Returning to rural origins after higher education: gendered social space

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ABSTRACT
This study is important for rural actors interested in developing recruitment and retention strategies directed towards attracting the tertiary educated to rural areas. The aim of this study is to examine the demographic characteristics and economic and cultural resources that have the greatest influence on a tertiary educated individual of rural origin returning to a rural area after higher education. Gender-divided binary logistic regression is used to examine the influence of an individual’s social space position (i.e. their economic and cultural resources and demographic background) on returning to rural areas. Through the use of Bourdieu’s concept ‘social space’, this paper contributes an alternative perspective to the study of students’ destinations after higher education, which has been dominated by economic perspectives. The results indicate that while there are social space characteristics common to men and women that increase their probability of a rural return, there are gender differences in the degree of influence of many of these characteristics.

Introduction
Students largely perceive metropolitan areas as prime locations for entering the labour market after higher education. Perceptions such as this have led to an influx of tertiary educated individuals in Sweden relocating to metropolitan areas when entering higher education and staying there afterwards (Högskoleverket 2011). Regions benefit when tertiary educated individuals congregate within their boundaries (e.g. increased innovation, wages and amenities) (Faggian, Rajbhandari, and Dotzel 2017) so developing regional strategies to attract and retain tertiary educated individuals is advantageous.

While municipalities have enacted marketing strategies to attract individuals to rural areas in Sweden, these efforts have largely been unsuccessful (Niedomysl 2004; Niedomysl 2007). One reason for this lack of success may be limited knowledge on the characteristics of individuals who return to these areas (Bjerke and Mellander 2017). Most researches on the geographical mobility of tertiary educated individuals and their destinations after higher education have centred on flows from rural to urban areas and have been premised on economic perspectives, which assumes individuals move to areas where they will reap the most economic rewards (Bjerke and Mellander 2017; Rerat 2014). Rural areas tend to be associated with labour markets that are less opportune for the tertiary educated (Hjort and Malmberg 2006). However, many individuals return to rural areas after higher education, which suggests economic perspectives alone cannot explain their destination.

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The purpose of this study is to examine Swedish tertiary educated individuals of rural origin who return to rural areas after higher education. The aim of this paper is to identify the demographic characteristics and economic and cultural resources that have the greatest influence on individuals returning to rural areas after higher education, with a particular focus on differences between men and women. Using Bourdieu’s concept ‘social space’, an educationally oriented socio-spatial perspective, this paper contributes an alternative perspective to the study of rural return, which contrasts with the economic perspectives typically used to understand students’ destinations after higher education. Contrary to prior studies that have emphasised the influence of regional characteristics such as amenities and wages (e.g. Bjerke and Mellander 2017), a social space perspective emphasises the influence of economic and cultural resources, gender and demographic background on their destination after higher education. While research on geographical mobility of the tertiary educated has expanded internationally (for an overview, see Faggian, Rajbhandari, and Dotzel 2017; Haley 2016), gender-divided analyses have been largely absent. Since rural labour markets are considered less gender equal than urban markets (Forsberg 2003) and few young, tertiary educated individuals of rural origin prefer to establish themselves therein, an understanding of the characteristics of individuals who return to these areas for employment after higher education is important for rural municipal governments and employers to further develop recruitment and retention strategies and collaborations with higher education institutions.

**Conceptual framework**

Bourdieu’s conceptualisation of social space centres on social distance and proximity in relation to how groups form and take shape in society. According to Bourdieu (1984; 1985; 1989), social space consists of the volume and composition of primarily economic and cultural capital (i.e. resources). These forms of capital can be both inherited and acquired (Bourdieu 1984). For example, knowledge of navigating education and career pathways gained from a tertiary educated parent is a form of inherited cultural capital while an individual’s own grades from prior education and earned educational degrees relate to an individual’s acquired cultural capital.

While Bourdieu (1984; 2001) considers economic and cultural capital as signifying primary differences between individuals, he also draws connections with demographic characteristics that implicate differentiated hierarchical positions in society. One such differentiating demographic characteristic is gender. Bourdieu (1984) suggests ‘… secondary principles of division (such as country of origin or sex) … indicate potential lines of division along which a group socially perceived as unitary may split, more or less deeply and permanently’ (p. 107). McCall (1992) puts forward the idea that Bourdieu may view gender as a secondary principle of division due to gender having the appearance of being universal and natural as a result of biological differences that hide that these divisions are socially constructed. Instead, McCall (1992) posits that gender serves as a ‘mediating dimension’ of social space (p. 842). This is because the capitals constituting social space are gendered (Skeggs 1997). Therefore economic and cultural capital should not be viewed as taking precedence over gender but should instead be viewed as working in tandem with gender in different social contexts (i.e. both forms of capital and gender influence and modify each other) (Moi 1991).

