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Corporal Punishment and Learning Outcomes: Evidence from Primary Schools in Uganda

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Corporal Punishment and Learning Outcomes: Evidence from Primary Schools in Uganda

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Abstract

This paper examines the impact of corporal punishment (CP) on learning outcomes in primary schools in Uganda. Using nationally representative pupil and school-level data linked to household information, I exploit exogenous variation in awareness campaigns as an instrument for CP to identify causal effects. On average, exposure to CP reduces the probability of being proficient in English by 6.6 percentage points and in Mathematics by 7.7 percentage points. Moreover, the negative effect of CP is strongest in communities where corporal punishment is socially disapproved, while it is comparatively smaller in areas where CP is normalized. These findings underscore the need to pair enforcement with interventions that shift social norms and promote non-violent discipline in schools.

Keywords: Corporal punishment, learning outcomes, Educational Policy, Primary school

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1 Introduction

Schools are meant to be safe and transformative environments that promote children's learning and development (UNICEF, 2023). However, across Africa, corporal punishment (CP) remains widespread in schools despite increasing legal prohibitions against the practice. Estimates show that approximately 70 percent of children in sub-Saharan Africa experience corporal punishment during their school years, making the region one of the most affected globally (UNICEF & UNESCO, 2019). In Uganda despite being outlawed, survey evidence shows 3 in 4 children (75 percent) still suffer physical violence annually (MGLSD, 2018) while 70 percent of the primary schools report using CP as a disciplinary measure (UWEZO, 2024). Children who experience CP in school are more likely to miss school due to injuries and fear for teachers (Awonyi, 2021; WHO, 2025) but also suffer mental health issues such as aggressive behaviour which can persist even in their adulthood (Visser, van der Put & Assink, 2022; Gershoff et al., 2017).

The United Nations Committee on the Rights of the Child defines corporal punishment as any physical punishment intended to cause bodily pain for the purpose of correcting a child's behaviour (UN, 2007). CP manifests in different forms such as caning, paddles, excessive exercise drills, or requiring students to assume painful body positions in homes, schools or in the judicial court system (Gershoff & Font, 2016). In a school setting, CP is mostly perpetuated by teachers who consider it an effective measure for correcting misbehaviour. (Wodon et al., 2021; Ogando Portela & Pells, 2015).

A growing literature examines the effects of corporal punishment (CP) on children's outcomes, with mixed evidence across contexts. Several studies document negative consequences for academic performance, school attendance, and socio-emotional development. For instance, using longitudinal data from the Young Lives study in the state of Andhra Pradesh in South India, Maiti (2021) finds that exposure to physical violence reduces early grade reading and mathematics performance. Similarly, Baker-Henningham et al (2009) show that violence in 24 schools in Kingston, Jamaica undermines children's socio-emotional and learning outcomes. Ogando Portela and Pells (2015) further document both short- and long-term negative effects of CP on child well-being among children aged 8–12 across Ethiopia, Vietnam, and Peru. Evidence from 3 states in Northern Nigeria also indicates that exposure to household violence among children and youth aged 13–24 is associated with lower school attendance, which in turn translates into poorer literacy and numeracy skills (Smiley et al., 2021).

In high-income settings, MacKenzie et al (2013) find that frequent spanking at age five predicts lower vocabulary scores at age nine. On the other hand, some studies suggest that CP may, in certain contexts, induce short-term compliance or improve classroom order (Gershoff; Straus and Stewart). Despite this mixed evidence, there remains limited rigorous empirical evidence from low-income, high CP prevalence settings, where institutional conditions and norms around

discipline differ substantially, leaving an important gap in understanding its effects on children's learning and schooling outcomes.

For example, Stephanie et al. (2017) finds that corporal punishment reduces absenteeism and improves math scores among girls in rural Malawi, whereas Devries (2014) finds short-term benefits for boys and negative effects for girls in Uganda. However, causal evidence on corporal punishment (CP) effects on learning in low-income and high-prevalence settings based on nationally representative data remains limited, constraining the generalizability of existing findings. Moreover, while prior research shows that negative social norms contribute to the persistence of CP (Legros & Cislaghi, 2019; Lokot et al., 2020), far less is known about how community-level norms shape the impact of CP on learning outcomes.

Understanding how CP interacts with local social norms is critical for explaining heterogeneity in its effects on learning and to inform targeted interventions to address school violence in schools. Evidence shows that areas with strong negative social norms in communities often override formal policies and legal prohibitions (Heckert & Farmer, 2018; Cislaghi & Heise, 2018; Thornberg & Jungert, 2013). Interventions are most effective when communities collectively reject the practice and simultaneously employ multi-level strategies that combine legal reform with community engagement, teacher training, and norm-focused programs, achieving larger and more sustained reductions in violence than legal bans alone (Jewkes, Flood, & Lang, 2015).

Uganda provides a compelling context to study the impact of corporal punishment (CP) on learning outcomes. Despite the comprehensive ban under the Children Act of 2016, CP remains widespread, with rates[1] well above regional and global averages (Smarrelli et al., 2024; UNICEF, 2023), reflecting deeply entrenched social norms that frame CP as an effective disciplinary tool (MoES, 2015; Ogwang, 2023; Matovu, 2024). The 2022 Uganda Demographic and Health Survey reports that 53 percent of adults approve of beating as an effective way to raise or educate a child (UBOS, 2023). Moreover, Uganda's cultural and linguistic diversity, encompassing 56 ethnic groups, generates substantial variation in community norms, providing a unique setting to study how differences in social norms interact with CP to shape educational outcomes.

In this study, I seek to examine the effect of corporal punishment on learning outcomes in Uganda. Our study addresses two critical research questions; i) How does corporal punishment affect learning outcomes as measured by numeracy and reading abilities of children? ii) How do social norms in communities where schools are located reinforce or mitigate the effect of CP on learning outcomes? To address these questions, I analyze the two rounds of the UWEZO national representative survey data in 2016 and 2024. The UWEZO survey tracks children's learning

[1] Data shows that, corporal punishment prevalence in the past 12 months was highest in Uganda (39 percent of boys and 31 percent of girls), compared to Malawi (30 percent each), Nigeria (17 percent of boys and 23 percent of girls), Zambia (9 percent of boys and 10 percent of girls), and Zimbabwe (3 percent of boys and 5 percent of girls).

progress in English literacy and Maths and captures their household and school characteristics. To estimate the causal effect of corporal punishment (CP) on learning outcomes, I employ a two-stage least squares (2SLS) instrumental variable approach, exploiting variation in exposure to community-based anti–child violence campaigns as an instrument for CP. This strategy leverages exogenous differences in campaign intensity across communities to isolate variation in CP that is plausibly unrelated to other determinants of educational outcomes.

The analysis shows that exposure to corporal punishment (CP) is highly prevalent in Ugandan schools, with 65 percent of schools reporting its use as a disciplinary measure. I find that exposure to CP leads to modest declines in academic performance; reduces the probability of Mathematics proficiency by 8 percentage points, while the probability of proficiency in English scores declines by 6.7 percentage points on average. These effects are further moderated by local social norms on CP. More specifically, negative association between CP and test scores is smaller in communities where CP is socially accepted compared to areas where it is less tolerated. I also document gender-specific effects, which show that CP reduces the likelihood of proficiency in Math 9 percentage points relative to boys (5.7 percentage points), whereas likelihood of in English proficiency scores declines across both is similar across genders (7 percentage points).

Our research makes two contributions to the literature: First, I provide context-specific, nationally representative evidence on corporal punishment (CP) and learning outcomes from Uganda, a low-income country with one of the highest CP rates globally. Causal evidence from settings such as India (Maiti, 2021) and Bangladesh (Islam et al., 2025) is often based on samples drawn from specific states or districts, which may not fully capture broader variation across regions and communities. Moreover, these contexts tend to exhibit lower rates of CP compared to settings such as Uganda, where the practice remains widespread. This limits the external validity of existing findings and constrains the ability to examine heterogeneity in the effects of CP across high-prevalence environments. Multi-country panels like the Young Lives study provide cross-national comparisons but offer limited within-country coverage, often in settings with moderate CP prevalence (Jones & Pells, 2016). Localized studies in Ghana, Kenya, and Somalia offer valuable contextual insights but cannot capture national variation (Kyei-Arthur et al., 2024; Mohamoud, 2025; Abdi-Idris, 2023). Our analysis is based on a nationally representative survey that covers multiple schools and regions and therefore allows analysis for variations in both exposure to CP and variation in community and school settings.

Second, I provide the first causal evidence that community-level social norms moderate the impact of CP on learning – a finding with direct implications for whether legal bans alone are sufficient. Prior work has documented that CP persists due to entrenched and gendered norms, with boys punished for aggression and girls for perceived submission (Legros & Cislaghi, 2019; Hart, 2021; Baker & Nascimento, 2010; MoES, 2015). Studies also highlight that teachers

view CP as a means to earn respect in the learning environment (Wamimbi, 2018) . However, the literature on the impact of these norms in mitigating the CP effect on learning outcomes is scanty. Our study extends this literature by examining how local norms amplify or mitigate CP's effects, thereby offering insights on policy options for addressing CP effects in different social norm levels.

The remainder of the paper proceeds as follows: Section 2 presents an overview of Uganda's primary education system. Section 2.1 outlines the conceptual framework. Section 3 outlines the data and summary statistics while Section 4 outlines the estimation strategy employed in the study while Section 5 presents the results and discusses them. Section 6 concludes by summarizing the findings and discussing their policy implications.

2 An overview of Uganda's primary education system

The Ugandan education system follows a four-tier structure: pre-primary (3 years), primary (7 years), secondary (6 years), and tertiary education (3–5 years) (Ejuu, 2012). However, pre-primary education is not mandatory and is largely provided by the private sector. The primary school level is divided into three stages: lower primary (grades 1–3), a transition year (grade 4), and upper primary (grades 5–7). The standard entry age is six years, and children typically complete primary education by age 13 (Moussa & Omoeva, 2018). Completion of grade 7 is followed by the Primary Leaving Examination (PLE), which determines eligibility for secondary school.

Uganda introduced Universal Primary Education (UPE) in 1997, abolishing school fees to increase access for all children. As a result, enrollment grew from 3 million to 5.3 million pupils, while the average pupil–teacher ratio (PTR) nearly doubled from 38:1 in 1996 to 60:1 in 1998, reflecting rapid enrollment growth without a proportional increase in teachers (World Bank, 2024). While the Free Primary Education (FPE) policy successfully expanded enrollment, evidence shows that it came at the expense of quality standards (Al-Samarrai, 2003; Kan & Klasen, 2019).

This is observed in several supply-side challenges following the introduction of UPE system in primary schools. For instance, despite a sharp increase in public spending on primary education, from 40 percent to 65 percent of the education budget between 1996 and 2004, schools continued to face resource shortages, overcrowded classrooms, and poor learning conditions. To address teacher shortages, the government recruited contract and volunteer teachers, many of whom lacked formal training in classroom management and child development (UNESCO, 2020). In response to rising dropout rates, an automatic promotion policy was introduced. While the policy increased grade progression, it also advanced underprepared learners, contributing

to persistent learning gaps, low student motivation, and weak learning outcomes (Ahmed & Mihretie, 2015).

