

Subjective Well-being and Urbanization in Egypt

Abstract

World Values Survey data is used to test the association between urbanization, operationalized as population size, and subjective well-being, operationalized as life satisfaction, in the case of Egypt. Regression results show that the smallest settlements have the highest positive effect on subjective well-being compared to the large urban centers. These results are persistent even after controlling for an extensive set of socio-demographic variables. Another important finding is that the two main urban and economic centers of the country, the Greater Cairo and Alexandria regions, generate lower subjective well-being when compared to the more rural regions (Lower and Upper Egypt). These results are both unexpected and compelling, especially in the context of a developing country such as Egypt---previous research argues that cities should generate higher subjective well-being when compared to rural and township settlements in such a context. Our empirical findings show otherwise and provide a novel and crucial contribution to the literature on the subjective wellbeing- urbanization nexus.

Keywords: Subjective well-being, Life satisfaction, Happiness, Urbanization, Rural, Urban, Egypt.

Introduction

Developing countries have experienced a dramatic increase in urban growth in the past few decades. For instance, the percentage of urban population increased from 37.5% in 1995 to 49% in 2015 with more than 75% of the world's total urban population living in developing countries since 2015 (Smit, 2021). In addition, most of the urban growth in the future is going to happen in developing countries (Cohen, 2004, 2006; Smit, 2021). Out of the 793 million people that were expected to be added to the global urban population between 2015 to 2025, about 745 million, i.e., 93% of the increase, will be registered in developing countries (Smit, 2021; see UNDESA, 2019). Currently, 27 out of the 33 megacities in the world are in developing countries (Smit, 2021). Egypt is one of those developing countries that has experienced significant changes in its demographic and urbanization trajectories. With its current population of 110

million people (see World Bank, 2022), Egypt is the most populous country in the Middle East and North Africa (MENA) region and the third most populous country in Africa. Egypt's population has almost tripled in half a century from 35 million in 1970 to 110 million in 2022 (World Bank, 2022). The urban population has almost doubled in three decades as it increased from 24.4 million in 1990 to 43.7 million in 2021 (Hatab et al., 2022). About 42% of Egypt's total population lived in urban areas in 2013 compared to 37% in 2006 (Khalil, 2021). But figures regarding urban population in Egypt as well as other developing countries should be treated with caution (Cohen, 2004). There is an apparent underestimation of the urban population in Egypt given how the Egyptian government classifies urban versus rural areas based on the administrative role of a settlement, and not the size of its population (Bayat & Denis, 2000; Sims, 2010; Zinkina & Korotayev, 2013). The population of many Egyptian villages has exceeded 10,000 people and they are still administratively and statistically considered villages and not small towns (Bayat & Denis, 2000; Zinkina & Korotayev, 2013). Interestingly, the UN data shows that the percentage of Egyptian population residing in urban areas has only increased from 41.5% in 1970 to 42.8% in 2015 (UNDESA, 2018a). This seemingly flat trend of urbanization reflects the fact that international organizations count on national classifications of what is urban and what is rural (Cohen, 2004). In fact, in one of the publications of the United Nations, it is explicitly mentioned that the seemingly flat trend of urbanization in Egypt is "a reflection of the official definition of cities not accounting for the recent urbanization in rural settlements" (UNDESA, 2018b, p.2). There are different practices of how to classify what is rural and what is urban in developing countries. For instance, in Benin, only settlements with more than 10,000 residents are considered urban (Cohen, 2006). On the other hand, in countries such as Angola, Ethiopia, and Argentina, all settlements with 2,000 residents or more are classified as urban (Cohen, 2006). So, settlements that could be classified as urban in some countries could be considered rural in other contexts (Cohen, 2004, 2006). Hence, the classification of what is urban and what is rural could be a little bit blurred in different contexts based on the definition used and this makes the comparative study of urbanization in the context of developing countries a bit challenging (Cohen, 2004, 2006; Smit, 2021). Hence, the distinction between

what is rural and what is urban in this context should be regarded as a continuum and not a dichotomy to reflect the urban-rural linkages (Cohen, 2006; Davis, 2004; Smit, 2021).

When it comes to the study of urbanization in developing countries, it is important to pay special attention to the capital cities where a large proportion of the national population usually reside and a large share of economic activities is located (Cohen, 2006). Hence, in the case of Egypt, the study of urbanization would be meaningless without zooming in on Cairo. The Greater Cairo Region (GCR), which delimits Egypt's administrative capital, "Cairo", houses about a quarter of the country's total population. The GCR is considered the biggest city in Africa (Fahmi & Sutton, 2008; Sims, 2010). In fact, in the year 2018, the GCR has been classified as the 6th largest urban agglomeration in the world ahead of other urban agglomerations such as Mumbai, Dhaka, and Beijing (Smit, 2021). About 56% of Egypt's urban population is taking the GCR and Alexandria as their place of residence (Khalil, 2021). This overdominance of the Greater Cairo Metropolis and Alexandria over the urban scene in Egypt is not new. In fact, it was one of the main features of the rapid urbanization process in Egypt in the 20th century (Abu-Lughod, 1965; Ibrahim, 1975). Such a phenomenon is still evident today (Khalil, 2021). Like many other capital cities in the global South¹ (see Cohen, 2006), Cairo has been described as the primate that dominated Egypt's urbanization and economic development (Abu-Lughod, 1965; Ibrahim, 1975; Sims, 2010). It is considered one of the largest and most crowded cities in the world, and still continues to grow steadily with a 2% growth rate per year (Jaad & Abdelghany, 2021). Despite the important role of natural population growth, still internal migration continues to play an important role in driving this expansive urban growth in Cairo (David et al., 2019; Hatab et al., 2022). In fact, natural population growth and internal migration are the main drivers of urban growth in most cities of the global South in general (Cohen, 2006).

