Comparative Happiness In American Living Spaces

Urban, Suburban, and Rural

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Abstract

Data from the General Social Survey are used in binary and ordered probit models to draw inferences about the impact of environment type on happiness. The model controls for respondent-level characteristics such as age, gender, income, class, and health status. Given the data, there is evidence to conclude that big-city living contributes negatively to happiness and that mid-sized or small-sized cities improve happiness. Small towns and rural areas are also found to be beneficial. Possible explanations behind the place-effects on happiness are discussed.

Contents

I. Introduction

In a process known as urbanization, the percentage of the world's total population living in cities is expected to climb to sixty percent by 2030. This movement has potentially far-reaching effects in terms of economic impact. For example, urbanization tends to prompt greater economic opportunities, easier access to information channels, and higher population densities enabling the pooling of resources and basic services. This is due to the fact that urban centers serve as a nexus between businesses, political institutions, and citizens. There are downsides, however, to increasing human concentrations in cities: inequality, pollution, and overcrowding are some of the side effects. (Overseas Development Institute, 2008).

A core question regarding urbanization is whether the process is a net benefit to society, and consequently how policy should respond to its effects. Because urbanization is a complex process with many moving parts, one avenue of assessing benefit is exploring how people's surroundings affect their happiness. As a generalization, the city dweller enjoys benefits such as accessible public transportation, public libraries, universities, museums, numerous shopping outlets, a large selection of dining destinations, and a greater variety of and closer proximity to cultural events. However, there are tradeoffs: Urban environments can be dirty, noisy, overcrowded, and crime-ridden. Many individuals feel over-stimulated and nervous in that type of fast-paced environment, and could not sustain a city lifestyle in the long term. On the other end of the spectrum, rural residents can enjoy a peaceful, slower-paced lifestyle. These localities usually offer cleaner air, quieter surroundings, closeness to nature, and their own flavor of community and culture distinct from the metropolitan way. However, rural environments tend to offer less in terms of local business variety, easy access to services such as public transportation and healthcare, and choice in educational or career possibilities.

Suburban areas are an interesting element in this analysis because they combine characteristics of both metropolitan and rural environments. In suburbia, people tend to live within cloistered housing developments, which bring them into closer proximity to each other than in rural towns. However, suburban towns are still far less dense than the average city, giving families space to have larger homes, a garage to store multiple vehicles, and greater exposure to natural scenery. While not nearly as diverse as metropolitan centers, suburbs still offer a fair selection of local businesses, educational institutions, and cultural attractions. However, American suburbs have become characterized by singular, isolated communities composed of affluent homeowners or people of one race (Oliver, 2003, pp. 228 -229).

Identifying correlates with happiness in economics is a murky subject. Economists typically take a similar approach to psychologists in that they use self-reported survey data for large volumes of respondents. Happiness economics takes a step beyond generalized utility functions based solely on income, budget, and preferences, and tries to incorporate other elements outside of the revealed-preference framework, such as unemployment, job satisfaction, and inflation (Graham, 2005, pp. 41). In particular, happiness research in economics seeks to model the interaction between rational and non-rational decision-making, trade-offs between income and personal or indirect rewards, as well as more basic considerations such as marriage, health, and the configuration of civic institutions (Graham, 2005, pp. 43). In this way, happiness economics is an indistinct science that faces many methodological challenges stemming from difficulties in measuring and defining happiness, as well as difficulties in establishing clear relationships between happiness and other factors.

The study herein will analyze cohorts' happiness between various environment types. The analysis aims to answer whether different environments play a role in determining happiness and, if there is an effect, draw conclusions as to what type of configuration is optimal for society. Defining these relationships will help inform policy related to issues such as urbanization, population growth, and city planning. Given the literature, it is hypothesized that residents of lower population rural areas will exhibit higher levels of happiness than those living in suburban or city environment and that people living in the city will have higher happiness than those living in the suburbs. To test the hypotheses, the paper reviews the existing theories regarding environment effects on happiness and utilizes binary and ordered probit regressions to compare environment types.

II. Literature Review

Current research surrounding life satisfaction, well-being, and the happiness gradient from city-place to rural-place is sparse and contradictory. For example, psychological research has suggested that well-being can be affected by direct physical surroundings, referring to factors such as crowds, noise, pollution, and the constructed landscape (Oliver, 2003, pp. 228 -230). From an interpersonal perspective, some works have also identified social contact between neighbors as being a factor in well-being, highlighting the importance of social exchange and integration. While some research suggests that city-related characteristics such as crowding and noise play a large role in bringing people down, other studies view factors such as social segregation as being more important in determining happiness (Oliver, 2003, pp. 228 -230).

