# Unhappy Metros: Satisfaction With Life Scale (SWLS)

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There are dozens, possibly hundreds, of studies on urban-rural happiness gradient, but all studies use a simplistic single item measurement of SWB. Such limitation is understandable and common, as multi-item or scale measurement is typically restricted to small sample laboratory settings. And urbanicity deriving from place of residence by definition requires wide geographical coverage and large sample. This is the first study of urban rural happiness gradient using elaborate multi-item scale meauserment of SWB. Satisfaction With Life Scale (SWLS) confirms earlier single-item finding of urban-rural happiness gradient. Urbanites fail especially on last item "If I could live my life over, I would change almost nothing" indicating that urban way of life may result in regrets.

PANEL STUDY OF INCOME DYNAMICS (PSID), URBAN-RURAL HAPPINESS GRADIENT, URBAN, CITIES, HAPPINESS, LIFE SATISFACTION, SWUBJECTIVE WELLBEING (SWB), SATISFACTION WITH LIFE SCALE (SWLS)

The urban-rural happiness gradient states that happiness raises from its lowest in largest cities to highest in smallest places, little towns, villages, and open country. The evidence of urban-rural happiness gradient is mounting—urban unhappiness is common (Okulicz-Kozaryn and Valente 2021, Senior 2006, Office for National Statistics 2011, Chatterji 2013, Lu et al. 2015, Lenzi and Perucca 2016, Morrison 2015, Morrison and Weckroth 2017) with some added nuance in recent studies Lenzi and Perucca (2021), Morrison (2021), Okulicz-Kozaryn and Valente (2018). As a corollary, exposure to nature, the opposite of urbanicity, is related to happiness (Pretty 2012, Frumkin 2001, Wheeler et al. 2012, White et al. 2013a,b, Tesson 2013, Maller et al. 2006, Berman et al. 2008, 2012). Despite that, some economists are still trying to argue the opposite, that the happiness has its place in the city, arguably due to ideological reasons—in economics  $happiness \approx utility \approx money$ —there is most money in cities, so there must be more utility, economics thinking goes, and so economists cherry pick data, e.g., the poorest African countries where indeed urbanites are happier, to find the evidence to support the economic theory (Glaeser et al. 2016,?, Burger et al. 2020).

There are dozens, possibly hundreds, of studies on urban-rural happiness gradient, but all studies use a simplistic single item measurement of SWB. Such limitation is understandable and apprently insurmountable, as multi-item or scale measurment is typically restricted to small sample laboratory settings. And urbanicity deriving from place of residence by definition requires wide geographical coverage and large sample. This is the first study of urban rural happiness gradient using elaborate, multi-item scale meauserment of SWB.

#### 1 Data

We use unique data, a 2016 Wellbeing Module of Panel Study of Income Dynamics merged with 2015 family file (psidonline.isr. umich.edu). All wellbeing measures come from the 2016 module, and all other measures, including the urbanicity measure come from 2015 family file.<sup>1</sup>

A unique advantage of PSID 2016 Wellbeing Module are multiple SWB measures. All variables are set in table ??, and summary statistics are in Supplementary Online Material (SOM). We will use several SWB measures. We start with a usual SWB item, a life

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All mistakes are mine.

<sup>&</sup>lt;sup>1</sup>There is no corresponding 2016 family file. Such setup may actually help with reverse causality–in our case wellbeing cannot cause urbanicity as it is observed afterwards. Still, of course, as any non-experimental study, the present study is observational or correlational. We keep only the reference person (head) following Brown and Gathergood (0).

satisfaction measure: "How satisfied are you with your life as a whole these days?" There is also a "ladder" SWB measure. And finally we have constructed a SWLS scale. Cronbach's alpha of the scale is good at .88.<sup>2</sup> The items that have been used for the scale construction are listed in 2nd panel "swls items" of table ??.

Table 1: Variable definitions.