Like many other mega-cities in the global South, Cairo is not just the capital of the country, but it also acts as the main economic and financial center and a main hub of education, transportation, and commerce (El Araby, 2002). Still, many of Egypt's social and economic

¹ The term global South refers to nations of the world which are regarded as having a relatively low level of economic and industrial development and the term is used as synonymous to the developing countries term – a practice we adopt in this paper (see Smit, 2021).

problems are concentrated within the extended limits of Cairo (Sutton & Fahmi, 2001). The uncontrolled and unsustainable growth of the city places significant pressure on the already dilapidated infrastructure and the suboptimal social services in a way that is stressing the overall wellbeing of its residents (Jaad & Abdelghany, 2021). Egyptian urban centers, including Cairo, have been neglected and the policies adopted by the Egyptian government have exacerbated their precarious situation. Despite the deterioration of existing public services and an increased demand for them, the government has directed scarce public funds to the construction of satellite cities and a new administrative capital in the hinterland of Cairo. Egyptian urban centers are not unique in terms of the resource constraints they are facing. Many cities in the global South have insufficient resources- a situation that limits their ability to provide a decent life to their residents (Cohen, 2006; Mabin, 2014). Urban growth in the global South has been “decoupled from industrialization, even development per se”, i.e., urbanization without growth (Davis, 2004, p.9; see also Fox, 2012). Hence, the unsound public policies, especially urban planning policies, that divert scarce resources can exacerbate the problems found in cities of the global South including Egyptian cities.

It goes without saying that such enormous urban growth in the global South has important repercussions especially when it comes to the material and psychological well-being of people. Cities could be treated as a double-edged weapon where the cost of the material benefits provided by them might be the unhappiness or dissatisfaction of urbanites (Fischer, 1973; Berry & Okulicz-Kozaryn, 2009, 2011). Big cities provide a host of opportunities and amenities. But cities are also full of disamenities including high inequality, longer commutes, pollution, noise, and higher rates of crime. Hence, the net effect of city life on Subjective Well-Being (SWB) is basically an empirical question. There is an increasing interest in the study of SWB (Ferrer-i-Carbonell & Frijters, 2004; Moro-Egido et al., 2022) to the extent that academicians, policy makers, and international organizations are proposing to use SWB measures as complements to the conventional objective measures in informing public policy deliberations and in assessing people’s welfare (Diener et al., 2013; Diener et al., 2009; Stiglitz et al., 2009). A special attention in the SWB literature is paid to its determinants. One of those determinants that have been receiving increasing interest is the environmental milieu in which people live and

whether it will make any difference if a person lives in a city compared to a rural or a township context. But most of this literature is focusing on the global North and there is a lack of research on the SWB-Urbanization nexus in global South (Burger et al., 2020).

The lack of SWB research, especially on the SWB-Urbanization nexus, is evident in the case of Egypt. Most of the urbanization literature on Egypt focuses on issues such as urban informality (e.g., Bayat & Denis, 2000; Khalil, 2021; Sharp, 2021), the housing problem in big urban centers (e.g., Fahmi & Sutton, 2008; Ibrahim, 2017), failed urban planning schemes that aim at reducing the population density of large urban centers (e.g., Khalil, 2021; Sutton & Fahmi, 2001; Sims, 2010; Tarbush, 2012), or the impact of urban growth on the environment (e.g., El Araby, 2002; Robaa, 2011). Still, no attention has been given to the effect of urbanization and all its related problems in the Egyptian context on the perceived SWB. This is surprising considering the large population of Egypt and the fact that it is the most populous country in the MENA region and the third most populous country in Africa and has one of the top 10 largest urban agglomerations in the world. This paper aims to fill this gap by using the World Values Survey (WVS) data to test the direction and magnitude of the association between urbanization, operationalized as population size, and SWB, operationalized as life satisfaction. In the extant scholarship, it is argued that rural areas in developing countries have fewer resources and may fail to satisfy human needs; hence, cities are hypothesized to generate more SWB compared to rural areas (Veenhoven, 1994, 1995). Our aim is to investigate whether the Egyptian case would fit such a hypothesis. Thus, this paper investigates the urban-rural SWB gradient in Egypt and contributes to the literature that explores urbanization-SWB relationship in developing countries. The importance and necessity of this study stem from its contribution to the scant and mixed evidence available on the relationship between SWB and urbanization in developing countries. Compared to the profusion of research on the urbanization-SWB relationship in the context of Western countries, there is a dearth of evidence on this relationship in developing countries (Burger et al., 2020). Hence, this study contributes to the literature by studying the case of a big developing country. What adds to the value of this study is that it is the first study of the urbanization-SWB relationship in Egypt according to the best of our knowledge. The study heeds to Burger et al. (2020)' call for more case-study research on the topic to avoid the

cultural and other contextual factors that complicate cross-country analyses of SWB. Also, the case study approach avoids the messiness of comparative analysis of urbanization given the different definitions of urban employed in different contexts (see Cohen, 2004, 2006).

The paper is organized as follows. First, we review the literature on SWB, urbanization, and the association between these two variables; then, we discuss the data and methods used in our analysis, followed by a presentation of the results. Finally, we discuss the results, offer takeaways for practice, and draw together the main conclusions.

Subjective well-being

The interest in studying SWB has been on the rise during the past few decades (Ferrer-i-Carbonell & Frijters, 2004; Moro-Egido et al., 2022). Diener et al. (1985) show that there are two dimensions of the SWB construct: affective, either positive or negative, and cognitive. So, the term is usually used to refer to people's affective and cognitive evaluation of their lives (Diener, 1994). Two main measures of SWB are used in surveys: happiness and life satisfaction (Helliwell & Putnam, 2004). The happiness measure tends to reflect the affective dimension of the SWB construct while the evaluative cognitive dimension is captured by the life satisfaction measure (Campbell et al., 1976; Helliwell and Putnam, 2004). Usually, the terms SWB, life satisfaction, and happiness are used interchangeably in the literature (Easterlin et al., 2011; Knight & Gunatilaka, 2010; Piper, 2015).

As could be expected, the validity and reliability of SWB measures are occasionally questioned, especially that conventional objective measures (e.g., income), have been used in making inferences about well-being for a long time (Helliwell, 2006). But SWB self-reports are found to be valid, reliable, and sensitive to changes in quality of life (Diener, 1994; Diener et al., 2009; Diener et al., 2013; Veenhoven, 1996). Increasingly, subjective measures of well-being are gaining credence and are proposed to be good complements to the existing objective measures, used in assessing people's welfare, and in informing public policy deliberations (Diener et al., 2013; Diener et al., 2009; Di Tella & MacCulloch, 2006; Helliwell, 2006; Layard, 2010; Morrison, 2014; Stiglitz et al., 2009).

Much of the literature on the topic has been concerned with exploring the different determinants of SWB (for a comprehensive review, see Blanchflower & Oswald, 2011; Dolan et al., 2008; Helliwell & Putnam, 2004; Helliwell, 2006). Interest is specifically directed to those determinants defined by people's economic and social circumstances and not just the determinants that are more related to personality traits (Helliwell & Putnam, 2004). One of these factors receiving rising attention recently is urbanization. The question is usually whether there is an effect of the type and size of the human settlement in which people live on their SWB.

