CIRCLE
CENTRE FOR INNOVATION RESEARCH

A Nation of Contrast? The Geography of Personality in Sweden, Regional Polarization, and a Research Agenda

Martin Obschonka, Markus Grillitsch, Nicklas Guldåker, Daniel Rauhut, Peter Jason Rentfrow, Jeff Potter, Samuel D. Gosling

Paper in Innovation Studies no. 2025/06

A Nation of Contrast? The Geography of Personality in Sweden, Regional Polarization, and a Research Agenda

Martin Obschonka
Amsterdam Business School, University of Amsterdam, The Netherlands

Markus Grillitsch
Department of Human Geography and CIRCLE – Centre for Innovation Research, Lund University, Sweden

Nicklas Guldåker
Department of Human Geography, Lund University, Sweden

Daniel Rauhut
Department of Economic History, Lund University, Sweden

Peter Jason Rentfrow
Department of Psychology, University of Cambridge, United Kingdom

Jeff Potter
Atof Inc., Cambridge, USA

Samuel D. Gosling
Department of Psychology, University of Texas at Austin, USA
School of Psychological Sciences, University of Melbourne, Australia

Abstract:

Personality traits (e.g., the Big Five) shape human behavior, decision-making, and life outcomes. Evidence from various countries suggests that these traits are not randomly distributed but follow systematic regional patterns, fueling interest in their geographical variation. Prior research shows that regional personality compositions can influence—and be influenced by—regional socio-economic development. Here, we present an initial personality map of Sweden based on N = 22,225 geo-coded personality assessments at the municipal level. In contrast to Sweden's reputation for equality, our analysis reveals notable regional contrasts in personality composition. The data show geographical patterns in adaptive traits (Extraversion, Conscientiousness, Emotional Stability [low Neuroticism]), known predictors of better psychological functioning. Sweden's rust belt exhibits notably lower levels of these traits, while the southernmost region (mainly Scania) shows higher levels. These patterns align with ongoing discussions on regional socio-economic polarization in Sweden and may reflect a macro-psychological imprint of these processes. We therefore propose a future research agenda to examine the causes and consequences of these regional personality variations, while considering potential policy implications.

Keywords: Personality, Regions, Sweden, Culture, Economic History, Geography

1 Introduction

Personality traits are among the most critical psychological variables, shaping individual lives and affecting important life outcomes (John et al., 2010; Roberts et al., 2007). As such, they are of great interest to a broad range of researchers, as well as to the general public (Bleidorn et al., 2019). While the core premise of personality traits lies in individual differences (as studied in differential psychology, John et al., 2010), there is also a geographical dimension to these traits (Allik & McCrae, 2004; Oishi, 2015; Rentfrow & Jokela, 2016).

In recent years, the study of the geographical variation of personality traits within countries has garnered increasing attention (Rentfrow et al., 2008; Rentfrow & Gosling, 2021). This growth in interest has been facilitated by methodological advancements, such as the availability of large-scale, individual-level personality datasets—examples include online personality tests (Ebert et al., 2023; Rentfrow et al., 2008) and approaches for inferring personality traits from social media text (Boyd & Pennebaker, 2017; Giorgi et al., 2022; Obschonka et al., 2020). Such research has examined regional variation in personality traits across several countries, including the United States (Giorgi et al., 2022; Obschonka et al., 2013; Rentfrow et al., 2008), China (Obschonka et al., 2019; Wei et al., 2017), the United Kingdom (Rentfrow et al., 2015), Germany (Ebert et al., 2022; Obschonka et al., 2019), and Switzerland (Götz et al., 2018). A central finding in this field is that personality varies among individuals within populations and across regions, giving rise to "personality maps" of entire countries. Studies have also assessed the reliability and robustness of regional personality scores (Ebert et al., 2022), further highlighting the validity and significance of such regional differences.

There has also been significant theoretical progress on the geography of personality traits within countries, focusing on the origins and mechanisms underlying the emergence and temporal persistence of these regional differences (Lu et al., 2023; Oishi, 2014; Rentfrow et al., 2008; Rentfrow & Jokela, 2016). Inspired by these theoretical developments, empirical studies have investigated the emergence, persistence, and expression of regional personality traits, linking their geography to various factors, such as the industrial history of a region (e.g., rust belts and coal regions; Abdellaoui et al., 2019; Obschonka et al., 2018a), climate (Wei et al., 2017), topography and landscape (Götz et al., 2020; Militaru et al., 2024), and systematic migration patterns (Abdellaoui et al., 2019; Obschonka et al., 2018a). Research has further demonstrated a wide range of real-world correlations of regional personality variation. These include its association with economic behaviors and outcomes (Garretsen et al., 2019; Mewes et al., 2022; Obschonka et al., 2013, 2020, 2023a), voting behavior (Garretsen et al., 2018; Obschonka et al., 2018b), and well-being and health (Daly et al., 2021; Jokela et al., 2015; Obschonka et al., 2018a; Peters et al., 2023; Schwaba et al., 2021).

Given the limited research on regional personality within the Swedish context, this study aimed to examine regional differences in the Big Five traits across various spatial levels in Sweden, including municipalities, labor markets, and administrative regions. This research also sheds new light on the discussion surrounding Sweden's reputation as an equal and egalitarian society. Do we observe regional variation even in such a country, similar to patterns found in less equal and less egalitarian countries (e.g., the US or UK)? Or does Sweden present a homogenous level playing field with no indication of systematic regional differences?

Hence, understanding potential regional differences is valuable not only for advancing research on Sweden's psychological map but also for contributing to cross-country studies by exploring whether regional variation exists even in relatively equal and egalitarian countries. Moreover, by mapping personality traits in Sweden and discussing potential links to various historical and regional processes outcomes, this research adds to the pool of countries studied. This is essential for disentangling associations that might be confounded when only a small number of countries are analyzed. For example, prior research has suggested a link between neuroticism and historical industrial regions (Obschonka et al., 2018a). However, is this association genuine or spurious? Expanding the analysis to include more countries is critical for answering such questions.

Following established standards in research on regional variation in personality traits for countries that have not yet been extensively surveyed (e.g., Rentfrow et al., 2008; Obschonka et al., 2019; Rentfrow et al., 2015), this study adopts an exploratory perspective to address the following fundamental research questions:

1. Do regional personality differences exist within Sweden?
2. Do these differences exhibit systematic regional patterns?
3. Do the observed systematic regional patterns relate to the socio-economic history of the respective regions?

2 Data and methods

Data on the regional personality profile of the local population comes from the global Gosling-Potter Internet Project. The project collected personality data via a non-commercial Internet website (Rentfrow et al., 2008; see also Gosling et al., 2004). People could find this website, for example, via online search engines and can voluntarily participate by answering questions about their socio-demographic background, personality traits, and location of residence. As an incentive, participants receive a personality evaluation based on their responses. The data collection was declared exempt from informed consent by the approval of the Institutional Review Board at the University of Texas at Austin because there were no significant risks to participants (IRB #2004–10-0073). The project

has provided data for several studies on regional personality differences in various countries such as the USA (Götz et al., 2020; Peters et al., 2023; Obschonka et al., 2013; 2023a; Rentfrow et al., 2008; Schwaba et al., 2021), Germany (Mewes et al., 2022; Obschonka et al., 2017; 2019; Peters et al., 2023), as well as for cross-country studies (e.g., Bleidorn et al., 2013; Entringer et al., 2021; Gebauer et al., 2017; Obschonka et al., 2023b).

In the present analysis, we use the data collected from respondents between 2003 and 2020 for respondents living in Sweden. Respondents were asked to report their country of residence and their current zip code. The Big Five personality traits of the respondents were assessed via the well-established Big Five Inventory (BFI; John & Srivastava 1999), which consists of 44 items (5-point Likert scale, 1 = disagree strongly, 5 = agree strongly). Following methodological standards in regional personality research based on individual-level data (Ebert et al., 2023), these individual-level personality data were then aggregated to the regional level (regional average scores in each Big Five trait) using the respondent's current zip code.

In the Swedish dataset, we had a total of 56,665 observations containing Big Five personality trait data. Out of these observations, 22,465 were geo-coded with a postcode number. A conversion table from 2017 was used to match postcodes with municipalities. This allowed us to link 22,255 observations at the regional level and 21,695 at the level of municipalities and labor market regions. For consistency, we used the labor market classification of 2017 of Statistics Sweden. Annexes 1-3 provide the number of observations, population, coverage (observations/population), as well as mean values and standard deviation for each Big Five personality trait by municipality, labor market, and region, respectively. Analytically, we focus on the most fine-grained level, the municipalities, as this also allowed us to use hot spots as an analytical method, as presented below.

We present a Hot Spot analysis on this geo-coded data, highlighting statistically significant clusters of high (hot spots) and low (cold spots) values within the dataset and visually representing spatial patterns and regional concentrations. The Getis-Ord Gi* statistic generates a z-score of the phenomenon being analyzed (Getis & Ord, 1992; 1995; Kondo, 2016). Higher z-scores signify strong clusters of features (e.g., regions or municipalities) with a high proportion or concentration. Hot spots represent areas with high values that are statistically significant and surrounded by other high-value areas, such as specific personality traits in Swedish municipalities. Cold spots are areas with low values that are statistically significant and surrounded by other low-value areas, highlighting zones of scarcity or lower intensity (lower z-scores). For example, in health research, hot and cold spots reveal areas with significant variations in disease prevalence, healthcare access, or health outcomes, aiding in public health interventions (Shariati et al. 2020). A Hot Spot Analysis identifies statistically significant spatial clusters of high and low values in a dataset. The results are visualized in maps that provide

insights into spatial patterns of personality traits (Figures 2-5). Similar spatial analysis methods have been applied to study regional differences in personality (Ebert et al. 2020).

To reduce bias in the data analysis, only municipalities with N = 20 or more are included. For this set of municipalities, we find that the average age of respondents does not deviate significantly from the average age of the population (Annex 4). This is important as younger people might have a tendency to participate in electronic surveys more frequently. Other settings included the conceptualization of spatial relationships as a *fixed distance band*, where each municipality was influenced only by neighboring municipalities within a specified distance, while those outside this range had no effect. The analysis applied a default threshold value, specifically the *Euclidean distance*, ensuring that every feature (municipality) had at least one neighbor.

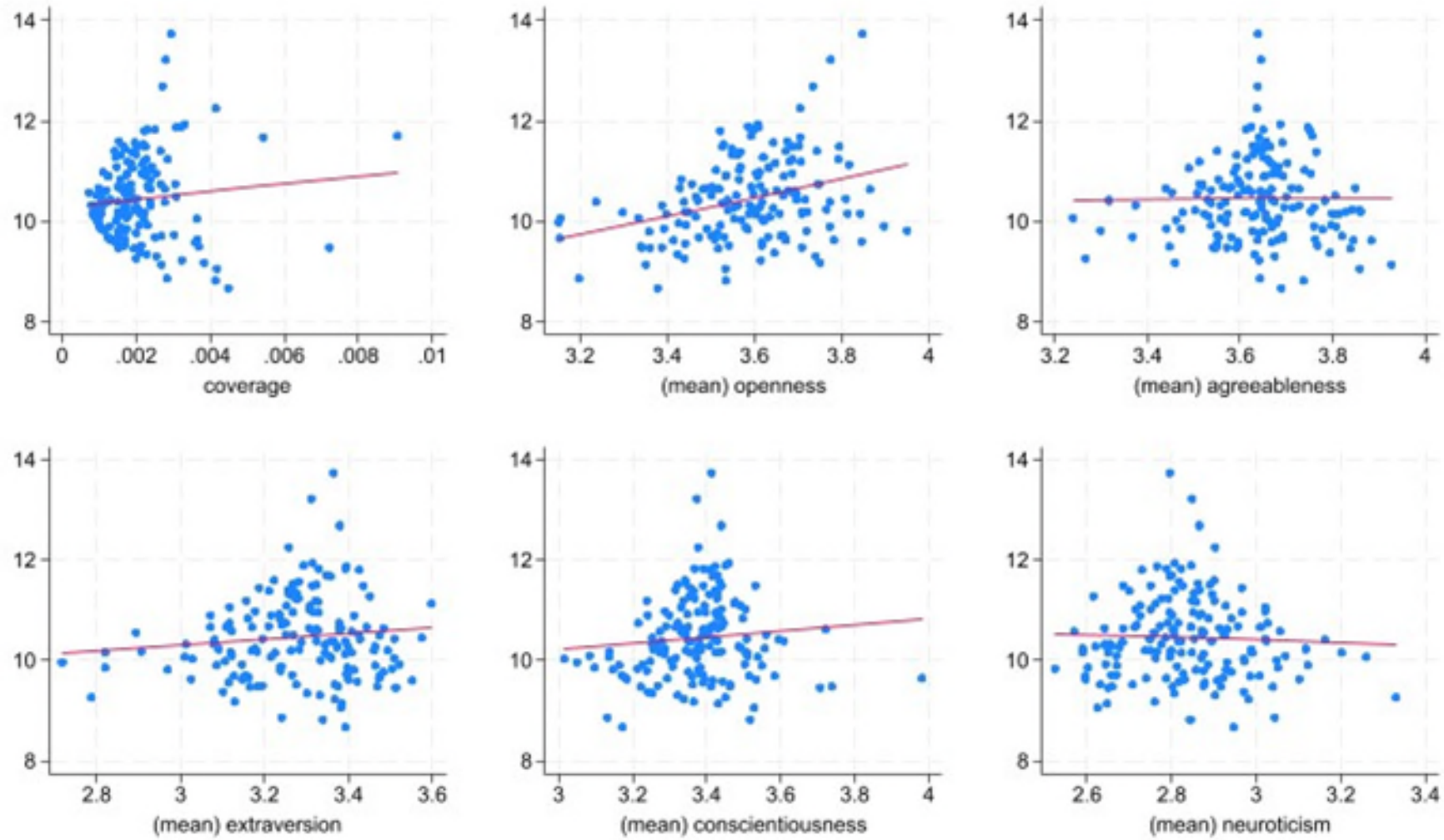
3 Results

3.1 Research question 1: Do regional personality differences exist within Sweden?

Figure 1 shows scatterplots at the municipal level, with the population (log) on the y-axis and coverage and the mean values of the Big Five traits at the x-axis. Respective plots at the level of the labor market and region are found in Annexes 5-6. The scatterplots indicate that regional personality variation does exist in Sweden (variance in the regional personality traits).

There is a slight positive correlation between population and coverage. Larger municipalities tend to have a younger population, which could relate to the usage of digital tools and the likelihood of filling in online surveys. The scatter plots also show a positive relationship between openness and population size, which has been observed in previous studies (Lee, 2017; Obschonka et al. 2023). However, it is important to note that the positive correlation is observed only at the municipal and regional level, not so at the level of labor market regions (see Annexes 5 and 6).

Figure 1: Scatterplots population (log) with coverage and personality trait at the level of municipalities (min 20 observations)



3.2 Research Question 2: Do these differences exhibit systematic regional patterns?

The maps in Figures 2-5 provide an illustration of the regional geography of the Big Five traits in Sweden as hot and cold spots, based on the data we analyzed. The maps visualize hot and cold spots using red and blue color tones within the confidence intervals of 90%, 95%, and 99%. The personality traits Openness and Agreeableness show weak to non-existent clusters, while Extraversion, Conscientiousness, and Neuroticism exhibit clear regional patterns (Figure 2). Given the limitations of our data and the nature of our analysis, the maps should be interpreted as regional clusters with coherent regional patterns of hot and cold spots rather than focusing on individual municipalities.

Statistically significant hot spots of Extraversion and Conscientiousness are found in southern Sweden, including Skåne, parts of Blekinge, Halland, and north of Gothenburg in the municipalities from Alingsås up to Lysekil (Figures 2-4). Cold spots of these personality traits are concentrated in the Mälaren Valley west of Stockholm and extend northward up to Sundsvall (Figures 2-4). This area is partially referred to as Sweden's rust belt, which is elaborated on further below. Interestingly, an opposite geographical pattern is observed for the more “negative” personality trait, Neuroticism, where the rust belt stands out particularly clearly (Figure 5). These overlapping regional patterns for Extraversion, Conscientiousness, and Neuroticism suggest that the respective psychological maps not only reflect systematic regional patterns for these three *individual* traits but also provide an overall picture of the adaptive personality, as commonly defined in psychological personality research. This is further supported by the relatively strong correlations between these three traits (Table 1). We explain in the following why such overlapping results for these three traits indicate such a focus on adaptive personality.

In individual-level personality research, Extraversion, Conscientiousness, and Emotional Stability (low Neuroticism) are widely regarded as adaptive traits, as they are consistently associated with greater happiness and improved psychological functioning (Mõttus et al., 2024; Soto, 2015). Such traits are also referred to as “the happy personality” (DeNeve & Cooper, 1998) because they enhance resilience, foster positive relationships, and promote behaviors that contribute to both individual well-being and societal functioning. As highlighted elsewhere (Obschonka et al., 2018a, p. 908):

“A prominent notion in well-being research is that personality differences are a major driver of well-being differences because the latter are ‘reflections of enduring dispositions’ (McCrae & Costa 1991, p. 228). Soto and Luhmann (2013) argue that ‘people with different personalities chronically experience (a) different balances of positive and negative affect, (b) different balances of positive and negative life events, and (c) different reactions to objectively similar events, all of which predict life satisfaction’ (p. 47). Chamorro-Premuzic, Bennett, & Furnham, (2007) stress that, ‘personality traits are arguably the most robust predictors of happiness, if not the major determinant’ (p. 1634).”

