**Project 1 Report**

**Determining Correlations Between United States’ Health and Income Data**

**ECEN 689: Applied Information Science Practicum - Team 7**

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# Abstract

# Introduction

Project 1 for ECEN 689 course involved gathering health and income data for the United States. The project also involved parsing through the data, and ensuring accurate representation of U.S. counties. The project’s objective was to determine if health parameters ( obesity, diabetes, etc) were correlated with income data collected by the IRS (Internal Revenue Service).

The project goal was also to better understand the relationship between health measurements between the broader US social classes, and the classes’ income disparity proven in previous academic work [4]. We want to acknowledge other factors that we assume affect overall health. Education level was also seen to affect health quality in US social classes [6]. More discussion is offered in the next sections.

Going through the literature, one can see an established truth about income and health: the higher an individual's income, the better his or her health [1]. However, a broader scope is needed when considering health and income metrics. Not to mention the perceived health evaluation individuals have about their life. We highlight the importance of rationally choosing variables for measuring health and income levels. Previous work recommends the variables should be dependent on the relevance of the variable to the model being studied [5].

Life evaluation refers to the thoughts that people have about their life when they think about it [2]. While previous academic work did prove a correlation between perceived mental health and income, it also proved no tangible progress beyond an annual income of ~$75,000 [2]. Effects of mental health were not analyzed in this work due to time constraints. We recommend future studies to incorporate mental health evaluation into their models.

The health dataset was downloaded from the U.S. department of agriculture website. The health data includes both parameters from the years 2008 and 2013. The income data was downloaded from the IRS website. County income data was used, and not the provided individual income data. A combined health and data file was generated from the previous downloaded files. All US counties were represented in the generated combined file, except for Hawaii’s Kalawao county, since no income data was listed in the income file.

The next sections of this report provide graphs, illustrations, and sources that give better understanding of health-income relationship in the US. References are provided at the end of this report.

# Methodology

# Results

# Conclusion

# References

[1] Kawachi, I., & Kennedy, B. P. (1999). Income inequality and health: pathways and mechanisms. *Health service research*, 34(1 Pt 2), 215-27.

[2] Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences of the United States of America*, 107(38), 16489-93.

[3] Wagstaff, Adam & Doorslaer, Eddy. (2000). Income Inequality and Health: What Does the Literature Tell Us?. *Annual review of public health,* 543-67.

[4] Bryan, Kevin A. and Martinez, Leonardo, On the Evolution of Income Inequality in the United States (2008). *FRB Richmond Economic Quarterly*, Vol. 94, No. 2, Spring 2008, 97-120.

[5] L Shavers, Vickie. (2007). Measurement of Socioeconomic Status in Health Disparities Research. *Journal of the National Medical Association*. 99, 1013-23.

[6] Marmot, Michael. (2002). The Influence Of Income On Health: Views Of An Epidemiologist. *Health affairs (Project Hope)*. 21, 31-46.