This implies that while gender and the economic and cultural capital of tertiary educated individuals shapes their social space, their habitus (i.e. their ‘thoughts, perceptions, expressions, actions’) (Bourdieu 1977, p. 95) is also gendered (Skeggs 1997). The reason is because an individual’s habitus closely corresponds to their position in social space (Bourdieu and Wacquant 1992). Therefore Bourdieu suggests a relationship between the gendered social space of tertiary educated individuals, their perceptions of rural and urban areas, and consequently their actions in terms of destination after higher education. Subsequently, individuals who are close together in social space tend to find themselves ‘… by choice or
out of necessity, close to one another in geographic space ... (Bourdieu 1989, p. 16). Therefore tertiary educated individuals with similar social space positions may be more likely to congregate geographically.

In addition to demographic characteristics such as gender, objective structures (e.g. higher education institutions) may also contribute to shaping an individual’s position in social space. According to Bourdieu (1985), individuals may internalise features from these structures in the form of information and knowledge as they relate to symbolic hierarchies. They are then expressed through an individual’s perspectives and behaviours. In relation to destination after higher education, tertiary educated individuals may internalise the perceived prestige associated with the higher education institution they attended, which could subsequently influence their perceived ability of obtaining employment in different labour markets and ultimately their destination after higher education.

Employing a gendered social space perspective offers a lens with which to reflect on gender-differentiated mobility patterns. Bourdieu’s perspective on social space facilitates such reflections by taking into consideration an individual’s economic and cultural resources as well as their positions in social hierarchies. Additionally, Bourdieu’s conceptualisation of social space is ideal for educational studies since he draws connections and examples from the field of education and places a greater emphasis on social rather than geographical factors relative to other theorist’s perspectives on social space (Haley 2016).

**Dominant perspectives**

In contrast to the social space perspective employed in this paper, economic perspectives have traditionally been used to explain destination after higher education. The economic approach posits that decisions on destinations are made from an individual’s assessment of the economic costs and benefits of geographical mobility relative to their personal resources, as well as the labour market characteristics of both their origin and destination (Faggian, McCann, and Sheppard 2006). Individuals are assumed to be economically rational and make their decisions independently of other individuals and places. For instance, human capital theory suggests the tertiary educated move to areas that offer the greatest economic advantage because they generally expect high returns from their educational investments (Faggian and McCann 2009). Human capital theory therefore suggests mobility flows from rural to urban areas (i.e. from areas with weak economies to areas with wealthier, expanding economies and to areas with more available amenities such as shopping and entertainment venues). Additionally, human capital theorists often portray the labour market as gender neutral while interpreting gendered patterns in the labour market as consequences of biologically informed choice (e.g. women taking on more caregiving responsibilities) rather than reflecting gendered structures inherent in society and the labour market (e.g. gender-typed jobs) (Boucher, 2016).

Economic perspectives such as human capital theory are increasingly being challenged while non-economic influences, such as place-based attachments to social networks (e.g. family and friends) (Dahl and Sorenson 2010; McAndrew 1998; Wikhall 2002) and gender and the life course (Branden 2013; Lundholm 2007), are increasingly being emphasised in studies on geographical mobility and destination after higher education. While economic approaches may be helpful in explaining general trends in destination among the tertiary educated, they cannot explain divergences in general mobility patterns (e.g. mobility to rural areas or gender-differentiated mobility patterns) (Rerat 2014) because they tend to focus on a narrow set of factors to explain destination after higher education whilst neglecting the plurality of factors that influence an individual’s perception of a destination.

**Rural context**

In addition to gendered social space, geographical space is also gendered (Forsberg 2003), which consequently may influence an individual’s destination after higher education. In relation to the
rural context, rural areas have traditionally been characterised as traditional, conservative and male-dominated (e.g. more male-typed employment opportunities and larger numbers of men living in the area), where women have fewer economic and social opportunities compared to urban areas (Forsberg and Stenbacka 2013). Characterisations such as these contribute to shaping how men and women experience and perceive places as inclusive of them and others (Silvey 2006). For example, perceptions of and experiences in rural areas that correspond to such gendered characterisations may deter tertiary educated women from returning to rural areas after higher education. However, some research in Sweden has shown gender relations are shifting in some rural areas. For example, while men overwhelmingly out-earn women in all regions, there are some rural areas where the gap is smaller. Additionally, some rural areas in Sweden, primarily in the north, have more women aged 20–39 years in residence than men (Forsberg and Stenbacka 2013).

Higher education context

The arrangement of higher education is also important for understanding the destinations of tertiary educated individuals because the distribution of higher education institutions and fields of study influences and restricts the possible geographical mobility trajectories of students when ending higher education and entering the labour market. In Sweden, a higher education reform in 1977 expanded the higher education system by increasing the number of higher education institutions and distributing them more equally around the country. Seventeen new university colleges were established and became small- and medium-sized institutions that primarily offered bachelor degrees; however, a few of them have since been granted the ability to award doctoral degrees and status as ‘new universities’. The geographical distribution of these institutions is such that many university colleges and new universities (i.e. established after 1990) are located in small urban areas while old, well-established universities are located in or near large urban areas (Högskoleverket 1998).