Adaptive personality traits (Conscientiousness, Extraversion, and Emotional Stability [low Neuroticism]) have been shown to strongly predict life satisfaction, with stable correlations over time, even when controlling for potential method biases and measurement errors (Mõttus et al., 2024). Moreover, particularly Conscientiousness and Emotional Stability (low Neuroticism) are important predictors of better physical health (Bogg & Roberts, 2013; Murray & Booth, 2015; see also Friedman & Kern, 2014). Conscientiousness, in particular, predicts longevity (Bogg & Roberts, 2013; Friedman et al., 1995; Roberts et al., 2005). Among other mechanisms, higher Conscientiousness may contribute to longevity through health-promoting behaviors, avoidance of risky behaviors, and social and professional stability (e.g., Bogg & Roberts, 2004; Roberts et al., 2007).

Such individual-level relationships between adaptive traits and well-being, health, and longevity outcomes have also been observed at the regional level. Studies indicate that regions with populations scoring higher on adaptive traits also demonstrate higher levels of well-being (e.g., happiness, life satisfaction), physical health, and longevity (e.g., Obschonka et al., 2018a; Rentfrow et al., 2015). Such research has provided new insights into the potential drivers of (often relatively persistent) regional variations (e.g., inequalities) in well-being and health outcomes, an important topic both for research and in public and political debates (BBC, 2021; Florida et al., 2013; Dwyer-Lindgren et al., 2017; OECD, 2011; Richardson et al., 2014). Research indicates that such regional differences in well-being and health outcomes also exist in Sweden – the focus country of the present study (e.g., Wilson et al., 2020).

Finally, focusing on the regional patterns of the three adaptive traits, we revisited the scatterplots shown in Figure 1. Regarding these traits, a clear tendency emerges (also observable at other geographical levels): Extraversion and Conscientiousness are positively related to municipality size, while Neuroticism is negatively related to size. This pattern aligns with the increasing discontent observed in smaller places (McCann, 2020; Rodríguez-Pose, 2018). Moreover, Table 1, which presents the pairwise correlations of the region-level Big Five traits, reveals that the strongest correlations at the municipal level are found between the three adaptive traits, indicative of distinct geographic patterns. Correlations at the labor market and regional levels are reported in Annexes 7 and 8.

Table 1: Pairwise correlations municipalities

Variables	(1)	(2)	(3)	(4)	(5)
(1) openness	1.000				
(2) agreeableness	0.288	1.000			
	(0.000)				
(3) extraversion	0.290	0.320	1.000		
	(0.000)	(0.000)			
(4) conscientiousness	0.243	0.317	0.426	1.000	
	(0.000)	(0.000)	(0.000)		
(5) neuroticism	-0.156	-0.405	-0.460	-0.470	1.000
	(0.008)	(0.000)	(0.000)	(0.000)	

Note. (p-values in brackets)

In sum, we can thus conclude, addressing our first two research questions, that according to the data analyzed, regional personality differences exist within Sweden (as in other countries) and exhibit systematic regional patterns. We observe systematic regional differences in two ways: first, the traits of Conscientiousness, Extraversion, and Emotional Stability (low Neuroticism) converge by exhibiting overlapping regional patterns, forming distinct clusters that underscore systematic personality variation. Second, a clear regional contrast emerges across Sweden for these three traits (rust belt vs. southern Sweden around Scania), further highlighting a systematic and consistent pattern of regional personality differences.

Figure 2: Hot and cold spot analysis of Big Five personality traits at the municipal level

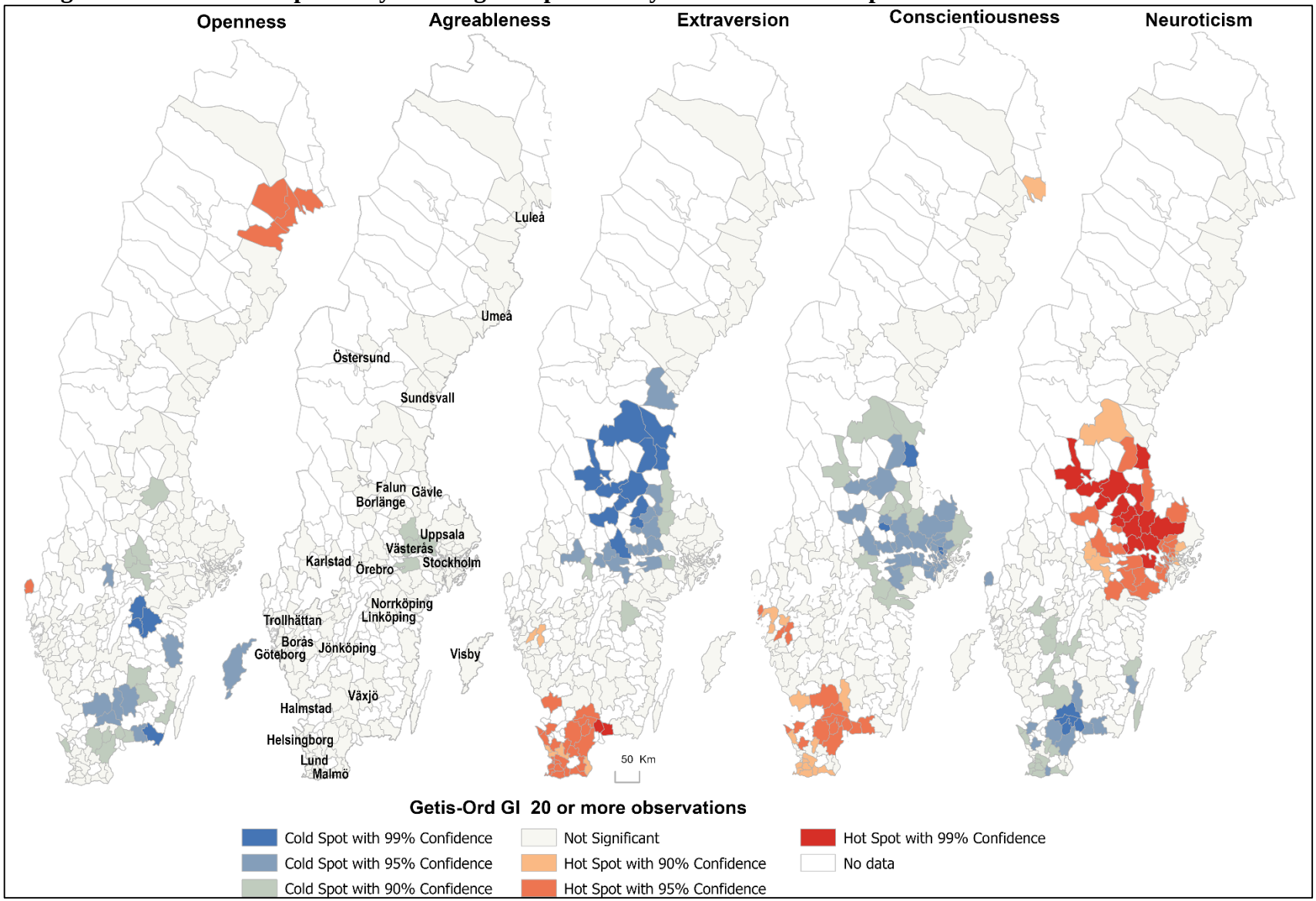


Figure 3: Zoom in on Extraversion hot and cold spots

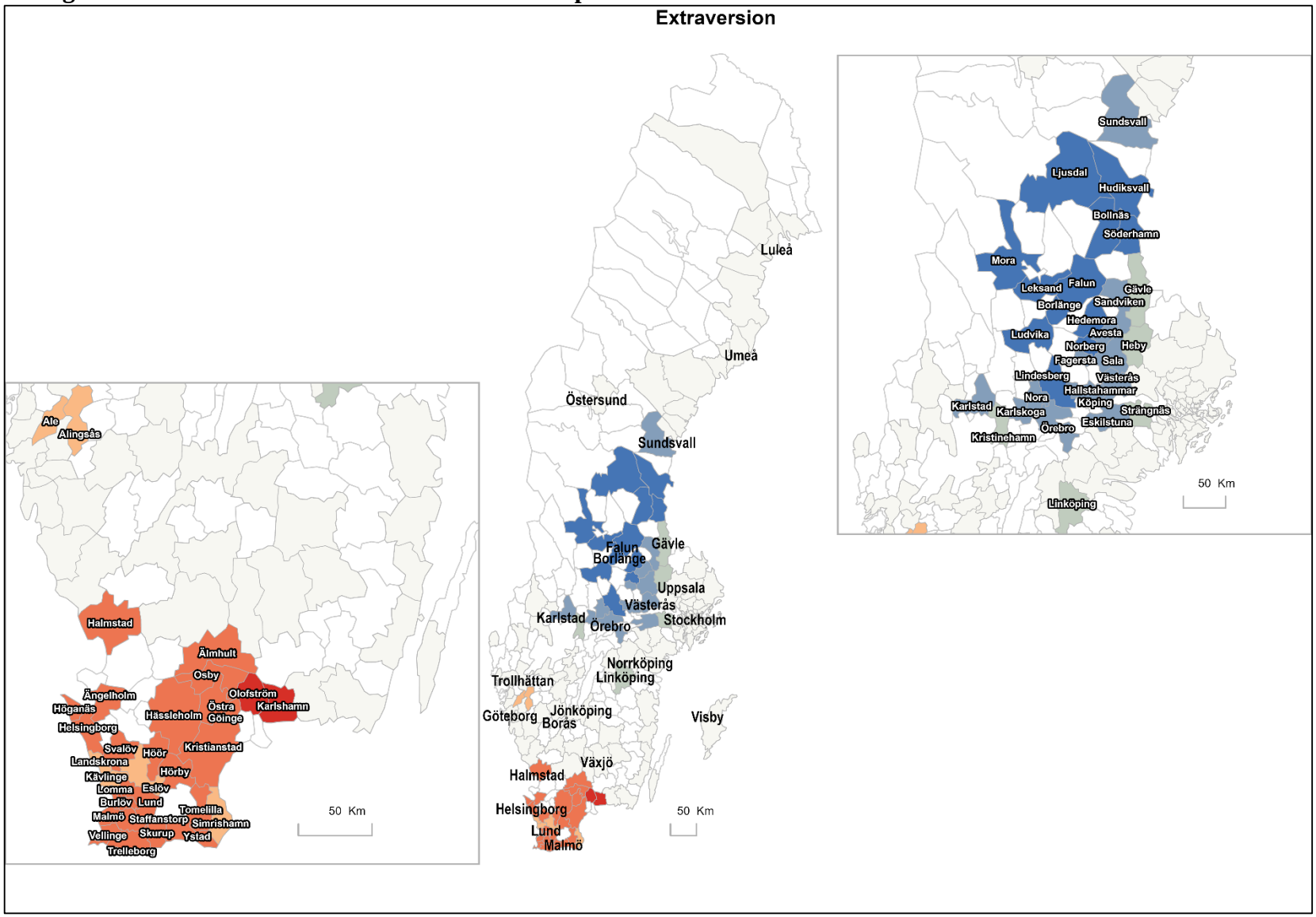


Figure 4: Zoom in on conscientiousness hot and cold spots

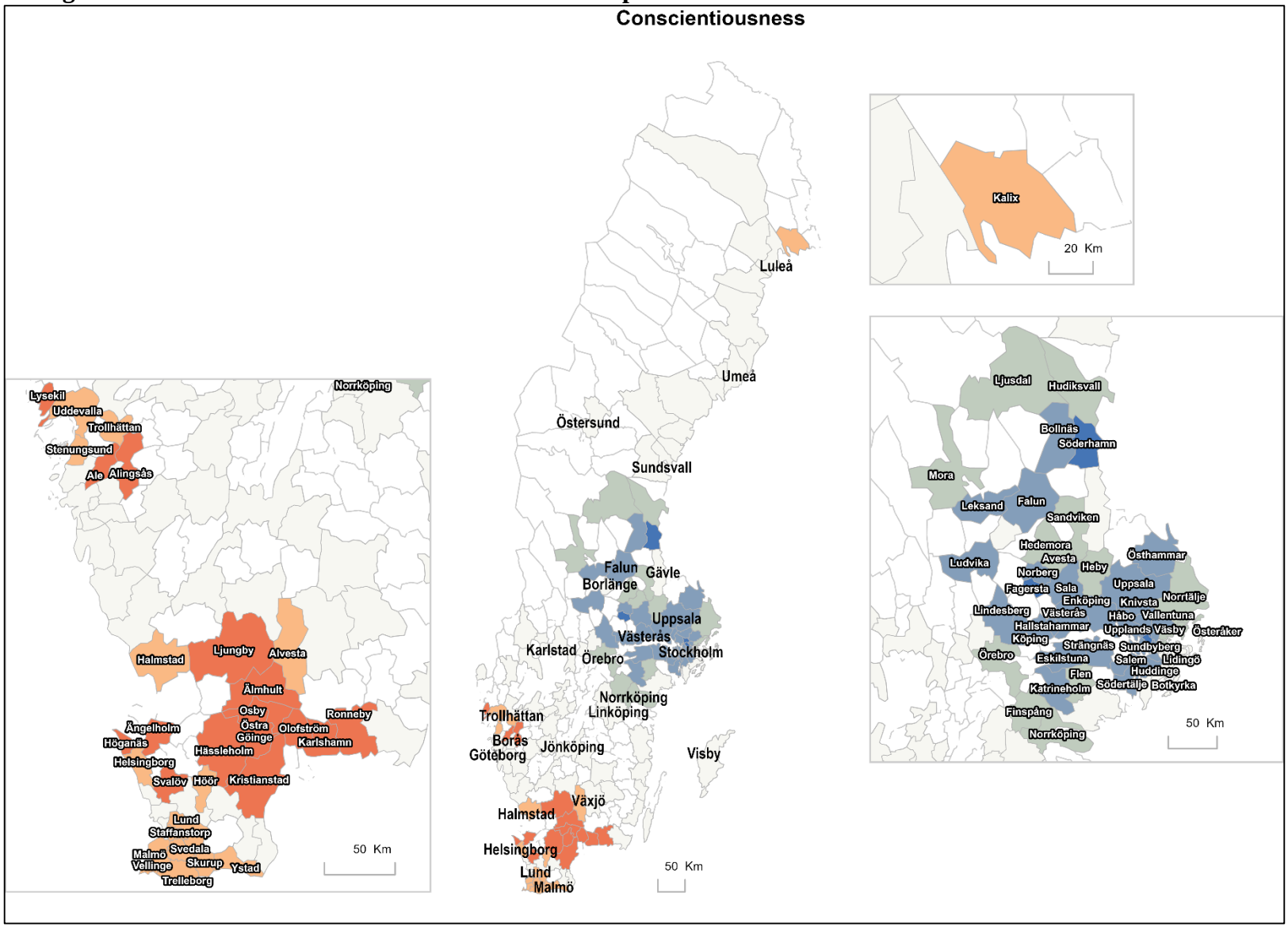
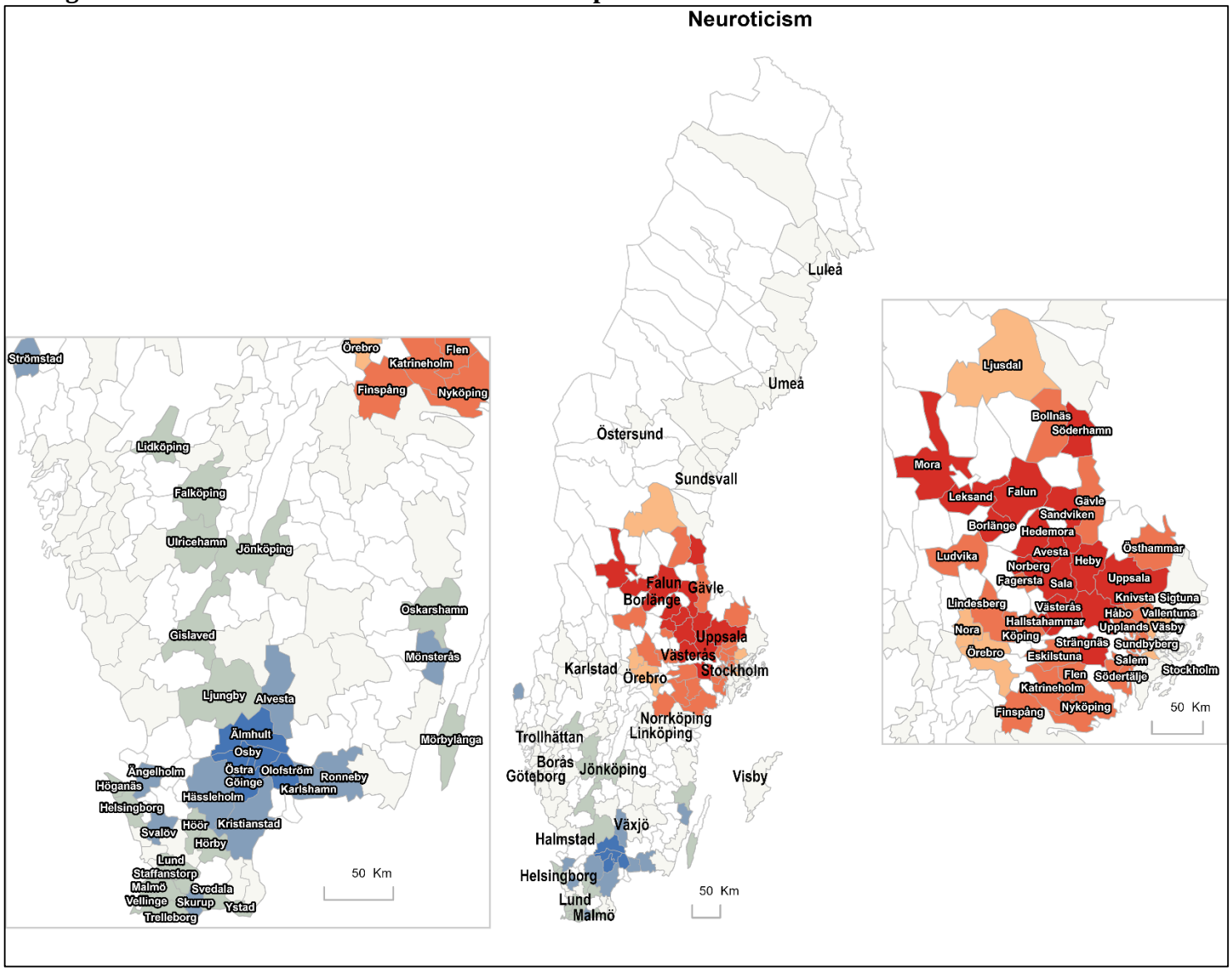


Figure 5: Zoom in on Neuroticism hot and cold spots



3.3 Research Question 3: Do the observed systematic regional patterns relate to the socio-economic history of the respective regions?

