Unhappy Metros: Panel Evidence

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We study the effect of urbanicity (metro v nonmetro) on life satisfaction, or Subjective WellBeing (SWB). The literature agrees that residents of metropolitan areas tend to be less satisfied with their lives than residents of smaller settlements in the developed world. But the existing evidence is cross-sectional only. This is the first study using longitudinal dataset to test the "unhappy metro" hypothesis. Using the 2009-2019 US Panel Study of Income Dynamics (PSID), we find support for the cross-sectional findings: metros are less happy than nonmetros. The effect size is substantial, the negative effect of metro v nonmetro is equivalent to the effect of one's health deteriorating about a third from "fair" to "poor." Given extremely large scale of urbanization, 6b of people from 1950 to 2050, the combined effect on human wellbeing is large.

Panel Study of Income Dynamics (PSID), urban-rural happiness gradient, urban, cities, happiness, life satisfaction, Subjective WellBeing (SWB)

For over 95% of our evolutionary history, humans have lived without cities as hunter-gatherers usually in small bands of 50-80 people (Maryanski and Turner 1992). In 1800 a mere 1.7% of the world population lived in cities larger than 100k (Davis 1955). Humans have not evolved to live in settlements of millions inhabitants at high densities, such as cities. Human nature is unlike that of ants or bees: by one estimate we're 90% chimp and only 10% bee (Haidt 2012).

Urbanism is not just built environment, it is a way of life (Wirth 1938). Urbanism affects humans in multiple and profound ways, indeed urbanism is arguably the most significant disruption of human habitat in our species history (Okulicz-Kozaryn 2015). World is urbanizing at an astonishing pace–urban population is projected to increase from .75b in 1950 in to 6.75b in 2050 (`https://population.un.org/wup`)–6 billion urbanites more over just 100 years.

At the same time, an agreement has emerged that in addition to the traditional development measures such as Gross Domestic Product (GDP) and Human Development Index (HDI), it is useful to measure human development as Subjective WellBeing (SWB) (Stiglitz et al. 2009, Diener 2009). Hence, the present study: the effect of urbanicity on SWB.

There are multiple studies finding lowest happiness in largest cities (e.g., Gurin et al. 1960, Campbell et al. 1976, Senior 2006, Office for National Statistics 2011, Chatterji 2013, Lu et al. 2015, Lenzi and Perucca 2016, Morrison 2015, Morrison and Weckroth 2017, Okulicz-Kozaryn and Valente 2021, Lenzi and Perucca 2021). Yet all studies to date are cross-sectional–longitudinal evidence is missing.

Few studies about the relationship of place with SWB using panel data do not actually test the urban unhappiness hypothesis. White et al. (2013b) and White et al. (2013a) use British panel (BHPS) but test green space (such as gardens, parks, and proximity to coast), not size of a place. Similarly, Alcock et al. (2014) is a panel (BHPS) but also examining green space, not size of a place.

Hoogerbrugge and Burger (2021) also using BHPS tests green space effect, not urbanism. The size of a place cutoff is at 10,000 people or even 3,000 people for Scotland. Hence, much of the places above the cutoff, such as large villages and small towns are not really "urban." They are lacking defining features of urbanness: size, density, and heterogeneity Wirth (1938). The build environment in villages or small towns lacks tall buildings, urban transit, airports, etc. Way of life in such places is not urban either, as it is not: shallow, transitory, superficial, or conspicuous as it is in cities (Tönnies [1887] 2002, Park 1915, Wirth 1938, White and White 1977).

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I thank Gordon D. A. Brown for sharing STATA code. All mistakes are mine.

Urbanicity, ideally, should be approached as a gradient, but if a binary cutoff is necessary it should be at several hundred thousand (Okulicz-Kozaryn 2016), not at 3 or 10 thousand as in Hoogerbrugge and Burger (2021).

Rehdanz and Maddison (2008) uses a German panel dataset (GSOEP), properly defining urban rural gradient with multiple cutoffs including at several hundred thousand, but without panel modeling techniques such as fixed or random effects.

