

# Happiness and Place in Colombia: Urban-Rural and Regional

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Graphical abstract:

**Figure 1:** Urban-Rural happiness gradient endpoints. Note that the gradient has multiple steps as illustrated with frownie and smiley emojis, but for simplicity only end points illustrated with photos: very rural v very urban (more photos would make them small and less legible). Images from <https://www.flickr.com/photos/pedrosz/9515685099>, and Bogota Centro International <https://commons.wikimedia.org/wiki/File:>



Happiness and Place in Colombia: Urban-Rural and Regional patterns from World Values Survey (WVS)

This study focuses on urban-rural SWB differences in Colombia. Vast of majority of the research on urban-rural SWB differences are in global North. This is one of the first studies in global South. Colombia, a developing country, is expected to have little evidence or urban-rural gradient observed in developed countries—cities promote economic growth needed in developing countries. Yet, we do find some evidence or urban-rural happiness gradient in Colombia, especially Bogota, the largest COlombian city, 8m, is less happy than rural Colombia. The study also offers some preliminary evidence regarding regional differences—small sample, need more evidense us8ing more data as data becomes available in the futre.

XXX TODO ADD TO EBIB AS KEYWORD PAPER-CODE-NAME AND TAG WITH EBIB KEYWORDS

## 1 Happiness within Colombia across space

Most happiness studies are in global north, and the field is still only emerging in Latin America ?? . Carol Graham was an early student of latin happiness, yet her studies are in general about the continent, they do not focus on Colombia????<sup>1</sup>

There are cross national studies focusing on happiness that include colombia (e.g., Okulicz-Kozaryn and Valente 2021) or latin american studies (e.g., Valente and Berry 2016), but they do not focus on colombia and gloss over. Extant literature does not address Colombian intricancies.

Burger et al. (2021) is an exception in its sub-country look at regional happiness, but it uses questionable Gallup data—for problems with Gallup data see Okulicz-Kozaryn and Valente (2021).

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<sup>1</sup>? is an exception, but they focus on labor market, not geography.

I thank XXX. All mistakes are mine.

Colombia has one large city, Bogota, at about 8m, Medellin and Cali are at about 2.5m, and Baranquilla and Cartagena at about 1m, and about 7 cities .5-1m.

Then it makes sense that Bogota is a category on its own, and likewise medellin and cali should be separated out and this is how we will proceed

When I am in Bogota I ask myself why did I come here just looks like London or new York or any place like that; big cities just like airports or hospitals they all look and feel the same

Cities are more stressful—people work more in cities ROSENTHAL/SMALL?

Only about 20 perc of Colombia population is rural, similar to the US, <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=CO> <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=US> Yet the UN/WB definition has urban-rural cutoff very low, if looking at medium and large cities >.5m v elsewhere, only about 20m out of about 50m colombian population live there, less than half.

so we hypothesize that rural up to medium towns will be happy and there will be happiness penalty for the very largest place, Bogota. Medellin and Cali—unsure.

We know that cities promote economic growth Glaeser/Tripth and O'Sullivan textbook eco dev first then lifestyle so maybe actually big cities happier? 2

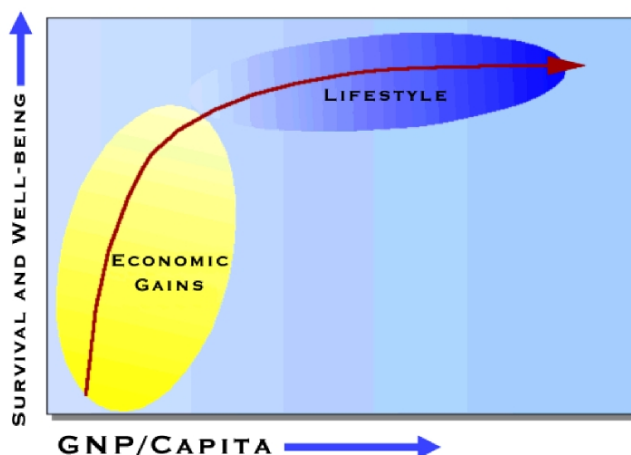


Figure 2: Well-being and income, (Inglehart 1997).

The authors visited personally all three largest cities, Bogota feels North-Western not only in climate but also in attitude and behavior, fast paced, stressful. Cali is the most Latin of the three cities, and Medellin seems to merge reasonably well economic development and organization but yet does not appear stiff and stressed like Bogota. Smaller places such as Popayan, Pasto appear warmer and more welcoming and happier than Bogota.

## 2 Data and methods; REPHRAZE! copied from earlier

We use [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org), which is representative of about 90% of the world population,<sup>2</sup> and as elaborated in previous section, is much better suited for the study than an inadequate and poorly designed Gallup data. The variables are listed in table 1. Country codes and descriptive statistics are in SOM (Supplementary Online Material).

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

<sup>2</sup>While WVS is conducted in about 100 countries that represent about 90% of the world population, due to missing data for the particular variables of interest, the present's study coverage is slightly smaller, about 70 countries (depending on the model and specification).

**Figure 3:** Urban-Rural happiness gradient endpoints. Note that the gradient has multiple steps as illustrated with frownie and smiley emojis, but for simplicity only end points illustrated with photos: very rural v very urban (more photos would make them small and less legible). Images from <https://www.flickr.com/photos/pedrosz/9515685099>, and Bogota Centro International <https://commons.wikimedia.org/wiki/File:>



life as a whole?”

Urbanicity is operationalized with WVS variable X049—note that it is objective and recorded by reviewer, not respondent. There are eight categories ranging from ‘< 2k’ to ‘> 500k.’ This is important advantage, because as elaborated earlier, urbanicity or urbanness is a continuum, not a binary urban v rural. We conduct the analysis using a set of dummy variables for all eight categories (leaving out the base case) in the SOM. However, for simplicity and ease of exposition we present simplified results in the body of the paper using three categories only. In other words, this study will use 8 categories of urbanicity, and summarize results for ease of presentation with 3 categories.

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

wvs boilerplate (bash gallup) and ols boilerplate

As Davies (2015) put it, it’s not happiness research, it’s “happiness industry.” There are multiple problems with Gallup data. First, it is not meant for research but for commerce—Gallup charges \$30,000 for access (per one year!). (author’s email inquiry)

–private corporations are making fortune from tax dollars and students tuition—scholars should resist corporatization of academia (Mills 2012a, Cox 2013, Mills 2012b, Catropa and Andrews 2020, Schmidlin 2015), and corporatization of happiness research (Davies 2015).