name	description
obal swb measures	
satisfied with life as a whole	"How satisfied are you with your life as a whole these days?"
life satisfaction ladder	"Suppose that the top of the ladder below represents the best possible life for you and t
	bottom of the ladder represents the worst possible life for you. On which step of the ladd
	do you feel you personally stand at the present time?"
swls	Satisfaction With Life Scale
ls items	
life is close to ideal	"How much do you agree or disagree with each of the following statements: In most way
	my life is close to my ideal."
conditions of life excellent	"(How much do you agree or disagree with each of the following statements:) The condition
	of my life are excellent."
satisfied with life	"(How much do you agree or disagree with each of the following statements:) I am satisfi
	with my life."
gotten the important things	"(How much do you agree or disagree with each of the following statements:) So far, I ha
	gotten the important things I want in life."
would change almost nothing	"(How much do you agree or disagree with each of the following statements:) If I could I
	my life over, I would change almost nothing."
olanatory variables	
metro	"Metropolitan/Non-metropolitan Indicator. This indicator is derived from the 2013 Bea
	Ross Rural-Urban Continuum Codes published by USDA based on matches to the FII
	state and county codes." 1 Metropolitan area (Beale-Ross Code ER775923= 1-3) 0 No
	metropolitan area (Beale-Ross Code ER775923= 4-9)
age	age
age sq	age squared
last year total family income	last year total family income
employment status	"We would like to know about what (you/HEAD) (do/does) – (are/is) (you/HEAD) worki
. ,	now, looking for work, retired, keeping house, a student, or what?–FIRST MENTION"
race	"What is (your/his/her) race? (Are/Is) (you/he/she) white, black, American India
	Alaska Native, Asian, Native Hawaiian or other Pacific Islander?–FIRST MENTION" NOT
	"latino" category derived from ER64809: " In order to get an idea of the different rac
	and ethnic groups that participate in the study, I would like to ask you about (your/you
	spouse's/[HEAD]'s) background. (Are/ls) (you/he/she) Spanish, Hispanic, or Latino? The
1.1	is, Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish?"
kids	"Number of Persons Now in the FU Under 18 Years of Age" "Did (you /ho /cho) attend college?" 1—'yes' 0—'no'
college health	"Did (you/he/she) attend college?" 1='yes', 0='no' "Now I have a few questions about your health. Would you say your health in general
ncailli	· · · · · · · · · · · · · · · · · · ·
mala	excellent, very good, good, fair, or poor?" 1 (poor) to 5 (excellent)
male	gender  "Are your married wideward diversed constraint or have your never been married?" 1—'m
married	"Are you married, widowed, divorced, separated, or have you never been married?" 1='m.
family with the	ried'; 0 otherwhise
family unit size	Number of Persons in FU at the Time of the Interview
important to live in a	"(Below is a list of things that may or may not be important to you. How important a
city/place that one likes	each of the following to you: ) Living in a city or place that I like."

Diener's Satisfaction With Life Scale (SWLS) (Diener et al. 1985) consists of 5 items as swhown in table ??. SWLS is the most popular scale for measurment of life satisfaction, eg the original paper (Diener et al. 1985) is cited over 30k. More recently, Diener

 $<sup>^2</sup>$ Using command alpha in stata (without 'asis' and 'std' options.

concludes that SWLS has "good convergent validity with other scales and with other types of assessments of subjective well-being. Life satisfaction as assessed by the SWLS shows a degree of temporal stability (e.g., 0.54 for 4 years), yet the SWLS has shown sufficient sensitivity to be potentially valuable to detect change in life satisfaction during the course of clinical intervention. Further, the scale shows discriminant validity from emotional well-being measures." (Pavot and Diener 2009, p. 101).

Let's look closer at items. Pavot and Diener (2009): rephraze "the last item is the weakest in terms of convergence with other items. This may be because most of the items refer primarily to the present, whereas the fifth item refers primarily to the past, although this interpretation will require empirical testing."

A similar point is made by Slocum-Gori et al. (2009) that in terms of unidimesionality of SWLS it holds up reasonably well, except the last item.

Oishi (2006) points out that: first three items focus on external living conditions or the present level of satisfaction: life is close to ideal, conditions of life excellent satisfied with life

last two items assess one's satisfaction with past accomplishments gotten the important things would change almost nothing

Our main explanatory variable of interest is metro, a dummy variable that equals 1 if a county is metropolitan, and 0 if a county is nonmetropolitan. More information is in Supplementray Online Material (SOM).

We control for a usual set of SWB predictors following Okulicz-Kozaryn and Valente (2018). Race is an important variable, as it not only predicts SWB, but is also confounded with urbanicity (e.g., Berry and Okulicz-Kozaryn 2011). We also would like to control for political views as they predict SWB (Okulicz-Kozaryn et al. 2014) and confound with urbanicity, but there are no political measures in PSID. Likewise, religiosity (Okulicz-Kozaryn 2010) and type of work (Okulicz-Kozaryn and Golden 2017) may affect SWB, and confound with urbanicity—we include additional models in SOM.

The US is a geographically diverse country with a multitude of regional differences that may impact results, notably urban areas differ in their character greatly depending on the region, and hence, we include state dummies.

Finally, the 2016 PSID Wellbeing Module contains an item whether it is important to live in a city/place that one likes, and we think that a weight that ones gives to place may affect results, hence we include this item as a control as well.

We use ordinary least squares (OLS). Although OLS assumes cardinality of the outcome variable, and SWB measures are technically ordinal, OLS is an appropriate estimation method. Ferrer-i-Carbonell and Frijters (2004) showed that results are substantially the same to those from discrete models, and OLS has become the default method in happiness research (Blanchflower and 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, 2011).

### 2 Results

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We proceed as follows. First we examine the global SWB measures, life satisfaction, ladder measure, SWLS in table 6. Subsequently, we will dig dipper and look at each SWLS item separately in table 4.

we start with basic controls in columns a1\*. While residents of metros are less happy, as expected, results are borderline statistically significant or insignificant. Addition of race categories in columns a2\* raises statistical significane.<sup>3</sup> Addition of evaluation whether living in a city/place that one likes is important further increases statistical significance. Effect sizes are consistent. Satisfaction with life as a whole and swls are both on scales 1-5, whereas life staisfaction ladder question is on scale 1-10, and correspondingly coefficients are about twice as large. In full specification, effect sizes are about half of the coefficient on health, so in practical terms

<sup>&</sup>lt;sup>3</sup>Results on racial categories are unexpected. Blacks and latinos are happier than whites, and we do not have an explanation for that.

this means that living in a metro depresses one's happiness as much as going half way from fair health to poor health, for instance—TODO say in abs

Summary	statistics	mean			
by	categories	of	met	(metro)	
met	WB16A3A	WB16A3B	WB16A3C	WB16A3D	WB16A3E
nonmetro	3.710	3.660	3.860	3.880	3.320
metro	3.650	3.630	3.880	3.800	3.170

Table 2: means of swb by metro

Table 3: OLS regressions of SWB.

