place attachment is particularly relevant to study in places facing population decline (Haartsen and Venhorst, 2010). Although economic activity and education are often considered prime reasons for longer-distance moves (Kooiman et al., 2018; Fielding, 1992), place attachment is a strong predictor of staying in the area and reduces moving incentives (Westin, 2016; Guimarães et al., 2016; Barreira et al., 2019; Clark et al., 2017). Place attachment can also have indirect positive

effects via the willingness to contribute to the physical place. While place attachment in general can lead to environmentally responsible behavior (Vaske and Kobrin, 2001; Gosling and Williams, 2010), in a shrinking context, place attachment can motivate residents to get involved in strategies to face population decline as an opportunity rather than a threat (Hospers, 2013).

Shrinking regions

Although the concept of shrinkage often is used to refer to a declining number of residents, shrinkage is a complex process, with a reciprocity between both economic and demographic processes. It can be triggered by the onset of economic decline, with industries closing down and local job opportunities waning. Labour and capital have become more mobile as a consequence of globalization and the shift towards more cognitive-cultural modes of production in the Global North (Martinez-Fernandez et al., 2012; Bontje and Musterd, 2012). The result is not only a reshuffling of “winner” and “loser” regions, but also an increase in regional socio-spatial disparities (Hochstenbach and Arundel, 2020). Demographic developments such as population ageing, declining fertility rates and changing household composition can further spur decline, also due to shifting residential preferences. The residential orientation of younger adults is increasingly urban as they postpone settling down (Buzar et al., 2005; Hochstenbach and Boterman, 2018). The result may be a brain-drain with upwardly-mobile young adults particularly likely to leave shrinking regions (Fielding, 1992; Faggian and McCann, 2009; Kooiman et al., 2018).

To our knowledge, most research on shrinking areas in the European context concerns urban areas, often those facing deindustrialization (Reckien and Martinez-Fernandez, 2011; Martinez-Fernandez et al., 2012; Bontje and Musterd, 2012; Guimarães et al., 2016; Haase et al., 2016; Hoekstra et al., 2020). Resulting findings may not be directly transferable to rural areas facing population decline (Hospers and Syssner, 2018). Studies that concern shrinking rural areas are often conducted in Eastern or Central Europe (Ubarevičienė and Van Ham, 2017; Gentile et al., 2012; Tammaru and Sjöberg, 1999) and mostly concern migration motives (Stockdale, 2004; Niodomysl, 2008; Bijker et al., 2015) rather than focusing on stayers (Stockdale and Haartsen, 2018). Our present study therefore focuses on a relatively understudied class of places: rural regions facing population and economic decline. Within this specific regional context, we focus on levels and experiences of attachment of those that stay put.

Individual predictors of place attachment

At the individual level, demographic, socio-economic and socio-cultural factors shape place attachment. Length of residence is often seen as the best predictor for place attachment, also when

controlled for age (Westin, 2016; Lewicka, 2005; 2010; 2011). The older one is, and the longer one is living in a certain place, enhances place attachment (Lewicka 2010; Hidalgo and Hernández, 2001; Anton and Lawrence, 2014). Relatedly, though hardly taken into account, speaking the local language may also enhance attachment (Tulloch, 2006). Additionally, women have the tendency to feel more attached than their male counterparts; (Westin, 2016; Anton and Lawrence, 2014). Some studies show that having children is a negative predictor for home attachment (Brown et al., 2004; Lewicka, 2010) while family ties and roots may enhance it (Clark et al., 2017).

Past research demonstrates that people with a lower education level are generally more attached (Lewicka, 2005; Rollero and De Piccoli, 2010). Furthermore, residents with high income and education levels are in general more mobile resulting in weaker local bonds. Conversely, homeownership may positively relate to attachment, as owners tend to be more involved and socially interactive with their neighbors. This is at least in part a selection effect, but may also relate to homeownership's economic investment function (Hidalgo and Hernández, 2001; Mesch and Manor, 1998; Lewicka, 2011).

Data and Methods

For this paper, we applied an explanatory sequential mixed methods design (Creswell and Plano Clark, 2018). We first collected and analyzed quantitative survey data to assess place attachment and individual predictors, before doing qualitative in-depth interviews to elaborate on residents' meanings and experiences of place attachment.

Quantitative research

Our quantitative research focuses on all adult residents (aged 18 or older) living in Sogn og Fjordane or Noord Friesland. Survey data were collected between November and December 2019 in Sogn og Fjordane, and March and May 2020 in Noord Friesland. The survey was distributed through municipal and local interest-organizations who published the survey on their website, social media pages and newsletter. Additionally, the survey was distributed through social media pages mainly moderated by local residents. The questionnaire was written in the language of the country, which means both in Dutch and Norwegian (*bokmål*), to enhance understanding and therefore internal reliability. A total of 1249 respondents filled in the survey. Cases with missing answers on any of the included variables (22.7%), respondents below 18 years old (0.2%) and those who did not live in the area (0.6%) were excluded from the analyses, resulting in a final sample of 955 respondents.

The survey consisted of 52 closed multiple choice questions, focusing on migration history of the respondent and their parents and/or partner, reasons for migration, evaluation of place attachment and its different dimensions, wishes to move and background information. In operationalizing place attachment as our key dependent variable, we followed Raymond and colleagues (2010) by distinguishing the dimensions of (1) place identity, (2) place dependency, (3) social bonding and (4) nature bonding.

We measure each dimension of place attachment using four or five Likert-scale questions, such as 'I am proud of Sogn og Fjordane', 'The fjords and mountains are important to me' and 'I would miss the people in Sogn og Fjordane if I would live somewhere else'. These statements were scored by the respondent on a Likert-scale from 1 (totally disagree) to 5 (totally agree). To enhance internal validity and reduce response bias, we used some negative-wording questions. Additionally, the statements have been checked for coherence and measurement of the same concept (Cronbach's Alpha: 0.937). The final score on place attachment was measured by taking the unweighted mean of the four dimensions, resulting in an interval variable on a scale from 1 to 5.

We estimated various (OLS) linear regression models to assess the individual-level predictors of place attachment, adding interaction terms to unravel region-specific patterns. Table 1 presents the descriptive statistics for the independent variables in our presented models. We also ran additional models including other variables such as housing tenure but these did not yield significant relations or substantially improve model fit. There are some biases in our data: females and the highly educated are overrepresented. While these biases may skew our descriptive findings, they are unlikely to influence associations between individual-level predictors and place attachment. Data were checked for outliers and multicollinearity. We use robust standard errors (Huber Sandwich Estimator) to take into account some heteroskedasticity in our models.

Table 1. Descriptive statistics of modelled variables per country and combined.

	The Netherlands		Norway		Total	
	%	Mean	%	Mean	%	Mean
Place attachment (1-5)		4.0		4.3		4.1
Sex: female (ref: male)	63.8		66.7		65.2	
Age		47.8		45.3		46.6
Length of stay (% of age)		87.2		78.4		82.9
Income						
Low	24.4		10.8		16.7	
Medium	42.1		62.4		53.1	
High	10.1		18.0		14.0	
N/A	23.3		8.7		16.1	
Education level						
Low	19.8		15.3		17.6	
Middle	34.3		22.7		28.6	
High	45.9		62.0		53.8	
Employment: full-time (ref: other)	34.7		65.6		49.9	
Partner raised in the region (not)	66.3		63.1		64.7	
Parents raised in the region (ref: both)						
One	13.4		25.7		19.5	
None	14.5		19.7		17.1	
Speaks regional dialect/language (ref: no)	83.9		81.7		82.8	
Norway (ref: the Netherlands)					49.3	
N	484		471		955	

Qualitative research

Following up on the surveys, we conducted 18 interviews with residents living in one of the two shrinking areas (10 in Sogn og Fjordane, 8 in Noord Friesland). Of the 955 respondents who completed the survey, 121 (N=57/NL=64) indicated to be willing to participate in an in-depth interview. From these respondents, we selected interviewees based on diverse demographic characteristics (e.g. age, gender) in order to gain different perspectives.