This expansion meant higher education became more accessible to individuals living outside metropolitan areas. However, students originating from rural areas still had to relocate to small or large urban areas because no higher education institutions exist in rural areas. The expansion also meant students of different geographical origins had access to higher education institutions with differing degrees of perceived prestige. Differences in the educational offerings and geographical distribution of these institutions can lead to differing geographical mobility patterns when students enter higher education. Subsequently, their educational choices (e.g. study location, type of higher education institution and field of study) may influence their destination after higher education.

Data

Register data from the Gothenburg Educational Longitudinal Database (GOLD) is used in the analysis. Register data is collected by Swedish government agencies for administrative purposes. An advantage to using register data is that information is provided for each individual in the population for the duration of time they reside in Sweden. Thus, generalisability within Sweden is a non-issue. Furthermore, analyses of this type of data provide an overview of an individual’s actual behaviour (e.g. geographical mobility) over time, rather than retrospective views on their behaviour.

In Sweden, individuals are given a unique social security number at birth or upon arrival to Sweden as immigrants, which allow social and demographic data to be collected and tracked across time. For this study, the most recent data on individuals is available through 2012. This paper focuses on tertiary educated individuals of rural origin born between 1973 and 1982 and who resided in Sweden at age 16. Therefore this paper examines the 83,378 individuals of rural origin among the 348,187 total tertiary educated individuals in these birth cohorts. The reason for focusing on individuals from rural areas is because their destinations after higher education differs
from the tertiary educated originating from small and large urban areas (Table 1). Unlike individuals originating from small or large urban areas who have a tendency to move to similar or larger urbanised areas after higher education, the decisions of individuals originating from rural areas are more evenly distributed.

An individual’s place of origin is based on their registered place of residence 1 year prior to beginning higher education. The categories rural, small urban and large urban are based on an initial classification of regions developed by the Swedish Association of Local Authorities and Regions (SKL 2011). The initial classification was formed by grouping municipalities on the basis of urban size, proximity to major urban centres and commuting patterns (see Appendix A).

Only individuals who completed at least 120 higher education credits, which equates to 2 years of full-time study, and who completed this education by 2010 are included. The decision to focus on individuals who completed a minimum of 120 credits is based on the minimum accumulated credits required to obtain a higher education diploma in Sweden. Only individuals who ended their studies by 2010 are included because their destination 2 years after higher education is used as the dependent variable and their location information is only available through 2012.

### Variables

The dependent variable – destination – refers to an individual’s place of residence 2 years after higher education and is categorised into two categories – rural and urban. These categories are based on the same division made by the Swedish Association of Local Authorities and Regions that is used to define place of origin (SKL 2011). Independent variables were selected based on Bourdieu’s conceptualisation of social space (i.e. economic and cultural capital and demographic characteristics that imply differentiated hierarchical positions in society):

- **Gender** refers to an individual’s biological sex as registered at age 16.
- **Parental income** is the combined annual income of an individual’s mother and father when the individual was age 16. Parental income is expressed in quintiles. Included in the lowest income quintile are individuals whose parents have no income or where information on their income is unknown.
- **Parental education** is divided into two categories: tertiary education and no tertiary education. These categories refer to whether or not an individual has at least one parent who completed 2 or more years of higher education by the time the individual reached age 16.
- **Higher education institution type** is divided into three categories: university college, new university and old university. These categories are meant to differentiate the institutions based on degree and programme offerings, institutional missions (e.g. research or teaching focused) and perceived prestige within society.
- **Fields of study** are categorised into 10 categories. The categorisation was created within the GOLD database but was originally developed by Statistics Sweden and the Swedish National Agency for Higher Education in collaboration with several university representatives.


| Origin         | Rural | Small urban | Large urban | Total |
|----------------|-------|-------------|-------------|-------|
|                | %     | N           | %           | N     | %     | N     |
| Rural          |       | 28,862      | 37          | 30,710| 28    | 23,806| 100   | 83,378|
| Small Urban    | 6     | 9,285       | 64          | 104,577| 30 | 48,876 | 100   | 162,738|
| Large Urban    | 3     | 2,795       | 10          | 10,667| 87    | 88,609| 100   | 102,071|
| N (total)      | 348,187|

Note: Individuals missing basic background information are excluded. In addition, individuals missing residential information 2 years after ending their studies (2% of tertiary educated individuals) or information on their origin location (less than 0.03% of tertiary educated individuals) are also excluded.
categorisation corresponds to the International Standard Classification of Education 1997 classification with the exception of a few minor changes for use in Sweden.

Upper secondary grades is organised into five categories – low, average, good, high and unknown/missing. A category for unknown/missing grades was included to acknowledge individuals who may have entered higher education through other qualifications such as through the Swedish Scholastic Assessment Test.

Study location is divided into two categories – metropolitan area and university town – and is related to the last higher education institution attended.

Children at home is also organised into two categories that represent whether or not an individual had a child under the age of 18 living with them at the time they ended their studies.

Age is divided into categories of 19–25 year olds and 26–37 year olds and refers to the age of individuals when they ended their higher education studies. The latter age group represents individuals who are in a family-forming stage of life.

Table 2 further describes the tertiary educated population originating from rural areas. For a tabulated description of the independent variables and rural–urban divisions of destinations after higher education, see Appendix B for men and Appendix C for women.

Method

Gender-divided binary logistic regression is used to examine the relationship of gendered social space and destination after higher education among the tertiary educated. Initial descriptive statistics are used to examine the frequency of men and women of rural origin at each destination while binary logistic regression enables an analysis of multivariate relationships. After estimating the logistic regression models, average marginal effects were obtained to more clearly illustrate the relationship of social space and destination after higher education.

Average marginal effects emphasises the practical significance of results instead of emphasising the sign and statistical significance of effects (Williams 2012). Emphasising patterns in results and their practical significance over statistical significance is particularly important in studies that use register data since no statistical generalisation is needed for population data (Gorard 2012). Furthermore, unlike odds ratios, average marginal effects are insensitive to differences in unobserved heterogeneity so coefficients can be compared across groups (Mood 2010).

By employing binary logistic regression the focus is on the social space of individuals and not the push-pull characteristics of their spatial contexts (e.g. higher education institutions or study location), which would require a conditional or nested logistic regression model. The focus is simply on the probability for individuals of different social spaces to establish themselves in areas according to the two levels of urbanisation. Therefore variables that represent higher education institutions or the study location represent the social space of individuals, in the sense that they reflect internalised knowledge of economic and social hierarchies related to the institutions and locations where they studied. The argument for this approach is to identify how features of these environments influence students’ perspectives and ultimately their destination after higher education.

Results and discussion

The gender-divided binary logistic regression models estimate the influence of different characteristics of an individual’s social space on their destination after higher education. Table 3 displays the average marginal effects of the binary logistic regression models. Based on the aim of this study, the interpretation focuses on the social space characteristics that appear to influence rural returns after higher education.

The results from the binary logistic regressions show that having a child, studying education or forestry/agriculture, having low upper secondary school grades and studying at a university college have the greatest influence on individuals returning to a rural area. However, the degree to which
these social space characteristics and the other characteristics included in the regression models influence an individual’s rural return varies between men and women. The social space characteristics with the largest gender differences (i.e. differences in the coefficient of the average marginal effects) are parental education, the education and forestry/agriculture fields of study and study location. For example, while having non-tertiary educated parents increases the probability of a rural return for both men and women, the influence of having non-tertiary educated parents on a rural return is larger for women (.070) than men (.021). Put another way, women with non-tertiary educated parents have a 7% increased probably of a rural return compared to women with tertiary educated parents while their male counterparts have only a 2.1% increased probability of a rural return.

### Table 2. Descriptive characteristics of the tertiary educated originating from rural areas.

|                  | Men                  | Women                 |
|------------------|----------------------|-----------------------|
| %                | N                    | %                    | N                    |
| **Parental income** |                      |                       |
| 1 (lowest)       | 18 6,146             | 21 10,192             |
| 2                | 24 8,163             | 25 12,584             |
| 3                | 23 7,816             | 24 11,804             |
| 4                | 21 7,103             | 19 9,312              |
| 5 (highest)      | 14 4,720             | 11 5,538              |
| **Parental education** |                    |                       |
| No tertiary education | 55 18,772          | 63 30,911             |
| Tertiary education | 45 15,176            | 37 18,519             |
| **HEI type**     |                      |                       |
| Old university   | 53 17,958            | 47 23,241             |
| New university   | 20 6,782             | 22 10,646             |
| University college | 27 9,208           | 31 15,543             |
| **Fields of Study** |                    |                       |
| Education        | 10 3,438             | 27 13,541             |
| Humanities       | 4 1,499              | 7 3,479               |
| Social sciences  | 23 7,677             | 29 14,235             |
| Natural sciences | 6 2,082              | 6 2,876               |
| Technology       | 49 16,682            | 11 5,470              |
| Forestry/agriculture | 1 347             | 1 462                 |
| Medicine/odontology | 2 583             | 2 1,079               |
| Health sciences  | 3 1,004              | 15 7,418              |
| Fine art         | 1 389                | 1 402                 |
| Other            | 1 247                | 1 468                 |
| **Upper secondary grades** |            |                       |
| Low              | 11 3,575             | 6 3,075               |
| Average          | 42 14,331            | 36 17,916             |
| Good             | 35 11,915            | 43 21,468             |
| High             | 8 2,707              | 10 4,627              |
| Unknown/missing  | 4 1,420              | 5 2,344               |
| **Study location** |                    |                       |
| Metropolitan area | 31 10,516           | 28 13,577             |
| University town  | 69 23,432            | 72 35,853             |
| **Children at home** |                |                       |
| No children      | 91 30,872            | 84 41,407             |
| Children         | 9 3,076              | 16 8,023              |
| **Age**          |                      |                       |
| 19–25            | 50 16,967            | 50 24,832             |
| 26–37            | 50 16,981            | 50 24,598             |
| **Destination**  |                      |                       |
| Rural            | 29 9,814             | 39 19,048             |
| Urban            | 71 24,134            | 61 30,382             |
| N (total)        | 100 33,948           | 100 49,430            |

Note: HEI type = higher education institution type.
Considering the average marginal effects of each of the fields of study, men and women who studied education and forestry/agriculture are among the most likely to return to rural areas. This is likely due to the public service sector (e.g. schools, health centres) and agricultural sectors being predominant employers of tertiary educated individuals in these areas. However, the average marginal effects of fields of study indicate there are considerable gender differences in the influence of the forestry/agriculture and education fields of study on a rural return after higher education. To illustrate, men who studied forestry/agriculture have a 38% increased probability of a rural return compared to a 17.7% increased probability among women who studied in the same field. Conversely, women who studied in the educational field have a 13.8% greater probability of a rural return compared to women who studied in the social sciences while there is only a 6.7% increased probability among their male counterparts.

These gender differences may be explained by the arrangement of the Swedish labour market. With regards to the arrangement of the labour market, men and women are likely to have different work opportunities in rural and urban areas since they may have pursued different programmes within the fields of study. For example, more women study in education programmes geared towards primary school teaching while the gender distribution is more equal in upper secondary school teaching programmes (UKÄ 2016). Since the majority of upper secondary schools in Sweden are increasingly being centralised in urban areas (Skolverket [Swedish National Agency for Education] 2011), there are more opportunities in urban areas

Table 3. Average marginal effects of social space variables on rural destination.

|                          | Men          |          | Women        |          |
|--------------------------|--------------|----------|--------------|----------|
| Parental income (ref = S, highest) |              |          |              |          |
| 1 (lowest)               | .041 (.009)  | .036 (.008) |              |          |
| 2                        | .043 (.008)  | .050 (.008) |              |          |
| 3                        | .028 (.008)  | .033 (.008) |              |          |
| 4                        | .017 (.008)  | .007 (.009) |              |          |
| Parental education (ref = tertiary education) |              |          |              |          |
| No tertiary education    | .021 (.005)  | .070 (.005) |              |          |
| HEI type (ref = old university) |              |          |              |          |
| University college       | .126 (.007)  | .124 (.006) |              |          |
| New university           | .081 (.008)  | .110 (.006) |              |          |
| Fields of study (ref = social sciences) |          |          |              |          |
| Education                | .067 (.010)  | .138 (.006) |              |          |
| Humanities               | .027 (.013)  | .001 (.009) |              |          |
| Natural sciences         | .016 (.011)  | .024 (.010) |              |          |
| Technology               | .018 (.006)  | -.046 (.007) |              |          |
| Forestry/agriculture     | .380 (.025)  | .177 (.022) |              |          |
| Medicine/odontology      | -.023 (.021) | .006 (.016) |              |          |
| Health sciences          | .044 (.015)  | .095 (.007) |              |          |
| Fine art                 | .011 (.023)  | -.050 (.023) |              |          |
| Upper secondary grades (ref = high) |          |          |              |          |
| Low                      | .117 (.012)  | .119 (.015) |              |          |
| Average                  | .087 (.010)  | .067 (.008) |              |          |
| Good                     | .060 (.010)  | .030 (.008) |              |          |
| Unknown/missing          | .114 (.015)  | .106 (.012) |              |          |
| Study location (ref = metropolitan area) |          |          |              |          |
| University town          | .024 (.007)  | .082 (.006) |              |          |
| Children at home (ref = no children) |          |          |              |          |
| Children                 | .196 (.009)  | .241 (.006) |              |          |
| Age (ref = 19–25)        |              |          |              |          |
| 26–37                    | -.019 (.005) | .006 (.004) |              |          |

Note: HEI type = higher education institution type. Results from the ‘other’ category in fields of study are not reported because the category is uninterpretable. Too many small and different programmes are included in this category.
for men who studied a programme in the field of education. Regarding the forestry/agriculture field of study, women compared to men more often study programmes in hippology, para-professional veterinary work and landscape architecture, for example, while men more often pursue programmes in forestry and agricultural science (Statistics Sweden 2010). The type of work connected with programmes in forestry and agricultural science (e.g. work in the lumber or farming industries) is more reliant on rural landscapes than the work associated with programmes women often pursue, thus there are more job opportunities in rural areas for men who pursued a programme in the field of forestry/agriculture.

Alternatively, from the perspective of Bourdieu’s (1984; 2001) conceptualisation of social space, the gender of tertiary educated individuals can be viewed as mediating the influence of their field of study on a rural return after higher education by shaping their perceptions on the appropriateness of employment in rural labour markets. To illustrate, the findings suggest that individuals who studied in a field atypical for their gender (and as a result likely sought employment in a field atypical of their gender) are less likely to return to rural areas. Therefore women who studied and pursued jobs in the forestry/agriculture industry may have perceived forestry/agriculture jobs in rural areas as less inviting to women than jobs requiring similar education in urban areas. Furthermore these gendered perceptions of rural labour markets may have been shaped by traditional, conservative and male-dominated characterisations of rural areas (Forsberg and Stenbacka 2013).

