Full Day Kindergarten Mandates and Child Maltreatment *

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Abstract

This study examines the effect of state-mandated full-day kindergarten (FDK) expansion on child maltreatment using National Data Archive on Child Abuse and Neglect (NCANDS) child-level data, State Inpatient Databases (SID) hospitalization discharges, and National Vital Statistics System (NVSS) mortality records. Leveraging the staggered rollout of FDK adoption across states with advanced difference-in-differences methods, we find that FDK policies lead to an increase of 3.5 physical abuse reports per 1,000 children, approximately 36% relative to the baseline mean. The absence of an effect on fatalities suggests that FDK primarily improves the detection of maltreatment rather than increasing its underlying incidence. Supporting this interpretation, educator-filed physical abuse reports rise by approximately 30%, reflecting enhanced detection capacity among teachers and school staff, and potentially replacing reports from other professions. Furthermore, the observed increases in reports from parents and neighbors suggest that FDK may foster stronger community awareness and social support networks. Overall, this research provides new evidence on the broader benefits of early childhood education, particularly its role in strengthening child safety environments.

JEL Codes: I18, I28, I31, J12, J13

Keywords: Early Childhood Education, Kindergarten, Maltreatment, Child Well-Being, Public Health

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1 Introduction

Child maltreatment is a pressing public health crisis with severe and persistent consequences. In 2023 alone, approximately 7 million children were referred to Child Protective Services (CPS) for investigation, with fatalities from abuse and neglect occurring at a rate of 2.73 per 100,000 children (U.S. Department Health & Human Services, 2025). These consequences extend beyond physical injury and the risk of death including long-term mental health disorders (Angelakis et al., 2020), poor academic performance (Leiter and Johnsen, 1994; Slade and Wissow, 2007), economic hardship in adulthood (Currie and Spatz Widom, 2010), and elevated risks of criminal behavior (Currie and Tekin, 2012; Misheva et al., 2017). At the same time, child maltreatment imposes a substantial economic burden on both institutional interventions and the healthcare system. In addition to the roughly $30 billion spent annually by protective service agencies (Rosinsky et al., 2023), the estimated lifetime cost associated with a single year of investigated cases exceeds $2 trillion (Peterson et al., 2018).

Understanding the causes and detection of child maltreatment is challenging. Firstly, child maltreatment remains widely underreported (Stoltenborgh et al., 2015), with only a fraction of cases ever identified or addressed by professionals (Burczycka and Conroy, 2018). In this context, educators play a critical role in protecting school-aged children. In Fiscal Year 2023, education personnel, including teachers and administrators, were the second-largest source of maltreatment reports after legal and law enforcement authorities, contributing 21.1% of all cases (U.S. Department Health & Human Services, 2025). Examining how school environments and sustained educator–student interactions support detection is, therefore, essential.

In this study, we investigate the effects of state-level full-day kindergarten (FDK) mandate policies on child maltreatment reports and maltreatment-related fatalities among five-year-olds. We employ an advanced difference-in-differences design that accounts for the staggered rollout of FDK mandates to estimate their causal impact. To provide a comprehensive view of maltreatment outcomes, we draw on two main data sources spanning the school years 2004–05 to 2018–19: child-level maltreatment reports from the National Child Abuse and Neglect Data System (NCANDS) and maltreatment-related hospitalizations and deaths, used as a proxy for the underlying incidence of maltreatment, from the State Inpatient Databases (SID) and the

National Vital Statistics System (NVSS).

Our first-stage results indicate that FDK mandates substantially increased the share of five-year-olds enrolled in full-day public kindergarten. Rather than primarily affecting the overall decision to enroll in kindergarten (the extensive margin) which is already high, with a baseline enrollment rate of 72 percent, the mandates mainly shifted children from half-day to full-day programs. Specifically, the probability of moving from half-day to full-day kindergarten increased by 7 percentage points, equivalent to a 9.5 percent increase relative to the baseline. This positive effect is concentrated in public full-day kindergarten, which saw an enrollment increase of 12.8 percent.

In our main analysis of child maltreatment, we find that FDK mandates led to a significant rise in reported physical abuse cases. Specifically, the mandates increased physical abuse reports by 3.4 cases per 1,000 children, which is approximately a 36 percent increase relative to the baseline mean. Event-study estimates support the validity of our identification strategy, as we find no evidence of differential pretrends prior to policy implementation. In contrast, we detect no statistically significant changes in maltreatment-related child mortality rates. Overall, these findings suggest that FDK mandates likely improved the detection and reporting of child maltreatment rather than increasing its underlying incidence. By expanding children's exposure to teachers and other school personnel, the policy appears to have strengthened monitoring and facilitated the identification of potential abuse.

Our heterogeneity analyses further support this detection mechanism. Reports of physical abuse filed by educators increased by 1.2 cases per 1,000 children, a 30 percent rise relative to the baseline mean, indicating that school personnel play a key role in identifying at-risk children. The increase in reported maltreatment is not concentrated among any particular racial or ethnic group; rather, we observe positive and statistically significant effects for White, Black, and Hispanic children, suggesting that the enhanced detection effects of FDK mandates are broad-based across demographic groups. Moreover, the rise in allegations filed by parents and neighbors further implies stronger community awareness and a better child safety net as a spillover effect of FDK.

This paper makes several contributions to the existing literature. To the best of our knowledge, the broader implications of FDK for health outcomes such as child

maltreatment have remained largely unexplored. This study provides the new evidence linking early childhood education to allegations of maltreatment. While prior research has examined the effects of FDK on children's cognitive skills, school attendance, and academic performance, the findings have been mixed (Gullo, 2000; Cannon et al., 2006; DeCicca, 2007; Zvoch et al., 2008; Cooper et al., 2010; Patricia Pelletier and Corter, 2019). Our study shifts the focus from academic achievement to child well-being, which potentially impacts on long-run of child cognitive and non-cognitive skills. In doing so, we examine whether extended school hours may play a protective role in shaping children's risk of maltreatment.

Second, we extend the literature on the role of schooling and educators in identifying and mitigating child maltreatment. Previous research has shown that COVID-19–related school closures reduced maltreatment reports by 27% (Baron et al., 2020), underscoring the critical role of school-based detection. However, Wolf et al. (2024) suggests that learning modality may not strongly influence maltreatment rates relative to socioeconomic factors. Additionally, Benson et al. (2025) utilized a regression discontinuity design to demonstrate that school entry at age five increases investigated reports, confirming that educators identify cases that would otherwise go unnoticed. Our study builds on these foundations by examining the intensive margin of school exposure through FDK mandates, allowing us to isolate how extending daily instructional hours enhances the protective monitoring capacity of educational institutions.

Lastly, FDK as a crucial education policy, complements and extends the broader literature on public policies and programs with potential implications for child maltreatment. Previous studies have examined how policies and health reforms affect child maltreatment (Paxson and Waldfogel, 2003; Aizer and Rebolledo, 2025; Bullinger et al., 2025; Deza et al., 2025; Qiu, 2025), and factors such as parental employment, income, and childcare availability are also well-documented (Paxson and Waldfogel, 2002; Cancian et al., 2013; Lindo et al., 2018; Sandner et al., 2025). Our findings underscore the importance of considering education policy not only as an investment in academic success but also as a potential lever to improve child welfare.

The paper proceeds as follows. Section 2 describes full-day kindergarten mandates and enrollment patterns in the U.S. Section 3 outlines the data, and Section 4 presents the empirical strategy. Section 5 reports the first stage and main results. Lastly, section 6 is the conclusion.

2 Full Day Kindergarten Mandates

From the 1960s, many states and school districts began funding kindergarten programs, most of which operated as half-day programs (Olsen and Zigler, 1989). Over the following two decades, these programs steadily expanded into full-day formats (Lee et al., 2006). Figure 1 shows trends in school enrollment among five-year-old children over the past 35 years, distinguishing among overall school enrollment (including pre-K, kindergarten, and grades 1–2), full-day kindergarten enrollment, and half-day kindergarten enrollment. Enrollment in full-day kindergarten has increased consistently, with a particularly sharp rise following the COVID-19 pandemic. In contrast, half-day enrollment has steadily declined, falling to about 10% of children by the 2022–23 school year.

Full-day kindergarten can be provided through either public programs which are funded by school districts or private programs. To better understand the sources of these trends, Figure 2 compares enrollment patterns by sector and program type. The increase in full-day enrollment is driven primarily by public kindergarten, while private full-day enrollment has remained relatively small. By SY2022–23, more than half of all kindergarten enrollees were enrolled in public full-day programs, whereas fewer than 10% attended private full-day programs.

Turning to policy rollout, Figure 3 illustrates the adoption of public FDK mandates across states by decade. These mandates require school districts to offer a full-day kindergarten option to any child or family that desires it. Such requirements accelerated the expansion of kindergarten programs and, in many cases, reshaped the composition of kindergarten enrollment. To date, 21 states have implemented FDK mandates, including four that adopted the policy after 2020. In contrast, 30 states have not enacted such mandates, highlighting substantial variation in state-level commitment to universal full-day kindergarten.

3 Data

Our primary data source for child maltreatment and abuse is the National Child Abuse and Neglect Data System (NCANDS), which provides monthly child-level reports and investigations with state and county identifiers. To complement these re-

ports with health service utilization outcomes, we utilize the State Inpatient Databases (SID) from the Healthcare Cost and Utilization Project (HCUP), which capture hospitalizations related to maltreatment across participating states. Additionally, we incorporate the National Vital Statistics System (NVSS) mortality files to examine the impacts of FDK mandates on child deaths associated with maltreatment. These data sources enable us to broadly measure the effect of FDK on maltreatment via reports and clinically verified cases of severe health outcomes, including hospitalizations and fatalities.

3.1 Nationwide Child Maltreatment Reports

Our study uses restricted-access administrative data from the NCANDS Child File, covering the period from 2004 to 2019.[1] NCANDS compiles case-level records from state Child Protective Services (CPS) agencies, providing national information on child abuse and neglect. Each record includes the maltreatment type, reporter source, and child demographics (age, sex, and race/ethnicity). While state definitions vary, Child Abuse Prevention and Treatment Act (CAPTA) provides a common framework with the main maltreatment categories of neglect, physical abuse, psychological maltreatment, and sexual abuse. Reports are classified as professional (mandated reporters such as educators, police, or medical/social services staff) or non-professional/unclassified.