The interviews were semi-structured, with a topic list serving as a road map for the interview. Respondents were asked to elaborate on their residential history, places of importance, and their attachment to their region. Respondents were asked to elaborate on their local environment to gain a rich, in-depth understanding of their attachment. Interviews lasted between 45 and 90 minutes, and were conducted in Dutch or Norwegian. Respondents gave informed consent and all agreed to record the interview. Data collection in Sogn og Fjordane took place before Covid-19 (December 2019), but in Noord Friesland data were collected in the midst of the pandemic (April – June 2020). This meant that while interviews in the former were typically conducted in

public spaces or at the respondents' homes, in the latter they had to be conducted online using Zoom. We transcribed and analyzed the interviews using the software programme Atlas.ti. The first author of this study carried out the survey, approached respondents and conducted the interviews. As Norwegian is not her native language, this could have influenced the interviews. In Noord Friesland, the necessity to conduct interviews online may have created more physical and emotional distance.

Regional context

In this paper we analyzed levels and predictors of place attachment in two declining regions: Noord Friesland in the Netherlands, and Sogn og Fjordane in Norway. For the purpose of our study, a key difference between both countries is the level of urbanity. Whereas the Netherlands is a densely populated and urbanized country, Norway is characterized by highly dispersed and more rural population patterns. 85% of regions in the Netherlands are characterized as mostly urban, with the remaining 15% characterized as intermediate close to a city. In contrast, only 12% of the regions in Norway are considered predominantly urban. Instead, most regions are characterized as either close to a city (35%) or rural remote (45%) (Brezzi et al., 2011; Haartsen et al., 2003). By comparing these countries, we can gauge the extent to which levels and predictors of place attachment are similar across contrasting contexts.

We selected the two regions because they are experiencing both population and economic decline. Noord Friesland is located in the province of Friesland in the north of the Netherlands, and consists of two administrative areas (northeast- and northwest Friesland), and six municipalities.² The region has a total population of 185,595 residents (2020). The landscape of the area is characterized by dykes along the Wadden Sea, church villages and terps. The regional economy – centered around agriculture, construction, industry, tourism and regional services – is lagging behind national trends. The region's population is expected to decline by as much as 6% by 2040 (CBS, 2019).

Sogn og Fjordane is a county in the south of Norway, situated along the North Sea. Towards the sea, the landscape flattens out and a rocky coast appears. It is characterized by its deep fjords and steep mountains, up to 2,400 meters above sea level inland. The region's economy is mostly based on natural resources, such as fishing and agriculture but also tourism and renewable energy (Sogn og Fjordane Fylkeskommune, 2014). The county consists of 26 municipalities and has a total

² Noardeast-Fryslân, Dantumadiel, Achtkarspelen, Tytsjerksteradiel, Waadhoeke and Harlingen

population of 109.774 (in 2019).³ There are some variations in population development within the county. Some municipalities, especially the remote areas, face substantial population decline, while the more urbanized municipalities have a positive growth rate. Overall, Sogn og Fjordane's population is projected to decline as much as 2% by 2040 (SSB, 2020). The region is therefore considered, and indeed treated, both in policy and public debate as stagnating or declining.

Both areas share various important common characteristics. In both regions policies are in place to counter population decline and preserve facilities and accessibility within the region, including explicit programs in Sogn og Fjordane to attract new residents (e.g. Grimsrud and Aure, 2013). In addition, while overall urbanity levels are highly different between both countries, these two regions belong to the least urbanized in their respective countries. Another similarity is that both regions have a common local language (Netherlands) or dialect (Norway), which distinguishes them from the rest of the country. In Friesland, Frisian is the official minority language that is written and spoken. In Sogn og Fjordane, multiple west-Norwegian dialects based on the second written language nynorsk⁴ are spoken. We considered it important that the local dialect or language should have more or less the same position in both areas, as this could play an important role in shaping place attachment (Tulloch, 2006).

Dimensions of place attachment

Respondents in both Sogn og Fjordane (Norway) and Noord Friesland (the Netherlands) report relatively high levels of attachment to their region (Figure 1, top panel). On a scale of 1 to 5, mean levels of place attachment stood at 4.26 in Sogn og Fjordane and 3.95 in Noord Friesland. These results thus underscore that place attachment is higher among Norwegian respondents. While scores close to 5 are most common in Sogn og Fjordane, scores in Noord Friesland mostly hover around the 4 mark.

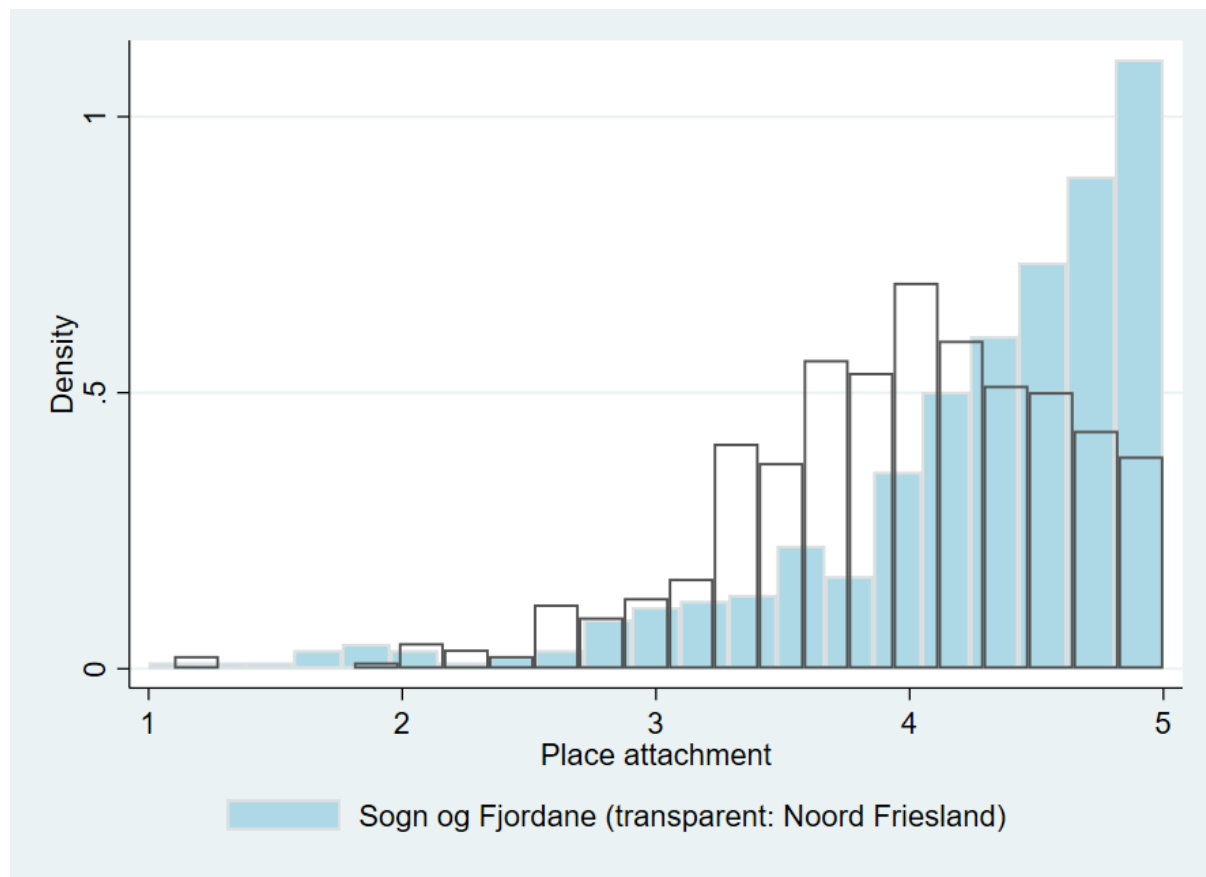
Norwegian respondents also consistently report higher scores on the four dimensions of place attachment than their Dutch counterparts (Figure 1, right panel). There are also relative differences: in Noord Friesland, place identity scores highest among the dimensions with a mean score of 4.15, while social bonding and nature bonding follow with mean scores of 4.04 and 4.03 respectively. Conversely, in Sogn og Fjordane, the highest scores were reported for nature bonding (4.42) and place identity (4.41). Social bonding and place dependency follow at 4.35 and 3.85

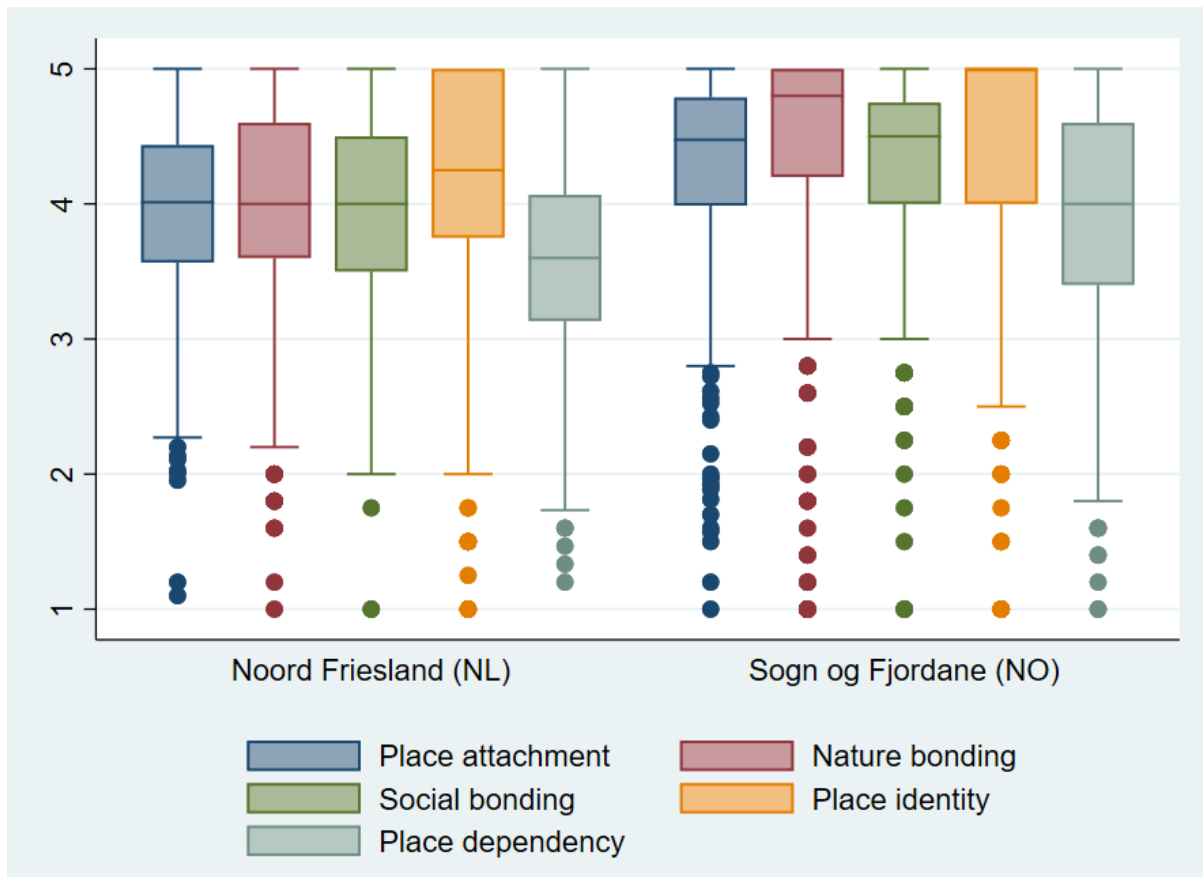
³ The county of Sogn og Fjordane existed at the time of the research project, but since the first of January 2020, the county has merged with Hordaland into 'Vestland'.

⁴ Therefore, we specifically asked in the survey about 'a dialect spoken from Sogn og Fjordane' to cover multiple dialects.

respectively. Respondents in both regions thus emphasize the importance of their region's identity and their attachment to it. The nature component appears substantially more important in Sogn og Fjordane than in Noord Friesland. This reflects that the former region is characterized by a particularly low population density and extensive nature, while the latter is dominated by (often historic) villages and agriculture.

Figure 1. Histogram of self-reported place attachment in Sogn og Fjordane (Norway) and Noord Friesland (the Netherlands) (top panel) and box plots of self-reported sub dimensions of place attachment in both regions (bottom panel).





Multivariate analyses

To gauge the association between individual-level characteristics and levels of place attachment, we apply multivariate modelling. Our specific aim here is to identify individual-level predictors of place attachment, and to identify to what extent these are similar between both regions. To that aim, we first estimate regression models for both regions separately (Table 2), and then focus on a combined analysis with region-specific interaction terms (Table 3).

The country-specific regression models reveal various patterns, some of which differ between both regions and some of which show similarities (Table 2). In both Noord Friesland and Sogn og Fjordane, results show that females report significantly higher levels of place attachment than males. Furthermore, we also find that those in full-time employment are significantly more attached in both regions than those who are not. Other similar patterns are, unsurprisingly, that those speaking the local language and those who spend a larger share of their lives in the region report significantly and substantially higher levels of place attachment. Interestingly, income does not appear to be related place attachment.

There are also differences between both regions. In Noord Friesland, we find a positive association between age and place attachment, while respondents whose parents are not from the region are

less attached. Also the lower educated are significantly more attached to their place than those with a middle education level. All these associations didn't turn out significant in Sogn og Fjordane. Conversely, while statistically significant in both regions, we find substantially stronger associations of sex, length of residence and speaking the local language, with place attachment in Sogn og Fjordane.

Table 2. OLS regression models per country. Dependent variable: degree of place attachment.

	Model 1: Noord Friesland		Model 2: Sogn og Fjordane	
	Coef	P	Coef	P
Sex: female (ref: male)	0.203 ***	0.001	0.246 ***	0.000
Age	0.005 **	0.023	-0.001	0.557
Length of residence (% of age)	0.263 *	0.065	0.559 **	0.010
Income (ref: middle)				
Low	0.032	0.687	-0.034	0.798
High	-0.004	0.959	0.054	0.417
N/A	-0.038	0.590	-0.095	0.367
Education level (ref: middle)				
Low	0.268 ***	0.001	-0.060	0.553
High	0.094	0.144	-0.091	0.241
Employment: full-time (ref: other)	0.110 *	0.066	0.164 **	0.022
Partner raised in the region (not)	0.046	0.460	0.113 *	0.091
Parents raised in the region (ref: both)				
One	-0.180 *	0.055	0.000	0.996
None	-0.320 ***	0.003	0.098	0.423
Speaks regional dialect/language (ref: no)	0.381 ***	0.000	0.539 ***	0.002
Constant	2.954 ***	0.000	3.144 ***	0.000
N	484		471	
R ²	22.6		23.0	

Interaction terms

We subsequently ran models combining both regions (Table 3, model 1) and adding interaction terms (models 2 and 3). These models return similar results to those discussed above: females, the low educated, those in full time employment and those who speak the local language report significantly higher levels of place attachment. Length of residence also shows a strong positive association. Finally, the model confirms that respondents from Sogn og Fjordane report significantly higher levels of place attachment than those from Noord Friesland.

