



HHS Public Access

Author manuscript

J Interpers Violence. Author manuscript; available in PMC 2024 April 15.

Published in final edited form as:

J Interpers Violence. 2022 November ; 37(21-22): NP21411–NP21421.

doi:10.1177/08862605211056727.

Association of State Minimum Wage Increases with Child Maltreatment

Melvin D. Livingston¹, Briana Woods-Jaeger¹, Rachael A. Spencer¹, Emily Lemon¹, Andrew Walker¹, Kelli A. Komro¹

¹Department of Behavioral, Social and Health Education Sciences, Rollins School of Public Health, Emory University, Atlanta, GA, USA

Introduction

Child maltreatment negatively alters the developmental and health trajectories for far too many children in the United States. In 2019, approximately 3.5 million children received a child protective system response, (U.S. Department of Health and Human Services, 2019). Child maltreatment is associated with deleterious consequences for physical and psychological health across the lifespan (Cicchetti & Toth, 2004). Historically, child maltreatment prevention research has focused largely on modifying relational risk factors (e.g., parenting) (Merrick & Guinn, 2018), but more recently research has shifted to examining policies and programs that address social determinants of maltreatment. Policies that intervene on the social determinants of child maltreatment may produce significant population-level effects and substantial cost-savings to the health care system (Brown et al., 2019). A synthesis of meta-analyses on child maltreatment antecedents concluded that large scale socioeconomic experiments should be tested to address the risk of low socioeconomic status of family as a risk for child maltreatment (van IJzendoorn et al., 2020). Although there are multiple, causal factors associated with child maltreatment, economic interventions could potentially reduce the risk factors for child maltreatment associated with economic stress, including parental stress and conflict (Bellazaire, 2018).

Family economic security policies such as minimum wage laws, Earned Income Tax Credit (EITC), paid family leave, and Temporary Assistance for Needy Families (TANF) are promising but understudied primary prevention strategies for child maltreatment (National Academies of Sciences Engineering and Medicine, 2019a; Spencer & Komro, 2017). In 2018, the National Conference of State Legislatures highlighted raising the minimum wage as an evidence-supported policy that can be adopted to prevent exposure to adverse childhood experiences (ACEs) including child maltreatment (Bellazaire, 2018). A recent study assessed the role of hourly state-level minimum wages on formal cases of child maltreatment, including physical abuse, neglect, and other forms of abuse based on case

Corresponding Author: Melvin Livingston, Department of Behavioral, Social and Health Education Sciences, Rollins School of Public Health, Emory University, Grace Crum Rollins Building, #526, 1518 Clifton Road NE, Atlanta, GA 30322, USA. melvin.livingston@emory.edu.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

reports (Raissian & Bullinger, 2017). They demonstrated that with each \$1 increase in minimum wage, reported cases of child neglect among young children decreased by 9.6% suggesting the promise of raising minimum wage to prevent child maltreatment and improve child health. Our study aims to add to this growing area of research by examining the association between state-level minimum wages and self-reported, behaviorally approximated acts of child maltreatment through a rigorous quasi-experimental design. We leverage data from the Fragile Families and Child Wellbeing Study (FFCWS), a birth cohort of nearly 5000 children, including a large proportion living in poverty and therefore likely to be affected by changes in minimum wages. This cohort allows us to extend our understanding of the role of statewide policy to address economic security on child maltreatment, with robust controls at the state and family levels.

Methods

All family data were taken from the FFCWS. The FFCWS follows a cohort of 4898 children born between 1998 and 2000. The majority of participating parents were unmarried at initiation of the FFCWS, and are at higher risk of experiencing poverty and low educational attainment when compared to the general population (McLanahan et al., 2003). Families were sampled from 20 cities across 15 states, allowing for variation in exposure to state minimum wage laws. At the 3, 5, and 9 years old waves (2001–2010), FFCWS primary caregivers (PCGs) of the focal child were invited to take part in a supplemental in-home study focusing on parental resources. As part of the in-home study, self-reported, behaviorally approximated acts of child maltreatment were measured. We constructed our analysis sample by including any families participating in the in-home study at ages 3 ($n = 3258$). Our analysis was conducted in 2020. The [removed for peer review] Institutional Review Board (IRB) approved the study.