Data are recorded at the month-year level with county-level geographic identifiers[2], allowing for the construction of a panel at the school-year frequency. We define a school year as September through May (e.g., SY 2004–05 covers September 2004 to May 2005) as the main sample. Since we are interested in the impact of FDK, which is mainly provided during the fall and spring semesters, summer months are excluded from the sample in our main analysis. School closure, including the summer and winter break periods, has lower report rates (Puls et al., 2021); we also observe similar trends (see Figure 4).[3] Our primary outcome is the maltreatment report rate

[1]However, not all the states reported child maltreatment starting in 2004; hence, the dataset is an unbalanced panel, as four states (North Dakota, Oregon, Vermont, and Wyoming) began reporting later.

[2]County identifiers are masked for counties with fewer than 700 reports; thus, primary analyses are conducted at the state level, consistent with FDK policy variation. For more granular analyses, smaller counties are aggregated into larger, stable units following Ali et al. (2024) and Evans et al. (2022).

[3]The full sample covering an entire school year from September to August is shown under subsec-

for five-year-olds per 1,000 children, aggregated by state, school year, and age group. Each child is counted once per report, while a child may appear in multiple reports, and a report can include multiple children.

We focus on physical abuse and physical abuse reports filed by educators regarding physical abuse as our primary outcomes, supported by several empirical and institutional considerations. First, physical abuse and neglect constitute the vast majority of reported maltreatment cases, accounting for approximately 70% of the total volume (see Table A.2) (Bitler and Zavodny, 2002; Currie and Spatz Widom, 2010; Evans et al., 2022). [4] While neglect is prevalent, physical signs of abuse (such as bruises, welts, or distinct behavioral changes) are often more readily detectable by teachers compared to the more subtle or chronic manifestations of neglect. Furthermore, Table 1 (reporting sources for physical abuse) reveals a significant structural trend: educational personnel emerge as the predominant source of physical abuse reports (40%), significantly outpacing other professional groups such as social services, mental health, and medical staff. [5] We also specifically examine reporting rates by educators within physical abuse. This focus is motivated by the institutional shift from half-day kindergarten (HDK) to full-day kindergarten (FDK), which substantially increases children's time in school. This transition heightens their exposure to teachers and school personnel, who serve as mandated reporters and play a pivotal role in the early detection and reporting of suspected maltreatment.

3.2 Underlying Maltreatment: Hospitalizations and Fatalities

We first use the State Inpatient Databases (SID) from the Healthcare Cost and Utilization Project (HCUP), developed by the Agency for Healthcare Research and Quality (AHRQ) to capture the potential incidence and severe realizations of maltreatment. The SID contains universe inpatient discharge records from community

tion C.1 as one of the robustness checks.

[4] We also present results for total reports, substantiated reports, and other maltreatment types in **??** to provide a broader perspective on detection and monitoring. A substantiated report is one where a Child Protective Services investigation finds sufficient evidence to support the allegation under state law. While substantiation is often viewed as a proxy for severity, existing research suggests that children in unsubstantiated cases often face risk factors and developmental outcomes remarkably similar to those in substantiated cases (Hussey et al., 2005; Kohl et al., 2009).

[5] For comparison, while educators account for approximately one-fifth of total maltreatment reports (see Table A.2), their contribution nearly doubles in the case of physical abuse. This disproportionate share underscores the critical role school personnel play in identifying observable physical injuries.

hospitals and captures all hospital admissions regardless of payer. Each record includes detailed clinical information, including principal and secondary diagnoses and procedures, patient demographics, admission status, expected payment source, total charges, and length of stay. These cases represent clinically verified instances of abuse or neglect that are severe enough to require inpatient care, but are non-fatal.

We then examine maltreatment-related fatalities using restricted-access mortality files from the National Vital Statistics System (NVSS) (NCHS/NVSS, 2004-2019). The NVSS provides comprehensive national coverage of all deaths, including demographic information and cause-of-death classifications. These deaths capture the most extreme outcomes of maltreatment.

For both hospitalizations and fatalities, the cases identified using ICD-9 and ICD-10 diagnosis codes, including both direct maltreatment codes and external-cause codes indicative of assault or injury, following established approaches in the literature (see Table A.3). The analysis focuses on children aged 5 (or 5-9 for death record), the smallest age group consistently available across data sources. [6] Outcomes are aggregated at the state-school year-age group level and normalized by the population of per 100,000 children, ensuring comparability across states and over time.

3.3 Additional Data Sources

We supplement our analysis with several external datasets. The Current Population Survey (CPS) October Education Supplement provides information on kindergarten enrollment patterns (e.g., full-day vs. half-day and public vs. private enrollment rates), which we use to assess the first-stage effects of FDK mandates on school attendance. State population counts are drawn from the Surveillance, Epidemiology, and End Results (SEER) Program. To capture state-level time-varying characteristics, we use child (0-17 year old) poverty rates from the Small Area Income and Poverty Estimates (SAIPE), and labor market participation rates from the American Community Survey (ACS). Unemployment rates and state level welfare data such as Women, Infants and Children (WIC) participation and Medicaid beneficiaries are collected by the University of Kentucky Center for Poverty Research (UKCPR).

[6] The limitation for not only focus on kindergarteners because this is the smallest age group available in restricted-use mortality files.

3.4 Summary Statistics

We present the summary statistics in Table 1 for the NCANDS child physical abuse data, restricted to reports involving five-year-old children from school years 2005 to 2019. The unit of observation is the state-by-year maltreatment report rate per 1,000 children. The first column reports averages across all states and years; the second column focuses on FDK mandate states during the years the mandate was in effect; and the third column reports averages for states that never adopted the mandate, as well as for treated states prior to implementation.

The first panel reports the primary outcome (physical abuse rates), while the second and third panels present the distribution of report sources and child characteristics, respectively. On average, approximately 9.5 children per 1,000 are reported for physical abuse, with educators and parents, relatives, and neighbors accounting for 41% and 15% of these reports, respectively. Comparing groups, FDK mandate states show higher reporting rates than non-FDK states. [7]

4 Empirical Strategy

To investigate the causal estimates on full-day kindergarten and child maltreatment reports, we utilize staggered difference-in-differences approach and event-study specification. Under the assumption of parallel trends and no anticipation of availability of the FDK mandate from households, our DID estimates show how the FDK mandate impacts child maltreatment and maltreatment-induced fatalities. We estimate the following difference-in-differences and event study model [8]:

[7] Table A.2 shows summary statistics for total child maltreatment among five-year-olds from school years 2005 to 2019. On average, 47 children per 1,000 are reported for maltreatment, with 52% and 23% of cases involving some form of neglect and physical abuse, respectively. Among different report sources, educational personnel (23%), parents/relatives/neighbors (19%), and mental health personnel (15%) constitute the three highest categories. The report rates for FDK mandate states remain higher than those for non-FDK states.

[8] Because traditional two-way fixed effects (TWFE) regressions are biased under staggered adoption when treatment effects vary over time (De Chaisemartin and d'Haultfoeuille, 2020; Goodman-Bacon, 2021; Sun and Abraham, 2021; Callaway and Sant'Anna, 2021), we adopt the two-stage Difference-in-Differences approach of Gardner (2022). The model can be presented as:

$$Y_{(0)st} = \phi_s + \sigma_{rt} + \gamma X_{st} + \epsilon_{st} \tag{1}$$

$$Y_{st} = \alpha + \Phi Mandate_{st} + \gamma X_{st} + \phi_s + \sigma_{rt} + \epsilon_{st} \tag{3}$$

$$Y_{st} = \alpha + \sum_{n=-5,\ n\neq -1}^{5} \rho_n Mandate_{st} + \gamma X_{st} + \phi_s + \sigma_{rt} + \epsilon_{st} \tag{4}$$

Y_{st} denotes child maltreatment outcomes in state s and year t, measured either as maltreatment reports per 1,000 five-year-old children or maltreatment-induced fatalities per 100,000 children aged 5–9. Equation 3 presents the difference-in-differences specification, where $Mandate_{st}$ is a binary indicator for the implementation of Full-Day Kindergarten (FDK) mandates in state s in year t. The coefficient Φ captures the causal effect of FDK mandates on outcomes of interest. X_{st} includes time-varying state-level covariates, such as the child poverty rate, unemployment rate, labor force participation, and demographic composition (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic). ϕ_s and σ_{rt} represent state, year by region (Northeast, Midwest, South, and West) fixed effects, controlling for unobserved, time-invariant state characteristics and common temporal shocks. All regressions are weighted by the relevant age-group populations and standard errors are clustered at the state level. Equation 4 presents the event-study specification, which estimates the dynamic effects of FDK mandates on child maltreatment and fatality outcomes and allows for testing of the parallel trends assumption.

$$\hat{Y}_{(1)st} - \hat{Y}_{(0)st} = \Phi Mandate_{st} + \zeta_{st} \tag{2}$$

The advantage of Gardner (2022) is that it relies only on the not-yet-treated and never-treated groups to identify policy effects, while including fixed effects and covariates. This approach avoids the bias that arises under staggered rollout when treatment effects are heterogeneous. In the second stage, the estimated parameters are used to residualize the outcome through an imputation procedure, which delivers more robust and reliable estimates.

5 Result

5.1 First-Stage Evidence: State Full Day Kindergarten Mandates Shape Kindergarten Enrollment

We first establish the effect of state-level FDK mandates on school enrollment patterns for five-year-olds, with results presented in Table 2. Columns (1) and (2) show the enrollment rate changes in any school and any kindergarten program impacted by the FDK mandates, indicating the extensive margin of the program. Our findings suggest that the mandates do not operate on the extensive margin, although the estimates are positive.

Importantly, the policy's primary impact was a significant compositional shift in the types of kindergarten programs that children attended. The share of kindergarteners in full-day programs surged by 6.9 percentage points, a 9.5% rise over the baseline (Column (3)). Column (4) reports an 8.4 percentage point increase in public full-day kindergarten enrollment among those attending any kindergarten, while Column (5) shows a negative but statistically insignificant change in private full-day enrollment. This pattern suggests that the mandates lead to more 5-year-old children effectively enrolling in full-day kindergarten, particularly in public programs.