		41		_			_				_
	a1a	a1b	a1c	a2a	a2b		a2c	a3a	a3b		a3c
	satisfied		swls	satisfied	life	satis-	swls	satisfied	life	satis-	swls
	with life as a			with life as a	faction	ladder		with life as a	faction	ladder	
	whole			whole				whole			
metro	-0.08+	-0.09	-0.07+	-0.12**	-0.21*		-0.10*	-0.14***	-0.25**		-0.13**
age	-0.00	0.00	-0.02*	-0.00	-0.00		-0.02*	-0.00	-0.00		-0.02**
age sq	0.00	0.00	0.00**	0.00	0.00		0.00**	0.00	0.00		0.00***
last year total	0.00***	0.00***	0.00***	0.00***	0.00***		0.00***	0.00***	0.00***	<b>k</b>	0.00***
family income											
temp not	-0.15	-0.56	-0.36	-0.17	-0.61		-0.36	-0.14	-0.55		-0.33
working											
unemployed	-0.21**	-0.47**	-0.32***	-0.22**	-0.50**		-0.32***	-0.19*	-0.44**		-0.30***
retired	0.17***	0.19+	0.14**	0.17***	0.20+		0.15**	0.15**	0.17 +		0.13**
disabled	-0.05	-0.23	-0.22**	-0.07	-0.27+		-0.23**	-0.06	-0.25+		-0.22**
housekeeping	-0.03	-0.05	-0.02	-0.04	-0.08		-0.03	-0.03	-0.07		-0.02
student	-0.18	-0.39	-0.21	-0.21	-0.46		-0.22	-0.21	-0.48		-0.24
kids	-0.07*	-0.08	-0.03	-0.06*	-0.07		-0.03	-0.06*	-0.07		-0.03
college	-0.07*	-0.20**	-0.09**	-0.04	-0.14*		-0.07*	-0.05	-0.16*		-0.08*
health	0.28***	0.56***	0.26***	0.28***	0.57***		0.26***	0.27***	0.54***	¢	0.25***
male	-0.09*	-0.18*	-0.11**	-0.07+	-0.12		-0.10*	-0.05	-0.08		-0.08*
married	0.19***	0.51***	0.32***	0.21***	0.56***		0.33***	0.21***	0.55***	¢	0.32***
family unit	0.08**	0.08	0.04+	0.07**	0.05		0.04	0.07**	0.06		0.04
black				0.20***	0.52***		0.11**	0.18***	0.48***	¢	0.09*
other				0.26+	0.39		0.12	0.27*	0.40		0.12
asian				0.11	0.16		0.10	0.14	0.22		0.13
latino				0.27***	0.75***		0.25***	0.26***	0.72***	k	0.24***
important								0.16***	0.32***	•	0.17***
to live in a											
city/place											
that one likes											
constant	2.79***	4.84***	3.06***	2.65***	4.45***		2.96***	2.12***	3.35***	k	2.39***
state dummies	yes	yes	yes	yes	yes		yes	yes	yes		yes
N	3707	3696	3722	3697	3686		3713	3688	3676		3703

<sup>+</sup> p<0.10,

robust std err

In table 4 we turn to components of swls. in final five specifications b3\*, the first two items, life is close to ideal, and conditions of life excellent are of similar magnitude at about .1. satisfied with life in column b3d is insignificant<sup>4</sup>. And two final items of swls scale, gotten the important things and would change almost nothing are of greatest magnitude, especially the last one, would change almost nothing.

<sup>\*</sup> p<0.05,

<sup>\*\*</sup> p < 0.01,

<sup>\*\*\*</sup> p<0.001;

 $<sup>^4</sup>$ Note, wording of this question is different from life satisfaction question in table 6.

Table 4: OLS regressions of SWB.

	b2a	b2b	b2c	b2d	b2e	b3a	b3b	b3c	b3d	b3e
	life is close	conditions of	satisfied	gotten the	would	life is close	conditions of	satisfied	gotten the	would
	to ideal	life excellent	with life	-	change	to ideal	life excellent	with life		change
	to ideal	ille excellent	with me	important	_	to ideal	ille excellent	with me	important	_
				things	almost				things	almost
	0.00.	0.10*	0.00	0.10*	nothing	0.11*	0.10*	0.04	0 14**	nothing
metro	-0.09+	-0.10*	-0.02	-0.12*	-0.16**	-0.11*	-0.12*	-0.04	-0.14**	-0.19**
age	-0.01	-0.01+	-0.01	-0.03***	-0.03**	-0.01	-0.02*	-0.01	-0.03***	-0.03**
age sq	0.00	0.00+	0.00	0.00***	0.00**	0.00+	0.00*	0.00	0.00***	0.00**
last year total	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
family income	-0.33	-0.39	-0.58	-0.13	-0.38	-0.30	-0.36	-0.55	0.10	-0.34
temp not working	-0.33	-0.39	-0.58	-0.13	-0.38	-0.30	-0.30	-0.55	-0.10	-0.34
unemployed	-0.33***	-0.28**	-0.29***	-0.39***	-0.33***	-0.31***	-0.26**	-0.27**	-0.37***	-0.31**
retired	0.07	0.12+	0.12*	0.20***	0.20**	0.06	0.10	0.11+	0.18**	0.18*
disabled	-0.22**	-0.23**	-0.23**	-0.23**	-0.25**	-0.21*	-0.23**	-0.22*	-0.23*	-0.24*
housekeeping	-0.21*	0.06	-0.07	0.07	0.01	-0.21*	0.06	-0.06	0.07	0.02
student	-0.16	-0.19	-0.16	-0.35+	-0.24	-0.17	-0.20	-0.17	-0.37+	-0.25
kids	-0.02	-0.05	-0.03	-0.00	-0.02	-0.02	-0.05	-0.03	-0.00	-0.02
college	-0.06	-0.04	-0.08*	-0.00	-0.16***	-0.07+	-0.05	-0.09*	-0.01	-0.17***
health	0.28***	0.32***	0.27***	0.20***	0.24***	0.27***	0.30***	0.26***	0.19***	0.22***
male	-0.05	-0.03	-0.11*	-0.18***	-0.13*	-0.04	-0.00	-0.09+	-0.15**	-0.11+
married	0.33***	0.28***	0.31***	0.38***	0.35***	0.33***	0.28***	0.30***	0.37***	0.35***
family unit	0.02	0.03	0.04	0.03	0.04	0.02	0.03	0.04	0.04	0.04
black	0.11*	0.10*	0.19***	-0.01	0.17**	0.09*	0.08+	0.17***	-0.03	0.14*
other	0.11	0.10	0.17	0.10	0.11	0.11	0.10	0.18	0.10	0.12
asian	0.20	0.03	0.06	0.13	0.06	0.22	0.06	0.09	0.16	0.09
latino	0.32***	0.30***	0.28***	0.18*	0.21+	0.31***	0.28***	0.27***	0.16+	0.19+
important						0.16***	0.19***	0.17***	0.16***	0.18***
to live in a										
city/place										
that one likes										
constant	2.80***	2.69***	2.84***	3.34***	2.98***	2.30***	2.07***	2.27***	2.78***	2.38***
state dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	3697	3692	3686	3691	3698	3687	3682	3676	3681	3688

<sup>+</sup> p<0.10,

reg WB16A1 met age age2 inc E2-E7 kid col hea male mar nFU i.sFIPS R2-R5 WB16A4B, robust //guess footnote do say in paper that addition of WB16A5B sat w city doesnt change results! for all these 3;and tried WB16A4J rel importance of rel faith, doesnt change results much eitehr

### 3 Conclusion and Discussion

There are dozens, possibly hundreds, of studies on urban-rural happiness gradient, but all studies use a simplistic single item measurement of SWB. Such limitation is understandable and common, as multi-item or scale measurement is typically restricted to small sample laboratory settings. And urbanicity deriving from place of residence by definition requires wide geographical coverage and large sample. This is the first study of urban rural happiness gradient using elaborate multi-item and scale (SWLS) meauserment of SWB. SWLS scale confisms earlier single-item finding of urban rural happiness gradient. Urbanites fail especially on last item "If I could live my life over, I would change almost nothing" indicating that urban way of life may result in regrets.

summary boilerplate main points

<sup>\*</sup> p<0.05, \*\* p<0.01,

<sup>\*\*\*</sup> p<0.001; robust std err

in regressions: The largest diff on last item "If I could live my life over, I would change almost nothing" and simlar 3/2 of 4th one which also has similar meaning: "So far I have gotten the important things I want in life"

about 2x of first two "In most ways my life is close to my ideal." and "The conditions of my life are excellent." and ?x of third (and insig) "I am satisfied with my life."—about the same urb and rur

we can speculate suggesrs that perhaps city exposes one to various stimuli and experiences that make an urbanite regret things in life and wish it went in different direction, whereas in rural areas choices and pathways may be more limited and easier PARADOX oF CHOICE remains for future research to explore it more in detail; perhaps in a way "ignorance is a bliss"

as a sidenote: ware i wish i hadnt work so hard, and urbanites work more (rosenthal?)