1 Data and model

We use the 2009-2019 US Panel Study of Income Dynamics (PSID) from `psidonline.isr.umich.edu`. We cannot use earlier waves than 2009 because the SWB question only started in 2009. We use the family files and only retain household reference person (or head, as it used to be called). This is the same practice as in Brown and Gathergood (2019).

The SWB question reads: "Please think about your life as a whole. How satisfied are you with it? Are you completely satisfied, very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?" on scale from 1 (low) to 5 (high).

The key independent variable is the metro dummy variable as defined in table 1. Summary statistics of metro and all other variables are in Supplementary Online Material (SOM).

metro	beale rural-urban code	description
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 1: 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.

We control for a usual set of SWB predictors following Okulicz-Kozaryn and Valente (2018). In addition, following Brown and Gathergood (2019) we also control for distress.

There are three variables that not only predict SWB, but also are likely to be confounded with metro: race, political views, and religiosity–yet, as they are mostly constant over short period of time such as that considered here, they are irrelevant in fixed effects model. Race is definitely almost always constant over time, and while political views and religiosity do change, they rarely change much over just several years as studied here. Furthermore, there are no measures of political views in PSID.

The US is a geographically diverse country with a multitude of regional differences that may affect the results, notably urban areas differ in their character greatly depending on the region, and hence, we include state dummies. Following Brown and Gathergood (2019) we also add year dummies.

We use a standard Fixed Effects model. Although linear models assume cardinality of the outcome variable, and SWB measures are technically ordinal, cardinality can be assumed. Ferrer-i-Carbonell and Frijters (2004) has shown that linear model results are substantially the same as those from discrete models (and linear models are the default method in happiness research (Blanchflower and Oswald 2011)). Aside from practical estimation, even theoretically, while there is still debate about the cardinality of SWB, there are strong arguments to treat it as cardinal (Ng 1996, 1997, 2011).

A standard fixed effects model is given by:

$$SWB_{it} = \gamma METRO_{it} X_{it} \beta + \alpha_i + u_{it} \tag{1}$$

Where, $METRO_{it}$ is a metro dummy for person i at time t. γ is the main coefficient of interest on the metro dummy. α_i (i=1...n) is the unknown intercept for each person (n person-specific intercepts). SWB is the dependent variable, where i = person and t = wave (2009, 2011, 2013, 2015, 2017, 2019). X_{it} is a vector of control variables as listed in the Supplementary Online Material. β is the vector of coefficients for control variables. u_{it} is the error term. In Supplementary Online Material (SOM), we also present Random Effects, 2015 and 2015-2019 pooled OLS results–estimates on metro are stronger in these models, and hence, Fixed Effects presented here are conservative estimates.

2 Results

Fixed effects regressions of `SWB` on `metro` are in table 2. Regression coefficient on `metro` is not significant without controlling for predictors of `SWB` in model a1. But addition of even most basic `SWB` predictors in model a2 makes `metro` negative at -.04 and statistically significant at .1 level of significance. This is an important finding: metro-nonmetro happiness gap only emerges after controlling for `SWB` predictors. Addition of further controls in a3 attenuates `metro` coefficient only slightly down to -.03. Addition of control for distress in model a4 and further addition of state and year dummies in a5 yields the same estimate as only controlling for basic `SWB` predictors in a2 at -.04.

Table 2: Fixed Effects regressions of SWB.

	a1	a2	a3	a4	a5
metro	0.01	-0.04*	-0.03*	-0.04**	-0.04*
age		0.02***	0.02***	0.01***	0.00
age sq		-0.00**	-0.00	-0.00	-0.00
last year total family income		0.00*	0.00	0.00	0.00
unemployed		-0.18***	-0.18***	-0.16***	-0.16***
male		0.27	0.21	0.07	0.08
health		0.13***	0.13***	0.10***	0.10***
kids			-0.01	-0.01	-0.01
college			-0.08*	-0.07	-0.07
married			0.18***	0.17***	0.17***
family unit size			0.04***	0.03***	0.03***
distress				-0.05***	-0.05***
constant	3.71***	2.37***	2.45***	2.90***	3.60***
state and year dummies	no	no	no	no	yes
N	37567	37489	36285	36142	36142