5.2 Main Results: Full Day Kindergarten Mandates and Child Maltreatment Reports

Table 3 presents our main estimates of the effects of Full-Day Kindergarten (FDK) mandates on child physical abuse reporting rates. The outcome variables are the number of reports per 1,000 children, and the sample excludes summer periods as mentioned in section 3. Across columns, we progressively add controls and fixed effects. All specifications include state and year fixed effects. Columns (2) additionally incorporate region-by-year fixed effects to account for differential regional trends. Columns (3) further control for demographic characteristics, while Columns (4), our preferred specifications, add economic and policy covariates.

In our preferred specification, FDK mandates lead to an increase in physical

abuse reports by 3.3 per 1,000 children (Column (4) of Table 3). Relative to the baseline mean of 9.4, this implies an approximately 36 percent increase in reporting. The stability of the estimates across specifications suggests that the results are not driven by observable demographic or policy differences across states.[9]

Figure 5 displays the event study to support Table 3. The estimated coefficients for the pre-treatment period are mostly close to zero and statistically insignificant at the 5 percent level. While the point estimates at period -3 exhibit some minor fluctuation, there is no evidence of a systematic upward or downward trend leading up to the policy change. This supports the validity of our identifying assumption that mandate and non-mandate states followed similar trajectories in maltreatment reporting prior to policy adoption. Following the implementation of FDK mandates (year 0), we observe an immediate increase in maltreatment reporting. The coefficients jump and remain consistently above the baseline throughout the next five-year post-event window.

To comprehensively consider how FDK affects the maltreatment report pattern, we also display total and substantiated reports, as well as other maltreatment types (Table B.2). The results show that FDK mandates lead to marginally significant increases in total child maltreatment and substantiated reports by 13.5 (Column (1)) and 1.7 (Column (2)) per 1,000 children, respectively. While the standard errors are relatively large for substantiated reports, the positive point estimates suggest that increased reporting is not limited to unsubstantiated cases. Instead, these findings are consistent with improved identification of genuine maltreatment cases. Furthermore, the policy also increases neglect reports by 10.5 per 1,000 children (Column (3)). However, this lack of precision prevents us from drawing firm causal conclusions, although the direction of the effect aligns with that of physical abuse and represents a substantial increase (about 45 percent). Overall, the results suggest that FDK mandates improve allegations of child maltreatment rather than reflecting shifts in classification or reporting behavior across categories. Taken together, the most pronounced effect is on physical abuse. This aligns with the detectability hypothesis that physical injuries or distinct behavioral shifts are more readily identified compared to other types of maltreatment.

[9]We do consider the heterogeneity across different racial and ethnic groups (Table B.1). The increase in reporting is broad-based, with significant positive effects observed for White (2.30), Black (0.78), and Hispanic children (0.84). When scaled by their respective baseline means, the proportional impact remains substantial across these subgroups, suggesting that the heightened detection provided by full-day kindergarten programs benefits children from diverse backgrounds.

5.3 Full Day Kindergarten Mandates and Maltreatment Related Hospitalizations and Fatalities

Table 4 examines whether the expansion of full-day kindergarten affects severe child maltreatment outcomes, as measured by maltreatment-related fatalities. Figure 6 shows its event study pattern. This analysis provides an important baseline for interpreting the increases in reporting documented in Table 3 (and Table B.2). If FDK mandates increase the underlying incidence of maltreatment, we would expect to observe corresponding increases in severe outcomes such as fatalities. In contrast, if the main effects reflect improved detection and reporting, child mortality rates due to maltreatment should remain unchanged (or possibly decrease).

Across all specifications, we find no statistically significant effect of FDK mandates on child maltreatment–related fatalities, although the estimate is negative (-0.0031 under column (4)). The absence of detectable changes in fatal maltreatment provides important context for interpreting the earlier findings. Despite large increases in overall reports, specific categories such as physical abuse and neglect, do not show corresponding increases in the most severe outcomes.

Taken together, these results suggest that full-day kindergarten primarily improves the detection and reporting of maltreatment rather than raising its underlying incidence. By increasing the time children spend in structured school environments, FDK mandates likely enhance monitoring by mandated reporters and improve the early identification of at-risk children. The lack of effects on fatalities further suggests that the observed increases in reporting may reflect previously undetected or less severe cases being brought to the attention of authorities. More broadly, these findings highlight the role of educational institutions as a critical component of the child protection system. Expanding access to full-day schooling may strengthen early detection and intervention, potentially preventing maltreatment from escalating into more severe outcomes.

Hospitalizations analysis and results coming soon...

5.4 Who Reports Maltreatment Cases

Table 5 examines physical abuse reports filed specifically by educators. The goal of the analysis is to test whether the observed increases in allegations are driven by teachers and school staff improving detections because children have longer school hours and more contact with professionals. Table 5 follows the same empirical framework and specification structure as Table 3. The results show that FDK mandates lead to a marginally significant increase in educator-reported physical abuse by 1.2 per 1,000 children (Column (4)), suggesting a 30% increase compared to the baseline mean.

Beyond the increase in physical abuse reports from teachers, Table B.3 distinguishes between reports made by other professionals and non-professionals. The results reveal that the rise in physical abuse allegations is primarily driven by individuals who have relatively direct and sustained contact with children and their families. Specifically, FDK mandates lead to a significant increase in reports from parents by 0.35 per 1,000 children (Column (4)). Even more striking is the effect on reports from friends and neighbors, which increase by 0.33 per 1,000 children (Column (6)). Relative to their respective baseline means of 0.70 and 0.30, these estimates represent a substantial 49% and 108% increase in reporting from these sources. In contrast, the estimated decreases in reports from other sources, such as social workers (Column (1)) and law enforcement (Column (3)), though statistically insignificant, imply a shift in which teachers assume the role of first-line detection.

The significant rise in reports from parents, friends, and neighbors, which groups that often constitute the immediate social safety net around a child, suggests that the transition to full-day kindergarten may generate spillover effects in maltreatment detection. Several potential mechanisms may underlie this pattern. Fixed drop-off and pick-up schedules create regular opportunities for parents to gather and interact. Greater school involvement increases the child's overall visibility to adults in the community. Children themselves may develop stronger bonds with peers, encouraging more open communication that, in turn, strengthens informal social monitoring among neighbors. At the same time, the relatively large proportional increases in reports from parents and neighbors compared to teachers may be because non-professionals constitute a smaller baseline share of reporters, even modest absolute gains translate into sizable percentage increases. It is also possible that half-day kindergarten was quite sufficient for educator personnel to detect the most visible

and severe signs of abuse, whereas the community-level spillovers associated with full-day exposure are most pronounced among non-professional reporters who would otherwise have had less opportunity to observe the child. Overall, these findings complement the educator-led reporting results in Table 5 and provide a broader picture of how FDK mandates reshape the reporting landscape.

5.5 Robustness Checks

To assess the robustness of our main findings, we conduct several alternative specifications in this section. These tests examine whether our results are sensitive to different sample definitions, influential outliers, and measurement choices.

First, we re-estimate our primary models by including reports from the summer months (June through August). In our main analysis, these months were excluded to focus on the period when school-year supervision is most consistent. Under subsection C.1, the results for total physical abuse reports (Figure C.1), maltreatment-related fatalities (Figure C.2), as well as physical abuse reports filed specifically by educators (Figure C.3) are presented using this expanded sample.The results remain remarkably robust.

For physical abuse reports, the point estimate is 4.2 (Column (4)), which is a slight increase in magnitude as well as statistical significance compared to our baseline estimate of 3.3 (Table 3 Column (4)). Similarly, the impact of FDK on child maltreatment-related fatalities also remains non-significant (with a negative estimate) when including summer data. Lastly, the effect on educator-led reports remains positive and marginally significant. The stability of these coefficients suggests that the increased detection of physical harm under FDK mandates is not an artifact of school-year sample restrictions, but rather reflects a fundamental shift in the school's capacity to monitor and identify at-risk children.

On the other hand, the slightly larger point estimates in the full sample (Figure C.1) indicate that the strengthened monitoring networks (for both professional and informal reporters) established during the FDK school year likely persist beyond the instructional calendar. Another reason might be a reporting lag. Therefore, the fact that the FDK effect is not diluted by the summer months reinforces the conclusion that the mandate leads to a sustained increase in the detection capacity of the

child protection system.

Next, we further examine whether our results are disproportionately influenced by any single year or state. Figure C.4 and Figure C.5 present the "leave-one-year-out" analysis for total physical abuse reports and educator-led reports, respectively. Across all iterations, the point estimates remain positive and stable, with confidence intervals consistently excluding zero (Figure C.4). This suggests that the observed increase in maltreatment reporting is a general trend across the sample period (2005–2019) rather than being driven by a specific policy-heavy year. Figure C.5 shows a similar pattern of marginal significance for most cases. Similarly, we perform a "leave-one-state-out" sensitivity test to ensure that the results are not idiosyncratic to a particular state's reporting system. As illustrated in Figure C.6, the coefficients for physical abuse remain stable and statistically significant in most cases (except when dropping IN and MD, the estimates remain positive). Figure C.7 shows a pattern consistent with Figure C.5. These patterns confirm the robustness of our findings across those analyses.

Lastly, we report results using different functional forms (Table C.4), which include total report counts (Column (2)) and the natural logarithm of the rate (Column (3)). Across these specifications, FDK mandates still show a statistically significant positive effect (e.g., increases of 330 and 93 for total counts, as well as 0.36 and 0.25 log-point increases in physical abuse reports and reports filed by educators, respectively). The robustness across levels, counts, and logs ensures that our conclusions are not dependent on specific distributional assumptions of the maltreatment data.

6 Conclusion and Discussion

We examine the impact of state-level full-day kindergarten mandates on child maltreatment reports and maltreatment-related fatalities using detailed child-level data from the NCANDS and with fatality records from the NVSS. Leveraging state-level policy variation with difference-in-differences and event-study approaches, we find that FDK mandates increase physical abuse reports by 36 percent, with educators accounting for approximately 30 percent of these reports, while there are no detectable impacts on maltreatment-related fatalities. This rise aligns with the shift from half-day to full-day kindergarten enrollment, suggesting that FDK enhances at-

risk children's exposure to teachers and school personnel who can identify potential maltreatment.