The Uwezo National Learning Assessment shows that only 23 percent of grade 7 pupils can read a Primary Two–level English story, highlighting persistent literacy deficits (UWEZO, 2025). Similarly, the National Assessment of Progress in Education (NAPE) by the Ministry of Education and Sports reports almost half (47.3 percent) of grade 3 pupils lack proficiency in foundational literacy and numeracy (MoES, 2025). These findings suggest that learning challenges emerge early and persist throughout the primary cycle. International comparisons further highlight these gaps. While Ugandan children can expect to complete seven years of schooling by age 18, the quality-adjusted learning they attain is equivalent to only 4.5 years, a deficit of 2.5 years (World Bank, 2019). Moreover, learning gaps are larger across regions and along the rural–urban divide, reflecting disparities in teacher quality, school resources, and broader socio-economic conditions (Mugume & Bulime, 2024; Kakuba et al., 2025).

Beyond resource constraints, the Ugandan school environment and disciplinary practices also shape students' learning experiences. In many schools, discipline is enforced through punitive approaches that can affect students' engagement, attendance, and psychological well-being. One prominent example is school violence, particularly corporal punishment (CP). Corporal punishment is legally prohibited in schools under the Children Act (1997) and guidelines from the Ministry of Education and Sports. In addition, Uganda is a signatory to the international child protection frameworks, such as the UN Convention on the Rights of the Child. More recently, the Children (Amendment) Act, 2016 explicitly banned corporal punishment in all schools. The law stipulates that any person who subjects a child to corporal punishment in a school commits an offence and is liable to imprisonment for up to three years, a fine of up to one hundred currency points (approximately USD 543), or both.

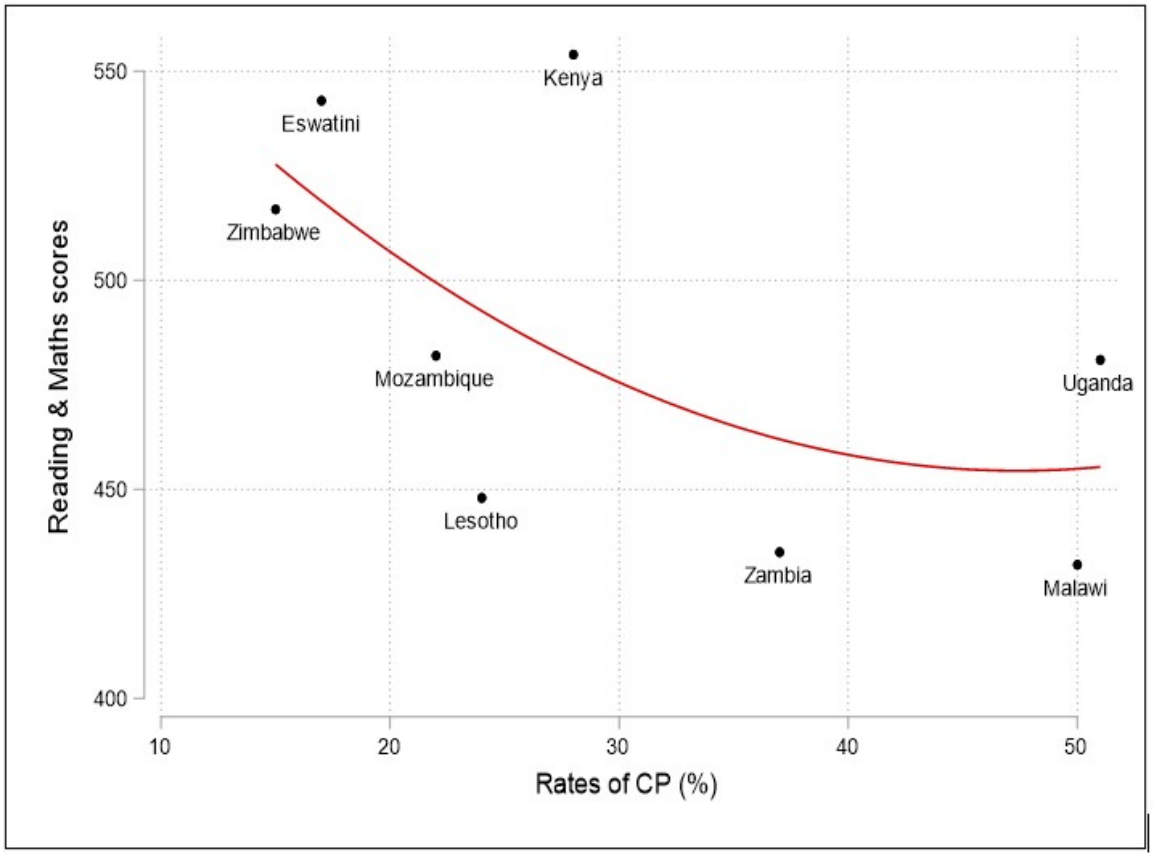
Despite this formal prohibition, the practice remains widespread, largely reflecting weak enforcement by authorities. In addition, the legal framework contains internal inconsistencies that limit the effectiveness of the ban. While corporal punishment is outlawed in schools, the law still permits a "reasonable" level of corporal punishment in the home under the doctrine of reasonable chastisement. This creates a policy contradiction whereby a practice criminalized in schools remains legally acceptable in households, reinforcing social norms that view corporal punishment as a legitimate disciplinary method and undermining the intended impact of the school ban.

The Uwezo survey reports that 70 percent of primary schools still practice CP as a disciplinary measure (Uwezo, 2025). Teachers may view CP as a disciplinary tool and as a method to enforce academic achievement, particularly when preparing students for high-stakes exams such as the PLE (Jones, 2016; Vanner, 2018). Poor student performance can result in teachers being transferred or dismissed. The World Health Organization estimates that Uganda has one

of the highest rates of physical violence against children globally, with 85 percent of children aged 1–17 years experiencing some form of physical violence (WHO, 2020).

The Uganda Violence Against Children Survey reports that schools are the second most common setting for physical violence after homes, with 36 percent of girls and 43 percent of boys reporting that they have experienced physical violence at school, most often administered by teachers (UBOS, 2019). Figure 1 illustrates the negative link between CP prevalence and learning outcomes. Across Sub-Saharan Africa, countries with higher rates of CP tend to have lower literacy and numeracy scores.

Figure 1: The prevalence of physical violence among children and learning outcomes in select SSA countries



Notes: **Source**: The CP prevalence data is obtained from Several National Violence Against Children (VACs) while performance data in reading and Maths is from Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) assessments which provides cross-country in learning progress across 13 African countries. SACMEQ scores are scaled to have an international average value of 500 and a standard deviation of 100 points. This means that 68% of scores can be expected to fall within 100 points of 500, and 95% of scores can be expected to fall within 200 points of 500. Reading ability level benchmarks established by SACMEQ offer some understanding of the ability levels associated with different score levels.

3 Conceptual framework

This study adopts the education production function framework (Hanushek, 1995), which conceptualizes learning as the cumulative outcome of school, teacher, family, and child-specific inputs. Within this framework, corporal punishment represents a negative school-level input that reduces the efficiency with which other educational inputs are transformed into learning. Exposure to physical punishment lowers children's motivation, attention, and emotional security, thereby diminishing the effectiveness of complementary inputs such as teacher effort and instructional time. I therefore predict a negative effect between corporal punishment and learning outcomes, moderated by teacher quality, parental engagement, and prior achievement.

The literature identifies several key mechanisms through which corporal punishment undermines child development and learning. Broadly, these mechanisms operate through three interrelated domains: cognitive processes, socio-emotional development, and school participation. Corporal punishment weakens learning outcomes by disrupting each of these channels, highlighting its role as a harmful and inefficient input in the educational production function. First, corporal punishment impairs cognitive outcomes by reducing active classroom participation, inhibiting social learning, and eroding the teacher–student relationship. These effects tend to be stronger for language-related domains, such as verbal and reading comprehension, where classroom engagement and emotional safety are critical, whereas numeracy appears relatively less sensitive (Lloyd, 2018; Gershoff, 2017; Straus, 2009; Maiti, 2021; Chen et al., 2021).

Second, corporal punishment undermines socio-emotional and behavioral development by increasing stress, anxiety, aggression, and depressive symptoms. These psychological responses reduce attention, motivation, and self-regulation, thereby constraining learning productivity. The effects are especially pronounced among girls, children with disabilities, and those living with HIV/AIDS, who are more vulnerable to internalized stress (Cooley-Strickland et al., 2009; Kim et al., 2020; Stentiford et al., 2024; Burani et al., 2021). Third, corporal punishment indirectly reduces learning through its impact on attendance and persistence. By contributing to absenteeism, school transfers, repetition, and dropout, corporal punishment disrupts continuity in learning and weakens peer and teacher networks essential for progress (VAC Uganda; Carson et al., 2013; Smarrelli, 2023).

4 Data and Summary statistics

I utilise a unique, nationally representative dataset from the UWEZO survey in Uganda, which captures educational data from a considerably large sample of schools in 2010-2024. The survey follows a multi-stage sampling approach where 30 villages are selected within each district using the probability proportional to size technique. Consequently, 20 households are selected based

on the systematic sampling technique from each village. Then, each child within the target population in a household is surveyed and tested at the child's home, regardless of whether the child is enrolled in school or not.

For this study, I use two repeated cross-sectional rounds of the UWEZO survey 2016 and 2024 because the other years of the survey do not capture information on corporal punishment, which is the main independent variable of interest. The uniqueness of this survey is that it allows us to link both school and children's data from their households. As such, it enables us to control both school and children's characteristics in the analysis.

At school, the key respondent in the survey is Head teacher or Deputy head teacher who answers questions regarding the school enrollment, school structures (number of classrooms, stances) number of schoolteachers by sex and their level of training, health information (whether children have first aid facilities, feeding program etc.) and disciplining of children. On the other hand, the Household questionnaire of the survey, which is answered by the parents of the children and the child, covers several household aspects that include but are not limited to household size, the education level of parents of the child, and the schooling status of the children aged 6-16 years. The survey also captures aspects of disciplining children by parents, as well as their perceptions about child discipline.

Children in the surveys are administered standardized tests to assess their literacy and numeracy competencies. Conducting these assessments at the household level, rather than in schools, allows the survey to capture children's capabilities independent of schooling status and enables the linking of learning outcomes to household characteristics such as poverty, sex of the household head, and household size. The children are also interviewed in a household setting not school setting to reduce bias from teachers. It is important to note that, since school-level measures such as pupil teachers ratios, pupil class ratio and attendance can only be defined for enrolled children, this analysis includes only children currently enrolled in the surveyed schools and children who have dropped out are excluded. Although the survey employs a multi-stage sampling design, sampling weights are not applied, as unweighted estimates remain consistent and may be more efficient than weighted estimates in causal analysis, particularly in the presence of clustered error structures (Solon et al., 2015).

4.1 Corporal punishment

Information on corporal punishment is captured at two levels during the survey: at school and household levels. At the school level, a head teacher at the school is a key respondent to school-level questions regarding their school. The questions include: how do teachers discipline children when they do wrong? This question has options that include (i) caning/slapping or hitting them; (ii) suspending them, talking to them; (iii) giving them work as a punishment; (iv) insulting them and calling them all kinds of names; (v) demanding an apology from them; (vi) sending

them to the disciplinary committee; (vii) other options not mentioned above (specify). Based on the definition of corporal punishment as physical punishment (UN Committee on the Rights of the Child, 2007), I consider corporal punishments to be options (i) assign code 1 "corporal punishment" while the other options are assigned code 0 "No corporal punishment".[2]

4.2 Learning outcomes

Progress in learning among the interviewed students in the UWEZO survey is captured by asking children to assess basic learning questions in numeracy and literacy. Specifically, children are assessed based on a grade 2-level curriculum because it coincides with the age at which children are expected to have mastered basic literacy and numeracy skills.

