

Subjective Well-Being in Czech and Slovak Cities

Katarína Plačková¹ | *Technical university of Košice, Košice, Slovakia*

Oto Hudec² | *Technical university of Košice, Košice, Slovakia*

Received 2.3.2023 (revisions received 5.5.2023, 2.7.2023), Accepted (reviewed) 29.7.2023, Published 15.12.2023

Abstract

Cities are home to a significant proportion of the population in the EU, providing access to job opportunities and public services and, subsequently, driving economic growth. However, cities also face social and environmental challenges such as poverty, prohibitively high housing costs, discrimination, crime, excessive noise and air pollution. This raises the issue of how residents in European cities perceive their lives and assess their overall well-being and satisfaction with the amenities in their city. A U-shaped relationship between life satisfaction and age is tested in a sample of European cities using data from the Quality of Life in European Cities survey, with higher levels of satisfaction expected among younger and older individuals. The results supported the hypothesis and provided evidence for the importance of considering age in the analysis of well-being in urban settings. Subjective well-being is not only influenced by personal factors such as age and individual experiences but also by the quality of the urban environment. The second part employs ordinal logistic regression to analyse individual and contextual factors of well-being in four Czech and Slovak cities, namely Prague, Ostrava, Bratislava, and Košice.

Keywords

Well-being, European cities, U-curve, urban environment, ordinal regression

DOI

<https://doi.org/10.54694/stat.2023.9>

JEL code

I31

INTRODUCTION

Statistical approaches conventionally describe economic growth using standard indicators such as GDP with aggregate data suggesting indirect effects on the quality of life of the population. Therefore, it is important to fill the statistical gaps and to design indicators that better monitor social and environmental progress (Eurostat, 2015). However, quality of life and subjective well-being are influenced by various factors including social relationships, the quality of the environment, freedom and security, accumulated wealth, income and free time, as well as risks and expectations for the future. Although goods and services produced for the market each year are used as a criterion of regional development, personal and social well-being should be the objective of our efforts. Both objective and subjective well-being can be measured through household income and consumption surveys. However, both methods

¹ Department of Regional Sciences and Management, Faculty of Economics, Technical University of Košice, Némcevej 32, 040 01 Košice, Slovakia, Slovakia. E-mail: katarina.plackova@tuke.sk, phone: (+421)948329993.

² Department of Regional Sciences and Management, Faculty of Economics, Technical University of Košice, Némcevej 32, 040 01 Košice, Slovakia, Slovakia. E-mail: oto.hudec@tuke.sk, phone: (+421)556023303.

have limitations such as high implementation costs and the inability to provide continuous welfare information to policy makers (Voukelatou et al., 2021).

Cities are often appreciated for their agglomeration advantages, dynamic nature, wealth, job opportunities, cultural and gastronomic amenities and potential for innovation and good governance. Hence, the multifaceted term of quality of life in a city can be determined by various factors including economic, social, cultural and environmental conditions. Liveability and habitability are similar concepts which both refer to the suitability of a city for living. Cities in Western Europe tend to rank highly in terms of overall quality of life. However, it is not always clear whether the opportunities and amenities offered by cities lead to personal well-being and fulfilment. Urban living can also be associated with competition, strained relationships, loneliness, anonymity, crime and a loss of generosity (Gajdoš and Hudec, 2020).

The relationship between local amenities and subjective well-being (SWB) has recently received much attention. SWB has been found to be lower in cities with poorer services and social conditions. Local amenities play an important role in quality of life and may also affect the location decisions of households (Colombo et al., 2014).

Overall subjective life satisfaction is therefore influenced by external circumstances such as the society in which people live as well as individual determinants (Diener et al., 1999). Likewise, subjective well-being is shaped by socio-demographic factors such as age, income or education which lead to different life situations and different expectations or preferences (Eurostat, 2015). This leads us to two hypotheses:

The first hypothesis suggests that people experience their happiest moments in their youth as well as later on in older age, and that the increase in subjective well-being in older people is associated with greater satisfaction in terms of material needs and interpersonal relationships (Álvarez, 2022; Easterlin and Plagnol, 2008). The aim is to verify the existence of this U-shaped subjective well-being in different parts of Europe, taking into account geographical differences. It is hypothesized that people in the northern and western parts of Europe (Eurostat, 2022) tend to be more satisfied with their lives than people in other parts of Europe due to various factors such as the health of residents, economic and social systems, attitudes towards older people, environmental conditions, or other public service factors (Okulicz-Kozaryn and Valente, 2019).

Subsequently, the research goes beyond examining age as a substantial factor in shaping subjective well-being and delves into the impact of a city or place's character on well-being. The second hypothesis is that the environment and other characteristics of a city play a significant role in determining life satisfaction. It is expected that urbanisation leads to higher wages, increased productivity, innovation and creativity as well as access to various public services and amenities. However, it is also expected that negative externalities associated with urbanization, such as the cost of living, pollution, and traffic congestion, may have a negative impact on subjective well-being (Lenzi and Perucca, 2020).

The use of subjective indicators related to urban life is a well-established method for evaluating quality of life and liveability in cities (Mouratidis, 2020). This paper embraces this approach and sets out to provide a deeper understanding of the impact of city characteristics on subjective well-being. Therefore, the relationship between the urban environment, individual personality factors and subjective well-being is analysed using data from the Quality of Life in European cities survey for four cities in Slovakia and the Czech Republic – Prague, Ostrava, Bratislava and Košice. This provides a motivation for developing a comprehensive ordinal logistic econometric model to explore the influence of both individual and contextual factors on subjective well-being.

1 THEORETICAL OVERVIEW

Well-being can be explained as a state of contentment, health or happiness. However, it is necessary to understand that human well-being is a much broader concept than just feeling happy at that moment. Rather, well-being involves the inherent nature and feelings of a person which can also be influenced

by the urban environment, public services, economic opportunities and availability of housing and sense of community (Daskalopoulou et al., 2022). Therefore, the subjective well-being of a city can be understood as a reflection of the overall satisfaction and contentment of its inhabitants with their lives. Subjective well-being refers to how people perceive and evaluate their lives and specific areas and activities within their lives (Diener and Suh, 1997). From an economic point of view, an individual's satisfaction with their life is influenced by factors such as earnings, pensions, employment and the quality of their housing. From a social perspective, satisfaction can be linked to education, healthcare, trust and the level of crime in an individual's area of residence. In terms of psychology, subjective well-being involves both cognitive and affective evaluations of an individual's life (Diener et al., 2002).

The cognitive evaluation pertains to the overall satisfaction with one's life in addition to satisfaction with specific areas such as employment and relationships while affective appraisal refers to a person's emotions, moods and feelings. Positive affect is characterized by pleasant emotions while negative affect involves unpleasant emotions such as anger and sadness (Smith and Konik, 2022). These components of subjective well-being can differ in their stability and variability over time. The term subjective well-being is often used interchangeably with terms such as happiness, quality of life, and satisfaction with one's own life and its management.