Overall, our findings highlight the critical role of early educational settings and educators in detecting and addressing child maltreatment, demonstrating that schooling policies can play an important role in child welfare. These results suggest that expanding access to full-day kindergarten may serve not only educational goals but also function as a preventive mechanism to improve child safety and well-being.

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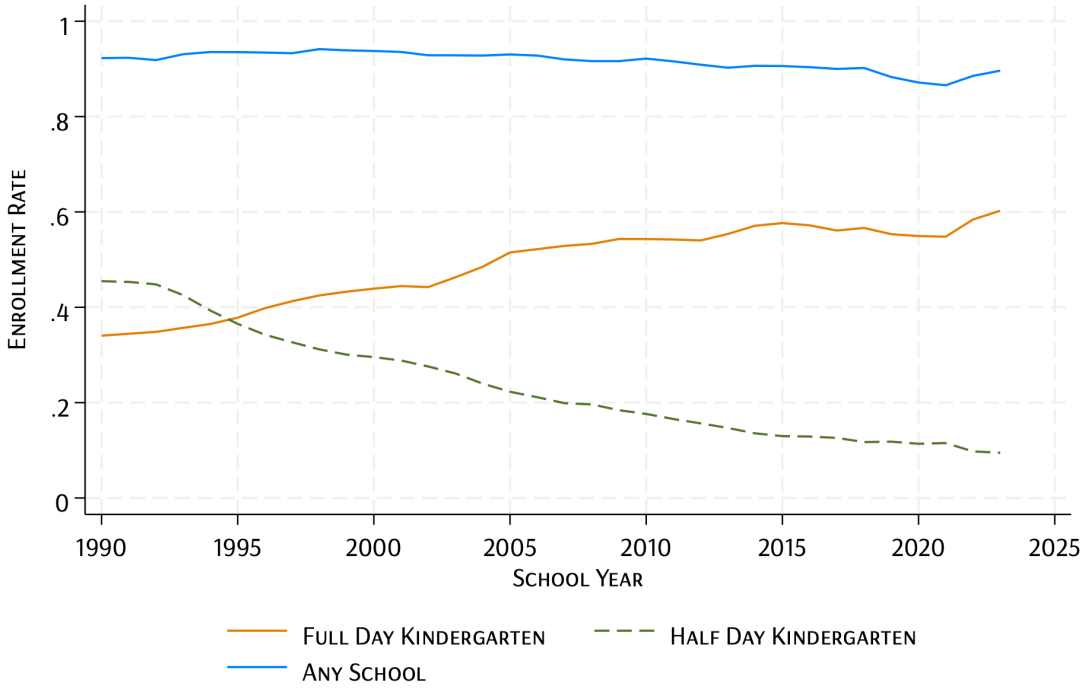
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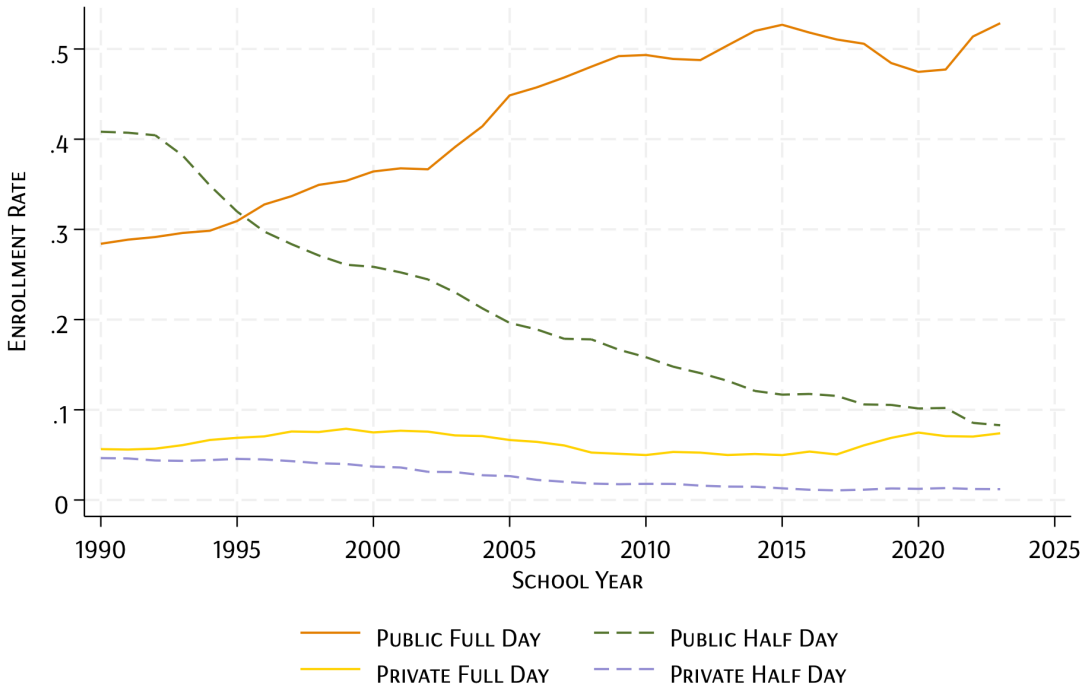
Figures

Figure 1: Early School Enrollment Rates for 5-Year-Olds Kids, SY1990–SY2023



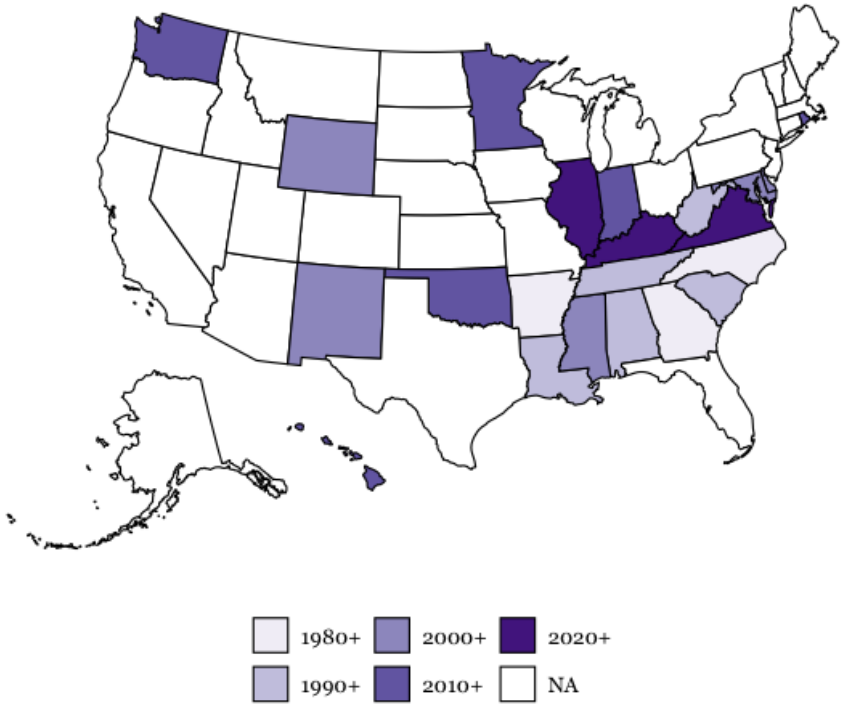
Note: Data come from the Current Population Survey (CPS) October School Education Supplement, SY1990–SY2023. Enrollment rates are weighted using education supplement weights and rolling with three years (-1,0,+1). Lines show the percentage of 5-year-old children enrolled in (1) full-day kindergarten, (2) half-day kindergarten, and (3) any school (including pre-K, kindergarten, and grades 1–2).

Figure 2: Public vs Private Kindergarten Enrollment for 5-Year-Olds Kids, SY1990–SY2023



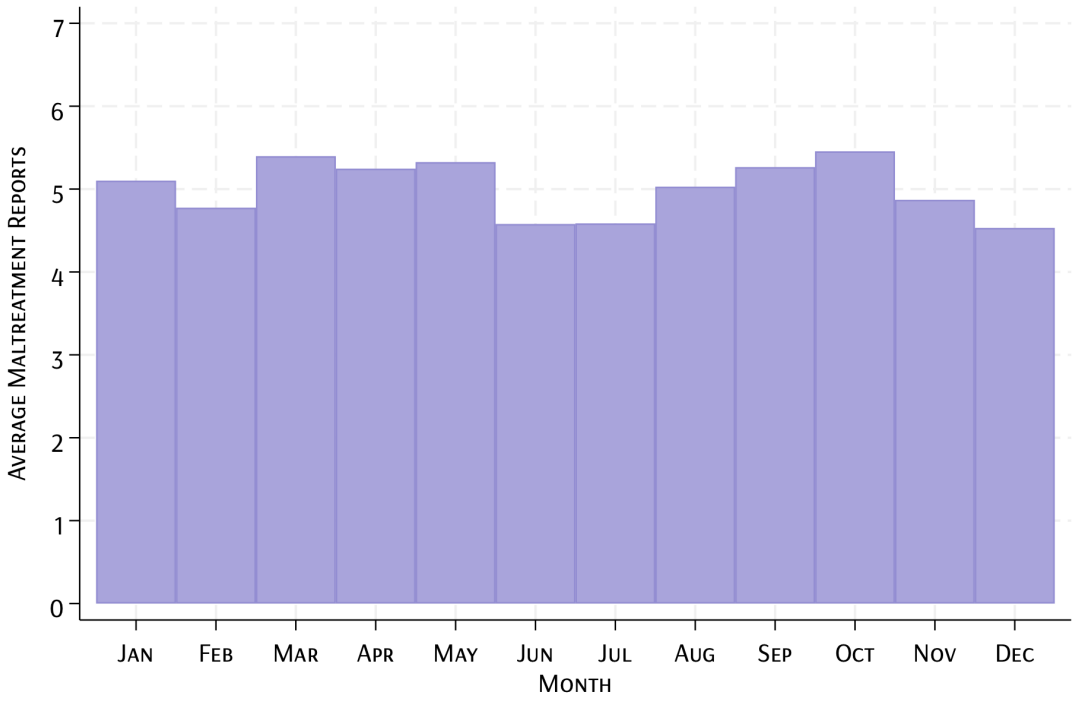
Note: Data come from the Current Population Survey (CPS) October School Education Supplement, SY1990–SY2023. Enrollment rates are weighted using education supplement weights and rolling with three years (-1,0,+1). Lines show the percentage of 5-year-old children enrolled in (1) public full-day kindergarten, (2) public half-day kindergarten, and (3) private full-day kindergarten (4) private half-day kindergarten. The solid line represents full-day kindergarten, while the dashed line represents half-day kindergarten.