Urbanization

The rural setting remained the primary habitat for most of the world population for hundreds of years before the industrial revolution (Veenhoven, 1994). But this pattern was reversed by the fast-paced urbanization that was one of the characteristics of modern life. Urbanization as a concept could have different definitions but generally it means the massing of people in cities (Anderson, 1959). This definition is mainly concerned with the distribution of the population across human settlements of different sizes, where urbanization is defined as the percentage of the total population living in urban-size settlements (Abu-Lughod & Hay, 2007; Davis, [1965] 2016). But away from the limited focus on size or density variables to define what is urban, urbanization has implications that are usually related to changes in lifestyles, changes in social and economic relations, and changes in governance that stem from the need to deal with the repercussions of urbanization (Smit, 2021). One of the significant implications of urbanization has been the effect it had on the form of social organization within which humans interact with each other. As part of the urbanization process, people moved from a social setting where traditional social bonds were the center of social life and landed in a new social world where the money nexus controls most aspects of life, including social relations. Tönnies ([1887]2001) shed light on such transformation in his discussion of the two ideal types of social organization, namely, *Gemeinschaft* (community) and *Gesellschaft* (society). In *Gemeinschaft*,

human relations are predominantly personal face-to-face relationships based on natural will and regulated by traditional social bonds, including family, religion, and kinship. A setting that is believed to provide networks of social, and even economic, support that cannot be found in *Gesellschaft*, where human relations are more impersonal and indirect. Still, it is argued that communal life and warm face-to-face and direct communication and interaction do exist inside the city, but they take forms that could be different from those found in small settlements (Karp et al., 2015).

In England, which was the cradle of this social change, the introduction of machinery, and the rise of the factory system made the work of many village laborers and farmers redundant and forced them to leave their villages to search for livelihoods in newly erected industrial towns (Davis, [1965] 2016; Engels, [1845] 2001; Karp et al., 2015). So, it was in the first industrializing countries where economic development caused rural-urban migration to be the primary factor of the growth of cities (Davis, [1965] 2016). The situation is not very different in the late industrializing countries in the global South. Despite the important role of natural population growth in the urbanization process and the growth of cities (Abu-Lughod, 1961; Cohen, 2006; Davis, [1965] 2016), rural-urban migration was still the most crucial factor in driving the 20th-century urbanization in the global South (Abu-Lughod, 1961; Cohen, 2006).

Classical social theorists such as Marx and Weber believed that the trajectory of the cities of the future would be like that of the great early industrial cities such as Manchester, Chicago, or Berlin (Davis, 2004). But are the trajectory and implications of the urbanization process in the North and the South the same? The answer to this question is yes and no (see Davis, 2004; Mabin, 2014). Some cities in the global South resembled the trajectory projected by classical social theorists but others did not. For instance, although the Northern urban slums of the 19th century and early 20th century were the result of industrialization, the Southern urban slums in many big cities of the global South were actually the result of deindustrialization and the application of neoliberal policies especially in the agricultural sector that pushed the surplus rural labor force to urban centers despite the inability of cities to provide jobs for them (see Davis, 2004). Cities in different parts of the global South, especially in Africa, ceased to be engines of growth and prosperity and shifted into dumping sites for surplus population working

in low-wage and unskilled informal sectors (Davis, 2004). Thus, despite the important role played by the rural-urban migration in forming the Southern and Northern cities alike, the main drivers and trajectory of this migration were a bit different in both cases.

With time, cities turned out to be the nucleus of modern life and the focus of scholarly debate on their advantages and disadvantages. On the macro level, cities facilitated, through density and proximity, the exchange of goods, services, and ideas, housed hundreds of thousands of people, and made labor specialization possible (Glaeser, 2011). Urbanization brought economic prosperity, and cities were considered the main engines of economic growth and innovation in both the global South and the global North alike (Cohen, 2006; Glaeser, 2011; Sampson, 2019). On the individual level, cities provide freedom from traditional social ties, found in small contexts (Milgram, 1970), and an abundance of choices and options (Milgram, 1970; Park, 2019). Cities also provide privacy that cannot be found in small settlements (Jacobs, 1961). Howard (1965) used one word, to sum up the causes that led people to aggregate in cities: attractions. But scholars, especially classical urban scholars (e.g., Simmel, [1903] 2013; Tönnies ([1887] 2001; Wirth, 1938), argue that city life has its own disadvantages. Big size, highly dense, and heterogeneous places were seen to be fertile environments for social problems, including “personal disorganization, mental breakdown, suicide, delinquency, crime, corruption, and disorder” (Wirth, 1938, p.24). Also, on the psychological level, city life overloads individuals' psychic capacity in an unbearable way (Milgram, 1970, Simmel, [1903] 2013). So, although cities were conceived as havens of freedom away from the repressions of the countryside, cities are also believed to be sites of anxiety and anomie (Harvey, 2000).

The association between urbanization and SWB: theoretical arguments and empirical findings

It could be argued that the city is sometimes conceived as a double-edged weapon. The cost of the opportunities provided by cities, especially in the developed countries context is the relative unhappiness or dissatisfaction of urbanites (Berry & Okulicz-Kozaryn, 2009; Berry & Okulicz-Kozaryn, 2011; Okulicz-Kozaryn & Mazelis, 2018) or what Fischer (1973:233) called “the emotional price for their economic well-being.” Big cities are full of opportunities (e.g., jobs and education) and amenities but cities are also full of disamenities (e.g., pollution, high cost of

living, noise, longer commutes, and high inequality) (Burger et al., 2020; Cohen, 2006). In the global South context specifically, many “cities exhibit extremely high levels of inequality and are teetering on the edge of becoming uninhabitable” (Schindler, 2017, p.58-59).

It is generally hypothesized that urban-rural differential in SWB would be high at low levels of economic development and that this differential tends to decrease and even reverse at higher levels of economic development (Burger et al., 2020; Easterlin et al., 2011; Requena, 2016; Veenhoven, 1994, 1995). This hypothesis was supported by a number of empirical cross-country investigations (e.g., Easterlin et al., 2011; Requena, 2016). For a group of 29 European countries, Requena (2016) reported that compared to other categories on the rural-urban continuum, big cities generated less SWB in developed countries but generated the highest level of SWB in less developed countries. Easterlin et al. (2011) reported a similar result for the group of 80 countries included in their investigation.