Individual factors such as innate temperament, personality and one's attitude towards life form, mental resilience and the ability to cope with life's challenges can contribute to greater life satisfaction. But also external circumstances, such as financial resources, social connections, and the environment and society a person lives in, can impact a person's overall well-being (Diener et al., 1999). It is worth noting that everyone has different needs and experiences when it comes to happiness, and what brings happiness to one person may not necessarily bring happiness to another (Layous and Lyubomirsky, 2014). Hence, subjective well-being is influenced by both contextual circumstances and individual factors.

Numerous studies have addressed macroeconomic and social factors suggesting a positive relationship between subjective well-being and key factors such as GDP, income and property rights. Moreover, it has been documented that unemployment and poverty have negative effects on subjective well-being (Marton and Mojsejová, 2022). Negative impacts were found for variables such as corruption and working hours. Thus, subjective happiness may be potentially enhanced through sustained efforts to combat corruption and alleviate excessive workloads. Also unemployment and poverty affect subjective well-being in a negative way.

There is a debate over the use of subjective indicators to measure well-being. Indeed, it can be difficult to compare data across countries due to differences in survey methods and question order. The current study uses data from the Quality of Life in European cities survey to look at the relationship between age and happiness (Biermann et al., 2022). It examines whether well-being follows a U-shaped curve over the course of a person's life, with the highest levels of happiness occurring at younger and older ages. According to the U-shaped curve theory, well-being decreases during middle age (Álvarez, 2022; Toshkov, 2022). This can be a result of factors such as poorer health, negative life events and increased stress related to work and economic success (Blanchflower and Oswald, 2008). The lowest point of the curve is typically reached between the ages of 40 and 50 although there can be variations in this pattern among different social groups and countries. Older individuals may experience increased happiness due to greater satisfaction in material needs and interpersonal relationships, the anticipation of retirement and the possibility that happier people tend to live longer (Biermann et al., 2022).

It has been traditionally believed that happiness remains constant or slightly increases with age. However, new studies have suggested otherwise, pointing towards a convex U-shaped curve of subjective well-being throughout the life cycle with a low point in middle age (Blanchflower and Oswald, 2008). This U-curve shape can be observed even in large samples in different countries with the minimum point being on average around 48.3 years old (Blanchflower, 2021). However, empirical research cannot be expected

to lead to an unequivocal confirmation of the U-curve. For instance, similar pattern of life satisfaction across both Britain and Germany could be divided into three stages. The U-shaped curve was a good fit for the first and second stages which showed decreasing and increasing well-being, respectively. However, in the third stage which begins in the late 60s, well-being was found to decline (Wunder et al., 2013).

The built environment can have a significant impact on life satisfaction including satisfaction with health, leisure activities and personal relationships. One important characteristic that has been identified as impacting subjective well-being is population density (Želinský et al., 2021). Research has suggested that public policies aimed at reducing population density in urban areas may improve subjective well-being (Li and Winters, 2017).

A geographical comparison revealed some interesting differences, higher levels of social and psychological well-being in countries with strong social support networks and high per capita public expenditure on health and public services (Hansen and Slagsvold, 2016). In addition, Western European countries tend to have higher levels of subjective well-being compared to Mediterranean and East European countries (Conde-Sala et al., 2017). This difference may be attributed to factors such as higher levels of loneliness, limited access to social support and poorer health (Hansen et al., 2016). Eastern Europeans tend to be less satisfied with life due to lower income, unemployment, perceived corruption, and weaker government performance (Djankov et al., 2016; Sarracino, 2010). Countries with wealthier societies tend to have better education and healthcare systems which can improve the quality of life for individuals (Rodríguez-Pose and Maslauskaitė, 2012). Thus, it seems that examining subjective well-being from a geographical perspective is a logical approach. Therefore, it is of interest to explore the U-shaped curve relationship between age and well-being and in what way it is influenced by both economic and social factors. In particular, it may be useful to compare countries and their cities in order to understand the occurrence and causes of this pattern. This can help to determine whether the U-shaped curve is a valid representation of the relationship between age and well-being in a particular country or region, what is consistent with the first hypothesis.

While cities and places can have a significant impact on subjective well-being, the extent of this contextual influence is likely to vary depending on factors such as access to quality public services, cultural and social infrastructure, green spaces, and economic opportunities can contribute to overall subjective well-being, while contextual factors such as unemployment, pollution and high living costs may have a negative impact. Cities can offer access to better job opportunities, higher income, and improved consumption options, but they may also negatively impact well-being through increased living costs, pollution, and work pressure. The extent to which external environmental factors affect subjective well-being is an interesting question for further exploration (Loschiavo, 2021).

Well-designed urban public spaces and quality of public services appear to be important determinants in affecting people's well-being. Access to green spaces such as parks and gardens, as well as air pollution control contribute to overall wellbeing (Poortinga et al., 2021). Green urban spaces contribute to improving human health and well-being while mitigating the effects of climate change at the same time. There is evidence that green areas moderate air temperatures and consequently reduce energy consumption and urban forests act as carbon sinks and reduce air pollution and noise. The beneficial effects of urban green spaces in relation to human well-being have become a fundamental element for urban planners and policy makers (Giannico et al., 2021). Moreover, improving urban infrastructure may be a significant factor in increasing well-being and liveability (Chen, 2023). The relationship between satisfaction with municipal services (for example public education, transportation, safety or areas for sports and recreation) and subjective well-being is statistically significant, suggesting that quality public services affect well-being (Voukelatou et al., 2014).

Cities provide access to leading businesses, cultural institutions, and civic amenities, making them centres of production and activity in their regions. They also offer benefits in areas such as social care,

health and business and the possibility of easy travel to other destinations (Pineo et al., 2018). From the urban development point of view, there are various concepts of how to make residents in cities happier. However, it is important to remember that a city is more than just its physical infrastructure (Glaeser, 2011) and that the primary feature is the people it is made up of. This means that any plans to increase "urban happiness" should prioritize the well-being and needs of people. One of the major challenges today is how to accommodate the increasing number of people moving into cities in a way that ensures their long-term health and well-being (Pineo et al., 2018).

The concentration of opportunities and services in urban areas can be very beneficial for the health and well-being of residents. However, the crowded living and working conditions of cities can also lead to the spread of pollution and diseases. Many rapidly growing cities struggle with various problems and health issues in particular. Moreover, cities in developed countries face new challenges such as health problems that can be partially attributed to the access to green spaces and poor air quality as well as a sedentary lifestyle leading to weight gain and obesity (Pineo et al., 2018).

The Nordic countries are examples of high happiness, and other countries such as Switzerland, the Netherlands, New Zealand, Canada and Australia show similar characteristics, which may point to a universal formula for a happy society that includes high-quality, non-corrupt government institutions that deliver on promises and provide sufficient support to citizens (Martela, 2020). Essential steps towards a happy society include building a well-functioning and trustworthy government, and maximising citizen participation in decision-making processes, fostering a sense of belonging, trust and social cohesion. Despite having a lower GDP than its neighbouring Nordic countries, Finland is considered the most stable, safest and best-governed country as well as being the least corrupt and very socially progressive. If people are the core of happy countries, they must also be at the centre of thinking about cities.