*** p<0.01, ** p<0.05, * p<0.1

3 Conclusion and Discussion

Urbanism affects humans in multiple and profound ways (Wirth 1938), indeed urbanism is arguably the most significant disruption of human habitat in our species history (Okulicz-Kozaryn 2015). In addition to the traditional development measures such as Gross Domestic Product (GDP) and Human Development Index (HDI), it is useful to measure human development as Subjective WellBeing (SWB) (Stiglitz et al. 2009, Diener 2009).

This is the first panel data investigation of metro-nonmetro happiness gap. The results confirm cross-sectional evidence of urban unhappiness. While the estimate of -.04 on 1-5 SWB scale may seem small, such effect size is not irrelevant. Even a finding of no effect would be counterintuitive amid current pro-urbanism (Glaeser 2011, Glaeser et al. 2016, Burger et al. 2020). Regression coefficients on `metro` are not significant without controlling for predictors of SWB, so it is important to adjust the metro non-metro happiness gap with happiness predictors, unlike in Burger et al. (2020).[1]

[1] Burger et al. (2020) also uses faulty Gallup data as elaborated in Okulicz-Kozaryn and Valente (2021)–in general, one should steer away from Gallup happiness data–Gallup charges $30,000 for access (per one year), clearly "happiness industry", not happiness research Davies (2015).

Time invariant person-level characteristics, such as personality traits do matter–the metro unhappiness disadvantage is only about half in fixed effects model v single-year or pooled data (SOM).

About 50% of our traits are genetically determined (Ridley 2000), including happiness (Lykken and Tellegen 1996, Brooks 2013). Then person level characteristics such as health and unemployment matter, and only small proportion of SWB variation is due to environmental factors such as urbanness. Health is one of the most important predictors of SWB (Pavot and Diener 2008, Gerdtham and Johannesson 2001). In full model, a5, the coefficient on 5-step `health` is .10, hence, for instance, the negative effect of metro at -.04 is equivalent to the effect of one's health deteriorating at least a third or about half way from "fair" to "poor."

Urban population will increase by 6 billion, from .75b in 1950 in to 6.75b in 2050 (`https://population.un.org/wup`). Even an apparently small effect of -.04 on 1-5 SWB scale, but multiplied by billions of humans urbanized, results in remarkable human unhappiness. Say, given an urbanization of 1m of people, the unhappiness effect is equivalent to, for instance, 40k people falling on SWB from say "very satisfied" to "somewhat satisfied," or 10k people falling 4 steps from "very satisfied" to "not at all satisfied."

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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]

3.1 Variables' Definitions

Table 3: Variable definitions.

name	description
swb	"Please think about your life as a whole. How satisfied are you with it? Are you completely satisfied, very satisfied, somewhat satisfied, not very satisfied, or not at all satisfied?" 1 (lo) - 5 (hi)
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
unemployed	EMPLOYMENT STATUS-1ST MENTION; We would like to know about what you do – are you working now, looking for work, retired, keeping house, a student, or what?–FIRST MENTION; 1="Looking for work, unemployed", 0 otherwhise
male	gender
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)
kids	"Number of Persons Now in the FU Under 18 Years of Age"
college	"Did (you/he/she) attend college?" 1='yes', 0='no'
married	"Are you married, widowed, divorced, separated, or have you never been married?" 1='married'; 0 otherwise
family unit size	Number of Persons in FU at the Time of the Interview
white	"What is (your/his/her) race? (Are you/Is [he/she]) white, black, American Indian, Alaska Native, Asian, Native Hawaiian or other Pacific Islander?–FIRST MENTION" 1='white', 0 otherwhise
distress	The K-6 Non-Specific Psychological Distress Scale

