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When Place is Too Big: Happy Town and Unhappy Metropolis

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When Place is Too Big: Happy Town and Unhappy Metropolis

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Abstract

Most scholars in urban studies, public policy and public administration support city living, that is, they (usually implicitly) suggest that people are happy in cities or at least they focus on how to make people happy in cities. Planners also largely focus on making cities happy places, e.g., so called Smart Growth. In short, low density living is not a popular idea among scholars, although it used to be several decades ago. This study uses General Social Survey to calculate subjective well-being (happiness) by size (population) of a place to find out when a place is too big. The answer is somewhere between 200 and 700 thousand of people. When population exceeds several hundred thousand, the unhappiness settles in. Results are robust to the operationalization of an urban area, and to the elaboration of the model with multiple controls known to predict life satisfaction. This study concerns only the US, and results should not be generalized to other countries. Directions for future research are discussed.

KEYWORDS: URBANISM, URBAN, RURAL, CITIES, SUBURBS, SIZE OF A PLACE, POPULATION DENSITY, HAPPINESS, SUBJECTIVE WELL-BEING, GENERAL SOCIAL SURVEY

Urban scholars, regional scientists and planners study Quality Of Life (QOL), which is usually defined in a narrow sense as quality of transportation or housing or some other domain. Psychologists, on the other hand, study Subjective Well-Being (SWB), which is usually measured with surveys asking respondents about their happiness. SWB is subjective, self-reported, cognitive and affective evaluation of one's life. SWB has been shown to be a reliable and valid measure, and hence, can be used to evaluate and direct policy and planning. Ultimately, public policy efforts are made to make people happy.¹ This idea, to make people

¹SWB is, roughly speaking, synonymous with happiness, and I will use them interchangeably. There is some criticism of happiness measurement and research as discussed later, but the overall consensus is that happiness measure is reliable and valid; and happiness research is becoming mainstream in social science.

happy through policies and planning, is not only author's or Jeremy Bentham's idea,² but it is also advocated by contemporary leaders in social science such as Amartya Sen (Stiglitz et al. 2009). This study discusses the link between place and happiness: Which places are happy? Specifically, size of a place is investigated: How large is the population of a place where people are the happiest?

This study is inspired by Claude S Fischer, an urban sociologist, who asked in 1973, "Does the likelihood of an individual expressing malaise increase with an increase in the urbanism of his place of residence (indexed by size of community)?" For 40 years nobody has answered this question, that is, no study has investigated the effect of "size of community" (number of people) on happiness. Already Fischer himself (1973, 1982) found that there is no significant difference, except that the biggest cities may be too big, but the datasets available at that time were smaller and did not allow to measure community size precisely, but at more aggregated level using imprecise approximation to categories such as largest cities, medium sized towns, and so forth. Similarly, Veenhoven (1994) using limited data did not find much difference in happiness between places of different size. There have been other indirect investigations for specific groups of people or geographic areas (Amato and Zuo 1992, Adams 1992, Adams and Serpe 2000, Balducci and Checchi 2009, Evans 2009). By indirect investigations I mean that no study has operationalized urbanism with population size as in Fischer's question. I have also recently started giving indirect answers to Fischer's question <blind for peer review>, but this study is more comprehensive and it uses a continuous measure of size of the community—and this is precisely what Fischer (1973) was asking future research to accomplish. Results of the present study suggest that the bigger the place the

²Jeremy Bentham (1748-1832), a British philosopher, is a founder of moral utilitarianism—an idea that what makes us happy is the right thing to do. It follows, according to this doctrine, that the role of the public policy should be to maximize the happiness, that is, governments should produce the greatest happiness for the greatest number.

more unhappiness, and people are least happy in cities bigger than somewhere between 200 and 700 thousand people. It may appear as a very imprecise answer. This is an approximate range that is estimated from regressions, and there is no attempt made to narrow it down—the goal of this study is to maximize generality at the cost of specificity. This study is about US cities in general, and American cities are, of course, very different in about everything, including size at which unhappiness develops. For future research, it would be interesting to focus on a set of specific cities, or on a specific region or state—that could be achieved using restricted use/geocoded version of General Social Survey or Behavioral Risk Factor Surveillance System.

Social scientists have recently recognized (e.g., Stiglitz et al. 2009, Diener 2012, Easterlin 2013) that there is a need to study happiness simply because it is happiness and not income or consumption that is the ultimate goal of broadly understood development. At the same time, there is a great deal of “hand-waving” among social scientists implying that happiness has its place in big cities. While there is no evidence to support it, the proposition that people are happy in the city has been assumed by many to be a self-evident truth, an axiom. Notable enthusiasts of happy city living are Jane Jacobs in her classic “The Death and Life of Great American Cities” ([1961] 1993), and more recently Ed Glaeser in “Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier” (2011):

There is a myth that even if cities enhance prosperity, they will make people miserable. But people report being happier in those countries that are more urban. In those countries where more than half of the population is urban, 30 percent of people say they are very happy and 17 percent say they are not very or not at all happy. [...] Across countries, reported life satisfaction rises with the

share of the population that lives in cities, even when controlling for the countries' income and education.

This is a classic example of ecological fallacy: that people are happier in more urbanized countries than in less urbanized countries, does not mean that people are happier in cities than in smaller areas. More urbanized countries are simply richer than less urbanized countries. This is one of the most agreed upon findings in happiness literature that in a cross-section of countries, people are happier in more developed areas (e.g., Okulicz-Kozaryn 2011). That urbanization leads to economic development is another issue that I have discussed elsewhere <blind for peer review>. Another misleading statement from Glaeser (2011) follows:

Cities and urbanization are not only associated with greater material prosperity. In poorer countries, people in cities also say that they are happier. Throughout a sample of twenty-five poorer countries, where per capita GDP levels are below \$10,000, where I had access to self-reported happiness surveys for urban and non-urban populations, I found that the share of urban people saying that they were very happy was higher in eighteen countries and lower in seven. The share of people saying that they were not at all happy was higher in the non-urban areas in sixteen countries and lower in nine.

This statement is either due to unhappy sampling or cherry picking. Indeed, people are happier in cities in developing countries as shown by Berry and Okulicz-Kozaryn (2009), but in the rich countries, it is the other way round—the bigger the area, the more dissatisfaction. The reason that people are happy in big areas in poor countries is not necessarily that the cities are great; it may be simply that life outside of the city in a poor country is unbearable and lacking the necessities, such as food, shelter, sanitation, and transportation. But even more simply, there is usually a great divide in broadly understood quality of life or so called

“livability” between urban and rural areas in developing countries. For instance, urbanites enjoyed three times higher income and consumption than rural dwellers in China in 2000 (Knight et al. 2006). Simply speaking, the urban happiness in developing countries is rather due to unfavorable conditions outside of cities, than virtues of cities.

In addition to the positive side, the affirmation of city life, there is a negative side, a condemnation of suburban life—contemporary scholars also build their argument in favor of city living by arguing against suburban living. There are at least two books dedicated to condemnation of suburban sprawl as opposed to dense city living (Duany et al. 2001, Dreier et al. 2005). And there are many articles (e.g., Ewing 1997, Frumkin 2002, Ewing et al. 2003). Much of this criticism is for good reason—there are problems associated with sprawl. Yet, it is often overlooked that not only do Americans prefer smaller areas as documented by Fuguitt and Zuiches (1975) and Fuguitt and Brown (1990), but they are also happier in smaller areas as results from present study suggest. There is a conflict—residents prefer and are happier in small areas, but academics, policy makers and planners promote cities as “better” places. In addition, enthusiasts of city living and proponents or opponents of suburban living miss the point that people are happiest neither in cities nor in suburbs, but in small towns and villages.

Arguably, although not directly tested in the present study, people want to be close to nature and are happy in natural settings. Adam Smith observed: “The beauty of the country, besides, the pleasures of a country life, the tranquility of mind which it promises, and wherever the injustice of human laws does not disturb it, the independency which it really affords, have charms that more or less attract everybody” (Smith 1776, :IIIi). Animals, plants, landscapes, and wilderness benefit our wellbeing (Frumkin 2001). Exposure to nature produces positive emotions and positive affect (Mayer et al. 2009). Nature helps recover from pre-existing

stress, immunizes and protects from future problems, helps to concentrate and think more clearly, reduces frustration and increases patience (Pretty 2012). For a literature review of nature's benefits see Maller et al. (2006) and especially Pretty (2012). This is one of the possible mechanisms explaining urban unhappiness—there is simply less nature in cities than elsewhere.

Of course, the negative side of the city living has been noticed before—it was succinctly summarized by Wirth (1938) over 70 years ago, and by many others afterwards, notably Clause S Fischer (1982, 1976, 1975, 1973, 1972). This study is the first, however, to show that subjective well-being declines with size of a place. In, short at some point, a place is too big and unhappiness settles in. This begs a question, what is an optimal size of a place ?

Sometime ago there was some discussion of an optimal size for a place—the idea being that it is efficient to have many people living together, but beyond some point, further concentration does not make sense. The idea is that as place grows so do grow benefits and they grow faster than costs but at some point costs start to grow faster and there is a point when costs outweigh benefits. This line of research (e.g., Singell 1974, Elgin 1975) discontinued few decades ago—for more recent review see Capello and Camagni (2000), which concluded that it is difficult to calculate an optimal city size because every city is different. This study agrees with this perspective, and hence, a wide range in conclusion that a city is too big when it exceeds somewhere between 200-700 thousand people.

Before discussing the dataset used in this study, a brief overview of concept of happiness is provided. For simplicity, terms happiness and Subjective Well-Being (SWB) are used interchangeably. Ed Diener (1995, p. 851), a psychologist and a key happiness scholar, defined SWB as “people’s cognitive and affective evaluations of their lives,” or in little more elaborate words, “both cognitive judgments of one’s life satisfaction in addition to affective

evaluations of mood and emotions” (Diener and Lucas (quoted in Steel et al. 2008, p. 142)). This is really the same as the definition by Ruut Veenhoven (2008, p. 2), another key happiness scholar and a sociologist: “overall judgment of life that draws on two sources of information: cognitive comparison with standards of the good life (contentment) and affective information from how one feels most of the time (hedonic level of affect).” Some scholars make a distinction between happiness and life satisfaction—life satisfaction refers to cognition and happiness refers to affect. Life satisfaction is a cognitive aspect of happiness (Dorahy et al. 1998). This dichotomy is not explored further here, because there is only one survey item, which likely captures mostly life satisfaction but also happiness to some degree. Therefore the SWB definition by Diener et al. (1995) and Veenhoven (2008) seems most appropriate, and again, it is used interchangeably with term “happiness.”

The happiness measure, even though self-reported and subjective, is reliable (precision varies), valid (Di Tella and MacCulloch 2006, Myers 2000), and closely correlates with similar objective measures of well-being such as brain waves (Layard 2005). Unhappiness strongly correlates with suicide incidence and mental health problems (Bray and Gunnell 2006). Happiness not only correlates highly with other non-self reported measures, but also does not correlate with measures that are not theoretically related to it—happiness has discriminant validity (Sandvik et al. 1993). For a recent about validity and reliability see Diener (2009). Finally, to avoid confusion, this study investigates general/overall happiness, not a domain-specific happiness such as neighborhood or community satisfaction.

Still, many scholars voice their skepticism about happiness. This is especially troubling if such criticism comes from scholars who are only just beginning to study happiness themselves, such as Angus Deaton,³ while happiness have been studied scientifically for decades.

³For instance, see this interview <https://www.youtube.com/watch?v=tz3D-36RuLo>. Also, at a recent conference I have heard happiness researchers voicing concerns over usefulness of happiness research just because Angus Deaton was not convinced to it. Just because Angus Deaton is very knowledgeable in some

This is just one example, but in general it is popular among economists to disparage happiness research. Curiously, economists do study happiness at the same time, and they even sometimes use term “happiness economics,” yet most of them do not treat it seriously. There are of course exceptions—notably, Richard Easterlin and Andrew Oswald are both economists and serious happiness researchers. On the other hand, topic of happiness is treated seriously in psychology, where it naturally belongs.

As with any measure, there are, of course, some limitations of happiness measure. Much of happiness is hereditary (due to genes) (Lykken and Tellegen 1996). Adaptation (Brickman et al. 1978) does affect our happiness—we are on so called “hedonic treadmill”—we get used to both fortune and misfortune, even very major events such as winning millions in a lottery or losing limbs in an accident. And our happiness is affected by various comparisons (Michalos 1985)—whatever happens to other people (and whatever happened to ourselves in the past) affects our current happiness. These issues, however, are not critical. Recently, Diener (2009) has provided a good discussion of why potential problems with happiness are not serious enough to make it unusable for public policy. More statements supporting validity, reliability and precision can be found in Myers (2000), Di Tella and MacCulloch (2006), Layard (2005), Bray and Gunnell (2006), Sandvik et al. (1993), Clark et al. (2008).

Data

This study uses U.S. General Social Survey (GSS). Data and documentation are at <http://www3.norc.org/gss+website>. A cumulative file for 1972-2008 is used. For GSS definitions of size of a place and happiness see appendix A, and for frequency figures (and coding) of all variables see appendix B. The outcome of interest (dependent variable) is HAPPINESS.

areas of economics does not mean that he knows much about happiness.

The main explanatory (independent) variable is size of a settlement. Size of a settlement is defined in three ways to show that the results are robust to the definition. First, it is simply population size in 1,000s (SIZE). Then deciles of this variable are calculated to investigate see if there are any nonlinearities in its relationship to HAPPINESS. Two other variables are used under their original GSS names: XNORCSIZ and SRCBELT. Both variables categorize areas into metropolitan areas, big cities, suburbs, and unincorporated areas. The advantage of SIZE is that it allows to calculate happiness gradient by exact size of settlement. XNORCSIZ and SRCBELT take into account the fact that populations cluster at different densities: e.g. suburbs are less dense than cities. GSS does not provide density variable, as discussed later.

The choice of control variables for regressions is based on the literature (also, see extended discussion in the appendices). Those variables are controlled for, because they predict happiness as shown in the literature, but they are not of direct interest to this study and hence they are not discussed in great detail. Exploring interactions of these variables with city size may be an interesting topic for the future research, but it is beyond scope of this study, which focuses on elaboration of the size variable.

What makes people happy? Young and old people are happy (e.g., Sanfey and Teksoz 2005)—large cities may attract the young and repel the old. Income boosts happiness and unemployment depresses it (e.g., Di Tella et al. 2001b,a, Di Tella and MacCulloch 2006). Being married helps with happiness (e.g., Myers 2000, Diener and Seligman 2004). Blacks are less happy than Whites in the U.S. (e.g., Berry and Okulich-Kozaryn 2009, 2011), and they are traditionally concentrated in cities. Hence, it is important to control for this variable in the context of urban unhappiness. Democrats are less healthy (Subramanian and Perkins 2009) and less happy (Jost et al. 2009, Napier and Jost 2008, Jost et al. 2003), and cities are also predominantly Democrat.⁴ To better account for ideology and political values, liberalism

⁴For instance see: <http://www.forbes.com/sites/markhendrickson/2012/11/15/>

is also controlled for. There are a few other important variables, such as health and social capital—because they are missing for many respondents in GSS, their discussion is postponed to the appendix C, where robustness checks are covered. Furthermore, there is an extended discussion in my earlier research on this topic, which I do not intend to copy here <blind for peer review>.

Results and Discussion

The empirical part of this paper attempts to find when a city is too large. That is, there is likely to be a point at which advantages of size are overcome by costs. Again, this research is inspired by urban sociologist Claude S Fischer, who asked future research to do the following: “The very largest cities may be too large and may contribute modestly to unhappiness. Future research should be directed at replicating this finding and establishing a point of inflection in the size of continuum.” The following graphs show happiness by city size using three operationalizations. Figure 1 shows that there is a happiness gradient by size of the settlement, and more than that. As Fischer (1973) suggested, it is clearly the biggest cities that are much less happy than all smaller places. In other words, the largest decline in happiness is observed for the largest cities. Figure 2 shows the same pattern: the largest cities (> 250,000 inhabitants) are least happy, and there is a small happiness gradient for other areas: the smaller the area, the happier the people. Figure 3 confirms the pattern using yet another definition of size: the 12 largest SMSA (Standard Metropolitan Statistical Areas) are least happy, followed by the largest 13-100 SMSA and there is less difference in happiness

[what-explains-the-partisan-divide-between-urban-and-non-urban-areas/](http://m.theatlanticcities.com/politics/2013/02/what-explains-the-partisan-divide-between-urban-and-non-urban-areas/), <http://m.theatlanticcities.com/politics/2013/02/what-makes-some-cities-vote-democratic/4598/>, <http://www.theatlanticcities.com/politics/2012/11/political-map-weve-been-waiting/3908/>, <http://www.theatlantic.com/politics/archive/2012/11/red-state-blue-city-how-the-urban-rural-divide-is-split/265686/>

among smaller areas. These figures show that unhappiness intensifies at somewhere between 200 and 700 thousand people. There are only about 60 cities in the U.S with a population larger than 300 thousand. These unhappy cities are large—much larger than census definition of an urban area (2.5 thousand), and larger than a central place (50 thousand). A person does not have to give up city living to be happy, she just needs to avoid the biggest cities. There are usually only one or two such cities per state.

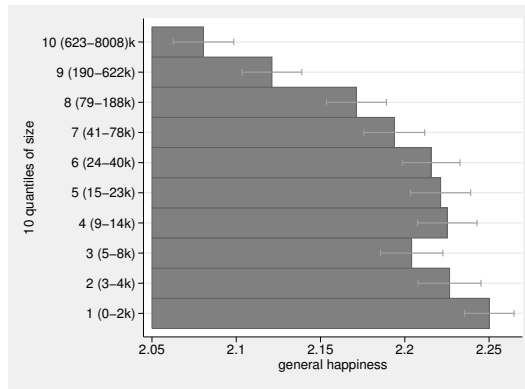


Figure 1: Average happiness by deciles of SIZE. 95% confidence intervals shown. The gradient is smooth (monotonic) except a bump at 3rd decile, for which I do not have an explanation.

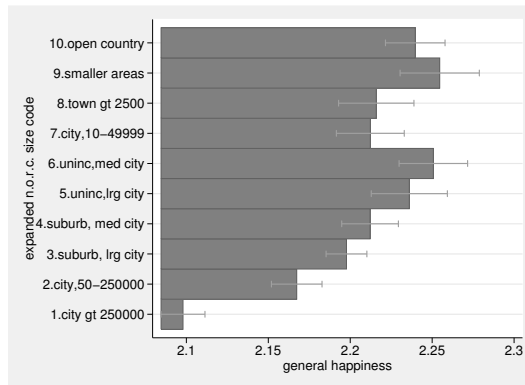


Figure 2: Average happiness by levels of XNORCSIZ. 95% confidence intervals shown. Note that sizes or densities on y axis are not necessarily ordered in ascending order and that unincorporated areas (both medium and large) are quite happy.

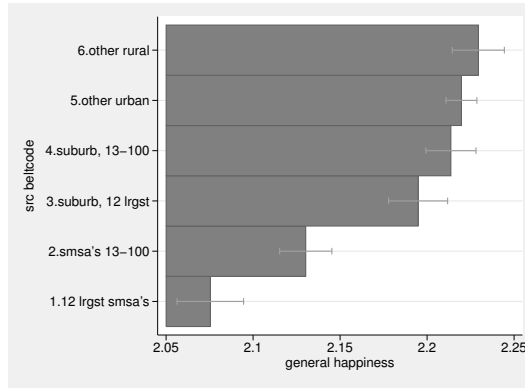


Figure 3: Average happiness by levels of SRCBELT. 95% confidence intervals shown.

Fischer (1973) was correct by suggesting that at some point the city may be too big. The biggest cities are clearly least happy, and there is less difference among smaller areas, although the happiness gradient persists. In general, the smaller the place, the happier the people. The patterns from the above figures hold when controlling for other relevant predictors of happiness. Figures 4, 5 and 6 show predicted probabilities of being very happy. The corresponding regressions are in the appendix C in columns marked “a1.” The subsequent columns are the robustness checks using more covariates.

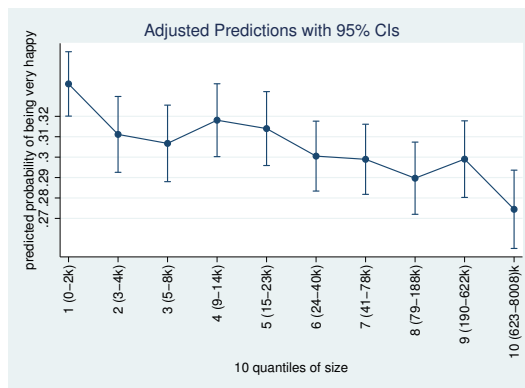


Figure 4: Probability of being “very happy” by deciles of city size.

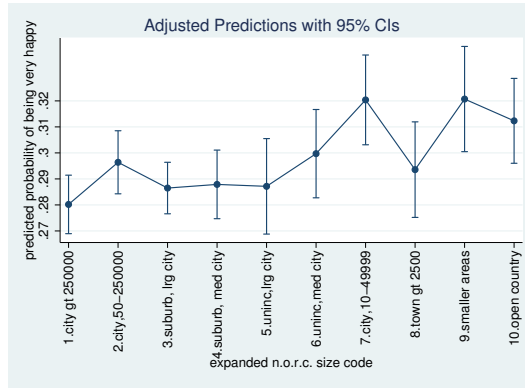


Figure 5: Probability of being “very happy” by XNORCSIZ.

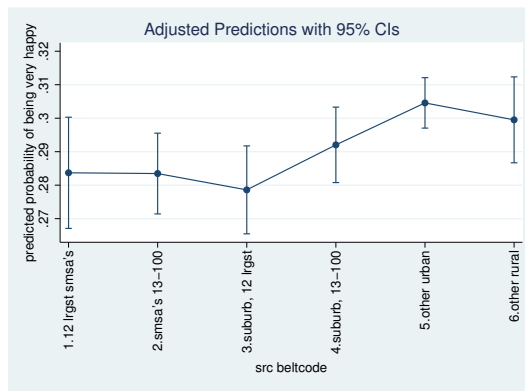


Figure 6: Probability of being “very happy” by SRCBELT.

Apart from an interesting dip in happiness at around 2.5-10 thousand people (figures 4 and 5), for which I have no explanation, the happiness gradient persists. Perhaps, such places already strip residents of their contact with nature that is plentiful in villages and open country. On the other hand, they are not big enough to provide residents with city amenities. It would be an interesting topic for future research to explore it further. Another interesting topic would be to explore how a distance from large city affects a person—we know that Americans want to live in sparsely populated areas, yet close to a major city (Fuguitt and Brown 1990, Fuguitt and Zuiches 1975).

Is the magnitude of the effect practically substantial? If a person moved from one decile of SIZE to the next smaller decile, say from a city of 250 thousand to a city of 100 thousand, or from a city of 20 thousand to a city of 10 thousand, using a conservative estimate of

0.5% increase in probability of being very happy (from figure 4), every 200th person would become very happy. This is not something we should disregard. Say, that 20% of Americans (roughly 6 million) move to a slightly smaller area (by one decile), then 30,000 would become very happy. While this effect is not big, even a finding of no effect would be worth reporting. Again, for some reason,⁵ it is fashionable⁶ in public policy and public administration to imply that people are happier in the cities than elsewhere (e.g., Jacobs [1961] 1993, Glaeser 2011).

What is the message of this study? First, it is not only that people prefer smaller areas as Fuguitt and Brown (1990), Fuguitt and Zuiches (1975) have shown, but people are also happier in smaller areas. Second, it supports Fischer's hypothesis (1973) that the big cities are too big: a clear drop in happiness happens when city size exceeds somewhere between 200 and 700 thousand. Finally, these results counter the contemporary common wisdom in academia. Much of the public administration profession implies that cities are "better" than suburbs, and again there are many problems with suburbs, but the results show that, if anything, people are happier in suburbs than in big cities, even controlling for other predictors of happiness.

This study does not defend suburbs. On the contrary, suburbs are much less happy than small cities, towns, and villages and this is yet another finding of this study. Residential debate is usually about cities v suburbs, while smaller areas are forgotten. The omission of smaller places from residential debate is arguably due to the benefits of agglomeration economies and economies of scale found in metropolitan areas that make smaller places irrelevant. But this may change soon. Information and creative sectors are becoming increasingly important—jobs that are not creative or extremely complex will be automated (Brynjolfsson

⁵I can speculate that public policy and public administration scholars imply that cities are happy because that's where their work is focused. Most people live in cities, and most policies are crafted for urban areas.

⁶I am using a non-scholarly word "fashionable" on purpose, to show, that a view that people are happy in cities is non-scholarly.

and McAfee 2014). Much of the creative and complex tasks are done on a computer—thanks to internet these tasks can be done from anywhere, including small towns and villages. Still, it is not entirely true that “the world is flat”(Freidman 2005). Indeed, “world is spiky”(Florida 2008)—place matters and it will matter in the foreseeable future. Yet having to live in the metropolitan area (city or suburb) or having to commute everyday to one’s workplace will probably be less necessary in the future. Much of the creative or highly complex work can be done over internet, and commute may be required much less often.

Findings of this study can be used by policymakers in the spirit of Stiglitz et al. (2009), who recently urged policymakers to pay attention to happiness. America is (sub)urbanizing, yet people are unhappy in cities (and in suburbs) as compared to smaller areas. Tax/subsidy incentives to promote what makes people happy (and healthy) make sense. City living is unhealthy, too (e.g., Lederbogen et al. 2011). Again, this study is not promoting suburban sprawl, long commute, and big suburban houses. Fundamentally, results from this study are important for everyone: if you want to be happy, avoid large cities. Again, most Americans intuitively know that—they prefer smaller areas (Fuguitt and Brown 1990), and they should trust their instincts.

There are several limitations, and these are, at the same time, directions for future research. First, this is an observational of correlational study, and as any other such study, it cannot claim causality. It is well known for some time, that even panel data estimation does not guarantee causal inference, and one really needs experimental data to argue causality with confidence (e.g., Shadish et al. 2002). Yet, correlational studies are not without value, and often, if not typically, causality is first discovered in such studies—for instance, smoking has been found to cause cancer in a correlational study first—for discussion see Blanchflower and Oswald (2011), Oswald (2014). Furthermore, a true experimental design usually is not

possible—one cannot assign randomly people to cities and villages. Last but not least, experimental designs typically suffer from low or non-existent external validity, and hence, they are not an absolute and obvious improvement over correlational studies (e.g. Pawson and Tilley 1997). In what follows, some other limitations are discussed; and also a case is made why these other limitations are not critical either.

This study argues that it is the size of the place that makes its residents unhappy. There are, however, several alternative explanations, factors that correlate with size of a place and affect happiness, and may bias results. Regression models do not control for them, because GSS does not contain appropriate variables. People in big cities may have higher expectations than people elsewhere—they may be the so-called “over-achievers” who never get completely satisfied.⁷ On the other hand, there are many poor people either stuck (cannot afford to move) in the cities, or many poor who came to cities looking for a better life. Much of their misery, however, should be picked up by income and race variables.

Ideally, density of population should be controlled for—it correlates with size of a place (but not exactly). Higher density predicts lower trust (Helliwell and Wang 2010), and trust is a good predictor of mental health (e.g., Putnam 2001). Third, social support is important for happiness (Diener 2012), and it seems that people in cities lack it (Wirth 1938)—ideally it should be controlled for directly, but the trust variable may pick up some of it. Fourth, it may not be the size of the cities, but pollution and noise in cities. Both pollution (MacKerron and Mourato 2009) and noise (Weinhold 2012) make people unhappy.

As mentioned earlier in the footnotes, specificity is sacrificed to gain generality. Another study could do the opposite—it could focus on a set of specific cities, or a specific region/state. That could be achieved using restricted use/geocoded version of GSS. And it would be

⁷This idea comes from a friend of mine, who works for one of the “Big Four” business consulting firms in a big city and that’s what she has observed among her colleagues.

worthwhile to explore further why there is a happiness dip at around 2.5-10 thousand of people. Is it, as speculated earlier, that these places are big enough to kill the contact with nature, and not big enough to provide the city amenities?

Finally, larger cities are likely to have more social polarization: income/wealth inequality, residential segregation, and so forth. These are very important factors to consider; however it is the limitation of the (publicly available) GSS dataset: geographical location of respondent cannot be identified. Use of geocoded data for the study of urban malaise will be an important contribution and a great topic for future research. It would allow for the separation of the effects of city size per se from the effects of compositional differences of bigger cities.

Appendix A: the actual GSS questions: size of settlement and happiness.

Dataset: General Social Surveys, 1972-2006 [Cumulative File]

Variable size : SIZE OF PLACE IN 1000S

Literal Question

Size of Place in thousands

A 4-digit number which provides actual size of place of interview

(Cols. 166-169). Remember when using this code to add 3 zeros. Listed below are the frequencies for gross population categories.

Descriptive Text

This code is the population to the nearest 1,000 of the smallest civil division listed by the U.S. Census (city, town, other incorporated area over 1,000 in population, township, division, etc.) which encompasses the segment. If a segment falls into more than one locality, the following rules apply in determining the locality for which the rounded population figure is coded.

If the predominance of the listings for any segment are in one of the localities, the rounded population of that locality is coded.

If the listings are distributed equally over localities in the

segment, and the localities are all cities, towns, or villages, the rounded population of the larger city or town is coded. The same is true if the localities are all rural townships or divisions.

If the listings are distributed equally over localities in the segment and the localities include a town or village and a rural township or division, the rounded population of the town or village is coded.

The source of the data is the 1970 U.S. Census population figures published in the PC (1) -A series, Tables 6 and 10. For cases from the 1980 and 1990 frames analogous tables from the 1980 and 1990 Censuses were used. See Appendix N for changes across surveys.

Variable xnorcsiz : EXPANDED N.O.R.C. SIZE CODE

Literal Question

NORC SIZE OF PLACE

PostQuestion Text

a A suburb is defined as any incorporated area or unincorporated area of 1,000+ (or listed as such in the U.S. Census PC (1)-A books) within the boundaries of an SMSA but not within the limits of a central city of the SMSA. Some SMSAs have more than one central city, e.g., Minneapolis-St. Paul. In these cases, both cities are coded as central cities.

b If such an instance were to arise, a city of 50,000 or over which is not part of an SMSA would be coded '7'.

c Unincorporated areas of over 2,499 are treated as incorporated areas of the same size. Unincorporated areas under 1,000 are not listed by the Census and are treated here as part of the next larger civil division, usually the township.

The source of the data is the 1970 U.S. Census population figures published in the PC (1) -A series, Tables 6 and 10. Practically, the codes '6' and '10' are localities not listed in Table 6 (Population of Incorporated Places and Unincorporated Places over 1,000). For the 1980 frame cases analogous tables from the 1980 Census were used.

Descriptive Text

See Appendix T, GSS Methodological Report No. 4.

Variable srcbelt : SRC BELTCODE

Literal Question

SRC (SURVEY RESEARCH CENTER, UNIVERSITY OF MICHIGAN) NEW BELT CODE

Descriptive Text

The SRC belt code is described in Appendix D: Recodes. See Appendix N for changes across surveys. See Appendix T, GSS Methodological Report No. 4.