Therefore, the liveability of a city is determined by the quality of life it can provide for its residents. Cities around the world are increasingly shifting their political focus to promote well-being. Some of the biggest challenges for urban well-being include reshaping the built environment to provide accessible and safe space for human relationships and mutual interaction, movement and an active lifestyle. This focus on creating a clean, low-carbon and resilient urban environment can bring significant public health, social and economic benefits to citizens. Nowadays, more local governments have recognized the importance of well-being and making it a political priority. Life satisfaction provides a clearer direction to policy makers on where to focus new and effective policies in order to increase social well-being. The existing empirical research substantiates the second hypothesis, indicating a relationship between individual and contextual factors and wellbeing. An ordinal logistic regression model will be designed based on a questionnaire survey conducted in four cities across the Czech Republic and Slovakia.

2 DATA SOURCES AND METHODS

In 2004, the European Commission started a survey to look at citizens' perceptions of the quality of life in their home cities. This survey covers capital cities in addition to other large cities in the EU, EFTA, Great Britain, the Western Balkans and Turkey (European Union, 2013; Dijkstra et al., 2020). The survey asked citizens to express their opinions on various aspects of city life such as the quality of public healthcare, education, cultural or sports facilities and city amenities. People were also asked to rate their satisfaction with their housing, the life they lead and the financial situation in the household (European Commission, 2020).

These studies use datasets from the Quality of Life in European Cities Report of 2012, 2015, and 2019 to examine how citizens perceive life satisfaction in their respective cities (European Commission, 2015; European Commission, 2016; European Commission, 2020). The Flash Eurobarometer, launched by the European Commission, conducts surveys in all EU member states periodically, with a typical sample size of 500–1 000 respondents per city, contracted to TNS Opinion or Gallup. The interviews were

conducted in the national languages via phone. Data collection for this study was conducted between 15th November to 7th December 2012 and between 21st May to 27th June 2015 (European Commission, 2015; European Commission, 2016). These two datasets were used in the research of the U-curve in this paper. Additionally, data from the 5th survey of European cities, carried out in 2019, was used to create a model for Czech and Slovak cities, with a target sample size of 700 complete interviews in each surveyed city, targeting individuals aged 15 and above (European Commission, (b)). The respondents were asked to rate their satisfaction with life on a scale of four ratings (very satisfied, fairly satisfied, not very satisfied, not at all satisfied).

2.1 U-curve of well-being by age

The U-curve thesis suggests that people's level of happiness and satisfaction with their lives follows a U-shaped pattern over time (Blanchflower and Oswald, 2008). The present study aims to find out whether the U-curve of well-being by age is valid by using available data from the Quality of Life in European cities survey in 2012 and 2015. Individuals are likely to experience an increased sense of satisfaction with their lives when they are young with their satisfaction decreasing as they get older. This reaches a tipping point before starting to rise again as they approach older age (Blanchflower and Oswald, 2008). The 2012 and 2015 Quality of Life Surveys provide valuable insights into the finer details of this complex phenomenon. The data enables a validation of satisfaction levels across the following age demographics:

- 1) Adolescents and young adults aged 15 to 24,
- 2) Adults aged 25 to 39,
- 3) Middle-aged adults aged 40 to 54,
- 4) Senior citizens aged 55 and over.

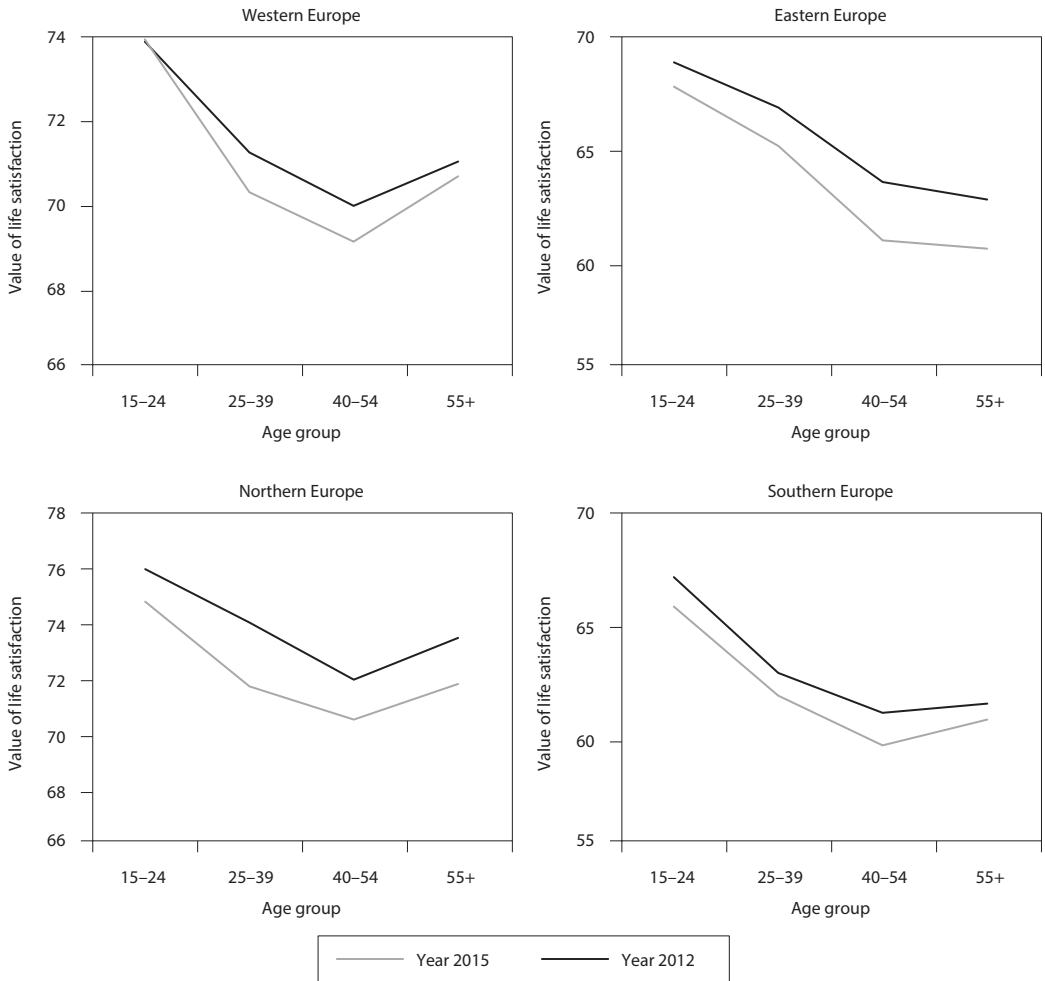
The objective of the study was to examine the nature of the curve of life satisfaction with regards to age as well as contrasting the findings from the years 2012 and 2015. A comprehensive analysis of data collected from various cities across Europe was used to identify any potential patterns in relation to the geographical location of the respondents and thereby providing a deeper understanding of the factors that may influence subjective well-being. Indeed, the "U-curve" hypothesis may not be consistent across different regions (Eurostat, 2022) as it may be influenced by geographical factors such as living standards, governance quality or culture. An examination of the life satisfaction values across different age groups within each geographical region will look at whether the pattern of the "U-curve" is consistent across different parts of Europe, and how it may be influenced by geographical factors. The study divides Europe into four distinct geographical regions – Northern, Southern, Eastern and Western (based on Nations Online)³ in order to identify how living standards and governance quality may impact the subjective well-being of residents across different age groups.