In the second model we add an interaction effect between education level and region, with the margins plotted in the top panel of Figure 2. This plot highlights that while place attachment does

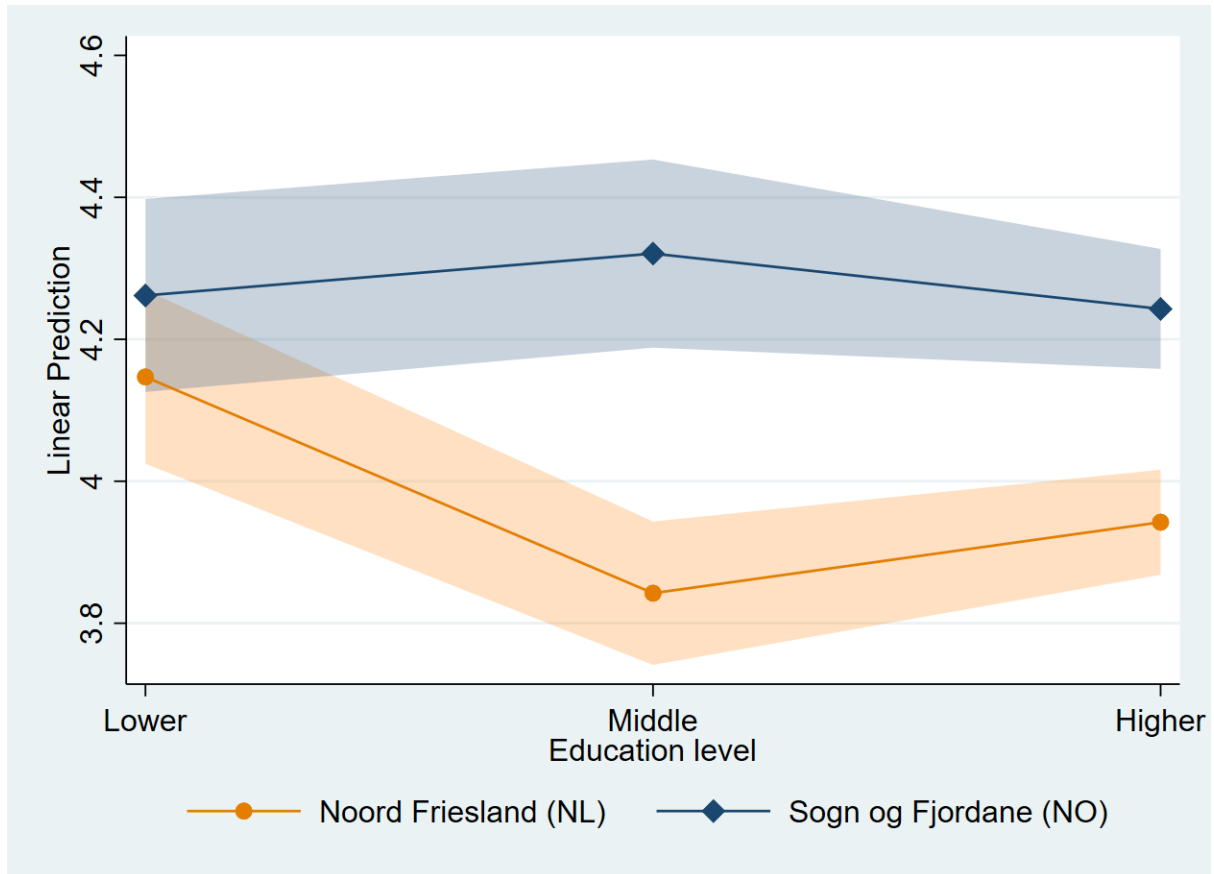
not significantly differ along the lines of education in Sogn og Fjordane, there is variation in Noord Friesland with significantly higher levels of place attachment for the low educated.

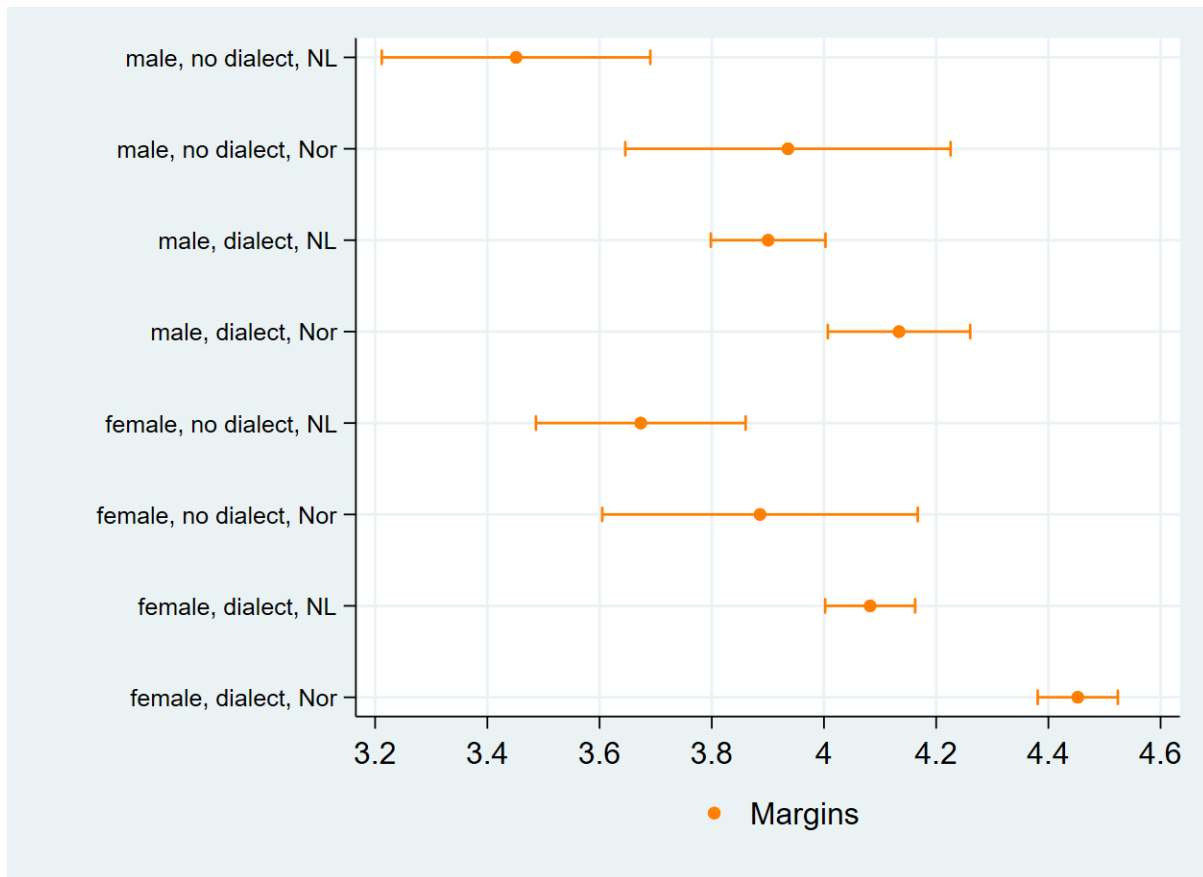
Previous models further showed that females and those speaking the local language are significantly more attached than others. The third model therefore adds a three-way interaction term between sex, language and country, with the predictive margins plotted in Figure 2 (bottom panel). The interaction highlights an interesting pattern: the Dutch case confirms positive associations of sex and language with place attachment, but in the Norwegian case we see a positive interaction between sex and language. Among males, there is no significant difference between those that speak the local language and those that do not, but among females there is a clear substantial and significant difference.

