OBESITY: ARE FOOTPATHS REDUCING THE EPIDEMIC?

INTRODUCTION

In 2014, 25.6% of adults were considered to be obese in the United Kingdom. This has risen from 14.9% in 1993 (Public Health England). Links between socioeconomic factors and the level of obesity are continuously drawn. More research is now being done to determine if environmental factors play a role in obesity. The goal of this project is to determine if improved access to spaces for exercise reduces the level of obesity. If a link is found, this information can be used in future urban planning. This project uses the environmental inputs of footpaths, bike paths, local parks, and national parks, and compares them to the level of reported cases of primary obesity in the North East region of England. This region of the North East includes Yorkshire and the Humber.

METHODS

A map of the UK was created by merging layers of counties and districts. Data for primary obesity cases per 100,000 people for each county was merged with the county spatial information and mapped. Only the obesity data for 2015 was used. Using queries, layers for: local parks, footpaths, and bike paths were created. A layer for national parks was also added. The geometry calculator was used to determine the lengths or areas of each factor present in each county. A summation tool was used to produce maps containing the different factors, with high lengths or areas shown in the darkest green.

Each polygon was given a score from 1 to 11 depending on each of the environmental factors. Parks, footpaths, and bike paths had a score of 1, and natural parks had a score of 0.5. Each polygon was also assigned a value based on its obesity level. The field calculator in the attribute table was used to find the deviation between obesity and environmental factors by subtracting the environment score from the obesity score.

RESULTS & CONCLUSION

In my final map I show how obesity and environmental factors relate. Values close to zero mean that there is a positive correlation between high obesity and low levels of environmental factors, or low obesity and high levels of environmental factors. Positive deviation (red colors) shows low obesity and bad environmental factors. Negative deviation (dark blue) shows high obesity and good environmental factors. This project presents that, generally, low obesity levels are correlated with bad environmental factors. This conclusion is not what was predicted at the beginning of the study. This may be due to a number of limitations.

One limitation to this project is the number of environmental inputs that were used. Ideally other factors such as gyms and the walkability score would also be included into the maps to determine the county with the greatest level of environmental spaces. As only the obesity data for 2015 was used, a further alteration would be to include multiple years of data. As this study did not factor in socioeconomics or race, there is a gap in what factors could play a role. It is likely that this would play a large role in the level of obesity.

REFERENCES

*UK and Ireland Prevalence and Trends*: Public Health England Obesity Knowledge and Intelligence Team

Image from: http://www.dorsetyoungwalkers.org.uk/information-advice.html

By Daisy Draper
December 11, 2016

CEE187: Geographic Information Systems Fall 2016

Data Sources: Gov.Data.UK, OpenStreetMap.UK.

Coordinate System: GCS_OSGB_1936