Sustainable Happiness and Satisfaction Patterns in Slovakia: A Comparative Analysis of Regional Well-Being

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Nataša Urbančíková

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ABSTRACT

Purpose: This study examines happiness and life satisfaction in Slovakia, focusing on socio-economic factors, health, age, and regional disparities.

Methodology/Approach: Health and mental well-being are the strongest predictors of happiness. Urban areas, like Bratislava, show varied happiness due to the "urban paradox," while rural regions, such as Prešov, benefit from stronger community ties. Suburban areas report surprisingly low happiness levels.

Findings: Cross-sectional data limits the study's ability to track changes over time. Future research should investigate longitudinal trends and regional interventions.

Research Limitation/Implication: Cross-sectional data limits the study's ability to track changes over time. Future research should investigate longitudinal trends and regional interventions.

Originality/Value of paper: This study provides new insights into happiness and life satisfaction in Slovakia, linking regional and settlement-level differences to policy recommendations for equitable well-being.

Category: Research paper

Keywords: happiness; life satisfaction; regional well-being; socio-economic factors; urban paradox

Research Areas: Quality of Life

1 INTRODUCTION

Happiness is a fundamental aspect of human life that reflects emotional experiences and overall satisfaction with one's circumstances. It is shaped by a complex confluence of factors including health, age, economic conditions and social environment. In Slovakia, the understanding of happiness takes on greater significance given the country's diverse regional contexts and persistent inequalities in access to resources and opportunities.

Health and mental well-being emerge as the most influential determinants of happiness and offer a clear link to individuals' ability to cope with everyday challenges. However, the relationship between happiness and other factors such as age and type of residence reveals interesting dynamics. Age-related shifts in happiness, along with the differing experiences of urban, suburban, and rural populations, reveal significant variations in how social and environmental contexts shape quality of life.

Urban areas, for example, often promise economic opportunity and cultural richness, but can cause stresses such as traffic congestion and social isolation. Conversely, rural areas and smaller towns often foster a sense of community and connection to nature, offsetting some of the disadvantages associated with fewer economic resources. Suburbs, which are often seen as a mix of urban and rural life, present unique challenges and outcomes that defy conventional assumptions.

Happiness, as influenced by health, satisfaction, mental well-being and age-related trends, varies considerably across regions of Slovakia and types of settlements. Questions arise about the strongest determinants of happiness, its evolution across life stages and regions, and the contrasting influences of urban, suburban and rural environments. By addressing these questions, research could reveal important insights into the spatial, environmental and social factors that shape well-being, and highlight the complex relationship between personal circumstances and wider geographical contexts.

2 THEORETICAL BACKGROUND

Happiness and its determinants, particularly their interaction with satisfaction with life, health, and mental health, remain central to well-being research. Subjective well-being (SWB), encompassing happiness and life satisfaction, is widely recognized as a robust measure of quality of life (Diener, et al., 1999; Easterlin, et al., 2008). The intricate relationship between health, mental health, and life satisfaction significantly shapes individual happiness, necessitating a holistic approach to understanding these dynamics. While happiness often reflects emotional responses to daily experiences, life satisfaction represents a cognitive appraisal of one’s overall circumstances, highlighting distinct dimensions of SWB (Diener, et al., 2002; Diener, et al., 2018). Research consistently shows these dimensions to be mutually reinforcing; individuals who are satisfied with their

lives generally report higher happiness levels (Sarracino, 2010; Okulicz-Kozaryn, 2024).

In the Slovak context, life satisfaction emerges as a critical determinant of happiness. Data from the European Social Survey (ESS) underscore the strong correlation between satisfaction in domains such as personal relationships, work-life balance, and leisure activities with overall happiness (Plačková and Hudec, 2023. These findings align with broader European evidence, which emphasizes the role of comprehensive life assessments in shaping happiness (European Commission, 2020; Urbančíková, 2018). Physical health is another foundational element of happiness. Self-reported health consistently emerges as one of the strongest predictors of SWB (Deaton, 2008; Gerdtham and Johannesson, 2001). Good health facilitates meaningful activities and the maintenance of social relationships, both integral to happiness (Conde-Sala, et al., 2017; Álvarez, 2022; Hansen and Slagsvold, 2016). Conversely, poor health imposes physical limitations and financial burdens, detracting from life satisfaction and emotional well-being (Blekesaune and Hansen, 2022).

Regional and socio-economic disparities amplify health-related differences in happiness, particularly in Slovakia. For instance, residents of Prešov and Košice report higher happiness levels, likely reflecting improved access to health infrastructure and social services in these regions (Plačková and Hudec, 2023; Urbančíková, 2018;). Such findings underscore the role of context-specific factors in the health-happiness relationship (Blanchflower, 2021). Mental health is also inextricably linked to happiness, with conditions such as depression and anxiety exerting profound negative effects on SWB (Hansen and Slagsvold, 2016; Diener, et al., 2023). Sleep problems compound these effects, further diminishing an individual's capacity to manage stress and maintain positive emotions. These findings resonate with studies across Europe that highlight the holistic nature of happiness determinants (Blekesaune and Hansen, 2022; Blanchflower and Oswald, 2008).

The relationship between physical health, mental health, and life satisfaction is integral to understanding happiness. Physical health supports psychological well-being, enabling individuals to engage in daily activities and sustain social connections. Conversely, life satisfaction serves as a protective factor, mitigating the negative impacts of stress and illness (Gerdtham and Johannesson, 2001; Diener, et al., 1999; Martín and Viñán, 2017). For instance, individuals with chronic conditions often experience diminished happiness, but this effect is less pronounced when mental health remains robust and satisfaction with key life aspects, such as family and community ties, is high (Blekesaune and Hansen, 2022; Easterlin, et al., 2008; Álvarez, 2022). Advancing digital solutions, such as IoT and big data (Roh and Park, 2017), can further enhance well-being by supporting health monitoring and social connectivity.

Building on the regression analysis, it is essential to explore how happiness evolves across different stages of life. The U-shaped curve theory, which posits

that well-being decreases in middle age (typically 40–50 years) and improves in youth and older age, is supported by numerous studies (Blanchflower and Oswald, 2008; Biermann, et al., 2022; Blanchflower, 2021). However, exceptions exist; for example, in Germany, well-being has been observed to decline in the late 60s due to factors like declining health and reduced social support systems (Biermann, Bitzer, and Gören, 2022; Wunder, et al., 2013).

Geographic and settlement size differences further complicate happiness dynamics, particularly in relation to age. Economically disadvantaged regions often see middle-aged individuals reporting lower well-being due to inadequate social support and economic insecurity (Biermann, Bitzer, and Gören, 2022). In contrast, wealthier regions with strong safety nets and better healthcare access help mitigate these challenges, especially for older adults (European Commission, 2020; Urbančíková, 2018; Klasová et al., 2019). Urban residents face the "urban paradox," where cities provide access to infrastructure, education, and employment opportunities but contribute to lower happiness levels due to traffic congestion, pollution, and social isolation (Girard, et al., 2017; Morrison, 2021; Okulicz-Kozaryn, 2024). Meanwhile, rural residents benefit from closer communities and natural surroundings despite fewer economic opportunities. Suburban areas, blending urban and rural advantages, exhibit variable outcomes depending on regional socioeconomic conditions (Sørensen, 2021).

The study explores factors influencing happiness, focusing on age, regional variations, and settlement types. The following questions provide a framework for understanding how individual and regional characteristics shape overall well-being and life satisfaction:

- What factors most strongly influence happiness?
- How does happiness vary with age across regions and settlements?
- How do regional conditions shape well-being in urban, suburban, and rural areas?

3 METHODOLOGY

Data: This study utilises data from Round 11 of the European Social Survey (ESS), conducted in 2022. The ESS employs random probability sampling, and the interviews are conducted face-to-face by trained interviewers to ensure data accuracy and reliability. The questionnaire covers a wide range of topics, including well-being, socio-economic conditions, health, and political attitudes, making it particularly suited for an analysis of happiness and life satisfaction. The Slovak portion of the dataset. The Slovak portion of the European Social Survey Round 11 includes a nationally representative sample of 1,431 respondents, aged 15 and older. The sample size ensures sufficient statistical power to analyse key determinants of happiness across demographic, socio-economic, and regional

dimensions, while maintaining the ability to generalize findings to the broader Slovak population.

