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 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. 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.[1]

*EMAIL: adam.okulicz.kozaryn@gmail.com All mistakes are mine.

[1]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).

A unique advantage of PSID 2016 Wellbeing Module are multiple SWB measures. All variables are set in table **??**. We start with a usual SWB item, a life satisfaction measure: "How satisfied are you with your life as a whole these days?" There is also a "ladder" SWB measure

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.

Table 1: Variable definitions.

name	description
global 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 the bottom of the ladder represents the worst possible life for you. On which step of the ladder do you feel you personally stand at the present time?"
swls	Satisfaction With Life Scale
swls items	
life is close to ideal	"How much do you agree or disagree with each of the following statements: In most ways, 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 conditions of my life are excellent."
satisfied with life	"(How much do you agree or disagree with each of the following statements:) I am satisfied with my life."
gotten the important things	"(How much do you agree or disagree with each of the following statements:) So far, I have 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 live my life over, I would change almost nothing."
explanatory variables	
metro	"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)
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) working 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 Indian, Alaska Native, Asian, Native Hawaiian or other Pacific Islander?–FIRST MENTION" NOTE: "latino" category derived from ER64809: " In order to get an idea of the different races and ethnic groups that participate in the study, I would like to ask you about (your/your spouse's/[HEAD]'s) background. (Are/Is) (you/he/she) Spanish, Hispanic, or Latino? That is, Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish?"
kids	"Number of Persons Now in the FU Under 18 Years of Age"
college	"Did (you/he/she) attend college?" 1='yes', 0='no'
health	"Now I have a few questions about your health. Would you say your health in general is excellent, very good, good, fair, or poor?" 1 (poor) to 5 (excellent)
male	gender
married	"Are you married, widowed, divorced, separated, or have you never been married?" 1='married'; 0 otherwhise
family unit size	Number of Persons in FU at the Time of the Interview
important to live in a city/place that one likes	"(Below is a list of things that may or may not be important to you. How important are each of the following to you:) Living in a city or place that I like."

More recently, Diener 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`

we have used alpha command in Stata to make a scale, reliability of ???

2 Results

We proceed as follows. sts lif, ladder, swls, and then dig dipper and look at each SWLS item separately

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.[2] 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 correspoindingly coefficients are about twice as large. In full specification, effect sizes are about half of the coefficient on health, so in practical terms 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

[2]Results on racial categories are unexpected. Blacks and latinos are happier than whites, and we do not have an explanation for that.

Table 3: OLS regressions of SWB.

	a1a satisfied with life as a whole	a1b	a1c swls	a2a satisfied with life as a whole	a2b life satisfaction ladder	a2c swls	a3a satisfied with life as a whole	a3b life satisfaction ladder	a3c swls
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 family income	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
temp not working	-0.15	-0.56	-0.36	-0.17	-0.61	-0.36	-0.14	-0.55	-0.33
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 size	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***	0.24***
important to live in a city/place that one likes							0.16***	0.32***	0.17***
constant	2.79***	4.84***	3.06***	2.65***	4.45***	2.96***	2.12***	3.35***	2.39***
state dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	3707	3696	3722	3697	3686	3713	3688	3676	3703

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001; 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[3]. 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.

[3]Note, wording of this question is different from life satisfaction question in table 3.

Table 4: OLS regressions of SWB.

	b2a life is close to ideal	b2b conditions of life excellent	b2c satisfied with life	b2d gotten the important things	b2e would change almost nothing	b3a life is close to ideal	b3b conditions of life excellent	b3c satisfied with life	b3d gotten the important things	b3e would change almost 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 family income	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***
temp not working	-0.33	-0.39	-0.58	-0.13	-0.38	-0.30	-0.36	-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 size	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 to live in a city/place that one likes						0.16***	0.19***	0.17***	0.16***	0.18***
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

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001; robust std err

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 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 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

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?)