The research process entailed the classification of the surveyed cities into four regions of Europe (Nations Online) – Southern Europe (24 cities), Northern Europe (19 cities), Eastern Europe (15 cities) and Western Europe (25 cities). Subsequently, the mean life satisfaction was calculated according to the respondents' affiliation to a region, for each region and age group based on data from both 2012 and 2015. The variations in the U-curve of life satisfaction became apparent when the cities were grouped by region and the mean values were calculated for each age group (Figure 1).

It can be concluded that the U-curve variation in subjective well-being is evident in Western Europe with a clear pattern of satisfaction declining in middle age, and then increasing again in older age.

³ Nations Online – the regions of Europe are geographically divided. Eastern Europe is conventionally the geographical region east of Germany. Southern Europe is bounded by the Mediterranean Sea in the south and mainly refers to the sub-tropical southern region. Western Europe is bounded by the Atlantic Ocean to the west, the English Channel, the North Sea to the north and by the Alps in the south.

Figure 1 U-curve of well-being by age group in parts of Europe



Source: Own calculation

Similar patterns can be observed in Northern and Southern Europe. However, the data does not show a clear U-shaped curve in Eastern Europe. These findings align with the Continental Survey of Health, Ageing and Retirement in Europe (Blanchflower, 2021). Older adults in Northern Europe have better financial stability and health compared to those in Southern and Eastern Europe. Moreover, older adults in Eastern Europe suffer a higher risk of loneliness and limited access to social support both of which may contribute to their lower levels of subjective well-being (Leichsenring et al., 2021). However, the U-curve of subjective well-being has been criticised for only existing under certain socio-economic conditions (Deaton, 2008). The existence of a U-curve has been partially confirmed in the current research based on an extensive survey of 41 000 respondents in 78 cities. However, the results show that the U-curve is not a universal trend and is influenced by various factors such as economic and social conditions. Older people in Northern Europe often possess a superior level of financial security and overall well-being in comparison to their counterparts in Southern and Eastern Europe (Lee, 2021; Watson, 2005).

In Eastern Europe, the older demographic tends to report a less favourable state of subjective well-being, possibly owing to factors such as isolation, restricted access to social support and sub-optimal health status. This disparity is likely a result of the less developed social security systems in Eastern European countries in comparison to their Western European counterparts. Older Eastern European women are at significant risk of experiencing loneliness, due to the lower life expectancy of men (Hansen and Slagsvold, 2016). The negative portrayal of older people in the media also contributes to lower self-esteem and self-worth of older people (Robinson et al., 2008).

While research has shown that age is one of the demographic factors in determining an individual's level of subjective well-being, personal factors such as personality traits, coping styles and cognitive abilities can also play a role. This is in addition to environmental and contextual factors such as social support, income, access to healthcare and place-based factors such as the level of urbanisation and cultural values. Therefore, it is important to consider both individual and contextual factors with regard to subjective well-being.

2.2 Individual and contextual factors

While age is one of the significant factors with regards to subjective well-being (SWB), other personality characteristics can influence it including gender, personality traits, values, coping strategies, cognitive and emotional states. A person's personality and coping strategies may influence their ability to adapt to and cope with stress and challenges, subsequently affecting their SWB. At the same time, contextual factors including economic, social, environmental and cultural factors, as well as the physical environment and access to resources and opportunities can influence SWB. Therefore, SWB in European cities is expected to be affected by a variety of individual and contextual factors (Diener, 2023).

Income levels have a generally positive impact on SWB, with higher income individuals reporting higher levels of happiness and life satisfaction (Ferrer-i-Carbonell, 2005). Likewise, education levels are positively associated with SWB in urban areas, as individuals with higher levels of education tend to have better job prospects and greater access to resources and opportunities (Ruii and Ruii, 2019). On the other hand, unemployment rates are negatively correlated with SWB as people without a job may experience feelings of financial insecurity and social isolation. Environmental factors are also important with access to green spaces in urban areas being positively related to SWB (Giannico et al., 2021). Indeed, access to nature and outdoor activities can have a positive impact on mental and physical health. Contact with people as well as social support networks such as family and friends all provide emotional support and a sense of belonging. Neighbourhood safety might also be an important factor as well as political stability, both contributing to the feeling of security and confidence (Mouratidis, 2019). Conversely, poor air quality, noise, traffic congestion and high density are all negatively associated with SWB.

However, the question still remains as to how the attributes of a place affect overall SWB in a person. Indeed, it is of paramount importance that cities strive to promote a sense of liveability which encompasses the relationship between the individual and their surroundings. A well-built environment and quality public services should aim to meet the needs and expectations of residents. Despite these efforts, cities often face a plethora of issues including air and noise pollution, traffic congestion, poverty and overpopulation, all of which may have an impact on how residents perceive and evaluate their satisfaction with life in a city (Mouratidis, 2018).

Thus, the current research aims to understand the relationship between the urban environment, personality factors and subjective well-being. Given that there are significant cultural differences in the EU, this study is focusing on a particularly few factors that explain the effects of individual and contextual factors in Czech and Slovak cities. The cities explored have gone through similar processes of modernisation and urbanisation, shaping their urban environments in similar ways. Both countries are located in the same region of Europe and have been exposed to similar environmental and economic conditions.

This may also have influenced the way in which the cities have developed. As indicated, it makes sense to examine the effects of factors in a limited area which share common characteristics. In summary, the similarities between the cities in the Czech and Slovak Republics make them a valuable sample to study the relationship between urban environment, individual personality factors and subjective well-being, as the homogeneity of these cities allows for a clearer understanding of the specific factors that impact SWB.

The research utilises responses from residents living in four cities within the Czech Republic and Slovakia: Bratislava, Košice, Prague and Ostrava. The respondents evaluated their satisfaction with overall quality of life (SWB) as well as specific attributes of the cities they reside in such as public services, transportation and amenities. In addition, they evaluated their financial and job situation on a four-point scale (very satisfied, somewhat satisfied, rather unsatisfied, not at all satisfied). The items were reversed as needed to ensure that a higher score corresponded to a greater degree of satisfaction, agreement, or frequency before conducting the statistical analyses. We employed the original coding scheme of the Perception Survey on the Quality of life in European Cities 2019 – Codebook, as also in the recent studies using the same data by Lenzi and Perucca (2023) and Giannico et al. (2021) to ensure consistency across analyses. For the variable gender, number 1 was assigned to male and 2 to female.

In terms of the variable age, the following scale was used:

1. Age group from 15 to 24,
2. Age group from 25 to 44,
3. Age group from 45 to 64,
4. Age group 65 and above.

The perception of contextual factors is formulated in the same way, only the factor changes, here is an example of a question on cultural facilities: *“Generally speaking, please tell me if you are very satisfied, rather satisfied, rather unsatisfied or not at all satisfied with each of the following issues in your city or area - cultural facilities such as concert halls, theatres, museums and libraries.”*

Variable values are 5 very satisfied/4 rather satisfied/3 I don't know/2 rather unsatisfied/1 not at all satisfied. Values increase with higher satisfaction.

The only exception is the phrasing of the question on corruption in public administration *“Please tell me whether you strongly agree, somewhat agree, ... – There is corruption in my local public administration.”*. But again, values increase from negative to positive statements: 5 strongly agree/4 somewhat agree/3 don't know/2 somewhat disagree/1 strongly disagree. To maintain a consistent scale for city size, Ostrava and Košice are both assigned a value of 1, indicating that they are of similar size. The two country capitals, Bratislava, and Prague, are assigned values of 3 and 5, respectively, reflecting their larger sizes relative to Ostrava and Košice.

Therefore, the ordinal logistic model (alternative names ordered logistic regression or proportional odds logistic regression) is constructed by the following variables describing individual (1–5) and contextual (6–11) factors of SWB:

Table 1 Variables and codes included in the model

	Variable	Codes
1.	Age	1 from 15 to 24 2 from 25 to 44 3 from 45 to 64 4 65 and above
2.	Gender	1 male 2 female

Table 1		(continuation)
	Variable	Codes
3.	Education	1 primary 2 secondary 3 bachelor or master 4 doctoral
4.	Your personal job situation	1 not at all satisfied 2 rather unsatisfied 3 I don't know 4 rather satisfied 5 very satisfied
5.	The financial situation of your household	
6.	Cultural facilities such as concert halls, theatres, museums, and libraries	
7.	Public spaces such as markets, squares, pedestrian areas	
8.	Living in a city: I'm satisfied to live in my city	
9.	Social capital: most people in my city can be trusted	1 strongly disagree 2 somewhat disagree 3 I don't know 4 somewhat agree 5 strongly agree
10.	Corruption: There is corruption in my local public administration	
11.	Population	
		1 Ostrava and Košice 3 Bratislava 5 Prague

Source: Perception Survey on the Quality of life in European Cities 2019: Codebook and author's processing

The dependent ordinal variable *SWB* refers to the level of satisfaction with the life of respondent. The model takes into account contextual factors such as spaces and facilities, as well as individual factors such as age, gender and personal financial and household circumstances. The goal is to reveal the influence of these various factors on overall subjective well-being:

$$\text{logit}(P(\text{SWB} \leq y | X)) = \beta_0 + \beta_1 \cdot \text{age} + \beta_2 \cdot \text{gender} + \beta_3 \cdot \text{education} + \beta_4 \cdot \text{job_situation} + \beta_5 \cdot \text{financial_situation} + \beta_6 \cdot \text{cultural_facilities} + \beta_7 \cdot \text{public_spaces} + \beta_8 \cdot \text{living_in_city} + \beta_9 \cdot \text{social_capital} + \beta_{10} \cdot \text{corruption} + \beta_{11} \cdot \text{population}.$$

Logit($P(\text{SWB} \leq y | X)$) is the logarithm of the cumulative odds that the dependent variable *SWB* is less than or equal to y , given the values of the independent variables X . β_0 represents the intercepts for each level of the dependent variable, indicating the baseline odds for each category of *SWB*. The coefficients $\beta_1, \beta_2, \dots, \beta_{11}$ correspond to the independent variables X_1, X_2, \dots, X_{11} , representing the effects of the predictors on the odds of *SWB*. In this formula, *SWB* represents the ordinal dependent variable, which can take on ordered categories 1, 2, 3, 4, 5. The independent variables X_1, X_2, \dots, X_{11} are ordinal, only gender is binary. The goal of the ordinal logistic regression is to estimate the values of the coefficients $\beta_1, \beta_2, \dots, \beta_{11}$ to analyse the relationship between the independent variables and the cumulative odds of the dependent variable *SWB*. The cumulative odds represent the odds of the dependent variable being equal to or less than a particular level compared to all the categories above it. In other words, the cumulative chance for level 3 represents the combined chance that the dependent variable falls in level 3, 2 or 1, versus the chance that it is in one of the higher levels (4, 5). The model estimates coefficients for each independent variable that indicate the direction and strength of their relationship with the outcome variable *SWB*.

This formula shows how the logarithm of the chances of being placed in a higher *SWB* category depends on the values of the independent variables. The coefficients β_i indicate how much the log odds change for a unit increase in the independent variable i if all other variables remain constant. The numbers 2, 3, 4, 5 in the names (e.g., age2) are the levels of the factor. The p-values for these factors indicate the significance of the difference in terms *SWB* between each age group (25–44) and the reference group, which

is the first age group (from 15 to 24). For example, the coefficient for factor (age)3 is -0.525, which means that the log odds in age group 3 is -0.525 compared to age group 1. To obtain the odds ratio, the coefficient needs to be exponentiated: $\exp(-0.525) = 0.592$. As a result, in age group 3, compared to age group 1, the odds of a higher SWB category decrease by 40.8% ($1 - 0.592$).

The results including the regression coefficients and p-values are presented in Table 2.

Table 2 Regression values, intercepts and p-values of the variables from the model		
Factor	Value	p-value
factor(age)2	-0.22020	0.17110
factor(age)3	-0.52543	0.00246 **
factor(age)4	-0.44478	0.00979 **
factor(gender)2	-0.05120	0.49289
factor(job_situation)2	-0.23388	0.15315
factor(job_situation)3	0.32883	0.02303 *
factor(job_situation)4	0.27499	0.02054 *
factor(job_situation)5	0.44143	0.00049 ***
factor(financial_situation)2	-0.00679	0.96794
factor(financial_situation)3	0.24730	0.43322
factor(financial_situation)4	0.56759	0.00038 ***
factor(financial_situation)5	0.73653	0.00004 ***
factor(education)2	0.31177	0.03825 *
factor(education)3	0.40997	0.01161 *
factor(education)4	0.49579	0.00474 **
factor(education)5	0.36978	0.13432
factor(education)9	0.15722	0.88207
factor(live_incity)2	0.53133	0.08448 +
factor(live_incity)4	0.68065	0.01539 *
factor(live_incity)5	0.99748	0.00042 ***
factor(social_capital)2	0.01501	0.90277
factor(social_capital)4	0.11632	0.34452
factor(social_capital)5	0.32838	0.02094 *
factor(corruption)2	0.18925	0.07701 +
factor(corruption)4	0.38634	0.00144 **
factor(corruption)5	0.28554	0.00446 **
factor(cultural_facilities)2	0.13266	0.58913
factor(cultural_facilities)3	0.20434	0.43552
factor(cultural_facilities)4	0.15304	0.47915
factor(cultural_facilities)5	0.40596	0.06374 +
factor(public_spaces)2	0.63991	0.00252 **
factor(public_spaces)3	0.70827	0.01300 *

Table 2

(continuation)

Factor	Value	p-value	
factor(public_spaces)4	0.73109	0.00026	***
factor(public_spaces)5	0.94372	0.00001	***
factor(population)3	-0.18430	0.04872	*
factor(population)5	-0.18288	0.04720	*
1 2	-1.27125	0.00487	**
2 3	0.51132	0.24963	
3 4	0.60104	0.17600	
4 5	3.26443	0.00000	***

Note: With statistical significance: *** 0.001 ** 0.01 * 0.05 + 0.1.