Regression model: To examine the determinants of happiness, a multiple linear regression model was employed, suitable for analysing a continuous dependent variable influenced by multiple predictors. Happiness, the dependent variable, was measured on a 0-10 scale, where 0 indicates "not happy at all" and 10 denotes "completely happy." This method is justified by its interpretability, as regression coefficients clearly represent the relationship between predictors and happiness, and its flexibility, accommodating both continuous (e.g., age, income) and categorical (e.g., region, gender) variables. Additionally, diagnostic tools like residual analysis and variance inflation factors (VIF) were applied to validate the model's assumptions. The independent variables encompass socio-demographic (e.g., age, gender, region), economic (e.g., income, satisfaction with the economy), health (e.g., self-reported health, feelings of depression), and attitudinal (e.g., trust in political institutions, political ideology) factors, providing a comprehensive framework for understanding happiness determinants. The model assumes linear relationships between the predictors and happiness, which has been preliminarily verified by exploratory data analysis and variance estimation. To control for multicollinearity, variance inflation factors (VIFs) were calculated, which confirmed acceptable independence between predictors. Diagnostics of residuals, including normality tests and homoskedasticity evaluation, further supported model fit. Dummy coding was applied to categorical variables such as region and gender. This model design is consistent with theoretical expectations and statistical robustness and provides interpretable coefficients that quantify the marginal effects of each predictor on happiness while accounting for the influence of other variables.

Age-Region Curves: Building upon the regression model, we examined the age-related trajectories of happiness across Slovak regions to identify potential non-linear trends, such as the "U-curve of happiness." The U-curve hypothesis posits that happiness dips during midlife and rebounds in later years. To visualize these dynamics, we plotted region-specific smoothed curves using locally weighted scatterplot smoothing (LOESS). This method allows us to capture non-linear relationships without imposing a specific functional form. The analysis highlights regional disparities and variations in the U-curve's shape, reflecting differences in socio-economic conditions, cultural norms, and access to public resources across Slovakia.

Settlement size: Recognizing that regional aggregates can mask intra-regional variations, the analysis extends to examine settlement size and type. Settlements were categorized into big cities, suburbs, towns, villages, and countryside. Happiness distributions for each settlement type were plotted and compared to understand the relationship between settlement characteristics and well-being. This approach is grounded in theories of urbanization and the urban paradox, which suggest that while urban areas may offer greater opportunities, they also impose stressors such as congestion and inequality. Conversely, rural areas are

often associated with social cohesion and environmental benefits, despite lacking economic resources. Including settlement size in the analysis reveals how urban, peri-urban and rural environments contribute differently to well-being in Slovakia.

4 DETERMINANTS OF HAPPINESS

The primary dependent variable for the analysis is happiness, measured using a 0-10 scale, where 0 represents "not happy at all" and 10 represents "completely happy." This measure is widely used in well-being research to gauge subjective happiness levels.

The independent variables include a variety of socio-economic factors, as displayed in the Table 1:

Table 1 – Regression variable input

Variable	Description	Scale/Category
Dependent		
happy	Happiness score of the respondent	Scale: 0 to 10
Predictors		
agea	Respondent's age	Measured in years
gndr	Gender of the respondent	Male/Female (or other categories)
region	Region of residence	NUTS3 regional categories
health	Self-reported health status	Scale: from good to bad
fltdpr	Feeling of depression	Scale: indicating frequency
slprl	Sleep problems or sleep quality	Scale: severity of sleep issues.
hinctnta	Household income	Income decil categories
edulvlb	Educational level	Detailed ISCED scale
stfeco	Satisfaction with the economy.	Scale: 0 to 10
trstplt	Trust in politicians	Scale: 0 to 10
lrscale	Political ideology scale	Left-right self-placement, 0 to 10
marsts	Marital status	Single, married, divorced, etc.
lvgptnea	Living with parents or other family	Yes/No
stflife	Overall life satisfaction	Scale: 0 to 10
gincdif	Views on income inequality	Agree/disagree, scale: 1 to 5

The findings (Table 2) reveal several significant factors influencing individual happiness, identified through a multiple linear regression model with happiness as the dependent variable. Among these factors, health, mental well-being, regional factors, and life satisfaction emerge as the most powerful predictors, as indicated by their strong statistical significance and effect sizes.

Self-reported health (health) stands out as one of the strongest predictors of happiness, with a highly significant negative coefficient ($p < 0.001$), demonstrating that poorer health is strongly associated with lower happiness levels. This finding underscores the critical role of physical well-being in shaping life satisfaction. Mental health, as captured by the variable measuring feelings of depression

(fltdpr), similarly exhibits a substantial negative impact on happiness, with a highly significant effect ($p < 0.001$). These results highlight the necessity for targeted public health initiatives, particularly in mental health services, to mitigate these adverse effects.