In the context of developed countries, the argument is that there is not much difference in living conditions between rural and urban areas. In addition, due to easy accessibility to cities, through transportation infrastructure, residents of the rural and peri-urban areas in developed countries are in a position that allow them to borrow the positive effects of cities but also avoid the disamenities of city life (Lenzi & Perucca, 2018). Because of that, rural and township areas are hypothesized to generate higher levels of SWB when compared to cities. This hypothesis has been intensively investigated in the context of developed countries. Compared to life in smaller settlements, city life was found to be associated with lower levels of life satisfaction in a number of cross-country studies (Berry & Okulicz-Kozaryn, 2009; Piper, 2015; Sørensen, 2014). In addition, this result has been confirmed in many country studies including the US (Berry & Okulicz-Kozaryn, 2009, 2011; Campbell et al., 1976; Okulicz-Kozaryn & Mazelis, 2018; Sander, 2011), New Zealand (Morrison, 2007, 2011), Italy (Lenzi & Perucca, 2019), Denmark (Sørensen, 2021), and United Kingdom (Dunlop et al., 2016; Hoogerbrugge & Burger, 2019).

In the context of developing countries, the argument goes that urban areas provide more public amenities and life opportunities compared to rural and township areas (Veenhoven, 1994, 1995). Hence, cities are hypothesized to generate higher levels of SWB when compared to

rural and township areas in developing countries. Compared to the profusion of literature on the urbanization-SWB relationship in the context of developed countries, there is a dearth of evidence on the effect of urbanization on SWB in developing countries (Burger et al., 2020). In addition, this scant research provides mixed results. For instance, place of residence was found not to be one of the determinants of life satisfaction in developing countries in a number of cross-country studies (Berry & Okulicz-Kozaryn, 2009; Valente & Berry, 2016). On the other hand, other cross-country studies reported positive urban-rural differential in SWB for the group of developing countries included in those studies (e.g., Burger et al., 2020; Easterlin et al., 2011). The same pattern of mixed results is also found in case studies. In the Indian context, rural dwellers reported lower SWB compared to urbanites (Deb & Okulicz-Kozaryn, 2023). On the other hand, in their investigation of the Chinese context, Knight and Gunatilaka (2010) reported rural-urban differences in SWB in favor of rural dwellers despite the gap in material conditions of life between the two groups.

This study contributes to this scant literature by focusing on a large developing country in the MENA region and the African continent. The question now is whether the association between urbanization and SWB in a developing country such as Egypt will support the hypothesis made in literature that urban areas generate higher SWB when compared to rural and town areas.

Data and methods

We use the World Values Survey (WVS) pooled cross-sectional dataset for Egypt to test the association between urbanization and SWB. There are seven waves of the survey, and it was conducted in Egypt in four of them (2001, 2008, 2013, and 2018). The sample used in all the survey waves is representative of the entire adult population in Egypt. The survey uses a multi-stage sampling procedure. Face-to-face interviews were conducted to obtain the data. The interviews were conducted using a questionnaire that was translated into the Arabic language.

The treatment of the SWB dependent variable differs across empirical studies. Some studies treat it as a cardinal variable, and hence the ordinary least squares (OLS) method is used in the

analysis, while other studies treat it as an ordinal variable through the usage of ordered logit or ordered probit models (Dolan et al., 2008). We use the OLS method in our analysis as it is becoming the default method in SWB research, and its results do not differ from the case in which the SWB variable is treated as ordinal (Blanchflower & Oswald, 2011; Easterlin et al., 2011; Ferrer-i-Carbonell & Frijters, 2004; Graham, 2008; Knight et al., 2009; Sørensen, 2021). We also fit the data using an Ordered Probit technique, and the results are reported in appendix B. In effect, the results of our Ordered Probit model show high similarity with the results of the OLS method. Our dependent variable is the life satisfaction measure of SWB. The life satisfaction question reads, “All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are ‘completely dissatisfied’ and 10 means you are ‘completely satisfied’ where would you put your satisfaction with your life as a whole?”.

The size of the place question (i.e., our main independent variable) is missing in one of the four waves: 2013. Hence, this wave was removed from our analysis. The place size variable is a categorical variable representing a continuum of urbanization with eight categories. Unlike in other surveys, the place size question in the WVS is answered by the interviewer herself and not the respondent. So, it is an objective measure of the degree of urbanization². This is different from other surveys in which respondents provide self-reported answers to the type of settlement they live in, i.e., a perceived measure of urbanization (see Weckroth & Kemppainen, 2021).

We control for both personal characteristics and socio-economic variables that were found to be robustly correlated with SWB in the literature (see Blanchflower & Oswald, 2011; Dolan et al., 2008; Helliwell & Putnam, 2004; Helliwell, 2006). We also include two-year dummies as part of our equation to control for any time-related effects. We add a quadratic age term to our models as the relationship between SWB and age is found to be taking a U-shape in which people reach their minimum level of SWB in their middle age (Blanchflower & Oswald, 2008). A

² According to the WVS survey section titled “Observations by the interviewer” which included the question on the size of the place, the technical codes of the questions in this section “are to be coded by the interviewer or fieldwork supervisor (not the respondent!) and must reflect actual, objective information.”

detailed description of all the variables used in our analysis is provided in appendix A. The descriptive statistics of all the variables are presented in table 1. The data of the three waves for which the dependent and independent variables are available are pooled to increase the sample size.

Table 1: Descriptive statistics

Variable	Obs.	Mean	SD	Min/Max
Life satisfaction	7,245	5.61	2.93	1/10
Income	6,839	4.68	2.17	1/10
Age	7,247	39.5	14.58	16/90
Health status	7,251	3.73	0.83	1/5
Freedom	7,205	5.85	2.86	1/10
Importance of religion	7,250	3.96	0.2	1/4
Importance of God	7,245	9.79	0.81	1/10
Variable	Categories	Frequency		
Marital status	Married	5,181		
	Divorced	94		
	Separated	45		
	Widowed	655		
	Single/Never married	1,276		
Gender	Female	3,922		
	Male	3,329		
Subjective social class	Lower class	1,412		
	Working class	1,449		
	Lower middle class	3,065		
	Upper middle class	1,166		
	Upper class	53		
Educational level	Lower level	3,385		
	Middle level	2,345		
	Upper level	1,519		
Employment status	Full time	2,410		
	Part time	243		
	Self-employed	372		
	Retired	398		
	Housewife	2,905		
	Student	309		
	Unemployed	474		
	Other	139		
Trust	Trusting	1,773		
	Not-trusting	5,434		

Results

Table 2 shows summary statistics of the life satisfaction measure for the different categories of urbanization used in the analysis. The eighth category of the population size variable has the

lowest average life satisfaction while the highest average life satisfaction is in the second category, followed by the sixth and first categories, respectively. The table shows that the first two categories of the population size variable (i.e., rural and village settlements) have higher average life satisfaction compared to the 7th and 8th categories (i.e., big cities). Also, except for the 6th category of urbanization, the first and second categories have the highest average life satisfaction compared to all other categories of urbanization. The question now is whether such differences in average life satisfaction across urbanization categories could be explained by the group of socio-economic variables that are usually controlled for in SWB multivariate analyses.

