Adiba Chowdhury
Professor Mike Hout
Statistics for Social Research
May 11th 2022

How Does Proximity To An Urban Center Affect Happiness?

Is there a correlation between an individual's distance from a metropolitan area and their self-evaluated happiness, and if so, is that dependent on or otherwise affected by their gender identity and other factors?

In this analysis, I've chosen to seek the answer to the above question using Release 3b of the 1972-2021 GSS cumulative datafile, filtering to 2018. My interest was inspired given both my own residency in a major city as a cisgender woman of color, as well as the indelible history of discrimination tied to the construction and development of urban areas. As for tying proximity to urban centers to happiness, researchers Eric Oliver and Shang Ha offer this context:

> "America is a suburban nation. Over the past 50 years, the suburban portion of the population has nearly doubled, and today, over one in two Americans calls a suburb home. This transformation has fundamentally altered the American landscape. Rather than either being crowded in diverse, large cities or isolated in rural towns, most Americans now live in small municipalities that are highly singular in their social composition and land use."

Given that this is the case, how happiness changes depending on access to metropolitan areas, which have historically offered more centralized job opportunities, entertainment venues, and other public and private attractions that improve "quality of life," seems important. Whether Americans weigh the ideal suburb over the hustle and bustle of a city seems important, and which Americans prefer cities is vital to understanding city planning moving forward. For example, in Harvard University Professor Eric Glaeser's work, *Triumph of the City*, he writes: "While the unremitting poverty of Detroit and cities like it clearly reflects urban distress, not all urban poverty is bad...Cities don't make people poor; they attract poor people. The flow of less advantaged people into cities from Rio to Rotterdam demonstrates urban strength, not urban weakness." Glaeser's perspective on how to understand urbanism complicates the proposed question, by suggesting that the image of "poor cities" may not negatively affect how happy the city in question makes its residents. Concentrated poverty in urban areas may also be judged

relative to the decreased access to opportunity in rural areas; put simply, for centuries, poor people have moved away from the countryside or (in more recent decades) the suburb in hopes of a better life. This context again begs the question — the closer someone is to a city, are they more likely to be happy? How does that depend on one's gender, socioeconomic status, and factors that affect distance itself, like commute time and availability of public transit?

In the GSS, participants are asked, "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?" I used this measure of general happiness as my dependent variable, and recoded to set "not too happy" to a value of 1, "pretty happy" to a value of 2, and "very happy" to a value of 3. I also excluded responses of "don't know," "inapplicable," "no answer," and "skipped on web" to streamline data. The independent variable was labeled "xnorcsiz" in the GSS; this refers to the size of the respondent's location, which could include "a large central city," "a medium size central city," "a suburb of a large central city," "a suburb of a medium size central city," "an unincorporated area of a large central city," "an unincorporated area of a medium central city," "not within an smsa/county and a small city," "a town or village," "an incorporated area less than 2500 or an unincorporated area of 1000 to 2499," and "open country within larger civil divisions."

In order to appropriately recode the respondent's expanded norc size code as indicating proximity to a city, I set "open country" and "an incorporated area less than 2500 or an unincorporated area of 1000 to 2499" to 0, labeled no proximity; "a town or village (2,500 to 9,999)" as 1, labeled a little proximity; "not within an smsa, (within a county) and a small city, (10,000 to 49,999)" as 2, labeled some proximity; "an an unincorporated area of a medium central city," and "an unincorporated area of a large central city (division, township, etc.)" as 3, labeled a fair amount of proximity; "a suburb of a medium size central city" and "a suburb of a large central city" as 4, labeled quite a bit of proximity; "a medium

Variables

Role	Name	Label	Range	
Output	**proximitytocity**	proximity to a city	0-6	
Input	**xnorcsiz**	expanded norc size code	1-10	.d,.i,.j,.

Recode rules

```
Input1:  xnorcsiz   label: expanded norc size code

  Output      Input1
       0        9-10
       1           8
       2           7
       3         5-6
       4         3-4
       5           2
       6           1
```

Description of the derived variable

proximitytocity **proximity to a city**

Percent	N	Value	Label
13.4	8,690	**0**	none
5.2	3,372	**1**	a little
6.3	4,058	**2**	some
13.5	8,735	**3**	a fair amount
30.4	19,690	**4**	quite a bit
13.6	8,811	**5**	a great deal
17.7	11,458	**6**	a very great deal
	4,032	**.**	(No Data)
100.0	**68,846**		**Total**

size central city (50,000 to 250,000)" as 5, labeled a great deal of proximity; and "a large central city (over 250,000)" as 6, labeled a very great deal of proximity.