Table 2 – Coefficients of the regression model of happiness.

Variable	Estimate	Std. Error	t-value	Pr(>|t|)	Signif.
(Intercept)	8.163e+00	3.564e-01	22.905	2,00E-16	***
agea	-1.227e-02	3.509e-03	-3.498	0.000484	***
gndr	1.590e-01	9.628e-02	1.651	0.098896	.
regionSK021	-2.277e-01	2.312e-01	-0.985	0.324794	
regionSK022	8.149e-01	2.297e-01	3.548	0.000401	***
regionSK023	7.341e-01	2.251e-01	3.262	0.001134	**
regionSK031	9.758e-01	2.277e-01	4.285	1.95e-05	***
regionSK032	4.396e-01	2.324e-01	1.892	0.058762	.
regionSK041	1.393e+00	2.324e-01	5.995	2.59e-09	***
regionSK042	7.341e-01	2.354e-01	3.118	0.001857	**
health	-4.607e-01	6.295e-02	-7.319	4.21e-13	***
fltdpr	-5.888e-01	6.829e-02	-8.622	2,00E-16	***
slprl	-1.133e-01	5.420e-02	-2.091	0.036735	*
hinctnta	-5.630e-03	1.601e-03	-3.517	0.000450	***
edulvlb	2.288e-04	6.993e-05	3.272	0.001095	**
stfeco	5.167e-03	4.017e-03	1.286	0.198557	
trstplt	2.607e-02	6.987e-03	3.732	0.000198	***
lrscale	-5.021e-03	2.019e-03	-2.487	0.013002	*
marsts	4.463e-03	1.590e-03	2.807	0.005070	**
lvgptnea	7.466e-02	4.387e-02	1.702	0.088980	.
stflife	2.576e-02	6.214e-03	4.146	3.59e-05	***
gincdif	-5.819e-02	4.444e-02	-1.310	0.190577	

Regional differences in happiness are particularly striking. Living in regions such as Prešov (regionSK041), Žilina (regionSK031), and Košice (regionSK042) is associated with significantly higher happiness levels compared to other regions (p-values < 0.01 for these coefficients). These regional disparities suggest that geographical context influences well-being, potentially due to variations in socio-economic conditions, cultural factors, or access to public resources. Such findings warrant a deeper investigation into regional policies and infrastructural factors that might explain these differences.

Satisfaction with life (stflife) and trust in political institutions (trstplt) are also important positive determinants of happiness. Satisfaction with life exhibits a highly significant positive relationship ($p < 0.001$), reaffirming its centrality to subjective well-being research. Trust in political institutions shows a positive and statistically significant effect ($p < 0.01$), suggesting that governance quality and institutional trust are critical for fostering societal contentment and individual happiness.

While gender (gndr) approaches significance ($p = 0.099$), it does not emerge as a robust determinant of happiness in this model. This suggests that, when controlling for other variables, males and females report similar levels of happiness. However, the possibility of interaction effects between gender and other variables, such as marital status or health, should be explored in future studies.

Political ideology, as measured by the left-right self-placement scale (lrscale), shows a weak but statistically significant negative relationship with happiness ($p < 0.05$). Individuals with right-leaning political ideologies report slightly lower happiness levels. This effect, though modest, may reflect differences in worldview, perceptions of social justice, or societal optimism. Further research is needed to unpack the nuances of this relationship.

4.1 Age Curve and Regional Differences in Happiness

The U-curve of happiness, a well-documented phenomenon, suggests that individuals experience a dip in well-being during midlife, followed by an increase as they age. This pattern is often attributed to the cumulative stressors of early adulthood and middle age, contrasted with the eventual reprioritisation and emotional regulation that characterise older age. However, the extent and shape of this trajectory may vary based on regional socio-economic and cultural contexts. This study explores these dynamics across Slovak regions, hypothesising that more urbanised areas would exhibit a pronounced U-curve, while rural regions might show flatter trends due to differences in social networks, healthcare access, and economic conditions.