These questions cover three areas of learning: The first area is Literacy, which involves the ability of the child to comprehend a story in English and the Local language. The second area is numeracy which involves the ability of the child to answer questions on non-numerate, numerals from (0-99), matching, addition, subtraction, division, multiplication, addition and ethno Mathematics which involves questions that study the relationship between Maths and culture and 2 other bonus questions. At the end of the standardized test, the marks are categorised as follows: For English literacy, which assesses the reading ability, the grading is four ordinal rankings: (i) Non-reader, (ii) Letter reader, (iii) Word reader, (iv) Paragraph reader and (v) Story reader. The child is considered to have passed the literacy tests if they satisfactorily answer questions from all 5 categories.

For numeracy, the survey ranks the participants in the categories; (i) Non-numerate, (ii) Matching, (iii) Numerate (10-99), (iv) Subtraction, (v) Addition, (v) Subtraction, (vi) Multiplication, (vi) Division. In Ethno Maths, the survey ranks children in two categories: "Can do", implying that they can relate Maths with culture and "Cannot do", meaning they cannot relate Maths with culture. Based on the above several indicators, the survey accords percentage marks in the two learning areas of literacy and numeracy. Overall, the child is considered proficient in numeracy if they are able to satisfactorily answer questions in all 6 categories.

4.3 The Social Norms Index (SNI) on corporal punishment

Evidence shows that schools are microcosms of society that can either mirror and reinforce or challenge gender-discriminatory attitudes and social norms (Hart, 2021; Carrell & Hoekstra,

[2] Four questions regarding the discipline of children are posed at the household level, with parents as the primary respondents. These questions specifically focus on how parents discipline their children. The structured responses include options such as caning, denying meals, talking to them, withholding things they love, doing nothing, resorting to abuse, using hurtful names, suspending them from school, and providing counseling. For purposes of this study, which aims to examine the effect of corporal punishment in schools on learning outcomes, we will use only data from the school-level survey to capture instances of corporal punishment in that setting.

2010). As a result, attitudes and beliefs held within households often carry over into schools through both teachers and students, including beliefs that either support or oppose corporal punishment. Accordingly, I consider questions (indicators) in the household questionnaire, where parents are asked questions regarding their perceptions about the disciplining of children. These include; (i) there are times when parents need to beat their children to make them listen; (ii) when a child misbehaves, the best response is to talk to that child; (iii) sometimes teachers must beat children to make them learn; it is important for students to fear teachers, (iv) schools must never allow teachers to beat their children.

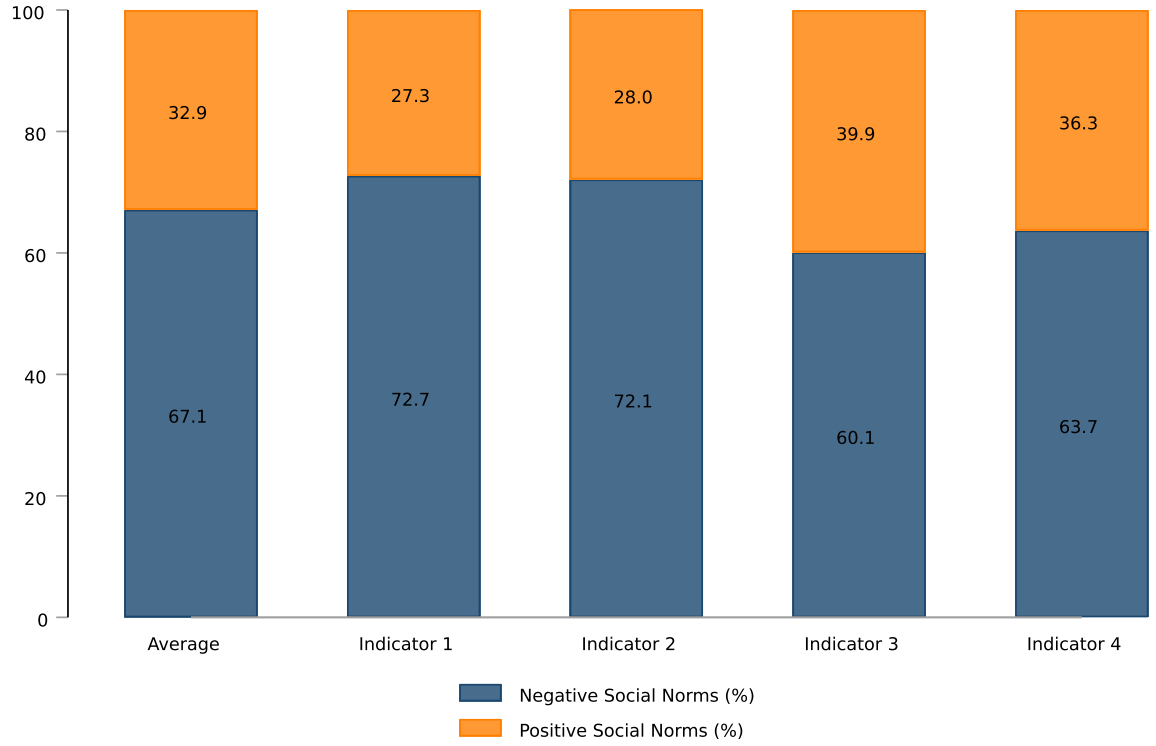
The choices for these questions (indicators) in the survey are measured using a Likert scale: strongly disagree, disagree, agree, and strongly agree. Following UNDP (2021) approach of constructing the Social Norms Index based on biases, I construct a corporal punishment Social Norms Index (SNI) where choices "Strongly Agree" and "Agree" to the questions; (i) and (iii) above indicate negative social norms (i.e., accept CP) and choices "Strongly disagree" and "Disagree" represent positive social norms (i.e., do not accept CP). On the contrary, choices "Strongly disagree" and "Disagree" for questions (ii) and (iv) above represent negative social norms while choices "Strongly agree" and "Agree" represent positive social norms. According to the UNDP (2021) definition, the corporal punishment Social Norms Index is the percentage share of parent/community respondents with at least one negative bias among the 5 indicators.

To obtain an average estimate that summarizes the extent of social norms from the respondents based on the choices, the approach first codes SNI as a binary (1=negative social norms and 0=positive social norms). In order to obtain the total SNI for each observation, I average and end up with an index with values ranging between 0-1. For example, the higher the index, the more acceptable CP is (i.e., evidence of negative social norms), while the lower the index, the less acceptable CP is (i.e., evidence of positive social norms). Based on this definition, the Social Norms Index on corporal punishment is 67.1 percent on average (Figure 2). This is consistent with the findings of the Uganda Demographic and Health Survey (UDHS), which show that 60 percent of the adult Ugandans support the use of corporal punishment in instilling discipline among children (UBOS, 2022). Consequently, I construct village-level SNI as the arithmetic mean of individual SNI scores within each village, using all individual interviews conducted in each enumeration area.

4.4 Covariates

Past research indicates that individual, household, and school factors influence both learning outcomes and disciplinary practices. As such, omitting these from the analysis may bias estimates of corporal punishment's effect. Accordingly, I include these control variables, recognized in the literature as key determinants of children's academic performance, as summarized in Table A1.

Figure 2: The distribution of Social Norms Index based on the survey questions



Notes: **Source:** Authors' computation based on UNDP (2023) and Mukhopadhyay et al. (2019) on the measurement of social norms. **Description**: Indicator 1: There are times when parents need to beat their children to make them listen. Indicator 2: When a child misbehaves, the best response is to talk to that child. Indicator 3: Sometimes teachers must beat children to make them learn. Indicator 4: Schools must never allow teachers to hit or cane students for any reason (UWEZO, 2016 and 2024)

At the individual level, I control for the child's sex, as gender differences in cognitive development, classroom participation, and teacher expectations influence learning outcomes, with boys and girls performing differently across subjects in low-income settings (Baker & Nascimento, 2010; Ogando Portela & Pells, 2015). The place of residence (rural versus urban) is included because rural children typically face structural disadvantages such as poorer school infrastructure, longer travel distances, and fewer learning resources that translate into lower learning outcomes compared to their urban peers (Gonzalez & Rodríguez-Planas, 2020; Gebrehiwot, 2015).

At the school level, I control for the pupil–Teacher Ratio (PTR), Pupil–Classroom Ratio (PCR), and the proportion of female teachers. Notably, a large body of literature shows that lower PTR allows teachers to provide more individualized attention, manage classrooms effectively, and deliver higher-quality instruction which are critical for learning (Glewwe et al., 2011; Duflo et al., 2015; Hanushek., 2010). Similarly, lower PCR reduces classroom congestion, enhances student engagement, and facilitates interactive teaching, which positively affects learning outcomes (UNESCO, 2019; World Bank, 2018). Relatedly, the proportion of female teachers as captured by the Female Teacher Ratio (FTR) is included because a higher share of female

teachers fosters supportive classroom environments, improves student–teacher interactions, and is particularly beneficial for younger learners and girls (Dee, 2007; Hart, 2021). Controlling for these variables ensures that differences in school quality, classroom conditions, and teacher composition are accounted for, reducing potential confounding factors when estimating the effect of corporal punishment on learning outcomes

4.5 Summary statistics

Table 1 presents the summary statistics on the various information variables related to the school children considered in this study. The results show that, on average, about 65 percent of the schools interviewed reported the use of corporal punishment as a form of discipline. Gendered analysis in Table A2 shows that boys were more likely to report CP (64.4 percent) compared to girls (63.9 percent). This evidence may indicate that boys experience more corporal punishment than girls to address their perceived ”stubbornness” and involvement in casual fighting in class as suggested in in studies by Portela & Pells (2015) and (Baker & Nascimento (2010).

Regarding academic performance, only 31 percent of the children demonstrated proficiency in numeracy, compared to 20 percent in literacy. These results indicate that the majority of students were falling below the minimum expected learning standards, as they were unable to correctly answer questions designed for grade 2. Regardless of the gender of the school children, parents supported the use of corporal punishment as a way of promoting morals and learning. Specifically, about 78 percent of the boys' parents and 77 percent of the girls' parents) believe it is justified to use corporal punishment. Most children in the survey were in grades 4 and below because the UWEZO survey is largely focused on early learning levels of primary level. The results also show that most headteachers were males (78 percent) compared to females (22 percent).