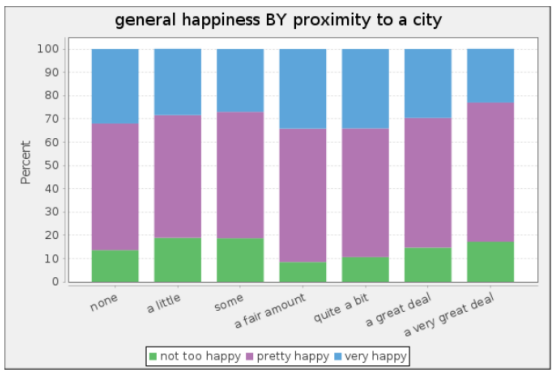
The two-way tabulation of happiness by expanded norc size code presented the following result:

Frequency Distribution

Cells contain: -Column percent -Weighted N		proximitytocity							
		0 none	1 a little	2 some	3 a fair amount	4 quite a bit	5 a great deal	6 a very great deal	*ROW TOTAL*
happyrecode	1: not too happy	**13.6** 21.8	**18.9** 12.9	**18.7** 10.0	**8.5** 38.3	**10.6** 83.7	**14.7** 56.1	**17.2** 75.8	*12.7 298.6*
	2: pretty happy	**54.4** 87.2	**52.7** 36.0	**54.3** 29.1	**57.3** 259.1	**55.3** 435.0	**55.7** 213.0	**59.8** 263.7	*56.4 1,323.1*
	3: very happy	**32.0** 51.4	**28.5** 19.4	**27.0** 14.5	**34.2** 154.5	**34.1** 268.0	**29.6** 113.3	**23.1** 101.7	*30.8 722.9*
	COL TOTAL	*100.0 160.4*	*100.0 68.3*	*100.0 53.6*	*100.0 452.0*	*100.0 786.7*	*100.0 382.4*	*100.0 441.2*	*100.0 2,344.6*

Color coding: <-2.0 | <-1.0 | <0.0 | >0.0 | >1.0 | >2.0 | Z

N in each cell: Smaller than expected | Larger than expected



Across the levels of proximity, 55.4% of respondents responded that they were pretty happy. The proportion of respondents who responded with "very happy" decreased as proximity to a city increased. Alternatively, the proportion of participants who responded "not too happy" within each type of region increased as proximity increased. Running a regression analysis, I found that as proximity to a city increased, general happiness decreased by .021; this coefficient had a t-statistic of -2.619, which indicates that the coefficient is statistically significant.

Regression Coefficients					Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
proximitytocity	-.021	.008	-.054	.021	-2.619	.009
Constant	2.266	.035			65.011	.000

Following this analysis, I chose to use the variable "sexnow" to use as a control variable, as it indicates a participant's self-identified current gender. I presumed that women may feel less happy the closer they were to cities, which usually have higher rates of sexual assault. The crosstabs which resulted appeared to reflect major fluctuations, especially for women with some proximity to a city, as shown below:

Chart for sexnow = 1(female)

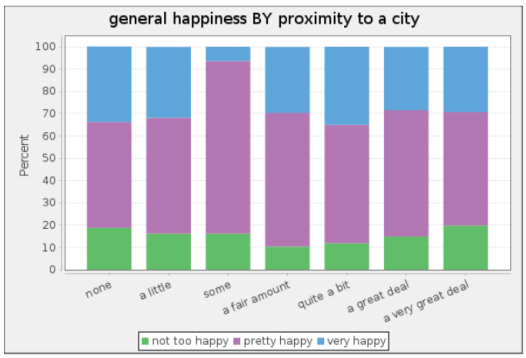


Chart for sexnow = 2(male)

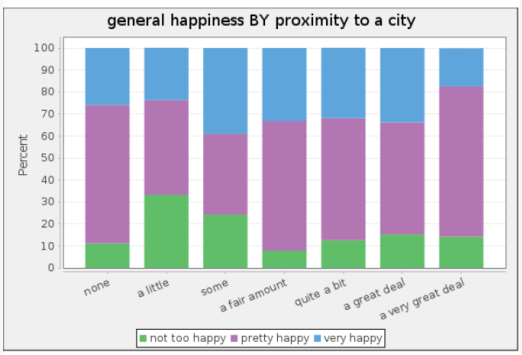
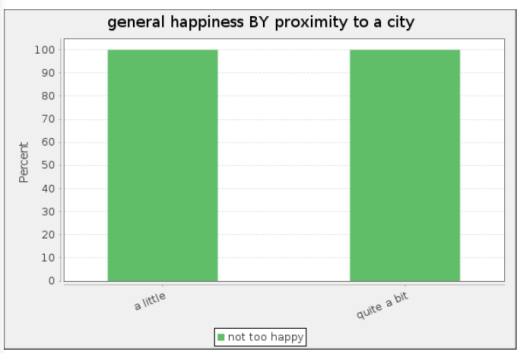


Chart for sexnow = 3(transgender)