Intent of Recode

The SRC belt code (a coding system originally devised to describe rings around a metropolitan area and to categorize places by size and type simultaneously) first appeared in an article written by Bernard Laserwitz (American Sociological Review, v. 25, no. 2, 1960), and has been used subsequently in several SRC surveys. Its use was discontinued in 1971 because of difficulties particularly evident in the operationalization of "adjacent and outlying areas." For this study, however, we have revised the SRC belt code for users who might find such a variable useful. The new SRC belt code utilizes "name of place" information contained in the sampling units of the NORC Field Department.

Method of Recode

This recode assigns codes to the place of interview. City characteristics were determined by reference to the rank ordering of SMSAs in the Statistical Abstract of the United States, 1972, Table 20. Suburb characteristics were determined by reference to the urbanized map in the U.S. Bureau of the Census, 1970 Census of Population, Number of Inhabitants, Series PC (1) -A. The "other urban" codes were assigned on the basis of county characteristics found in Table 10 of the 1970 Census of Population, Number of Inhabitants. For cases from the 1980, 1990, and 2000 frames analogous tables from the 1980 or 1990 Census were used.

Variable happy : GENERAL HAPPINESS

Literal Question

157. Taken all together, how would you say things are these

days--would you say that you are very happy, pretty happy, or not too happy?

Appendix B: Additional Descriptive Statistics.

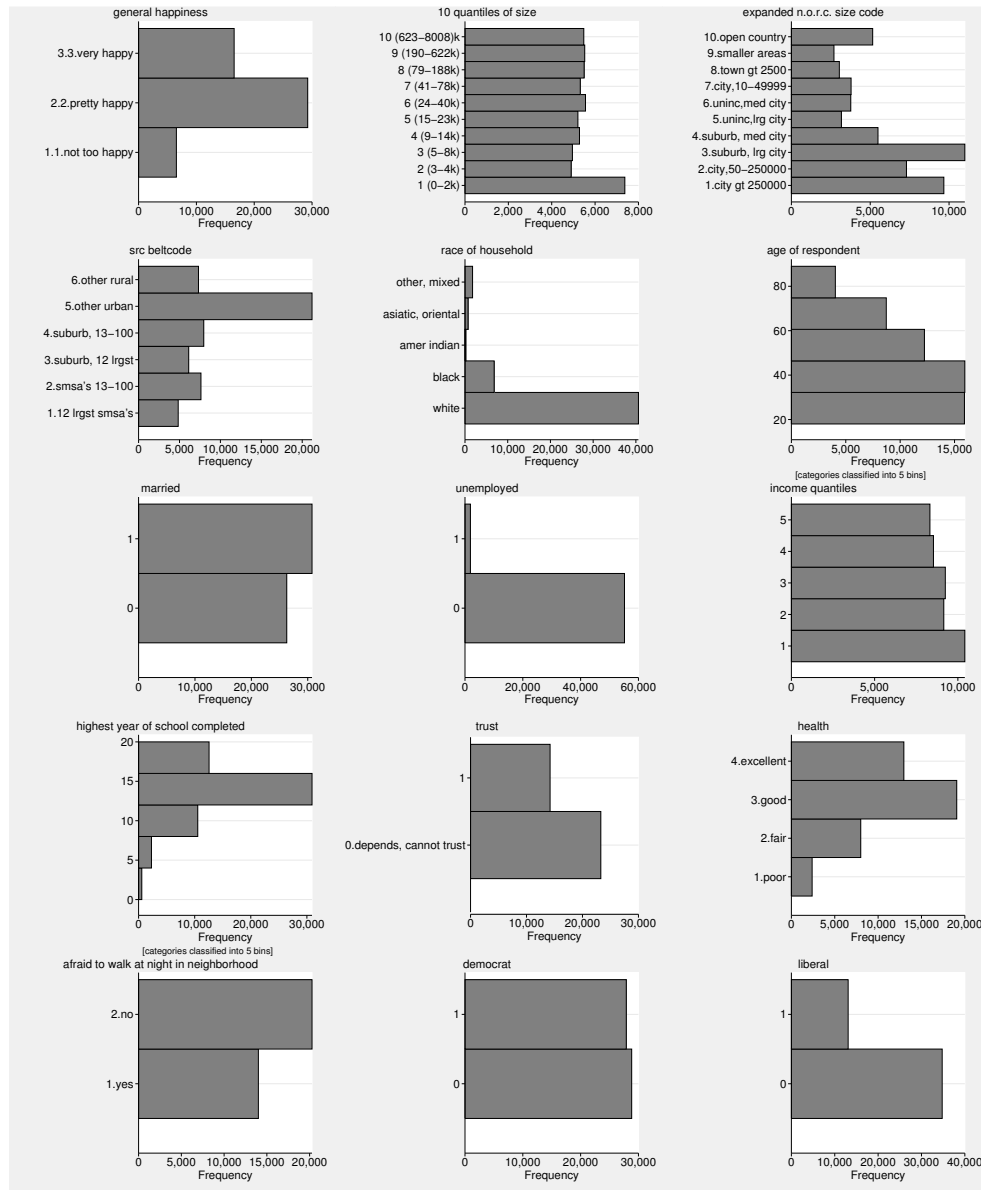


Figure 7: Variables' distribution.