Table 2: Summary statistics of life satisfaction by categories of urbanization

Population size	Summary of life satisfaction		
	Mean	SD	Frequency
Category 1: <2,000	5.81	2.86	119
Category 2: 2,000 - 5,000	6.46	2.67	361
Category 3: 5,000 - 10,000	5.55	3.06	1,463
Category 4: 10,000 - 20,000	5.63	2.95	1,142
Category 5: 20,000 - 50,000	5.49	3.05	1,147
Category 6: 50,000 - 100,000	5.85	2.86	504
Category 7: 100,000 - 500,000	5.52	2.45	313
Category 8: >500,000	5.29	3.08	1,071
Total	5.59	2.98	6,120

Table 3 shows OLS regression models of the life satisfaction measure on the different categories of the urbanization variable and control variables. In our bivariate model, model 1, we regress life satisfaction on our independent variable of interest. We keep adding control variables in models 2, 3, and 4 while still having our key independent variable in all three models. In model 2, we add the demographic group of variables. In model 3, the socio-economic group of variables is added. Finally, in model 4, we add the group of variables that relate to cultural and social capital aspects. In all models, the 8th urbanization category (>500,000) is our reference category for our urbanization variable.

Table 3: OLS regressions: Life satisfaction and urbanization

	Model 1	Model 2	Model 3	Model 4
Urbanization (Base case: category 8: >500,000)				
Category 1: <2,000	0.523	0.498	0.750**	0.792**
Category 2: 2,000-5,000	1.170***	1.159***	1.373***	1.210***
Category 3: 5,000-10,000	0.263*	0.252*	0.506***	0.542***
Category 4: 10,000-20,000	0.343**	0.339**	0.516***	0.522***
Category 5: 20,000-50,000	0.203	0.195	0.372**	0.398**
Category 6: 50,000-100,000	0.567***	0.571***	0.736***	0.684***
Category 7: 100,000-500,000	0.235	0.229	0.399*	0.236
Female		0.194*	0.297*	0.307*
Age		-0.00273	0.00246	-0.0106
Age squared		-0.0000109	0.0000212	0.000161
Marital Status (Base case: Married)				
Divorced		-0.0354	0.0601	0.136
Separated		-0.302	-0.198	-0.281
Widowed		0.0381	0.189	0.126
Single/Never married		-0.131	-0.234	-0.212
Income			0.0969***	0.104***
Social class (Base case: Upper class)				
Lower class			0.317	0.402
Working class			0.694	0.649
Lower middle class			0.721	0.654
Upper middle class			0.515	0.494
Educational level (Base case: Lower level)				
Middle level			0.176	0.0222
Upper level			0.222	0.0983
Employment status (Base case: Full time)				
Part time			0.0165	-0.213
Self-employed			-0.0969	-0.0442
Retired			-0.109	-0.121
Housewife			-0.0256	-0.0214
Student			0.279	0.246
Unemployed			-0.342	-0.299
Other			0.126	0.200
Health status			0.342***	0.341***
Freedom				0.185***
Trust				-0.227*
Importance of religion				0.469*
Importance of God				-0.0104
Year (Base case: 2001)				
2008				0.243*
2018				0.438***
Constant	5.292***	5.349***	2.450***	-0.166
Observations	6120	6118	5640	5585
Adjusted R-sq	0.007	0.007	0.030	0.071

* p<0.05, ** p<0.01, *** p<0.001

All models use robust standard errors

The results of our bivariate model show that except for categories 1, 5, and 7, the residence in all other settlement categories would significantly positively affect life satisfaction compared to living in the 8th urbanization category. In our full specification, model 4, all urbanization categories, except for the 7th category (100,000-500,000), show a significant positive effect on life satisfaction compared to the reference category. The effect size is the greatest for category 2, followed by category 1 and category 6, respectively. The effect of living in category 2 settlements on life satisfaction is about three times the effect of the health status variable. The effect is equivalent to moving three steps up on the health scale from very poor to fair or from poor to very good. The sign of other significant control variables is congruent with previous empirical evidence in SWB literature³.

The rural-urban classifications are not standard in the literature. Some scholars would treat urbanization as a dichotomous variable (rural versus urban) while other scholars operationalize urbanization as a continuum or a gradient (see Sørensen, 2014, 2021). Furthermore, some studies would use a combination of rural-urban classifications to check the robustness of their results. For instance, in their investigation of rural-urban SWB differential in the Indian context, Deb and Okulicz-Kozaryn (2023) defined urbanization as both a dichotomy and a continuum (using the 8 categories of place size in the WVS). Sørensen (2014) recoded the 8 categories of the urbanization variable in the European Values Study to construct three categories (rural areas, town areas, and city areas) urbanization variable in a number of different ways through changing the cut-off values of the three categories. So, we test the robustness of our results by using other rural-urban classifications. First, we construct a dichotomous urbanization variable by treating places with less than 10,000 residents as rural and places with more than 10,000 residents as urban. Second, we construct a 3 categories urbanization variable. The three scales are as follows: (1) rural areas = places with fewer than 10,000 inhabitants; (2) town areas = places with 10,000 – 100,000 inhabitants; and (3) city areas = places with more than 100,000 inhabitants. The results of these robustness checks are shown in table 4 and table 5 respectively. The two robustness checks show that our previous results are robust. As table 4

³ The sign of the trust variable is a bit unexpected as it is supposed to be positively correlated with SWB. Hence, future research could examine this unexpected relationship between trust and SWB in Egypt.

shows, rural areas are more positively correlated with life satisfaction when compared to urban areas. Also, as table 5 shows, rural and town areas show a positive effect on SWB when compared to city areas. The effect is higher in the case of rural areas followed by town areas.