Source: Own calculations using data from the Quality of Life in European Cities survey (2019)

The findings highlight the intricate relationship between various contextual and individual factors and overall well-being of residents in cities. The coefficients for the factor age are all negative, which means that higher age groups indicate lower SWB, for factor(age)3 and factor(age)4 are less than 0.05, which means that these effects are statistically significant. This confirms the results from the first part in the Czech and Slovak cities. It suggests that at middle age, SWB (subjective well-being) decreases, and it does not return to higher levels at the end of economic activity. The effect of gender on SWB is negative but not significant. However, a better job situation has a strong positive effect on SWB compared to the reference group of unemployed individuals. Similarly, a better financial situation in the household is significantly associated with higher SWB, compared to the reference group of very bad financial situations. Another significant individual factor is education. The coefficients suggest positive effects on SWB for individuals with secondary, bachelor, and master degrees, compared to those with primary education.

Subsequently, the coefficients for the contextual factors indicate how residents' evaluations of various aspects of the city affect their SWB, compared to the reference group (not at all satisfied or strongly disagree). The quality of space is important for SWB, the coefficients for levels 2, 4, and 5 are positive, which means that being more satisfied with living in the city is associated with higher log odds of being in a higher category of SWB. A very similar strong effect is in the case of satisfaction with the public spaces such as markets, squares, pedestrian areas. Perceived corruption in a city is significantly linked to lower levels of well-being among residents in the Czech and Slovak cities. While culture-led development has been associated with presumed positive impacts on SWB, the impact of cultural factors may not be as powerful as anticipated. The coefficient for factor social_capital5 indicates the effect of trusting most people in the city on SWB, compared to not trusting most people. The coefficient is positive, which means that trusting most people in the city is associated with higher log odds of being in a higher category of SWB. The p-value for factor social_capital5 is statistically significant, trusting most people (compared to not trusting most people) increases the log odds of being in a higher category of SWB by 0.328, and increases the odds of being in a higher category of SWB by 38.8%.

The coefficients for factor(population) estimate the effects of different city sizes on SWB, compared to the reference group (Ostrava and Košice). The coefficients are negative for levels 3 and 5, which means that living in a larger city (Bratislava or Prague) is associated with lower log odds of being in a higher category of SWB. This suggests that SWB decreases with the size of the city.

CONCLUSION

The paper makes a contribution to the understanding of the relationship between city context and well-being. The study highlights that a city's physical and social environment can impact people's emotional and psychological states, their sense of belonging, purpose, happiness and overall satisfaction with life. The results of the ordered logistic regression model support the hypothesis that city and place have a strong impact on well-being of residents. The contextual factors, such as satisfaction with living in the city, public spaces, trust, and cultural facilities and lower perceived corruption are statistically significant and contribute to an evaluation in a higher category of SWB. In particular, the analysis shows that larger cities tend to have decreasing levels of SWB. This finding corresponds with theoretical frameworks that suggest that complex stressors associated with urban living, such as increased competition, social fragmentation, and limited access to nature, can negatively affect individuals' overall well-being (Diener et al., 2018).

Residents' individual circumstances also contribute significantly to an understanding of their well-being. There was no evidence of an effect of gender, but there is a very strong effect of work and financial situation on SWB. Compared to the reference groups (unemployed individuals and individuals with a very poor financial situation), individuals with a better work situation and financial conditions were significantly more likely to have a higher SWB. Similarly, greater life satisfaction was associated with higher education.

The article contributes to the literature on the relationship between urban context and well-being and provides empirical evidence on the importance of urban planning and policy making for enhancing the well-being of urban residents.

The results inform policy-makers and city planners on the key components that can shape the experience of residents in a city such as urban design, public spaces, and community resources in their efforts to improve the well-being of residents. Urban design, public spaces and the availability of community resources are key components that can shape the experience of residents in a city (Olsen et al., 2019). Public spaces such as parks and plazas can offer residents a place to relax and connect with others, while green spaces can provide an escape from the built environment and help reduce stress levels (Fleming et al., 2016; Olsen et al., 2019).

Yet, not all residents are significantly influenced by the context of the city with more individual factors playing a role in shaping well-being. The negative relationship between age and wellbeing can be attributed to the predictors of loss of health, a partner, and friends (Blekesaune and Hansen, 2022), especially in the Central and Eastern European countries.

The results suggest that the relationship between well-being and the city context is complex and multi-faceted and should take into consideration both the city context and individual factors when developing initiatives aimed at improving well-being in cities. The study also sheds light on the relationship between age and well-being, which is consistent with the U-theory where well-being generally decreases in early adulthood, reaches a low point in middle age, and begins to increase again in old age (Blanchflower and Oswald, 2008). In Western, Northern and Southern Europe, the results of this study have confirmed the existence of this U-shaped curve although Eastern Europe has shown a different pattern. This may be due to differences in social support systems, health conditions and the perception of well-being of the older population. In Eastern Europe, factors such as loneliness and limited access to social support may contribute to a lower perception of well-being among the elderly (Leichsenring et al., 2021). For Eastern Europe, where retirees may not have as high levels of well-being, the results stress on the importance of addressing factors such as loneliness and limited access to social support in order to improve well-being of elderly.

This paper highlights the importance of taking both cultural and regional differences into account when understanding the relationship between age and well-being. Cities may not always have enough information about the different segments of their population, such as age, households, and gender,

and how they relate to well-being. The paper's findings help shed light on these issues and highlight the importance of customised approach to understanding and improving well-being in cities. In particular, the paper's exploration of the U-curve of well-being and its relationship to age, as well as the importance of access to public services, such as public spaces and cultural amenities, can inform urban and regional policy aimed at improving well-being outcomes for residents.

ACKNOWLEDGMENTS

The work was supported by the Slovak Scientific Grant Agency (VEGA) Grant 1/0034/23.