To assess child maltreatment, we used the Parent–Child Conflict Tactics Scale (CTSPC) as self-reported by the PCG in the FFCWS. The CTSPC includes subscales measuring behaviorally approximated domains of child maltreatment: child neglect, physical assault, and psychological aggression. Each domain consisted of five items and inquired about the frequency of the item within the past 12 months. We created domain specific counts of maltreatment in the past year by summing the number of reported incidents of maltreatment reported for each item. A combined measure of maltreatment was created by summing the three domains together (Bendheim-Thoman Center for Research on Child Wellbeing, 2018). Primary caregiver education was self-reported and categorized as less than high school education, high school education or equivalent, some college or technical school, or college graduate. Primary caregiver race-ethnicity was self-reported and categorized as non-Hispanic White, non-Hispanic Black, Hispanic, or other. Primary caregiver age was self-reported in years. Primary caregiver household income was reported in dollars. State-specific minimum wages were obtained from Law Atlas, and were adjusted for inflation by expressing all minimum wage variables in terms of 2020 dollars. We obtained additional economic covariates from the University of Kentucky Center for Poverty Research (University of Kentucky Center for Poverty Research, 2019). Economic covariates included the state unemployment rate, gross state product, number of TANF recipients, and state EITC rate.

We first estimated the survey weighted demographic distributions and mean number of reported maltreatment events by domain at our analytic sample's baseline wave. To estimate the change in the number of reported child maltreatment incidents we implemented a difference in differences (DiD) study design by estimating a series of two-way fixed effects models controlling for specified covariates. Year fixed effects control for any changes over time common to all states such as secular trends in child maltreatment and national changes in federal policy. State fixed effects control for time invariant differences between states. Additional covariates control for changes over time specific to each state (Wing et al., 2018). The inclusion of state and year fixed effects in the model identifies the policy effect by contrasting whether changes in maltreatment over time are different across the magnitude of the state-specific minimum wage changes. Separate models were estimated for each domain of child maltreatment, as well as models for the combined maltreatment measure. All analyses accounted for the complex survey design of FFCWS using the city weights for the PCG study provided by FFCWS and accounting for geographic clustering and attrition to provide representative estimates for the originally sampled cities.

The primary assumption of the DiD design is that the trends in child maltreatment prior to changes in minimum wage are parallel across magnitudes of state minimum wage changes conditional on the included covariates. In other words, there is no unmeasured, within state time varying confounding. To test this assumption, we performed a series of robustness tests. First, we explicitly modeled state-specific linear time trends, allowing for differential trends in child maltreatment by state not accounted for by measured covariates. Second, we re-estimated all models within a sub-sample of families reporting \$30,000 or less in household income when the focal child is age 3 (approximately 60% of the sample). These families were more likely to be sensitive to changes in minimum wage policy.

Results

From 2001 to 2010, there were 30 legal changes in state minimum wage (independent of federal changes) in FFCWS states. Four states maintained the federal minimum wage throughout the study period. Of the 11 states with minimum wages above the federal, the average number of legal changes was 2.7 per state and ranged from one to five. For states and years in which the state minimum wage differed from the federal standard, the difference averaged \$1.49 ($SD = .66$) and ranged from \$0.05 to \$2.75.

Weighted estimates of baseline and most recent demographics and mean incidents of maltreatment are shown in Table 1. At baseline, approximately 33 behaviorally approximated incidents of maltreatment per caregiver were reported in the prior 12 months. Psychological aggression was the most common form of reported maltreatment (19 incidents per caregiver in the past year), followed by physical assault (12 incidents per caregiver in the past year), and neglect (less than one reported per caregiver in the past year). Similar, but attenuated, patterns of maltreatment were seen at the most recent wave in our analytic sample.

Our DiD estimates show little association between increased minimum wage and reductions in child maltreatment (Table 2). In our primary DiD models, a \$1 increase in the state

minimum wage was not associated with any change in reported child maltreatment across all domains. When controlling for state-specific time trends, a \$1 increase in the state-specific minimum wage was associated with a decrease of .28 neglect events ($B = -.28$, 95% CI $(-.53, -.03)$). When restricting the sample to those reporting less than \$30,000 in household income when the focal child was 3 years of age, no statistically significant association between state-specific minimum wage and child maltreatment was observed.

Discussion

We found minimal evidence of an association between increases of \$0.05 to \$2.75 in state-specific minimum wages and self-reported child maltreatment among the study sample from the FFCWS. In our primary DiD models, state minimum wages were not statistically significantly associated with any measure of maltreatment, and estimated effects were near zero. Controlling for state-specific time trends, we did find an association between increased state minimum wage and reductions in self-reported neglect; however, this pattern did not hold when we restricted our sample to those who are most likely to be affected directly by changes in minimum wage policies.