Studying in a university town compared to a metropolitan area also influences the probability of a rural return among men and women to different degrees. The average marginal effects indicate that studying in university towns relative to metropolitan areas increases the probability of a rural return among women by 8.2% compared to 2.4% among men. Therefore while studying in university towns has a relatively high influence on women, there is only a slight influence on men in terms of returning to rural areas after higher education. First, this result corresponds with prior research, which has indicated that individuals who study in metropolitan areas generally stay in those areas after ending their studies (Högskoleverket 2011). However, the difference in average marginal effects between the genders may indicate that women who studied in university towns might have moved primarily for educational purposes while other women may have used study opportunities in metropolitan areas as a way to leave labour markets dominated by typical male professions (e.g. forestry and agriculture labourers) and service sector jobs (e.g. health care workers and educators) for labour markets offering better career opportunities in modern, expanding employment sectors (Rauhut and Littke 2016). Studying in metropolitan areas and remaining there after higher education may potentially mark a preference for a less patriarchal-dominated society and ambitions beyond traditional gender expectations (Rauhut and Littke 2016).

Through the lens of Bourdieu’s social space, gender appears to mediate the influence of parental education, the education and agriculture/forestry fields of study and study location on a rural return. While there are gender differences in the degree to which these characteristics influence a rural return among men and women, there are several social space characteristics that have almost an equally strong influence. For example, men and women with low upper secondary school grades have about a 12% increased probability of a rural return after higher education relative to individuals with high upper secondary school grades. This finding is consistent with prior research from Sweden that shows high achievers have a tendency to live in urban areas (Tano 2014). This may be due to having increased resources (i.e. capital) available in order to succeed at finding employment and thriving in large labour market areas.

Additionally, the influence of higher education institution type is similar for men and women. The average marginal effects indicate that attending a university college increases the probability of a rural return 12.6% for men and 12.4% for women, and men who attended a new university have an 8.1% increased probably while women have an 11% increased probability, compared to men and women who studied at old universities. This result supports Bourdieu’s (1985) suggestion that in addition to gender objective structures may also influence an individual’s position in social
space and subsequently their perspectives and actions. To illustrate, men and women who attended old, well-established universities may have internalised the prestige with having attended such institutions. Consequently this could have influenced their ‘sense of place’ in society by relating this prestige to their ability of finding a job in a competitive, urban labour market. This result also corresponds to earlier research from other European countries that studying at a high-quality university decreases the probability of moving after ending higher education study (Ciriaci 2014; Faggian, McCann, and Sheppard 2007).

Finally, men and women who have children at home have a 19.6% and 24.1% increased probability of a rural return after higher education compared to men and women without children. This may be due to individuals returning to their place of origin in order to live near family. Prior research from Sweden also indicates that individuals with young children have a greater preference for living near family and relatives (Branden 2013; Niedomysl 2008). Other reasons may be that the countryside presents an image of a safe and healthy environment in which to raise children and housing costs tend to be lower (Hjort and Malmberg 2006).

**Conclusion**

This study responds to a challenge experienced in rural areas across Sweden, that is, individuals leaving rural areas in pursuit of higher education and not returning upon ending their studies. Expanding knowledge of tertiary educated individuals who return to rural areas after higher education is particularly important for actors in these areas (e.g. governments and employers) because the tertiary educated are among the least likely to live in rural areas (Bjerke and Mellander 2017). This study contributes to further developing knowledge of these individuals by examining the influence of gendered social space (i.e. how gender mediates an individual’s cultural and economic resources) on the probability of their return to rural areas.

The results from this study illustrate that having a child, studying education or forestry/agriculture, having low upper secondary school grades and studying at a university college have the largest influence on the probability of both men and women returning to rural areas after higher education. Additionally, the results highlight gender differences in the extent that these characteristics influence returning to rural areas. The greatest gender differences were identified in the influence of parental education, studying in the education and forestry/agriculture fields and study location. These gender-divided results emphasise how geographical mobility from higher education is not independent of social structures but rather is influenced by and thus related to these structures. Thus, the mediating influence of gender on an individual’s social space is underscored (McCall 1992).

These findings can be used by rural governments and employers to inform their policies and strategies for attracting tertiary educated individuals back to rural areas. For example, since the results indicate that having a child increases the likelihood of returning to rural areas, educational policies to ensure the quality and availability of public primary and secondary education and childcare in rural areas is on par to urban areas are important. Additionally, the results indicate men and women who return to rural areas after higher education are more likely to have studied a gender-typed subject. Therefore developing gender-inclusive recruitment and retention strategies may be important to employers in rural areas in order to attract tertiary educated men or women who might be entering a field atypical of their gender. Such strategies could aid in attracting tertiary educated individuals to rural areas and encourage them to stay in the long term.