Embarking from distinct regional patterns of adaptive traits in Sweden, singling out the Swedish rust belt in lower central Sweden as a region with a prevalence of personality traits that are associated with a lower degree of adaptiveness, and Scania (including some bordering municipalities in Blekinge and Kronoberg) where the prevalence of certain personality traits would suggest a higher degree of adaptiveness, this section elaborates on the socio-economic specificities that may help explain these patterns. Relating to the theoretical background, the question is whether these patterns can be associated with socio-economic specificities that underpin aspects like well-being, health, and longevity. Clearly, we do not claim that this exploratory paper, based on a single dataset, can offer any direct evidence for causality; nonetheless, we believe it is informative to evaluate the consistency between our converging empirical patterns, existing theory, and historical socio-economic conditions in Sweden, and between our findings and related studies in other countries.

3.3.1 Higher prevalence of adaptive traits in Scania

Observing a higher prevalence of adaptive traits in Scania, we explore the possibility that this could be linked to the region's unique historical and socio-economic trajectory. First, historically, Scania was long part of Denmark, which could, in principle, explain regional psychological and cultural differences compared to other Swedish regions. Although Scania was ceded to Sweden in the late seventeenth century, Danish influence has endured. Even today, elements such as architecture, culture, and mentality reflect this heritage. Multicultural Malmö and the bohemian university town of Lund challenge the stereotype of Swedish conformity (Brown et al., 1997). Economic integration with the Copenhagen metropolitan region has further reinforced Danish influence in Scania (Lundquist & Olander, 2007). Denmark is renowned for its concept of *hygge*—creating a cozy, pleasant atmosphere where one can relax and enjoy good company or quiet solitude, savoring the moment and finding joy in life's small pleasures (Danish Ministry of Foreign Affairs, 2024).

Second, focusing on its economic history, Scania experienced rapid economic growth during the 1950s and 1960s, driven primarily by the manufacturing sector. However, the region's economy was diverse, encompassing shipyards, services, trade, agriculture, and food processing. The public sector also expanded significantly, particularly in education, social services, and healthcare. This period of economic boom was followed by a downturn in the 1970s and early 1980s, as heavy manufacturing, textiles, and shipyards declined due to international competition (Wetterberg, 2017; Skansjö, 2008; Eklund, 2001). The economic crisis of the 1970s was even more severe than the Great Depression of the 1930s (Schön, 2000). Nevertheless, Scania's diverse economic structure enabled a swift recovery by the early 1980s, with growth in the service sector and high-value goods industries, particularly

driven by innovations in biochemistry and IT (Lundquist and Olander, 2007). This is a unique development trajectory relative the rest of Sweden. The polycentric structure in Scania as well as the closeness to the Danish capital city Copenhagen plays a significant role in this (Region Skåne, 2017). The region has also managed to build a strong innovation ecosystem, with numerous clusters in sectors like life sciences, ICT, and food technology. These clusters play a significant role in Scania's regional economic development and innovation (ECCP, 2023).

Over the past 30 years, significant immigration, including refugees and highly skilled workers, has further diversified Scania's economy. This influx increased demand for services such as restaurants, cafés, groceries, and personal services (Tillväxtkommissionen, 2023). The clusters in the expanding sectors have also demanded highly skilled labour immigration in a way different to most of Sweden. The opening of the bridge between Malmö and Copenhagen in 2000 strengthened economic ties with Copenhagen (Wetterberg, 2017). It is a combination of things – e.g., a strong innovation ecosystem, specialized clusters, a potential to absorb high skilled labour and the ability to adjust to the post-industrial economy among other things – which makes Scania unique. The polycentric structure and proximity to Copenhagen and continental Europe has also an important role here.

Today, Scania is a modern, economically diversified, and resilient urban agglomeration. It has adapted to new economic realities and technologies. This adaptability includes both innovation and the ability to modify existing innovation systems to fit the regional context (Lundquist and Olander 2007). Relating this to well-being, health and longevity, Socialstyrelsen (2010) suggests that financial stress, unemployment, alienation, and a lack of future prospects typically lead to anxiety, depression, and mental illness (Socialstyrelsen 2010). Most of central Sweden relied on 'one-mill-towns' lacking a diversified economic structure. When deindustrialization started, unemployment rocketed as did despair and outmigration. These are the areas constituting the Swedish 'rustbelt' (Schön, 2000). This development is largely absent in Scania, implying a prosperous region with relatively low unemployment and positive future outlooks. Except for the 1970s and early 1980s, this description has held true for Scania since World War II (Wetterberg, 2017).

Interestingly, this finding—that adaptive personality characteristics are particularly high in a region comparatively well-developed in terms of infrastructure, opportunity, and its "connections" to (other) thriving places and regions—aligns well with macro-psychological research in other countries. For example, in Germany, Fritsch et al. (2020) and Obschonka et al. (2015) identified a regional macro-psychological and economic divide along the old Roman Limes wall, with higher regional scores in adaptive personality traits (and related better well-being and health outcomes) south of the Limes in the formerly Roman-occupied regions. They attribute this "Roman effect" to the long-term socio-economic imprint of Roman investments in local trade infrastructure (e.g., the Roman road and trade

network connecting Roman colonies with the entire Roman Empire) and an innovation-prone culture (see also Fritsch et al., 2024).

3.3.2 Lower prevalence of adaptive traits in the Swedish rust belt

Contrasting Scania, the lower prevalence of adaptive traits in the Swedish rust belt in the area northeast of Stockholm towards central Sweden may be linked to a distinct local socio-economic history that has contributed to a *less* favorable macro-psychological profile. This leads us to the structural transformations in the history of the Swedish economy. Between the First World War and the late 1940s, rural towns in Sweden grew significantly as the closure of unprofitable agricultural units forced populations to move to nearby towns, where they found employment in expanding industries (Söderberg& Lundgren, 1982). Small business activities also flourished, particularly in small and medium-sized towns, absorbing surplus labor from agriculture into industries such as textiles, timber, and metal manufacturing. This trend was observed nationwide. However, in the 1950s, manufacturing began relocating to larger cities, particularly in central Sweden and southern Norrland. By the 1960s, rural depopulation became a major topic of debate, as municipalities in central Sweden, previously labor magnets, experienced population declines (Magnusson, 2002). The state attempted to mitigate this trend by offering more public sector jobs, providing a form of artificial support for these regions—a policy that ended after Sweden's accession to the EU (Oscarsson, 1994; Persson, 1995).

The economic crisis of the 1970s led to the collapse of the mining sector in central Sweden. International competition outperformed much of the textile, iron, and steel industries, prompting a restructuring of the entire Swedish industrial sector. Mill towns in central Sweden, which had survived earlier industrial relocations, faced widespread unemployment and economic stagnation during this period (Magnusson, 2002). Economic expansion from the mid-1980s onwards was concentrated in major cities, rather than rural areas (Schön, 2000).

Most of central Sweden and southern Norrland have since deindustrialized but have not successfully transitioned into a post-industrial service economy (Boström and Rauhut, 2017; Johansson, 1996). The surviving manufacturing industry remains specialized but contributes low production value. The public sector continues to be the largest employer in most municipalities (Rauhut and Humer, 2024). According to Rodríguez-Pose (2018), much of central Sweden and southern Norrland can be regarded as a "place that doesn't matter," representing the heart of the Swedish rust belt.

This rust belt image is reflected, for example, by the prolonged unemployment, alienation, and financial hardship experienced by the region's inhabitants, fostering a pervasive sense of hopelessness. The outmigration of young people and limited external investment further exacerbate this issue, reducing the region's flexibility and ability to innovate or adapt existing innovation systems to suit the regional context. The observed geographic pattern of psychological traits in central Sweden and south Norrland could mirrors these processes.

Importantly, such clustering of lower levels of adaptive personality traits in a country's rust belt has also been observed in other countries. For example, in the UK and the US, studies have shown that their respective rust belts (the old industrial heartlands) score particularly low in adaptive personality traits—a pattern linked to the historical availability of coal fields, which provided the "fuel" for industrialization and large-scale local industries (Obschonka et al., 2018a; see also Abdellaoui et al., 2019; Daly et al., 2021; Huggins et al., 2021). Hence, our study corroborates that the average level of adaptive traits tends to be lower in comparable old industrial regions across diverse types of nations and societal settings (including more equal and egalitarian societies). This could be seen as a form of local psychological lock-in effect, where lower adaptive traits hinder human agency, psychological positivity, and resilience, thereby limiting the capacity to overcome negative socio-economic regional trajectories (Huggins et al., 2021; Huggins and Thompson, 2023; Görmar et al., 2023; Stihl, 2024).

4 Discussion and Conclusions

This paper contributes to the burgeoning literature on the geography of personality traits within countries by presenting, to the best of our knowledge, the first large-scale systematic geographic analysis of personality traits in Sweden. Drawing on a dataset of over 20.000 geo-coded individual observations of Big Five personality traits, we mapped patterns of variation of traits across Swedish municipalities, labor markets, and administrative regions. In particular, we analyze the geographic variation using a hot-spot analysis at the most fine-grained spatial level of municipalities (Figures 2-5). The presence of personality traits differs across territories, and we identified a distinct pattern where the Swedish rust belt (in the area west and northeast of Stockholm towards central Sweden) is characterized by a lower prevalence of adaptive traits, while the southernmost part of Sweden (mainly Scania) is characterized by a higher prevalence of adaptive traits. Adaptive traits have been associated in the literature with positive outcomes such as well-being, health and longevity. Inspired by this finding, we then reflected on the socio-economic particularities in these two regions (e.g., cultural imprints and economic history) as a first attempt to make sense of these regional personality patterns.

Informed by seminal theories on the emergence, persistence, and expression of regional personality differences (e.g., Rentfrow et al., 2008) and related research from various countries, we have offered reflections on why such regional descriptive polarization in adaptive personality traits might exist (and persist). Southern Sweden around Scania appears to have a distinct socio-economic trajectory that may be reflected in higher levels of adaptive traits. We highlighted for example that this could be linked to a distinct historical Danish influence, mid-20th century industrial growth and diversification, recovery from the 1970s economic crisis, strong integration with Copenhagen, significant immigration, modern economic diversification, and adaptability to innovation. In contrast, the Swedish rust belt seems to bear long-term macro-psychological "scars" from past industrialization and challenging transformation

processes, similar to patterns observed in other countries where industrial heartlands have turned into rust belts (e.g., Obschonka, 2018).

Despite these plausible explanations for the observed regional personality patterns, it is important to emphasize that we cannot examine the exact mechanisms and causality with our data, so caution is needed when drawing premature conclusions. The relationships and effects between regional personality variation and regional socio-economic trajectories are a fascinating research subject, but they are certainly complex and difficult to pinpoint empirically. Prior research in geographical psychology (e.g., studies on regional variation of personality traits within a single country) has often started with descriptive research, like our present study on Sweden, followed by subsequent studies within the same country that build on these descriptive findings to explore potential mechanisms and causality in depth. Hence, our study could also guide future research addressing the mechanisms that may lead to the emergence, persistence, and expression of regional personality variation in Sweden.

4.1 Future Research Agenda

Guided by the existing macro-psychological research on regional personality differences within countries, we propose the following research agenda.

First, future research should aim to robustly replicate our findings. While we present novel data, our study is not without limitations, and it is essential to deepen and consolidate our emerging knowledge on regional personality differences in Sweden. Such research could utilize alternative datasets, such as personality estimates derived from social media text (e.g., tweets) or other regional personality datasets based on surveys. Additionally, this research could explore the extent to which regional personality patterns change over time, although existing evidence suggests they are relatively stable (Elleman et al., 2018), supported by the observation that major historical events or epochs from centuries ago can predict present-day regional personality differences (e.g., Obschonka et al., 2018; see also Rentfrow et al., 2008).

Second, as highlighted above, future research could focus on identifying the specific factors driving the observed regional polarization in adaptive personality traits in Sweden. Is it truly linked to industrial history, geographical characteristics, or (other) socio-economic conditions? What are the underlying mechanisms? What is the role of selective migration and local institutions (Rentfrow et al., 2008)? Addressing these questions may also require expanding research to include a greater number of countries. By doing so, we can better disentangle the complex relationships and reduce the confounding effects that arise when analyses are limited to small samples of countries.

Third, it is important to study the “real-world effects” of the identified regional personality differences in Sweden. Personality is a powerful driver of numerous important outcomes, and this should be no different for entire regions. First and foremost, we see it as a research priority to examine whether the

regional polarization in adaptive traits indeed contributes to (persistent) regional disparities in well-being and health (and related outcomes). As highlighted earlier, explaining (and reducing) such regional disparities is a major focus of public and political debate (BBC, 2021; Florida et al., 2013; Dwyer-Lindgren et al., 2017; OECD, 2011; Richardson et al., 2014).

Fourth, future research could consider studying not just single personality traits and their regional variation in Sweden but also intraindividual trait profiles (e.g., adaptive or resilient personality types, Robins et al., 1996; see also Rentfrow et al., 2013). Such research would adopt more of a person-oriented perspective, focusing on intraindividual dynamics and patterns (Bergman et al., 2003; Magnusson & Torestad, 1993).

Finally, future research should place a special focus on policy implications. This is a sensitive topic, as personality traits are aspects of human diversity, and an ethical approach to interpreting and interacting with them is warranted (Obschonka, 2018). It is important to be mindful of the potential for bias, prejudice, stereotypes, and labeling effects (Jussim et al., 1995), such as when describing an entire region as problematic or 'positive' in terms of its regional personality makeup. Nonetheless, it is also important to raise awareness of regional personality differences and to consider how policies could address them in sensitive and ethical ways (e.g., by potentially offering targeted policies that are more tailored to local psychological profiles) (Huggins et al., 2021; Huggins & Thompson, 2023).

4.2 Limitations

Our study has a number of limitations. First, the data we used are not perfectly representative of the Swedish territories and their populations, an issue typical of internet-based regional comparisons of personality. For example, it is possible that regional differences in access to internet infrastructure or other confounding factors may have impacted our findings. However, growing research evidence from several countries using very similar methods have indicated reasonable representativeness of such data and results (e.g., Ebert et al., 2022; Gosling et al., 2004). Second, future research should consider and test potential method bias effects that could influence results. For example, we investigated regional personality differences using a personality instrument in the English language. While English proficiency is very common in Scandinavian countries, we cannot rule out the possibility that this introduced a sampling bias. Third, we focused on averaged scores of a region’s personality makeup. While this is a common strategy in such research, it might neglect potentially important and prevalent intraregional variance in personality traits (e.g., personality diversity within a region). Fourth, the results of a hotspot mapping based on Getis-Ord Gi* statistics may vary depending on the chosen settings. While we have sought to conduct the analysis in a robust manner, alternative clustering methods may be relevant in future research. Future research could also explore the extent to which regions differ in inter-personal variance in Big Five traits, as well as the causes and effects of such potential differences. This is relevant because various forms of within-region diversity (e.g.

knowledge, industrial, institutional) have often been identified as important drivers of regional outcomes.

4.3 Conclusion

To conclude, our study provides evidence of distinct macro-psychological patterns, linked to adaptive personality traits, that align with observed regional polarization processes in terms of different socio-economic regional trajectories within Sweden. Hence, while Sweden is often seen from the outside as a homogeneous nation, a closer look at the psychological fabric of its various regions reveals that it is also a nation of contrasts, descriptively associated with well-documented socio-economic polarization over many decades.

Regional personality features are an important regional parameter that informs research, practice, and policy. While they may be less obvious and visible (e.g., compared to "hard" regional outcomes), they exist and may have an underlying, influential presence "beneath the surface" of a region, making it important to study and understand them—particularly their persistence and real-world effects. Future research should aim to consolidate these findings, with a special focus on the drivers and mechanisms leading to macro-psychological polarization and its real-world effects on Swedish society at both the regional level and overall.

References

Abdellaoui, A., Hugh-Jones, D., Yengo, L., Kemper, K. E., Nivard, M. G., Veul, L., ... & Visscher, P. M. (2019). Genetic correlates of social stratification in Great Britain. *Nature Human Behaviour*, *3*(12), 1332-1342.

Allik, J., & McCrae, R. R. (2004). Toward a geography of personality traits: Patterns of profiles across 36 cultures. *Journal of Cross-Cultural Psychology*, *35*(1), 13-28.

BBC (2021). Dying too young: Maps show little has changed in 170 years. https://www.bbc.com/news/health-57730353, retrieved Novemeber 23, 2024.

Bergman, L. R., Magnusson, D., & El Khouri, B. M. (2003). *Studying individual development in an interindividual context: A person-oriented approach*. Psychology Press.

Bleidorn, W., Klimstra, T. A., Denissen, J. J., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2013). Personality maturation around the world: A cross-cultural examination of social-investment theory. *Psychological Science*, *24*(12), 2530-2540.

Bleidorn, W., P.L. Hill, M.D. Denissen, J. J., Hennecke, M., Hopwood, C. J., and B. Roberts, B. (2019). The policy relevance of personality traits. *American Psychologist*, *74*(9), 1056.

Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: a meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, *130*(6), 887.

Bogg, T., & Roberts, B. W. (2013). The case for conscientiousness: Evidence and implications for a personality trait marker of health and longevity. *Annals of Behavioral Medicine*, *45*(3), 278-288.

Boyd, R. L., & Pennebaker, J. W. (2017). Language-based personality: A new approach to personality in a digital world. *Current Opinion in Behavioral Sciences*, *18*, 63-68.

Broström, L. and Rauhut, D. (2017). Policy Changes and Poverty Reduction in Sweden 1991-2015. In: Rauhut, D. & Hatti, N. (eds.), *Politics, Poverty and the Poverty of Politics* (pp. 99-124). New Delhi: B.R. Publishing Co.

Brown, J., Proctor, J. and Roland, N. (1997). *Sweden*. London: The Rough Guide.

Daly, M., Obschonka, M., Stuetzer, M., Sutin, A. R., Shaw-Taylor, L., Satchell, M., & Robinson, E. (2021). Neuroticism mediates the relationship between industrial history and modern-day regional obesity levels. *Journal of Personality*, *89*(2), 276-287.

Danish Ministry of Foreign Affairs (2024). What do we mean by 'hygge'? Retrieved on 25 September 2024 at https://denmark.dk/people-and-culture/hygge

DeNeve, K. M., & Cooper, H. (1998). The happy personality: a meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, *124*(2), 197.

Dwyer-Lindgren, L., Bertozzi-Villa, A., Stubbs, R. W., Morozoff, C., Mackenbach, J. P., Van Lenthe, F. J., ... & Murray, C. J. (2017). Inequalities in life expectancy among US counties, 1980 to 2014: temporal trends and key drivers. *JAMA Internal Medicine*, *177*(7), 1003-1011.

Ebert, T., Gebauer, J. E., Brenner, T., Bleidorn, W., Gosling, S. D., Potter, J., & Rentfrow, P. J. (2022). Are regional differences in psychological characteristics and their correlates robust? applying spatial-analysis techniques to examine regional variation in personality. *Perspectives on Psychological Science*, *17*(2), 407-441.

Ebert, T., Götz, F. M., Mewes, L., & Rentfrow, P. J. (2023). Spatial analysis for psychologists: How to use individual-level data for research at the geographically aggregated level. *Psychological Methods*, *28*(5), 1100.

ECCP (2023). Clusters meet Regions' event "Clusters as boosters of innovation in industrial ecosystems" – the case of Skåne. European Cluster Collaboration Platform. Accessed on 24.2.2025 at https://clustersofsweden.com/wp-content/uploads/2023/06/ECCP_CMR_InputPaper_Skane_Final-compressed.pdf

Eklund, K. (2001). *Vår ekonomi*. Stockholm: Prisma.

Elleman, L. G., Condon, D. M., Russin, S. E., & Revelle, W. (2018). The personality of US states: Stability from 1999 to 2015. *Journal of Research in Personality*, *72*, 64-72.

Entringer, T. M., Gebauer, J. E., Eck, J., Bleidorn, W., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2021). Big Five facets and religiosity: Three large-scale, cross-cultural, theory-driven, and process-attentive tests. *Journal of Personality and Social Psychology*, *120*(6), 1662.

European Union (2021). Rural Vision. Retrieved on 26 September 2024 from https://rural-vision.europa.eu/rural-vision_en

Florida, R., Mellander, C., & Rentfrow, P. J. (2013). The happiness of cities. *Regional Studies*, *47*(4), 613-627.

Friedman, H. S., & Kern, M. L. (2014). Personality, well-being, and health. *Annual Review of Psychology*, *65*(1), 719-742.

Fritsch, M., Obschonka, M., Wahl, F., & Wyrwich, M. (2020). *The deep imprint of Roman sandals: Evidence of long-lasting effects of Roman rule on personality, economic performance, and well-being in Germany* (No. 05-2020). Hohenheim Discussion Papers in Business, Economics and Social Sciences.

Fritsch, M., Obschonka, M., Wahl, F., & Wyrwich, M. (2024). On the Roman origins of entrepreneurship and innovation in Germany. *Regional Studies*, *58*(7), 1446-1463.

Garretsen, H., Stoker, J. I., Soudis, D., Martin, R., & Rentfrow, J. (2019). The relevance of personality traits for urban economic growth: Making space for psychological factors. *Journal of Economic Geography*, *19*(3), 541-565.

Gebauer, J. E., Sedikides, C., Schönbrodt, F. D., Bleidorn, W., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2017). The religiosity as social value hypothesis: A multi-method replication and extension across 65 countries and three levels of spatial aggregation. *Journal of Personality and Social Psychology*, *113*(3), e18.

Getis, A. and J.K. Ord. (1992). The Analysis of Spatial Association by Use of Distance Statistics. *Geographical Analysis 24*(3).

Giorgi, S., Nguyen, K. L., Eichstaedt, J. C., Kern, M. L., Yaden, D. B., Kosinski, M., ... & Park, G. (2022). Regional personality assessment through social media language. *Journal of Personality*, *90*(3), 405-425.

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, *59*(2), 93.

Grillitsch, M., Rekers, J.V., Asheim, B.T., Fitjar, R.D., Haus-Reve, S., Kolehmainen, J., … & Stihl, L. (2024). Patterns of opportunity spaces and agency across regional contexts: Conditions and drivers for change. *Environment and Planning A*, 1-25 (online first).

Görmar, F., Grillitsch, M., Hruška, V., Mihály, M., Nagy, E., Píša, J., & Stihl, L. (2023). Power relations and local agency: a comparative study of European mining towns. *Urban Research & Practice*, *16*(4), 558–581.

Götz, F. M., Ebert, T., & Rentfrow, P. J. (2018). Regional cultures and the psychological geography of Switzerland: Person–environment–fit in personality predicts subjective wellbeing. *Frontiers in Psychology*, *9*, 517.

Götz, F. M., Stieger, S., Gosling, S. D., Potter, J., & Rentfrow, P. J. (2020). Physical topography is associated with human personality. *Nature Human Behaviour*, *4*(11), 1135-1144.

Huggins, R., Stuetzer, M., Obschonka, M., & Thompson, P. (2021). Historical industrialisation, path dependence and contemporary culture: The lasting imprint of economic heritage on local communities. *Journal of Economic Geography*, *21*(6), 841-867.

Huggins, R., & Thompson, P. (2023). Uneven development, competitiveness and behavioural economic geography: Addressing ‘levelling up’policies from a human perspective. *Regional Science Policy & Practice*, *15*(9), 2274-2294.

Johansson, M. (1996). Residence, employment and migration types in four types of Swedish localities 1972-1992. In: Johansson, M. and Persson, L.-O. (eds.) *Extending the reach* (pp. 69-95). Östersund: SIR

John, O. P., Robins, R. W., & Pervin, L. A. (Eds.). (2010). *Handbook of personality: Theory and research*. Guilford Press.

John, O.P. & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L.A. Pervin and O.P. John (Eds.), *Handbook of personality: Theory and research*, 2nd ed., pp. 102-139, New York: Guilford.

Jokela, M., Bleidorn, W., Lamb, M. E., Gosling, S. D., & Rentfrow, P. J. (2015). Geographically varying associations between personality and life satisfaction in the London metropolitan area. *Proceedings of the National Academy of Sciences*, *112*, 725- 730.

Jussim, L., Nelson, T. E., Manis, M., & Soffin, S. (1995). Prejudice, stereotypes, and labeling effects: Sources of bias in person perception. *Journal of Personality and Social Psychology*, *68*(2), 228.

Kondo, K. (2016). Hot and cold spot analysis using Stata. *The Stata Journal*, *16*(3), 613-631.

Lee, N. (2017). Psychology and the geography of innovation. *Economic Geography*, *93*(2), 106-130.

Lu, J. G., Benet-Martínez, V., & Wang, L. C. (2023). A socioecological-genetic framework of culture and personality: Their roots, trends, and interplay. *Annual Review of Psychology*, *74*(1), 363-390.

Lundqvist, K.-J. and Olander, L.-O. (2007). *Omvandlingens geografi. Malmö: Region Skåne*, Malmö Stad och Lunds universitet

Magnusson, L. (2002). *Sveriges ekonomiska historia*. Stockholm: Prisma.

Magnusson, D., & Torestad, B. (1993). A holistic view of personality: A model revisited. *Annual Review of Psychology*, *44*, 427.

McCann, P. (2020). Perceptions of regional inequality and the geography of discontent: insights from the UK. *Regional Studies*, 54(2), 256-267.

Mewes, L., Ebert, T., Obschonka, M., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2022). Psychological openness and the emergence of breakthrough vs. incremental innovations: A regional perspective. *Economic Geography*, *98*(4), 379-410.

Militaru, I. E., Serapio-García, G., Ebert, T., Kong, W., Gosling, S. D., Potter, J., ... & Götz, F. M. (2024). The lay of the land: Associations between environmental features and personality. *Journal of Personality*, *92*(1), 88-110.

Mõttus, R., Realo, A., Allik, J., Ausmees, L., Henry, S., McCrae, R. R., & Vainik, U. (2024). Most people's life satisfaction matches their personality traits: True correlations in multitrait, multirater, multisample data. *Journal of Personality and Social Psychology*, *126*(4), 676.

Murray, A. L., & Booth, T. (2015). Personality and physical health. *Current Opinion in Psychology*, *5*, 50-55.

Näringsdepartementet (2000). *Regionalpolitiska utredningens slutbetänkande*. SOU2002:87. Stockholm: Fritzes.

Obschonka, M. (2018). The industrial revolution left psychological scars that can still be seen today. *Harvard Business Review*, 1-6.

Obschonka, M., Lee, N., Rodríguez-Pose, A., Eichstaedt, J. C., & Ebert, T. (2020). Big data methods, social media, and the psychology of entrepreneurial regions: capturing cross-county personality traits and their impact on entrepreneurship in the USA. *Small Business Economics*, *55*, 567-588.

Obschonka, M., M. Stuetzer, P.J. Rentfrow, J. Potter and S.D. Gosling (2017). Did strategic bombing in the second world war lead to ‘German angst’? A large-scale empirical test across 89 German cities. *European Journal of Personality*, 31(3), 234-257.

Obschonka, M., M. Stuetzer, P.J. Rentfrow, L. Shaw-Taylor, M. Satchell, R.K. Silbereisen and S.D. Gosling (2018a). In the shadow of coal: How large-scale industries contributed to present-day regional differences in personality and well-being. *Journal of Personality and Social Psychology*, 115(5), 903- 927. https://doi.org/10.1037/pspp0000175

Obschonka, M., Wahl, F., Fritsch, M., Wyrwich, M., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2025). Roma Eterna? Roman rule explains regional well-being divides in Germany. *Current Research in Ecological and Social Psychology*, *8*, 100214.

Obschonka, M., M. Wyrwich, M. Fritsch, S.D. Gosling, P.J. Rentfrow and J. Potter (2019). Von unterkühlten Norddeutschen, gemütlichen Süddeutschen und aufgeschlossenen Großstädtern: Regionale Persönlichkeitsunterschiede in Deutschland [Reserved Northerners,

Jovial Southerners, and Open Urbanites: Regional Personality Differences in Germany]. *Psychologische Rundschau, 70*(3), 173-194.

Obschonka, M., Schmitt-Rodermund, E., Silbereisen, R. K., Gosling, S. D., & Potter, J. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany, and the United Kingdom: A socioecological perspective. *Journal of Personality and Social Psychology, 105*(1), 104.

Obschonka, M., Stuetzer, M., Newman, A., Gibson, C. B., Gosling, S. D., Rentfrow, P. J., & Potter, J. (2023b). Corruption revisited: the influence of national personality, culture, and wealth. *Journal of International Business Studies*, *54*(8), 1577-1587.

Obschonka, M., Stuetzer, M., Rentfrow, P. J., Lee, N., Potter, J., & Gosling, S. D. (2018b). Fear, populism, and the geopolitical landscape: The "sleeper effect" of neurotic personality traits on regional voting behavior in the 2016 Brexit and Trump elections. *Social Psychological and Personality Science*, *9*(3), 285-298.

Obschonka, M., Tavassoli, S., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2023a). Innovation and inter-city knowledge spillovers: Social, geographical, and technological connectedness and psychological openness. *Research Policy*, *52*(8), 104849.

Obschonka, M., Zhou, M., Zhou, Y., Zhang, J., & Silbereisen, R. K. (2019). "Confucian" traits, entrepreneurial personality, and entrepreneurship in China: a regional analysis. *Small Business Economics*, *53*, 961-979.

OECD (2011). *How's Life? Measuring Well-Being*. OECD Publishing

Oishi, S. (2014). Socioecological psychology. *Annual Review of Psychology*, *65*(1), 581-609.

Oishi, S. (2015). Geography and personality: Why do different neighborhoods have different vibes?. *Proceedings of the National Academy of Sciences*, *112*(3), 645-646.

Ord, J.K. and A. Getis (1995). Local Spatial Autocorrelation Statistics: Distributional Issues and an Application. *Geographical Analysis 27*(4).

Oscarsson, G. (1994). Vilken regionalpolitik får vi efter solskenspolitikernas uttåg? In: L.-O. Persson (ed.) *Välfärdsstatens framtid och regionerna* (pp. 117–145). Stockholm: Nordrefo.

Persson, L.-O. (1994). Social structure and processes of change in marginal regions. In: Wiberg, U. (ed.) *Marginal Areas in Developed Countries* (pp. 127-144). Umeå: CERUM.

Persson, L.-O. (1995). Politik i svenska uttunningsområden. In: L.-O. Persson (ed.) *Balanserad uttunning* (pp. 40–45). Stockholm: Nordrefo.

Peters, H., Götz, F. M., Ebert, T., Müller, S. R., Rentfrow, P. J., Gosling, S. D., ... & Matz, S. C. (2023). Regional personality differences predict variation in early COVID-19 infections and mobility patterns indicative of social distancing. *Journal of Personality and Social Psychology*, *124*(4), 848.

Rauhut, D. and Costa, N. (2021). What regions benefit from the post-crisis Cohesion Policy? Evidence from a Territorial Cohesion Development Index. In: Rauhut, D., Sielker, F. & Humer, A. (eds.) *EU's Cohesion Policy and Spatial Governance: Territorial, Economic and Social Challenges* (pp. 185-198). Cheltenham: Edward Elgar.

Rauhut, D. and Humer, A. (2024). Regional inequalities. In: Lundahl, M., Rauhut, D. & Hatti, N. (eds.) *Inequality: Economic and Social Issues* (pp. 157-172). London: Routledge.

Region Skåne (2017). Skåne – Facts and Key Trends. Accessed on 24.2.2025 at skane_facts-and-key-trends.pdf

Rentfrow, P. J., & Gosling, S. D. (2021). Putting personality in its place: A geographical perspective on personality traits. In O. P. John & R. W. Robins (Eds.), *Handbook of personality: Theory and research* (4th ed., pp. 824–836). The Guilford Press.

Rentfrow, P.J. and M. Jokela (2016): Geographical psychology: The spatial organization of psychological phenomena. *Current Directions in Psychological Science*, 25(6), 393-398. https://doi.org/10.1177/0963721416658446

Rentfrow, P.J., M. Jokela and M.E. Lamb (2015): Regional personality differences in Great Britain. *PLoS One*, 10(3), e0122245. https://doi.org/10.1371/journal.pone.0122245

Rentfrow, P.J., S.D. Gosling and J. Potter (2008). A theory of the emergence, persistence, and expression of geographic variation in psychological characteristics. *Perspectives on Psychological Science*, 3(5), 339–369. https://doi.org/10.1111/j.1745-6924.2008.00084.x

Rentfrow, P. J., Gosling, S. D., Jokela, M., Stillwell, D. J., Kosinski, M., & Potter, J. (2013). Divided we stand: three psychological regions of the United States and their political, economic, social, and health correlates. *Journal of Personality and Social Psychology*, *105*(6), 996.

Richardson, E. A., Pearce, J., Mitchell, R., Shortt, N. K., & Tunstall, H. (2014). Have regional inequalities in life expectancy widened within the European Union between 1991 and 2008?. *The European Journal of Public Health*, *24*(3), 357-363.

Roberts, B. W., Walton, K. E., & Bogg, T. (2005). Conscientiousness and health across the life course. *Review of General Psychology*, *9*(2), 156-168.

Roberts, B.W., N.R. Kuncel, R. Shiner, A. Caspi and L.R. Goldberg (2007): The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, 2(4), 313-345. https://doi.org/10.1111/j.1745-6916.2007.00047.x

Robins, R. W., John, O. P., Caspi, A., Moffitt, T. E., & Stouthamer-Loeber, M. (1996). Resilient, overcontrolled, and undercontrolled boys: three replicable personality types. *Journal of Personality and Social Psychology*, *70*(1), 157.

Rodriguez-Pose, A. (2018). The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society*, *11*(1), 189–209.