Second, urbanicity classification is twofold less precise than in WVS: 4 v 8 categories. Third, while WVS uses precise population size numeric cutoffs, Gallup uses fuzzy concepts such as “rural area”, “small town or village”, “large city”. Fourth, (and this compounds third problem) Gallup uses self-reports of urbanicity, which is highly subjective and problematic in this case—many, if not most people, would likely classify themselves completely arbitrarily into “rural area” v “village” and so forth. WVS uses interviewer’s information about the place. Fifth, apparently much of data are missing—Easterlin et al. (2010) notes that in 14 countries “rural area” responses were exceptionally low. Also, about half of the world population is urban, but Burger et al. (2020) reports that in their dataset only about quarter of respondents report rural residence.

Table 1 lists control variables used in the body of the paper.

**Table 1:** Variable definitions.

name	description
age	age
age2	age squared
male	male
married or living together as married	"Are you currently ....(READ OUT AND CODE ONE ONLY) 1 'Married' 2 'Living together as married' 3 'Divorced' 4 'Separated' 5 'Widowed' 6 'Single/Never married' 7 'Divorced, Separated or Widow' 8 'Living apart but steady relation (married,cohabitation)'"
divorced/separated/widowed	"Are you currently ....(READ OUT AND CODE ONE ONLY) 1 'Married' 2 'Living together as married' 3 'Divorced' 4 'Separated' 5 'Widowed' 6 'Single/Never married' 7 'Divorced, Separated or Widow' 8 'Living apart but steady relation (married,cohabitation)'"
health	"State of health (subjective)"
class	"Social class (subjective)"
education	"Highest educational level attained"
income	"Scale of incomes"
Employment status	"Are you employed now or not? IF YES: About how many hours a week? If more than one job: only for the main job 1 'Full time' 2 'Part time' 3 'Self employed' 4 'Retired' 5 'Housewife' 6 'Students' 7 'Unemployed' 8 'Other'"
religious services	"Apart from weddings, funerals and christenings, about how often do you attend religious services these days?"
Religious denomination	"Religious denomination WVS: Do you belong to a religious denomination? In case you do, answer which one. EVS: Which one?"
victim of a crime last year	"Have you been the victim of a crime during the past year?"
freq felt unsafe from crime at home	"In the last 12 months, how often have you or your family: Felt unsafe from crime in your own home "

In choice of controls we generally follow (Okulicz-Kozaryn and Valente 2020). There are specific controls worth discussing. Young, single and childless persons and young men with tertiary education are relatively more satisfied with urban areas as place of residence (Carlsen and Leknes 2019). Income, class, and education are important controls—not only predict greater SWB, but are also confounded and higher in cities.<sup>3</sup>

One great advantage of city living that is often forgotten is freedom "City air makes men free (Stadt Luft macht frei)" Park et al. ([1925] 1984, p. 12)<sup>4</sup>, hence we control for freedom.

Likewise, trust is important, it predicts SWB, and it is lower in cities (Milgram 1970).

Health is a key predictor of SWB, and also note that 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. Ordinal happiness can be treated as a continuous variable (Ferrer-i-Carbonell and Frijters 2004). 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).

Using region/province variable X048WVS and 500,000 top bin population cutoff we were able to identify Colombian largest cities (> 500k in WVS data as they uniquely fall in different provinces.<sup>5</sup> Then we simply replace top > 500k category in WVS data with dummies for each of the largest cities.

<sup>3</sup>where i discuss controls in data and to literature where i slam burger and indeed as shown later comparing unadjusted means results in cities being happier notably due to confounding of higher income education and class—see appendix for tables with and without controls

<sup>4</sup>It originated in the Middle Ages, and it meant freedom from feudalism, non-feudal islands in a sea of feudalism (Harvey 2012).

<sup>5</sup>Baranquilla and Soledad are exception as they both are Atlantico province, but they border each other and we simply treat them as one large city coded as Baranquilla.

### 3 Results

The regional exploration is preliminary and postponed to appendix in sec 4.

in tab 2 Bivariate model a1, no difference across urbanicity. This is important. As argued in urb unhappiness is common looking at simple mean differences may not reveal the urban-rural happiness gradient—notably, and especially in developing countries, cities are economic engines, and income is badly needed for necessities in developing countries and there is more opportunity in cities and so this confounds with urbanicity and results in nil relationship.<sup>6</sup>

Adding basic sociomegraphis in a2, likewise no difference. Adding health, class, and edu in a3 only slightly changes. But addition of income in a4 changes it. so with income it is sig! but not without! ppl go to city for inc (cite) higheer there, but confounds, witout accounting for it no diff.

and in a5 oversaturated with extra vars not much change

a5a adds crime as key urban problem; magnitude changes only slightly but become insig as sample size is reduced by almost half, yet the reduction is due to neg impact of crime, not due to the sample size—a5b reruns a5 except on sample from a5b and it is significant negative on 500k-

same motivation: urban rural gradient almost only solely in global north; rare exception rubia paper

	a1	a2	a3	a4	a5	a5A	a5b
-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-50k	-0.04	-0.02	-0.04	-0.07	-0.08	-0.18	-0.18
50-500k	-0.03	-0.01	-0.10	-0.15	-0.14	-0.11	-0.17
500k-	-0.05	-0.02	-0.18	-0.25+	-0.23+	-0.20	-0.31*
1998	0.00	0.00	0.00	0.00	0.00		
2012	-0.03	-0.02	0.01	-0.06	-0.02	0.00	0.00
2018	-0.24***	-0.21**	-0.19**	-0.20**	-0.18*	-0.19*	-0.13+
age		0.00	0.01	0.01	0.01	0.03+	0.03
age2		-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
male		0.01	-0.10*	-0.11*	-0.05	-0.13	-0.12
married or living together as married		0.21***	0.22***	0.22***	0.19**	0.16+	0.17+
divorced/separated/widowed		-0.02	-0.00	-0.01	-0.03	-0.11	-0.12
health			0.61***	0.59***	0.58***	0.59***	0.62***
class			0.12***	0.07*	0.06*	0.05	0.06
education			-0.03**	-0.06***	-0.06***	-0.06**	-0.06**
income				0.08***	0.07***	0.09***	0.10***
Full time					0.00	0.00	0.00
Part time					0.08	-0.10	-0.10
Self employed					-0.04	-0.14	-0.16
Retired					0.13	0.19	0.20
Housewife					0.08	0.03	0.05
Students					0.02	0.12	0.12
Unemployed					-0.25**	-0.26+	-0.27+
Other					-0.13	-0.18	-0.15
religious services					0.02	0.01	0.01
No religious denomination					0.00	0.00	0.00
Buddhist					-0.18	0.04	-0.09
Christian					0.05	0.10	0.08
Evangelical					0.01	-0.14	-0.13
Jehovah witnesses					0.40+	0.61	0.52
Jew					0.38		
Muslim					0.94***	1.44***	1.19***
Other					0.07	-1.02+	-1.03*
Pentecostal					1.11**	1.16**	1.20**
Protestant					0.38	0.14	0.08
Roman Catholic					0.06	0.13	0.13
Seven Day Adventist					0.76+	0.76	0.82+
Wicca					1.15***	1.37***	1.36***
AU: Uniting Church					-0.26*	-0.42**	-0.27+
victim of a crime last year						-0.21*	
freq felt unsafe from crime at home						-0.17***	
constant	8.46***	8.25***	5.49***	5.53***	5.46***	5.40***	4.97***
N	6025	6024	5895	5874	5853	2885	2885