Figure 3 presents average Mathematics and English scores by gender and exposure to corporal punishment (CP), with error bars indicating confidence intervals. Panel A shows that, for both females and males, learners not exposed to corporal punishment achieve higher average Mathematics scores compared to their counterparts in CP-practicing schools. Male learners exhibit slightly higher Mathematics scores than females within each exposure category, although the gaps are relatively small. Panel B reveals a similar pattern for English scores. Learners in non-CP environments outperform those exposed to CP for both females and males. The gap appears somewhat more pronounced among males than females. Overall, the data suggest a negative association between exposure to corporal punishment and learning outcomes in both Mathematics and English, with relatively similar patterns across genders

Table 2 shows that male children are more likely to experience corporal punishments than their female counterparts. This may be largely because boys tend to be involved in casual fights (Portela & Pells, 2015; Baker & Nascimento, 2010). Girls are punished by controlling their

Figure 3a: Exposure to Corporal Punishment and Mathematics Scores by Gender (Panel A)

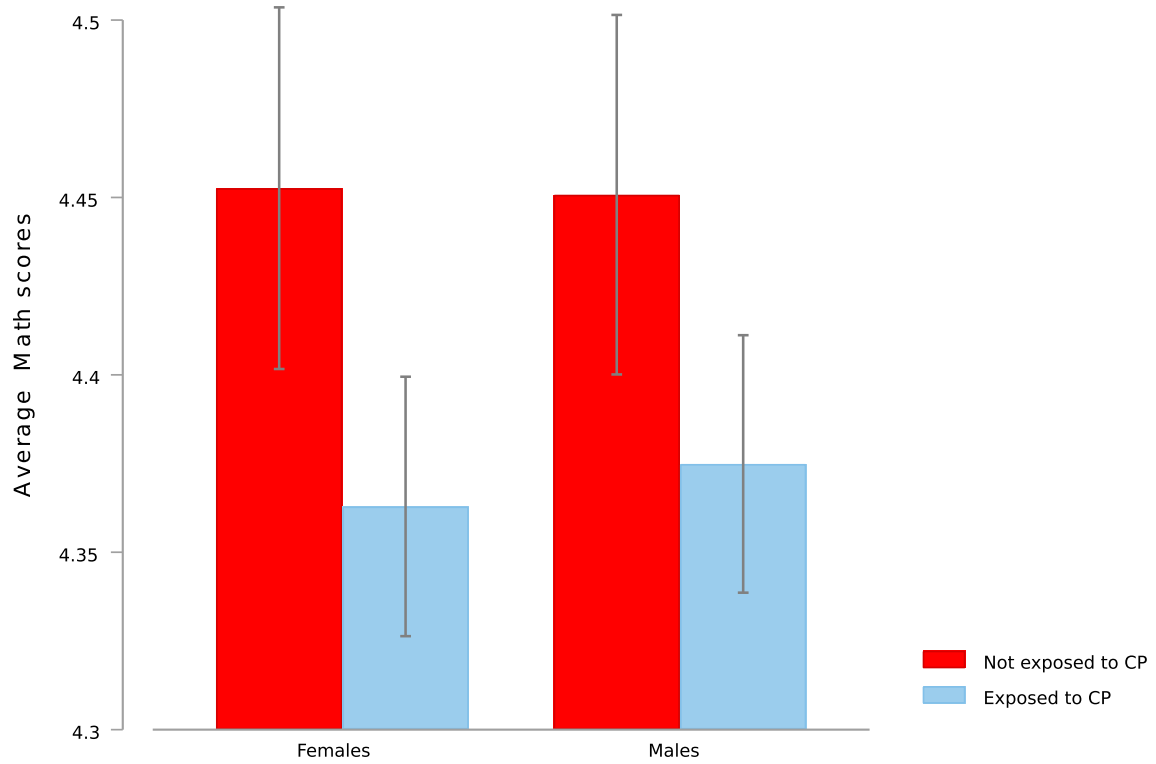
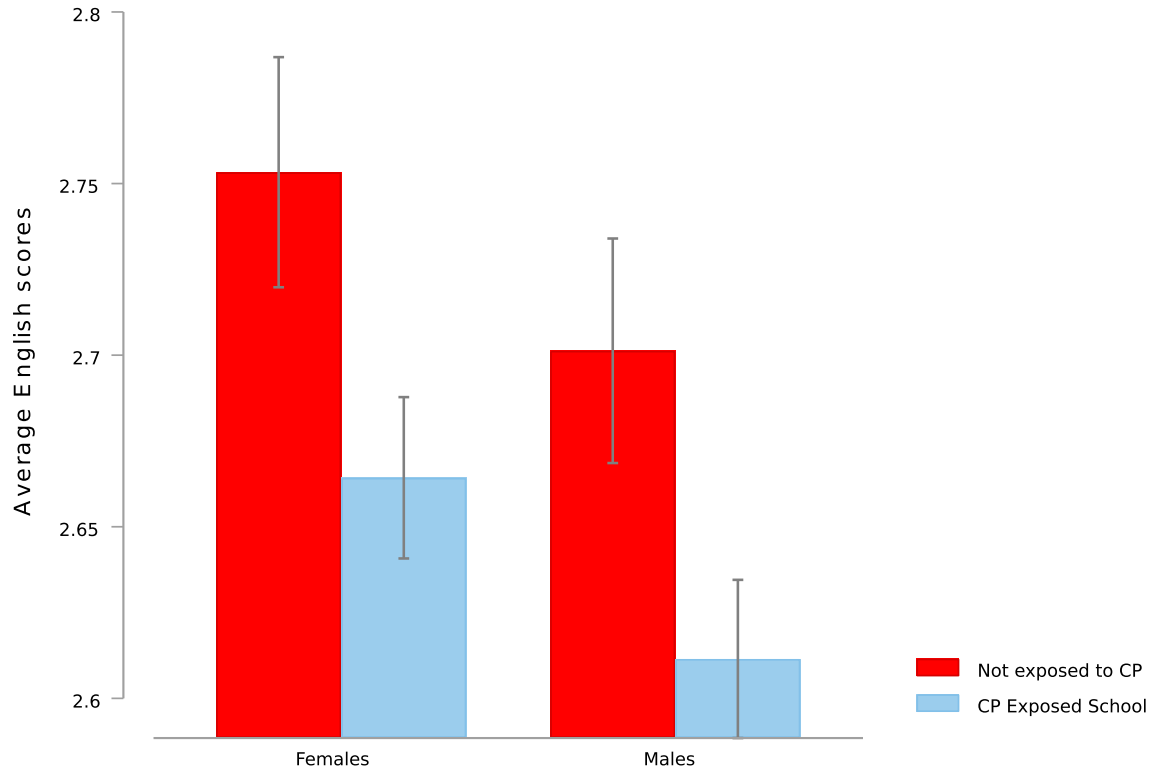


Figure 3b: Exposure to Corporal Punishment and English Scores by Gender (Panel B)



Notes: Average Math and English scores are computed from ordinal proficiency categories. English literacy is ranked from non-reader to story reader, while numeracy is ranked from non-numerate to division. Higher values indicate higher proficiency in a subject

Table 1: Summary statistics

Variables	N	Mean	SD	Min	Max
Corporal punishment	2,492	0.65	0.48	0	1
Pupil Classroom Ratio (PCR)	2,492	102.3	88.35	0	1,218
Pupil Teacher Ratio (PTR)	2,492	55.3	27.16	0	726
Female Head teacher	2,492	0.22	0.41	0	1
Female Teacher Ratio	2,492	0.37	0.20	0	10
Government school	2,492	0.94	0.24	0	1
Private school	2,492	0.05	0.22	0	1
Community school	2,492	0.01	0.11	0	1
Individual level variables					
Math proficiency	36,434	0.31	0.46	0	1
English Proficiency	36,434	0.20	0.40	0	1
Age of the child	36,434	10.55	2.88	5	16
School grade	36,434	3.30	1.79	1	7
Sex (Male=1)	36,434	0.50	0.50	0	1
Urban	36,434	0.09	0.28	0	1
Asset Index	36, 434	0.43	0.21	0	1
Social Norms Index (SNI)	36,434	0.64	0.26	0	1
Disability status	36,201	0.07	0.25	0	1
School Attendance (Last week)	35,544	0.79	0.41	0	1
Anti-awareness campaign	36,434	0.39	0.49	0	1

Notes: Source: Authors' computations based on the UWEZO survey

behaviour, encouraging submission and timidity, and reinforcing traditional gender roles (Baker & Nascimento, 2010; Hart, 2021).

Children from the Northern region experience higher levels (71.5 percent) compared to other regions. These disparities are largely attributed to the decade-long impact of war and violence under the Lord's Resistance Army in the North, which disrupted education in schools and communities, leading to the normalization of violence in these settings (Kazibwe, 2023). Also, teachers in Northern Uganda may unintentionally transfer post-war conflict trauma to children in the classroom, as they can't easily control their tempers during class instruction.

With respect to the types of school, the results show that community schools report the highest rates of corporal punishment (82.5 percent), compared to private schools (64.8 percent) and government schools (63.8 percent). Higher practice of CP in community schools could be attributed to limited adherence closely to government regulations. On the other hand, government schools tend to enforce stricter compliance with the 2016 ban on corporal punishment and hence report lower rates of corporal punishments. The analysis also shows that schools with male-

headed teachers were more likely to report the use of corporal punishment than those headed by females. This finding could reflect a gendered pattern where male school leaders are more inclined towards punitive and authoritarian disciplining methods, while female leaders tend to favor dialogue-based, non-violent approaches.

Table 2: Prevalence of corporal punishment across socio-economic characteristics

Variable	Category	Value
Region	Central	54.4
	East	64.8
	North	71.5
	West	57.7
Sex of the child	Boys	64.5
	Girls	63.9
School type	Government	63.8
	Private	64.8
	Community	82.5
Sex of the Head teacher	Female	67.1
	Male	67.6
Observations	(N)	27,192

Notes: Source: Authors' computations based on the UWEZO survey

5 Empirical strategy

To examine the relationship between corporal punishment exposure and learning outcomes of the children, I estimate the following relationship:

$$Y_{ij} = \alpha_0 + \gamma CP_{ij} + \delta_0 X_{ij} + \varepsilon_{0i} \tag{1}$$

Where Y_{ij} is a binary outcome that captures whether child i in school j is proficient in Math or English, CP is a binary variable that shows whether the school j where child i attends uses corporal punishment as a disciplinary measure or not; X is a vector of child, school and household level controls and ε_i is the unobserved individual error term. Equation (1) is estimated using a linear probability model (LPM). The key parameter of interest in the equation (1) is γ, the coefficient of CP. This provides insight into the relationship between exposure to corporal punishment and learning outcomes.

However, identifying the precise effect of corporal punishment is challenging because corporal punishment against children in schools is not random and is subject to several sources of

bias. First, selection bias arises because children with lower academic ability or perceived misbehaviour are more likely to be subjected to corporal punishment than their better-performing peers. Devries et al. (2015) report that nearly 90 percent of teachers justified using corporal punishment as a means of disciplining pupils they considered "stubborn" or "weak" academically. Similarly, some parents in Uganda prefer strict discipline and deliberately enroll their children in schools where corporal punishment is practised, which can in turn influence academic outcomes (Naker, 2005; UWEZO, 2018; Gershoff, 2017).

Second, even after controlling for several factors, unobserved household and community-level factors may still confound the relationship between corporal punishment and learning outcomes. For example, parenting styles that endorse harsh discipline at home may be reinforced by similar practices at school, jointly shaping the child's academic performance. These factors, therefore, suggest that the CP variable is endogenous because of simultaneity. To address this endogeneity, I estimate a linear two-stage least squares (2SLS) specification. The first stage is given as follows:

$$CP_{ij} = \alpha_1 + \emptyset_i Z_{ij} + \delta_1 X_{ij} + \varepsilon_{ij} \tag{2}$$

Where X_i is the same set of covariates as in equation (1); Z_i is the instrumental variable, α_1, $\emptyset$, and δ_i are the sets of parameters to be estimated and ε_{ij} is the error term. The second stage regression equation is as follows.

$$Y_{ij} = \alpha_2 + \beta_i \widehat{CP}_{ij} + \delta_2 X_{ij} + \varepsilon_{2i} \tag{3}$$

For the instrument to be valid, two conditions must hold. First, the relevance condition requires that the instrument is correlated with corporal punishment exposure, that is, $\phi \neq 0$. Second, the exogeneity (exclusion restriction) condition requires that the instrument be uncorrelated with the second-stage error term, formally $E(\varepsilon_{2ij} \mid Z_j) = 0$. In addition to addressing simultaneity and omitted-variable bias through the IV strategy, I control for a rich set of covariates that capture student, household, community, and school-level characteristics, thereby further mitigating concerns about confounding factors.

To address the potential endogeneity of corporal punishment (CP), I exploit variation in exposure to community-level anti–child violence campaigns as an instrumental variable. These campaigns were rolled out by several NGOs across districts, generating plausibly exogenous variation in exposure to messages discouraging the use of CP in both homes and schools. These interventions focused on sensitizing communities about positive discipline practices and discouraging the use of physical punishment. I therefore hypothesize that exposure to these campaigns reduce the social acceptability of CP as a disciplinary method. However, I test validity of these campaigns as a credible instrument as follows.

The UWEZO survey provides information on whether communities in which sampled schools are located were exposed to such campaign messages, as well as the frequency of exposure. I construct a binary indicator capturing whether the community was exposed to these messages; further details on intervention coverage are presented in Table A4. First, we assess the relevance of anti–child violence campaigns as a credible the instrument. The results in first stage 2SLS -IV specification show that exposure to campaigns strongly predicts reductions in CP, with F-statistics above the conventional threshold of 10 (Table 4)., which confirms that the campaign awareness is a strong instrument. Relatedly evidence shows that anti-awareness campaigns, which include Raising Voices' Good School Toolkit, reduces school-based physical violence by 42 percent (Devries et al., 2018).

The second key identifying assumption, the exclusion restriction requires that exposure to anti–child violence campaigns affect learning outcomes only through its impact on corporal punishment (CP). This assumption is plausible because, by design, these campaigns primarily focus on reducing physical violence and do not provide direct educational inputs such as classrooms, textbooks, or teacher training among others.

A potential concern is that exposure to anti–child violence campaigns may influence broader parental behaviors beyond corporal punishment, such as the adoption of non-violent discipline practices or increased emotional support. These changes could independently improve children's learning outcomes, thereby violating the exclusion restriction condition. A related concern is that campaign placement is not random and as such may disproportionately target communities with higher levels of violence, poverty which directly affect learning outcomes not through CP. This limitation is common among education sector interventions where programs disproportionately target deficient or lowly resourced regions (e.g., Duflo, 2001; Alsan & Cutler, 2013). These concerns if true could confound the effect of CP on learning. Although residual confounding cannot be entirely ruled out, the central question is whether it is sufficiently strong to invalidate the IV-2SLS estimates. To verify this, I implement a series of sensitivity analyses to evaluate the robustness of our findings to potential confounding bias

6 Results and Discussion

Table 3 reports results for the relationship between exposure to corporal punishment (CP) and student achievement in English and Mathematics, respectively, while controlling for household and school controls. The data consists of repeated cross-sections with different schools sampled in each year. As such, the analysis does not track the same schools over time. To address unobserved heterogeneity, all specifications include district-fixed effects, ensuring that identification comes from variation across schools within the same district. This approach controls for both time-invariant district characteristics and district-specific shocks, allowing for a more credible

comparison of schools that do and do not implement corporal punishment within the same local context.

Across both specifications, being in a school that uses corporal punishment reduces the probability of being proficient, with larger associations observed for Mathematics than for English. School exposure to corporal punishment reduces the likelihood in proficiency in Math and English by 0.9 percentage points and 1.1 percentage points respectively.

The findings also indicate that corporal punishment has a more detrimental impact on children's numeracy abilities than on their reading skills. This aligns with prior research from Ethiopia, India, Peru, and Vietnam, which shows that children who experienced CP at age 8 have significantly lower Mathematics scores later in childhood, after controlling for a range of covariates (Ogando Portela, & Pells, 2015). Mathematics learning is particularly more vulnerable to fear, stress, and reduced classroom engagement induced by punitive disciplinary practices compared to reading or language skills (Gershoff, 2002; Gershoff & Grogan-Kaylor, 2016; OECD, 2017). In Uganda, UNICEF field data from primary schools show that children are more likely to be physically punished for failing Mathematics, increasing anxiety toward the subject and the risk of dropout (UNICEF, 2023).

Our results also show that negative social norms are negatively associated with learning outcomes. Specifically, specifically, a one-unit increase in the SNI reduces the likelihood of proficiency by 4.1 percentage points in English and 2.4 percentage points in Mathematics. This is consistent with past studies, which show that negative social norms increased the prevalence of CP which reduces learning outcomes (Bishop et al., 2022; Visse et al., 2022). Furthermore, consistent with literature, private school attendance (Hanushek, 2003; Glewwe & Kremer, 2006); household asset ownership, urban residence (World Bank, 2018) and lower pupil–teacher ratios (Glewwe & Kremer, 2006) are positively associated with achievement, while disability status, socioeconomic disadvantage and larger household size are associated with lower test scores (UNESCO, 2019).

Table 4 reports the IV–2SLS estimates identifying the causal effect of exposure to corporal punishment (CP) on student achievement. Column (1) presents the first-stage results, while columns (2) and (3) report the corresponding second-stage estimates. The first-stage results show that exposure to anti–child violence campaigns is a strong predictor of reduced use of corporal punishment in schools. The negative and statistically significant coefficient suggests that the intervention shifted behavioural norms, thereby reducing its use in schools. The associated first-stage F-statistics of 29.9 exceeds the conventional threshold ($F > 10$) indicating that the instrument is sufficiently strong and addresses concerns about weak identification.

The second-stage estimates are consistent with the LPM results reported in Table 3, confirming a negative causal effect of corporal punishment on learning outcomes. Students exposed to CP in schools perform significantly worse, with larger effects observed in Mathematics than in

Table 3: Linear probability model (LPM) results

Variables	(1) English	(2) Math
Corporal punishment	-0.009**	-0.013**
	(0.005)	(0.005)
Child's age	-0.036***	0.038***
	(0.005)	(0.005)
Sex of the Headteacher: Female	0.005	-0.001
	(0.005)	(0.005)
School Type (Private School)	0.135***	0.103***
	(0.011)	(0.012)
School Type (Community School)	0.002	-0.051**
	(0.019)	(0.021)
Log PCR	-0.007	-0.009*
	(0.005)	(0.005)
Log PTR	-0.067***	-0.034***
	(0.006)	(0.008)
Log FTR	0.042***	0.033***
	(0.004)	(0.004)
Disability status (1=Yes)	-0.028***	-0.019**
	(0.008)	(0.009)
Household head sex (Female=1)	0.011***	0.013***
	(0.004)	(0.005)
Asset index	0.018*	0.098***
	(0.011)	(0.012)
Size of household	-0.002***	-0.002**
	(0.0007)	(0.0008)
Urban	0.086***	0.077***
	(0.008)	(0.008)
Social Norms Index (SNI)	-0.041***	-0.023**
	(0.009)	(0.011)
F-Statistic	558.3***	771.6**
R-squared	0.203	0.215
District Fixed effects	Yes	Yes
Observations	33,320	33,320

Notes: Coefficients are reported. Standard errors in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively: The reference category for school type variable is "Government school". Standard errors are clustered at the clustered at school level.

English. Specifically, exposure to corporal punishment reduces the likelihood in English proficiency by 6.7 percentage points and Mathematics proficiency by 7.7 percentage points. The results in Columns 4 and 5 present the reduced form results show that campaigns increase the likelihood of math proficiency by 1.8 percentage points and 2 percent points in English and Math respectively.

The difference between the OLS (ATE) and IV (LATE) estimates can be explained by how primary schools in Uganda operate with respect to enforcement of government regulations. The IV approach identifies the effect of reducing corporal punishment (CP) only for schools that change their behaviour in response to the anti-CP campaign. These are "complier" schools—those where disciplinary practices are not fixed and can still respond to policy efforts. This is common in many government-aided primary schools compared to community schools (Table 2). Although CP is officially banned, enforcement is often weak, school inspections are limited, and physical discipline is still socially accepted. As a result, teachers often have discretion in how they discipline students. Notably, whereas the Ministry of Education and Sports (MoES, 2014) requires all schools to Violence Against Children in Schools (VACiS), the directed is not implemented in all schools. For example, survey evidence shows that about 40 percent of schools do not have a VACiS focal person. This suggests that many schools are only partially following the rules (UWEZO, 2021).

Because of this situation, the anti-CP campaign is more likely to change behavior in schools where practices are still flexible, rather than in schools where CP is deeply rooted or already not used. The IV estimate therefore captures the effect of reducing CP in these more responsive schools. This also explains why the IV estimates are larger than the OLS/reduced form estimates. OLS and reduced form average the effect across all schools, including those that do not change at all. In contrast, IV focuses only on the schools where change actually happens. If reducing CP has bigger benefits in these responsive schools, then the IV estimate (LATE) will be larger than the reduced form estimates (ATE).

Further, the differences could be attributed to attenuation bias in capture of CP prevalence in schools. Since measurement of corporal punishment relies on self-reported information from school headteachers, it may be underreported to avoid not putting their schools and management under scrutiny by government. If such misreporting is correlated with school characteristics, such as, management quality or academic performance, this introduces non-classical measurement error that may bias the estimated relationship between corporal punishment and learning outcomes. In particular, the estimates may understate the true negative effects of corporal punishment.

A key identifying assumption is that exposure to the campaign is as good as randomly assigned, or at least conditionally independent of pre-treatment characteristics that may directly affect learning. In this study, we report balance tests to assess whether exposure to the aware-

Table 4: Instrumental variable (IV-2SLS) results

Variables	First stage (1) CP	IV-2SLS (2) English	IV-2SLS (3) Math	Reduced form (4) English	Reduced form (5) Math
Anti-awareness campaign	-0.027***			-0.018***	-0.021***
	(0.004)			(0.004)	(0.005)
Corporal Punishment (Intervention)		-0.066***	-0.077***	-0.037***	0.038***
		(0.018)	(0.022)	(0.005)	(0.006)
Age	0.005	-0.034***	0.042***	0.004***	0.002***
	(0.006)	(0.006)	(0.007)	(0.000)	(0.000)
Sex of the Headteacher: Female	-0.078***	-0.046***	-0.061***	0.006	-0.000
	(0.005)	(0.016)	(0.018)	(0.005)	(0.006)
Private School	0.082***	0.188***	0.165***	0.134***	0.101***
	(0.011)	(0.021)	(0.023)	(0.009)	(0.011)
Community School	0.029	0.019	-0.030	0.001	-0.052**
	(0.024)	(0.027)	(0.029)	(0.019)	(0.022)
Log PCR	0.0145**	0.002	0.008	-0.007	-0.010*
	(0.005)	(0.006)	(0.073)	(0.005)	(0.005)
Log PTR	0.007	-0.063***	-0.028***	-0.068***	-0.034***
	(0.008)	(0.009)	(0.009)	(0.007)	(0.008)
Log FTR	0.062***	0.082***	0.079***	0.041***	0.031***
	(0.004)	(0.012)	(0.015)	(0.004)	(0.004)
Disability status	-0.013	-0.037***	-0.029**	-0.028***	-0.019**
	(0.009)	(0.010)	(0.012)	(0.008)	(0.009)
Sex of the Household Head (Female=1)	-0.005	0.009*	0.0102*	0.012***	0.014***
	(0.005)	(0.005)	(0.006)	(0.004)	(0.005)
Asset index	0.002	0.014	0.093***	0.012	0.092***
	(0.012)	(0.013)	(0.015)	(0.010)	(0.012)
Size of household	0.002**	-0.001	-0.097	-0.002***	-0.002***
	(0.0008)	(0.009)	(0.011)	(0.001)	(0.001)
Urban	0.029***	0.103***	0.097***	0.084***	0.075***
	(0.009)	(0.011)	(0.012)	(0.007)	(0.008)
Social Norms Index (SNI)	0.237***	-0.039***	-0.022	-0.040***	-0.023**
	(0.042)	(0.0121)	(0.0139)	(0.009)	(0.011)
F-Statistic	29.9	28.34***	27.9***		
Correlation		0.156	0.368		
District fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	33,320	33,320	33,320	33,320	33,320

Notes: Coefficients reported. Standard errors in the parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively: The reference category for school type variable is "Government school". Standard errors are clustered at the clustered at school level

ness campaigns correlated with observable characteristics. While not a formal test of instrument validity, these comparisons provide descriptive evidence on whether campaign exposure is plausibly exogenous. Table A5 presents mean differences and t-tests for key child, household, and school characteristics between treated and untreated communities. The results show that the differences between control and intervention communities across all variables are small and statistically insignificant, except gender of Household head. This suggests that the two groups are broadly comparable. These results show that selection into treatment is not systematically correlated with observable baseline characteristics.

6.1 Sensitivity tests

There are concerns that the presence of unobserved confounders from non-random targeting of the intervention could bias the estimated effect of corporal punishment (CP) on learning outcomes, particularly, if these factors are correlated with targeting of the anti-awareness campaigns and academic performance as outlined in section 4.

To assess robustness to omitted variable bias, I implement sensitivity analysis using *Sensemakr* framework by Cinelli and Hazlett (2020), Specifically, this framework quantifies the robustness of OLS estimates to omitted variable bias. The key metric is the Robustness Value ($RV_{q=1}$), which measures the minimum strength — in terms of partial R^2 with both the treatment and the outcome — that an unobserved confounder would need to have to fully explain away the estimated effect. These values are benchmarked against observed covariates to assess whether confounders of plausible strength could overturn the results. Table 5 reports estimates on this analysis. The analysis shows that CP reduces Math proficiency by 2.1 percentage points, observable factors explaining 6.5 percent of the residual variation in Math proficiency. To fully eliminate CP effect, unobserved confounders would need to account for at least 14.3 percent of the variation in treatment (CP) and Math proficiency, and 9.2 percent to render it statistically insignificant at the 5 percent level.

Considering the bounds estimates, the robustness value $RV_{q=1} = 14.3\ percent$ exceeds the corresponding benchmark bounds $\left(R^2_{Y\sim Z|X,D} = 11.3\ percent \text{ and } R^2_{D\sim Z|X} = 8\ percent\right)$. This implies that omitted confounders would need to be substantially stronger than the variable urban covariate to explain away the estimated effect. Therefore, the point estimate for the impact of CP on Math proficiency appears robust to plausible levels of unobserved confounding.

Similarly, CP reduces English proficiency by 1.8 percentage points, with the treatment explaining 5.5 percent of the residual variation in English proficiency. Sensitivity analysis indicates that unobserved confounders would need to explain 15.9 percent of the residual variation in both the treatment and English proficiency to eliminate the estimated effect, and 11.5 percent to render it statistically insignificant under a more extreme scenario. Using the urban–rural location benchmark, the bound values $\left(R^2_{Y\sim Z|X,D} = 8\ percent \text{ and } R^2_{D\sim Z|X} = 4\ percent\right)$ are both

below the robustness value $\left(RV_{q=1} = 10.4\ percent\right)$. This suggests that confounders as strong as urban–rural location would not be sufficient to explain away the observed point estimate. Overall, the estimated effect of CP on English proficiency appears robust to plausible levels of unobserved confounding.

Table 5: Minimal sensitivity analysis reporting

Treatment	Est.	S.E	t-value	$R^2_{Y\ D\|X}$	$RV_{q=1}$	$RV_{q=1,\alpha=0.05}$
CP (Math)	-0.021	0.004	-4.484	0.065	0.143	0.092
CP (English)	-0.018	0.046	-4.542	0.057	0.159	0.115
Bounds (Urban- Math)					0.113	0.084
Bounds (Urban- English)					0.081	0.04

Notes: Source: Results are based on the Carlos Cinelli and Chad Hazlett (2020) and implement the *sensemakr* procedure

6.2 Heterogeneity analysis

7 *Social norms*

Table 6 presents the differential impact of corporal punishment (CP) on Mathematics and English across communities with different levels of social acceptance, measured by a Social Norms Index (SNI). Specifically, I classify low-SNI communities to have SNI values below 0.5, and high-SNI communities above 0.5. As earlier highlighted in section 3.3, low-SNI communities are defined as those in which social norms weakly endorse corporal punishment, while high-SNI communities are those where CP is widely accepted, socially endorsed, and commonly perceived as a legitimate disciplinary practice.

Our results using the IV-2SLS specification, show that CP reduces English and Math proficiency in all communities, however the adverse effects are larger in communities with low tolerance for CP (low SNI). The estimates show that exposure to corporal punishment reduces the likelihood of English proficiency by 9.7 percentage points in low-SNI compared to 4.3 percentage points in high-SNI communities. Similarly, the likelihood in Math proficiency falls by 17 percentage points in low SNI communities compared to 4.6 percentage points in areas where CP is tolerated (high SNI). These findings are consistent with cross-country evidence showing that the effects of CP depend on how children interpret disciplinary practices within their cultural context (Lansford et al., 2005; Lansford & Dodge, 2008; Baumrind et al., 2010). In societies where CP is more normative, its harmful effects tend to be moderate, as children may be less likely to perceive it as hostile. However, this cultural acceptance does not eliminate its adverse consequences (Lansford et al., 2010).

In line with this argument, our results suggest that in high-SNI communities, children may interpret CP as a conventional form of discipline, resulting in smaller negative effects on learning. In contrast, in low-SNI settings where CP is less socially accepted, children may experience stronger psychological distress, leading to more pronounced declines in learning outcomes.

Table 6: The role of social norms (IV-2SLS estimates)

Variables	Low SNI (1) English	High SNI (2) English	Low SNI (3) Math	High SNI (4) Math
Corporal punishment	-0.097**	-0.044**	-0.1651***	-0.047**
	(0.038)	(0.185)	(0.447)	(0.212)
F-Statistic	16.38**	19.58***	16.38***	19.58***
Observations	15,495	18,227	15,495	18,227
District fixed effects	YES	YES	YES	YES
Controls	YES	YES	YES	YES

Notes: Coefficients reported. Standard errors in the parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively. The model control for all individual, household and school characteristics considered in Table 4 and Table 5. Standard errors are clustered at the clustered at school level

8 *Gender of the child*

The results in Table 7 indicate that exposure to corporal punishment (CP) significantly reduces learning outcomes among both girls and boys. However, these negative effects are more pronounced among girls. Specifically, female students in schools where CP is used are likely to have experience a decline in English proficiency by 7.4 percentage points compared to a 5.5 percentage point decline for boys. In Mathematics, CP reduces the likelihood of proficiency by 9.2 percentage points among girls and by 5.7 percentage points among boys, indicating a stronger adverse effect for female students. These findings suggest that CP undermines children's core learning outcomes, with slightly larger adverse effects for female students.

These results further confirm broader evidence that suggests that corporal punishment is associated with more detrimental internalizing behaviour problems such as anxiety, depression, and withdrawal among girls than boys (Chaplain et al., 2005; Xing & Wang, 2013). Such internalizing behaviours are closely linked to reduced academic concentration, classroom participation, and learning engagement (Okano et al., 2019; Levkovich, 2025).

Table 7: Gendered effect of CP on learning outcomes: IV-2SLS estimates

Variables	Girls		Boys	
	(1) English	(2) Math	(3) English	(4) Math
Received CP	-0.074***	-0.091***	-0.055**	-0.057*
	(0.025)	(0.029)	(0.028)	(0.032)
F-statistic	14.3***	14.6***	14.9***	15.2***
Controls	YES	YES	YES	YES
Observations	16,534	16,534	16,786	16,786

Notes: Coefficients reported. Standard errors in the parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively: Standard errors are clustered at the clustered at school level

8.1 Potential mechanisms

Building on the conceptual framework in Section 2, I explore the potential mechanisms through which corporal punishment may affect learning outcomes in Ugandan schools. As earlier highlighted, one of the potential ways is through absentism, where I hypothesize that exposure to corporal punishment in school generates fear toward the school environment, thereby discouraging regular attendance which then affects learning (Carson et al., 2013; Smarrelli, 2023). In addition, corporal punishment may result in physical injuries or psychological distress that impair children's health and well-being and further affect the presence of unobserved confounders attendance (Gershom et al., 2020; Cuartas et al., 2021). These pathways are further confirmed in Uganda's Violence Against Children survey (2015) which shows that one in four students (25 percent) who experienced corporal punishment by a teacher subsequently missed school as a result (MGLSD, 2018).

To empirically test this mechanism, I exploit survey information on absenteeism at both the child and school levels. At the school level, the survey records a headcount of children in attendance on the survey day and compares this to total enrolment reported in the school register. At the child level, the survey captures whether the child attended class on the previous Friday, providing a direct measure of attendance consistency. I estimate the effects at both the child and school levels, with results reported in Table 8.

The child-level estimates in column (1) indicate that exposure to corporal punishment increases absenteeism by a 34.6 percentage-points. Consistent with this, the school-level analysis shows that corporal punishment linked to a 2 percentage-point decline in headcount attendance. Absenteeism is, in turn, strongly associated with poorer learning outcomes. At the child level, a one percentage-point increase in absenteeism reduces proficiency in English by 8.5 percentage-points decline compared to 7.9 percentage-points in Mathematics. Similarly, at the school level, higher absenteeism reduces the likelihood of proficiency by 0.36 and 0.28 percentage-points in

English and mathematics performance, respectively, as shown in columns (6) and (7). Overall, these results strongly suggest that the effect of corporal punishment on learning, operates through reduced school attendance.