Rodríguez-Pose, A. (2018). The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society*, 11(1), 189-209.

Schön, L. (2000). *En modern svensk ekonomisk historia. Stockholm*: SNS förlag.

Schwaba, T., Bleidorn, W., Hopwood, C. J., Gebauer, J. E., Rentfrow, P. J., Potter, J., & Gosling, S. D. (2021). The impact of childhood lead exposure on adult personality: Evidence from the United States, Europe, and a large-scale natural experiment. *Proceedings of the National Academy of Sciences*, *118*(29).

Shariati, M., Mesgari, T., Kasraee, M., & Jahangiri-Rad, M. (2020). Spatiotemporal analysis and hotspots detection of COVID-19 using geographic information system (March and April, 2020). *Journal of Environmental Health Science and Engineering*, *18*, 1499-1507.

Skansjö, S. (2008). *Skånes historia*. Lund: Historiska media.

styrelsen (2010). *Social Rapport 2010*. Stockholm.

Söderberg, J. and Lundgren, N.-G. (1982). *Ekonomisk och geografisk koncentration 1850–1980*. Lund: Liber.

Soto, C. J. (2015). Is happiness good for your personality? Concurrent and prospective relations of the big five with subjective well-being. *Journal of Personality*, *83*(1), 45-55.

Stihl, L. (2023). Local culture and change agency in old industrial places: spinning forward and digging deeper. *European Planning Studies*, *32*(3), 586–606.

Tillväxtkommissionen (2023). *Malmö. En stad, två berättelser*. Malmö Stad.

Wei, W., Lu, J. G., Galinsky, A. D., Wu, H., Gosling, S. D., Rentfrow, P. J., ... & Wang, L. (2017). Regional ambient temperature is associated with human personality. *Nature Human Behaviour*, *1*(12), 890-895.

Wetterberg, G. (2017). *Skånes historia band 3: 1720–2017*. Stockholm: Bonniers förlag.

Wilson, B., Drefahl, S., Sasson, I., Henery, P. M., & Uggla, C. (2020). Regional trajectories in life expectancy and lifespan variation: Persistent inequality in two Nordic welfare states. *Population, Space and Place*, *26*(8), e2378.

Annex 1: Big Five personality traits aggregated by municipalities

					Average					Standard deviation				
Code	Municipality	Obs.	Population	Coverage	Local open-ness	Local agree-ableness	Local extra-version	Local conscien-tiousness	Local neuro-ticism	Local open-ness	Local agree-ableness	Local extra-version	Local conscien-tiousness	Local neuro-ticism
180	Stockholm	2713	923516	0,00294	3,85	3,639	3,364	3,412	2,796	0,596	0,631	0,793	0,731	0,809
1480	Göteborg	1536	548190	0,00280	3,78	3,645	3,311	3,374	2,849	0,616	0,647	0,749	0,679	0,807
2480	Umeå	1095	120777	0,00907	3,59	3,756	3,347	3,428	2,799	0,622	0,617	0,781	0,696	0,799
1280	Malmö	873	322574	0,00271	3,73	3,638	3,379	3,439	2,865	0,617	0,615	0,772	0,715	0,829
380	Uppsala	872	210126	0,00415	3,71	3,636	3,257	3,377	2,903	0,635	0,624	0,758	0,713	0,833
1281	Lund	635	116834	0,00544	3,70	3,640	3,357	3,415	2,796	0,599	0,635	0,762	0,684	0,794
580	Linköping	506	152966	0,00331	3,61	3,687	3,315	3,461	2,807	0,637	0,595	0,760	0,677	0,826
1980	Västerås	468	145218	0,00322	3,59	3,624	3,293	3,450	2,847	0,588	0,635	0,723	0,657	0,848
1880	Örebro	444	144200	0,00308	3,61	3,747	3,396	3,423	2,765	0,596	0,610	0,782	0,684	0,829
581	Norrköping	343	137035	0,00250	3,60	3,650	3,329	3,391	2,788	0,595	0,557	0,794	0,662	0,807
1283	Helsingborg	317	137909	0,00230	3,60	3,612	3,393	3,367	2,822	0,575	0,648	0,753	0,693	0,806
680	Jönköping	296	133310	0,00222	3,52	3,750	3,427	3,408	2,729	0,621	0,539	0,762	0,682	0,733
1780	Karlstad	237	89245	0,00266	3,67	3,638	3,256	3,424	2,865	0,609	0,618	0,733	0,712	0,763
484	Eskilstuna	224	102065	0,00219	3,53	3,653	3,269	3,344	2,862	0,575	0,600	0,758	0,627	0,791
182	Nacka	220	97986	0,00225	3,79	3,638	3,314	3,531	2,686	0,601	0,610	0,812	0,703	0,874
184	Solna	217	76158	0,00285	3,79	3,660	3,274	3,428	2,793	0,594	0,653	0,761	0,767	0,772
2281	Sundsvall	217	97633	0,00222	3,53	3,660	3,266	3,392	2,751	0,653	0,626	0,785	0,708	0,813
126	Huddinge	206	105311	0,00196	3,64	3,691	3,282	3,435	2,819	0,592	0,600	0,780	0,700	0,819
1380	Halmstad	195	96952	0,00201	3,69	3,665	3,436	3,440	2,827	0,648	0,563	0,699	0,647	0,757
2580	Luleå	173	76088	0,00227	3,69	3,616	3,280	3,367	2,777	0,561	0,705	0,831	0,730	0,782
136	Haninge	168	83866	0,00200	3,55	3,628	3,276	3,429	2,852	0,582	0,618	0,751	0,701	0,858
1490	Borås	167	108488	0,00154	3,67	3,656	3,223	3,341	2,901	0,561	0,655	0,788	0,766	0,829
780	Växjö	165	88108	0,00187	3,57	3,764	3,211	3,364	2,699	0,650	0,554	0,793	0,690	0,793

2180	Gävle	163	98877	0,00165	3,70	3,627	3,323	3,321	2,890	0,552	0,709	0,730	0,681	0,811
123	Järfälla	159	72429	0,00220	3,68	3,663	3,321	3,338	2,848	0,597	0,638	0,700	0,723	0,946
880	Kalmar	159	65704	0,00242	3,57	3,684	3,309	3,492	2,726	0,586	0,570	0,775	0,689	0,801
181	Södertälje	158	93202	0,00170	3,55	3,650	3,188	3,355	2,966	0,583	0,621	0,783	0,757	0,780
160	Täby	148	68281	0,00217	3,82	3,670	3,598	3,475	2,762	0,697	0,660	0,793	0,779	0,803
2380	Östersund	146	61066	0,00239	3,57	3,678	3,307	3,439	2,714	0,620	0,581	0,653	0,714	0,763
2080	Falun	145	57062	0,00254	3,61	3,670	3,329	3,424	2,852	0,622	0,578	0,678	0,701	0,809
138	Tyresö	141	46177	0,00305	3,46	3,511	3,117	3,214	2,791	0,667	0,602	0,728	0,666	0,708
1383	Varberg	139	61030	0,00228	3,51	3,740	3,308	3,504	2,751	0,550	0,615	0,787	0,649	0,804
1290	Kristianstad	131	82510	0,00159	3,56	3,593	3,259	3,407	2,895	0,599	0,612	0,764	0,656	0,801
163	Sollentuna	130	70251	0,00185	3,65	3,702	3,328	3,477	2,859	0,629	0,700	0,792	0,680	0,851
2482	Skellefteå	128	72031	0,00178	3,71	3,511	3,156	3,238	2,901	0,596	0,664	0,716	0,652	0,714
127	Botkyrka	127	89425	0,00142	3,74	3,550	3,260	3,316	2,808	0,562	0,667	0,770	0,704	0,836
186	Lidingö	123	46302	0,00266	3,75	3,600	3,378	3,323	2,815	0,574	0,674	0,748	0,723	0,784
980	Gotland	123	57391	0,00214	3,60	3,682	3,316	3,376	2,966	0,600	0,642	0,784	0,636	0,903
1496	Skövde	122	53555	0,00228	3,61	3,651	3,414	3,427	2,726	0,580	0,657	0,737	0,714	0,768
2081	Borlänge	122	50988	0,00239	3,43	3,594	3,161	3,497	2,888	0,694	0,654	0,773	0,597	0,695
1481	Mölndal	120	63340	0,00189	3,63	3,489	3,118	3,331	3,021	0,600	0,623	0,799	0,845	0,874
117	Österåker	117	42130	0,00278	3,52	3,727	3,306	3,408	2,913	0,658	0,639	0,719	0,712	0,797
1384	Kungsbacka	114	79144	0,00144	3,62	3,649	3,452	3,353	2,616	0,523	0,565	0,686	0,618	0,673
883	Västervik	111	36049	0,00308	3,47	3,699	3,474	3,399	2,925	0,486	0,594	0,697	0,741	0,809
191	Sigtuna	103	44786	0,00230	3,61	3,519	3,241	3,422	2,718	0,646	0,620	0,720	0,670	0,798
381	Enköping	100	41893	0,00239	3,48	3,667	3,483	3,342	2,641	0,680	0,698	0,787	0,869	0,801
1482	Kungälv	100	42730	0,00234	3,50	3,575	3,443	3,327	2,713	0,505	0,614	0,749	0,761	0,808
1488	Trollhättan	100	57092	0,00175	3,69	3,753	3,267	3,397	2,795	0,486	0,639	0,757	0,764	0,835
1080	Karlskrona	96	65380	0,00147	3,63	3,593	3,252	3,394	2,928	0,623	0,638	0,702	0,687	0,781
2284	Örnsköldsvik	96	55576	0,00173	3,54	3,619	3,235	3,348	2,871	0,593	0,662	0,694	0,687	0,798
861	Mönsterås	95	13144	0,00723	3,39	3,572	3,375	3,462	2,803	0,624	0,591	0,725	0,693	0,762
162	Danderyd	90	32421	0,00278	3,77	3,646	3,392	3,278	2,814	0,670	0,569	0,794	0,753	0,803
183	Sundbyberg	85	46110	0,00184	3,75	3,518	3,251	3,445	3,027	0,584	0,751	0,845	0,587	0,802

1262	Lomma	85	23324	0,00364	3,55	3,557	3,359	3,317	2,869	0,544	0,633	0,832	0,672	0,761
1293	Hässleholm	80	51048	0,00157	3,57	3,552	3,237	3,438	2,941	0,678	0,698	0,823	0,691	0,762
115	Vallentuna	77	32380	0,00238	3,62	3,568	3,359	3,429	2,895	0,574	0,672	0,739	0,789	0,851
120	Värmdö	76	41107	0,00185	3,65	3,538	3,323	3,391	2,932	0,629	0,671	0,742	0,729	0,762
2581	Piteå	75	41548	0,00181	3,86	3,618	3,382	3,430	2,686	0,564	0,696	0,708	0,760	0,810
114	Upplands Väsby	74	42661	0,00173	3,51	3,440	3,170	3,316	3,010	0,585	0,701	0,845	0,665	0,864
1287	Trelleborg	73	43359	0,00168	3,50	3,581	3,210	3,290	2,957	0,558	0,720	0,737	0,701	0,784
1261	Kävlinge	72	30104	0,00239	3,39	3,728	3,345	3,380	2,641	0,592	0,529	0,731	0,659	0,771
1441	Lerum	72	40181	0,00179	3,69	3,644	3,327	3,409	2,871	0,504	0,624	0,792	0,632	0,805
1233	Vellinge	70	34667	0,00202	3,81	3,669	3,574	3,254	2,785	0,656	0,573	0,691	0,832	0,843
480	Nyköping	68	54262	0,00125	3,53	3,653	3,216	3,240	2,801	0,499	0,772	0,865	0,765	0,981
1401	Härryda	68	36651	0,00186	3,67	3,805	3,269	3,560	2,873	0,598	0,538	0,743	0,623	0,808
1485	Uddevalla	68	54180	0,00126	3,67	3,693	3,072	3,300	2,865	0,553	0,593	0,717	0,601	0,739
1382	Falkenberg	67	42949	0,00156	3,43	3,711	3,108	3,350	2,846	0,642	0,711	0,706	0,701	0,717
486	Strängnäs	66	34102	0,00194	3,72	3,669	3,510	3,420	2,854	0,566	0,576	0,728	0,679	0,857
1282	Landskrona	66	43961	0,00150	3,59	3,565	3,379	3,415	2,773	0,568	0,672	0,754	0,697	0,819
1487	Vänersborg	66	38381	0,00172	3,70	3,659	3,318	3,395	2,759	0,567	0,672	0,728	0,643	0,834
1489	Alingsås	66	39602	0,00167	3,62	3,623	3,123	3,331	3,056	0,711	0,639	0,738	0,639	0,803
188	Norrtälje	65	58669	0,00111	3,61	3,587	3,178	3,288	3,021	0,618	0,595	0,749	0,676	0,785
1402	Partille	65	36977	0,00176	3,50	3,595	3,425	3,390	2,923	0,576	0,650	0,732	0,686	0,813
2085	Ludvika	59	26362	0,00224	3,45	3,476	3,182	3,440	2,765	0,522	0,629	0,771	0,749	0,802
1440	Ale	58	28862	0,00201	3,59	3,646	3,373	3,487	2,620	0,566	0,651	0,834	0,655	0,751
192	Nynäshamn	56	27500	0,00204	3,60	3,502	3,283	3,255	2,989	0,572	0,722	0,762	0,672	0,906
1499	Falköping	56	32511	0,00172	3,24	3,675	3,324	3,608	3,025	0,672	0,548	0,722	0,699	0,758
2029	Leksand	56	15326	0,00365	3,67	3,682	3,150	3,295	2,787	0,631	0,549	0,801	0,615	0,777
2582	Boden	55	27913	0,00197	3,77	3,842	3,177	3,557	2,590	0,565	0,616	0,891	0,759	0,798
1415	Stenungsund	54	25508	0,00212	3,71	3,522	3,225	3,355	2,823	0,481	0,623	0,711	0,688	0,717
1484	Lysekil	52	14464	0,00360	3,62	3,668	3,421	3,443	2,818	0,591	0,560	0,757	0,646	0,670
330	Knivsta	51	16869	0,00302	3,67	3,551	3,396	3,383	2,828	0,598	0,711	0,784	0,620	0,921
1230	Staffanstorp	51	23119	0,00221	3,62	3,656	3,508	3,374	2,762	0,663	0,661	0,792	0,725	0,856

1286	Ystad	50	28985	0,00173	3,55	3,759	3,463	3,386	2,677	0,650	0,644	0,718	0,545	0,801
662	Gislaved	49	29272	0,00167	3,61	3,695	3,398	3,408	2,657	0,515	0,650	0,751	0,747	0,806
1285	Eslöv	49	32438	0,00151	3,44	3,643	3,366	3,350	2,823	0,541	0,583	0,654	0,677	0,748
1292	Ängelholm	49	40732	0,00120	3,68	3,609	3,378	3,721	2,804	0,606	0,604	0,726	0,712	0,830
1982	Fagersta	49	13286	0,00369	3,34	3,447	3,194	3,268	2,875	0,471	0,643	0,687	0,784	0,807
1263	Svedala	47	20462	0,00230	3,44	3,797	3,522	3,503	2,643	0,617	0,627	0,743	0,675	0,676
1284	Höganäs	45	25610	0,00176	3,59	3,573	3,344	3,509	2,650	0,545	0,644	0,705	0,781	0,765
2280	Härnösand	45	25066	0,00180	3,60	3,635	3,391	3,286	2,875	0,606	0,729	0,781	0,828	0,915
125	Ekerö	44	26984	0,00163	3,60	3,752	3,462	3,344	2,737	0,688	0,572	0,592	0,681	0,697
128	Salem	44	16426	0,00268	3,66	3,821	3,476	3,171	2,658	0,502	0,525	0,720	0,769	0,778
1463	Mark	44	33906	0,00130	3,70	3,529	3,196	3,507	3,021	0,556	0,587	0,867	0,793	0,809
483	Katrineholm	43	33462	0,00129	3,47	3,316	3,081	3,380	3,163	0,512	0,648	0,733	0,679	0,743
305	Håbo	42	20279	0,00207	3,52	3,538	3,146	3,226	2,885	0,558	0,550	0,752	0,635	0,786
583	Motala	42	42903	0,00098	3,49	3,849	3,072	3,438	2,845	0,672	0,606	0,935	0,729	0,928
139	Upplands-Bro	41	25789	0,00159	3,66	3,654	3,119	3,274	2,848	0,584	0,579	0,591	0,614	0,774
1885	Lindesberg	41	23562	0,00174	3,16	3,683	3,010	3,538	3,261	0,614	0,623	0,712	0,611	0,667
2181	Sandviken	41	38314	0,00107	3,60	3,506	2,894	3,334	2,876	0,642	0,600	0,726	0,585	0,886
586	Mjölby	40	26602	0,00150	3,71	3,613	3,264	3,278	2,751	0,735	0,674	0,787	0,706	0,796
1267	Höör	40	15970	0,00250	3,47	3,553	3,152	3,360	2,985	0,701	0,723	0,743	0,591	0,871
1082	Karlshamn	37	31846	0,00116	3,53	3,537	3,287	3,356	2,683	0,684	0,564	0,845	0,645	0,745
1460	Bengtsfors	37	9626	0,00384	3,75	3,460	3,128	3,364	2,759	0,611	0,612	0,660	0,575	0,824
683	Värnamo	36	33473	0,00108	3,54	3,784	3,427	3,593	2,749	0,553	0,625	0,666	0,581	0,691
1493	Mariestad	36	24043	0,00150	3,63	3,627	3,354	3,510	3,069	0,602	0,588	0,808	0,524	0,774
2460	Vännäs	36	8593	0,00419	3,53	3,859	3,381	3,528	2,625	0,562	0,576	0,928	0,700	0,826
1231	Burlöv	35	17430	0,00201	3,51	3,640	3,483	3,351	2,941	0,610	0,634	0,822	0,733	0,849
2184	Hudiksvall	34	36975	0,00092	3,56	3,645	3,250	3,345	2,805	0,639	0,684	0,715	0,740	0,952
140	Nykvarn	33	10192	0,00324	3,62	3,641	3,367	3,339	2,982	0,625	0,835	0,844	0,701	0,785
2161	Ljusdal	33	19027	0,00173	3,49	3,472	2,820	3,097	3,051	0,654	0,688	0,978	0,780	0,886
1981	Sala	32	22109	0,00145	3,62	3,663	3,333	3,302	3,048	0,526	0,654	0,726	0,728	0,730
764	Alvesta	31	19581	0,00158	3,58	3,668	3,239	3,309	2,813	0,587	0,616	0,633	0,723	0,670