In a study investigating the effects of place-characteristics on personal mood and mental health, the data showed that well-being deteriorated in suburban environments characterized by

lower population density and higher affluence (Oliver, 2003, pp. 228 -230). The analysis suggested that the mood benefits of increased resources found in suburban environments were offset by social isolation and segregation, which tended to rise with affluence (Berry & Okulicz-Kozaryn, 2009, pp. 117-118). However, another study looking at the issue on an international scale found inconclusive results: For most of the world, there was no significant difference in life satisfaction between subjects living in the big city and those living in rural environments. Cohorts in wealthy Anglo-Saxon countries did experience life dissatisfaction related to big-city residence, but the rapidly expanding Asian countries showed an upswing in satisfaction related to rural-to-urban migration (Berry & Okulicz-Kozaryn, 2009, pp. 117-118).

In another exploratory study, researchers set out to identify specific city characteristics that increased resident happiness. Leyden et al (2011) found that the industrial design and physical condition of cities were associated with happiness across ten major urban areas. Factors such as easy access to public transportation, cultural, and leisure amenities were found to promote happiness. In other words, the study found that in addition to income, health, and government effectiveness, respondents also care about how well their environments are maintained and how connected they are to other residents of the city. In particular, regarding a city as a good place to rear a child and the physical beauty of the environment were important determinants of happiness.

From a psychological-health point of view, cities also seem to affect people differently from other types of locations. Lederbogen et al (2011) found that mood and anxiety disorders are more prevalent in people living in cities. Using magnetic resonance imaging of the brain, the researchers found increased activity in the amygdala for those people who were raised in city

environments, linking social-stress processing differences to the physical environment. However, in another study comparing the psychological health of people living in suburbs and those living in cities, the researcher did not find a significant difference in factors such as satisfaction with quality of life or self-efficacy (Adams, 1992, pp. 353). On the whole, the analysis revealed that social integration and perceptions of the neighborhood were associated with neighborhood satisfaction. This factor, along with age, employment status, and housing satisfaction, contributed to overall psychological health (Adams, 1992, pp. 353). There are conflicts with other research, however, as some data show that cohorts living in suburban environments are at the highest risk of mental distress (Rohrer et al, 2005, para. 11).

There are important socio-economic considerations when exploring the subject of happiness. Diener et al (1995) investigated the factors predicting subjective well-being on a national basis. The study spanned 55 nations and covered nearly three-fourths of the earth's population. Researchers found a strong correlation between high income, individualism, human rights, societal equality, and subjective well-being. Personal income correlated with subjective well-being even after basic needs were controlled for, suggesting that increased affluence can enable beneficial situations such as leisure activity, health benefits, and self-development through education (Diener et al, 1995, pp. 862). The health aspect is particularly notable, as one Swedish study demonstrated that economic variables affect happiness and utility indirectly through their effects on health status (Gerdtham & Johannesson, 2001, pp. 556).

In a study directly measuring the effect of income on happiness, Clark et al. (2008) attempted to reconcile an effect known as the "Easterlin Paradox," wherein average levels of happiness flatten despite rising national income per person over time, yet individual happiness

correlates positively with income. The study found that accounting for income in absolute terms leads to an incomplete picture of how individuals evaluate themselves and come to conclusions about happiness. In particular, the data showed that people care about both consumption and status, suggesting that individuals evaluate themselves on a relative basis rather than an absolute one. In fact, not only will an individual's happiness respond to what peers are earning, but the subjects will also take into consideration previous levels of income they personally had in the past However, the influence of status comparison disappears in the long run and in the aggregate because of a "zero-sum" element at these scales. Additionally, the marginal benefit of consumption declines with rising income. These implications explain the change in happiness patterns when looking at individual data versus aggregate. (Clark et al, 2008, pp. 137).

Individualism is another strong predictor of subjective well-being despite broad cultural differences (Diener et al, 1995, pp. 862). Their data suggested that happiness increases in poor populations that gain more income. However, the effect is subdued in populations that are middle-class or rich and then gain more income (Diener & Diener, 2002, pp. 161). Such a phenomenon is consistent with the idea that personal freedoms are essential to happiness and that financial stability enables one to experience a broader range of freedoms. Still, the correlation between happiness and socio-economic variables differ depending on the sample. In one study assessing the differences between American and European cohorts' response to social inequality, it was found that Europe's poor and politically left experienced lower levels of happiness , whereas the US's poor and politically left were much more tolerant of inequality (Alesinaa et al, 2004, pp. 2009).