Table 8: The effect of CP on school attendance as well as attendance on Learning (2SLS model)

	First stage	IV-2SLS	IV-2SLS	First stage	IV-2SLS	IV-2SLS
Dependent variable	Missed school	English	Math	Missed school	English	Math
	(1)	(2)	(3)	(5)	(6)	(7)
Anti-awareness campaign	0.346**			0.019**		
	(0.162)			(0.009)		
Missed school		-0.085***	-0.079***		-0.365***	-0.289***
		(0.005)	(0.005)		(0.069)	(0.102)
Constant	0.989***	0.284***	0.302***	0.836***	4.302***	5.274***
	(0.052)	(0.025)	(0.029)	(0.049)	(0.172)	(0.253)
R-squared	0.147	0.210	0.260	0.05	0.193	0.089
District Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
IV F-Statistic	50.8			33.3		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32,533	32,533	32,533	2,307	2,305	2,301

Notes: Coefficients are reported, with standard errors in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. This table controls for all school and household characteristics listed in Tables 4 and 5. Columns (1)–(3) present child-level attendance estimates, while columns (5)–(7) present school-level estimates. School-level absenteeism is measured using enrolment versus headcount attendance on the day of the survey. In columns (6) and (7), school-level absenteeism is regressed on school-level learning outcomes, defined as a binary variable representing the proportion of children proficient in math and English. In columns (2) and (3), school-level absenteeism considers the individual child's attendance. Standard errors are clustered at the clustered at school level

9 Conclusions and policy recommendations

This study examines the effect of corporal punishment (CP) on learning outcomes in primary schools in Uganda. Using nationally representative pupil and school-level data linked to household information and identifying the effect through an IV–2SLS approach, I find that children exposed to CP are likely to perform worse in both Mathematics and English. On average, exposure to CP in schools reduces the probability of being proficient in English by 6.6 percentage points and in Mathematics by 7.7 percentage points. The negative effect is stronger for Mathematics than for English, partly because children in Uganda are more likely to be punished for failing Mathematics, and partly because Mathematics learning is more sensitive to anxiety, fear,

and stress induced by CP. In contrast, language skills may be partially reinforced through learning outside the school environment.

The results also indicate that CP has a larger detrimental effect on girls compared to boys, even though boys are more frequently subjected to CP for aggressive behaviour. These findings highlight both subject-specific anxiety and gendered responses in shaping how CP affects learning outcomes in Ugandan primary school.

Our heterogeneity analysis indicates that the adverse effect of corporal punishment on learning outcomes is smaller in environments where corporal punishment is more socially accepted. More specifically, in settings with low acceptance of corporal punishment, its effect on learning outcomes is strongly negative. These results suggest that social norms shape how children experience and respond to disciplinary practices. This moderating effect should not be interpreted as evidence that corporal punishment is beneficial in some contexts. Instead, it suggests that when corporal punishment is widely accepted, it may cause less immediate disruption to learning. This could be because children are more likely to follow the rules, expect such punishment, see it as fair, or respond differently to authority.

These findings have important implications for policy in Uganda, where corporal punishment remains widespread despite legal prohibitions, such as the 2016 ban on corporal punishment. The persistence of corporal punishment as a disciplinary measure in schools reflects deeply entrenched social norms and beliefs that depict physical punishment as a necessary measure for discipline. As a result, policies that rely solely on formal bans are unlikely to be effective unless they are accompanied by efforts to shift attitudes and practices. Complementary approaches such as community and teacher engagement, training in positive, non-violent discipline, and interventions like the Good School Toolkit that promote child-friendly learning environments are more likely to reduce corporal punishment and improve learning outcomes for all children.

Several avenues for future research remain. First, although the data used in this study are nationally representative, they are limited by their cross-sectionality and they do not follow the same students over time. As a result, they cannot fully capture individual-level exposure to corporal punishment within schools or its cumulative effects. Future studies could leverage longitudinal data to better understand how repeated exposure to corporal punishment affects learning. Second, the study focuses on short-term effects of CP on learning, but this disciplinary measure can also affect long-term effects of children on future education and labour market outcomes, given that CP could affect cognitive and psychological development of children. Finally, future research could explore the effects of CP on learning outcomes given different settings under which CP may occur, for example, school vs home environments.

References

Al-Samarrai, S. (2003). Financing primary education for all: Public expenditure and education outcomes in Africa. Brighton, UK: Institute of Development Studies, University of Sussex.

Baker-Henningham, H., Meeks-Gardner, J., Chang, S., & Walker, S. (2009). Experiences of violence and deficits in academic achievement among urban primary school children in Jamaica. *Child abuse & neglect*, *33*(5), 296-306.

Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science and practice*, *10*(3), 157-201.

Chávez, C., & Aguilar, M. (2021). The Impact of Community Violence on Educational Outcomes: A review of the literature.), 200-230.

Carrell, S. E., & Hoekstra, M. L. (2010). Externalities in the classroom: How children exposed to domestic violence affect everyone's kids. *American Economic Journal: Applied Economics*, *2*(1), 211-228.

Carson, D. C., F.-A. Esbensen, and T. J. Taylor (2013). A Longitudinal Analysis of the Relationship Between School Victimization and Student Mobility. Youth Violence and Juvenile Justice 11 (4), 275–295

Chaplin, T. M., Cole, P. M., & Zahn-Waxler, C. (2005). Parental socialization of emotion expression: Gender differences and relations to child adjustment. Emotion, 1, 80–88

Cuartas, J.(2023). Ending corporal punishsmnt in early years of childhood: An essential need and right of every child: Early Childhood Development Action Network (ECDAN).

Cuartas, J., Weissman, D. G., Sheridan, M. A., Lengua, L., & McLaughlin, K. A. (2021). Corporal punishment and elevated neural response to threat in children. *Child development*, *92*(3), 821-832.

Dee, T. S. (2007). Teachers, race, and student achievement in a randomized experiment. Review of Economics and Statistics, 89(1), 195–210.

Devries, K. M., Kyegombe, N., Zuurmond, M., Parkes, J., Child, J. C., Walakira, E. J., & Naker, D. (2014). Violence against primary school children with disabilities in Uganda: a cross-sectional study. *BMC public health*, *14*, 1-9.

Devries, K., Kuper, H., Knight, L., Allen, E., Kyegombe, N., Banks, L. M., & Naker, D. (2018). Reducing physical violence toward primary school students with disabilities. *Journal of Adolescent Health*, *62*(3), 303-310.

Diagne, D. (2009). School violence: Evidence from the economics literature and related disciplines. *Schweizerische Zeitschrift für Bildungswissenschaften*, *31*(1), 135-150.

Duflo, E., Dupas, P., & Kremer, M. (2015). *School governance, teacher incentives, and pupil–teacher ratios: Experimental evidence from Kenyan primary schools. Journal of Public Economics, 123*, 92–110.

Evans, D. K., Hares, S., Smarrelli, G., & Wu, D. (2023). *When the Data You Have Aren't the Data You Need: School-Related Violence Data Availability in Low-and Middle-Income Countries* (No. 658).

Fry, D., Fang, X., Elliott, S., Casey, T., Zheng, X., Li, J., ... & McCluskey, G. (2018). The relationships between violence in childhood and educational outcomes: A global systematic review and meta-analysis. *Child abuse & neglect*, *75*, 6-28.

Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin, 128*(4), 539–579.

Gershoff, E. T. (2017). School corporal punishment in global perspective: prevalence, outcomes, and efforts at intervention. *Psychology, health & medicine*, *22*(sup1), 224-239.

Gershoff, E. T., & Grogan-Kaylor, A. (2016). Spanking and child outcomes: Old controversies and new meta-analyses. *Journal of Family Psychology, 30*(4), 453–469.

Glewwe, P., & Kremer, M. (2006). Schools, teachers, and education outcomes in developing countries. *Handbook of the Economics of Education* (Vol. 2, pp. 945–1017). Amsterdam:

Glewwe, P., Hanushek, E. A., Humpage, S., & Ravina, R. (2011). School resources and educational outcomes in developing countries: A review of the literature from 1990 to 2010. Handbook of the Economics of Education, 3, 163–192.

González, L., & Rodríguez-Planas, N. (2020). Gender norms and intimate partner violence. *Journal of Economic Behavior & Organization*, *178*, 223-248.

Green, D. P., Wilke, A. M., & Cooper, J. (2020). Countering violence against women by encouraging disclosure: A mass media experiment in rural Uganda. *Comparative Political Studies*, *53*(14), 2283-2320.

Hanushek, E. A. (2003). The failure of input-based schooling policies. *Economic Journal, 113*(485), F64–F98.

Hanushek, E. A. (2010). Education production functions: Evidence from developed countries. *Economics of education*, *2*, 132-136.

Hart, C (2021). Gender and corporal punishment. `https://www.togetherforgirls.org/en/blog/the-gendered-reality-of-corporal-punishment-in-schools`

Hart, C. S. (2021). Teacher gender, classroom practices, and student learning outcomes. Comparative Education Review, 65(3), 458–483.

Kan, S., & Klasen, S. (2021). Evaluating universal primary education in Uganda: School fee abolition and educational outcomes. *Review of Development Economics*, *25*(1), 116-147.

Karyeija K, G., Basheka C, B., & Ndayondi, I. (2014). Corporal punishment and students' discipline in Uganda's Schools: A literature review.

Kazibwe, D. (2023). Violent conflicts and educational outcomes: The LRA insurgency in Northern Uganda revisited (No. 401). Households in Conflict Network.

Kumar, D., Padhi, D., Pratap, B., & Aggarwal, A. (2022). Corporal punishment and praise in Indian schools: Caste-based heterogeneity on children's cognitive skills. *International Journal of Educational Development*, *89*, 102554.

Kyegombe, N., Namakula, S., Mulindwa, J., Lwanyaaga, J., Naker, D., Namy, S., ... & Devries, K. M. (2017). How did the Good School Toolkit reduce the risk of past week physical violence from teachers to students? Qualitative findings on pathways of change in schools in Luwero, Uganda. *Social Science & Medicine*, *180*, 10-19.

Lansford, J. E., Chang, L., Dodge, K. A., Malone, P. S., Oburu, P., Palmérus, K., ... & Quinn, N. (2005). Physical discipline and children's adjustment: Cultural normativeness as a moderator. *Child development*, *76*(6), 1234-1246.

Lansford, J. E., & Dodge, K. A. (2008). Cultural norms for adult corporal punishment predict children's internalization of discipline and adjustment. *Child Development, 79*(6), 1629–1645. https://doi.org/10.1111/j.1467-8624.2008.01222.

Levkovich, I., Yatzkar, U., & Shenaar-Golan, V. (2025). Age and gender differences in emotional and behavioral functioning among youth referred to a psychiatric outpatient clinic at a public hospital. *Children, 12(6)*, 683. https://doi.org/10.3390/children12060683

Lokot, M., Bhatia, A., Kenny, L., & Cislaghi, B. (2020). Corporal punishment, discipline and social norms: A systematic review in low-and middle-income countries. *Aggression and violent behavior*, *55*, 101507.

Lansford, J. E., Alampay, L. P., Al-Hassan, S., Bacchini, D., Bombi, A. S., Bornstein, M. H., Chang, L., Deater-Deckard, K., Di Giunta, L., Dodge, K. A., Oburu, P., Pastorelli, C., Runyan, D. K., Skinner, A. T., Sorbring, E., Tapanya, S., Tirado, L. M. U., & Zelli, A. (2010).

Corporal punishment of children in nine countries as a function of child gender and parent gender.

International Journal of Pediatrics, 2010, 672780.
https://doi.org/10.1155/2010/672780

Mahlangu, P., Chirwa, E., Machisa, M., Sikweyiya, Y., Shai, N., & Jewkes, R. (2021). Prevalence and factors associated with experience of corporal punishment in public schools in South Africa. *PLoS one*, *16*(8), e0254503.