2523	Gällivare	31	18123	0,00171	3,72	3,626	3,414	3,376	2,857	0,641	0,532	0,763	0,748	0,693
1081	Ronneby	30	28697	0,00105	3,64	3,714	3,372	3,491	2,677	0,656	0,621	0,883	0,851	0,849
331	Heby	29	13594	0,00213	3,62	3,768	3,275	3,463	2,708	0,576	0,487	0,765	0,764	0,960
1472	Tibro	28	10980	0,00255	3,74	3,675	3,332	3,322	2,903	0,540	0,711	0,696	0,524	0,741
1494	Lidköping	28	39009	0,00072	3,69	3,453	3,408	3,273	2,569	0,402	0,629	0,864	0,623	0,612
2409	Robertsfors	28	6771	0,00414	3,53	3,737	3,339	3,518	2,844	0,575	0,842	0,822	0,646	0,706
882	Oskarshamn	27	26450	0,00102	3,30	3,610	2,906	3,138	2,797	0,656	0,335	0,797	0,595	0,750
1273	Osby	27	12954	0,00208	3,36	3,592	3,165	3,222	3,040	0,697	0,533	0,769	0,733	1,007
1883	Karlskoga	27	30283	0,00089	3,56	3,557	3,013	3,254	2,775	0,506	0,679	0,805	0,672	0,968
1983	Köping	27	25557	0,00106	3,40	3,806	3,120	3,507	2,990	0,485	0,527	0,736	0,653	0,807
2262	Timrå	27	17987	0,00150	3,36	3,650	3,239	3,237	2,875	0,640	0,767	0,794	0,658	0,903
187	Vaxholm	26	11380	0,00228	3,42	3,630	3,301	3,254	2,806	0,484	0,679	0,724	0,688	0,626
1784	Arvika	26	25841	0,00101	3,81	3,814	3,407	3,428	2,589	0,654	0,624	0,774	0,813	0,721
1962	Norberg	26	5803	0,00448	3,38	3,689	3,393	3,173	2,947	0,635	0,642	0,858	0,748	0,833
2083	Hedemora	26	15235	0,00171	3,78	3,638	3,025	3,185	3,102	0,630	0,643	0,775	0,688	0,547
2183	Bollnäs	26	26594	0,00098	3,72	3,860	3,169	3,371	2,799	0,604	0,490	0,794	0,699	0,703
482	Flen	25	16440	0,00152	3,50	3,693	3,265	3,390	2,669	0,521	0,453	0,719	0,685	0,667
760	Uppvidinge	25	9319	0,00268	3,35	3,927	3,384	3,432	2,648	0,660	0,595	0,712	0,737	0,707
781	Ljungby	25	27638	0,00090	3,54	3,858	3,090	3,288	3,118	0,711	0,593	0,757	0,955	0,815
1486	Strömstad	25	12854	0,00194	3,52	3,838	3,513	3,707	2,650	0,492	0,578	0,686	0,718	0,975
1715	Kil	25	11802	0,00212	3,65	3,794	3,102	3,241	2,970	0,623	0,434	0,855	0,866	0,635
2283	Sollefteå	25	19783	0,00126	3,77	3,807	3,464	3,549	2,671	0,569	0,469	0,709	0,629	0,814
682	Nässjö	24	30451	0,00079	3,59	3,373	3,079	3,265	2,655	0,556	0,682	0,752	0,753	0,902
685	Vetlanda	24	26873	0,00089	3,44	3,830	3,493	3,383	2,589	0,694	0,554	0,823	0,827	0,756
1961	Hallstahammar	24	15645	0,00153	3,15	3,693	3,163	3,179	2,922	0,656	0,697	1,004	0,683	0,760
1214	Svalöv	23	13655	0,00168	3,54	3,596	3,367	3,362	2,631	0,633	0,546	0,738	0,700	0,523
1491	Ulricehamn	23	23494	0,00098	3,33	3,239	3,214	3,136	2,796	0,582	0,725	1,008	0,874	0,927
1266	Hörby	22	15020	0,00146	3,41	3,883	3,400	3,533	2,831	0,713	0,436	0,619	0,609	0,705
2084	Avesta	22	22781	0,00097	3,57	3,461	3,028	3,015	2,970	0,724	0,594	0,782	0,555	0,633
382	Östhammar	21	21563	0,00097	3,15	3,570	3,106	3,248	2,972	0,411	0,658	0,724	0,658	0,864

562	Finspång	21	21199	0,00099	3,43	3,679	2,718	3,049	2,931	0,709	0,642	0,942	0,607	0,944
840	Mörbylånga	21	14669	0,00143	3,85	3,594	3,552	3,415	2,908	0,662	0,480	0,830	0,699	0,710
1256	Östra Göinge	21	14102	0,00149	3,44	3,550	3,115	3,390	2,879	0,538	0,600	0,727	0,696	0,814
1495	Skara	21	18711	0,00112	3,59	3,778	3,504	3,213	2,524	0,492	0,597	0,670	0,740	0,736
1781	Kristinehamn	21	24270	0,00087	3,46	3,532	3,123	3,083	2,669	0,538	0,798	0,554	0,752	0,799
1785	Säffle	21	15366	0,00137	3,51	3,763	3,472	3,981	2,739	0,522	0,683	0,657	0,433	0,582
1884	Nora	21	10502	0,00200	3,44	3,266	2,788	3,450	3,331	0,587	0,464	0,978	0,564	0,678
2182	Söderhamn	21	25785	0,00081	3,84	3,798	2,819	3,424	3,201	0,614	0,494	0,571	0,709	0,659
2282	Kramfors	21	18359	0,00114	3,95	3,299	2,969	3,146	2,930	0,635	0,790	1,168	0,590	0,647
765	Älmhult	20	16168	0,00124	3,53	3,580	3,127	3,515	2,596	0,532	0,641	0,670	0,736	0,801
1060	Olofström	20	13170	0,00152	3,71	3,548	3,183	3,412	2,917	0,557	0,704	0,872	0,756	0,597
1264	Skurup	20	15149	0,00132	3,67	3,845	3,147	3,393	2,596	0,701	0,640	0,648	0,786	0,730
1270	Tomelilla	20	13132	0,00152	3,34	3,542	3,469	3,738	2,659	0,707	0,635	0,951	0,588	0,627
1291	Simrishamn	20	19065	0,00105	3,39	3,441	3,397	3,383	2,603	0,842	0,706	0,772	0,824	0,901
2062	Mora	20	20101	0,00099	3,90	3,759	3,086	3,163	3,122	0,472	0,653	0,661	0,681	0,836
2401	Nordmaling	20	7060	0,00283	3,20	3,644	3,241	3,131	3,044	0,393	0,580	0,608	0,913	0,816
2514	Kalix	20	16248	0,00123	3,63	3,368	3,156	3,583	3,008	0,626	0,586	0,731	0,633	0,490
561	Åtvidaberg	19	11545	0,00165	3,29	3,446	3,070	3,240	3,250	0,577	0,589	0,695	0,751	0,554
582	Söderköping	19	14240	0,00133	3,46	3,681	3,307	3,167	2,714	0,695	0,725	0,792	0,710	0,794
1265	Sjöbo	19	18514	0,00103	3,40	3,545	3,278	3,545	2,877	0,545	0,687	0,578	0,615	0,784
1442	Vårgårda	19	11165	0,00170	3,56	3,327	3,145	3,021	2,689	0,462	0,570	0,796	0,658	0,646
1761	Hammarö	19	15420	0,00123	3,91	3,870	3,472	3,483	3,197	0,458	0,635	0,819	0,771	0,977
2031	Rättvik	19	10759	0,00177	3,30	3,795	3,000	3,325	2,894	0,515	0,636	0,926	0,536	0,559
2584	Kiruna	19	23178	0,00082	3,77	3,595	2,927	3,130	2,893	0,668	0,456	0,816	0,580	0,748
642	Mullsjö	18	7157	0,00252	3,21	3,620	2,961	3,605	2,840	0,501	0,660	0,944	0,505	0,787
1257	Örkelljunga	18	9831	0,00183	3,76	3,716	3,370	3,620	2,394	0,542	0,598	0,892	0,673	0,646
1446	Karlsborg	18	6764	0,00266	3,84	3,457	3,013	3,271	3,106	0,678	0,528	0,926	0,677	0,734
1473	Töreboda	18	9293	0,00194	3,76	3,722	3,237	3,156	2,779	0,701	0,436	0,533	0,662	0,970
1861	Hallsberg	18	15509	0,00116	3,40	3,650	3,260	3,197	2,587	0,579	0,632	0,880	0,605	0,700
1984	Arboga	18	13858	0,00130	3,55	3,580	3,233	3,074	2,969	0,456	0,456	0,823	0,644	0,814

687	Tranås	17	18546	0,00092	3,60	3,404	2,853	3,280	3,003	0,655	0,696	0,884	0,591	0,778
860	Hultsfred	17	13919	0,00122	3,98	3,633	2,982	3,208	3,250	0,420	0,559	0,799	0,661	1,023
1419	Tjörn	17	15315	0,00111	3,55	3,383	3,294	3,620	2,575	0,451	0,647	0,890	0,612	0,947
1471	Götene	17	13160	0,00129	3,74	3,688	3,273	3,472	2,609	0,604	0,618	0,715	0,602	0,888
1881	Kumla	17	21154	0,00080	3,57	3,425	3,074	3,421	2,574	0,831	0,764	0,742	0,483	0,835
360	Tierp	16	20547	0,00078	3,95	3,752	2,690	3,163	2,866	0,622	0,659	0,792	0,783	0,919
665	Vaggeryd	16	13372	0,00120	3,72	3,694	3,427	3,188	3,076	0,650	0,682	0,624	0,816	0,878
1907	Surahammar	16	9985	0,00160	3,44	3,465	3,336	3,389	2,672	0,413	0,454	0,580	0,719	0,476
2404	Vindeln	16	5371	0,00298	3,60	3,559	3,139	3,180	2,933	0,467	0,780	0,723	0,631	0,940
617	Gnosjö	15	9514	0,00158	3,61	3,538	3,402	3,371	2,646	0,373	0,395	0,800	0,519	0,892
763	Tingsryd	15	12260	0,00122	3,48	3,492	3,009	3,056	2,875	0,754	0,546	0,791	0,779	0,764
1427	Sotenäs	15	9006	0,00167	3,45	3,667	3,179	3,515	2,721	0,706	0,546	0,688	0,504	0,893
1465	Svenljunga	15	10506	0,00143	3,81	3,732	3,402	3,785	2,746	0,370	0,406	0,875	0,435	0,732
1737	Torsby	15	11910	0,00126	3,57	4,083	3,492	3,553	2,433	0,451	0,733	0,900	0,883	0,743
1763	Forshaga	15	11379	0,00132	3,27	3,764	3,007	3,523	3,007	0,598	0,600	0,947	0,721	0,910
2061	Smedjebacken	15	10790	0,00139	3,55	3,590	3,471	3,417	2,478	0,350	0,611	0,765	0,800	0,870
2321	Åre	15	10677	0,00140	3,76	3,770	3,647	3,556	2,569	0,419	0,591	0,703	0,773	0,860
461	Gnesta	14	10649	0,00131	3,41	3,708	2,823	3,407	2,601	0,542	0,575	0,804	0,571	0,642
488	Trosa	14	12078	0,00116	3,36	3,630	3,292	3,329	2,798	0,725	0,538	0,757	0,749	0,908
643	Habo	14	11314	0,00124	3,35	3,740	3,333	3,856	2,996	0,773	0,647	0,742	0,429	1,088
686	Eksjö	14	16790	0,00083	3,64	3,708	3,078	3,194	3,078	0,650	0,781	0,782	0,798	0,861
862	Emmaboda	14	9090	0,00154	3,32	3,053	2,519	3,273	3,307	0,618	0,568	0,539	0,522	0,785
1083	Sölvesborg	14	17160	0,00082	3,35	3,889	3,094	3,211	2,792	0,640	0,503	0,854	0,585	0,688
1277	Åstorp	14	15193	0,00092	3,60	3,893	3,349	3,318	2,583	0,515	0,788	0,887	0,627	1,048
1381	Laholm	14	24195	0,00058	3,63	4,002	2,847	3,382	2,781	0,364	0,494	0,808	0,680	1,027
1452	Tranemo	14	11619	0,00120	3,43	3,463	2,865	3,278	2,813	0,429	0,780	0,957	0,705	0,602
1462	Lilla Edet	14	13178	0,00106	3,51	3,585	3,224	3,444	2,699	0,672	0,439	0,599	0,748	0,594
1470	Vara	14	15662	0,00089	3,58	3,465	3,233	3,317	2,882	0,317	0,639	0,604	0,749	0,543
1783	Hagfors	14	11824	0,00118	3,62	3,423	2,856	2,968	3,125	0,518	0,805	0,737	0,799	1,111
1863	Hällefors	14	7032	0,00199	3,63	3,744	3,250	3,274	2,952	0,870	0,621	0,840	0,692	0,839

2361	Härjedalen	14	10262	0,00136	3,15	3,863	3,269	3,496	2,510	0,686	0,627	0,701	0,765	0,613
2421	Storuman	14	5943	0,00236	3,52	3,524	3,324	3,338	3,106	0,583	0,759	0,630	0,739	1,039
2481	Lycksele	14	12177	0,00115	3,50	3,821	2,942	3,132	3,026	0,565	0,338	0,908	0,635	0,783
2583	Haparanda	14	9831	0,00142	3,73	3,259	2,740	2,889	2,948	0,810	0,432	0,747	0,367	0,962
563	Valdemarsvik	13	7747	0,00168	3,75	3,722	3,537	3,789	2,362	0,624	0,593	0,571	0,254	0,573
767	Markaryd	13	9779	0,00133	3,44	3,675	3,490	3,581	2,942	0,595	0,285	0,749	0,565	0,721
1260	Bjuv	13	14962	0,00087	3,52	3,624	3,635	3,447	2,635	0,716	0,496	0,695	0,572	0,689
1276	Klippan	13	16917	0,00077	3,66	3,645	3,208	3,338	2,635	0,579	0,506	0,793	0,599	0,908
1443	Bollebygd	13	8799	0,00148	3,62	3,440	3,274	3,389	2,840	0,723	0,593	0,862	0,697	0,850
1765	Årjäng	13	9869	0,00132	3,47	3,475	2,943	3,111	3,307	0,794	0,379	0,852	0,755	0,854
2121	Ovanåker	13	11469	0,00113	3,63	3,772	3,842	3,461	2,200	0,547	0,498	0,465	0,579	0,359
428	Vingåker	12	8953	0,00134	3,59	3,782	3,438	3,769	2,993	0,524	0,560	0,983	0,492	0,825
821	Högsby	12	5857	0,00205	3,36	3,148	3,181	2,931	2,806	0,464	0,564	0,757	0,503	0,621
1278	Båstad	12	14373	0,00083	3,80	3,611	3,287	3,556	2,750	0,527	0,579	1,022	0,763	0,475
1315	Hylte	12	10514	0,00114	3,68	3,220	3,250	3,124	3,057	0,595	0,653	0,950	0,484	0,939
1430	Munkedal	12	10205	0,00118	3,91	3,632	3,201	3,296	3,198	0,568	0,952	0,958	0,736	0,725
1782	Filipstad	12	10625	0,00113	3,74	3,707	2,761	3,162	2,830	0,508	0,597	0,948	0,738	0,835
2132	Nordanstig	12	9490	0,00126	3,41	3,642	3,375	3,198	2,778	0,629	0,664	0,815	0,926	0,658
881	Nybro	11	19754	0,00056	3,87	3,617	3,194	3,309	3,167	0,676	0,669	0,906	0,783	0,836
1272	Bromölla	11	12513	0,00088	3,77	3,664	2,985	3,460	2,735	0,711	0,691	0,852	0,750	0,916
1421	Orust	11	15010	0,00073	3,60	3,309	2,625	3,025	3,028	0,361	0,547	0,359	0,666	0,667
1466	Herrljunga	11	9349	0,00118	3,81	3,481	2,958	3,420	2,611	0,528	0,906	0,732	0,755	0,878
1814	Lekeberg	11	7492	0,00147	3,40	3,129	3,045	3,301	2,996	0,512	0,941	0,631	0,738	1,057
1864	Ljusnarsberg	11	4928	0,00223	3,64	3,411	3,213	3,600	2,963	0,548	1,127	0,762	0,530	0,988
2309	Krokom	11	14785	0,00074	3,54	3,844	3,671	3,614	2,396	0,739	0,429	0,909	0,755	0,747
584	Vadstena	10	7407	0,00135	3,59	3,819	3,021	3,810	2,618	0,729	0,699	0,567	0,579	0,570
1492	Åmål	10	12601	0,00079	3,34	3,578	3,013	3,200	2,888	0,701	0,619	0,730	0,576	0,725
1497	Hjo	10	8983	0,00111	3,53	3,444	3,078	3,250	2,781	0,585	0,591	0,788	0,937	1,129
1730	Eda	10	8505	0,00118	3,86	3,691	3,458	3,790	2,778	0,561	0,616	0,908	0,781	0,838
1766	Sunne	10	13208	0,00076	3,95	3,886	3,533	3,525	2,717	0,525	0,481	0,660	0,618	0,927