3.2 Summary statistics

```
      id:  2, 3, ..., 14365                                  n =      10108
      yr:  2009, 2011, ..., 2019                             T =          6
           Delta(yr) = 1 unit
           Span(yr)  = 11 periods
           (id*yr uniquely identifies each observation)

Distribution of T_i:   min      5%     25%       50%       75%     95%     max
                         1       1       2         4         6       6       6

     Freq.  Percent    Cum. |  Pattern*
 ---------------------------+----------
     3179     31.45   31.45 |  111111
      723      7.15   38.60 |  ....11
      672      6.65   45.25 |  .....1
      548      5.42   50.67 |  ...111
      505      5.00   55.67 |  ..1111
      502      4.97   60.64 |  1.....
      481      4.76   65.39 |  .11111
      480      4.75   70.14 |  111...
      450      4.45   74.59 |  11....
     2568     25.41  100.00 | (other patterns)
 ---------------------------+----------
    10108    100.00         |  XXXXXX
 --------------------------------------
 *Each column represents 2 periods.


Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
swb      overall |  3.718723   .8759134          1          5 |     N =   37767
         between |             .7136601          1          5 |     n =   10091
```

	within		.5603667	.5187227	6.552056	T-bar = 3.74264
met	overall	.7801749	.4141335	0	1	N = 37730
	between		.385049	0	1	n = 10073
	within		.1878218	-.0531584	1.613508	T-bar = 3.74566
age	overall	44.85923	16.82858	16	99	N = 37928
	between		17.23457	17	99	n = 10107
	within		2.911229	37.19257	51.60923	T-bar = 3.75265
age2	overall	2295.544	1698.311	256	9801	N = 37928
	between		1728.178	289	9801	n = 10107
	within		285.6776	1268.044	3368.044	T-bar = 3.75265
inc	overall	61242.84	81095.25	0	3316000	N = 37912
	between		66126.72	0	1883797	n = 10108
	within		39658.52	-937554.6	2052160	T-bar = 3.75069
une	overall	.0907629	.2872754	0	1	N = 37923
	between		.2197753	0	1	n = 10108
	within		.2116276	-.7425705	.9240962	T-bar = 3.75178
male	overall	.5491432	.4975856	0	1	N = 37930
	between		.4994373	0	1	n = 10108
	within		.0058544	-.2508568	1.049143	T-bar = 3.75247
hea	overall	3.436374	1.046857	1	5	N = 37862
	between		.92175	1	5	n = 10100
	within		.5731675	.4363742	6.603041	T-bar = 3.74871
kid	overall	.6846296	1.119852	0	11	N = 37930
	between		1.061457	0	11	n = 10108
	within		.4720193	-3.148704	5.18463	T-bar = 3.75247
col	overall	.6264205	.4837605	0	1	N = 36608
	between		.4803487	0	1	n = 9674
	within		.0744979	-.2069129	1.459754	T-bar = 3.78416
mar	overall	.2802942	.4491489	0	1	N = 37928
	between		.412416	0	1	n = 10107
	within		.1586708	-.5530391	1.113628	T-bar = 3.75265
nFU	overall	2.281413	1.412387	1	14	N = 37930
	between		1.317328	1	13	n = 10108
	within		.615575	-3.468587	8.081413	T-bar = 3.75247
whi	overall	.5256386	.4993489	0	1	N = 37697
	between		.4985538	0	1	n = 10038
	within		.0213918	-.2743614	1.192305	T-bar = 3.75543
k	overall	3.608904	4.151942	0	24	N = 37689
	between		3.629813	0	24	n = 10083
	within		2.339743	-10.05776	22.6089	T-bar = 3.73788