Table 3. OLS regression models per country with interaction terms. Dependent variable: degree of place attachment.

	Model 1		Model 2		Model 3	
	Coef	P	Coef	P	Coef	P
Sex: female (ref: male)	0.221 ***	0.000	0.221 ***	0.000	0.222	0.131
Age	0.002 *	0.083	0.002	0.236	0.002 *	0.081
Length of residence (% of age)	0.372 ***	0.002	0.379 ***	0.001	0.377 ***	0.001
Income (ref: middle)						
Low	0.044	0.521	0.036	0.596	0.047	0.500
High	0.040	0.442	0.038	0.462	0.042	0.425
N/A	-0.050	0.382	-0.046	0.427	-0.044	0.450
Education level (ref: middle)						
Low	0.153 **	0.014	0.305 ***	0.000	0.148 **	0.018
High	0.028	0.572	0.100	0.116	0.028	0.568
Employment: full-time (ref: other)	0.154 ***	0.001	0.146 ***	0.001	0.150 ***	0.001
Partner raised in the region (not)	0.085 *	0.059	0.083 *	0.067	0.088 *	0.055
Parents raised in the region (ref: both)						
One	-0.062	0.256	-0.067	0.218	-0.066	0.226
None	-0.141 *	0.085	-0.138 *	0.092	-0.143 *	0.081
Speaks regional dialect/language (ref: no)	0.440 ***	0.000	0.445 ***	0.000	0.449 ***	0.001
Norway (ref: Netherlands)	0.316 ***	0.000	0.479 ***	0.000	0.484 ***	0.006
Education level # Country						
Lower # Norway			-0.364 ***	0.003		
High # Norway			-0.178 *	0.076		
Sex # Dialect/language # Country						
Male # Yes # Norway					-0.251	0.196
Female # No # Norway					-0.272	0.241
Female # Yes # Netherlands					-0.040	0.802
Female # Yes # Norway					-0.154	0.594
Constant	2.874 ***	0.000	2.840 ***	0.000	2.882 ***	0.000
N	955		955		955	
R ²	24.6		25.3		25.1	

Figure 2. Predictive margins for the interaction between education and country (top panel), and between sex, (command of the local) language and country (bottom panel). See Table 3, models 2 and 3 for accompanying regression models.





Additional analyses

In addition to the presented models, we ran alternative models including a host of other variables such as housing tenure and household composition. These variables did not show significant associations and did not substantially alter outcomes on other variables. Furthermore, we ran regression analyses on the different dimensions of place attachment: place identity, place dependency, social bonding and nature bonding (see Appendix A). Statistical associations are generally similar to those in the main models. There are some interesting exceptions though: while income did not show any significant association with overall attachment, we do find that low-income residents report somewhat higher levels of place dependency – their livelihood may be tied to the region – while high-income residents report higher levels of nature bonding. Age is only significantly and positively related to nature bonding. Furthermore, parental origin is only significantly associated with place identity and social bonding. This is not the case for place dependency and nature bonding. This intuitively makes sense: residents whose parents are from the region may have a stronger social connection to the area, and their identity may be more intertwined with it. These models suggest that although there are strong common patterns across dimensions people with different characteristics may be attached to different dimensions of place.

Qualitative results

Weak ties and casual contacts

The qualitative data, in-depth interviews with ten residents of Sogn og Fjordane and eight of Noord Friesland, give deeper insight into *how* these residents relate to their respective region. Interestingly, respondents from both regions did not raise (the prospect of) population and economic decline as a prominent topic.

Although respondents certainly acknowledge the importance of the proximity of friends and family, respondents place more emphasis on the importance of *weak ties* and *casual contacts* feeding their attachment to place. One respondent from Noord Friesland remarked that “all village residents say hello to each other, even to newcomers they don’t know, that doesn’t matter. You get sucked into this and I can appreciate it.” Various other respondents similarly remarked how they appreciate casual and unplanned conversations in the street. Relatedly, respondents emphasize how village life is characterized by high levels of togetherness (*saamborigheid*) and social cohesion. This is evidenced by an active local social life, e.g. through a volunteer-run community center and the organization of activities particularly for the elderly. In addition, respondents value the familiarity with other residents (e.g. “you know who works at the local supermarket, and otherwise you know the family of that person”) contributing to a feeling of social bonding. Various respondents subsequently argue these examples of neighborliness and togetherness add to a feeling of familiarity and *positive social control*:

“You have a sort of social control, that’s also safety, people look after each other in a positive way [...] You know each other and you know a bit how things go, so that’s also safety which is good. You tend to forget about it because it’s almost normal for us, but that is really how it still goes around here.” (Noord Friesland, male, 64 years old).

More or less explicit in their narratives is the overarching idea that such examples of neighborliness and togetherness may have been lost elsewhere (e.g. in larger cities), but continues to be part of village life. They subsequently identify themselves as typical ‘village persons’.

Respondents from Sogn og Fjordane very similarly emphasize how their social belonging is shaped by the many casual contacts with neighbors, positively referring to the ability to spontaneously visit each other. Interestingly, various respondents also refer to the region’s geography in this regard, suggesting a shared experience of isolation, being surrounded by fjords and mountains. The lack of a clear center such as a larger city is further said to shape a regional rather than highly localized belonging:

“There’s not a whole lot of people living in Sogn og Fjordane, we have to stick together against the rest as it were. There’s many small places here. You have to travel long distances using the ferry, but on the other hand that also connects us. You don’t have the same attitude towards time and distance compared to when you live in a city. It is different from many other places, that also makes it unique.” (Sogn og Fjordane, female, 29 years old)

Identity through language

Interviewed respondents from both Noord Friesland and Sogn og Fjordane explain how the regions are closely intertwined with their identities. Personal and regional identities are linked through specific customs, traditional activities and assumed personality traits such as ‘typical’ dry humor. Especially important though is regional language or dialect, as the quantitative analyses above also indicate. Most respondents acknowledge language as being central to the identity of the region and, by extension, their own identity. A respondent discussing Frysian language explains:

“For me it’s just very important, it’s my mother tongue and it’s of course a minority language and it is important it continues to exist. So I speak and write it, and if someone doesn’t understand it I switch to Dutch. But only if they really don’t understand it. If someone has lived here for a longer period and still doesn’t understand, then I think: if I migrate to America I also have to speak English.” (Noord Friesland, female, 62 years old)

A respondent from Sogn og Fjordane echoes this view:

“My dialect is important, because it is such a big part of my identity, speaking the ‘sogning’ dialect. I will never let go of that. I speak ‘sogning’ or English, nothing in between.” (Sogn og Fjordane, female, 57 years old)

These quotes are exemplary for a widely felt sentiment that local language, as well as regional heritage more broadly, are threatened to be lost and therefore require active preservation. A consequence is that language becomes an instrument not only to shape their own identity (“by recognizing the same dialect, you know s/he is *one of us*”), but also to create outsiders – newcomers should adapt by learning the language – and to actively oppose the dominant culture in the country that presumably threatens to outstrip regional heritage. Local language makes explicit where you are rooted, especially in Norway where dialects differ from village to village. Local language therefore embodies pride of coming from and belonging to a specific place.