The given examples illustrate some missing links in the current body of research. Many studies analyzing living situation focus on psychological health and intertwine this variable with non-clinical factors such as life satisfaction and self-efficacy, which creates difficulty if one is trying to understand the issue specifically from a happiness perspective. More troubling is the lack of research specifically dealing with happiness, as many studies choose to measure life satisfaction instead. While life satisfaction and happiness are certainly related, they are distinct concepts: Life satisfaction refers to how well basic needs and expectations are met, while happiness involves emotions and moods such as joy or excitation. Life satisfaction is an important measure when evaluating general societal well-being. However, looking at happiness as a variable gives us a view into how society is faring on an emotional level. Studies that do specifically look at happiness are limited by sample size, by focusing specifically on one environment type, or by not considering environment type at all. As of this writing, there has yet to be a study that extensively looks at residential configurations within the United States and their effects on happiness or life satisfaction from a comparative perspective.

III. Theoretical Model

The dataset used in the analysis was based on survey results derived from the General Social Survey (GSS), a long-standing project maintained by the National Opinion Research Center at the University of Chicago (NORC). The GSS was first administered in 1972 and has collected survey-based data through 2012. The survey aims to monitor "social change and the growing complexity of American society," and includes a core set of attitudinal questions as well as topics of special interest. The most recent filing of the survey consists of 57,061 observations across a wide array of variables tracking social markers such as income, race, political

preferences, family structure, and labor status. The GSS was chosen as the primary data source due to a number of methodological advantages: (1) the surveys are administrated across the entire United States which adds a geographical dimension to the analysis; (2) the dataset exhibits a large sample size and spans four decades, which benefits the parametric estimation; (3) the dataset offers an extremely wide selection of variables that can be used to build the econometric model.

In order to assess the impact of living space on happiness, the GSS's general happiness question was chosen as the dependent variable. The question asks "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?" Respondents also had the option of choosing "Don't know," "No answer," and "Not applicable." It is important to note that, due to the self-reported and generalized question format, the happiness variable is subject to systematic distortions such as bias and attribute substitution (Kahneman, 2003, pp. 1460). Nevertheless, the variable was taken at face value, though non-answers (Don't know, No answer, and Not applicable) were removed from the final dataset because they yield no information about the impact of living space. In addition to the ordinal discrete dependent variable format, a binary format was created as well. The observations for the "pretty happy" answer were added to the "very happy" variable to create a new "at least somewhat happy" category used in a separate regression. This helps to produce more concise marginal effects and allow a better-fit model for some measures.

Three principal sets of independent variables were chosen as part of the model. The first set consists of basic respondent-centric controls, including age, age squared, age cubed, gender

(male, *female*[1]), race (*white*, black, other), religion (*Protestant*, Catholic, other Christian, Jewish, Atheist, other religion), class (*working class*, upper class, lower class, and middle class), the logarithm of real income based on 1986 price levels in thousands, self-reported relative financial status coded as a continuous value, job satisfaction coded as a continuous value, health condition coded as a continuous value, and years of education. The age variable included squared and cubed versions, following literature that suggests that happiness responds to age in a wave-shaped pattern (Clark et al., 1994, pp. 655; Krisoffersen, 2013, pp. 9). The logarithm of real income was taken due to literature suggesting that an individual's response to a change in income is more accurately modeled on the basis of percentage change rather than a whole dollar scale (Kahneman, 2010, pp. 16489. Relative financial status, job satisfaction, and health condition were changed from an ordinal discrete coding scheme to a continuous one based on a 0 to 100. To recode, a variable with 5 possible responses was divided evenly into 100 such that the lowest ranked response had a score of 20, the second lowest had a score of 40, and so on. A similar procedure was applied to variables with only 4 responses. Treating the sequential discrete variables as continuous allows for a singular marginal effect to be computed, which is more easily interpreted than 5 separate marginal effects for each dummy.

The second set of controls consists of economic data, namely average intra-year unemployment, and logarithmic average intra-year real GDP. Note that the economic variables were not present in the original GSS dataset and were added using data from the Federal Reserve Economic Data (FRED) website (St. Louis Fed 2014). Average intra-year unemployment was calculated as a simple twelve-month average for each given year. The average intra-year GDP was calculated as a simple quarterly average for each given year, and then the logarithm was

[1] Italicized variables were used as residual categories

computed along the same lines as the real income variable. The intra-year computation formats were chosen because the GSS did not offer more granular survey dates than by year.

The final group of independent variables represents the type of living space. The set is split between categories within a metropolitan statistical area (MSA) and those outside of one. The MSA categories, which are part of a region with close economic ties and a relatively high population, include: (1) Large city over 250,000 residents; (2) Medium city between 50,000 to 250,000 residents; (3) Suburb of a medium city; (4) Unincorporated area near a large MSA city; and (5) Unincorporated area near a medium MSA city. The non-MSA categories include: (1) City with more than 50,000 residents; (2) City between 10,000 and 49,999 residents; (3) Town or village with between 2,500 and 9,999 residents; and (4) an area with less than 2,500 residents, including open country.

