Urban unhappiness is common

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ABSTRACT

This study shows, for the first time, that city unhappiness is common across the world. We use the World Values Survey cumulative dataset 1981–2020 from www.worldvaluessurvey.org. In all developed countries, without exception, we find that city dwellers are not happier than rural residents.

Research by Berry and Okulicz-Kozaryn (2011) provided preliminary evidence of an "urban-rural happiness gradient" in many countries, where happiness levels rise from lowest in the largest cities to highest in the smallest places. The gradient is non-linear—the very largest cities are markedly less happy than all other areas in a country, e.g., New York City (Okulicz-Kozaryn & Mazelis, 2018; Senior, 2006), London (Chatterji, 2013; Office for National Statistics, 2011), Helsinki (Morrison, 2015), Bucharest (Lenzi & Perucca, 2016), and Sydney (cited in Morrison, 2011). The goal of this paper is to test the gradient across countries using one dataset with a uniform set of measures. This study shows, for the first time, that city unhappiness is common across the world.

Most research on the urbanicity–happiness relationship points to an urban-rural happiness gradient, where happiness raises from its lowest level in the largest cities, to the highest level in the smallest rural areas (e.g., Campbell et al., 1976; Okulicz-Kozaryn & Valente, 2020). Yet, most research has been conducted in the US or Western Europe, and there are only three cross-country investigations using a common dataset: Berry and Okulicz-Kozaryn (2009), Easterlin et al. (2010) and Burger et al. (2020).

There are multiple problems with the Gallup data used by Easterlin et al. (2010) and Burger et al. (2020). And Berry and Okulicz-Kozaryn (2011) have failed to analyze the data individually for each country. Hence, there is a literature gap and a need to test the urban-rural happiness gradient hypothesis across countries using an appropriate dataset. The present study is the first to report the urban–rural happiness gradient across countries showing the gradient for each country separately. We use a suitable and accurate dataset and control for relevant predictors of happiness.

1. Data and model

We use the World Values Survey cumulative file 1981-2020 from www.worldvaluessurvey.org, which is representative of about 90% of the world population,[1] and is much better suited for the study than an inadequate and poorly designed Gallup survey.[2]

The variables are listed in Table 1. Country codes and descriptive

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statistics are in the Supplementary Online Material (SOM).

Subjective wellbeing (SWB) is an umbrella term for various subjective measures of wellbeing, notably positive and negative effects, happiness, and life satisfaction. Most of the SWB research, including this study, uses the life satisfaction measure, which is a global self-evaluation of one's life as a whole. Life satisfaction is mostly cognitive and not affective—a respondent evaluates her life as a whole globally (professional, personal, family, community, etc.) (Diener, 2009). Following usual practice, for simplicity, we use these terms interchangeably: SWB, happiness, and life satisfaction, but we mostly refer to life satisfaction as defined above.[3]

The SWB 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?"

Urbanicity is operationalized with the WVS variable "X049," objective and recorded by the interviewer, not the respondent. There are eight categories ranging from '<2k' to '>500k.' This is an important advantage, because urbanicity or urbanness is a continuum, not a binary urban versus rural dichotomy. We conduct the analysis using a set of dummy variables for all eight categories (leaving out the base case) in the SOM. For simplicity and ease of exposition, however, we present simplified results in the body of the paper using three categories only. Thus, please refer to the SOM for the results of all categories.

Because in many countries, there are either no observations or few observations in the first two bottom categories, '<2k' and '2-5k,' we combined them together for the analyses in the main body of the paper. These two categories together proxy a city-free natural environment most closely resembling the natural human habitat where we have evolved, and it includes: wilderness, open country, and small villages. The other critical category that must be measured is large cities. There is likely to be a threshold at several hundred thousand, hence we use the top category on the WVS variable "X049," which is '>500k,' as a proxy of large cities. Such places least resemble natural human habitat and are mostly consisting of man–made objects such as asphalt, concrete, glass, etc., and accordingly are likely to be the least happy.