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

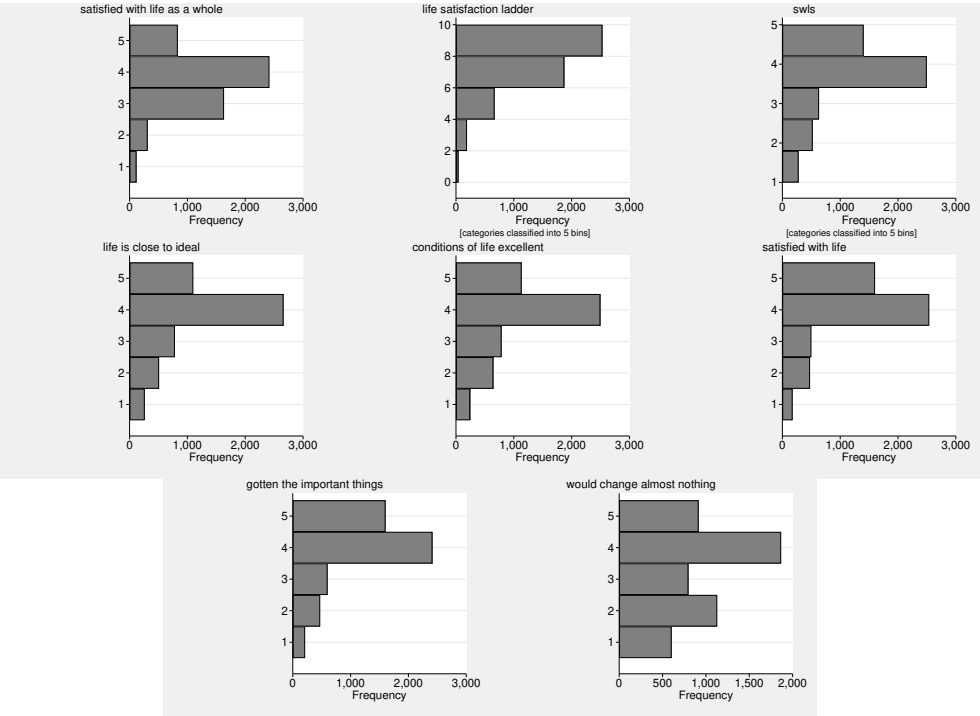

Figure 1: Variables' distribution.

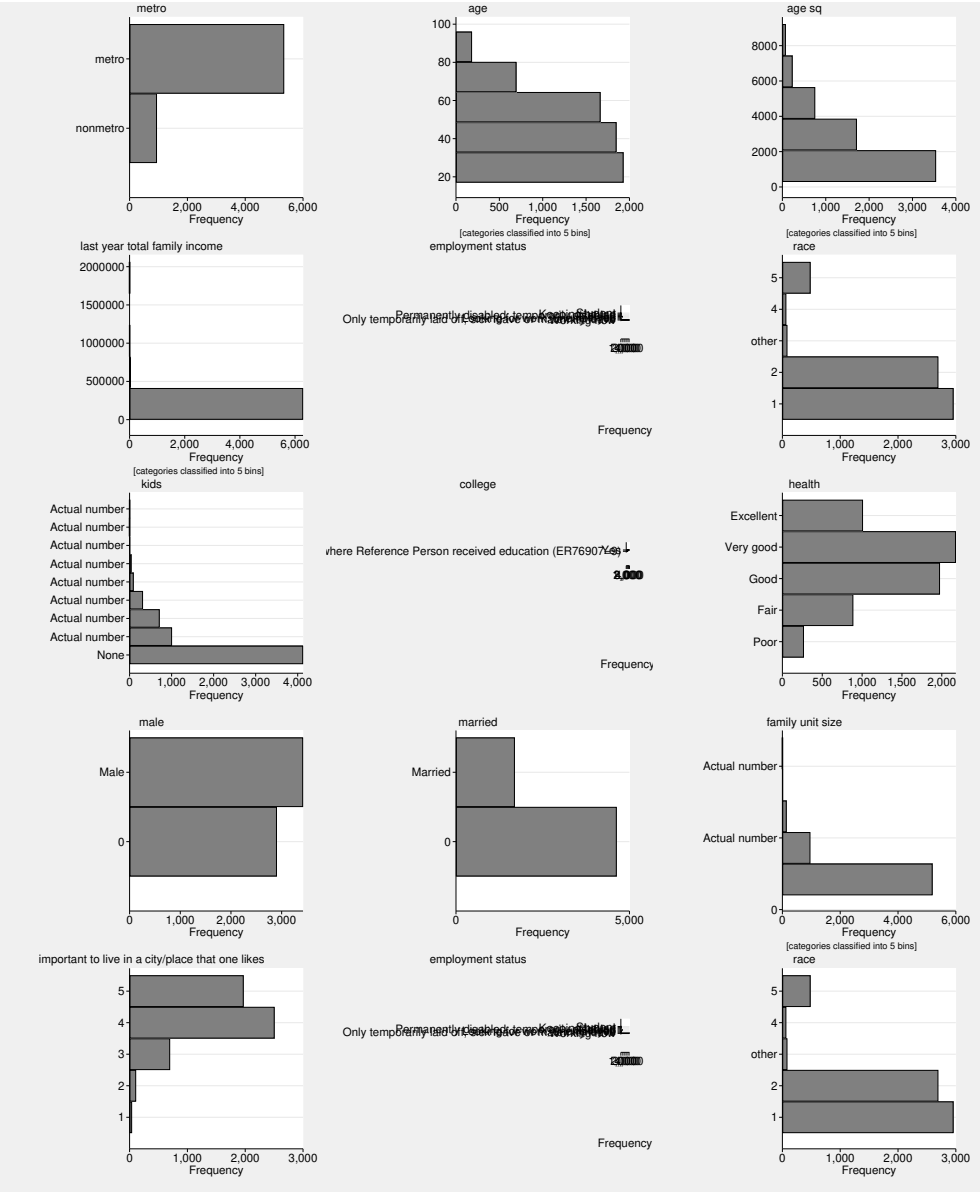

Figure 2: Variables' distribution.

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