Due to the categorical dependent variables, both ordered and binary probit models were utilized. Probit models allow for parameter estimations measured by the probability of a particular dependent variable outcome. In this paper, coefficients are calculated in terms of marginal effects in order to analyze how a change in an independent variable affects the probability of an outcome. Though a logit model would have also been appropriate for the categorical dependent variables, a probit approach was chosen for its simpler interpretation. A linear probability model was also considered, though it was rejected due to numerous flaws when dealing with a categorical dependent variable, including a nonsensical R^2, a non-normally distributed dependent variable, and the lack of a linear relationship between the dependent variable and the predictors.

Happiness was estimated as a function of respondent demographic characteristics, important life-satisfaction mechanisms (health condition, job satisfaction, and relative financial status), macroeconomic indicators, and, of particular interest, the residential category. The model design sought to include as controls the most logically crucial predictors of happiness, based on the literature, in order to reduce the chances of omitted-variable bias when estimating the effects of environment type. Including the macroeconomic predictors also helps to capture potential effects on happiness transmitted from aggregate economic conditions. The general model can be shown as follows:

Happiness = F(unemployment, real GDP, real income, age, years of education, health condition, job satisfaction, relative financial status, gender, race, religion, social class, residence category)

IV. The Data

Table 1 lists descriptive statistics for the variables in the dataset. Following data organization and cleanup, the dataset had 52,321 observations and 43 variables. Under the binary coding system, 12.5 percent of respondents reported themselves as not very happy, while 87.5 percent responded as at least somewhat happy. Under the full ordinal discrete coding system, 55.91 responded pretty happy, and 31.59 percent responded very happy. In general, happy respondents were overrepresented in the sample though statistical issues are likely to be mitigated due to the large sample size.

Approximately 55.93 percent of respondents were female and 40.82 percent were male. The age ranged from eighteen to eighty-nine years old with a mean age of 45.62 and a standard deviation of 17.52 years. White respondents were overrepresented in the sample, making up

81.69 percent of the respondents. 13.74 percent identified themselves as black, while only 4.56 percent belonged to some other race category. In terms of religion, approximately 59.18 percent were Protestant, 24.49 percent were Catholic, 1.23 percent were some other Christian sect, 2.02 were Jewish, 10.37 percent were atheist, 2.37 percent belonged to a religion not mentioned herein, and 0.33 percent responded "not applicable" to the question.

In terms of social class, respondents were 44.18 percent working class, 5.62 percent lower class, 43.56 percent middle class, and 3.12 percent upper class. The log of respondents' income had a mean of 7.09 and a standard deviation of 4.52. Respondents' years of education ranged from zero to twenty years, with the average years of education being 12.7 with standard deviation 3.18.

On a scale of zero to one-hundred, respondents' health condition scored an average of 66.13 with standard deviation 28.03; job satisfaction had a mean score of 75.73 with standard deviation 26.71; and self-reported relative financial status had a mean score of 46.82 with standard deviation 21.07. Average national unemployment for the sample was 6.39 percent, and the log of real national GDP had a mean of 1.71 and a standard deviation of .75.

Geographically, respondents had a skewed distribution among the categories, with most respondents living in cities and suburbs as expected. Approximately 17.77 percent lived in a large city, 13.08 percent lived in a medium-sized city, 19.82 percent lived in a suburb of a large city, 10.00 percent in a suburb of a medium city, 5.82 percent in an unincorporated large city, and 6.93 percent in an unincorporated medium city. In terms of MSA distribution, 4.91 percent lived in a city of 50,000 or more that was outside of an MSA, 6.71 percent lived in a non-MSA small city, 5.57 percent lived in a town or village, and 9.36 percent lived in the open country.

Multicollinearity was considered as a possible statistical issue. A correlation matrix was computed, and no independent variables were highly correlated in this particular study. Heteroskedasticity was also considered, though research revealed that heteroskedasticity is a complex problem in probit or logit: unless specific information about the variance function is known, attempting to correct for heteroskedasticity may do more harm than doing nothing (Williams, 2009, pp. 560). As such, heteroskedasticity was not analyzed in this study due to data limitations.

Interaction effects were also considered, but the analysis again faced issued in that coefficient interpretation is not clearly defined in probit models calculated in Stata (Norton et al., 2004, pp. 155). The interaction terms required extensive post-estimation to obtain accurate coefficients, ultimately leading to conflicting conclusions between variables. As such, interaction terms were not included in the model. Finally, autocorrelation was considered but was not an issue in this study due to cross-sectional data.

V. Regression Results

Table 2, 3, and 4 illustrate the marginal effects of the ordered probit model. Average unemployment was significant at the 1 percent level, with increases in unemployment reducing the probability that the subject would be very happy. As shown in Table 5, the unemployment variable had similar effects under the binary model, though it was only significant at the 10 percent level. The log of real GDP in thousands was not a significant predictor of happiness under either model, controlling for unemployment.