(obs=5.00 ,55 8.00)

	swb	met	age	age2	inc	une	male	hea	kid	col	mar	nFU	whi	
swb	1.00													
met	-0.08	1.00												
age	0.09	-0.05	1.00											
age2	0.09	-0.06	0.98	1.00										
inc	0.13	0.06	0.10	0.06	1.00									
une	-0.12	0.02	-0.19	-0.18	-0.13	1.00								
male	0.09	-0.06	-0.01	-0.03	0.29	-0.02	1.00							
hea	0.27	0.02	-0.24	-0.23	0.20	-0.01	0.15	1.00						
kid	-0.01	0.02	-0.29	-0.30	0.01	0.09	-0.10	0.05	1.00					
col	0.04	0.08	-0.08	-0.09	0.24	-0.12	0.06	0.17	-0.04	1.00				
mar	0.20	-0.06	0.17	0.14	0.43	-0.12	0.55	0.13	0.10	0.14	1.00			
nFU	0.04	0.01	-0.16	-0.19	0.16	0.05	0.08	0.06	0.86	-0.03	0.35	1.00		
whi	0.09	-0.19	0.16	0.17	0.26	-0.16	0.26	0.12	-0.16	0.19	0.29	-0.09	1.00	
k	-0.37	-0.00	-0.12	-0.12	-0.17	0.12	-0.14	-0.30	0.04	-0.10	-0.18	-0.02	-0.09	1.00

(obs=6,294)

	swb	met	age	age2	inc	une	male	hea	kid	col	mar	nFU	whi
swb	1.0000												
met	-0.0233	1.0000											
age	0.0701	-0.0482	1.0000										

```
    age2 |   0.0704  -0.0482   0.9850   1.0000
     inc |   0.1675   0.0793   0.0604   0.0308   1.0000
     une |  -0.0931   0.0118  -0.1420  -0.1345  -0.1376   1.0000
    male |   0.0619  -0.0174  -0.0316  -0.0407   0.2897  -0.0217   1.0000
     hea |   0.3035   0.0486  -0.1854  -0.1776   0.2135  -0.0393   0.1189   1.0000
     kid |   0.0501  -0.0036  -0.2768  -0.2929   0.0566   0.0246  -0.0676   0.0553   1.0000
     col |  -0.0072   0.1033  -0.0532  -0.0633   0.2552  -0.1330   0.0317   0.1209  -0.0449   1.0000
     mar |   0.2059  -0.0181   0.1509   0.1293   0.4559  -0.1102   0.5009   0.1282   0.1246   0.1368   1.0000
     nFU |   0.1095  -0.0064  -0.1650  -0.1919   0.2014  -0.0005   0.0708   0.0593   0.8656  -0.0266   0.3526   1.0000
     whi |   0.0585  -0.1388   0.1392   0.1496   0.2572  -0.1132   0.2024   0.0756  -0.0782   0.1494   0.2623  -0.0181   1.0000
       k |  -0.3863  -0.0110  -0.1877  -0.1813  -0.1506   0.1098  -0.1076  -0.3022   0.0164  -0.0556  -0.1855  -0.0381  -0.0161   1.00
```

3.3 Panel Structure of Metro Variable

```
xttab met

                  Overall             Between            Within
      met |    Freq.  Percent      Freq.  Percent        Percent
----------+-----------------------------------------------------
 Inap.:   |     8294    21.98       2947    29.26          77.39
 Metropol |    29436    78.02       8362    83.01          93.19
----------+-----------------------------------------------------
    Total |    37730   100.00      11309   112.27          89.07
                               (n = 10073)

xtsum met

Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
met      overall |  .7801749    .4141335          0          1 |     N =   37730
         between |               .385049          0          1 |     n =   10073
         within  |              .1878218  -.0531584   1.613508 | T-bar = 3.74566
```