+ 0.10 \* 0.05 \*\* 0.01 \*\*\* 0.001; robust  
std err

**Table 2:** OLS regressions of life staisfaction.

in table 3: notably bogota, but also cali less happy than smalest places; not medelin the second largest; actually medelin adn cartagena have very small positive coefficients (but insignificant).<sup>7</sup>

here in table 3 as opposed to 2, even in model 1, without controls, there is already a significant difference for Bogota—it is less happy than smallest areas even without controlling for predictors of happiness.

<sup>6</sup>likewise irt is important to contril for city disamenities, notably crime

<sup>7</sup>We refrain from interpreting coefficients on "Cucuta," "Bucaramanga," "Ibague" as there are only 24 observations for each of them.

	b3	b4	b5	b5A	b5b
-10	0.00	0.00	0.00	0.00	0.00
10-50k	-0.11	-0.17	-0.18	-0.18	-0.18
50-500k	-0.11	-0.17	-0.17	-0.12	-0.17
Medellin	0.09	-0.00	-0.03	0.03	-0.03
Barranquilla	-0.17	-0.27	-0.25	-0.11	-0.24
Cali	-0.30	-0.37+	-0.37+	-0.23	-0.36+
Bogota	-0.43**	-0.51**	-0.48**	-0.36*	-0.47**
Cartagena	0.13	0.09	0.13	0.21	0.13
Cucuta	0.14	-0.01	-0.04	0.03	0.02
Bucaramanga	-0.20	-0.31	-0.37	-0.31	-0.39
Ibague	-0.22	-0.29	-0.34	-0.30	-0.33
2012	0.00	0.00	0.00	0.00	0.00
2018	-0.20**	-0.11	-0.14+	-0.19*	-0.13
age	0.01	0.02	0.03	0.03+	0.03
age2	-0.00	-0.00	-0.00	-0.00	-0.00
male	-0.16*	-0.17*	-0.13	-0.14+	-0.13
married or living together as married	0.18+	0.19*	0.17+	0.16+	0.17+
divorced/separated/widowed	-0.09	-0.10	-0.11	-0.10	-0.11
health	0.67***	0.64***	0.62***	0.59***	0.62***
class	0.14***	0.06	0.06	0.05	0.06
education	-0.04*	-0.05**	-0.06**	-0.05**	-0.06**
income		0.10***	0.10***	0.09***	0.10***
Full time			0.00	0.00	0.00
Part time			-0.07	-0.09	-0.09
Self employed			-0.14	-0.13	-0.14
Retired			0.18	0.17	0.18
Housewife			0.04	0.02	0.03
Students			0.13	0.12	0.12
Unemployed			-0.27*	-0.26+	-0.27*
Other			-0.17	-0.20	-0.17
religious services			0.01	0.01	0.01
No religious denomination			0.00	0.00	0.00
Buddhist			-0.04	0.11	-0.02
Christian			0.10	0.10	0.09
Evangelical			-0.14	-0.15	-0.14
Jehovah witnesses			0.44	0.53	0.43
Muslim			1.22***	1.44***	1.22***
Other			-1.02+	-1.01+	-1.01+
Pentecostal			1.17**	1.13*	1.17**
Protestant			0.05	0.11	0.05
Roman Catholic			0.12	0.12	0.12
Seven Day Adventist			0.82+	0.76	0.82+
Wicca			1.46***	1.48***	1.48***
AU: Uniting Church			-0.21	-0.40+	-0.23
victim of a crime last year				-0.19+	
freq felt unsafe from crime at home				-0.16***	
constant	5.33***	5.06***	5.02***	5.41***	5.00***
N	2933	2917	2909	2885	2885

+ 0.10 \* 0.05 \*\* 0.01 \*\*\* 0.001; robust std err

**Table 3:** OLS regressions of life staisfaction.

## 4 Discussion and Conclusion

TODO: have separate som-r.tex as opposed to having it below; and in paper say see supplementary material as opposed to see appendix!