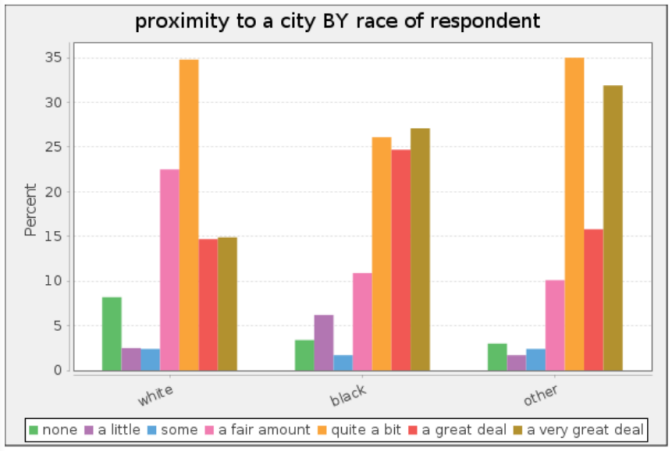


However, the few statistically significant results found in these crosstabs are as follows: 19.8% of female participants in a very great deal of proximity to a city were not too happy; 33.2% of male participants in a little proximity to a city were not too happy; and 68.3% of males in a very great deal of proximity to a city were pretty happy. Following the initial crosstabulation, I tested for interaction by conducting the multivariate regression analysis below, which did not produce statistically significant results.

Regression Coefficients					Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
proximitytocity	-.012	.016	-.030	.039	-.781	.435
sexnow(d:1) - female	-.001	.092	-.001	.072	-.015	.988
proximitytocity * sexnow(d:1)	.003	.022	.012	.077	.151	.880
Constant	2.205	.066			33.223	.000

This suggests that while there may be some particular negative impact on one's general happiness the closer one is to a city for female respondents, the results are not significant.

On the other hand, whether happiness rises as proximity to a city rises may also be different depending on one's race. Black Americans continue to be highly concentrated in cities, despite growing suburban diversity, according to the *Los Angeles Times*. This is due in large part to white flight into the suburbs and the history of Black Americans migrating to Northern cities to escape Southern discrimination and to search for job opportunities post World War II; as the authors of *City Politics: The Political Economy of Urban America* write, "Americans became accustomed to thinking in dichotomies—city/suburban, black/white, ghetto/subdivision, poor/affluent—and these habits of thought consistently cast cities in a dismal light." This is reinforced by running a crosstabulation of proximity to a city by the race of respondents in 2018.



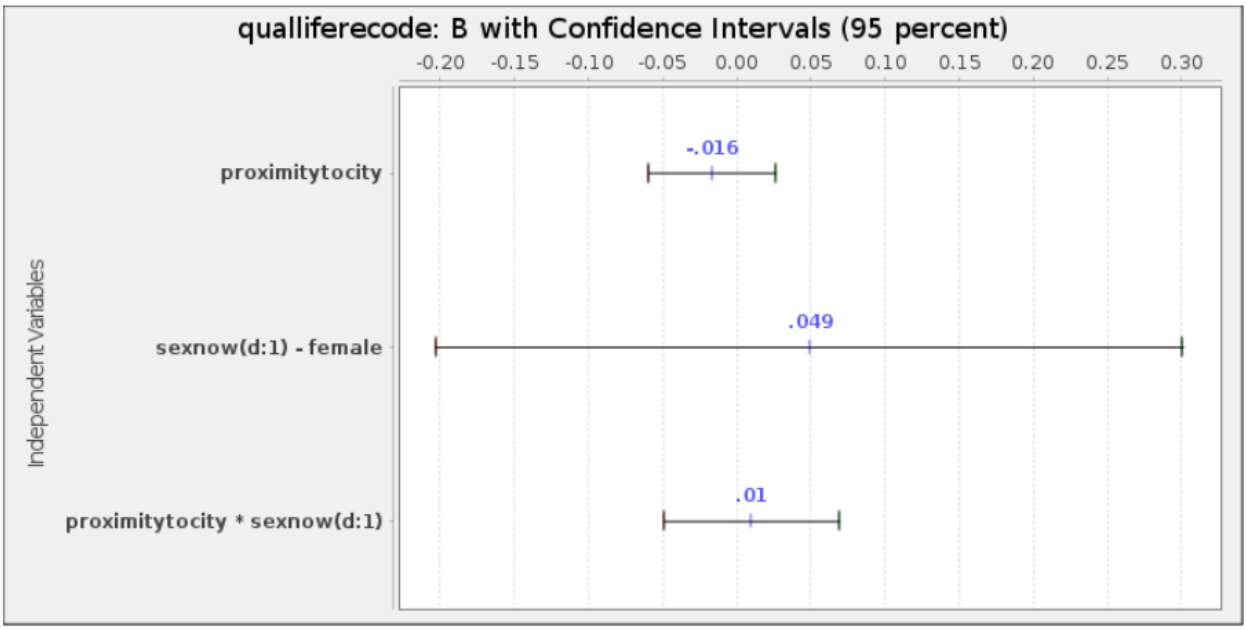
When adding race as a predictor variable, we find the following statistically significant results.