The data reveals significant regional differences in happiness levels across Slovakia, challenging conventional expectations associated with theories like the U-curve of happiness and the urban-rural divide. While theories suggest that urban regions, such as Bratislava, often exhibit higher levels of happiness due to better access to resources, cultural amenities, and economic opportunities, this does not hold true in this dataset. Instead, Bratislava Region reports a relatively low mean happiness score (5.60), which contradicts the assumption that urbanised areas inherently promote higher well-being. This finding invites deeper exploration of potential factors contributing to this deviation, such as the "urban paradox," where higher material wealth and resources may coexist with increased stress, social isolation, or perceived inequality

The analysis of Slovak regions (Table 3) reveals significant disparities in average happiness levels. The mean scores range from 7.13 in Prešov (SK041) and 7.10 in Žilina (SK031) to a low of 5.30 in Trnava (SK021). Regions with higher mean values, such as Prešov and Žilina, suggest a baseline of favorable socio-economic conditions and cohesive community structures, while Trnava's notably low mean score may reflect structural challenges, including economic underperformance or limited access to quality services. The variability within regions, as indicated by standard deviations, further underscores these disparities. For instance, SK023 (Nitra) shows the highest standard deviation (2.15), pointing to significant intra-

regional differences in life satisfaction, potentially driven by unequal access to resources or social stratification.

Table 3 – Average values of the happiness in the Slovak regions

Region	mean	sd
SK010	5.60	1.82
SK021	5.30	1.90
SK022	6.93	1.79
SK023	6.89	2.15
SK031	7.10	1.97
SK032	6.20	2.09
SK041	7.13	2.09
SK042	6.66	1.85

As shown in Figure 1, a non-linear decrease in happiness is observed across all regions of Slovakia. However, the slope of this decline varies significantly between regions.

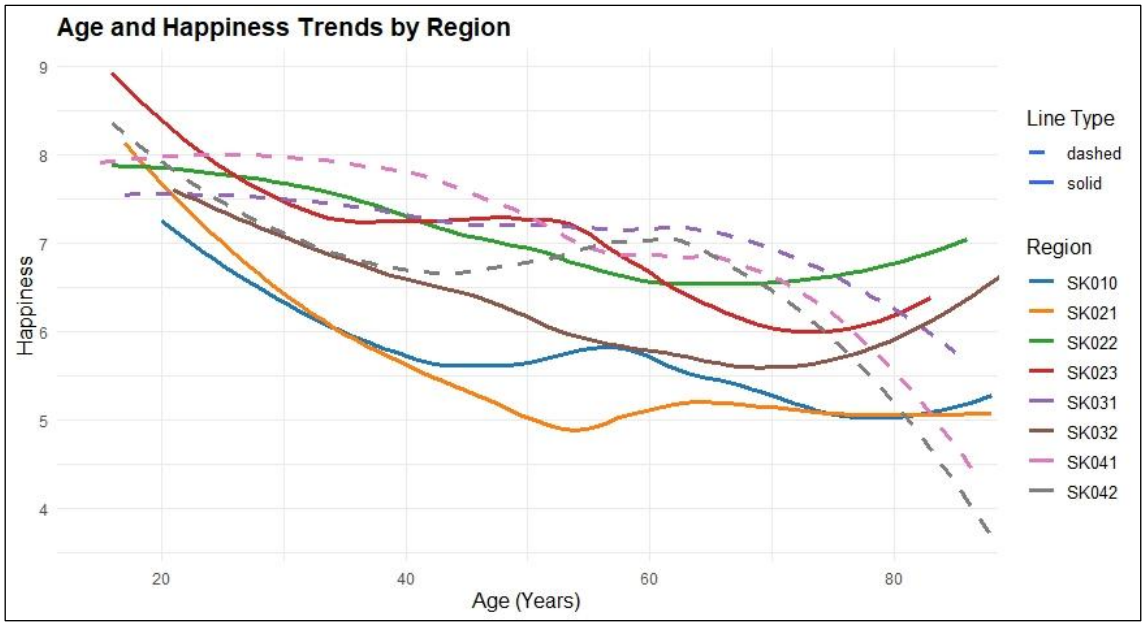

Figure 1 – Age and Happiness variations in Slovak regions: SK010: Bratislava Region, SK021: Trnava Region, SK022: Trenčín Region, SK023: Nitra Region, SK031: Žilina Region, SK032: Banská Bystrica Region, SK041: Prešov Region, SK042: Košice Region.