References

- ÁLVAREZ, B. (2022). The Best Years of Older Europeans' Lives [online]. *Social Indicators Research*, 160(1): 227–260. <<https://doi.org/10.1007/s11205-021-02804-6>>.
- BIERMANN, P., BITZER, J., GÖREN, E. (2022). The relationship between age and subjective well-being: Estimating within and between effects simultaneously [online]. *The Journal of the Economics of Ageing*, 21: 100366. <<https://doi.org/10.1016/j.joea.2021.100366>>.
- BLANCHFLOWER, T., OSWALD, A. J. (2008). Is well-being U-shaped over the life cycle? [online]. *Social science & medicine*, 66(8): 1733–1749. <<https://doi.org/10.1016/j.socscimed.2008.01.030>>.
- BLANCHFLOWER, T. (2021). Is happiness U-shaped everywhere? Age and subjective well-being in 145 countries? [online]. *Journal of Population Economics*, 34(2): 575–624. <<https://doi.org/10.1007/s00148-020-00797-z>>.
- BLEKESAUNE, M., HANSEN, T. (2022). The age and well-being “paradox”: a longitudinal and multidimensional reconsideration [online]. *European Journal of Ageing*, 19(4): 1277–1286. <<https://doi.org/10.1007/s10433-022-00709-y>>.
- COLOMBO, E., MICHELANGELI, A., STANCA, L. (2014). La Dolce Vita: Hedonic estimates of quality of life in Italian cities [online]. *Regional Studies*, 48(8): 1404–1418. <<https://doi.org/10.1080/00343404.2012.712206>>.
- CONDE-SALA, J. L., PORTELLANO-ORTIZ, C., CALVÓ-PERXAS, L., GARRE-OLMO, J. (2017). Quality of life in people aged 65+ in Europe: associated factors and models of social welfare – analysis of data from the SHARE project (Wave 5) [online]. *Quality of life research*, 26(4): 1059–1070. <<https://doi.org/10.1007/s11136-016-1436-x>>.
- DASKALOPOULOU, I., KARAKITSIOU, A., MALLIOU, C. (2022). A Multicriteria Analysis of Life Satisfaction: Assessing Trust and Distance Effects [online]. *Operations Research Forum*, 3: 59. <<https://doi.org/10.1007/s43069-022-00170-8>>.
- DEATON, A. (2008). Income, health, & well-being around the world: evidence from the Gallup world poll [online]. *Journal of Economic perspectives*, 22(2): 53–72. <<https://doi.org/10.1257/jep.22.2.53>>.
- DIENER, E. D., SUH, M. E. (1997). Subjective well-being and age: An international analysis. *Annual review of gerontology and geriatrics*, 17(1): 304–324.
- DIENER, E., SUH, E. M., LUCAS, R. E., SMITH, H. L. (1999). Subjective well-being: Three decades of progress [online]. *Psychological bulletin*, 125(2): 276–302. <<https://doi.org/10.1037/0033-2909.125.2.276>>.
- DIENER, E., LUCAS, R. E., OISHI, S. (2002). Subjective well-being: The science of happiness and life satisfaction. *Handbook of positive psychology*, 2: 63–73.
- DIENER, E., OISHI, S., LUCAS, R. E. (2018). National accounts of subjective well-being [online]. *American Psychologist*, 73(5): 218–226. <<https://doi.org/10.1037/a0038899>>.
- DIENER, E. (2023). Happiness: The science of subjective well-being. *Noba textbook series: Psychology*, Champaign, IL: DEF publishers.
- DJANKOV, S., NIKOLOVA, E., ZILINKSY, J. (2016). The happiness gap in Eastern Europe [online]. *Journal of comparative economics*, 44(1): 108–124. <<https://doi.org/10.1016/j.jce.2015.10.006>>.
- EASTERLIN, R. A., PLAGNOL, A. C. (2008). Aspirations, attainments, and satisfaction: Life cycle differences between American women and men [online]. *Journal of happiness studies*, 9: 601–619. <<https://doi.org/10.1007/s10902-008-9106-5>>.
- DIJKSTRA, L., D'HOMBRES, B., MONTALTO, V., PONTAROLLO, N., BOLSI, P., CASTELLI, C., DE DOMINICIS, L., POELMAN, H. (2020). *Report on the Quality of Life in European Cities* [online]. <<https://doi.org/10.2776/600407>>.
- EUROPEAN COMMISSION. (2020). *Report on Quality of life in European Cities. October 7* [online]. Luxembourg. <<https://doi.org/10.2776/600407>>.
- EUROPEAN COMMISSION. (2015). *Flash Eurobarometer 366: Quality of Life in European Cities* [online]. Luxembourg. [cit. 1.5.2023]. <http://data.europa.eu/88u/dataset/S1035_366>.
- EUROPEAN COMMISSION. (2016). *Flash Eurobarometer 419: Quality of Life in European Cities* [online]. Luxembourg. [cit. 1.5.2023]. <http://data.europa.eu/88u/dataset/S2070_419_ENG>.

- EUROPEAN UNION. (2013). *Quality of life in Cities. Perception survey in 79 European Cities* [online]. Luxembourg. [cit. 27.10.2022]. <https://ec.europa.eu/regional_policy/sources/studies/urban/survey2013_en.pdf>.
- EUROSTAT. (2015). *Quality of life: facts and views* [online]. Luxembourg. [cit. 20.10.2022]. <<https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-05-14-073>>.
- EUROSTAT. (2022). *Quality of life indicators – overall experience of life* [online]. Luxembourg. [cit. 18.12.2022]. <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Quality_of_life_indicators_-_overall_experience_of_life>.
- FERRER-I-CARBONELL, A. (2005). Income and well-being: an empirical analysis of the comparison income effect [online]. *Journal of public economics*, 89(5–6): 997–1019. <<https://doi.org/10.1016/j.jpubeco.2004.06.003>>.
- FLEMING, C. M., MANNING, M., AMBREY, C. L. (2016). Crime, greenspace and life satisfaction: An evaluation of the New Zealand experience [online]. *Landscape and Urban Planning*, 149: 1–10. <<https://doi.org/10.1016/j.landurbplan.2015.12.014>>.
- GIANNICO, V., SPANO, G., ELIA, M., D'ESTE, M., SANESI, G., LAFORTEZZA, R. (2021). Green spaces, quality of life, and citizen perception in European cities [online]. *Environmental research*, 196: 110922. <<https://doi.org/10.1016/j.envres.2021.110922>>.
- GAJDOŠ, J., HUDEC, O. (2020). European cities: What matters for subjective well-being? *Theoretical & Empirical Researches in Urban Management*, 15(4): 5–20.
- GLAESER, E. (2011). *Triumph of the city: How urban spaces make us human*. Pan Macmillan.
- HANSEN, T., SLAGSVOLD, B. (2016). Late-life loneliness in 11 European countries: Results from the Generations and Gender Survey [online]. *Social Indicators Research*, 129(1): 445–464. <<https://doi.org/10.1007/s11205-015-1111-6>>.
- CHEN, C. W. (2023). Can smart cities bring happiness to promote sustainable development? Contexts and clues of subjective well-being and urban liveability [online]. *Developments in the Built Environment*, 13: 100108. <<https://doi.org/10.1016/j.dibe.2022.100108>>.
- LAYOUS, K. T. I. N., LYUBOMIRSKY, S. (2014). The how, why, what, when, and who of happiness. In: GRUBER, J., MOSKOWITZ, J. T. (eds.) *Positive emotion: Integrating the light sides and dark sides*, 473–495.
- LEE, S. (2021). Social exclusion and subjective well-being among older adults in Europe: findings from the European social survey [online]. *The Journals of Gerontology*, Series B, 76(2): 425–434. <<https://doi.org/10.1093/geronb/gbaa172>>.
- LEICHSENRING, K., SANDU, V., ZÓLYOMI, E. (2021). *Addressing loneliness and social isolation among older people in Europe* [online]. Policy Brief 2021/7, Vienna: European Centre. <<https://www.euro.centre.org/publications/detail/4127>>.
- LENZI, C., PERUCCA, G. (2020). Urbanization and subjective well-being [online]. In: DELLA TORRE, S., CATTANEO, S., LENZI, C., ZANELLI, A. *Regeneration of the built environment from a circular economy perspective*. Springer Nature, 21–28. <https://doi:10.1007/978-3-030-33256-3_3>.
- LENZI, C., PERUCCA, G. (2023). Economic inequalities and discontent in European cities [online]. *Urban Sustainability*, 3(1): 26. <<https://doi.org/10.1038/s42949-023-00104-1>>.
- LI, Y., WINTERS, J. V. (2017). Urbanisation, natural amenities and subjective well-being: Evidence from US counties [online]. *Urban Studies*, 54(8): 1956–1973. <<https://doi.org/10.1177/0042098016631918>>.
- LOSCHIAVO, D. (2021). Big-city life (dis)satisfaction? The effect of urban living on subjective well-being [online]. *Journal of Economic Behavior & Organization*, 192: 740–764. <<https://doi.org/10.1016/j.jebo.2021.10.028>>.
- MARTELA, F., GREVE, B., ROTHSTEIN, B., SAARI, J. (2020). The Nordic exceptionalism: What explains why the Nordic countries are constantly among the happiest in the world [online]. *World happiness report*, 129–146. [cit. 4.8.2023]. <<https://worldhappiness.report/ed/2020/the-nordic-exceptionalism-what-explains-why-the-nordic-countries-are-constantly-among-the-happiest-in-the-world/>>.
- MARTON, B., MOJSEJOVÁ, A. (2022). Macroeconomic Indicators and Subjective Well-Being: Evidence from the European Union [online]. *Statistika: Statistics and Economy Journal*, 102(4): 369–381. <<https://doi.org/10.54694/stat.2022.19>>.
- MOURATIDIS, K. (2018). Rethinking how built environments influence subjective well-being: A new conceptual framework [online]. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 11(1): 24–40. <<https://doi.org/10.1080/17549175.2017.1310749>>.
- MOURATIDIS, K. (2019). Compact city, urban sprawl, and subjective well-being [online]. *Cities*, 92: 261–272. <<https://doi.org/10.1016/j.cities.2019.04.013>>.
- MOURATIDIS, K. (2020). Commute satisfaction, neighborhood satisfaction, and housing satisfaction as predictors of subjective well-being and indicators of urban livability [online]. *Travel Behaviour and Society*, 21: 265–278. <<https://doi.org/10.1016/j.tbs.2020.07.006>>.
- NATIONS ONLINE PROJECT. *List of European Countries – Nations Online project* [online]. [cit. 17.10.2022]. <<https://www.nationsonline.org/oneworld/europe.htm>>.
- OKULICZ-KOZARYN, A., VALENTE, R. R. (2019). Livability and Subjective Well-Being Across European Cities [online]. *Applied Research Quality Life*, 14(1): 197–220. <<https://doi.org/10.1007/s11482-017-9587-7>>.
- OLSEN, J. R., NICHOLLS, N., MITCHELL, R. (2019). Are urban landscapes associated with reported life satisfaction and inequalities in life satisfaction at the city level? A cross-sectional study of 66 European cities [online]. *Social Science & Medicine*, 226: 263–274. <<https://doi.org/10.1016/j.socscimed.2019.03.009>>.

- PINEO, H., RYDIN, Y. (2018). *Cities, Health and Well-being* [online]. London: Royal Institution of Chartered Surveyors (RICS). [cit. 4.8.2022]. <<https://discovery.ucl.ac.uk/id/eprint/10107484/>>.
- POORTINGA, W., BIRD, N., HALLINGBERG, B., PHILLIPS, R., WILLIAMS, D. (2021). The role of perceived public and private green space in subjective health and wellbeing during and after the first peak of the COVID-19 outbreak [online]. *Landscape and Urban Planning*, 211: 104092. <<https://doi.org/10.1016/j.landurbplan.2021.104092>>.
- ROBINSON, T., GUSTAFSON, B., POPOVICH, M. (2008). Perceptions of negative stereotypes of older people in magazine advertisements: Comparing the perceptions of older adults and college students [online]. *Ageing & Society*, 28(2): 233–251. <<https://doi.org/10.1017/S0144686X07006605>>.
- RODRÍGUEZ-POSE, A., MASLAUSKAITE, K. (2012). Can policy make us happier? Individual characteristics, socio-economic factors and life satisfaction in Central and Eastern Europe [online]. *Cambridge Journal of Regions, Economy and Society*, 5(1): 77–96. <<https://doi.org/10.1093/cjres/rsr038>>.
- RUIU, G., RUYU, M. L. (2019). The Complex Relationship Between Education and Happiness: The Case of Highly Educated Individuals in Italy [online]. *Journal of Happiness Study*, 20: 2631–2653. <<https://doi.org/10.1007/s10902-018-0062-4>>.
- SARRACINO, F. (2010). Determinants of subjective well-being in high and low income countries: Do happiness equations differ across countries? [online]. *The Journal of socio-economics*, 42(0): 51–66. <<https://doi.org/10.1016/j.socec.2012.11.006>>.
- SMITH, C. A., KONIK, J. (2022). Who is satisfied with life? Personality, cognitive flexibility, and life satisfaction [online]. *Current Psychology*, 41(12): 9019–9026. <<https://doi.org/10.1007/s12144-021-01359-6>>.
- TOSHKOV, D. (2022). The Relationship Between Age and Happiness Varies by Income [online]. *Journal of Happiness Studies*, 23(3): 1169–1188. <<https://doi.org/10.1007/s10902-021-00445-7>>.
- VOUKELATOU, V., GABRIELLI, L., MILIOU, I., CRESCI, S., SHARMA, R., TESCONI, M., PAPPALARDO, L. (2021). Measuring objective and subjective well-being: dimensions and data sources [online]. *International Journal of Data Science and analytics*, 11(4): 279–309. <<https://doi.org/10.1007/s41060-020-00224-2>>.
- WATSON, R. (2005). People over 50 in northern Europe feel healthier than their southern counterparts [online]. *British Medical Journal*, 330(7499): 1044. <<https://doi.org/10.1136/bmj.330.7499.1044-b>>.
- WUNDER, C., WIENCIERZ, A., SCHWARZE, J., KÜCHENHOFF, H. (2013). Well-being over the life span: Semiparametric evidence from British and German longitudinal data [online]. *Review of Economics and Statistics*, 95(1): 154–167. <https://doi.org/10.1162/REST_a_00222>.
- ŽELINSKÝ, T., HUDEC, O., MOJSEJOVÁ, A., HRICOVÁ, S. (2021). The effects of population density on subjective well-being: A case-study of Slovakia [online]. *Socio-Economic Planning Sciences*, 78: 101061. <<https://doi.org/10.1016/j.seps.2021.101061>>.