Prior research found increased minimum wage associated with reductions in official cases of child maltreatment driven by reductions in child neglect in children younger than 12 (Raissian & Bullinger, 2017). While our study also found a small, but statistically significant protective effect of increasing minimum wage on self-reported behaviors of neglect in models adjusting for state-specific time trends, there are several reasons to continue to explore minimum wage as a mechanism for prevention of child neglect. First, given the lack of both a consistent legal definition of neglect and consensus on how to measure neglect (Rebbe, 2018), it is worth noting the differences in the measurement of neglect between the studies. Raissian and Bullinger estimate reductions in child neglect rates reported to Child Protective Services, while we estimate changes in self-reported, behaviorally approximated acts of neglect. Although child neglect is the most common type of child maltreatment reported to CPS (Rebbe, 2018), our self-report neglect measure was the least likely form of neglect to be reported. These differing measurements may represent related but distinct constructs of child neglect. Second, when the sample was restricted to those most likely to be affected by a change in minimum wage policy, we did not find a statistically significant effect of minimum wage on self-reported child neglect. It is plausible that this pattern of results indicates residual bias not accounted for in the full sample even after controlling for state-specific time trends. However, the magnitude of the effect is similar across the full and restricted samples and the loss of statistical significance is consistent with the resulting smaller sample size when restricting to those with lower household incomes. Regardless, the estimated effect of state minimum wages should be interpreted with caution due to the lack of robustness across model specifications.

The null results may be due to the limited increases in minimum wages over the study period (\$0.05 to \$2.75 increases over the federal minimum wage). Secondly, there are likely multiple factors linking wage and child maltreatment, and similar to other health outcomes, these factors may create pathways that operate in opposing directions or have differential effects across subpopulations. Wage increases could result in increased financial

resources but also loss of federal benefits for some families who would no longer qualify based on income thresholds (Nguyen, 2018). For example, women, infants, and children and Supplemental Nutrition Assistance Program have been associated with reductions in child maltreatment (Lee & Mackey-Bilaver, 2007) and increasing minimum wage may disqualify some from receiving these benefits (Nguyen, 2018). Thirdly, increases to the minimum wage may incentivize expending resources on other costs used to pursue employment, including childcare. Workers earning minimum wage are disproportionately represented among workers providing services and so increases in wages may raise prices of basic necessities and goods to compensate for higher service industry costs, increasing economic pressure on single parent households (Belman & Wolfson, 2014).

This study adds to a growing body of science that explores the effects of family economic security policies on child health (Brown et al., 2019; Cancian et al., 2013; Raissian & Bullinger, 2017). However, our study results also highlight the complexity of trying to tease apart the effects of one policy and suggests that multiple economic policies may be necessary to support families. Increasing the minimum wage may reduce poverty and subsequent stress related to inability to cover basic needs such as food (Bartfeld & Men, 2017) or healthcare (McCarrier et al., 2011). However, other studies demonstrate minimum wage has varied effects on poverty across subpopulations (Himmelstein & Venkataramani, 2019), highlighting the need for further exploration of both mechanisms and differential effects of minimum wage on child maltreatment among the most vulnerable families. Future research should explore potential synergistic effects of other economic policies such as EITC, paid family leave, and TANF that promote economic security on child maltreatment as well as examine potential mechanisms such as family stress.

Our study is not without limitations. Our study relies on self-reported, behaviorally approximated measures of child maltreatment. Although the reports are likely an underestimate of the true prevalence of maltreatment, changes in the accuracy of self-reported maltreatment are unlikely to be associated with changes in minimum wage policy. As a result, we believe under-reporting has minimal impact on our substantive findings. Our estimates are limited to policy variability that occurred during the study period, in this case a maximum difference of \$2.75 between a state's minimum wage and the federal minimum wage. Different effects may be observed following larger increases to the minimum wage. We are further limited by the lack of measures of city of residence over time, which forces us to rely on state-level variables to control for residual confounding of the policy effects by economic context.

Conclusions

Our study finds little evidence of an association between modest changes in state minimum wages (\$0.05 to \$2.75 increases) and child maltreatment. Given the importance of social determinants of health that are often over-looked, future research should explore how other economic support policies may work in tandem to promote economic security that may influence child maltreatment. Further research is also needed to evaluate how economic support policies may work to affect mechanisms leading to child maltreatment.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: All phases of this study were supported by funds from the National Center for Injury Prevention and Control (Grant No: R01CE003104). The viewpoints represented in this article are those of the authors and do not represent those of the funding agency.

Biographies

Melvin Livingston, PhD, is a Research Associate Professor in the Emory Rollins School of Public Health. His research focuses on the application of quasi-experimental design and econometric methods to the evaluation of the health effects of state and federal policy. He is interested in how economic policy interventions can be used to improve maternal and child health outcomes.

Briana Woods-Jaeger, PhD, is an Assistant Professor in the Emory Rollins School of Public Health. Her research focuses on partnering with communities to reduce and eliminate disparities associated with stress and trauma. Using a social-ecological framework, her research has examined how social, cultural, and structural factors influence mental health and health risk behaviors among children and adolescents exposed to trauma and chronic stress.

Rachael A. Spencer, PhD, uses community-based participatory research methods to study the effect of programs and policies on family and gender-based violence. She is a former Fulbright Scholar to Jordan with violence related research or direct services experience in six countries. Her dissertation research examined the relationship between generosity of the U.S. welfare system, minimum wage, EITC, and family violence.

Emily Lemon, MPH, is a PhD student in the Behavioral, Social, and Health Education Sciences in the Emory Rollins School of Public Health. Her research focuses on immigration-related policies and Latinx adolescent mental health. Her interests are in using participatory approaches to identify youth and community-driven solutions to promote health equity.

Andrew Walker, MS, is a PhD student in the Behavioral, Social, and Health Education Sciences in the Emory Rollins School of Public Health. His research interests focus on the application of data science methods to enhance program intervention development and assess social determinants of health for marginalized adolescents and young adults.

Kelli Komro, PhD MPH, is a Professor in the Emory Rollins School of Public Health. Dr Komro is a social and behavioral epidemiologist focused on promoting child and adolescent health and reducing health disparities driven by racial and economic inequities.

References

- Bartfeld J, & Men F. (2017). Food insecurity among households with children: The role of the state economic and policy context. *Social Service Review*, 91(4), 691–732. 10.1086/695328
- Bellazaire A. (2018). Preventing and mitigating the effects of adverse childhood experiences. https://www.ncsl.org/Portals/1/HTML_LargeReports/ACEs_2018_32691.pdf

- Belman D, & Wolfson PJ (2014). What does the minimum wage do? WE Upjohn Institute. 10.17848/9780880994583
- Bendheim-Thoman Center for Research on Child Wellbeing. (2018). User's guide for the fragile families and child wellbeing study public data year 3. https://fragilefamilies.princeton.edu/sites/fragilefamilies/files/year_3_guide.pdf
- Brown ECB, Garrison MM, Bao H, Qu P, Jenny C, & Rowhani-Rahbar A. (2019). Assessment of rates of child maltreatment in states with medicaid expansion vs states without medicaid expansion. *JAMA Network Open*, 2(6), e195529. 10.1001/jamanetworkopen.2019.5529
- Cancian M, Yang M-Y, & Slack KS (2013). The effect of additional child support income on the risk of child maltreatment. *Social Service Review*, 87(3), 417–437. 10.1086/671929
- Cicchetti D, & Toth SL (2004). Child maltreatment. *Annual Review of Clinical Psychology*, 1(1), 409–438. 10.1146/annurev.clinpsy.1.102803.144029
- Himmelstein KEW, & Venkataramani AS (2019). Economic vulnerability among US female health care workers: Potential impact of a \$15-per-hour minimum wage. *American Journal of Public Health*, 109(2), 198–205. 10.2105/AJPH.2018.304801 [PubMed: 30571300]
- Lee BJ, & Mackey-Bilaver L. (2007). Effects of WIC and food stamp program participation on child outcomes. *Children and Youth Services Review*, 29(4), 501–517. 10.1016/j.childyouth.2006.10.005
- McCarrier KP, Zimmerman FJ, Ralston JD, & Martin DP (2011). Associations between minimum wage policy and access to health care: Evidence from the behavioral risk factor surveillance system, 1996–2007. *American Journal of Public Health*, 101(2), 359–367. 10.2105/AJPH.2006.108928 [PubMed: 21164102]
- McLanahan S, Garfinkel I, Reichman N, Teitler J, Carlson M, & Audiger C. (2003). The fragile families and child wellbeing study baseline national report. <https://fragilefamilies.princeton.edu/sites/fragilefamilies/files/nationalreport.pdf> (Accessed January 28, 2021).
- Merrick MT, & Guinn AS (2018). Child abuse and neglect: Breaking the intergenerational link. *American Journal of Public Health*, 108(9), 1117–1118. 10.2105/AJPH.2018.304636 [PubMed: 30088995]
- National Academies of SciencesEngineering, and Medicine. (2019a). Fostering healthy mental, emotional, and behavioral development in children and youth: A national agenda. National Academies Press. 10.17226/25201
- Nguyen LH (2018). The minimum wage increase: Will this social innovation backfire? *Social Work*, 63(4), 367–369. 10.1093/sw/swy040 [PubMed: 30137566]
- Raissan KM, & Bullinger LR (2017). Money matters: Does the minimum wage affect child maltreatment rates? *Children & Youth Services Review*, 72, 60–70. 10.1007/s00181-015-0998-8.
- Rebbe R. (2018). What is neglect? State legal definitions in the United States. *Child Maltreatment*, 23(3), 303–315. 10.1177/1077559518767337 [PubMed: 29642706]
- Spencer RA, & Komro KA (2017). Family economic security policies and child and family health. *Clinical Child and Family Psychology Review*, 20(1), 45–63. 10.1007/s10567-017-0225-6 [PubMed: 28176020]
- University of Kentucky Center for Poverty Research (2019). UKCPR national welfare data 1980–2017
- U.S. Department of Health and Human Services. (2019). Child maltreatment 2019. <https://www.acf.hhs.gov/cb/research-data-technology/statistics-research/child-maltreatment>
- van IJzendoorn MH, Bakermans-Kranenburg MJ, Coughlan B, & Reijman S. (2020). Annual research review: Umbrella synthesis of meta-analyses on child maltreatment antecedents and interventions: differential susceptibility perspective on risk and resilience. *Journal of Child Psychology and Psychiatry*, 61(5), 272–290. 10.1111/jcpp.13147 [PubMed: 31667862]
- Wing C., Simon K, & Bello-Gomez RA (2018). Designing difference in difference studies: Best practices for public health policy research. *Annual Review of Public Health*, 39, 453–469. 10.1146/annurev-publhealth-040617-013507.

Table 1.

Participant Characteristics.

Variable	Year 3 Estimate (95% CI) ^a	Year 9 Estimates (95% CI)
Age (years)	29.6 (29.0, 30.2)	35.7 (35.0, 36.3)
Race (%)		
NH Black	37.4 (31.2, 43.6)	38.5 (33.0, 44.0)
NH White	28.1 (22.4, 33.7)	28.9 (23.3, 34.4)
Hispanic	27.4 (22.6, 32.2)	25.9 (21.8, 30.1)
Other	7.1 (4.6, 9.6)	6.7 (4.3, 9.2)
Education (%)		
Less than HS	25.1 (21.4, 28.7)	18.8 (15.7, 21.9)
High school or equivalent	27.1 (23.6, 30.5)	20.3 (17.1, 23.5)
Some college or technical school	27.8 (25.2, 30.4)	36.8 (34.1, 39.6)
College graduate	20.1 (14.8, 25.3)	24.1 (18.9, 29.3)
Household income (\$)	51182 (37287, 65077)	59981 (47837, 72125)
Incidents of neglect (# of incidents)	0.6 (0.4, 0.8)	1.0 (0.85, 1.2)
Incidents of physical assault (# of incidents)	12.3 (11.4, 13.2)	5.6 (5.0, 6.2)
Incidents of psychological aggression (# of incidents)	19.9 (18.8, 20.9)	15.8 (14.6, 16.9)
Total incidents of maltreatment (# of incidents)	32.9 (31.1, 34.8)	22.3 (20.6, 24.0)

^aNinety-five percent confidence intervals for the accompanying means or %s are contained with parentheses.

Table 2.

Estimates of the Effect of Minimum Wage on Child Maltreatment.

	DD Estimate Beta (95% CI)	DD Estimate w/State-Specific Trends Beta (95% CI)
Full sample		
<i>Combined</i>	0.04 (-2.59, 2.68)	-0.91 (-4.77, 2.95)
<i>Maltreatment</i>		
<i>Events</i>		
<i>Neglect Events</i>	0.01 (-0.37, 0.40)	-0.28 (-0.53, -0.03)
<i>Psychological</i>	0.18 (-1.72, 2.08)	-0.67 (-3.43, 2.10)
<i>Maltreatment</i>		
<i>Events</i>		
<i>Physical Maltreatment Events</i>	-0.04 (-1.05, 0.96)	-0.13 (-1.61, 1.36)
Sample with household income <\$30,000		
<i>Combined</i>	0.08 (-2.71, 2.87)	-1.40 (-4.71, 1.90)
<i>Maltreatment</i>		
<i>Events</i>		
<i>Neglect Events</i>	0.16 (-0.37, 0.70)	-0.25 (-0.65, 0.15)
<i>Psychological</i>	0.21 (-1.93, 2.34)	-1.20 (-3.43, 1.04)
<i>Maltreatment</i>		
<i>Events</i>		
<i>Physical Maltreatment Events</i>	-0.09 (-1.28, 1.09)	-0.34 (-1.81, 1.13)