Interestingly, though, while many Frysian respondents share such a view they do simultaneously relativize regional place identity, arguing it isn’t specifically unique. They communicate the expectation that people from many other regions experience an essentially similar place identity:

“Of course I am Frysian, I speak Frysian and feel Frysian, but that would not have been different if I lived up in Groningen I think.” (Noord Friesland, female, 46 years old)

This stands in sharp contrast to most Sogn og Fjordane respondents, who do emphasize a perceived unique position of their region vis-à-vis other regions, citing its isolated position and very low population density as factors. Another theme that was more prominent among respondents from Sogn og Fjordane than among Frysian ones, is the idea how local and regional identities tie into intergenerational histories. Family stories construct these identities, adding to a specific feeling of safety (“I feel safe here, [...] because 150 years ago they knew exactly where to build this house”) and respondents express a desire for *intergenerational continuity*, handing local family history over to the next generation:

“It’s important that the farm is handed down to the next generations. The parents are very proud that a new generation can live on the farm, and can again raise a new generation.” (Sogn og Fjordane, female, 29 years old)

Nature as home

The quantitative analyses suggested that in both regions, but especially in Sogn og Fjordane, nature plays an important part in shaping place attachment. In the interviews, respondents elaborate on the beauty of local nature – the fjords, mountains and forests – and the time they spend in it. But their relationship with local nature goes deeper than that. Several respondents mention how the natural beauty fills them with pride, and how nature is closely connected to who they are:

“Yes, nature is very different here. When I am gone from the area, and then when I return, I know exactly where ‘my nature’ begins again.” (Sogn og Fjordane, male, 65 years old)

It is remarkable how a large number of interviewees similarly refer to “my nature,” demonstrating a particularly close and personal connection:

“I used the nature often when I was growing up, so it feels super good to be back again. I have a lot of memories to it [nature], I love this type of landscape and how it looks. That has to do with the many memories I have from my childhood.” (Sogn og Fjordane, female, 35 years old)

Several respondents echo similar views of how local nature shapes their identity, not in the least because it takes them back to their childhood or youth. Nature endows them with a sense of familiarity which ties them to their area, both functionally and emotionally. Functionally as they know the area well and know all the (hiking) trails for instance. Emotionally, because it gives them a feeling of safety – explicitly referring to the protective feeling the tall and steep mountains give. Other respondents expressed that they feel safe in a coastal landscape and feel rather trapped surrounded by steep and tall mountains. Nature, in other words, helps respondents feel rooted in the area, which translates into feelings of home.

Those living in Noord Friesland also reveal attachment to local nature, though in somewhat different ways. In discussing nature, most interviewed respondents emphasized the open rural landscape with ample space and panoramic views. Several respondents associate this with a sense of freedom, while others use natural qualities to more or less implicitly create a contrast with other, more urbanized regions:

“You can *still* see the starry sky here, it is *still* dark here, it is *still* quiet here, relatively speaking, in the evening and at night. The fresh air, that’s also an aspect of nature you not always dwell upon.” (Noord Friesland, male, 64 years old, emphasis added).

Several respondents from Noord Friesland further underscore the point how they associate the local open landscape with home, e.g. upon returning from somewhere else the spaciousness feels like “coming home.”

In sum, the interviews further underscore that place attachment in Noord Friesland and Sogn og Fjordane is multidimensional and complex. Social ties, regional identities and nature all feed a sense of local attachment and home. These dimensions are multifaceted themselves, and clearly relate to each other.

Conclusion

This paper has investigated levels and meanings of place attachment in two rural regions facing population decline, Sogn og Fjordane in Norway and Noord Friesland in the Netherlands, drawing on a combination of tailor-made quantitative survey data and in-depth resident interviews. From the findings, we can draw various key conclusions that we argue have wider remit.

First, this paper underscores the importance of studying place attachment in rural settings, specifically rural settings facing the prospect of population and economic decline. Most research into place attachment and the related concept of belonging has been conducted in urban settings (Hidalgo and Hernández, 2001; Lewicka, 2011). In the context of regional population decline, studying place attachment can reveal *why* residents may decide to stay put, which may help to formulate policies to uphold regional livability and welfare. The paper further confirms the usefulness of the place attachment model of Raymond and colleagues (2010) for such settings. The model’s key components of place identity, place dependency, social bonding and nature bonding map on to both residents’ quantitative assessments and qualitative interpretations of place attachment.

From a geographical perspective, a key question is the relevant scale to study place attachment. The vast majority of urban studies center on the smaller neighborhood or dwelling level (Lewicka,

2011). In this study, we conceptualized attachment at the larger level of rural regions. Throughout the interviews, however, respondents reflected on feelings of both regional and local attachment. An example of the former is a commonly expressed feeling that the region has to stick together to withstand negative pressures from outside, an example of the latter is the widespread emphasis on friendly but casual contacts with direct neighbors. Future research could further unravel the multi-scalar dimensions of rural place attachment.

Second, our comparative study yields interesting insights by mostly highlighting similarities between the two case studies. In line with previous studies (Hollander, 2011; Lewicka, 2005; Anton and Lawrence, 2014), respondents generally reported high levels of attachment. These likely reflect stability among rural stayers despite both regions facing the prospect of future population loss and economic decline. Levels of attachment were still higher in Sogn og Fjordane than in Noord Friesland. Women, the employed, long-term residents and those speaking the local language report significantly higher levels of attachment in both regions. Differences also exist, e.g. we found lower-educated residents to be significantly more attached in Noord Friesland while no significant association for education could be found in Sogn og Fjordane.

Furthermore, the qualitative results demonstrate that individual biographies are not only set in but also shaped by the place of residence. Residents consider local customs, traditions and language an integral part of their identity, therefore deserving maintenance and protection. Particularly local language, or dialect, is emphasized as crucially shaping a sense of community, and attachment to the region. It is not merely a shared *social* identity though, an aspect commonly emphasized in studies of urban neighborhoods, but a *physical* one too. Respondents talk about the natural environment in terms of *their* (“my”) nature, and associate it with coming home, familiarity and security.

Third, in line with Stockdale and colleagues (2018), respondents from both regions construct narratives of living in a rural community where people *still* look after each other by maintaining warm though not necessarily strong contacts with neighbors. Following Moris (2020), residents construct a narrative of preserving a sense of (rural) normalcy that has been lost elsewhere. Cities, in contrast, become sites of anonymity and deviance, as well as sites that are disconnected from nature. In her study of a working-class Amsterdam neighborhood, Pinkster (2016, p.888) describes how residents frame their neighborhood “as existing quite separately from the rest of the city and functioning as a self-sufficient social system.” Similarly, this study finds rural residents constructing an image of living in a rural idyll lost elsewhere.

Yet, respondents suggest their rural idyll may be at risk, through a weakening of social ties and the erosion of local customs, traditions and language. This would pressurize place attachment. While other studies link such perceived threats to residents' concerns over the influx of 'other' newcomers (Davidson, 2009), such population turnover appears mostly absent in both Sogn og Fjordane and Noord Friesland. One *implicit* concern may be that residents worry about future decline undermining local community life and economic base. Residents may respond by clinging onto their regional identities, emphasizing these, as various respondents for example expressed a reluctance to switch from speaking their dialect to either Norwegian or Dutch, and by opposing to the dominant national culture more generally. In a way, respondents express stronger concerns over an outside culture encroaching on their rural life than about outsiders actually moving in.

In conclusion, in this paper we have argued for studying place attachment in rural settings, specifically those facing shrinkage. Using both quantitative and qualitative methods we have demonstrated high levels of overall attachment, while unravelling the components, predictors and meanings of place attachment. We expect it to be fruitful to develop longitudinal research designs, keeping track of residents' level of attachment as population decline unfolds. Such a longitudinal design may also give insight to what extent a drop in place attachment may be a predictor for subsequent regional out-migration.