The classification into large cities versus natural areas produces a third category in between for places with a population size of 5-500k. The two cutoffs are driven by theory. It would be a gross oversimplification to use an urban–rural dichotomy with one cutoff, for example, '<100k' vs. '>100k' (or any other value). A place never changes abruptly from rural to urban at some cutoff point—it is a continuum—although it can be simplified to carefully chosen extreme categories, one must always start with the continuum. Since this aggregation or simplification into 3 categories is still somewhat arbitrary, we present alternative aggregations in the SOM in addition to the full 8-step urbanness gradient.

In the choice of controls we generally follow Okulicz-Kozaryn & Valente, 2020. Table 1 lists the control variables used in the body of the paper and there are specific controls worth discussing. Young, single, childless persons and young men with tertiary education are relatively more satisfied with urban areas as a place of residence (Carlsen & Leknes, 2019). Income, class, and education not only predict greater

SWB, but are also confounded with and higher in cities.[4]

One great advantage of city life that is often forgotten is freedom (Park et al., 1925 1984), hence we control for freedom. Likewise, trust is important, as it predicts SWB, and it is lower in cities (Milgram, 1970). Health is a key predictor of SWB, and the subjective health measure used here is a reasonable measure of actual health (Subramanian et al., 2009).

We use a standard OLS regression with robust standard errors. We treat the 10-step happiness variable as continuous since research has shown that an ordinal variable can be treated as continuous (Ferrer-i-Carbonell & Frijters, 2004). It is important to underscore that OLS has become the default method in happiness research (Blanchflower & Oswald, 2011). Theoretically, while there is still debate about the cardinality of SWB, there are strong arguments to treat it as a cardinal variable (Ng, 1996, 1997).

2. Results and discussion

We only present results from one model for each country[5]–it includes all necessary and some additional controls (yet, not over-saturated where too many controls would result in collinearity and many missing observations). We use here models with controls listed in Table 1. The model presented here uses 3 urbanicity categories, '<5k (base)', '5k-500k', and '>500k'. Results are set in Table 2 and also visualized in Fig. 1. We are interested in the comparison between '<5k' vs. '>500k' because places larger than several hundred thousand are the most unnatural environment for humans as compared to natural environments, where our species has evolved.

The results in Table 2 show that in 80% of countries with significant happiness differences across urbanicity, people are less happy in cities than in smaller areas. The only exceptions are in the East European Post Soviet countries (ALB, ROU, RUS), and in South-Asian countries (BGD and IND). Notably, these are all poor or developing countries. In all developed countries, people are happier in smaller places than in large places—without exception, we find that city dwellers are not happier than rural residents.[6] This finding is important because it contradicts a

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[3] The SWB measure is at least adequately reliable, valid, and considered acceptable for public policy making and public administration (Diener, 2009; Stiglitz et al., 2009). It is also used frequently in urban research (e.g., Chen et al., 2015; Ma, Dong, Chen, & Zhang, 2018; Moeinaddini et al., 2020; Mouratidis, 2018; Mouratidis, 2019; Valente & Berry, 2016; Wang et al., 2019; Wkeziak-Bialowolska, 2016). There are cross-cultural comparability caveats, however, and SWB may not be adequately comparable across countries (Diener, 2009; Kahneman et al., 1999). This limitation should be kept in mind when comparing results across countries in the present study. More focus should be on within-country differences, and this is what this study is mostly about—the difference between smaller and larger places in terms of SWB within different countries. We treat each country separately and do not pull the data together. In short, one should focus on within-country differences across urbanicity and exercise caution when comparing effects across countries.

[4] Simply comparing unadjusted means may result in oversimplified or biased research claiming that people are happier in cities (e.g., Burger et al., 2020)—there is confounding of urbanicity with higher income, education and class—see SOM for tables with and without controls.

[5] There is a tradeoff in this study between ease of presentation and elaboration as there are dozens of countries and presenting elaborated specifications would result in unwieldy presentation—additional specifications are in the SOM.

[6] In all developed countries studied here, AUS, CAN, DEU, ESP, ITA, NLD (only in SOM), NZL, SWE, and the USA, people in the largest areas have lower happiness levels than those in smaller areas. At least in less elaborate specifications shown in the SOM, but even in the most elaborate specifications, even when the coefficient on larger places is insignificant, it is still negative.The urban-rural gradient is the greatest in EGY, VEN, and VNM where the effect sizes are larger than 1, while the effect sizes for most other places are small to moderate, around 0.3 to 0.5 (on a 1–10 SWB scale).Yet, as indicated earlier, because of the limited cross-cultural comparability of the SWB measure, when interpreting our results, the focus should be on within–country SWB differences across urbanicity, and not on comparing cross–country effect sizes.It is worth noting that in the first column (5-500k), the majority of the results are negative with only 5 countries yielding a positive result: GHA, MDA, PER, RUS, and ZAF—reiteratively, what is remarkable is that none of these countries are considered developed.Note: the result for VEN should be interpreted with caution—this is the main difference with table exT4-3 in SOM and probably has to do with the fact that there are only 60 obs on the base case category. Other results are similar between the two tables.In the vast majority of countries, the results show a negative effect, and are only positive in East European Post Soviet (ALB, ROU, and RUS), and South-Asian countries (BGD and IND). East European Post Soviet countries are still quite centralized where power, opportunity, and resources are located in the large cities. India and Bangladesh are curious outliers (for some discussion see Deb, 2020).

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Table 1

Variable definitions.

Name	Description
Happiness	'All things considered, how satisfied are you with your life as a whole these days?' 1='dissatisfied' to 10='satisfied'
Place size	'OBSERVATIONS BY THE INTERVIEWER; Code size of town where interview was conducted'
Year survey	Year of survey
Age	Age
Age2	Age squared
Male	Male
Married	Married or living together as married
Divorced/separated/ widowed	divorced/separated/widowed
Education	'Highest educational level attained'
Income	'Scale of incomes'
Class	'Social class (subjective)'
Health	'State of health (subjective)'
Postmaterialist	'Post materialist index'
God important	'How important is God in your life? Please use this scale to indicate- 10 means very important and 1 means not at all important.'
Religion important	'For each of the following aspects, indicate how important it is in your life. Would you say it is: Religion'
Autonomy	'Autonomy index'
Freedom	'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 'none at all' and 10 means 'a great deal' to indicate how much freedom of choice and control you feel you have over the way your life turns out.'
Trust	'Most people can be trusted'

common belief that emerged recently, possibly due to ideological reasons (e.g., Burger et al., 2020; Glaeser, 2011; Glaeser et al., 2016), claiming that urban areas are happier. The effort to contravene the findings that cities tend to be less happy than smaller areas is arguably due to economics axioms: money is centered in cities (production, productivity, income, and consumption increase with population size), and therefore, cities have greater utility, so they must be happier. Yet, empirical evidence says otherwise.

Also note that in about a third or even half of the countries (depending on the model), there is no SWB difference across urbanicity. This is also a finding worth reporting as it runs counter to the common pro-urbanism and city triumphalism claim (e.g., Glaeser, 2011). One would think that cities are the best places to live as people flock there in doves. Thus, a finding showing no difference for many cases is already surprising.

Even though coefficient estimates are small to moderate, the practical significance of the results is very strong because of the sheer size of urbanization. Even a minuscule negative effect of 0.1 (on a scale of 1-10) on a large place versus a smaller place for a small country of 10 million people translates into an effect equivalent of making 100 thousand people go from the most miserable to the most happy level on the SWB scale of 1-10. Globally, for billions of people living in cities, there is a massive amount of human misery produced.

Why are people less happy in large cities in the developed world, yet happier in some developing countries? There is at least one reason. In many developing countries, life is simply unbearable outside of the city lacking basic necessities such as shelter, food, water, sanitation, and healthcare. In developed countries, even the smallest places have reasonable access to necessities, and small places do not suffer from urban disamenities. As per Maslow's pyramid of needs (Maslow, [1954] 1987), survival and opportunity come first, and this arguably can explain much of the paradox found in this paper—despite the city being biologically, neurologically, and socially negative for humans (Lederbogen et al., 2011; Simmel, 1903; Wirth, 1938), cities can be useful for human wellbeing at the early stage of a country's economic development.

Table 2

OLS regressions of SWB on place size for each country separately controlling for predictors of SWB listed in Table 1.

	5-500k	500k-	N
ALB	-0.4*	0.4+	1582
ARG	-0.2	-0.0	855
AUS	-0.0	-0.1	3728
AZE	-0.1	0.3	964
BFA	0.3	0.0	567
BGD	0.0	0.7*	2104
BGR	-0.0	-0.5*	1229
BLR	-0.1	-0.1	2815
BRA	-0.2	-0.4*	3576
CAN	-0.1+	-0.3*	3177
CHL	-0.7*	-0.7*	3527
CHN	0.0	-0.4*	2005
COL	0.0	-0.1	1376
DEU	-0.1	0.0	4795
DZA	-0.4*	-0.6	1596
ECU	-0.9*	-0.7*	1182
EGY	-0.4*	-1.1*	3428
ESP	-0.1	-0.1	1487
ETH	0.3	0.4	1017
GEO	0.1	0.1	2401
GHA	0.3*	-0.0	2572
HUN	0.0	-0.4*	887
IDN	0.1	-0.0	2056
IND	-0.0	0.3*	5857
IRN	-0.3*	-0.0	2119
IRQ	-0.1	-0.0	1123
ITA	-0.1	0.2	585
JOR	0.1	-0.2	2089
KAZ	-0.0	-0.3*	1497
KGZ	-0.1	-0.3*	2293
LBN	0.1	0.2	731
LTU	0.3	0.3	750
LVA	-0.1	-0.6*	963
MAR	0.0	-0.2	845
MDA	0.2*	0.2	2478
MEX	-0.1	-0.2+	3544
MKD	-0.2	-0.1	1385
MYS	0.1	-0.4*	1541
NGA	-0.1	-0.1	4488
NZL	-0.1		417
PAK	0.4+	0.3	900
PER	0.3*	-0.5	1026
PHL	0.4	0.5	2294
POL	-0.1	-0.1	1533
ROU	-0.2*	0.3*	3568
RUS	0.2*	0.2*	3253
RWA	-0.7*	-0.4+	2398
SRB	0.1	-0.4*	2539
SVN	0.2+	-0.2	1620
SWE	0.2	0.2	1769
THA	0.1	0.1	2178
TUN	0.1		826
UKR	0.0	-0.1	2985
URY	0.2	0.1	2017
USA	-0.1	-0.2*	3372
UZB	0.0	-0.3*	1247
VEN	-1.7*	-1.2*	1034
VNM	0.1	-1.5*	2039
ZAF	0.2*	0.0	5330
ZWE	0.1	0.2	1487

* $p < 0.05$.

+ $p < 0.1$; robust std. err.

The most important policy implication from these results is that while low-density non-urban living for most people is not viable in the short run (e.g., Meyer, 2013), more consideration should be given to smaller areas that have been left behind, as lamented by some (e.g., Atkins & Allred, 2021; Fuller, 2017; Hanson, 2015), but not heard by most. Redirecting resources away from smaller places should be given more thought and consideration. A bolder policy proposal would be simply to promote rural living through tax breaks or subsidies. Yet, we
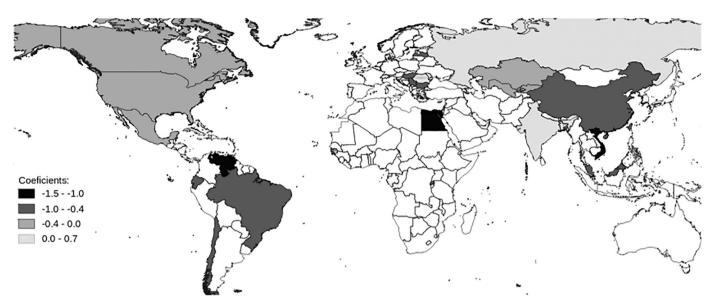
Fig. 1. Coeficients from Table 2 on cities larger than 500,000. Only significant results shown (white indicates no significant results). Note that the map is zoomed to show the detail and any cut off countries have no significant results.

hesitate to go that far in our recommendations here—a thorough discussion of pros and cons of various policy implications is beyond the scope of this brief communications paper.

CRediT authorship contribution statement

Adam Okulicz-Kozaryn, Rubia Valente: Conceptualization, Methodology, Writing - Review & Editing.

Adam Okulicz-Kozaryn: Software, Formal analysis, Data Curation, Writing - Original Draft, Visualization, Investigation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.cities.2021.103368.

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