Table 1: Ordinal logistic regressions of happiness. Odds ratios shown.

	a1	a2	a3
general happiness			
d_size=2	0.893**	0.886**	0.842*
d_size=3	0.875**	0.869**	0.860
d_size=4	0.922	0.907*	0.840*
d_size=5	0.905*	0.889**	0.913
d_size=6	0.849***	0.825***	0.862
d_size=7	0.843***	0.822***	0.883
d_size=8	0.806***	0.786***	0.733***
d_size=9	0.844***	0.819***	0.859
d_size=10	0.748***	0.730***	0.758***
age of respondent	0.978***	0.979**	1.000
age squared	1.000***	1.000***	1.000*
married	2.120***	2.178***	2.307***
unemployed	0.565***	0.571***	0.593***
income quantiles	1.255***	1.218***	1.122***
white household	1.007	0.998	0.877
black household	0.889	0.900	0.949
democrat	0.918***	0.925***	0.910**
liberal	1.009	0.993	0.978
highest year of school completed		1.032***	1.003
trust			1.462***
health			1.745***
afraid to walk at night in neighborhood			1.120**
year dummies	yes	yes	yes
region dummies	yes	yes	yes
cut1			
constant	0.372***	0.538**	4.792***
cut2			
constant	7.034***	10.227***	89.436***
N	22844	22814	8162

*** p<0.01, ** p<0.05, * p<0.1; robust
std err

Table 2: Ordinal logistic regressions of happiness. Odds ratios shown.

	a1	a2	a3
general happiness			
xnorsiz=2	1.094*	1.093*	1.045
xnorsiz=3	1.061	1.063	1.046
xnorsiz=4	1.082	1.096*	1.046
xnorsiz=5	1.081	1.090	0.927
xnorsiz=6	1.187***	1.204***	1.186
xnorsiz=7	1.282***	1.296***	1.099
xnorsiz=8	1.059	1.079	0.996
xnorsiz=9	1.306***	1.336***	1.244**
xnorsiz=10	1.250***	1.286***	1.257**
age of respondent	0.978***	0.979**	1.000
age squared	1.000***	1.000***	1.000*
married	2.120***	2.178***	2.301***
unemployed	0.567***	0.573***	0.593***
income quantiles	1.258***	1.221***	1.126***
white household	1.018	1.010	0.887
black household	0.891	0.903	0.954
democrat	0.916***	0.924***	0.910**
liberal	1.010	0.995	0.976
highest year of school completed		1.031***	1.002
trust			1.462***
health			1.746***
afraid to walk at night in neighborhood			1.126**
year dummies	yes	yes	yes
region dummies	yes	yes	yes
cut1			
constant	0.483***	0.719	6.234***
cut2			
constant	9.142***	13.664***	116.279***
N	22844	22814	8162

*** p<0.01, ** p<0.05, * p<0.1; robust
std err

Table 3: Ordinal logistic regressions of happiness. Odds ratios shown.

	a1	a2	a3
general happiness			
srcbelt=2	1.086	1.081	1.025
srcbelt=3	0.988	0.983	0.897
srcbelt=4	1.135**	1.136**	1.092
srcbelt=5	1.216***	1.227***	1.121
srcbelt=6	1.218***	1.243***	1.177
age of respondent	0.978***	0.979**	1.000
age squared	1.000***	1.000***	1.000*
married	2.123***	2.181***	2.303***
unemployed	0.566***	0.573***	0.598***
income quantiles	1.260***	1.223***	1.128***
white household	1.003	0.994	0.871
black household	0.883	0.893	0.936
democrat	0.916***	0.923***	0.910**
liberal	1.009	0.994	0.978
highest year of school completed		1.031***	1.002
trust			1.461***
health			1.743***
afraid to walk at night in neighborhood			1.127**
year dummies	yes	yes	yes
region dummies	yes	yes	yes
cut1			
constant	0.498***	0.735	6.057***
cut2			
constant	9.414***	13.965***	112.900***
N	22844	22814	8162
*** p<0.01, ** p<0.05, * p<0.1; robust std err			

Appendix C: Regression results and robustness checks.

Base models in figures below (columns “a1”) include usual happiness predictors, and race dummies. Race dummies attenuate urban-rural happiness gradient because more minorities live in bigger areas and they are less happy than Whites. Still, the gradient persists.

Fischer (1973) suggested that it may not be that the city size by itself produces unhappiness, but it is the state of the American cities, their current problems (crime, congestion, etc). I elaborate models to account for many city problems: crime, lack of trust, and potential health problems due to urban stress, and the happiness gradient still persists. Trust, a proxy for social capital, is key for happiness. One of the reasons why people could be less happy in bigger cities is because as Wirth (1938) argued that human relationships are superficial, but also because city is a subcultural mosaic (Fischer 1975), and that may be a reason why generalized trust is lower in cities as I found here.⁸ Hence, lack of trust would bias the coefficient on size of a settlement. The point of this robustness exercise is to show

⁸Results are available upon request.

that Wirth (1938) was right saying that city unhappiness happens because of the size, not because of other negative things that happen in city (e.g. crime).

How about happiness in suburbs? Note the odds ratios on suburbs ($xnorcsiz = 3$, $xnorcsiz = 4$) in table 2: they are always bigger than 1: people are slightly more happy in suburbs than in the biggest cities, yet much less happy than in towns and open country. Odds ratios on suburbs are not always significant but their p-values are close to 0.1—they will be significant in couple of years when GSS adds new waves.

Finally, I have recoded ordinal happiness into a binary variable by coding “not too happy” as “0” and collapsing together “pretty happy” and “very happy” into “1”. Results were similar, and if anything urban unhappiness developed at smaller sizes and with greater magnitude than in the ordinal model. Results are available upon request.

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