Appendix A. OLS regression models per dimension of place attachment

	Model 1: place identity		Model 2: place dependency	
	Coef	P	Coef	P
Sex: female (ref: male)	0.232 ***	0.000	0.168 ***	0.003
Age	0.003 *	0.085	0.002	0.199
Length of residence (% of age)	0.413 **	0.010	0.267 *	0.086
Income (ref: middle)				
Low	0.028	0.731	0.150 *	0.073
High	-0.030	0.678	-0.032	0.665
N/A	-0.095	0.209	-0.052	0.482
Education level (ref: middle)				
Low	0.177 **	0.020	0.131	0.114
High	0.026	0.676	0.009	0.889
Employment: full-time (ref: other)	0.171 ***	0.002	0.204 ***	0.000
Partner raised in the region (not)	0.117 **	0.044	0.155 ***	0.008
Parents raised in the region (ref: both)				
One	-0.131 *	0.059	-0.053	0.452
None	-0.284 ***	0.009	-0.135	0.178
Speaks regional dialect/language (ref: no)	0.697 ***	0.000	0.440 ***	0.000
Norway (ref: Netherlands)	0.287 ***	0.000	0.269 ***	0.000
Constant	2.804 ***	0.000	2.574	0.000
N	955		955	
R ²	27.0		15.1	

	Model 3: social bonding		Model 4: nature bonding	
	Coef	P	Coef	P
Sex: female (ref: male)	0.216 ***	0.000	0.268 ***	0.000
Age	-0.001	0.509	0.006 ***	0.002
Length of residence (% of age)	0.464 ***	0.000	0.344 **	0.020
Income (ref: middle)				
Low	0.028	0.695	-0.030	0.718
High	0.056	0.297	0.168 **	0.020
N/A	-0.015	0.811	-0.037	0.592
Education level (ref: middle)				
Low	0.118 *	0.063	0.186 **	0.017
High	0.009	0.865	0.067	0.245
Employment: full-time (ref: other)	0.096 **	0.040	0.146 **	0.011
Partner raised in the region (not)	0.047	0.301	0.022	0.696
Parents raised in the region (ref: both)				
One	-0.123 **	0.031	0.061	0.364
None	-0.189 **	0.023	0.044	0.679
Speaks regional dialect/language (ref: no)	0.261 ***	0.002	0.361 ***	0.001
Norway (ref: Netherlands)	0.352 ***	0.000	0.355 ***	0.000
Constant	3.267 ***	0.000	2.840 ***	0.000
N	955		955	
R ²	21.3		14.5	

References

- Anton, C. E. and Lawrence, C., 2014. Home is where the heart is: The effect of place of residence on place attachment and community participation. *Journal of Environmental Psychology*, 40, pp.451-461.
- Antonsich, M., 2010. Searching for belonging—an analytical framework. *Geography Compass*, 4(6), pp.644-659.
- Barreira, A.P., Nunes, L. C., Guimarães, M.H. and Panagopoulos, T., 2019. Satisfied but thinking about leaving: the reasons behind residential satisfaction and residential attractiveness in shrinking Portuguese cities, *International Journal of Urban Sciences*, 23(1), pp.67-87.
- Bontje, M. and Musterd, S., 2012. Understanding Shrinkage in European Regions. *Built Environment* 23(2), pp.153-161.
- Bijker, R. A., Haartsen, T. and Strijker, D., 2015. How people move to rural areas: Insights in the residential search process from a diary approach. *Journal of Rural Studies*, 38, pp.77-88.
- Bjarnason, T. and Thorlindsson, T., 2006. Should I stay or should I go? Migration expectations among youth in Icelandic fishing and farming communities. *Journal of Rural Studies*, 22(3), pp.290-300.
- Brezzi, M., Dijkstra, L. and Ruiz V., 2011. OECD extended regional typology: the economic performance of remote rural regions. *OECD Regional Development Working Papers* 2011/06, Paris: OECD Publishing.
- Brown, B., Perkins, D. D. and Brown, G., 2003. Place attachment in a revitalizing neighborhood: Individual and block levels of analysis. *Journal of environmental psychology*, 23(3), pp.259-271.
- Brown, B. B., Perkins, D. D. and Brown, G., 2004. Incivilities, place attachment and crime: Block and individual effects. *Journal of environmental psychology*, 24(3), pp.359-371.
- Buttimer, A., 1980. Home reach and the sense of place. In: Buttimer, A. and Seamon, D., Editors, 1980. *The Human Experience of Space and Place*, Croom Helm, London.
- Buzar, S., Ogden, P. E. and Hall, R., 2005. Households matter: the quiet demography of urban transformation. *Progress in Human Geography*, 29(4), pp.413-436.
- CBS. 2019. Regionale prognose 2020-2050; bevolking, regio-indeling 2018. Statistics Netherlands, The Hague.
- Clark, W. A. V., Duque-Calvache, R. and Palomares-Linares, I., 2017. Place attachment and the decision to stay in the neighbourhood. *Population, Space and Place*, 23(2), e2001.
- Creswell, J. W. and Plano Clark, V. L., 2018. *Designing and conducting mixed methods research* (3rd ed.), Sage: Thousand Oaks, CA. .

- Davidson, M., 2009. Displacement, space and dwelling: Placing gentrification debate. *Ethics, Place & Environment*, 12(2), pp.219–234.
- Duyvendak, J. W., 2011. *The politics of home: Belonging and nostalgia in Europe and the United States.* , Palgrave MacMillan, Basingstoke.
- Faggian, A. and McCann, P., 2009. Human capital, graduate migration and innovation in British regions. *Cambridge Journal of Economics*, 33(2), pp.317-333.
- Fenster, T., 2005. The right to the gendered city: Different formations of belonging in everyday life. *Journal of Gender Studies*, 14(3), pp.217-231.
- Fielding, A. J., 1992. Migration and social mobility: South East England as an escalator region. *Regional studies*, 26(1), pp.1-15.
- Gentile, M., Tammaru, T. and Van Kempen, R., 2012. Heteropolianization: social and spatial change in Central and East European Cities. *Cities*, 29(5), pp.291-299.
- Gieling, J., Vermeij, L. and Haartsen, T., 2017. Beyond the local-newcomer divide: Village attachment in the era of mobilities. *Journal of Rural Studies*, 55, pp.237-247.
- Gosling, E. and Williams, K. J., 2010. Connectedness to nature, place attachment and conservation behaviour: Testing connectedness theory among farmers. *Journal of environmental psychology*, 30(3), pp.298-304.
- Grimsrud, G. M. and Aure, M., 2013. Tilflytting for enhver pris. En studie av utflyttingsarbeid i norske distriktskommuner. Ideas2evidence rapport, 4.
- Guimarães, M.H., Nunes, L.C., Barreira, A.P. and Panagopoulos, T., 2016. What makes people stay in or leave shrinking cities? An empirical study from Portugal. *European Planning Studies*, 24(9), pp.1684-1708.
- Haartsen, T., Huigen, P. P. and Groote, P., 2003. Rural areas in the Netherlands. *Tijdschrift voor economische en sociale geografie*, 94(1), pp.129-136.
- Haartsen, T. and Venhorst, V., 2010. Planning for decline: anticipating on population decline in the Netherlands. *Tijdschrift voor economische en sociale geografie*, 101(2), pp.218-227.
- Haartsen, T. and Thissen, F., 2014. The success-failure dichotomy revisited: Young adults motives to return to their rural home region. *Children's Geographies*, 12(1), pp.87–101.
- Haartsen, T. and Stockdale, A., 2018. S/elective belonging: how rural newcomer families with children become stayers. *Population, Space and Place*, 24, e2137.
- Haase, A., Rink, D., Grossmann, K., Bernt, M. and Mykhnenko, V., 2014. Conceptualizing urban shrinkage. *Environment and Planning A*, 46(7), pp.1519-1534.
- Haase, A., Bernt, M., Grossmann, K., Mykhnenko, V. and Rink, D., 2016. Varieties of shrinkage in European cities. *European Urban and Regional Studies*, 23(1), pp.86-102.

