

How did local health infrastructure and socio-political factors within different states and counties in the United States affect the disparities in COVID-19 outcomes, and what lessons can be learned for more targeted public health preparedness and response strategies in future pandemics?*

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First sentence. Second sentence. Third sentence. Fourth sentence.

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*Code and data are available at: <https://github.com/hannahyu07/US-Covid-Analysis.git>

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1 Introduction

This reproduction was performed after a replication on the Social Science Reproduction platform: [link here](#)

2 Data

2.1 Source

The datasets utilized throughout this paper was obtained from the **original paper** (Nuzzo and Ledesma 2023).

2.2 Methodology

R (R Core Team 2022) was the language and environment used for the bulk of this analysis, alongside `tidyverse` (Wickham et al. 2019), `sf` (Pebesma 2018), `readxl` (Wickham and Bryan 2023), `knitr` (Xie 2014), `janitor` (Firke 2023), `lubridate` (Grolemund and Wickham 2011), `dplyr` (Wickham et al. 2023), `data.table` (Barrett et al. 2024), `RColorBrewer` (Neuwirth 2022), `ggpubr` (Kassambara 2023), `ggplot2` (Wickham 2016), `here` (Müller 2020), and `scales` (Wickham, Pedersen, and Seidel 2023).

2.3 Data Measurement

2.4 Data cleaning

3 Results

Our results are summarized in Figure [1](#).