Figure 3: Map of Full Day Kindergarten Mandates



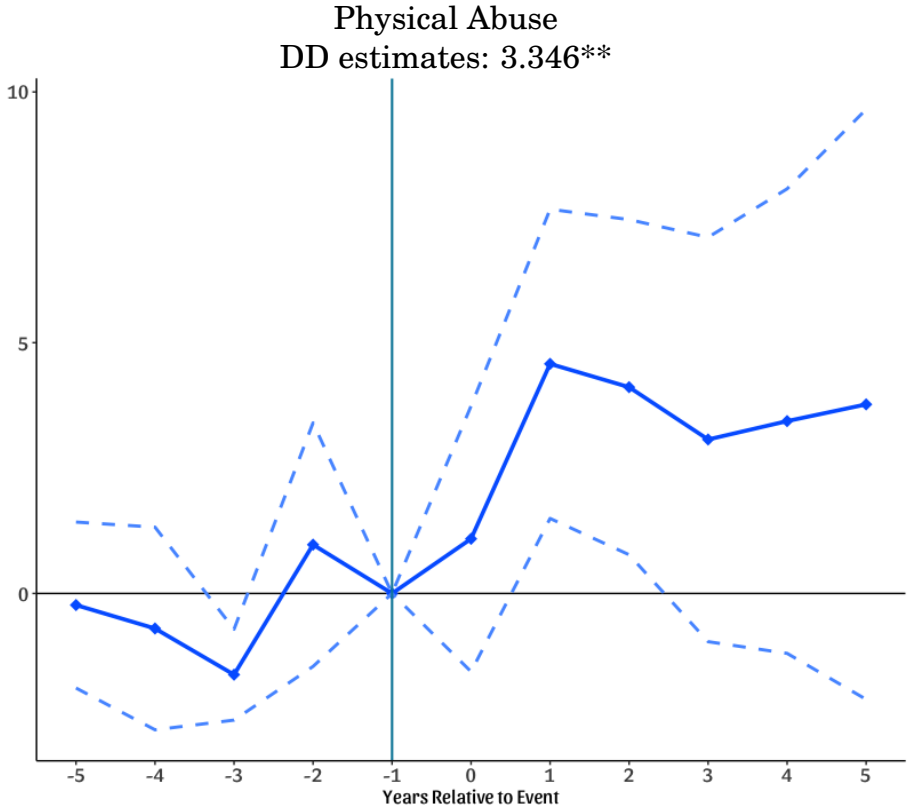
Note: Full-day kindergarten mandate policy years are reported in Table A.1. The map by authors (2025) follows the policy adoption years with decade version.

Figure 4: Average Monthly Reports for Kindergarten Child Maltreatment, SY2005-SY2019



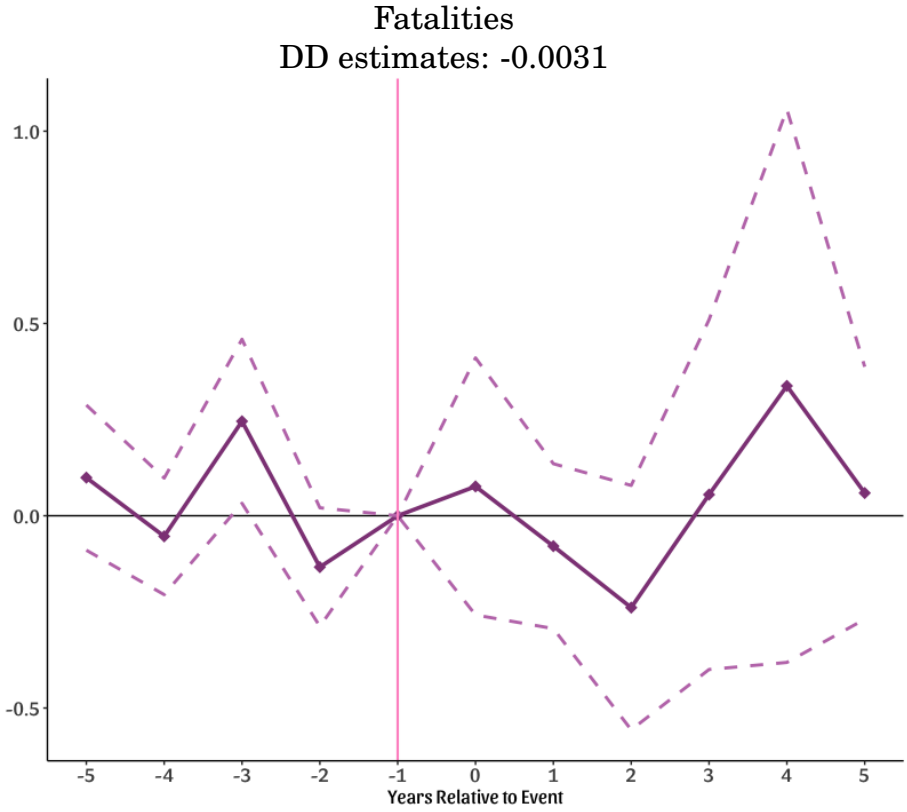
Note: The figure shows the average number of maltreatment reports per 1,000 children by month (January–December), based on report date. The sample includes all states from school years 2005–2019.

Figure 5: Main Event Study Results – Physical Abuse, SY2005–SY2019, Without Summer/Main Sample



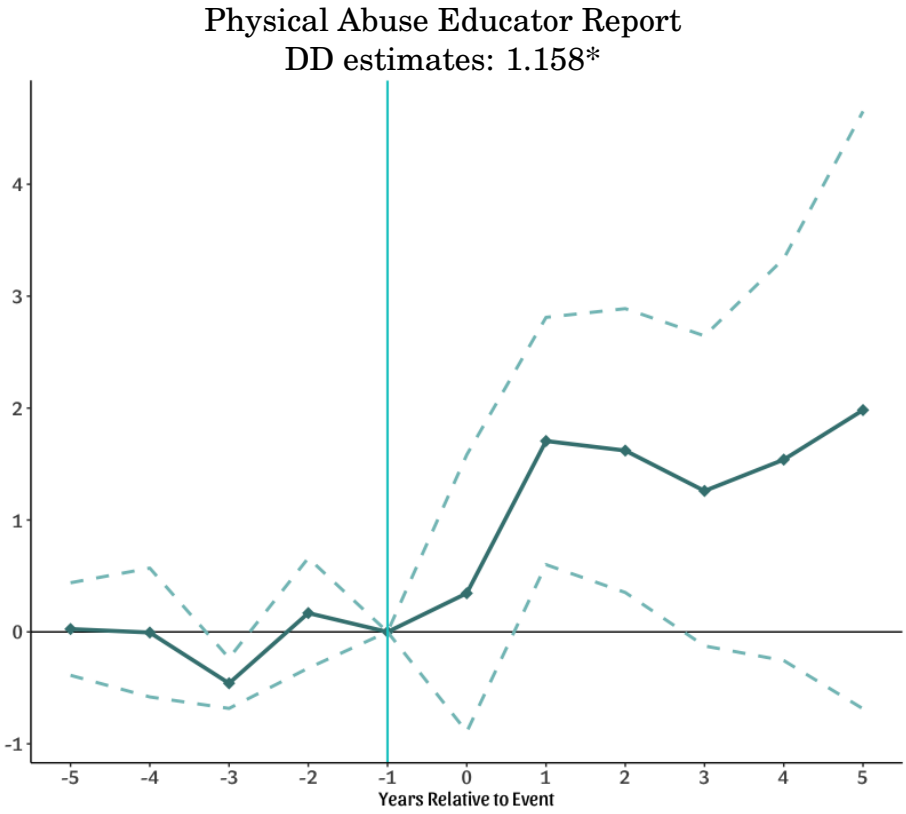
Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure 6: Event Study Results – Child Maltreatment–related Fatalities, SY2005–SY2019, Without Summer/Main Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5-9 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure 7: Main Event Study Results – Physical Abuse Educator Report, SY2005–SY2019, Without Summer/Main Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Tables

Table 1: Summary Statistics for Maltreatment Reports (Physical Abuse), SY2005-SY2019, Without Summer/Main Sample

	(1) All Sample		(2) FDK States		(3) No FDK States	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Main Outcome						
Physical Abuse	9.489	5.848	9.729	8.564	9.400	4.456
Report Sources						
Education Personnel	0.411	0.126	0.369	0.169	0.426	0.102
Social Service Personnel	0.075	0.063	0.080	0.094	0.073	0.047
Medical and Mental Health Personnel	0.093	0.042	0.079	0.049	0.098	0.037
Legal and Law Enforcement Personnel	0.085	0.045	0.086	0.055	0.085	0.041
Parents, Relatives, Neighbors	0.147	0.079	0.150	0.087	0.146	0.076
Anonymous Reporters	0.056	0.048	0.053	0.073	0.057	0.035
Child Characteristics						
1(Female)	0.414	0.031	0.419	0.034	0.412	0.029
1(White)	0.562	0.204	0.586	0.163	0.552	0.216
1(Black)	0.256	0.124	0.325	0.148	0.231	0.103
1(Hispanic)	0.234	0.183	0.116	0.100	0.278	0.187
1(Amer Indian/Alaska Native)	0.019	0.043	0.033	0.060	0.013	0.034
1(Asian)	0.021	0.029	0.020	0.049	0.021	0.017
N	751		299		452	

Note: Summary statistics are calculated using data from the National Child Abuse and Neglect Data System (NCANDS). Report sources and child characteristics are expressed as percentages of physical abuse reports. All statistics are weighted by the population of age 5 children.