Consistent with the literature, the log of respondent real income in thousands was significant at the 1 percent level under both the ordered and binary models, with rising income

associated with increases in the probability of the subject being very happy. The finding confirms that percent changes in one's income are factored into a self-evaluation of happiness (Kahneman, 2010, pp. 16489). Age, age squared, and age cubed were not significant predictors under either model. Years of education was significant at the 1 percent level under the binary model and at the 5 percent level in the ordered model. Interestingly, while increasing amounts of education simply raised the probability of being at least somewhat happy under the binary model, the ordered model revealed that rising education only seems to increase the probability of being pretty happy. The variable had a negative effect in the very happy outcome, indicating that higher levels of education may not necessarily lead to the highest echelons of happiness. This could be due to diminishing marginal returns related to time spent in academia, as well as the monetary cost associated with many years of education.

Health conditions had their expected results, with better health conditions leading to higher probabilities of being happy, significant at the 1 percent level under both models. Respondent job satisfaction was also an important factor, significant at the 1 percent level under both models. As intuitively expected, higher job satisfaction led to increases in the probability of being happy. Relative financial status played a similar role; significant at the 1 percent level under both models, an increase in one's financial status relative to peers leads to increases in the probability of being happy.

Respondent gender was significant at the 1 percent level in both the binary and ordered models. Being male seemed to lessen the likelihood of a respondent being very happy, and increased the probability of the respondent being pretty happy or not very happy. This effect may be explained by studies that show that self-evaluation of life satisfaction is more variable in

females than males (Giusta et all, 2011, pp. 6). Race also played an important role: being black was a significant predictor of happiness at the 1 percent level under both models, with the coefficient suggesting that this cohort is less happy than the residual category. However, belonging to some other race was not a significant predictor of happiness.

Religion played a mixed role in determining happiness. Being Catholic was significant at the 1 percent level under the ordered model and increased the probability of being pretty happy and not very happy, while decreasing the probability of being very happy. Under the binary model, being Catholic increased the probability of being at least somewhat happy but only at the 5 percent level of significance. Belonging to some other Christian sect was not a significant predictor under either model, while being Jewish was significant at the 1 percent level under both and increased the probability of being not very happy and pretty happy while decreasing the probability of being very happy. Atheism followed a similar pattern, significant at the 1 percent under both models, in that it increased the chances of being not very happy and pretty happy but not very happy. Belonging to some other religion, under the binary model, was a significant predictor at the 10 percent level and had a negative effect on happiness. Under the ordered model, the predictor was significant at the 5 percent level and again followed the same pattern as Judaism and Catholicism, increasing the probability of being either not very happy or pretty happy while decreasing the probability of being very happy.

Class position was a significant predictor at the 1 percent level under the ordered model. Belonging to the middle and upper classes increased the likelihood of being very happy while decreasing the probability of being not very happy and pretty happy. Meanwhile, belonging to the lower class increased the probability of being not very happy and pretty happy, while

decreasing the probability of being very happy. Such a finding implies that people who find themselves in the lower classes are capable of realizing some levels of happiness, but have difficulty reaching the highest levels of happiness. Conversely, belonging to the middle or upper classes seems to ensure that subjects are at least somewhat happy. However, the binary model findings refute this idea due to the upper class dummy not being a significant predictor of being at least somewhat happy. The binary model still echoes the ordered-model results for the middle-class and lower-class dummies, with the middle class being happier than the lower class and significant at the 1 percent level. In general, we can conclude that belonging to a higher class raises the probability of being happier, but it is still not a completely specified relationship and there may be some ambiguity in outcomes.

For the main geographical variables, the results were consistent with literature suggesting that quieter rural environments make people happier (Lederbogen et al, 2011, pp. 498). Being located in a large city was only significant under the ordered model at the 10 percent level. Relative to living in the suburbs of a large city, actually living in a large city seems to decrease the probability of being very happy while increasing the probability of being not very happy and pretty happy. These findings only offer a vague clue as to the impact of cities on people's happiness. In the real world, it may be the case that large cities affect everyone differently, and that there is no clear pattern of effects. Such a conclusion makes sense because people live in cities for different reasons, whether it is for career advancement, a love of the city, or living with a particular family member.

Being located in an unincorporated medium city had similarly ambiguous results, with the predictor being significant at the 5 percent level under the binary model and not significant in

the ordered model. The binary model coefficient suggests that a city with between 50,000 and 250,000 residents increases the likelihood that a person will be at least somewhat happy, relative to living in a suburb of a large city. Being located in the suburb of a medium city and being located in an unincorporated large city were not significant predictors of being happy, while living in a non-MSA medium or small city were positive significant predictors of happiness at the 1 percent level under both models. These findings suggest that cities may make people happier, but only within a certain size limit. Such a conclusion would make sense because residents in medium or small cities are able to experience the benefits of city life, without the difficulties and logistical challengesof very populated cities such as New York or Los Angeles. Residents located in small towns, villages, and open country were also more likely to be very happy under the ordered model and at least somewhat happy under the binary model, significant at the 1 percent level.