However, the observed happiness trajectories in Slovakia generally indicate a steady decline with age, particularly after 60, rather than a pronounced recovery. For instance, in regions such as Prešov and Žilina, the decline is less steep, suggesting some alignment with U-curve recovery dynamics, potentially due to stronger social cohesion or robust regional support systems. In contrast, regions

like Košice and Bratislava exhibit steeper post-60 declines, pointing to vulnerabilities among older populations in urban areas, such as inadequate healthcare or diminished social networks. The data also challenges the assumption that rural regions uniformly underperform in happiness metrics. While Trnava Region, a relatively less urbanized area, reports the lowest mean happiness score (5.30), other predominantly rural or mixed regions, such as Prešov (7.13) and Žilina (7.10), display the highest mean happiness levels. This outcome may be tied to regional cultural norms, community ties, and the slower pace of life in these areas, which could mitigate some stressors typical of urban settings.

The "urban paradox" offers a useful lens for interpreting these discrepancies. Urban areas like Bratislava and Košice, while economically and culturally dynamic, may impose greater psychological and social burdens, including congestion, competition, and perceived inequality, which could offset the advantages of access to superior resources. On the other hand, rural or semi-urban regions may foster higher happiness levels due to stronger interpersonal relationships, lower living costs, and greater access to nature, even if they lack some material advantages. The steady post-60 declines in happiness observed across regions further complicates the application of the U-curve theory. This pattern suggests that older adults in Slovakia might face compounding challenges, such as financial insecurity, health deterioration, and social isolation, that preclude the anticipated increase in happiness. Notably, the stabilization of happiness levels in Trenčín Region after 60 presents an exception, which could reflect effective community support or adaptive behaviors among the aging population in this area.

These findings illuminate the dual-phase decline in happiness, emphasizing the complex interplay of personal, social, and structural determinants. The pre-60 decline reflects the cumulative impact of economic pressures and societal expectations, while the sharper post-60 decline underscores vulnerabilities associated with aging. The resilience observed in regions like Prešov and Žilina offers valuable insights into potential interventions, including enhancing healthcare access, fostering community engagement, and promoting economic stability. Conversely, the challenges faced by regions like Trnava and Košice highlight the need for targeted policies to mitigate disparities and improve quality of life across the lifespan.

Regions are not monolithic entities but encompass diverse environments, including cities, towns, suburbs, and rural areas, each contributing differently to the overall well-being of their populations. The happiness levels observed at the regional level may obscure significant intra-regional variations tied to the size and type of settlements. Urban centers, with their access to resources and opportunities, may contrast sharply with surrounding suburban or rural areas that foster social cohesion and a slower pace of life, while towns often present their own unique blend of these characteristics.

To fully understand the factors influencing happiness, it is essential to move beyond regional aggregation and examine settlement-level dynamics. Differences

in infrastructure, access to healthcare, social networks, and economic opportunities across cities, towns, and rural areas can profoundly shape well-being. A more granular analysis that considers the size and type of settlements alongside regional factors is critical for understanding key patterns of spatial variations in happiness.

4.2 Urban-Rural Nexus

It is commonly acknowledged that levels of happiness vary across settlement types due to differences in socio-economic conditions, access to work and resources, amenities and social environment. Urban areas are often associated with higher variability in happiness due to the coexistence of advantages such as economic opportunities and cultural amenities, together with stressors such as traffic congestion, competition and social isolation. Conversely, suburban areas are typically expected to have higher and more stable levels of happiness because they combine access to urban resources with a more relaxed and socially cohesive environment. Finally, it is often assumed that rural and rural areas exhibit greater variability in happiness, shaped by differences in access to health care, education, and economic infrastructure, but in specific cases may also enjoy environmental and social benefits.