- Hochstenbach, C., and Arundel, R. 2020. Spatial housing market polarisation: National and urban dynamics of diverging house values. *Transactions of the Institute of British Geographers*, 45(2), pp.464-482.
- Hochstenbach, C. & Boterman, W.R. 2018. Age, life course and generations in gentrification processes, in Lees, L. and Phillips, M. (Eds) *Handbook of Gentrification Studies*, Cheltenham: Edward Elgar, pp.170-185.
- Hoekstra, M.S., Hochstenbach, C., Bontje, M.A., and Musterd, S. 2020. Shrinkage and housing inequality: Policy responses to population decline and class change. *Journal of Urban Affairs*, 42(3), pp.333-350.
- Hollander, J. B., 2011. Can a city successfully shrink? Evidence from survey data on neighborhood quality. *Urban Affairs Review*, 47(1), pp.129-141.
- Hospers, G.-J., 2013. Coping with shrinkage in Europe's cities and towns. *Urban Design International*, 18(1), pp. 78-89.
- Hospers, G.-J. and Syssner, J., 2018. *Dealing with Urban and Rural Shrinkage. Formal and Informal Strategies*. Lit Verlag, Zurich.
- Hidalgo, M. C. and Hernández, B., 2001. Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, 21(3), pp.273–281.
- Hummon, D. M., 1992. Community attachment: local sentiment and sense of place. In: Altman I. and Low S., Editors, 1992. *Place Attachment*, Plenum Press, New York.
- Junot, A., Paquet, Y. and Fenouillet, F., 2018. Place attachment influence on human well-being and general pro-environmental behaviors. *Journal of Theoretical Social Psychology*, 2(2), pp.49-57.
- Kooiman, N., Latten, J. and Bontje, M., 2018. Human capital migration: A longitudinal perspective. *Tijdschrift Voor Economische En Sociale Geografie*, 109(5), pp.644–660.
- Lewicka, M., 2005. Ways to make people active: The role of place attachment, cultural capital, and neighborhood ties. *Journal of Environmental Psychology*, 25(4), pp.381-395.
- Lewicka, M., 2010. What makes neighborhood different from home and city? Effects of place scale on place attachment. *Journal of Environmental Psychology*, 30(1), pp.35-51.
- Lewicka, M., 2011. Place attachment: How far have we come in the last 40 years? *Journal of Environmental Psychology*, 31(3), pp.207-230.
- Low, S.M. and Altman I., 1992. Place attachment: A conceptual inquiry. In: Altman, I. and Low S.M., Editors, 1992. *Place attachment*, Plenum Press, New York.

- Martinez-Fernandez, C., Audirac, I., Fol, S. and Cunningham-Sabot, E., 2012. Shrinking cities: Urban challenges of globalization. *International Journal of Urban and Regional Research*, 36(2), pp.213-225.
- May, V., 2011. Self, belonging and social change. *Sociology*, 45(3), pp.363-378.
- McCool, S. F. and Martin, S. R., 1994. Community attachment and attitudes toward tourism development. *Journal of Travel Research*, 32(3), pp.29-34.
- Mesch, G. S. and Manor, O., 1998. Social ties, environmental perception, and local attachment. *Environment and Behavior*, 30(4), pp.504-519.
- Moris, M., 2020. Belonging from the margin: The changing village and its others. *Journal of Rural Studies*. Online First.
- Niedomysl, T., 2008. Residential preferences for interregional migration in Sweden: demographic, socioeconomic, and geographical determinants. *Environment and Planning A*, 40(5), pp.1109-1131.
- Pinkster, F.M., 2016. Narratives of neighborhood change and loss of belonging in an urban garden village. *Social & Cultural Geography*, 17(7), pp.871-891.
- Pinkster, F.M. and Boterman, W.R., 2017. When the spell is broken: gentrification, urban tourism and privileged discontent in the Amsterdam canal district. *Cultural geographies*, 24(3), pp.457-472.
- Raymond, C.M., Brown, G. and Weber, D., 2010. The measurement of place attachment: Personal, community, and environmental connections. *Journal of environmental psychology*, 30(4), pp.422-434.
- Reckien, D. and Martinez-Fernandez, C., 2011. Why do cities shrink? *European Planning Studies*, 19(8), pp.1375-1397.
- Relph, E., 1976. *Place and placelessness*. Pion Limited, London.
- Rérat, P., 2014. The selective migration of young graduates: Which of them return to their rural home region and which do not? *Journal of Rural Studies*, 35, pp.123-132.
- Rollero, C. and De Piccoli, N., 2010. Does place attachment affect social well-being? *European Review of Applied Psychology*, 60(4), pp.233-238.
- Scannell, L. and Gifford, R., 2010. Defining place attachment: A tripartite organizing framework. *Journal of environmental psychology*, 30(1), pp.1-10.
- Scannell, L. and Gifford, R., 2017. The experienced psychological benefits of place attachment. *Journal of Environmental Psychology*, 51, pp.256-269.

- Shumaker, S. A. and Taylor, R. B., 1983. Toward a clarification of people-place relationships: A model of attachment to place. *Environmental psychology: Directions and perspectives*, 2, pp.19-25.
- Sogn og Fjordane Fylkeskommune, 2014. Verdiskapingsplan for Sogn og Fjordane 2014–2025.
- SSB. 2020. Regionale befolkningsframskrivinger. Statistics Norway, Oslo.
- Stockdale, A., 2004. Rural out-migration: community consequences and individual migrant experiences. *Sociologia Ruralis*, 44(2), pp.167–194.
- Stockdale, A. and Haartsen, T., 2018. Editorial introduction: Putting rural stayers in the spotlight. *Population, Space and Place*, 24(4), e2124.
- Stockdale A., Theunissen N. and Haartsen T., 2018. Staying in a state of flux: A life course perspective on the diverse staying processes of rural young adults. *Population, Space and Place*, 24(8), e2139.
- Tammaru, T. and Sjöberg, O., 1999. On the move: explaining migration patterns in Estonia during the transition period. *International Journal of Population Geography*, 5(4), pp.241–260.
- Thissen, F., Droogleveer Fortuijn, J., Strijker, D. and Haartsen, T., 2010. Migration intentions of rural youth in the Westoek, Flanders, Belgium and in the Veenkoloniën, The Netherlands. *Journal Rural Studies* 26(4), pp.428-436.
- Trell, E. M., Van Hoven, B. and Huigen, P., 2012. 'It's good to live in Järva-Jaani but we can't stay here': Youth and belonging in rural Estonia. *Journal of Rural Studies*, 28(2), pp.139-148.
- Tuan, Y., 1974. *Topophilia: A study of environmental perception, attitudes, and values.* , Prentice Hall, Eaglewood Cliffs, N.J.
- Tuan, Y., 1977. *Space and place: the perspective of experience.* , University of Minnesota Press, Minneapolis, MN.
- Tulloch, S., 2006. Preserving dialects of an endangered language. *Current Issues in Language Planning*, 7(2&3), pp.269-286.
- Ubarevičienė, R. and Van Ham, M., 2017. Population decline in Lithuania: who lives in declining regions and who leaves?. *Regional Studies, Regional Science*, 4(1), pp.57-79.
- Vaske, J. J. and Kobrin, K. C., 2001. Place attachment and environmentally responsible behavior. *The Journal of Environmental Education*, 32(4), pp.16-21.
- Westin, K., 2016. Place attachment and mobility in city regions. *Population, Space and Place*, 22(8), pp.722-735.

Williams, D. R. and Vaske, J. J., 2003. The measurement of place attachment: Validity and generalizability of a psychometric approach. *Forest science*, 49(6), pp.830-840.

Wolff, M. and Wiechmann, T., 2018. Urban growth and decline: Europe's shrinking cities in a comparative perspective 1990–2010. *European Urban and Regional Studies*, 25(2), pp.122-139.