As a point of comparison, the statistically significant environment variables were ranked as follows under the ordered model: Non-MSA medium cities contributed most to people's happiness, followed by open country, non-MSA small cities, unincorporated medium cities, small towns or villages, and ending with large cities. Our findings confirm the hypothesis that people are happier in less populated areas. However, the findings suggest that the area does not necessarily need to be rural in order to make people happier; medium-sized cities seem to be the most effective predictor of being very happy, which is consistent with the literature. As noted by Oliver (2003), people may feel more comfortable and happy in environments that are less crowded, less noisy, and more socially integrated. These characteristics are more likely to be found in smaller US cities where there is less chance of overstimulation and more social unity than sprawling large cities. Medium and small cities may offer a level of social connection that is

absent from larger cities or suburbs. The social aspect can also apply to the second-ranked predictor, open country: while people that live in the truly open and rural parts of the U.S. may have less neighbors, they may be more aware of the neighbors they do have and share closer bonds as a result.

VI. Conclusions & Suggestion for Future Research

The results in this study are consistent with literature suggesting that people are happier in places where there is greater possibility of social exchange or interaction and less likelihood of noise, crowds, and pollution (Oliver, 2003, pp. 228 -230). The findings also illustrate that social connection may be the most important factor among the various place-characteristics, due to the strong positive marginal effects of living in a relatively populated area such as a medium-sized city. Such a conclusion is consistent with studies identifying social integration as being crucial in determining happiness. Further, higher happiness among residents of small towns or open country is consistent with papers suggesting that residents of Anglo-Saxon countries are less satisfied with big-city living (Berry & Okulicz-Kozaryn, 2009, pp. 117-118). In general, medium-sized cities seem to offer the optimal blend of characteristics conducive to happiness, with small cities and rural environments in a close second-place.

Future research should obtain more granular information regarding the types of places people live in order to draw more detailed conclusions about how people are affected by their environment. Defining, surveying, and analyzing more flavors of US living spaces can provide insight into regional differences in happiness, topographical and weather effects, as well as other factors that are not captured by generalized categories such as big city or small town. Future studies should also try to obtain data on happiness that goes beyond ordinal discrete categories; a

finer measure of self-evaluation can give respondents a chance to communicate more information about their level of happiness than can be captured by a few categories. Using a continuous spectrum, for example, would allow for a linear model and simplify the process of detecting and correcting for heteroskedasticity and other statistical problems. Finally, subsequent studies should also investigate which respondent controls are appropriate for a happiness analysis so as to reduce the likelihood of omitted variable bias.

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Table 1: Summary Statistics

Variable Description	Mean	St. Dev.	Min	Max
Average Unemployment	6.3915960	1.566373	4	9.7
Log of Real GDP (In $1000s)	1.7140580	0.749920	0.2484213	2.787785
Log of Respondent Real Income (in $1000s)	3.0349070	0.998527	-1.406497	5.091336
Respondent Age	45.6272900	28.347310	18	89
Respondent Age Squared	2388.9980000	1764.723000	324	7921
Respondent Age Cubed	139438.3000000	148457.000000	5832	704969
Years of Education	12.7009600	3.184316	0	20
Health Condition	66.1355150	28.026360	0	99
Job Satisfaction	75.7333400	26.714510	0	99
Relative Financial Status	46.8162300	21.073670	0	100
Female [1]	0.5593356	0.559336	0	1
Male	0.4406644	0.496472	0	1
White	0.8169377	0.816938	0	1
Black	0.1374209	0.344295	0	1
Other Race	0.0456413	0.208708	0	1
Protestant	0.5918274	0.491500	0	1
Catholic	0.2449303	0.430050	0	1
Christianity, Other	0.0122895	0.110176	0	1
Jewish	0.0202022	0.140693	0	1
Atheist	0.1037251	0.304907	0	1
Other Religion	0.0236807	0.152054	0	1
Upper Class	0.0312303	0.173941	0	1
Middle Class	0.4355612	0.495835	0	1
Working Class	0.441792	0.496605	0	1
Lower Class	0.0561916	0.2302935	0	1
Located in Large City (>250,000)	0.1777489	0.3823049	0	1
Located in Medium city (50,000 < X < 250,000)	0.1308461	0.3372352	0	1
Located in Suburb of Large City	0.1982378	0.3986761	0	1
Located in Suburb of Medium City	0.1000363	0.3000513	0	1
Located in Unincorporated Large City	0.0581984	0.2341205	0	1
Located in Unincorporated Medium City	0.0693412	0.2540359	0	1
Located in a Medium City (> 50,000) (Non-MSA)	0.0491007	0.2160804	0	1
Located in a Small City (10,000 < X < 49,999) (Non-MSA)	0.0491007	0.2160804	0	1
Located in a Small Town or Village (2,500 < X < 9,999)	0.0557329	0.2294073	0	1