### References

- BERMAN, M. G., J. JONIDES, AND S. KAPLAN (2008): "The cognitive benefits of interacting with nature," *Psychological Science*, 19, 1207–1212.
- BERMAN, M. G., E. KROSS, K. M. KRPAN, M. K. ASKREN, A. BURSON, P. J. DELDIN, S. KAPLAN, L. SHERDELL, I. H. GOTLIB, AND J. JONIDES (2012): "Interacting with nature improves cognition and affect for individuals with depression," *Journal of affective disorders*, 140, 300–305.
- BERRY, B. J. AND A. OKULICZ-KOZARYN (2011): "An Urban-Rural Happiness Gradient," Urban Geography, 32, 871–883.
- BLANCHFLOWER, D. G. AND A. J. OSWALD (2011): "International happiness: A new view on the measure of performance," *The Academy of Management Perspectives*, 25, 6–22.
- Brown, G. D. A. and J. Gathergood (0): "Consumption Changes, Not Income Changes, Predict Changes in Subjective Well-Being," *Social Psychological and Personality Science*, 0, 1948550619835215.
- BURGER, M. J., P. S. MORRISON, M. HENDRIKS, AND M. M. HOOGERBRUGGE (2020): "Urban-Rural Happiness Differentials across the World," *World Happiness Report*.
- CHATTERJI, A. (2013): "London is the Unhappiest Place to Live in Britain," International Business Times.
- DIENER, E., R. A. EMMONS, R. J. LARSEN, AND S. GRIFFIN (1985): "The satisfaction with life scale," *Journal of personality* assessment, 49, 71–75.
- FERRER-I-CARBONELL, A. AND P. FRIJTERS (2004): "How Important is Methodology for the Estimates of the Determinants of Happiness?" *Economic Journal*, 114, 641–659.
- FRUMKIN, H. (2001): "Beyond toxicity: human health and the natural environment," *American journal of preventive medicine*, 20, 234–240.
- GLAESER, E. L., J. D. GOTTLIEB, AND O. ZIV (2016): "Unhappy Cities," Journal of Labor Economics, 34, S129-S182.
- LENZI, C. AND G. PERUCCA (2016): "The Easterlin paradox and the urban-rural divide in life satisfaction: Evidence from Romania," Unpublished; http://www.grupposervizioambiente.it.
- ——— (2021): "Not too close, not too far: Urbanisation and life satisfaction along the urban hierarchy," *Urban Studies*, 58, 2742–2757.
- Lu, C., G. Schellenberg, F. Hou, and J. F. Helliwell (2015): "How's Life in the City? Life Satisfaction Across Census Metropolitan Areas and Economic Regions in Canada," *Economic Insights*, 11-626-X.

- MALLER, C., M. TOWNSEND, A. PRYOR, P. BROWN, AND L. ST LEGER (2006): "Healthy nature healthy people:'contact with nature'as an upstream health promotion intervention for populations," *Health promotion international*, 21, 45–54.
- MORRISON, P. (2015): "Capturing effects of cities on subjective wellbeing," European Regional Science Association Conference, Lisbon.
- MORRISON, P. S. (2021): "Whose Happiness in Which Cities? A Quantile Approach," Sustainability, 13, 11290.
- MORRISON, P. S. AND M. WECKROTH (2017): "Human values, subjective well-being and the metropolitan region," *Regional Studies*, 1–13.
- NG, Y.-K. (1996): "Happiness surveys: Some comparability issues and an exploratory survey based on just perceivable increments," *Social Indicators Research*, 38, 1–27.
- ———— (1997): "A case for happiness, cardinalism, and interpersonal comparability," The Economic Journal, 107, 1848–1858.
- ——— (2011): "Happiness is absolute, universal, ultimate, unidimensional, cardinally measurable and interpersonally comparable: A basis for the environmentally responsible Happy Nation Index," Tech. rep., Monash University, Department of Economics.
- OFFICE FOR NATIONAL STATISTICS (2011): "Analysis of Experimental Subjective Well-being Data from the Annual Population Survey," *The National Archives*.
- OISHI, S. (2006): "The concept of life satisfaction across cultures: An IRT analysis," Journal of Research in Personality, 40, 411-423.
- OKULICZ-KOZARYN, A. (2010): "Religiosity and life satisfaction across nations," Mental Health, Religion & Culture, 13, 155–169.
- OKULICZ-KOZARYN, A. AND L. GOLDEN (2017): "Happiness is flextime," Applied Research in Quality of Life.
- OKULICZ-KOZARYN, A., O. HOLMES IV, AND D. R. AVERY (2014): "The Subjective Well-Being Political Paradox: Happy Welfare States and Unhappy Liberals." *Journal of Applied Psychology*, 99, 1300–1308.
- OKULICZ-KOZARYN, A. AND R. R. VALENTE (2018): "No Urban Malaise for Millennials," Regional Studies.
- ——— (2021): "Urban unhappiness is common," *Cities*, 103368.
- PAVOT, W. AND E. DIENER (2009): "Review of the satisfaction with life scale," in Assessing well-being, Springer, 101–117.
- PRETTY, J. (2012): The earth only endures: On reconnecting with nature and our place in it, Routledge, New York NY.
- SENIOR, J. (2006): "Some Dark Thoughts on Happiness," New York Magazine.
- SLOCUM-GORI, S. L., B. D. ZUMBO, A. C. MICHALOS, AND E. DIENER (2009): "A note on the dimensionality of quality of life scales: An illustration with the Satisfaction with Life Scale (SWLS)," *Social Indicators Research*, 92, 489–496.
- TESSON, S. (2013): Consolations of the Forest: Alone in a Cabin in the Middle Taiga, Penguin, London UK.
- WHEELER, B. W., M. WHITE, W. STAHL-TIMMINS, AND M. H. DEPLEDGE (2012): "Does living by the coast improve health and wellbeing?" *Health & Place*.
- WHITE, M. P., I. ALCOCK, B. W. WHEELER, AND M. H. DEPLEDGE (2013a): "Coastal proximity, health and well-being: Results from a longitudinal panel survey," *Health & Place*.
- ———— (2013b): "Would You Be Happier Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data," *Psychological science*, 24, 920–928.