# ONLINE APPENDIX

## Variables' definitions, coding, and distributions

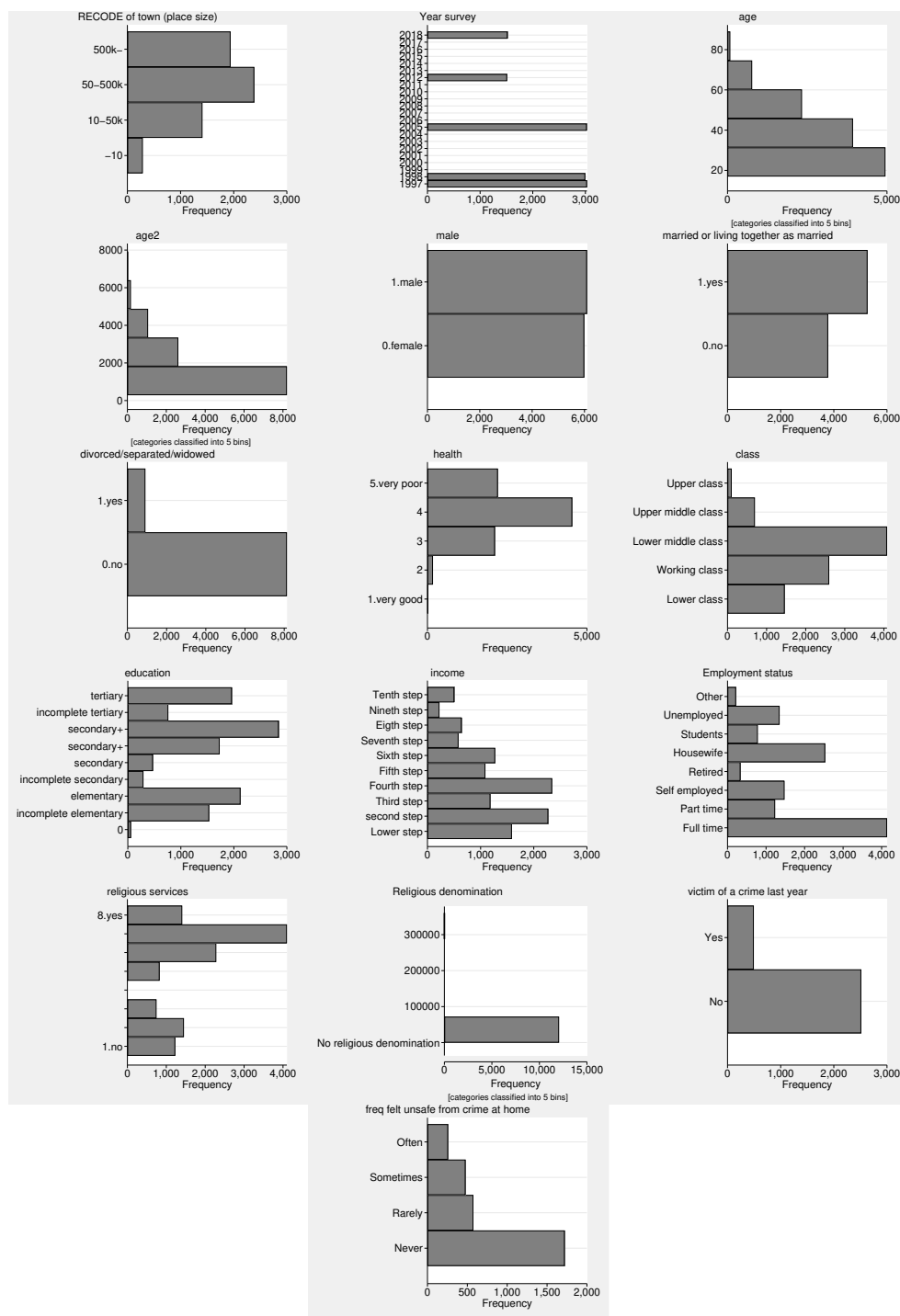


Figure 4: Variables' distribution.

Note that the main education variable has a sizeable portion of it missing, and we have filled in the missing values based on the country-specific education variable X025A2, in a following way

```

replace ed=0 if X025A2==0 & ed==.
replace ed=2 if X025A2==1 & ed==.
replace ed=4 if X025A2==2 & ed==.
replace ed=5 if X025A2==3 & ed==.
replace ed=6 if X025A2==4 & ed==.
replace ed=7 if X025A2==5 & ed==.
replace ed=8 if X025A2==6|X025A2==7|X025A2==8 & ed==.

```

The largest Colombian cities were identified in a following way, and the frequencies on them are the following:

```

replace townN=4 if town4==4 & X048WVS==170102
replace townN=5 if town4==4 & X048WVS==170104
replace townN=6 if town4==4 & X048WVS==170129
replace townN=7 if town4==4 & X048WVS==170134
replace townN=8 if town4==4 & X048WVS==170135
//3 more 24 people ONLY:
replace townN=9 if town4==4 & X048WVS==170121
replace townN=10 if town4==4 & X048WVS==170126
replace townN=11 if town4==4 & X048WVS==170128

```

```

cap label drop townN_lbl
label define townN_lbl 1 "-10" 2 "10-50k" 3 "50-500k" 4 "Medellin" 5 "Barranquilla" 6 "Cali" 7 "Bogota" 8 "Cartagena" 9 "Cucuta" 10 "Bucaramanga" 11 "Ibague"

```

tabulation:	Freq.	Numeric	Label
	289	1	-10
	1,411	2	10-50k
	2,386	3	50-500k
	176	4	Medellin
	78	5	Barranquilla
	152	6	Cali
	536	7	Bogota
	56	8	Cartagena
	24	9	Cucuta
	24	10	Bucaramanga
	24	11	Ibague

## Additional Descriptive Statistics

### Regional explorations

**Table 4:** Listing of key variables of interest."

"province"	"SWB"	"GDP per cap, PPP, USD"	"Density per sq km"	"	"	"	"
Antioquia	8.691489	14656	100.72				
Atlantico	8.24375	11614	748.38				
Bogota	8.044776	22189	4670.8				
Bolivar	8.330358	13548	79.69				
Boyaca	8.3125	15619	52.5				
Caldas	8.5625	10479	126.55				
Caqueta	8	6855	4.52				
Cauca	7.8625	8750	49.97				
Cesar	8.525	11676	52.42				
Choco	8.1875	5837	11.49				
Cordoba	8.333333	6991	71.33				
Cundinamarca	8.090278	13412	120.57				
Huila	7.975	10548	55.32				
La Guajira	7.625	6645	42.24				
Magdalena	8.222222	6997	57.86				
Meta	8.475	23385	12.14				
Narino	7.95	6286	49.01				
Norte de Santander	8.65	8560	68.87				
Putumayo	8.075	7221	13.99				
Quindio	8.7	9534	292.63				
Risaralda	8.339286	10889	227.87				
San Andres	9.0625		1178.46				
Santander	8.565789	25661	71.55				
Sucre	8.325	6560	82.89				

Continued on next page



Table 4 – continued from previous page

"province"	"SWB"	"GDP per cap, PPP, USD"	"Density per sq km"	"	"	"	"
Tolima	8.479167	10636	56.45				
Valle del Cauca	8.163195	14346	202.16				
Amazonas		6298	.7				
Arauca		13685	11.01				
Casanare		26546	9.42				
Guainia		5383	.67				
Guaviare		5438	1.55				
Vaupes		4293	.75				
Vichada		4940	1.08				

abs and conclusion: preliminary evidence especially regarding regional differences—small sample, need more evidence using more data as data becomes available in the future

X048WVS	N	mean
CO: Atlantica	1383.0	8.4
CO: Centro Orien	1759.0	8.3
CO: Central	722.0	8.6
CO: Pacifica	663.0	8.2
CO: Bogota	688.0	8.2
CO: Orinoquia	170.0	8.5
CO: Amazonia	142.0	8.1
CO: Occidente	486.0	8.6
Total	6013.0	8.4