Table 4: OLS regression: Urbanization as a dichotomous variable

	Model
Urbanization (Reference: Urban)	
Rural	0.314***
Controls included	Yes
Constant	0.187
Observations	5585
Adjusted R-sq	0.066

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The model uses robust standard errors

The controls included are the ones in our full specification "Model 4" in table 3

Table 5: OLS regression: Urbanization as a three categories variable

	Model
Urbanization (Reference: Urban areas)	
Rural areas	0.629***
Town areas	0.449***
Controls included	Yes
Constant	-0.183
Observations	5585
Adjusted R-sq	0.069

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The model uses robust standard errors

The controls included are the ones in our full specification in "Model 4" in table 3

But as previously mentioned, two regions have historically dominated over the urbanization and economic development trajectories of Egypt: Greater Cairo and Alexandria. Thus, we control for region dummies in our analysis. There are 5 regions for Egypt in the WVS: Greater Cairo, Alexandria, Upper Egypt, Lower Egypt, and Suez Canal. The results of this specification are shown in table 6. As the findings show, the inclusion of the region dummies totally changes the results of the urbanization categories reported in table 3. But when we look at the region dummies, we see that only the Lower and Upper Egypt regions show a positive effect on life satisfaction compared to the base category: Greater Cairo region. We obtained similar results

when we made Alexandria the base category region. Interestingly, the Lower and Upper Egypt regions are the regions that delimit the rural areas of the country from which people migrate to Greater Cairo, Alexandria, and Canal regions which are predominantly urban. Therefore, it seems that the region dummies are picking up the effect of urbanization. This is not surprising since most of the urban population and economic activities of the country are concentrated in Alexandria and Greater Cairo Regions. So, the results reported in table 6 support the findings in tables 3, 4, and 5 and are aligned with what is reported in the literature given that urbanization and economic activities are concentrated in the Greater Cairo and Alexandria regions.

Table 6: OLS regression: Life satisfaction and regionality

	Model
Urbanization (Base case: Category 8: >500,000)	
Category 1: <2,000	0.236
Category 2: 2,000-5,000	0.709***
Category 3: 5,000-10,000	-0.00857
Category 4: 10,000-20,000	0.0181
Category 5: 20,000-50,000	-0.0934
Category 6: 50,000-100,000	0.241
Category 7: 100,000-500,000	-0.104
Region (Base case: Greater Cairo)	
Alexandria	-0.193
Lower Egypt	0.521***
Upper Egypt	0.648***
Canal	0.168
Control Variables	Yes
Constant	-0.365
Observations	5585
Adjusted R-sq	0.075

* p<0.05, ** p<0.01, *** p<0.001

The model uses robust standard errors

The controls included are the ones in our full specification in "Model 4" in table 3

Discussion

The analysis of the data generated two main findings. First, the association between SWB and urbanization in Egypt is not congruent with the hypothesis that cities generate higher levels of SWB in developing countries. It seems that the long-assumed advantages enjoyed by urban

masses in cities of many developing countries are coming into question especially with the uncontrollable growth of these cities without any concomitant expansion of public services provisioning (Cohen, 2006). In fact, it is not just that there is no expansion in the provisioning of social services and facilities, but there is a retrenchment of government subsidies and social spending because of the application of structural adjustment programs in many countries of the global South including Egypt itself (Davis, 2004; Cohen, 2006). Survival is becoming more and more difficult in many cities of the global South (Cohen, 2006), and it seems that Egypt is not an exception in this regard. Second, our results support the argument made by Morrison (2014:284) that, "the geography of well-being may not mirror the geography of growth." As shown previously, the two main urban and economic centers of the country, Greater Cairo and Alexandria regions, generate lower SWB when compared to the more rural regions, Lower and Upper Egypt regions. But what could be the main explanations for these findings?

One of the possible explanations for these intriguing results could be that there are more unhappy or unsatisfied people living in big Egyptian cities compared to smaller settlements, i.e., those who are more easily satisfied are sorted in rural and village contexts while those who are inherently less satisfied are sorted in big cities. Veenhoven (1994) argues that cities attract those already dissatisfied with their life in rural areas, and hence there could be an excess of unhappy/unsatisfied people in cities. For him, cities do not make unhappy people but attract them. Applying this logic to the Egyptian case, it could be argued that those who stayed behind and decided not to follow their peers who moved to urban centers in search of opportunities, are more content with the lives they lead. Thus, it would be important to control for personality traits to be sure that there is no sorting issue, and to determine whether it is cities per se that make people unhappy, or if those who are inherently unhappy are nested in cities. Unfortunately, the WVS dataset does not include any questions on personality traits of the respondents. Also, the cross-sectional nature of the data precludes a fixed effects analysis that would help in controlling for the fixed personality traits of the respondents.

The previous explanation raises another question about the role of expectations and aspirations in setting the levels of SWB especially among rural-urban migrants. In her study of life satisfaction in three urban towns in Sierra Leone, Peil (1984) finds that rural-urban migrants

reported low satisfaction with their life overall compared to those who only experienced city life, and she attributes this to the unfulfilled high aspirations that led them to big towns in the first place. In the Chinese context, Knight and Gunatilaka (2010) reported rural-urban differences in SWB in favor of rural dwellers despite the gap in material conditions of life between the two groups. One of the explanations for the relative higher SWB of Chinese rural dwellers is their limited information sets and narrower orbits of comparison (Knight et al., 2009). On the other hand, the relative low happiness of Chinese urban dwellers is attributed to wider orbits of comparison and its affiliated high expectations characterizing urban life. So, another possible explanation of our findings could be that the narrow orbits of comparison in the village and township contexts, make people more content with their lives compared to individuals in Egyptian urban areas, where a broad spectrum of reference groups can be found, and signs of high inequality are conspicuous. Hence, the higher SWB of Egyptian rural dwellers could be a function of lower expectations and narrow orbits of comparison. On the other hand, the lower SWB of Egyptian urbanites could be a function of higher expectations and wider orbits of comparison. The problem could be exacerbated if the high expectations held by rural-urban migrants are not met or if the economic welfare of the migrants worsens. In fact, a study that utilizes the 2012 and 2018 waves of the nationally representative Egypt Labor Market Panel Survey (ELMPS) to investigate the effects of internal migration on the welfare of migrants, finds that rural-urban migration in Egypt was associated with a significant welfare loss for migrants (Hatab et al., 2022). Thus, it seems that the economic welfare gains expected by rural-urban migrants turned out to be net welfare loss. Hence, there is a need to control for the effects of moving to a city versus the effect of being in the city (Fischer, 1972). Unfortunately, the survey data used in our analysis does not include questions that would help us control for such a possible scenario. Also, the WVS data does not include information on expectations and social comparison variables, and this type of information is rarely collected in general.