Table 2: Effect of Full Day Kindergarten Mandate on 5-Year-Olds Kids Enrollment: CPS October School Education Supplement, SY2005-SY2019

	For all 5 Old-Kids		For any K		
	(1)	(2)	(3)	(4)	(5)
	Any School	Any K	Share of Full K	Share of Public Full K	Share of Private Full K
FDK Mandate	0.016	0.047	0.069*	0.084*	-0.014
	(0.011)	(0.034)	(0.041)	(0.048)	(0.015)
Fixed Effects					
State	x	x	x	x	x
Year	x	x	x	x	x
Region x Year	x	x	x	x	x
Controls					
Demographic	x	x	x	x	x
Economic & Policy	x	x	x	x	x
Baseline Mean	0.914	0.723	0.725	0.652	0.072
Percent change	1.6%	6.5%	9.5%	12.8%	19.4%
N	615	615	615	615	615

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by the education supplement weights. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table 3: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Physical Abuse), SY2005-SY2019, Without Summer/Main Sample

	Physical Abuse			
	(1)	(2)	(3)	(4)
FDK Mandate	2.396	3.445***	3.105**	3.346**
	(1.575)	(1.151)	(1.356)	(1.442)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	x
Controls				
Demographic			x	x
Economic & Policy				x
Baseline Mean	9.40			
N	601			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table 4: Effect of Full Day Kindergarten Mandate on Child Maltreatment–related Fatalities, SY2005-SY2019, Without Summer/Main Sample

	Fatalities			
	(1)	(2)	(3)	(4)
FDK Mandate	0.019	0.001	-0.035	-0.031
	(0.052)	(0.062)	(0.091)	(0.094)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	x
Controls				
Demographic			x	x
Economic & Policy				x
Mean	0.401			
N	626			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5-9 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table 5: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Physical Abuse Educator Report), SY2005-SY2019, Without Summer/Main Sample

	Physical Abuse Educator Report			
	(1)	(2)	(3)	(4)
FDK Mandate	0.777	1.096*	1.060*	1.158*
	(0.732)	(0.597)	(0.623)	(0.645)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	x
Controls				
Demographic			x	x
Economic & Policy				x
Baseline Mean	3.84			
N	601			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Appendix for "Full Day Kindergarten and Child Maltreatment"

A Appendix–Background and Data

Table A.1: State Policy Adoption Years for Full-Day Kindergarten

State	Mandate School Year
AL	1990-91
AK	.
AZ	.
AR	1984-85
CA	.
CO	.
CT	.
DC	2000-01
DE	2008-09
FL	.
GA	1987-88
HI	2012-13
ID	.
IL	2027-28
IN	2012-13
IA	.
KS	.
KY	2022-23
LA	1990-91
ME	.
MD	2007-08
MA	.
MI	.
MN	2014-15
MS	2006-07
MO	.
MT	.
NE	.
NV	.
NH	.
NJ	.
NM	2004-05
NY	.
NC	1985-86
ND	.
OH	.
OK	2013-14
OR	.
PA	.
RI	2016-17
SC	1998-99
SD	.
TN	1993-94
TX	.
UT	.
VT	.
VA	2022-23
WA	2017-18
WV	1996-97
WI	.
WY	2009-10

Note: Year refers to the policy adoption school year for each state Gibbs et al. (2025); states that never adopted the policy are shown as missing.

Table A.2: Summary Statistics for Maltreatment Reports (Total), SY2005-SY2019, Without Summer/Main Sample

	(1) All Sample		(2) FDK States		(3) No FDK States	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Outcomes						
Total reports Rate	46.607	18.794	48.730	24.188	45.826	16.321
Substantiated	9.449	5.184	9.139	5.554	9.563	5.041
Report Types						
Physical Abuse	0.228	0.136	0.213	0.114	0.234	0.143
Any Neglect	0.517	0.187	0.576	0.179	0.496	0.186
Sexual Abuse	0.069	0.052	0.066	0.038	0.070	0.057
Emotional Maltreatment	0.039	0.064	0.028	0.042	0.043	0.069
No Alleged Maltreatment	0.085	0.116	0.073	0.130	0.090	0.110
Report Sources						
Education Personnel	0.234	0.068	0.214	0.097	0.241	0.052
Social Service Personnel	0.089	0.056	0.092	0.082	0.087	0.043
Medical and Mental Health Personnel	0.103	0.038	0.088	0.048	0.108	0.031
Legal and Law Enforcement Personnel	0.152	0.057	0.132	0.064	0.160	0.052
Parents, Relatives, Neighbors	0.186	0.082	0.198	0.095	0.182	0.076
Anonymous Reporters	0.085	0.056	0.076	0.075	0.089	0.047
Child Characteristics						
1(Female)	0.474	0.015	0.479	0.018	0.472	0.013
1(White)	0.585	0.194	0.613	0.147	0.575	0.207
1(Black)	0.246	0.117	0.305	0.135	0.225	0.102
1(Hispanic)	0.215	0.180	0.099	0.094	0.258	0.185
1(Asian)	0.015	0.027	0.016	0.049	0.015	0.012
1(Amer Indian/Alaska Native)	0.022	0.053	0.038	0.068	0.016	0.045
N	751		299		452	

Note: Summary statistics are calculated using data from the National Child Abuse and Neglect Data System (NCANDS). Report types, sources and child characteristics are expressed as percentages of total reports. All statistics are weighted by the population of age 5 children.

Table A.3: ICD-10 Code for Maltreatment Related Fatalities

ICD-10	**Cause of Death**
T74.(0, 1, 2, 3, 8, 9)	Neglect or abandonment, Physical Abuse, Sexual Abuse, Psychological abuse, Other maltreatment syndromes
X85-99	Assault (homicide) by drugs, medicaments, and biological substances; corrosive substance; pesticides, gases and vapors; other specified chemicals and noxious substances; unspecified chemical or noxious substance; hanging, strangulation, and suffocation; drowning and submersion; handgun discharge; rifle, shotgun, and larger firearm discharge; other and unspecified firearm discharge; explosive material smoke, fire, and flames; steam, hot vapors, and hot objects
Y00-05, 08, 09	Assault (homicide) by sharp/blunt object; pushing or placing victim before moving object; crashing of motor vehicle; by bodily force; Assault (homicide) by other specified means, unspecified means Sexual assault (homicide) by bodily force;
Y06.(0, 1, 2, 8, 9)	Neglect and abandonment, by spouse or partner, parent, acquaintance or friend, other specified persons, unspecified person
Y07.(0, 1, 2, 3, 8, 9)	Other maltreatment syndromes, by spouse or partner, parent, acquaintance or friend, other specified persons, unspecified person

Note: Full list of ICD-10 code is available here: https://www.cdc.gov/nchs/

B Appendix–Additional Results

Table B.1: Heterogeneity by Race–Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Physical Abuse), SY2005-SY2019, Without Summer/Main Sample

	White	Blakc	Hispanic	American Indian	Asian
FDK Mandate	2.300**	0.782**	0.836***	0.069	0.056*
	(1.151)	(0.352)	(0.267)	(0.070)	(0.030)
Fixed Effects					
State	x	x	x	x	x
Year	x	x	x	x	x
Region x Year	x	x	x	x	x
Controls					
Demographic	x	x	x	x	x
Economic & Policy	x	x	x	x	x
Baseline Mean	5.60	2.30	2.48	0.11	0.17
N	601	601	601	601	601

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table B.2: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Other Types Results), SY2005-SY2019, Without Summer/Main Sample

	(1) Total	(2) Substantiated	(3) Any Neglect	(4) Sexual Abuse	(5) Emotional	(6) No Alleged
FDK Mandate	13.499*	1.686	10.530	0.818*	0.331	-1.499
	(7.733)	(1.110)	(7.188)	(0.447)	(0.280)	(1.235)
Fixed Effects						
State	x	x	x	x	x	x
Year	x	x	x	x	x	x
Region x Year x	x	x	x	x	x	x
Controls						
Demographic	x	x	x	x	x	x
Economic & Policy	x	x	x	x	x	x
Baseline Mean	45.83	9.56	23.57	2.62	1.80	4.63
N	601	601	601	601	601	601

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table B.3: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Other Reporter Results), SY2005-SY2019, Without Summer/Main Sample

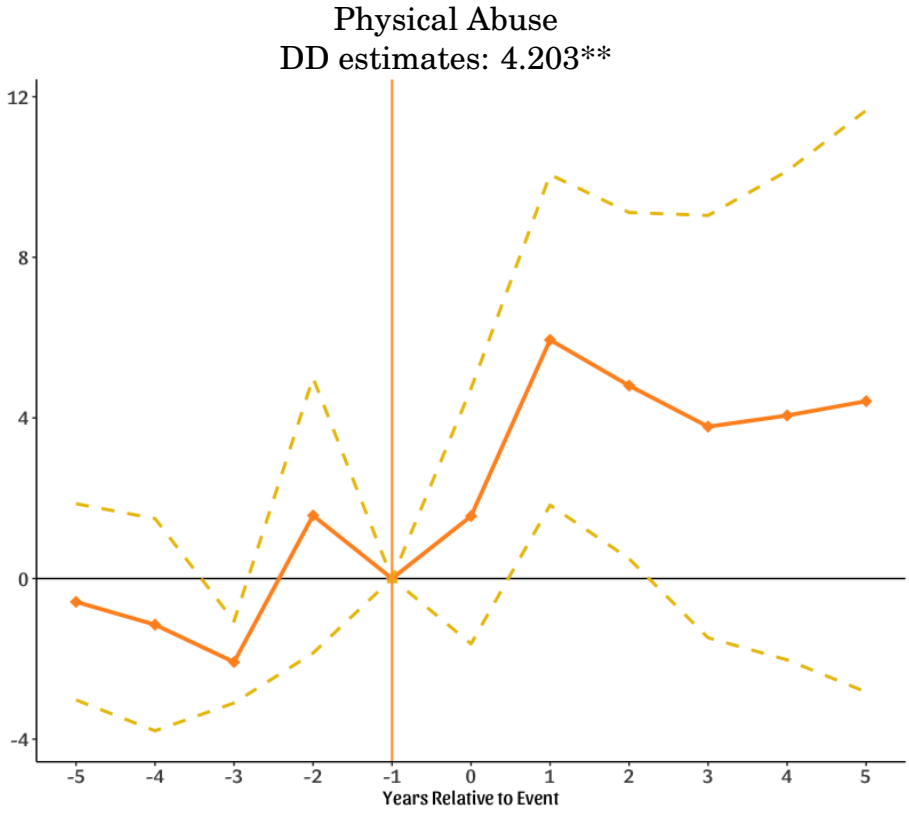
	(1) Social	(2) Medical and Mental Health	(3) Legal and Law	(4) Parents	(5) Relatives	(6) Friends and Neighbors	(7) Anonymous
FDK Mandate	-0.188	0.141	-0.021	0.346**	0.207	0.326***	0.214
	(0.216)	(0.207)	(0.229)	(0.144)	(0.142) (0.106)	(0.203)	
Fixed Effects							
State	x	x	x	x	x	x	x
Year	x	x	x	x	x	x	x
Region x Year	x	x	x	x	x	x	x
Controls							
Demographic	x	x	x	x	x	x	x
Economic & Policy	x	x	x	x	x	x	x
Baseline Mean	0.71	0.89	0.81	0.70	0.57	0.30	0.58
N	601	601	601	601	601	601	601