Linear regression

Number of obs = 5,754  
F(15, 5738) = 20.41  
Prob > F = 0.0000  
R-squared = 0.0597  
Root MSE = 1.7561

ls	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
X048WVS						
CO: Centro Oriental	-0.08	0.07	-1.22	0.22	-0.21	0.05
CO: Central	0.12	0.08	1.47	0.14	-0.04	0.28
CO: Pacifica	-0.23	0.09	-2.62	0.01	-0.41	-0.06
CO: Bogota	-0.24	0.08	-2.87	0.00	-0.40	-0.08
CO: Orinoquia	0.20	0.15	1.36	0.17	-0.09	0.48
CO: Amazonia	-0.13	0.20	-0.68	0.50	-0.52	0.25
CO: Occidente	0.21	0.11	2.02	0.04	0.01	0.42
yr						
2005	-0.08	0.06	-1.33	0.18	-0.20	0.04
age	0.00	0.01	0.38	0.70	-0.02	0.03
age2	0.00	0.00	0.04	0.97	-0.00	0.00
male	-0.08	0.05	-1.65	0.10	-0.17	0.01
mar	0.29	0.06	4.66	0.00	0.17	0.41
div	-0.09	0.11	-0.84	0.40	-0.30	0.12
health	0.52	0.04	14.11	0.00	0.44	0.59
inc	0.03	0.01	2.98	0.00	0.01	0.05
cons	5.99	0.26	22.67	0.00	5.47	6.51

the simple mean differences are only .5 min for amazonia 8.1 and max for central 8.6 and occidente; contrillong fow swb predictors pacifica and bogota significantly less happy at about .24, and occidente happoer by .21 than base Atlantica, hence similarly, differences about .5

X048WVS	N	mean
CO: ANT-Antioqui	376.0	8.7
CO: ATL-Atlantic	160.0	8.2
CO: CAQ-Caqueta	40.0	8.0
CO: CAU-Cauca	80.0	7.9
CO: CES-Cesar	40.0	8.5
CO: CHO-Choco	16.0	8.2
CO: COR-Cordoba	96.0	8.3

CO: HUI-Huila	80.0	8.0
CO: LAG-La Guaji	32.0	7.6
CO: MET-Meta	80.0	8.5
CO: NAR-Narino	120.0	8.0
CO: NSA-Norte de	120.0	8.7
CO: PUT-Putumayo	40.0	8.1
CO: QUI-Quindío	40.0	8.7
CO: RIS-Risarald	56.0	8.3
CO: SAP-San Andr	16.0	9.1
CO: SAN-Santande	152.0	8.6
CO: SUC-Sucre	80.0	8.3
CO: TOL-Tolima	96.0	8.5
CO: VAC-Valle de	288.0	8.2
CO: CUN-Cundinam	144.0	8.1
CO: DC -Bogota (	536.0	8.0
CO: BOL-BolÁvar	112.0	8.3
CO: BOY-Boyaca	80.0	8.3
CO: CAL-Caldas	80.0	8.6
CO: MAG-Magdalen	72.0	8.2
Total	3032.0	8.3

Linear regression

Number of obs	=	3,014
F(33, 2980)	=	7.80
Prob > F	=	0.0000
R-squared	=	0.0879
Root MSE	=	1.906

ls	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
X048WVS						
CO: ATL-Atlántico	-0.45	0.18	-2.45	0.01	-0.81	-0.09
CO: CAQ-Caqueta	-0.68	0.36	-1.88	0.06	-1.39	0.03
CO: CAU-Cauca	-0.59	0.30	-1.97	0.05	-1.18	-0.00
CO: CES-Cesar	0.02	0.33	0.05	0.96	-0.63	0.67
CO: CHO-Choco	-0.02	0.73	-0.03	0.98	-1.45	1.41
CO: COR-Cordoba	-0.31	0.23	-1.34	0.18	-0.76	0.14
CO: HUI-Huila	-0.70	0.23	-3.06	0.00	-1.15	-0.25
CO: LAG-La Guajira	-0.69	0.41	-1.67	0.09	-1.49	0.12
CO: MET-Meta	-0.09	0.25	-0.35	0.72	-0.58	0.40
CO: NAR-Narino	-0.58	0.21	-2.80	0.01	-0.99	-0.17
CO: NSA-Norte de ..	0.01	0.17	0.06	0.95	-0.32	0.34
CO: PUT-Putumayo	-0.40	0.26	-1.53	0.13	-0.91	0.11
CO: QUI-Quindio	0.06	0.26	0.22	0.83	-0.45	0.56
CO: RIS-Risaralda	-0.33	0.25	-1.32	0.19	-0.81	0.16
CO: SAP-San Andre..	0.42	0.32	1.33	0.19	-0.20	1.04
CO: SAN-Santander	-0.20	0.16	-1.31	0.19	-0.51	0.10
CO: SUC-Sucre	-0.29	0.25	-1.16	0.25	-0.77	0.20
CO: TOL-Tolima	-0.18	0.21	-0.85	0.40	-0.58	0.23
CO: VAC-Valle del..	-0.52	0.14	-3.73	0.00	-0.80	-0.25
CO: CUN-Cundinama..	-0.47	0.18	-2.58	0.01	-0.82	-0.11
CO: DC -Bogotá, (..)	-0.66	0.12	-5.54	0.00	-0.90	-0.43
CO: BOL-Bolivar	-0.19	0.20	-0.95	0.34	-0.58	0.20
CO: BOY-Boyaca	-0.24	0.24	-0.99	0.32	-0.72	0.24
CO: CAL-Caldas	-0.11	0.22	-0.52	0.60	-0.55	0.32
CO: MAG-Magdalena	-0.31	0.27	-1.12	0.26	-0.84	0.23
yr						
2018	-0.09	0.07	-1.29	0.20	-0.23	0.05
age						
age2	0.01	0.02	0.75	0.45	-0.02	0.04
age2	-0.00	0.00	-0.15	0.88	-0.00	0.00
male	-0.16	0.07	-2.26	0.02	-0.30	-0.02
mar	0.19	0.09	2.08	0.04	0.01	0.36
div	-0.10	0.14	-0.73	0.47	-0.37	0.17
health	0.60	0.05	10.92	0.00	0.49	0.70
inc	0.09	0.02	5.67	0.00	0.06	0.12
cons	5.46	0.39	13.85	0.00	4.69	6.23

here for last 2 waves 2012 and 2018, more detailed provinces, and larger differences, from 7.6 in La Guaji (only 32 obs) and 7.9 in Cauca to 8.6 in Santander, Caldas and 8.7 in Antioquia, Norte de Santander, and Quindío.

hence the difference between lo and hi is as large as about 1.