2104	Hofors	10	9435	0,00106	3,73	3,532	2,929	3,048	2,589	0,741	0,839	0,946	0,801	0,763
2505	Arvidsjaur	10	6471	0,00155	3,68	3,787	3,838	3,389	2,764	0,755	0,693	0,698	0,930	0,885
2510	Jokkmokk	10	5072	0,00197	3,89	3,678	3,246	3,275	2,888	0,568	0,491	0,679	0,884	1,040
481	Oxelösund	9	11701	0,00077	4,09	3,583	2,970	3,294	3,452	0,454	0,687	0,587	0,647	0,759
513	Kinda	9	9795	0,00092	3,60	3,778	3,188	3,407	2,792	0,616	0,692	1,033	0,287	0,590
885	Borgholm	9	10681	0,00084	3,47	3,475	3,157	3,006	3,037	0,531	0,773	0,854	0,593	0,852
1275	Perstorp	9	7211	0,00125	3,56	3,917	2,995	3,201	3,052	0,486	0,653	0,855	0,577	0,924
1435	Tanum	9	12455	0,00072	3,89	4,021	3,182	3,493	2,260	0,683	0,601	0,859	0,544	0,704
1498	Tidaholm	9	12669	0,00071	3,74	3,465	3,307	3,667	2,490	0,708	0,642	0,754	0,599	1,037
1760	Storfors	9	4032	0,00223	3,70	3,630	2,972	2,951	3,347	0,802	0,803	0,605	0,801	0,760
1904	Skinnskatteberg	9	4472	0,00201	3,34	4,014	3,010	3,486	2,432	0,865	0,409	0,787	0,398	0,549
2082	Säter	9	11009	0,00082	3,53	3,948	3,494	3,302	2,637	0,275	0,524	0,941	0,968	1,040
2260	Ånge	9	9493	0,00095	3,58	3,559	2,885	3,038	3,385	0,838	0,744	1,013	0,787	0,644
2462	Vilhelmina	9	6829	0,00132	3,40	4,063	2,839	3,302	2,625	0,569	0,856	0,632	0,806	0,550
2518	Övertorneå	9	4603	0,00196	3,46	3,458	3,396	3,630	2,882	0,932	0,711	0,700	0,698	0,944
2560	Älvsbyn	9	8183	0,00110	3,65	3,681	3,328	3,139	2,984	0,400	0,526	0,530	0,833	0,545
319	Älvkarleby	8	9293	0,00086	3,09	3,324	2,951	2,958	3,257	0,690	0,977	0,597	0,664	0,793
560	Boxholm	8	5328	0,00150	3,43	3,479	2,958	3,115	3,302	0,679	0,496	0,913	0,586	0,996
1407	Öckerö	8	12682	0,00063	3,66	3,546	3,417	3,250	2,965	0,202	0,681	0,765	0,823	0,657
1439	Färgelanda	8	6495	0,00123	3,67	3,595	3,060	3,444	2,625	0,569	0,487	0,465	0,463	0,550
1762	Munkfors	8	3663	0,00218	3,30	3,508	2,875	3,460	2,696	0,961	0,570	1,070	0,768	0,844
1862	Degerfors	8	9543	0,00084	3,56	3,639	3,203	3,458	3,438	0,558	0,374	0,616	0,546	0,704
1960	Kungsör	8	8343	0,00096	3,34	3,623	3,161	2,817	2,929	0,342	0,508	0,598	0,560	0,552
2026	Gagnef	8	10079	0,00079	3,83	3,757	3,354	3,920	2,349	0,601	0,651	0,843	0,411	0,504
604	Aneby	7	6537	0,00107	3,22	3,222	2,563	2,694	3,406	0,675	0,374	0,427	0,429	0,976
684	Sävsjö	7	11228	0,00062	3,48	3,933	3,200	3,444	2,525	0,760	1,118	1,365	1,033	0,950
761	Lessebo	7	8516	0,00082	3,35	3,615	2,673	3,317	2,476	0,693	0,457	0,678	0,593	1,069
1444	Grästorp	7	5644	0,00124	3,60	3,815	3,708	3,685	2,188	0,522	0,643	0,714	0,683	0,782
1461	Mellerud	7	9169	0,00076	3,45	3,783	3,475	3,444	2,942	0,610	0,212	0,693	0,603	0,944
1764	Grums	7	8945	0,00078	3,42	3,931	3,708	3,440	2,549	0,556	0,166	0,401	0,922	0,408

2023	Malung	7	10036	0,00070	3,67	4,111	3,656	3,750	2,500	0,403	0,529	1,082	0,278	0,530
834	Torsås	6	6943	0,00086	3,22	3,537	2,938	2,593	2,854	0,240	0,602	0,971	0,402	0,756
1438	Dals-Ed	6	4799	0,00125	2,38	2,472	2,594	3,417	3,281	0,359	0,808	1,082	0,555	0,572
1447	Gullspång	6	5229	0,00115	3,57	3,745	3,063	3,120	3,389	0,587	0,485	0,817	0,517	0,870
2313	Strömsund	6	11712	0,00051	3,68	3,519	3,500	3,685	2,750	0,397	0,569	0,766	0,630	0,637
2417	Norsjö	6	4176	0,00144	3,76	3,489	3,308	3,828	2,842	0,386	1,268	1,024	0,708	1,187
512	Ydre	5	3658	0,00137	4,00	3,733	2,975	3,156	2,500	0,339	0,382	0,974	0,513	0,405
1445	Essunga	5	5590	0,00089	3,67	4,056	3,500	3,278	3,094	0,310	0,321	1,094	0,421	0,544
1882	Askersund	5	11151	0,00045	3,75	3,299	3,281	3,396	2,750	0,467	0,631	1,067	0,870	0,621
2101	Ockelbo	5	5849	0,00085	3,70	3,319	3,479	3,868	2,510	0,449	0,668	0,740	1,013	0,736
2425	Dorotea	5	2740	0,00182	3,53	3,306	2,917	2,870	3,417	0,413	0,447	0,971	0,825	0,878
884	Vimmerby	4	15419	0,00026	3,61	3,361	3,153	3,019	3,639	0,971	0,761	0,846	0,306	0,127
2021	Vansbro	4	6715	0,00060	3,53	2,833	3,031	2,917	3,156	0,629	0,799	0,832	0,793	1,082
2305	Bräcke	4	6455	0,00062	3,81	3,333	3,438	3,340	3,250	0,443	0,785	0,343	0,690	0,785
2513	Överkalix	4	3395	0,00118	3,61	3,431	3,604	2,958	3,292	1,685	0,452	0,029	1,355	1,355
509	Ödeshög	3	5236	0,00057	3,30	3,037	2,583	2,926	3,667	0,819	1,326	0,955	1,339	1,018
2034	Orsa	3	6750	0,00044	2,90	3,630	2,583	2,852	2,625	0,557	0,841	0,764	0,632	0,661
2039	Älvdalen	3	7035	0,00043	3,92	4,069	3,000	3,653	3,104	0,118	0,687	0,354	0,334	0,678
2303	Ragunda	3	5387	0,00056	3,86	4,111	3,194	3,556	2,583	0,752	0,411	0,502	0,529	0,167
2326	Berg	3	7032	0,00043	3,49	4,269	3,486	3,278	2,417	0,457	0,278	0,784	0,147	0,577
2418	Malå	3	3109	0,00096	3,30	3,667	3,042	3,000	2,792	0,721	0,222	0,382	0,909	0,144
2521	Pajala	2	6193	0,00032	4,03	4,083	3,083	2,819	3,292	1,025	0,118	0,589	1,041	1,120
1860	Laxö	1	5656	0,00018	3,00	3,556	3,125	2,111	3,500					
2463	Ösele	1	2832	0,00035	3,90	4,222	2,250	3,778	2,750					
2506	Arjeplog	1	2887	0,00035	4,40	4,000	5,000	3,778	1,875					
2403	Bjurholm	0	2453	0,00000										
2422	Sorsele	0	2516	0,00000										

Annex 2: Big Five personality traits aggregated by labor markets

					Average					Standard deviation				
Code	Labor Market	Obs.	Population	Coverage	Local open-ness	Local agree-ableness	Local extra-version	Local conscien-tiousness	Local neuro-ticism	Local open-ness	Local agree-ableness	Local extra-version	Local conscien-tiousness	Local neuro-ticism
1701	Stockholm-Solna	6666	2633139	0,00253	3,733	3,633	3,321	3,392	2,828	0,619	0,635	0,777	0,722	0,819
1724	Göteborg	2876	1325949	0,00217	3,692	3,643	3,297	3,383	2,829	0,597	0,635	0,753	0,681	0,798
1720	Malmö-Lund	2760	1130500	0,00244	3,648	3,639	3,375	3,414	2,809	0,612	0,628	0,760	0,698	0,804
1760	Umeå	1195	151025	0,00791	3,582	3,754	3,343	3,425	2,801	0,615	0,623	0,782	0,699	0,800
1705	Linköping	637	261782	0,00243	3,594	3,680	3,275	3,435	2,829	0,647	0,608	0,777	0,685	0,826
1735	Örebro	602	283084	0,00213	3,561	3,683	3,297	3,405	2,840	0,608	0,634	0,796	0,673	0,836
1736	Västerås	593	240715	0,00246	3,553	3,631	3,279	3,414	2,866	0,579	0,623	0,732	0,667	0,823
1707	Jönköping	411	241135	0,00170	3,520	3,700	3,333	3,395	2,775	0,622	0,578	0,788	0,679	0,769
1706	Norrköping	396	180221	0,00220	3,588	3,655	3,302	3,374	2,780	0,607	0,568	0,806	0,661	0,809
1731	Karlstad	375	203316	0,00184	3,624	3,669	3,222	3,408	2,867	0,611	0,612	0,762	0,732	0,761
1741	Falun-Borlänge	359	155223	0,00231	3,548	3,660	3,234	3,435	2,838	0,645	0,603	0,753	0,652	0,757
1768	Luleå	341	174583	0,00195	3,728	3,639	3,280	3,425	2,748	0,573	0,681	0,799	0,738	0,775
1728	Skövde	324	182738	0,00177	3,571	3,649	3,343	3,421	2,848	0,621	0,608	0,737	0,681	0,803
1749	Sundsvall	298	150179	0,00198	3,526	3,652	3,270	3,352	2,799	0,650	0,654	0,792	0,725	0,835
1726	Borås	274	197362	0,00139	3,644	3,578	3,195	3,374	2,887	0,555	0,665	0,835	0,769	0,818
1721	Kristianstad-Hässleholm	257	177333	0,00145	3,552	3,595	3,218	3,408	2,895	0,626	0,636	0,785	0,668	0,785
1711	Växjö	243	137784	0,00176	3,532	3,745	3,201	3,341	2,713	0,650	0,567	0,765	0,701	0,773
1745	Gävle	227	161768	0,00140	3,664	3,584	3,222	3,313	2,879	0,585	0,702	0,749	0,680	0,819
1704	Eskilstuna	224	102065	0,00219	3,529	3,653	3,269	3,344	2,862	0,575	0,600	0,758	0,627	0,791
1722	Halmstad	221	131661	0,00168	3,684	3,660	3,390	3,419	2,836	0,630	0,577	0,731	0,643	0,782
1713	Kalmar	220	126841	0,00173	3,581	3,620	3,264	3,411	2,819	0,601	0,590	0,805	0,693	0,802
1755	Östersund	182	105402	0,00173	3,594	3,708	3,368	3,458	2,685	0,605	0,578	0,674	0,706	0,764
1714	Oskarshamn	134	45451	0,00295	3,368	3,539	3,270	3,352	2,802	0,614	0,561	0,758	0,682	0,743
1762	Skellefteå	134	76207	0,00176	3,709	3,510	3,163	3,266	2,898	0,587	0,695	0,728	0,663	0,735

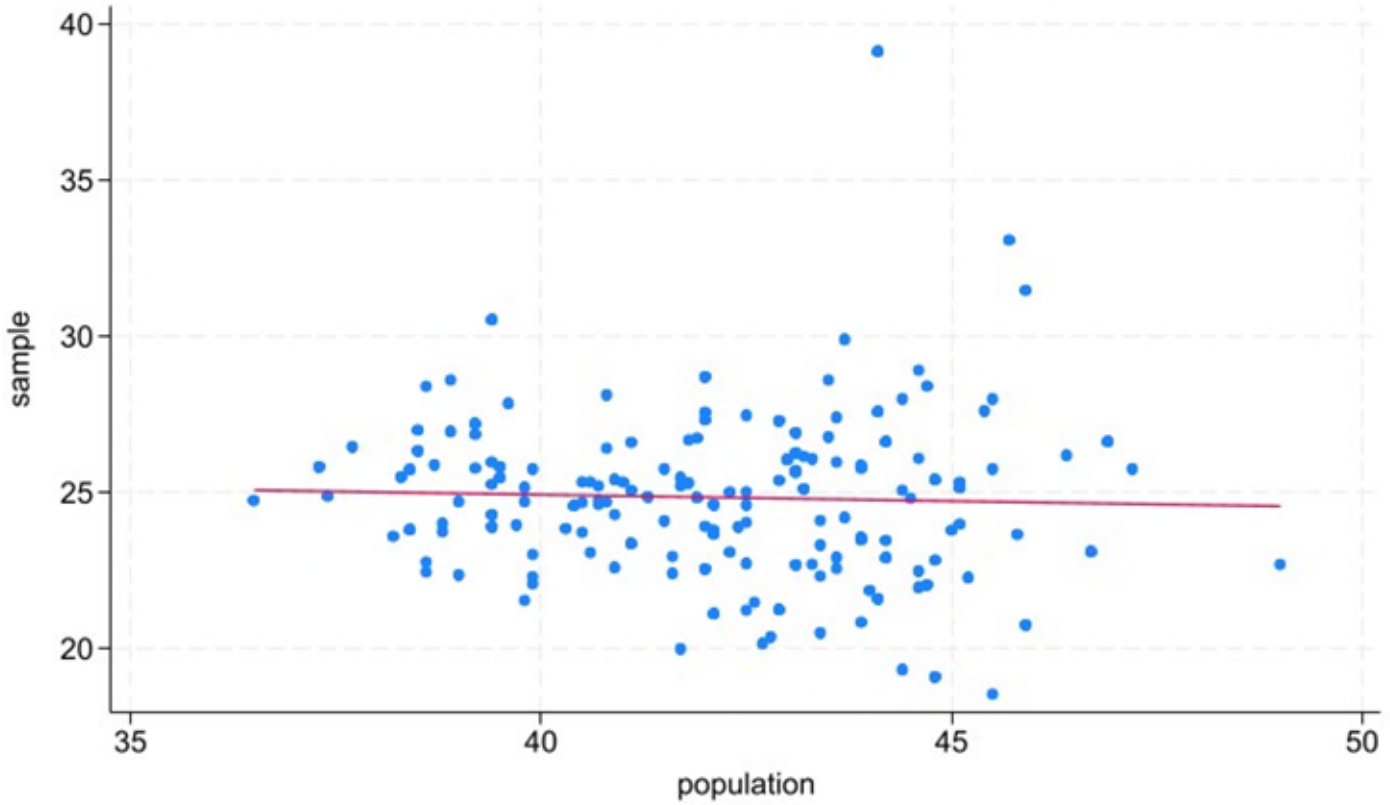
1718	Karlskrona	126	94077	0,00134	3,636	3,624	3,283	3,419	2,864	0,629	0,633	0,750	0,730	0,803
1717	Gotland	123	57391	0,00214	3,604	3,682	3,316	3,376	2,966	0,600	0,642	0,784	0,636	0,903
1715	Västervik	111	36049	0,00308	3,466	3,699	3,474	3,399	2,925	0,486	0,594	0,697	0,741	0,809
1708	Värnamo	100	72259	0,00138	3,584	3,703	3,409	3,470	2,689	0,506	0,608	0,721	0,658	0,772
1752	Örnsköldsvik	96	55576	0,00173	3,535	3,619	3,235	3,348	2,871	0,593	0,662	0,694	0,687	0,798
1743	Ludvika	85	42080	0,00202	3,491	3,487	3,235	3,457	2,742	0,500	0,698	0,766	0,727	0,838
1737	Fagersta-Norberg	84	23561	0,00357	3,352	3,577	3,238	3,259	2,855	0,563	0,644	0,753	0,743	0,799
1703	Katrineholm-Flen	80	58855	0,00136	3,501	3,517	3,202	3,451	2,976	0,511	0,606	0,777	0,660	0,756
1702	Nyköping-Oxelösund	77	65963	0,00117	3,604	3,644	3,185	3,247	2,882	0,523	0,757	0,835	0,746	0,974
1727	Lidköping-Götene	64	73421	0,00087	3,679	3,565	3,339	3,340	2,685	0,443	0,622	0,773	0,625	0,689
1719	Karlshamn-Olofström	57	45016	0,00127	3,595	3,541	3,248	3,377	2,771	0,639	0,613	0,847	0,681	0,696
1742	Avesta-Hedemora	48	38016	0,00126	3,682	3,554	3,026	3,105	3,039	0,675	0,618	0,768	0,626	0,585
1710	Älmhult	47	29122	0,00161	3,426	3,587	3,151	3,335	2,868	0,637	0,570	0,724	0,740	0,949
1748	Hudiksvall	46	46465	0,00099	3,526	3,644	3,277	3,312	2,799	0,632	0,671	0,729	0,774	0,888
1723	Bengtsfors-Dals-Ed	43	14425	0,00298	3,573	3,332	3,059	3,371	2,827	0,746	0,709	0,727	0,564	0,808
1747	Bollnäs-Ovanåker	39	38063	0,00102	3,694	3,832	3,379	3,399	2,612	0,579	0,486	0,769	0,656	0,672
1712	Ljungby	38	37417	0,00102	3,504	3,794	3,231	3,391	3,056	0,666	0,510	0,768	0,842	0,777
1733	Arvika-Eda	36	34346	0,00105	3,826	3,779	3,422	3,533	2,644	0,619	0,614	0,800	0,808	0,748
1725	Strömstad	34	25309	0,00134	3,613	3,885	3,427	3,651	2,550	0,560	0,579	0,734	0,675	0,918
1744	Ljusdal	33	19027	0,00173	3,491	3,472	2,820	3,097	3,051	0,654	0,688	0,978	0,780	0,886
1709	Vetlanda	31	38101	0,00081	3,448	3,848	3,440	3,394	2,577	0,691	0,661	0,917	0,846	0,775
1767	Gällivare	31	18123	0,00171	3,720	3,626	3,414	3,376	2,857	0,641	0,532	0,763	0,748	0,693
1740	Mora	26	33886	0,00077	3,750	3,771	3,002	3,165	3,046	0,576	0,653	0,651	0,656	0,787
1729	Torsby	25	25118	0,00100	3,763	3,985	3,513	3,539	2,575	0,515	0,612	0,769	0,742	0,830
1751	Sollefteå	25	19783	0,00126	3,773	3,807	3,464	3,549	2,671	0,569	0,469	0,709	0,629	0,814
1716	Vimmerby-Hultsfred	21	29338	0,00072	3,912	3,585	3,012	3,175	3,319	0,531	0,581	0,783	0,610	0,935
1746	Söderhamn	21	25785	0,00081	3,843	3,798	2,819	3,424	3,201	0,614	0,494	0,571	0,709	0,659
1750	Kramfors	21	18359	0,00114	3,950	3,299	2,969	3,146	2,930	0,635	0,790	1,168	0,590	0,647
1770	Kiruna	21	29371	0,00071	3,798	3,650	2,944	3,096	2,938	0,680	0,457	0,781	0,609	0,764
1761	Lycksele	17	15286	0,00111	3,466	3,792	2,961	3,108	2,982	0,576	0,319	0,825	0,660	0,709