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

C Appendix–Robustness Figures and Tables

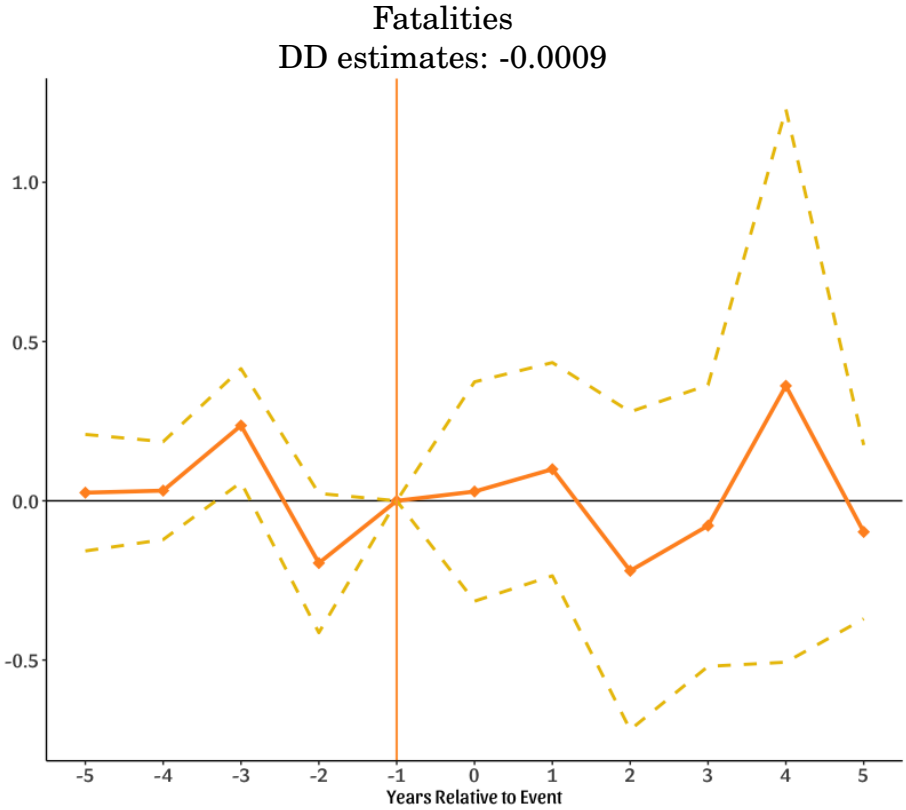
C.1 With Summer/Full Sample

Figure C.1: Main Event Study Results – Physical Abuse, SY2005-SY2019, With Summer/Full Sample



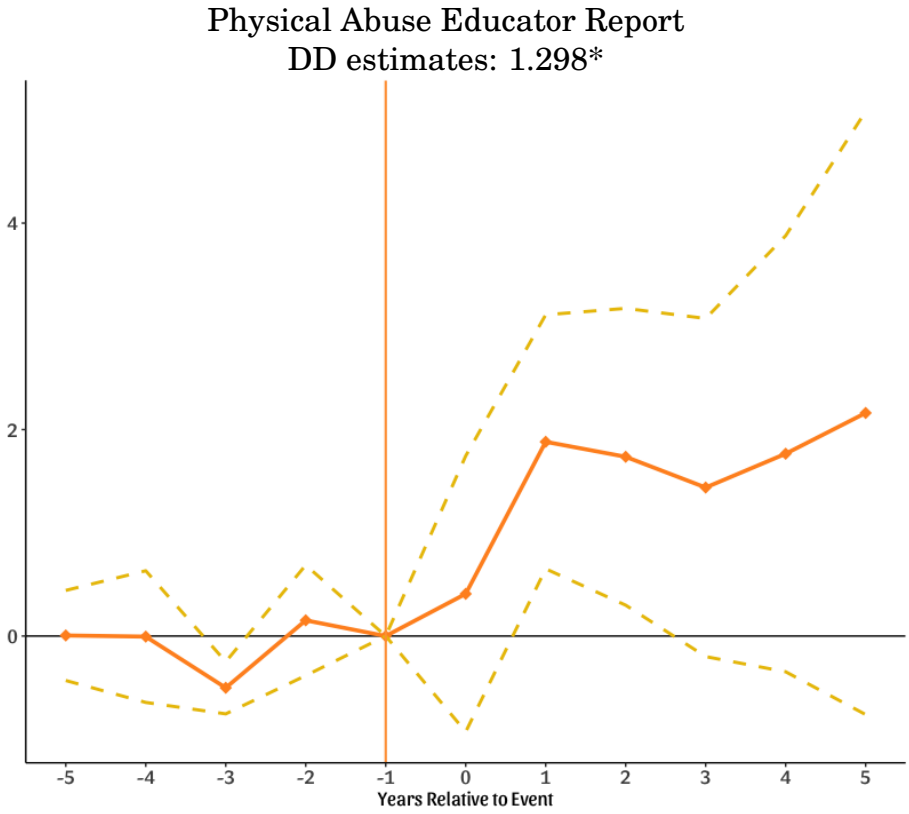
Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure C.2: Event Study Results – Child Maltreatment–related Fatalities, SY2005-SY2019, With Summer/Full Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5-9 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure C.3: Main Event Study Results — Physical Abuse Educator Report, SY2005-SY2019, With Summer/Full Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table C.1: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Physical Abuse), SY2005-SY2019, With Summer/Full Sample

	Physical Abuse			
	(1)	(2)	(3)	(4)
FDK Mandate	2.997	4.348***	3.879**	4.203**
	(2.046)	(1.513)	(1.781)	(1.890)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	x
Controls				
Demographic			x	x
Economic & Policy				x
Baseline Mean	11.62			
N	601			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table C.2: Effect of Full Day Kindergarten Mandate on Child Maltreatment–related Fatalities, SY2005-SY2019, With Summer/Full Sample

	Fatalities			
	(1)	(2)	(3)	(4)
FDK Mandate	0.015	0.033	0.033	-0.009
	(0.068)	(0.090)	(0.090)	(0.104)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	x
Controls				
Demographic			x	x
Economic & Policy				x
Mean	0.554			
N	614			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5-9 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

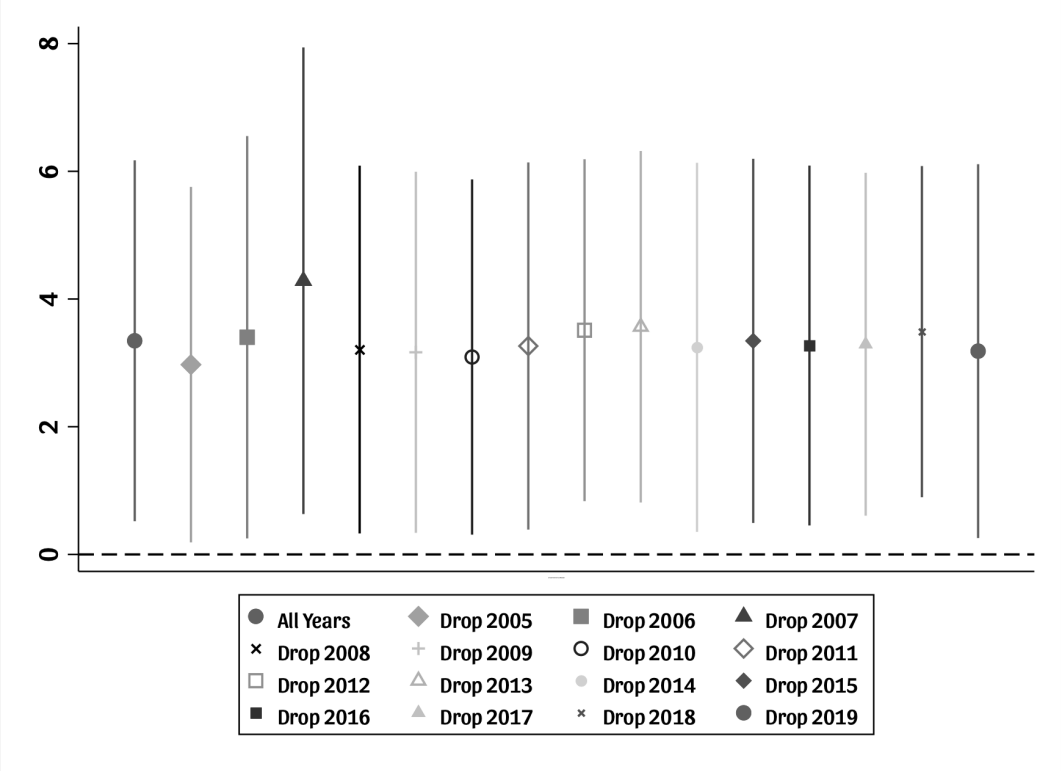
Table C.3: Effect of Full Day Kindergarten Mandate on Child Maltreatment Report (Physical Abuse Educator Report), SY2005-SY2019, With Summer/Full Sample

	Physical Abuse Educator Report			
	(1)	(2)	(3)	(4)
FDK Mandate	0.879	1.219*	1.183*	1.298*
	(0.834)	(0.690)	(0.713)	(0.737)
Fixed Effects				
State	x	x	x	x
Year	x	x	x	x
Region x Year		x	x	
Controls				
Demographic			x	x
Economic & Policy				x
Baseline Mean	4.11			
N	601			