[1] Italicized variables were used as residual categories

Source: Source: 1972-2012 General Social Surveys

Table 2: Marginal Effects of Ordered Model (Not Very happy)

Variable Description	Marginal Effects (DY/DX)		
Average Unemployment	**0.0021334**	(0.00081)	***
Log of Real GDP (In $1000s)	0.0025891	(0.00173)	
Log of Respondent Real Income (in $1000s)	**-0.0179816**	(0.00162)	***
Respondent Age	0.0027001	(0.00182)	
Respondent Age Squared	-0.0000438	(0.00004)	
Respondent Age Cubed	1.55E-07	(0.0000)	
Years of Education	**0.0010494**	(0.00046)	**
Health Condition	**-0.0015858**	(0.00005)	***
Job Satisfaction	**-0.0016406**	(0.00005)	***
Relative Financial Status	**-0.0007431**	(0.00007)	***
Male	**0.0192815**	(0.00244)	***
Black	**0.036477**	(0.00441)	***
Other Race	-0.0047808	(0.00556)	
Catholic	**0.011143**	(0.00303)	***
Christianity, Other	-0.0047272	(0.0102)	
Jewish	**0.0460072**	(0.01167)	***
Atheist	**0.0330591**	(0.00481)	***
Other Religion	**0.017309**	(0.00871)	**
Upper Class	**-0.0284115**	(0.00579)	***
Middle Class	**-0.0190458**	(0.00262)	***
Lower Class	**0.0412116**	(0.00781)	***
Located in Large City (>250,000)	0.0066905	(0.00399)	*
Located in Medium city (50,000 < X < 250,000)	**-0.0054173**	(0.00403)	
Located in Suburb of Medium City	-0.0001229	(0.00452)	
Located in Unincorporated Large City	-0.006643	(0.00516)	
Located in Unincorporated Medium City	**-0.0157541**	(0.00463)	***
Located in a Medium City (> 50,000) (Non-MSA)	**-0.0292648**	(0.00469)	***
Located in a Small City (10,000 < X < 49,999) (Non-MS	**-0.0186226**	(0.0046)	***
Located in a Small Town or Village (2,500 < X < 9,999)	**-0.0126548**	(0.00508)	**
Located in the Open Country (< 2,499)	**-0.0252463**	(0.00398)	***
N	27777		
Pseudo R2	0.0957		

Source: Source: 1972-2012 General Social Surveys

Table 3: Marginal Effects of Ordered Model (Pretty Happy)

Variable Description	Marginal Effects (DY/DX)		
Average Unemployment	**0.0022862**	(0.00086)	***
Log of Real GDP (In $1000s)	0.0027746	(0.00186)	
Log of Respondent Real Income (in $1000s)	**-0.0192698**	(0.00177)	***
Respondent Age	0.0028935	(0.00195)	
Respondent Age Squared	-0.000047	(0.00004)	
Respondent Age Cubed	1.66E-07	(0.0000)	
Years of Education	**0.0011246**	(0.0005)	**
Health Condition	**-0.0016994**	(0.00006)	***
Job Satisfaction	**-0.0017581**	(0.00006)	***
Relative Financial Status	**-0.0007963**	(0.00008)	***
Male	**0.0201894**	(0.00252)	***
Black	**0.0293387**	(0.00261)	***
Other Race	-0.0053728	(0.00654)	
Catholic	**0.011228**	(0.00287)	***
Christianity, Other	-0.0053283	(0.01209)	
Jewish	**0.030621**	(0.00411)	***
Atheist	**0.0267391**	(0.00286)	***
Other Religion	**0.0155306**	(0.00645)	**
Upper Class	**-0.0412428**	(0.01108)	***
Middle Class	**-0.0210721**	(0.00301)	***
Lower Class	**0.0294173**	(0.00337)	***
Located in Large City (>250,000)	**0.006842**	(0.00389)	*
Located in Medium city (50,000 < X < 250,000)	-0.0060649	(0.00471)	
Located in Suburb of Medium City	-0.0001318	(0.00485)	
Located in Unincorporated Large City	-0.0075895	(0.00628)	
Located in Unincorporated Medium City	**-0.0196256**	(0.00666)	***
Located in a Medium City (> 50,000) (Non-MSA)	**-0.0422938**	(0.00891)	***
Located in a Small City (10,000 < X < 49,999) (Non-M	**-0.0238889**	(0.00698)	***
Located in a Small Town or Village (2,500 < X < 9,999)	**-0.0153502**	(0.00694)	**
Located in the Open Country (< 2,499)	**-0.0340496**	(0.00664)	***
N	27777		
Pseudo R2	0.0957		