# SUPPLEMENTARY ONLINE MATERIAL (SOM)

[note: this section will NOT be a part of the final version of the manuscript, but will be available online instead]

Variables' definitions, coding, and distributions

### Metro definition

The metro v non-metro classification is based on the following:

metro	beale ru	ıral-urban	description
	code		
1	1		Metro: Counties in metro areas of 1 million population or more
1	2		Metro: Counties in metro areas of 250,000 to 1 million population
1	3		Metro: Counties in metro areas of fewer than 250,000 population
0	4		Nonmetro: Urban population of 20,000 or more, adjacent to a metro area
0	5		Nonmetro: Urban population of 20,000 or more, not adjacent to a metro area
0	6		Nonmetro: Urban population of 2,500 to 19,999, adjacent to a metro area
0	7		Nonmetro: Urban population of 2,500 to 19,999, not adjacent to a metro area
0	8		Nonmetro: Completely rural or less than 2,500 urban population, adjacent to a metro area
0	9		Nonmetro: Completely rural or less than 2,500 urban population, not adjacent to a metro area

**Table 5:** metro variable: Metropolitan/Non-metropolitan Indicator: This indicator is derived from the 2013 Beale-Ross Rural-Urban Continuum Codes published by USDA based on matches to the FIPS state and county codes: 1. Metropolitan area (Beale-Ross Code ER775923= 1-3); 0. Non-metropolitan area (Beale-Ross Code ER775923= 4-9). Each county in the U.S. is assigned one of the 9 codes.

The PSID 2015 family file codebook (https://psidonline.isr.umich.edu/documents/psid/codebook/fam2015er\_codebook.pdf) defines the BEALE RURAL-URBAN CODE:

ER65453 "BEALE RURAL-URBAN CODE" NUM(2.0) Metropolitan/Non-metropolitan Indicator 2013 Beale-Ross Rural-Urban Continuum Code for 2015 Residence

This variable is suppressed (filled with zeroes) in the public release file to protect the anonymity of respondents. The data are available in a separate file: FAM19YEAR\_rst where Year is the corresponding Family File year (i.e. FAM1968\_rst contains data for suppressed variables from the 1968 file). This file is available to qualified users under special contractual arrangements with the PSID. For more information, contact us at PSIDhelp@umich.edu and request County Level Identifiers restricted file. These codes are based on matches to the FIPS state and county codes against the 2013 Rural-Urban Continuum Codes published by USDA downloaded from https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/.aspx The 2013 Rural-Urban Continuum Codes form a classification scheme that distinguishes metropolitan counties by the population size of their metro area, and nonmetropolitan counties by degree of urbanization and adjacency to a metro area. The official Office of Management and Budget (OMB) metro and nonmetro categories have been subdivided into three metro and six nonmetro categories. Each county in the U.S. is assigned one of the 9 codes. This scheme allows researchers to break county data into finer residential groups, beyond metro and nonmetro, particularly for the analysis of trends in nonmetro areas that are related to population density and metro influence. The Rural-Urban Continuum Codes were originally developed in 1974. They have been updated each decennial since (1983, 1993, 2003, 2013), and slightly revised in 1988. Note that the 2013 Rural-Urban Continuum Codes are not directly comparable with the codes prior to 2000 because of the new methodology used in developing the 2000 metropolitan areas.

## Variables' coding, and distributions

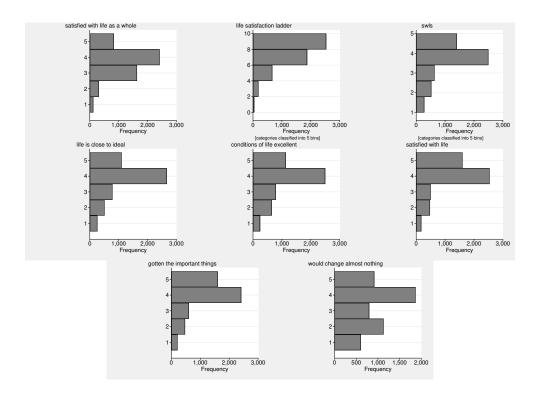


Figure 1: Variables' distribution.

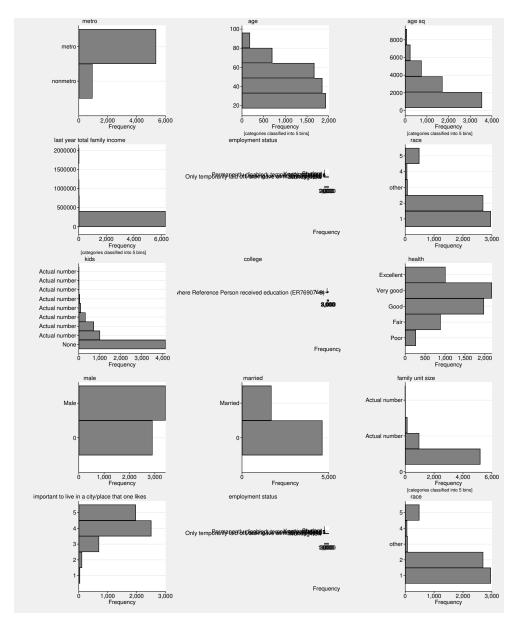


Figure 2: Variables' distribution.

## Robustness Check: Additional Results

repeating a3a a3b a3c, but with rel, city sat and ind dummies; and same on b3a-b3e; conclusion: results substantively very similar

Table 6: OLS regressions of SWB.

	c3a	c3b	c3c	d3a	d3b	d3c	d3d	d3e 
	satisfied	life satis-	swls	life is close to	conditions	satisfied	gotten the	would change
	with life as a	faction ladder		ideal	of life excel-	with life	important	almost noth
	whole				lent		things	ing
metro	-0.14***	-0.23**	-0.10**	-0.09+	-0.12*	-0.03	-0.12*	-0.14*
age	-0.01	-0.00	-0.02*	-0.01	-0.02*	-0.01	-0.03***	-0.02*
age sq	0.00	0.00	0.00*	0.00	0.00	0.00	0.00***	0.00*
last year total	0.00**	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
family income								
temp not	-0.25	-0.72	-0.43	-0.39	-0.44	-0.65	-0.21	-0.39
working								
unemployed	-0.17*	-0.42**	-0.29***	-0.32***	-0.25**	-0.24**	-0.35***	-0.35***
retired	0.09	-0.02	0.04	-0.07	0.01	0.03	0.15*	0.00
disabled	-0.13+	-0.45**	-0.33***	-0.36***	-0.34***	-0.32**	-0.28**	-0.45***
housekeeping	-0.03	-0.11	-0.04	-0.26*	0.05	-0.05	0.11	-0.09
student	-0.16	-0.40	-0.21	-0.15	-0.18	-0.13	-0.33+	-0.27
kids	-0.04	-0.05	-0.00	-0.00	-0.03	-0.00	0.03	-0.01
college	-0.05	-0.17*	-0.07*	-0.05	-0.04	-0.09*	0.00	-0.15**
health	0.23***	0.47***	0.20***	0.23***	0.26***	0.21***	0.14***	0.17***
male	-0.03	-0.02	-0.04	0.01	0.03	-0.03	-0.11*	-0.10
married	0.17***	0.46***	0.28***	0.28***	0.24***	0.27***	0.32***	0.32***
family unit	0.05+	0.03	0.01	0.01	0.01	0.02	0.01	0.02
size								
black	0.17***	0.46***	0.08*	0.07	0.07	0.16***	-0.01	0.12*
other	0.32**	0.50+	0.19	0.19	0.17	0.28+	0.15	0.16
asian	0.20	0.31	0.18	0.29+	0.12	0.12	0.22	0.13
latino	0.27***	0.74***	0.26***	0.34***	0.28***	0.30***	0.14+	0.23*
important	0.06**	0.13**	0.06**	0.05*	0.07**	0.06*	0.06*	0.25
	0.00	0.13	0.00	0.03	0.01	0.00	0.00	0.00
to live in a								
city/place								
that one likes								
A4J HOW	-0.04***	-0.08**	-0.04***	-0.05***	-0.05***	-0.04**	-0.03*	-0.06***
IMPORTANT								
STRONG								
RELIGIOUS								
FAITH								
A5B HOW	0.29***	0.58***	0.32***	0.30***	0.33***	0.32***	0.29***	0.34***
SATISFIED								
W/ CITY	1.00***	2.05***	0.17***	2.12***	1 00***	2.05***	2.40***	2 22***
constant	1.98***	2.95***	2.17***	2.12***	1.88***	2.05***	2.49***	2.23***
industry dum-	yes	yes	yes	yes	yes	yes	yes	yes
mies								
state dummies	yes	yes	yes	yes	yes	yes	yes	yes
N	3658	3646	3672	3656	3651	3647	3650	3657

<sup>+</sup> p<0.10,

robust std err

## References

BERMAN, M. G., J. JONIDES, AND S. KAPLAN (2008): "The cognitive benefits of interacting with nature," *Psychological Science*, 19, 1207–1212.

BERMAN, M. G., E. KROSS, K. M. KRPAN, M. K. ASKREN, A. BURSON, P. J. DELDIN, S. KAPLAN, L. SHERDELL, I. H. GOTLIB, AND J. JONIDES (2012): "Interacting with nature improves cognition and affect for individuals with depression," *Journal of affective disorders*, 140, 300–305.

<sup>\*</sup> p<0.05,

<sup>\*\*</sup> p<0.01,

<sup>\*\*\*</sup> p<0.001;

- BERRY, B. J. AND A. OKULICZ-KOZARYN (2011): "An Urban-Rural Happiness Gradient," Urban Geography, 32, 871–883.
- BLANCHFLOWER, D. G. AND A. J. OSWALD (2011): "International happiness: A new view on the measure of performance," *The Academy of Management Perspectives*, 25, 6–22.
- Brown, G. D. A. and J. Gathergood (0): "Consumption Changes, Not Income Changes, Predict Changes in Subjective Well-Being," Social Psychological and Personality Science, 0, 1948550619835215.
- BURGER, M. J., P. S. MORRISON, M. HENDRIKS, AND M. M. HOOGERBRUGGE (2020): "Urban-Rural Happiness Differentials across the World," *World Happiness Report*.
- CHATTERJI, A. (2013): "London is the Unhappiest Place to Live in Britain," International Business Times.
- DIENER, E., R. A. EMMONS, R. J. LARSEN, AND S. GRIFFIN (1985): "The satisfaction with life scale," *Journal of personality assessment*, 49, 71–75.
- FERRER-I-CARBONELL, A. AND P. FRIJTERS (2004): "How Important is Methodology for the Estimates of the Determinants of Happiness?" *Economic Journal*, 114, 641–659.
- FRUMKIN, H. (2001): "Beyond toxicity: human health and the natural environment," *American journal of preventive medicine*, 20, 234–240.
- GLAESER, E. L., J. D. GOTTLIEB, AND O. ZIV (2016): "Unhappy Cities," Journal of Labor Economics, 34, S129-S182.
- LENZI, C. AND G. PERUCCA (2016): "The Easterlin paradox and the urban-rural divide in life satisfaction: Evidence from Romania,"

  Unpublished; http://www.grupposervizioambiente.it.
- ——— (2021): "Not too close, not too far: Urbanisation and life satisfaction along the urban hierarchy," *Urban Studies*, 58, 2742–2757.
- Lu, C., G. Schellenberg, F. Hou, and J. F. Helliwell (2015): "How's Life in the City? Life Satisfaction Across Census Metropolitan Areas and Economic Regions in Canada," *Economic Insights*, 11-626-X.
- MALLER, C., M. TOWNSEND, A. PRYOR, P. BROWN, AND L. ST LEGER (2006): "Healthy nature healthy people:'contact with nature'as an upstream health promotion intervention for populations," *Health promotion international*, 21, 45–54.
- MORRISON, P. (2015): "Capturing effects of cities on subjective wellbeing," European Regional Science Association Conference, Lisbon.
- MORRISON, P. S. (2021): "Whose Happiness in Which Cities? A Quantile Approach," Sustainability, 13, 11290.
- MORRISON, P. S. AND M. WECKROTH (2017): "Human values, subjective well-being and the metropolitan region," *Regional Studies*, 1–13.
- NG, Y.-K. (1996): "Happiness surveys: Some comparability issues and an exploratory survey based on just perceivable increments," *Social Indicators Research*, 38, 1–27.
- ——— (1997): "A case for happiness, cardinalism, and interpersonal comparability," The Economic Journal, 107, 1848–1858.
- ———— (2011): "Happiness is absolute, universal, ultimate, unidimensional, cardinally measurable and interpersonally comparable: A basis for the environmentally responsible Happy Nation Index," Tech. rep., Monash University, Department of Economics.

- OFFICE FOR NATIONAL STATISTICS (2011): "Analysis of Experimental Subjective Well-being Data from the Annual Population Survey," *The National Archives*.
- OISHI, S. (2006): "The concept of life satisfaction across cultures: An IRT analysis," Journal of Research in Personality, 40, 411-423.
- OKULICZ-KOZARYN, A. (2010): "Religiosity and life satisfaction across nations," Mental Health, Religion & Culture, 13, 155-169.
- OKULICZ-KOZARYN, A. AND L. GOLDEN (2017): "Happiness is flextime," Applied Research in Quality of Life.
- OKULICZ-KOZARYN, A., O. HOLMES IV, AND D. R. AVERY (2014): "The Subjective Well-Being Political Paradox: Happy Welfare States and Unhappy Liberals." *Journal of Applied Psychology*, 99, 1300–1308.
- OKULICZ-KOZARYN, A. AND R. R. VALENTE (2018): "No Urban Malaise for Millennials," Regional Studies.
- ——— (2021): "Urban unhappiness is common," Cities, 103368.
- PAVOT, W. AND E. DIENER (2009): "Review of the satisfaction with life scale," in Assessing well-being, Springer, 101-117.
- PRETTY, J. (2012): The earth only endures: On reconnecting with nature and our place in it, Routledge, New York NY.
- SENIOR, J. (2006): "Some Dark Thoughts on Happiness," New York Magazine.
- SLOCUM-GORI, S. L., B. D. ZUMBO, A. C. MICHALOS, AND E. DIENER (2009): "A note on the dimensionality of quality of life scales: An illustration with the Satisfaction with Life Scale (SWLS)," *Social Indicators Research*, 92, 489–496.
- TESSON, S. (2013): Consolations of the Forest: Alone in a Cabin in the Middle Taiga, Penguin, London UK.
- WHEELER, B. W., M. WHITE, W. STAHL-TIMMINS, AND M. H. DEPLEDGE (2012): "Does living by the coast improve health and wellbeing?" *Health & Place*.
- WHITE, M. P., I. ALCOCK, B. W. WHEELER, AND M. H. DEPLEDGE (2013a): "Coastal proximity, health and well-being: Results from a longitudinal panel survey," *Health & Place*.
- ——— (2013b): "Would You Be Happier Living in a Greener Urban Area? A Fixed-Effects Analysis of Panel Data," *Psychological science*, 24, 920–928.