after ontrolong for basic predictors of happiness, relative to base case Antioquia, a number of provinces are less happy, Atlantico at .45, Caqueta at .7, Cauca at .6, Huila and La Guajira at .7, Narino at .6, Valle del Cauca at .5, Cundinamarca at .47, and Bogota (Distrito Capital) at .66. Notably Bogota is the very largest colombian city, and also one of the lest happy provinces. and that data from govt has happiness but not sure how precise is urbanicity: Encuesta Nacional de Calidad de Vida <https://www.datos.gov.co/Estadisticas-Nacionales/Encuesta-Nacional-de-Calidad-de-Vida-ECV-/mz9y-3x9k>

limitation–caveat is that not representative of provinces though pooling 2 years together arguably helps and all regions have at least 40 obs with exception of san andres, choco and la guaji–results for which we refrain from interpreting

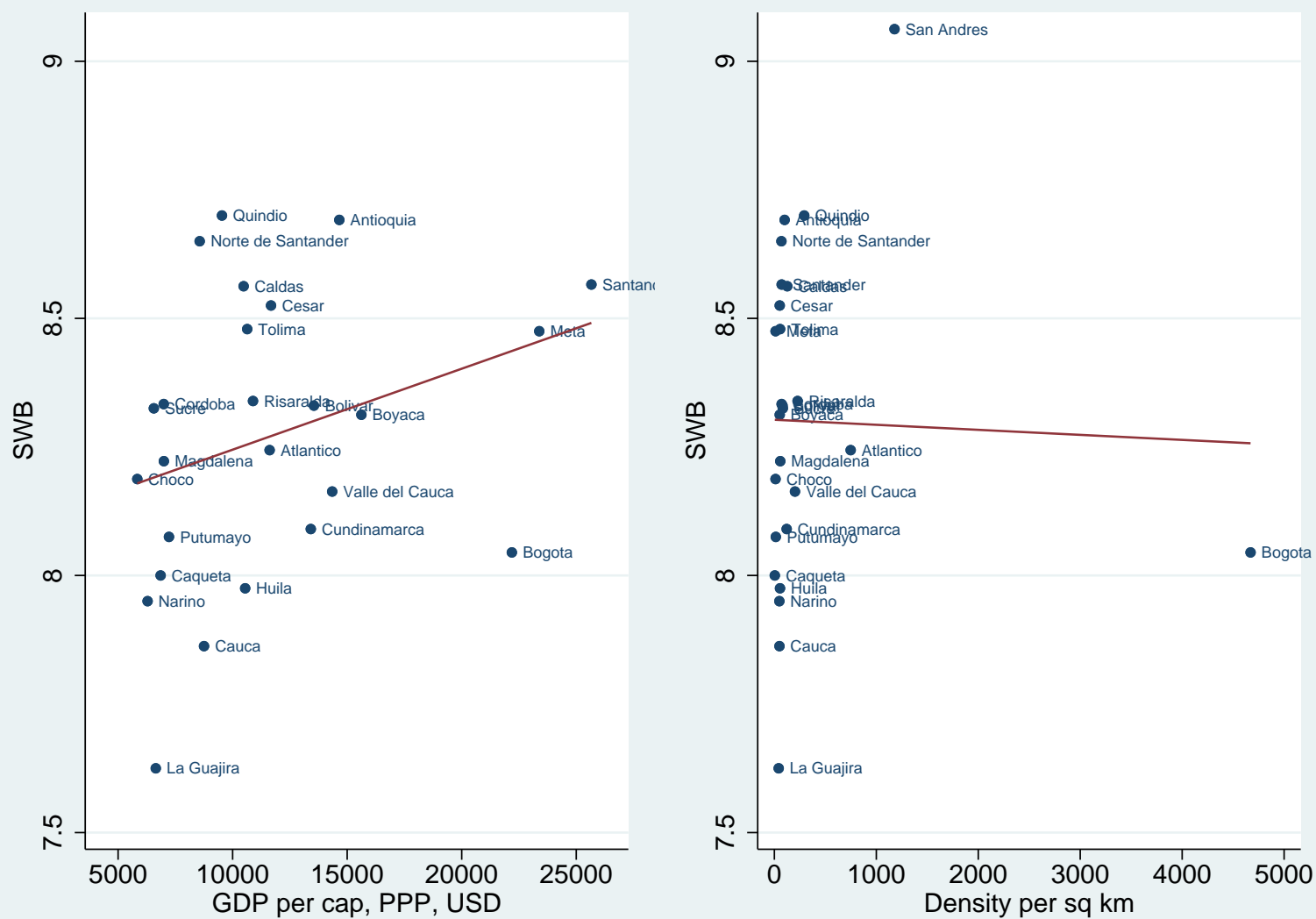
TO n org later can redo with latinobarometer, goes back every year to like 95, but at least since 05 has 8 step urbanicity, but top one is 100k and then there is capital ad

and then can do size with province :)

positive relationship with gdp and nil relationship with density right so more developed are denser, thw two correlate at .35, so looking at them simultaneously reveal positive rel with gdp, but negative with density as expected



**Figure 5:** Colombia Administrative Divisions. File:Colombia administrative divisions <https://commons.wikimedia.org/wiki/>.



