Supplementary Materials for

**Kim, H., & Drake, B. (2023). Has the relationship between community poverty and child maltreatment report rates become stronger or weaker over time? Child Abuse & Neglect, 143, 106333.** [**https://doi.org/10.1016/j.chiabu.2023.106333**](https://doi.org/10.1016/j.chiabu.2023.106333)

This file includes

Tables S1-S2

Guidance on How to Use the Enclosed Supplementary Materials for Replication

**Table S1.** Child Poverty Coefficients on Total Child Maltreatment Report Rates by 5-Year and 1-Year Estimates of Child Poverty Rates.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Final Analysis  (N = 6150) | Sensitivity Analysis  (N = 5292) | |
| Year-Specific CP Coefficient | 5-year CP on  1-year total CMR | 5-year CP on  1-year total CMR | 1-year CP on  1-year total CMR |
| CP coefficient in 2009 | 1.26\*\* | 1.19\*\* | 0.77\*\* |
| CP coefficient in 2010 | 1.17\*\* | 1.06\*\* | 0.63\*\* |
| CP coefficient in 2011 | 1.29\*\* | 1.25\*\* | 0.77\*\* |
| CP coefficient in 2012 | 1.28\*\* | 1.22\*\* | 0.74\*\* |
| CP coefficient in 2013 | 1.30\*\* | 1.31\*\* | 0.82\*\* |
| CP coefficient in 2014 | 1.42\*\* | 1.40\*\* | 0.90\*\* |
| CP coefficient in 2015 | 1.49\*\*b | 1.46\*\*b | 0.98\*\*a |
| CP coefficient in 2016 | 1.59\*\*b | 1.58\*\*b | 1.04\*\*b |
| CP coefficient in 2017 | 1.67\*\*b | 1.62\*\*b | 1.01\*\*b |
| CP coefficient in 2018 | 1.74\*\*b | 1.71\*\*b | 1.07\*\*b |
| % increase in CP coefficient from 2009 to 2018 | 38.8% | 43.9% | 40.4% |
| Model fit: AICc | - | 43900.64 | 44164.19 |

\*\* p<.05

a The CP coefficient in the given year is marginally significantly (p<.10) different from the CP coefficient in 2009.

b The CP coefficient in the given year is significantly (p<.05) different from the CP coefficient in 2009.

c AIC = Akaike Information Criterion (a lower AIC value indicates a better model fit).

*Note.* We conducted a sensitivity analysis by comparing the models using 5-year child poverty rates (i.e., ACS 5-year estimates) and 1-year child poverty rates (i.e., ACS 1-year estimates). The first column of Table S1 presents the final analysis estimates based on the full data (all 6,150 county-years), which are from Table 3 of the main text. The second and third columns present sensitivity analysis results based on county-years with non-missing 1-year child poverty rates (5,292 county-years). Both the child poverty coefficients and their longitudinal increases (38.8% versus 43.9%) were very similar between the first and second columns. This suggests that the estimates differ little between the final analysis data and the sensitivity analysis data. The child poverty coefficients in the second column were somewhat larger than those in the third column, but their longitudinal increases were very similar between these columns (43.9% versus 40.4%). The AIC value of the second column was lower that that of the third column. This indicates that the model using 5-year child poverty rates (the second column) had better fit to data than the model using 1-year child poverty rates (the third column).

**Table S2.** Black- and Latino-Specific Adjusted Coefficients of Child Poverty (CP) Rates on Child Maltreatment Report Rates by Cutoff Points.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year-Specific CP Coefficient | Black | | | Latino | | |
| Cutoff=300  (N=5613) | Cutoff=500  (N=5279) | Cutoff=1000  (N=4648) | Cutoff=300  (N=6060) | Cutoff=500  (N=5874) | Cutoff=1000  (N=5368) |
| CP coefficient in 2009 | 0.33\*\* | 0.53\*\* | 0.61\*\* | 0.29\*\* | 0.38\*\* | 0.44\*\* |
| CP coefficient in 2010 | 0.48\*\* | 0.57\*\* | 0.55\*\* | 0.35\*\* | 0.42\*\* | 0.46\*\* |
| CP coefficient in 2011 | 0.68\*\*b | 0.72\*\* | 0.69\*\* | 0.33\*\* | 0.34\*\* | 0.41\*\* |
| CP coefficient in 2012 | 0.81\*\*b | 0.90\*\*b | 0.93\*\*b | 0.40\*\* | 0.47\*\* | 0.51\*\* |
| CP coefficient in 2013 | 0.90\*\*b | 0.90\*\*b | 0.99\*\*b | 0.38\*\* | 0.43\*\* | 0.50\*\* |
| CP coefficient in 2014 | 0.84\*\*b | 0.90\*\*b | 1.01\*\*b | 0.51\*\*b | 0.56\*\*b | 0.60\*\*a |
| CP coefficient in 2015 | 0.79\*\*b | 0.92\*\*b | 1.06\*\*b | 0.42\*\* | 0.49\*\* | 0.52\*\* |
| CP coefficient in 2016 | 1.05\*\*b | 1.20\*\*b | 1.20\*\*b | 0.35\*\* | 0.40\*\* | 0.52\*\* |
| CP coefficient in 2017 | 1.16\*\*b | 1.20\*\*b | 1.32\*\*b | 0.35\*\* | 0.39\*\* | 0.51\*\* |
| CP coefficient in 2018 | 1.25\*\*b | 1.31\*\*b | 1.51\*\*b | 0.38\*\* | 0.36\*\* | 0.48\*\* |

\*\* p < .05

a The CP coefficient in the given year is marginally significantly (p<.10) different from the CP coefficient in 2009.

b The CP coefficient in the given year is significantly (p<.05) different from the CP coefficient in 2009.

*Note.* County-years with too few Black and Latino children showed unstable and extreme Black and Latino CMR rates (i.e., large random variations), which could bias the Black- and Latino-specific estimates. We therefore excluded county-years with too few Black children from the Black-specific analysis and county-years with two few Latino children from the Latino-specific analysis. To identify the optimal cutoff point for this exclusion, we conducted sensitivity analysis by comparing Black- and Latino-specific child poverty coefficients by the following three cutoff points: the 300-cutoff point (e.g., excluding counties with < 300 Black children), the 500-cutoff point, and the 1000-cutoff point. The results are reported in Table S2 (above). As can be seen, the coefficients and their longitudinal changes were similar between different cutoff points. We used the 300-cutoff point for the final analysis in an attempt to achieve a balance between reliability and sample size. The 300-cutoff point excluded most county-years with unstable and extreme Black and Latino CMR rates while allowing for inclusion of more county-years in the Black- and Latino-specific analyses.

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

This study used data linking multiple national datasets at the county level for counties in 50 States and DC from 2009 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 script) 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://www.ndacan.acf.hhs.gov/> |
| 02 Census\_Input.sas | Census ACS data | <https://www.socialexplorer.com/explore-tables> |
| 03 BIRTH\_Input.sas | Birth outcome data | <https://wonder.cdc.gov/> |
| 04 Opioid\_Input.sas | Opioid prescription rate data | <https://www.cdc.gov/drugoverdose/rxrate-maps/> |
| 05 NCHS\_RUC\_Input.sas | NCHS rural-urban codes | <https://www.cdc.gov/nchs/data_access/urban_rural.htm> |
| 06 USDA\_RUC\_Input.sas | USDA rural-urban codes | <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx> |
| 07 Spatial\_Input.sas | Census gazetteer files | <https://www.census.gov/geographies/reference-files/time-series/geo/gazetteer-files.html> |
| 08 CHR\_Input.sas | County Health Rankings data | <https://www.countyhealthrankings.org/> |
| 09 Food\_Input.sas | Food insecurity data | <https://map.feedingamerica.org/> |
| 10 MHV\_Input.sas | MIECHV data | <https://mchb.hrsa.gov/programs-impact/programs/home-visiting/state-fact-sheets> |
| 11 NHV\_Input.sas | NHVRC data | <https://nhvrc.org/yearbook/2020-yearbook/> |
| 12 Grand\_Merge.sas | This program merges all datasets and constructs analysis data. | |

After obtaining the raw datasets, running all enclosed SAS programs from “01 CAN\_Input.sas” to “12 Grand\_Merge.sas” will produce the analysis data (“CDCK01County\_Census2.sas7bdat”). The “Dataset Contents.htm” reports the summary information about the contents of the analysis data, including the variables’ names and descriptions.

After constructing the analysis data, one can use the enclosed R script (“Analysis\_Income\_year\_interaction3.R”) to replicate this study’s analysis results.

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