The findings can also be used in discussions on developing specific rural educational policies, which Sweden lacks (OECD 2017), that focus on growth and development in rural areas. For example, the results emphasise the need for strategies to increase the involvement of higher education institutions in creating a skilled workforce in rural areas. Such strategies could include expanding liaisons between higher education institutions and rural employers through internships, mentor and trainee programmes.
In addition to these policy implications for higher education institutions, rural governments and employers, this study underscores the need for gender-divided analyses in research on the geographical mobility and destinations of tertiary educated individuals after higher education. To illustrate, the results show a general pattern that many of the same social space characteristics increase the probability of rural returns among both men and women. However, the gender-divided analyses underscore the degree that social space characteristics differentiate men’s and women’s return to rural areas after higher education.

Notes

1. The concept ‘social space’ originates from geography but has been conceived from a number of different perspectives (e.g. Harvey 2009; Lefebvre 1991; Sayer 2000). However, Bourdieu’s conceptualisation of social space has an educational starting point in contrast to other conceptualisations (Haley 2016).
2. Some courses are offered through distance education but less than .5% of individuals included in this study completed all their higher education credits through distance education.
3. Having completed 120 credits does not imply an individual graduated from higher education. Many students in Sweden do not apply for degree certificates even if they completed the required coursework. This means students may have achieved enough credits for a degree to be awarded but have not received the certificate stating they had done so. Additionally, students may not have met the necessary requirements for a degree and instead only completed lower division courses.
4. To determine the year when individuals ended their studies the number of higher education credits they are enrolled in is taken into account. When students drop below 75% full-time enrolment, they are considered as having ended their studies. This parameter is based on the requirements for students to obtain financial aid for higher education from the Swedish government (SFS Svensk Författnings Samling [Swedish Code of Statutes] 1999:1395) and this parameter enables the identification of individuals whose main activity is something other than studying.
5. The ‘urban’ category refers to both small and large urban areas as illustrated in Table 1.
6. Many tertiary educated individuals may be in domestic partnerships that could influence their geographical mobility. However, Swedish registers did not begin collecting information on domestic partnerships until 2013 (Statistics Sweden 2014) so the influence of domestic partnerships could not be examined in this study.
7. Tests show multicollinearity in the data is not an issue in the gender-divided regressions.

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### Appendix A. Urban–rural classification

This paper employs a condensed version of the 1999 urban–rural classification originally developed by the Swedish Association of Local Authorities and Regions (SKL 2011). This original classification grouped Sweden’s 290 municipalities into nine municipality groups:

| Municipality groups       | N     | Description                                                                 |
|---------------------------|-------|-----------------------------------------------------------------------------|
| Metropolitan municipalities| 3     | Municipalities with over 200,000 inhabitants                                 |
| Suburban municipalities    | 36    | Municipalities where more than 50% of the population commute to another municipality for work, most commonly to metropolitan municipalities |
| Large city municipalities  | 26    | Municipalities with 50,000–200,000 inhabitants and where less than 40% of the population is employed in industry |
| Medium city municipalities | 40    | Municipalities with 20,000–50,000 inhabitants and with a population density over 70% as well as municipalities where less than 40% of the population is employed in industry |
| Rural municipalities       | 30    | Municipalities with more than 6.4% of the population employed in the agricultural and forestry sectors and municipalities that are not sparsely populated municipalities or have a population density less than 70% |
| Industrial municipalities  | 53    | Municipalities where more than 40% of the population is employed in industry and that are not sparsely populated municipalities |
| Sparsely populated municipalities | 29 | Municipalities with fewer than 5 inhabitants per km² and fewer than 20,000 inhabitants |
| Other large municipalities  | 31    | Other municipalities with 15,000–50,000 inhabitants                          |
| Other small municipalities | 42    | Other municipalities with fewer than 15,000 inhabitants                     |

In the analysis of this paper, rural municipalities, industrial municipalities, sparsely populated municipalities, other large municipalities and other small municipalities are merged to form the ‘rural’ category. All remaining municipalities are merged to form the ‘urban’ category. In Table 1, the ‘urban’ category is further divided into ‘small urban’ and ‘large urban’. In this case ‘large urban’ consists of metropolitan municipalities and suburban municipalities while ‘small urban’ contains large city municipalities and medium city municipalities.
### Appendix B. Descriptive statistics of tertiary educated men of rural origin at each destination

|                      | Rural |        | Urban |        |
|----------------------|-------|--------|-------|--------|
|                      | %     | N      | %     | N      |
| **Parental income**  |       |        |       |        |
| 1 (lowest)           | 20    | 1,932  | 17    | 4,214  |
| 2                    | 26    | 2,588  | 23    | 5,575  |
| 3                    | 23    | 2,291  | 23    | 5,525  |
| 4                    | 20    | 1,921  | 22    | 5,182  |
| 5 (highest)          | 11    | 1,082  | 15    | 3,638  |
| **Parental education** |     |        |       |        |
| No tertiary education| 60    | 5,891  | 53    | 12,881 |
| Tertiary education   | 40    | 3,923  | 47    | 11,253 |
| **HEI type**         |       |        |       |        |
| Old university       | 40    | 3,955  | 58    | 14,003 |
| New university       | 23    | 2,278  | 19    | 4,504  |
| University college   | 37    | 3,581  | 23    | 5,627  |
| **Fields of study**  |       |        |       |        |
| Education            | 13    | 1,257  | 9     | 2,181  |
| Humanities           | 4     | 415    | 4     | 1,084  |
| Social sciences      | 21    | 2,058  | 23    | 5,619  |
| Natural sciences     | 5     | 543    | 6     | 1,539  |
| Technology           | 48    | 4,701  | 50    | 11,981 |
| Forestry/agriculture| 2     | 212    | 1     | 135    |
| Medicine/odontology  | 1     | 96     | 2     | 487    |
| Health sciences      | 4     | 355    | 3     | 649    |
| Fine art             | 1     | 103    | 1     | 283    |
| Other                | 1     | 74     | 1     | 173    |
| **Upper secondary grades** |   |    |    |        |
| Low                  | 13    | 1,309  | 9     | 2,266  |
| Average              | 47    | 4,561  | 41    | 9,770  |
| Good                 | 31    | 3,027  | 37    | 8,888  |
| High                 | 5     | 437    | 9     | 2,270  |
| Unknown/missing      | 4     | 480    | 4     | 940    |
| **Study location**   |       |        |       |        |
| Metropolitan area    | 23    | 2,240  | 34    | 8,276  |
| University town      | 77    | 7,574  | 66    | 15,858 |
| **Children at home** |       |        |       |        |
| No children          | 85    | 8,294  | 94    | 22,578 |
| Children             | 15    | 1,520  | 6     | 1,556  |
| Age                  |       |        |       |        |
| 19–25                | 51    | 4,980  | 50    | 11,987 |
| 26–37                | 49    | 4,834  | 50    | 12,147 |
| N (total)            | 100   | 9,814  | 100   | 24,134 |

Note: HEI type = higher education institution type.

### Appendix C. Descriptive statistics of tertiary educated women of rural origin at each destination

|                      | Rural |        | Urban |        |
|----------------------|-------|--------|-------|--------|
|                      | %     | N      | %     | N      |
| **Parental income**  |       |        |       |        |
| 1 (lowest)           | 22    | 4,298  | 20    | 5,894  |
| 2                    | 29    | 5,464  | 23    | 7,120  |
| 3                    | 25    | 4,729  | 23    | 7,075  |
| 4                    | 16    | 3,067  | 21    | 6,245  |
| 5 (highest)          | 8     | 1,490  | 13    | 4,048  |
| **Parental education** |     |        |       |        |
| No tertiary education| 71    | 13,567 | 57    | 17,344 |
| Tertiary education   | 29    | 5,481  | 43    | 13,038 |

(Continued)
(Continued).  

| HEI type                | Rural          | Urban         |
|-------------------------|----------------|---------------|
|                         | %   | N     | %   | N     |
| Old university          | 33  | 6,232 | 56  | 17,009 |
| New university          | 27  | 5,095 | 18  | 5,551  |
| University college      | 40  | 7,721 | 26  | 7,822  |
| Fields of study         |     |       |     |        |
| Education               | 37  | 7,060 | 21  | 6,481  |
| Humanities              | 5   | 1,032 | 8   | 2,447  |
| Social sciences         | 24  | 4,508 | 32  | 9,727  |
| Natural sciences        | 4   | 836   | 7   | 2,040  |
| Technology              | 7   | 1,331 | 14  | 4,139  |
| Forestry/agriculture    | 1   | 204   | 1   | 258    |
| Medicine/odontology     | 1   | 229   | 3   | 850    |
| Health sciences         | 19  | 3,584 | 12  | 3,834  |
| Fine art                | 1   | 91    | 1   | 311    |
| Other                   | 1   | 173   | 1   | 295    |
| Upper secondary grades  |     |       |     |        |
| Low                     | 9   | 1,674 | 4   | 1,401  |
| Average                 | 41  | 7,870 | 33  | 10,046 |
| Good                    | 38  | 7,276 | 47  | 14,192 |
| High                    | 6   | 1,055 | 12  | 3,572  |
| Unknown/missing         | 6   | 1,173 | 4   | 1,171  |
| Study location          |     |       |     |        |
| Metropolitan area       | 17  | 3,260 | 34  | 10,317 |
| University town         | 83  | 15,788| 66  | 20,065 |
| Children at home        |     |       |     |        |
| No children             | 72  | 13,778| 91  | 27,629 |
| Children                | 28  | 5,270 | 9   | 2,753  |
| Age                     |     |       |     |        |
| 19–25                   | 46  | 8,788 | 53  | 16,044 |
| 26–37                   | 54  | 10,260| 47  | 14,338 |
| N (total)               | 100 | 19,048| 100 | 30,382 |

Note: HEI type = higher education institution type.