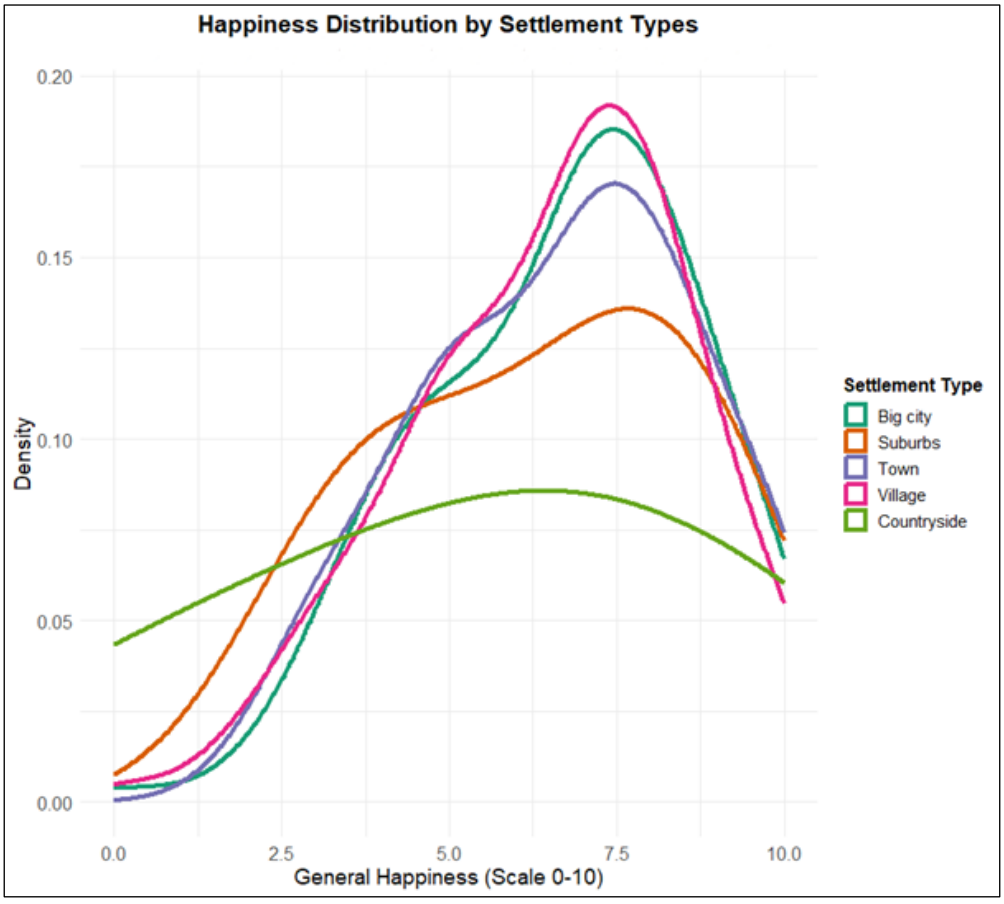

Figure 2 – Happiness distribution by Settlement types.

Big cities and villages (Figure 2) exhibit surprisingly similar happiness distributions, with peaks skewed toward moderately high happiness levels. This

similarity challenges traditional assumptions that urban and rural living offer vastly different well-being outcomes. Big cities provide advantages such as access to economic, cultural, and healthcare resources, while villages likely benefit from close-knit communities, a slower pace of life, and greater connection to nature. Despite these differences in context, both settlement types seem to achieve comparable happiness levels, likely due to their respective strengths compensating for their inherent challenges—stress and inequality in cities, and limited infrastructure and economic opportunities in villages.

In contrast, suburbs show a less favourable happiness distribution. The suburban curve peaks at moderately low happiness levels, suggesting that suburbs may not offer the expected balance of urban and rural benefits. Suburbs, however, may create challenges for their residents, including longer commutes, a lack of local identity, and dependency on nearby urban centres for services and cultural amenities. For families moving to suburban or rural areas, these dynamics may complicate daily life, particularly as infrastructure and social networks may not adequately support their needs. The lower happiness levels observed in suburban areas challenge the perception of these spaces as ideal environments that balance the advantages of urban and rural living. Instead, these areas may experience a mismatch between residents' expectations and realities, as well as systemic challenges in infrastructure, community development, and accessibility.

Towns exhibit a relatively broad distribution with a peak cantered around moderately high happiness levels, reflecting a mix of urban influence and rural advantages. The flatter tails of the distribution suggest greater variability, likely influenced by diverse economic conditions or the varying quality of local amenities and services. Towns may provide a balance of social cohesion and access to opportunities, but their success in fostering well-being appears to be more context-dependent compared to villages or cities.

The countryside demonstrates a distinct pattern, with a broader distribution and a peak at moderate happiness levels. This broader spread reflects significant variability in well-being, likely influenced by disparities in infrastructure, economic conditions, and social connectivity. However, the long tail of high happiness values suggests that specific rural areas with strong community ties or high environmental quality may provide exceptional well-being despite systemic challenges.