Source: Source: 1972-2012 General Social Surveys

Table 4: Marginal Effects of Ordered Model (Very Happy)

Variable Description	Marginal Effects (DY/DX)		
Average Unemployment	**-0.0044197**	(0.00167)	***
Log of Real GDP (In $1000s)	-0.0053637	(0.00359)	
Log of Respondent Real Income (in $1000s)	**0.0372514**	(0.00334)	***
Respondent Age	-0.0055935	(0.00376)	
Respondent Age Squared	0.0000908	(0.00008)	
Respondent Age Cubed	-3.20E-07	(0.0000)	
Years of Education	**-0.002174**	(-2.27)	**
Health Condition	**0.0032852**	(0.0001)	***
Job Satisfaction	**0.0033988**	(0.00009)	***
Relative Financial Status	**0.0015394**	(0.00014)	***
Male	**-0.0394709**	(0.00492)	***
Black	**-0.0658157**	(0.00692)	***
Other Race	0.0101537	(0.0121)	
Catholic	**-0.0223711**	(0.0059)	***
Christianity, Other	0.0100555	(0.02229)	
Jewish	**-0.0766282**	(0.0157)	***
Atheist	**-0.0597982**	(0.0076)	***
Other Religion	**-0.0328396**	(0.01515)	**
Upper Class	**0.0696543**	(0.01684)	***
Middle Class	**0.040118**	(0.0056)	***
Lower Class	**-0.0706289**	(0.01109)	***
Located in Large City (>250,000)	**-0.0135326**	(0.00788)	*
Located in Medium city (50,000 < X < 250,000)	0.0114823	(0.00874)	
Located in Suburb of Medium City	0.0002547	(0.00937)	
Located in Unincorporated Large City	0.0142325	(0.01143)	
Located in Unincorporated Medium City	**0.0353797**	(0.01127)	***
Located in a Medium City (> 50,000) (Non-MSA)	**0.0715587**	(0.01355)	***
Located in a Small City (10,000 < X < 49,999) (Non-MSA)	**0.0425115**	(0.01155)	***
Located in a Small Town or Village (2,500 < X < 9,999)	**0.0280049**	(0.012)	***
Located in the Open Country (< 2,499)	**0.0592959**	(0.01057)	***
N	27777		
Pseudo R2	0.0957		

Source: Source: 1972-2012 General Social Surveys

Table 5: Marginal Effects of Binary Model

Variable Description	Marginal Effects (DY/DX)		
Average Unemployment	**-0.0023214**	(0.00118)	*
Log of Real GDP (In $1000s)	0.0018965	(0.00258)	
Log of Respondent Real Income (in $1000s)	**0.0186117**	(0.00224)	***
Respondent Age	-0.0037942	(0.00266)	
Respondent Age Squared	-2.54E-07	(0.0000)	
Respondent Age Cubed	0.0000568	(0.00006)	
Years of Education	**0.0024189**	(0.00068)	***
Health Condition	**0.001385**	(0.00007)	***
Job Satisfaction	**0.0013983**	(0.00006)	***
Relative Financial Status	**0.0009544**	(0.0001)	***
Male	**-0.0180987**	(0.00367)	***
Black	**-0.0493758**	(0.00617)	***
Other Race	-0.0129789	(0.00891)	
Catholic	**-0.0098858**	(0.00459)	**
Christianity, Other	-0.0246797	(0.01765)	
Jewish	**-0.0464356**	(0.01756)	***
Atheist	**-0.0222411**	(0.00664)	***
Other Religion	**-0.0232831**	(0.01292)	*
Upper Class	0.0014499	(0.01201)	
Middle Class	**0.0131074**	(0.00398)	***
Lower Class	**-0.0634064**	(0.01027)	***
Located in Large City (>250,000)	-0.0049957	(0.00574)	
Located in Medium city (50,000 < X < 250,000)	**0.0123696**	(0.00575)	**
Located in Suburb of Medium City	0.0045805	(0.00665)	
Located in Unincorporated Large City	0.0108675	(0.00776)	
Located in Unincorporated Medium City	**0.0144137**	(0.00729)	**
Located in a Medium City (> 50,000) (Non-MSA)	**0.0416066**	(0.0066)	***
Located in a Small City (10,000 < X < 49,999) (Non-MSA)	**0.0258959**	(0.00663)	***
Located in a Small Town or Village (2,500 < X < 9,999)	**0.0150584**	(0.00743)	***
Located in the Open Country (< 2,499)	**0.0270349**	(0.00594)	***
N	27777		
Pseudo R2	0.1319		

Source: Source: 1972-2012 General Social Surveys