1732	Hagfors	14	11824	0,00118	3,618	3,423	2,856	2,968	3,125	0,518	0,805	0,737	0,799	1,111
1734	Hällefors	14	7032	0,00199	3,631	3,744	3,250	3,274	2,952	0,870	0,621	0,840	0,692	0,839
1754	Härjedalen	14	10262	0,00136	3,146	3,863	3,269	3,496	2,510	0,686	0,627	0,701	0,765	0,613
1756	Storuman	14	5943	0,00236	3,517	3,524	3,324	3,338	3,106	0,583	0,759	0,630	0,739	1,039
1769	Haparanda	14	9831	0,00142	3,725	3,259	2,740	2,889	2,948	0,810	0,432	0,747	0,367	0,962
1730	Årjäng	13	9869	0,00132	3,473	3,475	2,943	3,111	3,307	0,794	0,379	0,852	0,755	0,854
1763	Arvidsjaur	10	6471	0,00155	3,678	3,787	3,838	3,389	2,764	0,755	0,693	0,698	0,930	0,885
1765	Jokkmokk	10	5072	0,00197	3,890	3,678	3,246	3,275	2,888	0,568	0,491	0,679	0,884	1,040
1758	Vilhelmina	9	6829	0,00132	3,400	4,063	2,839	3,302	2,625	0,569	0,856	0,632	0,806	0,550
1739	Malung-Sälen	7	10036	0,00070	3,675	4,111	3,656	3,750	2,500	0,403	0,529	1,082	0,278	0,530
1753	Strömsund	6	11712	0,00051	3,683	3,519	3,500	3,685	2,750	0,397	0,569	0,766	0,630	0,637
1757	Dorotea	5	2740	0,00182	3,528	3,306	2,917	2,870	3,417	0,413	0,447	0,971	0,825	0,878
1738	Vansbro	4	6715	0,00060	3,525	2,833	3,031	2,917	3,156	0,629	0,799	0,832	0,793	1,082
1766	Överkalix	4	3395	0,00118	3,608	3,431	3,604	2,958	3,292	1,685	0,452	0,029	1,355	1,355
1759	Åsele	1	2832	0,00035	3,900	4,222	2,250	3,778	2,750					
1764	Arjeplog	1	5403	0,00019	4,400	4,000	5,000	3,778	1,875					

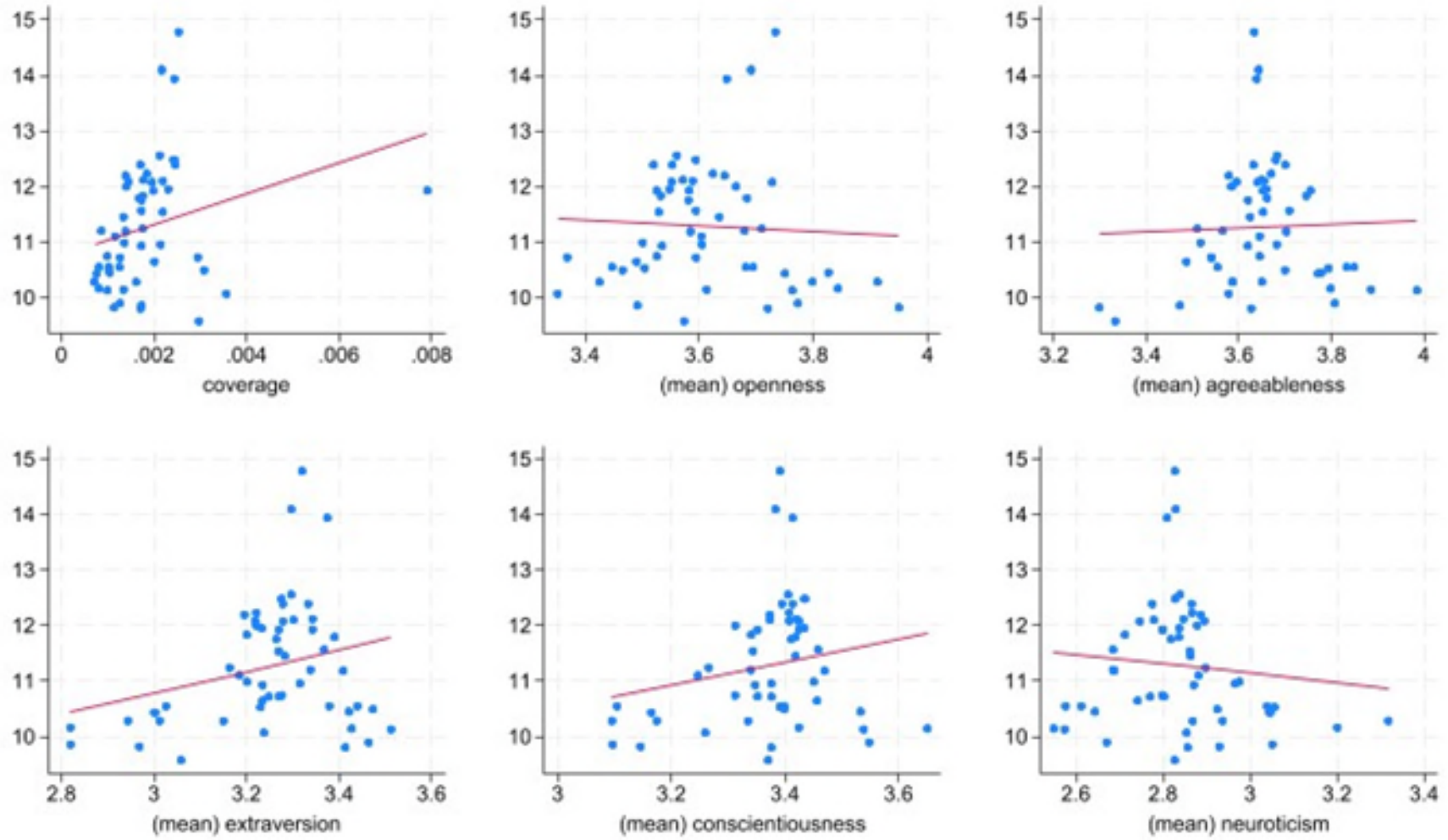
Annex 3: Big Five personality traits aggregated by regions

					Average					Standard deviation				
Code	Region	Obs.	Population	Coverage	Local openness	Local agreeableness	Local extraversion	Local conscientiousness	Local neuroticism	Local openness	Local agreeableness	Local extraversion	Local conscientiousness	Local neuroticism
1	Stockholm	5524	2231439	0,00248	3,749	3,629	3,329	3,397	2,816	0,613	0,638	0,782	0,722	0,812
14	Västra Götaland	3381	1648682	0,00205	3,689	3,629	3,291	3,386	2,840	0,595	0,636	0,760	0,689	0,803
12	Skåne	3136	1303627	0,00241	3,641	3,636	3,359	3,412	2,816	0,614	0,626	0,763	0,695	0,807
24	Västerbotten	1406	263378	0,00534	3,590	3,732	3,317	3,403	2,817	0,612	0,631	0,778	0,699	0,795
3	Uppsala	1155	354164	0,00326	3,666	3,632	3,267	3,365	2,875	0,638	0,635	0,765	0,723	0,839
5	Östergötland	1044	445661	0,00234	3,594	3,670	3,284	3,410	2,805	0,629	0,590	0,787	0,674	0,817
19	Västmanland	689	264276	0,00261	3,530	3,620	3,272	3,389	2,870	0,582	0,627	0,738	0,678	0,819
18	Örebro	631	291012	0,00217	3,575	3,674	3,299	3,416	2,833	0,614	0,645	0,798	0,671	0,834
6	Jönköping	569	347837	0,00164	3,548	3,690	3,340	3,406	2,759	0,610	0,603	0,780	0,700	0,775
13	Halland	559	314784	0,00178	3,589	3,682	3,341	3,423	2,758	0,602	0,599	0,739	0,649	0,758
20	Dalarna	544	281028	0,00194	3,560	3,627	3,213	3,398	2,835	0,621	0,613	0,753	0,674	0,753
4	Södermanland	493	283712	0,00174	3,552	3,632	3,272	3,363	2,870	0,561	0,621	0,769	0,667	0,821
8	Kalmar	491	237679	0,00207	3,502	3,617	3,308	3,381	2,854	0,586	0,581	0,773	0,696	0,796
17	Värmland	490	275904	0,00178	3,656	3,675	3,238	3,394	2,862	0,601	0,617	0,763	0,755	0,794
22	Västernorrland	454	243897	0,00186	3,562	3,626	3,255	3,342	2,825	0,646	0,663	0,797	0,718	0,815
25	Norrbotten	443	249733	0,00177	3,737	3,628	3,273	3,385	2,783	0,602	0,644	0,801	0,740	0,786
21	Gävleborg	366	281815	0,00130	3,667	3,628	3,190	3,316	2,867	0,604	0,662	0,785	0,709	0,824
7	Kronoberg	331	191369	0,00173	3,534	3,729	3,204	3,357	2,737	0,628	0,587	0,753	0,717	0,777
23	Jämtland	226	127376	0,00177	3,579	3,694	3,389	3,458	2,706	0,616	0,594	0,680	0,701	0,771
10	Blekinge	200	156253	0,00128	3,604	3,619	3,254	3,399	2,831	0,631	0,618	0,778	0,702	0,758
9	Gotland	123	57391	0,00214	3,604	3,682	3,316	3,376	2,966	0,600	0,642	0,784	0,636	0,903

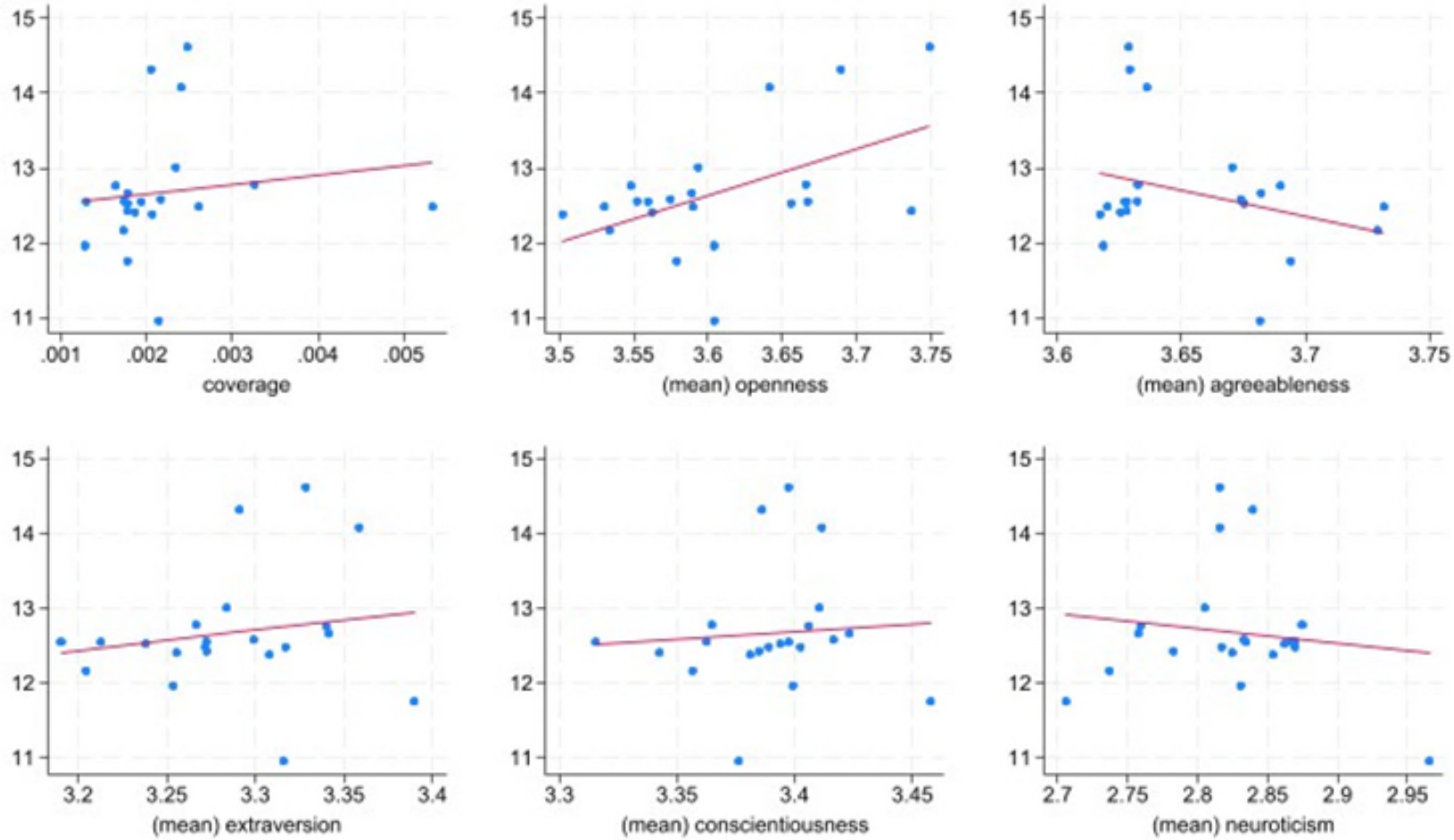
Annex 4: Scatterplot average age in sample and population at the level of municipalities (min 20 observations)



Annex 5: Scatterplot population (log) with coverage and personality trait at the level of labor markets (min 20 observations)



Annex 6: Scatterplot population (log) with coverage and personality trait at the level of regions



Annex 7: Pairwise correlations labor markets

Variables	(1)	(2)	(3)	(4)	(5)
(1) openness	1.000				
(2) agreeableness	0.178	1.000			
	(0.139)				
(3) extraversion	0.301	0.250	1.000		
	(0.011)	(0.037)			
(4) conscientiousness	0.204	0.690	0.470	1.000	
	(0.090)	(0.000)	(0.000)		
(5) neuroticism	-0.237	-0.583	-0.624	-0.735	1.000
	(0.048)	(0.000)	(0.000)	(0.000)	

Note. p-values in brackets

Annex 8: Pairwise correlations regions

Variables	(1)	(2)	(3)	(4)	(5)
(1) openness	1.000				
(2) agreeableness	-0.260	1.000			
	(0.255)				
(3) extraversion	0.005	0.232	1.000		
	(0.982)	(0.312)			
(4) conscientiousness	-0.073	0.324	0.732	1.000	
	(0.752)	(0.151)	(0.000)		
(5) neuroticism	0.087	-0.408	-0.292	-0.476	1.000
	(0.706)	(0.066)	(0.199)	(0.029)	

Note. p-values in brackets