Regression Coefficients					Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
proximitytocity	-.026	.009	-.065	.022	-2.901	.004
race(d:2) - black	-.316	.106	-.177	.059	-2.987	.003
proximitytocity * race(d:2)	.047	.023	.123	.061	2.033	.043
Constant	2.299	.037			61.746	.000

These results reiterate that as one's proximity to a city increases, one's general happiness decreases. However, adding race as a predictor variable suggests that this correlation is reduced for Black respondents. What we may conclude is that given that both coefficients are statistically significant, both predictors affect the outcome of general happiness, in what could be interaction — in other words, if a respondent is Black, the more likely they are to be closer to a city, and that could determine their measure of happiness.

To expand on this result, I was interested to see whether the correlation between "quallife" (responses to the GSS question, "In general, would you say your quality of life is?") and proximity to a city reinforces these findings. First, I recoded the existing "quallife" variable such that as values increased from 1 to 5, respondent's quality of life improved; 1 referred to poor quality, 2 referred to fair quality, 3 referred to good quality, 4 referred to very good quality, and 5 referred to excellent quality. To check my assumption that quality of life and happiness are tied, I ran a regression analysis using quality of life as the independent variable and happiness as the dependent variable. I found that in 2018, there was a statistically significant positive coefficient (.284, with a t-statistic of 21.999) in respondent's happiness measures as quality of life increased.

Once again, I found a statistically significant regression coefficient of -.025, indicating that increasing proximity to a city reduced one's personal evaluation of quality of life. In reviewing whether gender made a difference, I once again found no statistical significance, given that the confidence intervals of the regression coefficients for "proximity to city," "sexnow(d:1)" (female), and the interaction term overlapped:



However, in swapping the gender variable for race, I found the following findings:

Regression Coefficients					Test That Each Coefficient = 0	
	B	SE(B)	Beta	SE(Beta)	T-statistic	Probability
proximitytocity	-.028	.013	-.048	.022	-2.160	.031
race(d:2) - black	-.709	.153	-.272	.059	-4.626	.000
proximitytocity * race(d:2)	.080	.034	.143	.060	2.369	.018
Constant	3.909	.054			71.975	.000

Interestingly, the regression coefficient for the interaction term, which reflects the difference in proximity to city dependent on race, is statistically significant; it suggests there is a differing effect on how proximity to a city affects perceptions of quality of life based on one's race. This result reconfirms my above findings about general happiness as it relates to proximity to a city.

While more analysis would have to be done to find out how overlapping race with gender would affect the correlation between proximity to a city and general happiness, this study suggests that within each level of proximity, there's much more to learn. For example, I would be interested to know why, despite lacking statistical significance, in my crosstabulation of proximity and happiness that controlled for gender, there was such a high proportion of women living in some proximity to a city responding as "pretty happy" as compared to all other levels of proximity. In addition, I was somewhat limited in measuring proximity given that I made a

somewhat subjective evaluation in recording “xnorcsiz” to streamline my results. Overall, though, living in a city or not had no drastic determination on one’s general happiness in 2018.

Works Cited

"2018 National Crime Victims' Rights Week Resource Guide: Crime and Victimization Fact Sheets." *Office for Victims of Crime (OVC)*, 2018, ovc.ojp.gov/sites/g/files/xyckuh226/files/ncvrw2018/fact_sheet.html.

Glaeser, Edward L. *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*. Penguin Books, 2012.

Judd, Dennis R., and Annika Marlen Hinze. *City Politics: The Political Economy of Urban America*. Routledge, 2018.

Oliver, J. Eric, and Shang E. Ha. "Vote Choice In Suburban Elections." *American Political Science Review*, vol. 101, no. 3, Aug. 2007, pp. 393–408, https://doi.org/10.1017/s0003055407070323.

Smith, Tom W., Davern, Michael, Freese, Jeremy, and Morgan, Stephen L., General Social Surveys, 1972-2018 [machine-readable data file] /Principal Investigator, Smith, Tom W.; Co-Principal Investigators, Michael Davern, Jeremy Freese and Stephen L. Morgan; Sponsored by National Science Foundation. --NORC ed.-- Chicago: NORC, 2019.

Tareen, Sophia. "Black Population Continues to Grow in Suburbs and Shrink in Cities across the U.S." *Los Angeles Times*, 14 Mar. 2022, www.latimes.com/world-nation/story/2022-03-14/census-black-population-grows-suburbs-shrinks-cities.