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

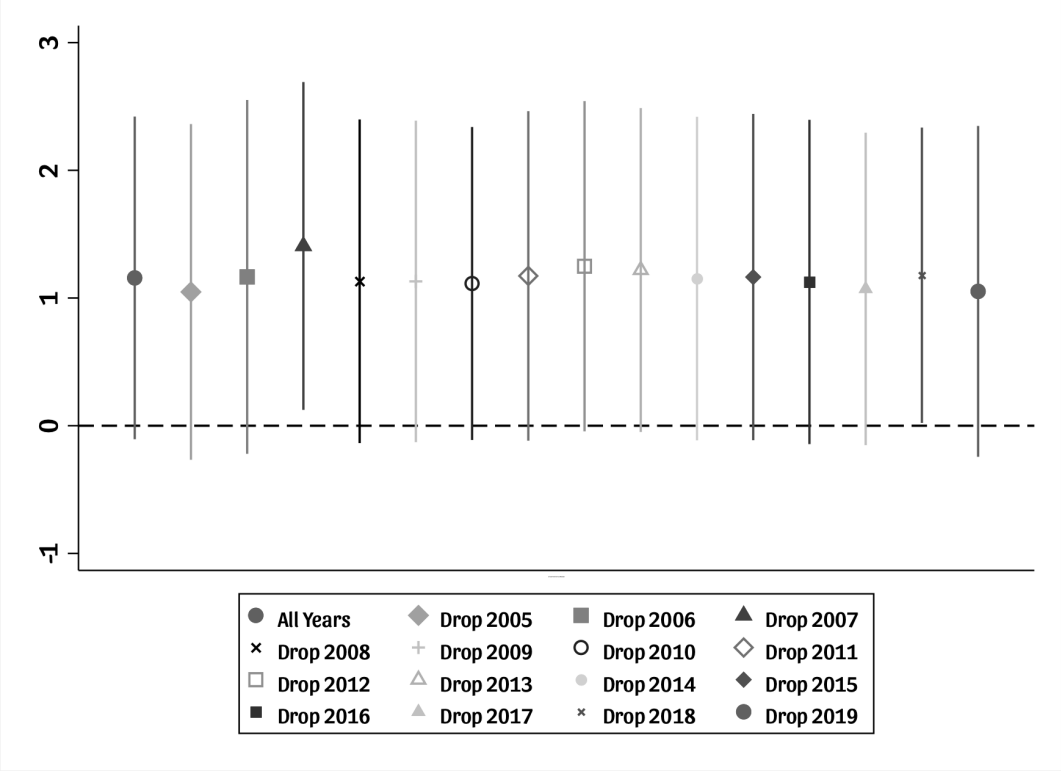
C.2 Additional Robustness Check

Figure C.4: Robustness (1A) Leave One Year Out Analysis – Effect of Full Day Kindergarten Mandate on Child Maltreatment Report(Physical Abuse)), SY2005-SY2019, Without Summer/Main Sample



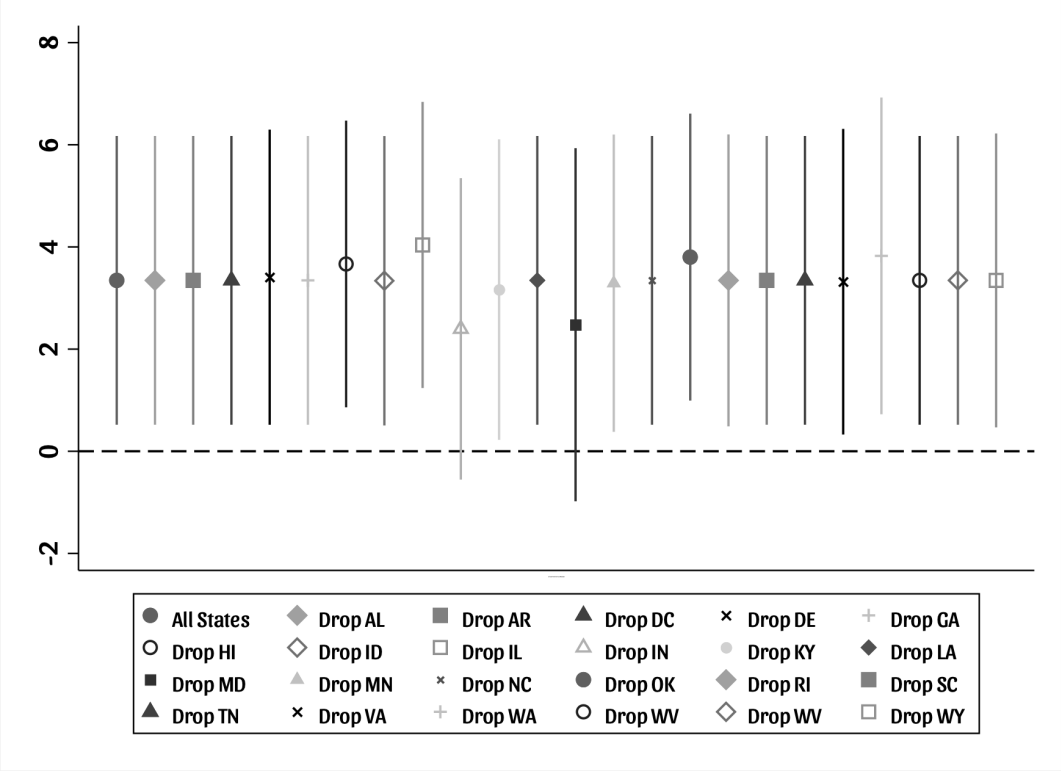
Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure C.5: Robustness (1B) Leave One Year Out Analysis – Effect of Full Day Kindergarten Mandate on Child Maltreatment Report(Physical Abuse Educator Report)), SY2005-SY2019, Without Summer/Main Sample



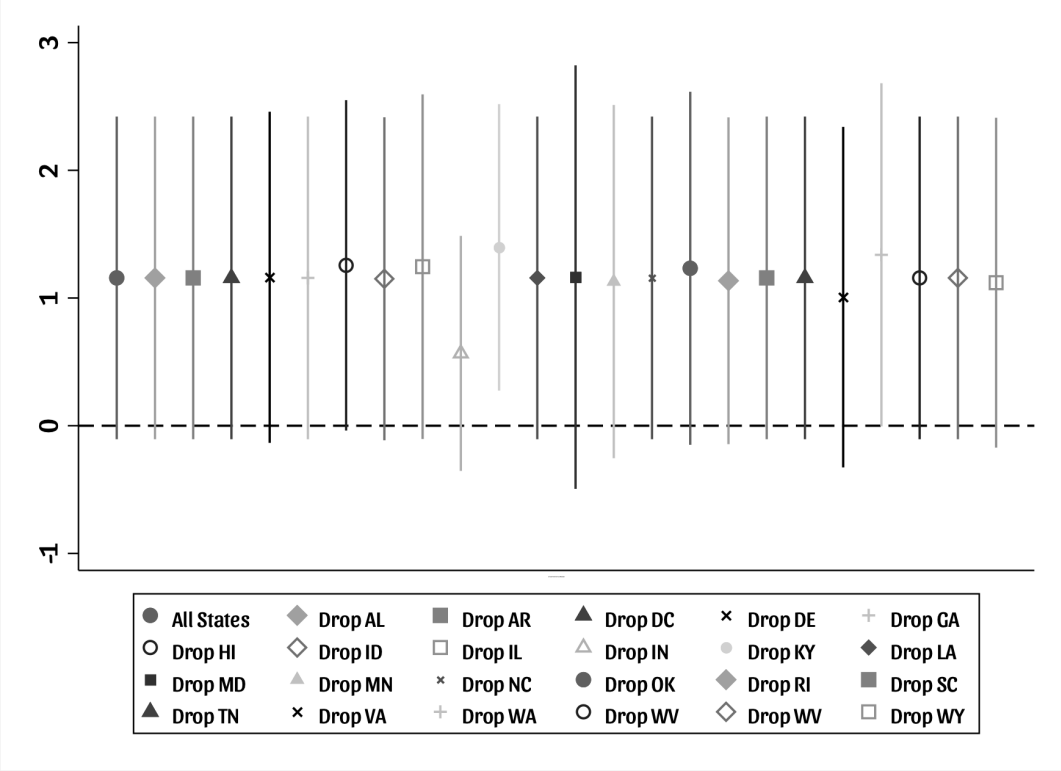
Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure C.6: Robustness (2A) Leave One FDK State Out Analysis – Effect of Full Day Kindergarten Mandate on Child Maltreatment Report(Physical Abuse)), SY2005-SY2019, Without Summer/Main Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Figure C.7: Robustness (2B) Leave One FDK State Out Analysis – Effect of Full Day Kindergarten Mandate on Child Maltreatment Report(Physical Abuse Educator Report)), SY2005-SY2019, Without Summer/Main Sample



Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.

Table C.4: Robustness (Different Functional Forms)–Effect of Full Day Kindergarten Mandate on Child Maltreatment Report, SY2005-SY2019, Without Summer/Main Sample

	Physical Abuse			Physical Abuse Educator Report		
	(1) Rate	(2) Count	(3) Logarithm(rate)	(4) Rate	(5) Count	(6) Logarithm(rate)
FDK Mandate	3.346**	329.999**	0.360***	1.158*	93.049*	0.248**
	(1.442)	(144.693)	(0.116)	(53.722)	(0.645)	(0.121)
Fixed Effects						
State	x	x	x	x	x	x
Year	x	x	x	x	x	x
Region x Year	x	x	x	x	x	x
Controls						
Demographic	x	x	x	x	x	x
Economic & Policy	x	x	x	x	x	x
Baseline Mean	9.40	2027.22	2.25	3.85	832.57	1.52
N	601	601	601	601	601	601

Note: OLS coefficients are reported. We employ the Two-Stage Difference-in-Differences estimator of Gardner (2022). The set of controls includes county-level population demographics (age shares 20–34, 35–49, 50–64, and 65+; race/ethnicity shares of White, Black, and Hispanic), child poverty rate, unemployment rate, labor force participation rate, log of WIC participants and log of Medicaid beneficiaries. The specification further includes state fixed effects and region-by-year fixed effects. Observations are weighted by population of 5 year-old kids. Standard errors are clustered at the state level. ***, **, * represent statistical significance at 1, 5, and 10 percent levels.