**Figure 6:** Bivariate relationships

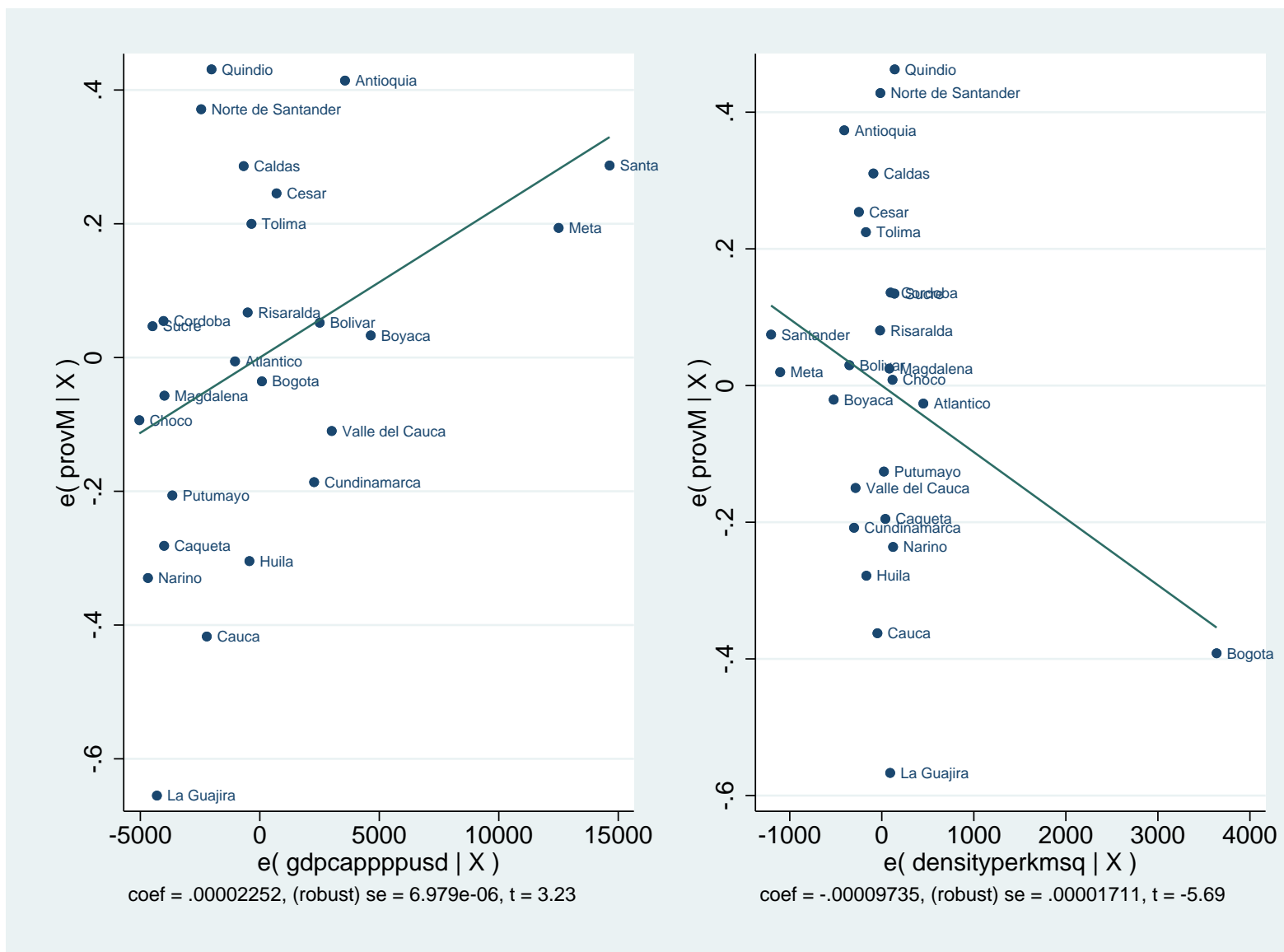


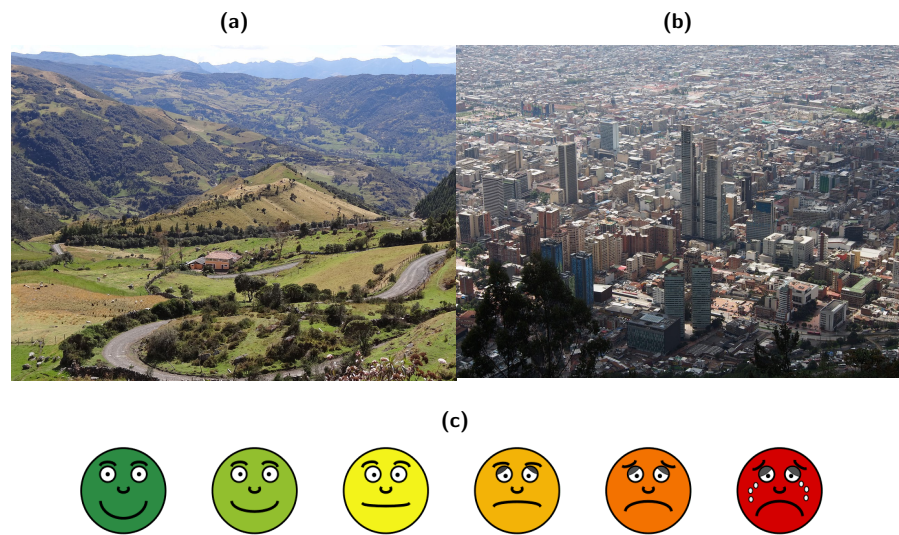
Figure 7: Added Variable Plots relationships

## Additional visualizations of the gradient

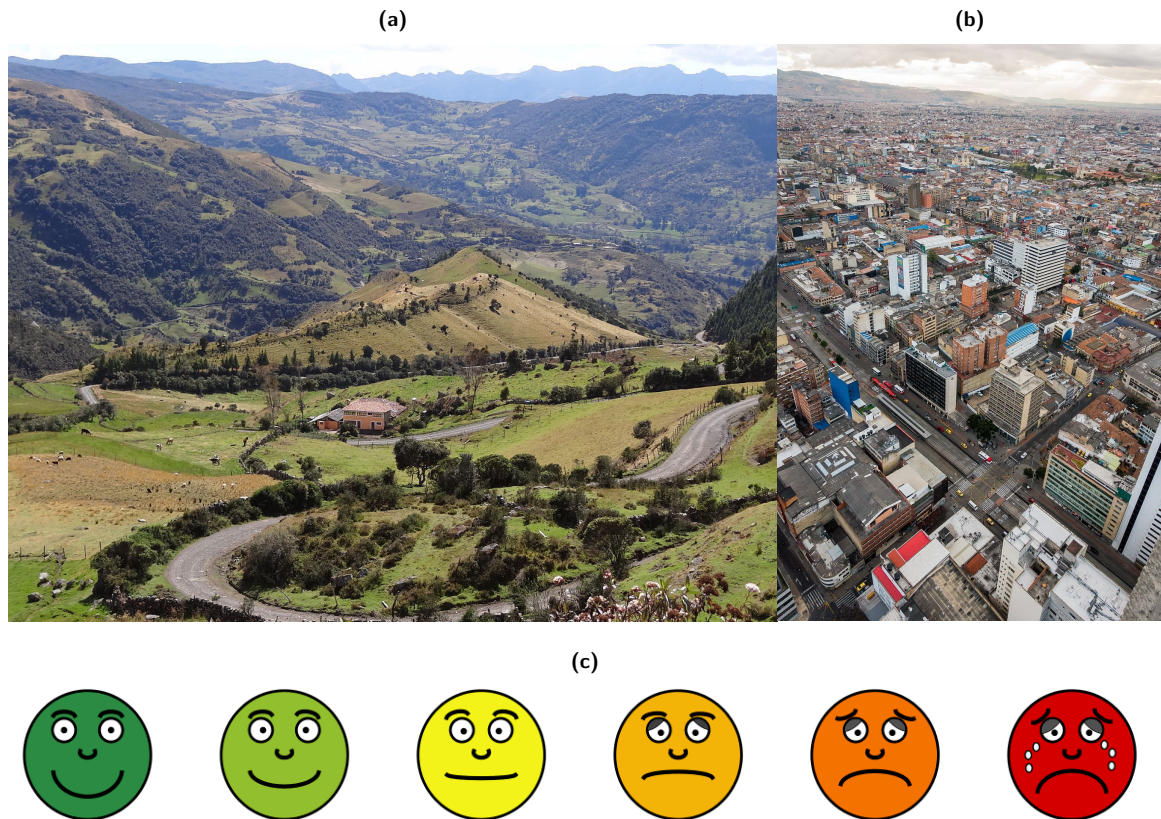
## References

- 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.
- BURGER, M., M. HENDRIKS, AND E. IANCHOVICHINA (2021): "Happy but Unequal," .
- BURGER, M. J., P. S. MORRISON, M. HENDRIKS, AND M. M. HOOGERBRUGGE (2020): "Urban-Rural Happiness Differentials across the World," *World Happiness Report*.
- CARLSEN, F. AND S. LEKNES (2019): "The paradox of the unhappy, growing city: reconciling evidence?" *Unpublished*.
- CATROPA, D. AND M. ANDREWS (2020): "Bemoaning the Corporatization of Higher Education," *insidehighered.com*.

**Figure 8:** Urban-Rural happiness gradient endpoints. Images from File:Guican Rural.JPG - Wikimedia Commons, and <https://www.maxpixel.net/Urban-Bogota-Capital-Bogota-Colombia-Architecture-5357148>



**Figure 9:** Urban-Rural happiness gradient endpoints. Images from File:Guican Rural.JPG - Wikimedia Commons, and bogota, landscape, bogotÃ¡, city, architecture, urban, panoramic, capital, cities, viewpoint <https://www.pxfuel.com/en/free-photo-xiffs>



CENTRAL INTELLIGENCE AGENCY (2017): "COUNTRY COMPARISON :: LIFE EXPECTANCY AT BIRTH," *The World Factbook*.

CHANDRAN, N. (2017): "Global passport rankings: US loses power, tiny Southeast Asian country takes top spot," *CNBC*.

COUGHLAN, S. (2017): "Pisa tests: Singapore top in global education rankings," *BBC*.

- COX, R. W. (2013): "The corporatization of higher education," *Class, race and corporate power*, 1, 8.
- DAVIES, W. (2015): *The Happiness Industry: How the Government and Big Business Sold us Well-Being*, Verso Books.
- EASTERLIN, R. A., L. ANGELESCU, AND J. ZWEIG (2010): "The Impact of Modern Economic Growth On Urban-Rural Differences in Subjective Well-Being," WEAI Conference, Portland, OR, June 29 - July 3.
- 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.
- FULLMAN, N., R. M. BARBER, A. A. ABAJOBIR, K. H. ABATE, C. ABBAFATI, K. M. ABBAS, F. ABD-ALLAH, R. S. ABDULKADER, A. M. ABDULLE, S. F. ABERA, ET AL. (2017): "Measuring progress and projecting attainment on the basis of past trends of the health-related Sustainable Development Goals in 188 countries: an analysis from the Global Burden of Disease Study 2016," *The Lancet*, 390, 1423–1459.
- HARVEY, D. (2012): *Rebel cities: From the right to the city to the urban revolution*, Verso Books.
- HERITAGE (2017): "2017 Index of Economic Freedom," *Heritage*.
- HURTADO, D. A., P. HESSEL, AND M. AVENDANO (2017): "The hidden costs of informal work: lack of social protection and subjective well-being in Colombia," *International journal of public health*, 62, 187–196.
- IMF (2017): "World Economic Outlook Database," *International Monetary Fund*.
- INGLEHART, R. (1997): *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*, Princeton Univ Pr, Princeton NJ.
- MCSPADDEN, K. (2015): "Singapore has the world's fastest Internet: Akamai," *E27*.
- MICHALOS, A. C. (2014): "Quality of Life, Two-Variable Theory," in *Encyclopedia of Quality of Life and Well-Being Research*, Springer, 5307–5309.
- MILGRAM, S. (1970): "The experience of living in cities," *Science*, 167, 1461–1468.
- MILLS, N. (2012a): "The corporatization of higher education," *Dissent*, 59, 6–9.
- (2012b): "The Corporatization of Higher Education." *dissentmagazine.org*.
- 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.
- OKULICZ-KOZARYN, A. (2014): "'Freedom from' and 'freedom to' across countries," *Social Indicators Research*, 118, 1009–1029.
- (2015): "Freedom and Life Satisfaction in Transition," *Society and Economy in Central and Eastern Europe*, 37, 143–164.
- OKULICZ-KOZARYN, A. AND R. VALENTE (2020): "The perennial dissatisfaction of urban upbringing," *Cities*.
- OKULICZ-KOZARYN, A. AND R. R. VALENTE (2019): "Livability and subjective well-being across European cities," *Applied Research in Quality of Life*, 14, 197–220.
- (2021): "Urban unhappiness is common," *Cities*, 103368.

- PARK, R. E., E. W. BURGESS, AND R. D. MAC KENZIE ([1925] 1984): *The city*, University of Chicago Press, Chicago IL.
- ROOS, D. (2019): "Colombia, Not Finland, May Be the Happiest Country in the World," *HiffPost*.
- SCHMIDLIN, K. (2015): "The corporatization of higher education: With a system that caters to the 1 percent, students and faculty get screwed. Low-paid teachers are fighting back against exploitation in public & private colleges. No more poverty wages," *salon.com*.
- SNOWDON, C. (2010): *The Spirit Level Delusion: Fact-checking the Left's New Theory of Everything*, Little Dice.
- SUBRAMANIAN, S., M. A. SUBRAMANYAM, S. SELVARAJ, AND I. KAWACHI (2009): "Are self-reports of health and morbidities in developing countries misleading? Evidence from India," *Social science & medicine*, 68, 260–265.
- VALENTE, R. R. AND B. J. BERRY (2016): "Dissatisfaction with city life? Latin America revisited," *Cities*, 50, 62–67.
- WILKINSON, R. G. AND K. E. PICKETT (2010): *The spirit level: Why equality is better for everyone*, Penguin, New York NY.