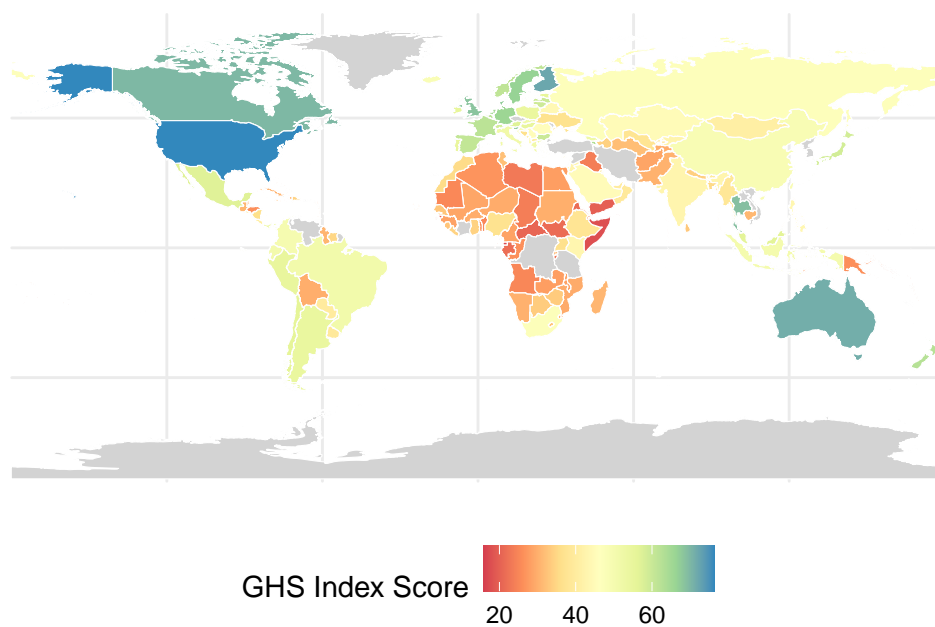


Figure 1: Global Health Security Index Scores by Country

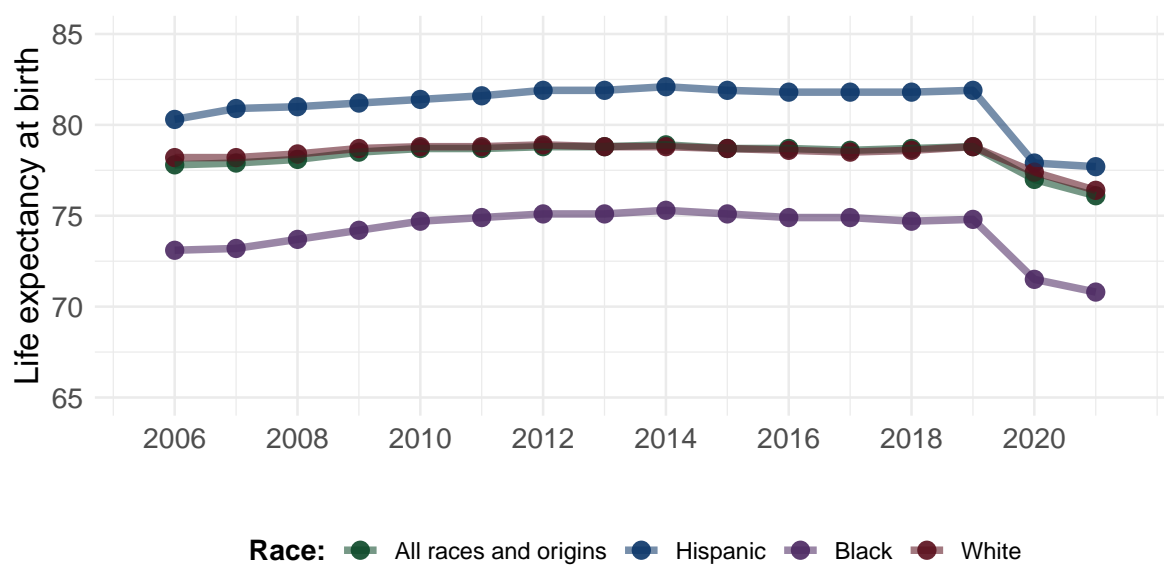


Figure 2: Estimates of Life Expectancy at Birth, by Race 2006-2021

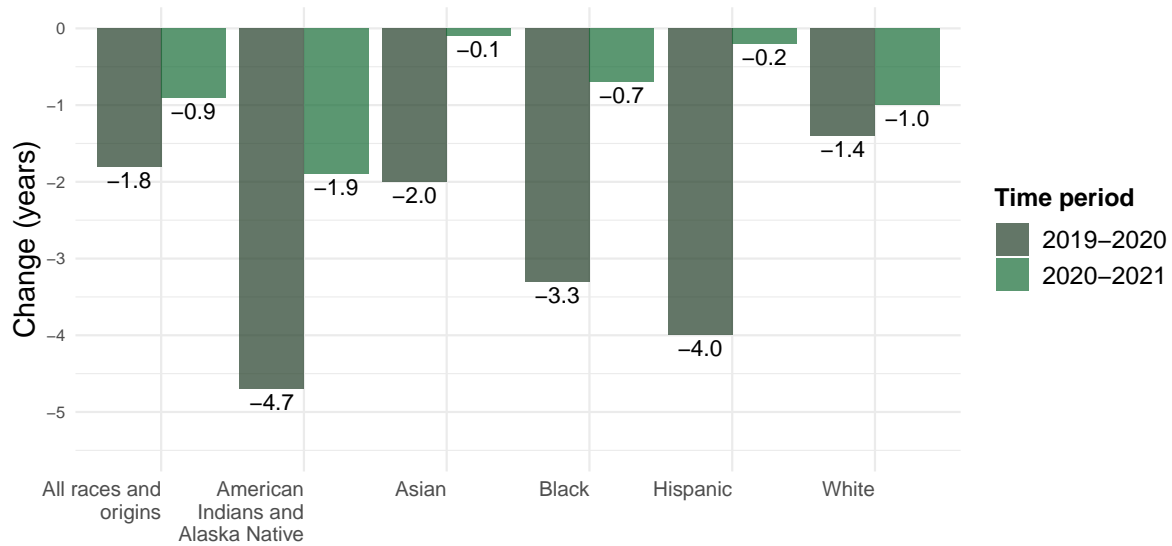


Figure 3: Change in Life Expectancy at Birth from the Previous Year

4 Discussion

4.1 Influence of political polarization on adherence to health guidelines.

4.2 Impact of government transparency and consistent communication on public trust.

4.3 Role of social vulnerabilities and healthcare access disparities in pandemic impact.

4.4 Strategies for improving real-time data collection and sharing for public health decisions.

4.5 Weaknesses and next steps

Weaknesses and next steps should also be included.

References

- Barrett, Tyson, Matt Dowle, Arun Srinivasan, Jan Gorecki, Michael Chirico, and Toby Hocking. 2024. *Data.table: Extension of ‘Data.frame’*. <https://CRAN.R-project.org/package=data.table>.
- Firke, Sam. 2023. *Janitor: Simple Tools for Examining and Cleaning Dirty Data*. <https://CRAN.R-project.org/package=janitor>.
- Grolemund, Garrett, and Hadley Wickham. 2011. “Dates and Times Made Easy with lubridate.” *Journal of Statistical Software* 40 (3): 1–25. <https://www.jstatsoft.org/v40/i03/>.
- Kassambara, Alboukadel. 2023. *Ggpubr: ‘Ggplot2’ Based Publication Ready Plots*. <https://CRAN.R-project.org/package=ggpubr>.
- Müller, Kirill. 2020. *Here: A Simpler Way to Find Your Files*. <https://CRAN.R-project.org/package=here>.
- Neuwirth, Erich. 2022. *RColorBrewer: ColorBrewer Palettes*. <https://CRAN.R-project.org/package=RColorBrewer>.
- Nuzzo, Jennifer B., and Jorge R. Ledesma. 2023. *Why Did the Best Prepared Country in the World Fare so Poorly During COVID?* <https://www.aeaweb.org/articles?id=10.1257/jep.37.4.3>.
- Pebesma, Edzer. 2018. “Simple Features for R: Standardized Support for Spatial Vector Data.” *The R Journal* 10 (1): 439–46. <https://doi.org/10.32614/RJ-2018-009>.
- R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. <https://ggplot2.tidyverse.org>.
- Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D’Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. “Welcome to the tidyverse.” *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.
- Wickham, Hadley, and Jennifer Bryan. 2023. *Readxl: Read Excel Files*. <https://CRAN.R-project.org/package=readxl>.
- Wickham, Hadley, Romain François, Lionel Henry, Kirill Müller, and Davis Vaughan. 2023. *Dplyr: A Grammar of Data Manipulation*. <https://CRAN.R-project.org/package=dplyr>.
- Wickham, Hadley, Thomas Lin Pedersen, and Dana Seidel. 2023. *Scales: Scale Functions for Visualization*. <https://CRAN.R-project.org/package=scales>.
- Xie, Yihui. 2014. “Knitr: A Comprehensive Tool for Reproducible Research in R.” In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC.