Supplementary Materials for

**Kim, H., Gundersen, C., & Windsor, L. (2023). Community food insecurity predicts child maltreatment report rates across Illinois zip codes, 2011–2018. Annals of Epidemiology, 79, 76–83.** [**https://doi.org/10.1016/j.annepidem.2023.01.008**](https://doi.org/10.1016/j.annepidem.2023.01.008)

This file includes

Tables S1

Guidance on How to Use the Enclosed Supplementary Materials for Replication

**Table S1.** The VIF Values of the Model Predictors.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **VIF** | | | | | | |
|  | **Overall model** | **Age 0-5 model** | **Age 6-11 model** | **Age 12-17 model** | **Neglect model** | **Physical abuse model** | **Sexual abuse model** |
| % single-parent households | 9.49 | 9.24 | 9.10 | 8.95 | 9.49 | 9.49 | 9.49 |
| % children in poverty | 8.47 | 5.38 | 5.10 | 4.53 | 8.47 | 8.47 | 8.47 |
| % no high school diploma | 8.36 | 8.11 | 8.37 | 8.29 | 8.36 | 8.36 | 8.36 |
| Within-effect of food insecurity | 7.71 | 6.99 | 6.82 | 6.85 | 7.71 | 7.71 | 7.71 |
| % Latino among children | 6.76 | 6.64 | 6.88 | 6.77 | 6.76 | 6.76 | 6.76 |
| % Black among children | 5.25 | 5.39 | 5.15 | 5.25 | 5.25 | 5.25 | 5.25 |
| Median house value | 2.35 | 2.37 | 2.35 | 2.40 | 2.35 | 2.35 | 2.35 |
| % foreign-born among persons | 3.78 | 3.65 | 3.80 | 3.77 | 3.78 | 3.78 | 3.78 |
| Urbanicity | 3.03 | 3.09 | 3.00 | 2.96 | 3.03 | 3.03 | 3.03 |
| % vacant housing units | 2.92 | 2.95 | 2.95 | 2.88 | 2.92 | 2.92 | 2.92 |
| Between-effect of food insecurity | 2.38 | 2.21 | 2.28 | 2.28 | 2.38 | 2.38 | 2.38 |
| % children among persons | 2.56 | 2.71 | 2.53 | 2.45 | 2.56 | 2.56 | 2.56 |
| % elderly persons | 2.48 | 2.48 | 2.51 | 2.53 | 2.48 | 2.48 | 2.48 |
| % moved in one year | 2.14 | 2.36 | 2.06 | 1.97 | 2.14 | 2.14 | 2.14 |
| Year fixed effects | 1.32 | 1.31 | 1.31 | 1.31 | 1.32 | 1.32 | 1.32 |
| % male among adults | 1.83 | 1.84 | 1.83 | 1.83 | 1.83 | 1.83 | 1.83 |
| % children with disabilities | 1.31 | 1.33 | 1.31 | 1.29 | 1.31 | 1.31 | 1.31 |

**Guidance on How to Use the Enclosed Supplementary Materials for Replication**

This study used data linking multiple Illinois-statewide datasets at the zip code level for all zip codes in Illinois from 2011 to 2018. The data had been constructed by a larger project funded by the Centers for Disease Control and Prevention (CDC), K01CE003229.

The purpose of this document is to provide guidance on how to use the enclosed supplementary materials (the SAS programs and the R scripts) to replicate this study’s data and analysis results.

The child maltreatment report data are available to eligible researchers with no cost. All other data are open to the public with no cost. Table S1 lists the datasets, their sources (locations), and the SAS programs for importing, managing, and merging the datasets.

**Table S1.** SAS Programs, Raw Datasets, and Sources to Construct the Present Study’s Data.

|  |  |  |
| --- | --- | --- |
| SAS Program | Dataset | Source |
| 01 CAN\_Input.sas | Child maltreatment report data | <https://www2.illinois.gov/dcfs/aboutus/policy/Pages/com_communications_IRB.aspx> |
| 02 Census\_Input.sas | Census ACS data | <https://www.socialexplorer.com/explore-tables> |
| 03 NCHS\_RUC\_Input.sas | NCHS rural-urban codes | <https://www.cdc.gov/nchs/data_access/urban_rural.htm> |
| 04 USDA\_RUC\_Input.sas | USDA rural-urban codes | <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx> |
| 05 Spatial\_Input.sas | Census gazetteer files | <https://www.census.gov/geographies/reference-files/time-series/geo/gazetteer-files.html> |
| 06 IECAM\_Input.sas | U of Illinois IECAM data | <https://iecam.illinois.edu/database/> |
| 07 MHV\_Input.sas | U of Illinois CPRD data | <https://cprd.illinois.edu/expertise/child-and-family-programs/miechv/> |
| 08 Food\_Input.sas | Food insecurity data | <https://map.feedingamerica.org/> |
| 09 Grand\_Merge.sas | This program merges all datasets. | |

After obtaining the raw datasets, running all enclosed SAS programs from “01 CAN\_Input.sas” to “09 Grand\_Merge.sas” will produce a merged dataset (“cdck01zip\_census2.sas7bdat”). The “Dataset Contents.htm” reports the summary information about the contents of the merged dataset, including the variables’ names and descriptions.

After constructing the merged data set, one needs to run two R scripts for analysis. “Analysis\_ZIP\_FI\_CMR\_Data.R” will produce analysis data (“Food01\_data\_census2.RData”). “Analysis\_County\_FI\_CMR.R” will estimate models that replicate this study’s analysis results.

Please contact the corresponding author (Hyunil Kim, [hyunil@illinois.edu](mailto:hyunil@illinois.edu)) for additional information.