3.4 Single Year And Pooled Results V FE Results

Table 4: Regressions of SWB: FE v OLS 2015

	c1-FE	c1-2015	c2-FE	c2-2015	c3-FE	c3-2015	c4-FE	c4-2015	c5-FE	c5-2015
metro	0.01	-0.11***	-0.04*	-0.12***	-0.03*	-0.10***	-0.04**	-0.09***	-0.04*	-0.08***
age			0.02***	-0.00	0.02***	-0.01**	0.01***	-0.01***	0.00	-0.01***
age sq			-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*
unemployed			-0.18***	-0.23***	-0.18***	-0.24***	-0.16***	-0.18***	-0.16***	-0.18***
male			0.27	0.08***	0.21	-0.05*	0.07	-0.06**	0.08	-0.06**
health			0.13***	0.26***	0.13***	0.26***	0.10***	0.18***	0.10***	0.18***
kids					-0.01	-0.04*	-0.01	-0.03	-0.01	-0.03
college					-0.08*	-0.12***	-0.07	-0.13***	-0.07	-0.13***
married					0.18***	0.28***	0.17***	0.24***	0.17***	0.24***
family unit size					0.04***	0.06***	0.03***	0.05***	0.03***	0.05***
distress							-0.05***	-0.06***	-0.05***	-0.06***
constant	3.71***	3.82***	2.37***	2.80***	2.45***	2.93***	2.90***	3.63***	3.60***	3.74***
state and year dummies	no	no	no	no	no	no	no	no	yes	yes
N	37567	6256	37489	6250	36285	6092	36142	6068	36142	6068

*** p<0.01, ** p<0.05, * p<0.1; robust std err (OLS)

Table 5: Regressions of SWB: FE v OLS Pooled 2015-2019.

	d1-FE	d1-09-19	d2-FE	d2-09-19	d3-FE	d3-09-19	d4-FE	d4-09-19	d5-FE	d5-09-19
metro	0.01	-0.08***	-0.04*	-0.09***	-0.03*	-0.07***	-0.04**	-0.08***	-0.04*	-0.08***
age			0.02***	-0.00	0.02***	-0.01***	0.01***	-0.01***	0.00	-0.01***
age sq			-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***
unemployed			-0.18***	-0.25***	-0.18***	-0.25***	-0.16***	-0.20***	-0.16***	-0.20***
male			0.27	0.05***	0.21	-0.08***	0.07	-0.11***	0.08	-0.10***
health			0.13***	0.25***	0.13***	0.25***	0.10***	0.17***	0.10***	0.17***
kids					-0.01	-0.03***	-0.01	-0.02***	-0.01	-0.02***
college					-0.08*	-0.10***	-0.07	-0.11***	-0.07	-0.11***
married					0.18***	0.29***	0.17***	0.26***	0.17***	0.26***
family unit size					0.04***	0.04***	0.03***	0.04***	0.03***	0.04***
distress							-0.05***	-0.06***	-0.05***	-0.06***
constant	3.71***	3.78***	2.37***	2.77***	2.45***	2.91***	2.90***	3.60***	3.60***	3.66***
state and year dummies	no	no	no	no	no	no	no	no	yes	yes
N	37567	37567	37489	37489	36285	36285	36142	36142	36142	36142

*** p<0.01, ** p<0.05, * p<0.1;
robust std err (OLS)

3.5 Random Effects

Table 6: RE regressions of SWB.

	b1	b2	b3	b4	b5
metro	-0.04***	-0.05***	-0.04***	-0.05***	-0.06***
age		0.00	-0.01***	-0.01***	-0.01***
age sq		0.00***	0.00***	0.00***	0.00***
last year total family income		0.00***	0.00***	0.00***	0.00***
unemployed		-0.22***	-0.22***	-0.19***	-0.19***
male		0.07***	-0.05***	-0.08***	-0.08***
health		0.19***	0.19***	0.14***	0.14***
kids			-0.02**	-0.02**	-0.02**
college			-0.06***	-0.08***	-0.08***
married			0.27***	0.24***	0.25***
family unit size			0.04***	0.04***	0.04***
distress				-0.05***	-0.05***
constant	3.74***	2.92***	3.03***	3.59***	3.68***
state and year dummies	no	no	no	no	yes
N	37567	37489	36285	36142	36142

*** p<0.01, ** p<0.05, * p<0.1

3.6 Limitations and Future Research

Future research can improve in a number of ways. Metro-nonmetro binary measure of urbanicity is limited–urbanicity is a gradient (Berry and Okulicz-Kozaryn 2011), not a dichotomy. Future research could use finer classification than binary metro-nonmetro. We have only had 6 waves of data, as more waves become available, future research can arrive at more robust results. It will be also possible to estimate SWB from moving across urbanicity.