Another possible explanation could be the problems or disamenities found in big cities specifically. Problems such as higher housing prices and higher cost of living in general, pollution, long commutes, and traffic congestion could account for the lower SWB reported in Egyptian urban centers. On the other hand, there might be a positive effect of the better access

to nature and green spaces in rural areas on the SWB of rural dwellers (see Sørensen, 2021). Fischer (1972, 1973) has previously recommended that any investigation of the effect of urbanization/cities on satisfaction/happiness should control for the personal characteristics of individuals living in cities and problems that people usually attribute to cities. Our results showed robustness after the inclusion of personal characteristics in the regression models. Unfortunately, we cannot answer the question of whether it is the place of residence per se, or the problems associated with cities that generate dissatisfaction due to data limitations. Future research is needed in which multi-level analysis could be implemented, controlling for both personal characteristics and community-level variables, such as per capita income, crime, and housing. But there is evidence in the literature on the existence of such problems in Egyptian urban centers, especially in the Greater Cairo Region (GCR) and Alexandria. For example, urbanization and industrialization processes in the GCR were found to result in an increase in human discomfort because of the extreme local climatic changes, which leads to a hindrance to human activities (Robaa, 2011). In fact, urban growth in Egypt, especially in the GCR, happened at the expense of agricultural land (El Araby, 2002). Also, the effects of haphazard and unplanned urban growth on air quality and public health in the GCR are well documented in the literature (see El Araby, 2002). Like many mega cities around the world, Cairo is witnessing an urban flight by the wealthy who leave the city to gated enclaves located in the city's desert hinterlands (Denis, 1997; Elshestawy, 2016; Khalil, 2021; Kuppinger, 2004;) and even the government is currently constructing a new, almost gated, administrative capital in the desert (Khalil, 2021). The goal of relocating government offices is a bit old and dates to the 1980s, with the main goal being the relief of traffic pressures (Sims, 2010). It seems that Cairo is no longer livable for the wealthy because of its many problems: density, eternal traffic congestion, pollution, and lack of privacy which hinder the practice of exclusive lifestyles (Kuppinger, 2004). There has been a continuous effort by the government to relocate inhabitants of Cairo to new satellite cities on its fringes, in hopes of fixing the maldistribution of the population in Cairo (Khalil, 2021; Sims, 2010; Tarbush, 2012). The main issue is that existing urban centers have entered an unfair competition over limited resources with new satellite towns that absorb many resources without achieving the goal of diverting the population of Cairo, or other urban

centers. The only thing that these satellite towns and the new administrative capital have managed to do is to divert the scarce public money that could have been used in upgrading the environmental built-in of Cairo, and other existing urban centers, that suffer from increased demand on its already dilapidated public services (Khalil, 2021; Sutton & Fahmi, 2001). The question that both observers and Egyptian citizens ask is: what is the real value of a new administrative capital that would mostly house a few tens of thousands of the rich stratum but absorbs tens of billions of dollars that are badly needed to improve the provisioning of public services and facilities in urban and rural areas alike?

Takeaways for practice

There has always been a heated debate regarding the future of the great cities between modern urban planners and architects who considered old cities to be a hopeless case (e.g., Howard, 1965, Le Corbusier [1929] 1986; see also Fishman, 1982) and those who considered modern urban planning to be very simplistic. Observers argue that modern urban planners who just care about how cities look did not try to understand the great cities and how they work because they demonized them at first sight (Jacobs, 1961; Scott, 1998). This debate and these visions about the future of cities were not confined to the borders of the Western world. It moved to other parts of the world including many countries in the global South in which modern urban planning ideas were imported. Egypt was not immune from such trend. “Decision makers, business elites, and even Cairo’s intelligentsia seem to be engaged in a long love affair with modern technology and imported urban models, and this has been the case for decades” (Sims, 2010, p.272). Cairo, as well as many other cities in the global South are being treated as pathological spaces “in need of salvation at the hands of Western experts” (Kanna, 2012, p.360). The Greater Cairo region is a very dense and congested metropolis where informal urban development has been, and it is still the norm. The metropolis is the home for almost a quarter of the total Egyptian population. The government’s response to this reality was to launch a new towns program in the 1970s. The program entailed the construction of satellite towns in the desert hinterlands surrounding the Greater Cairo metropolis, with the primary aim

is to divert population growth from the congested metropolis. Also, more recently, the Egyptian government has started the construction of other satellite towns along the desert hinterlands of many other urban centers in addition to the construction of a new administrative capital. The result of this new towns program was ghost cities and the accumulation of dead capital in the form of buildings and infrastructure in those new towns (Sims, 2010). The reasons are almost similar to what Jacobs (1961) detailed in her criticism of modernist urban planning. The Egyptian urban planners joined by the officials paid much attention to how the city should look but not how it should function. How the metropolis looks is the main priority for them. The main goal is to transform Greater Cairo into a modern city. They believe that the metropolis, in its current shape, is an embarrassment to Egypt's image. [There are other political economic reasons behind the adoption of such urban planning policies including the fact that the construction sector is one of the main sectors in which the ruling elites, especially the army, are investing heavily and extracting huge sums of rent from it. So, it could be argued that part of the story is that the current ruling regime is embarking upon these mega construction projects to provide a source of rent to the main actors that guarantee the security and stability of the regime, especially the military in this case \(Mandour, 2019; Sayigh, 2019\). Hence, these projects are being used by the regime as tools to guarantee loyalty and consolidate the support within the governing coalition⁴ \(Mandour, 2019; Sayigh, 2019\). But whatever the motive behind those mega construction projects](#), what is certain is that these urban planning policies and visions divert the scarce public finances that are supposed to be used in upgrading the built-in of Cairo and other urban centers and in improving public services in those urban centers (Khalil, 2021; Sutton & Fahmi, 2001). The results of this study might reflect such long history of neglect of Egyptian urban centers and how such deteriorated situation is putting stress on the SWB of Egyptian urbanites. Given the resource constraints faced by many cities in the global South including Egyptian cities, priority should be given to the improvement of living conditions in existing urban centers where most of the urban growth is happening and will continue to happen.