Over the past 25 years, urbanization has been a dominant trend in Slovakia, with economic growth and societal changes driving populations toward urban centres. At the same time, wealthier families seeking a better quality of life have increasingly moved to suburban villages or countryside areas, drawn by the promise of tranquillity, natural surroundings, and a perceived escape from urban stress. However, as these results indicate, such moves may introduce unexpected complications that affect well-being, particularly in suburban areas.

5 CONCLUSIONS

While regions and settlement types provide different lenses through which to examine happiness, combining these perspectives offers a richer understanding of the factors influencing well-being across Slovakia. Analysis at the settlement level provides complementary insights and reveals that the distribution of happiness varies significantly between large cities, suburbs, towns, villages and rural areas. Large cities and villages exhibit surprisingly similar levels of happiness; suburbs, in contrast, exhibit lower levels of happiness, suggesting that these areas may be falling short of their perceived role as optimal living spaces that combine the benefits of urban and rural areas. Urban and rural areas present a more differentiated picture, with the distribution of happiness reflecting their diverse socio-economic and environmental contexts.

When analyses at the regional and settlement level are considered together, it becomes clear that regions are not homogeneous entities. For example, even within regions with higher average levels of happiness, such as Prešov or Žilina, settlement types exhibit different dynamics that affect well-being. The combined analysis of happiness levels across Slovak regions and settlement types provides a valuable empirical foundation. To fully understand the observed patterns, we need to contextualize the results within established frameworks, including the U-curve of happiness, the urban paradox, and theories related to urbanization and settlement dynamics.

The U-curve of happiness posits that well-being tends to decrease during midlife and subsequently recover in older age. However, the Slovak data suggests deviations from this pattern, particularly with the steady decline in happiness post-60 observed in most regions and settlement types. This trend may reflect socio-economic vulnerabilities specific to Slovakia, such as pension inadequacies, limited healthcare accessibility for older populations, and social isolation in both urban and rural areas. For instance, regions like Bratislava and Trnava, which exhibit lower overall happiness levels, could reflect midlife challenges compounded by urban stress or suburban disconnection, aligning only partially with the expected U-curve recovery. The U-curve holds for some regions, reflecting adaptive behaviors among younger older adults. In others, as noted by Blekesaune and Hansen (2022), advanced age sees well-being decline due to health and social challenges, highlighting regional socio-economic differences.

At the settlement level, the urban paradox provides another theoretical lens. While urban centres such as Bratislava offer economic and cultural opportunities, they also impose higher levels of stress, inequality, and competition, which can erode happiness despite material advantages. This paradox is evident in the broader and more variable happiness distribution in big cities, where the coexistence of high and low well-being reflects significant disparities among residents. On the other hand, villages and rural areas, despite their relative lack of resources, maintain higher average happiness levels due to strong social cohesion, community ties, and a connection to nature, which align with the "simpler life" hypothesis often

discussed in rural well-being literature. Suburbs often emerge as transitional spaces, designed to balance the benefits of urban access with the tranquillity of rural life. However, in practice, they can amplify some of the stresses inherent to both environments. For example, suburban areas are frequently dependent on urban centres for employment, healthcare, education, and cultural activities. This reliance often leads to long commutes, increased transportation costs, and time poverty, which can erode happiness and well-being. In contrast, big cities provide proximity to these resources, while rural areas often rely on local self-sufficiency and closer community ties. Suburbs tend to lack the dense social networks and sense of community that villages provide, as well as the vibrant, diverse social opportunities available in urban centres. This "in-between" status can result in weaker social cohesion, contributing to feelings of isolation and dissatisfaction among residents. Additionally, suburban areas often struggle with a lack of identity, as they are frequently seen as extensions of nearby urban centres rather than distinct communities with their own cultural or social fabric.

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ABOUT THE AUTHOR

Nataša Urbančíková ORCID: 0000-0002-2158-5517 (N.U.) – Technical University of Košice, Slovak Republic, The Department of Regional Sciences and Management, Assoc. Professor, e-mail: natasa.urbancikova@tuke.sk

CONFLICTS OF INTEREST

The author declares e no conflict of interest. The funders had no role in the design of the study, in the collection, analyses, or interpretation of data, in the writing of the manuscript, or in the decision to publish the results.