⁴ A full-fledged political economic analysis of urban planning policies in Egypt is beyond the scope of this paper and hence we leave it for future research.

Limitations and directions for future research

The main limitation of our analysis is related to our inability to control for the speculated explanations that we discussed above due to the data limitations of the WVS. Future research could utilize incoming survey data or could even design survey questions with specific hypotheses in mind. A good step in this direction could be the inclusion of a subjective well-being item in panel surveys such as the Egypt Labor Market Panel Survey (ELMPS). The inclusion of this item would help in conducting a panel analysis of the rural-urban SWB differential in the Egyptian context and would enable more robust causal inferences especially when it comes to the sorting issue. Future research should also look at the effect of migration on subjective well-being. Studies have found that rural-urban migration can harm SWB in developing countries such as China (Knight et al., 2009; Knight & Gunatilaka, 2010), Sierra Leone (Peil, 1984), and South Africa (Mulcahy & Kollamparambil, 2016). Also, internal rural-urban migration has been found to harm the welfare of migrants in the case of Egypt (Hatab et al., 2022). Again, a good step in this direction could be the inclusion of a SWB item in the ELMPS especially since this survey already includes a rich module on migration. The panel structure of the survey would also allow researchers to control for selective migration and sorting issues—things like personality traits or human values that might drive some people to move to cities (see Weckroth & Kempainen, 2021).

Conclusion

Using the WVS data for Egypt, this study found a robust rural-urban difference in SWB. Rural and town dwellers were found to have higher life satisfaction compared to urbanites. These results are a bit unexpected, especially in a developing country context—the existing literature argues that SWB should be higher in cities compared to rural areas in such a context. Hence, our study provides a valuable contribution to the existing literature on the effect of urbanization on subjective well-being, especially in the context of developing countries. Our empirical results are robust and persistent even after the inclusion of personal characteristics in our models. Another interesting finding is that the two main urban and economic centers of the country, the Greater Cairo and Alexandria regions, generate lower SWB when compared to the more rural

regions, Lower and Upper Egypt regions. We discussed three speculated explanations for such rural-urban SWB differential. When warranted, future research using different datasets is required.

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Appendix A: Description of Variables

Variable	Description
Life satisfaction	Subjective report of life satisfaction by the respondent. Respondents are asked “All things considered, how satisfied are you with your life as a whole these days?”. Responses are coded so that 1 means “completely dissatisfied”, and 10 means “completely satisfied”
Place size (i.e., urbanization variable)	Observation of the interviewer of the size of place where the interview was conducted on a scale from 1 to 8. 1 means “under 2000 persons”, and 8 means “500,000 and more persons”.
Income	Subjective income scale from 1 to 10 where 1 means “the lowest income group”, and 10 means “the highest income group.
Health	Subjective report of the state of health on a scale from 1 to 5. Responses are recoded so that 1 means “very poor”, and 5 means “very good”.
Female	Sex of the respondent where responses are recoded so that 1 means “female” and 0 means “male”.
Age	Age of the respondent.
Age squared	Age squared.
Freedom	Respondents are asked “Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means “no choice at all” and 10 means “a great deal of choice” to indicate how much freedom of choice and control you feel you have over the way your life turns out”.
Trust	Respondents are asked “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?” Responses are recoded so that 1 means “most people can be trusted”, while 0 means “need to be very careful”.
Class	Social class (subjective). It is a 5-point scale. Responses are recoded so that 1 means “lower class”, while 5 means “upper class”.
Year	Year of the wave of the survey.
Education	Highest educational level attained. Three categories: Lower, Middle, and Upper.
Marital status	Respondents are asked about their marital status. 5 categories: married, divorced, separated, and single/never married.
Importance of religion	Respondents are asked to indicate how important religion is in their lives. It is a 4-point scale. Responses are recoded so that 1 means “Not at all important”, while 4 means “Very important”.
Employment status	Respondents are asked about their employment status. 8 categories: full time, part time, self-employed, retired, housewife, student, unemployed, and other.
Importance of God	Respondents are asked to indicate how important God is in their lives. It is a 10-point scale where 1 means “not at all important”, and 10 means “very important”.

Appendix B

B1: Ordered probit regressions: Life satisfaction and urbanization

	Model 1	Model 2	Model 3	Model 4
Urbanization (Base case: category 8: >500,000)				
Category 1: <2,000	0.209	0.197	0.303**	0.339**
Category 2: 2,000 - 5,000	0.415***	0.411***	0.500***	0.475***
Category 3: 5,000 - 10,000	0.0997*	0.0937*	0.196***	0.213***
Category 4: 10,000 - 20,000	0.109*	0.106*	0.177***	0.187***
Category 5: 20,000 - 50,000	0.0706	0.0658	0.139**	0.149**
Category 6: 50,000 - 100,000	0.170**	0.171**	0.247***	0.239***
Category 7: 100,000 - 500,000	0.0716	0.0692	0.141*	0.104
Female		0.0803**	0.118**	0.123**
Age		-0.00283	-0.00111	-0.00495
Age squared		0.0000106	0.0000213	0.0000624
Marital Status (Base case: Married)				
Divorced		-0.0302	0.0191	0.0540
Separated		-0.125	-0.0791	-0.110
Widowed		0.0160	0.0785	0.0565
Single/Never married		-0.0549	-0.0814	-0.0742
Income			0.0462***	0.0460***
Social class (Base case: Upper class)				
Lower class			0.136	0.159
Working class			0.246	0.230
Lower middle class			0.292	0.270
Upper middle class			0.222	0.214
Educational level (Base case: Lower level)				
Middle level			0.0464	0.000405
Upper level			0.0326	-0.00136
Employment status (Base case: Full time)				
Part time			0.00907	-0.0726
Self-employed			-0.000194	0.00769
Retired			-0.00251	-0.00239
Housewife			-0.00723	-0.000327
Student			0.0524	0.0407
Unemployed			-0.133*	-0.124
Other			0.0418	0.0844
Health status			0.141***	0.142***
Freedom				0.0658***
Trust				-0.0538
Importance of religion				0.142
Importance of God				0.00365
Year (Base case: 2001)				
2008				0.0442
2018				0.130**
Observations	6120	6118	5640	5585

* p<0.05, ** p<0.01, *** p<0.001