Maiti, A. (2021)Effect of corporal punishment on young children's educational outcomes . Educational Economics. 29:4, 411-423.

Mossie, T. B., Mekonnen Fenta, H., Tadesse, M., & Tadele, A. (2023). Mapping the disparities in intimate partner violence prevalence and determinants across Sub-Saharan Africa. *Frontiers in public health*, *11*, 1188718.

Moussa, W., & Omoeva, C. (2020). The long-term effects of universal primary education: Evidence from Ethiopia, Malawi, and Uganda. *Comparative Education Review*, *64*(2), 179-206.

Mukhopadhyay, T., Rivera, C., & Tapia, H. (2019). *Gender inequality and multidimensional social norms*. Working Paper). United Nations Development Programme, Human Development Report Office, New York.

Naker, D. (2005). *Violence Against Children: The Voices of Ugandan Children and Adults*. Kampala: Raising Voices.

Ogando Portela, M. J., & Pells, K. (2015). Corporal punishment in schools: longitudinal evidence from Ethiopia, India Peru and Viet Nam.

Okano, L., Jeon, L., Crandall, A., & Riley, A. (2020). Differential effects of internalizing behaviors on academic functioning for girls versus boys: An analysis of developmental cascades from elementary to high school. *Development and psychopathology*, *32*(2), 751-764.

Pells, K. & V. Morrow. (2017) Children's Experiences of Violence: Evidence from Ethiopia, India, Peru and Vietnam. Background paper. Ending Violence in Childhood Global Report 2017. Know Violence in Childhood. New Delhi, India.

Raising Voices (2022). The Good School Toolkit. `https://raisingvoices.org/children/the-good-school-toolkit/`

Satinsky, E. N., Kakuhikire, B., Baguma, C., Cooper-Vince, C. E., Rasmussen, J. D., Ashaba, S., ... & Tsai, A. C. (2024). Caregiver preferences for physically harsh discipline of children in rural Uganda. *Journal of Family Violence*, *39*(5), 861-874.

Smarrelli, G. (2023). Improving School Management of Violence: Evidence from a Nationwide Policy in Peru (No. 667). Center for Global Development.

Smarrelli, G., Wu, D., Baago-Rasmussen, L. I. N. E., Hares, S., & Naker, D. (2023) Violence in Schools: Prevalence, Impact, and Interventions, `https://www.jstor.org/stable/resrep57631`

Stentiford, L., Koutsouris, G., & Allan, A. (2023). Girls, mental health and academic achievement: A qualitative systematic review. *Educational Review*, *75*(6), 1224-1254.

UBOS (2022). The Uganda Demographic and Health Survey Report.`https://www.unicef.org/uganda/media/16731/file/UDHS-2022-Report.pdf.pdf`

UNESCO, I. (2019). Behind the numbers: Ending school violence and bullying. *UNESCO Digital Library*.

UNESCO. (2019). Behind the numbers: Ending school violence and bullying. Paris: UNESCO.

UNESCO. (2020). Global education monitoring report 2020: Inclusion and education—All means all. Paris: UNESCO.

UNICEF (2023). Ending corporal punishment in schools to transform education for all children. https://www.unicef.org/safetolearncoalition/stories/ending-corporal-punishment-schools-transform-education-all-children

UNICEF (2023). Evidence from across countries of the positive impact of prohibiting corporal punishment. https://www.unicef.org/safetolearncoalition/stories/evidence-across-countries-positive-impact-prohibiting-corporal-punishment

UNICEF (2023). The Global database on Violent discipline. https://data.unicef.org/topic/child-protection/violence/violent-discipline/

UNICEF (2023). Violence Against Children in Schools Margaret's story: https://www.unicef.org/uganda/violence-against-children-schools?utm_source=chatgpt.com

UNICEF (2024). Violent discipline prevalence rates. https://data.unicef.org/topic/child-protection/violence/violent-discipline/

United Nations (2007). Convention on the Rights of the Child. https://www.refworld.org/legal/general/crc/2007/en/43085

Uwezo Uganda. (2018). *Are Our Children Learning? Uwezo Learning Assessment Uganda Report 2018*. Kampala: Twaweza East Africa.

Visser, L. N., van der Put, C. E., & Assink, M. (2022). The association between school corporal punishment and child developmental outcomes: A meta-analytic review. *Children, 9*(3), 383.

Vohito, S. (2021). The African Children's Charter and ending corporal punishment of children in Africa: A work in progress. *African Human Rights Law Journal*, *21*(1), 74-98.

Wamimbi, R. (2018). Understanding Social Norms to Prevent and Respond to Violence Against Children in Uganda. https://old.africhild.cloud/wp-content/uploads/2019/08/ebook-Understanding-Social-Norms-Sept-2018.pdf

Wodon, Q., C. Fèvre, C. Malé, A. Nayihouba, & H. Nguyen. 2021. Ending Violence in Schools: An Investment Case. Washington, DC: The World Bank and the Global Partnership to End Violence Against Children

World Bank. (2018). World development report 2018: Learning to realize education's promise. Washington, DC: World Bank.

World Bank. (2018). World Development Report 2018: Learning to Realize Education's Promise. Washington, DC: World Bank.

World Health Organization. (2020). Global status report on preventing violence against children 2020.

Xing, X., & Wang, M. (2013). Sex differences in the reciprocal relationships between mild and severe corporal punishment and children's internalizing problem behavior in a Chinese sample. *Journal of Applied Developmental Psychology*, *34*(1), 9-16.

Saavedra, J., McDonald, L., Fevre, C., Quota, M., & Wodon, Q. (2021, April 30). *The unacceptable and intolerable reality of corporal punishment of children and youth*. World Bank Blogs. https://blogs.worldbank.org/en/education/unacceptable-and-intolerable-reality-corporal-punishment-children-and-youth

Awoniyi, F. C. (2021). Are caning and learning friends or foes in Ghanaian secondary schools?. *Cogent Education*, *8*(1), 1862031.

Smith, A. B. (2006). The state of research on the effects of physical punishment. *Social Policy Journal of New Zealand*, *27*, 114.

World Bank Group. (2019). *Uganda Economic Update, 13th Edition, May 2019: Economic Development and Human Capital in Uganda — A Case for Investing More in Education*. The World Bank

Ahmed, A. Y., & Mihiretie, D. M. (2015). *Primary school teachers and parents' views on automatic promotion practices and its implications for education quality.* International Journal of Educational Development, 43, 90–99. https://doi.org/10.1016/j.ijedudev.2015.05.003

Abdi-Idris, M. O. (2023). The Impact of Corporal Punishment on Students' academic performance at Secondary Schools Level in Mogadishu, Somalia. *JETT*, *14*(5), 503-513.

Solon, G., Haider, S. J., & Wooldridge, J. M. (2015). What are we weighting for? Journal of Human Resources, 50(2), 301–316.

Appendix A: Additional tables and figures

Table A1: Variables and their description

Variable	Description	Level
School-Level Variables		
Corporal punishment (CP)	Indicator equal to 1 if the surveyed school reports CP and 0 otherwise	School
Government school	Indicator equal to 1 if the school is government-owned, 0 otherwise	School
Private school	Indicator equal to 1 if the school is privately owned, 0 otherwise	School
Community school	Indicator equal to 1 if the school is community-owned, 0 otherwise	School
Female Teacher Ratio (FTR)	Proportion of female teachers in the school	School
Female head teacher	Indicator equal to 1 if the head teacher is female, 0 otherwise	School
Pupil–classroom ratio	The ratio of enrolled pupils to the number of classrooms in the school	School
Pupil–teacher ratio	The ratio of enrolled pupils to the number of teachers in the school	School
Household- and Child-Level Variables		
Math proficiency	Indicator equal to 1 if the child is proficient in the Math test and 0 otherwise	Child
English proficiency	Indicator equal to 1 if the child is proficient in the English test and 0 otherwise	Child
School grade	Current grade level of the child	Child
Rural	Indicator equal to 1 if the household resides in a rural area, 0 otherwise	Household
Social Norms Index (SNI)	Composite index capturing attitudes toward CP and disciplinary norms; higher values indicate stronger pro-CP norms	Household
Age of the child	Age of the child in completed years	Child
Household size	Total number of household members	Household
Female household head	Indicator equal to 1 if the household head is female, 0 otherwise	Household
Asset index	Household wealth index constructed using PCA	Household
Central region	Indicator equal to 1 if the household is located in the Central region, 0 otherwise	Region
East region	Indicator equal to 1 if the household is located in the Eastern region, 0 otherwise	Region
North region	Indicator equal to 1 if the household is located in the Northern region, 0 otherwise	Region
West region	Indicator equal to 1 if the household is located in the Western region, 0 otherwise	Region

Table A2: Definitions of negative social norms by indicator

No.	*Indicator*	*Choices*	*Definition of negative social norms*
1	There are times when parents need to beat their children to make them listen.	Strongly agree, agree, disagree, strongly disagree	Strongly agree, agree
2	When a child misbehaves, the best response is to talk to that child	Strongly agree, agree, disagree, strongly disagree	Strongly disagree, disagree
3	Sometimes teachers must beat children to make the learn	Strongly agree, agree, disagree, strongly disagree	Strongly agree, agree
4	Schools must never allow teachers to hit or cane students for any reason	Strongly agree, agree, disagree, strongly disagree	Strongly disagree, disagree

Notes: Source: Based on the Mukhopadhyay et al. (2019)

Table A3: Summary statistics disaggregated by sex of the pupils

Variable	Boys		Girls		t-statistic
	Mean	SD	Mean	SD	
School level variables					
Corporal punishment	0.644	0.48	0.639	0.48	1.19
Government school	0.90	0.30	0.90	0.30	1.44
Private school	0.08	0.27	0.08	0.27	-1.41
Community school	0.02	0.14	0.02	0.14	-0.36
Female Teacher Ratio	0.37	0.19	0.37	0.21	-1.94*
Female head teacher	0.22	0.003	0.216	0.41	1.23
Male Head teacher	0.78	0.42	0.78	0.42	-1.33
Pupil Classroom Ratio	100.1	66.8	103.3	85.4	1.21
Pupil Teacher Ratio	56.3	27.2	56.0	20.9	0.35
Child and Household-level variables					
Math proficiency	0.311	0.310	0.301	0.458	1.93*
English proficiency	0.196	0.397	0.201	0.401	1.19
School grade	3.4	1.79	3.41	1.78	-0.78
Rural	0.91	0.28	0.90	0.29	2.16**
Social Norms Index (SNI)	0.78	0.35	0.77	0.35	1.11
Age of the child	10.57	2.92	10.47	2.88	3.39***
Household Size	7.48	3.02	7.45	2.97	0.93
Male Household head	0.42	0.49	0.39	0.49	4.78***
Female household head	0.58	0.49	0.61	0.49	4.78***
Asset index	0.45	0.19	0.45	0.19	0.53
Central region	0.14	0.35	0.14	0.35	0.03
East region	0.33	0.47	0.34	0.48	2.54***
North region	0.34	0.48	0.32	0.47	5.21***
West region	0.19	0.39	0.19	0.39	3.17***
Observations (N)	20,590		20,235		

Notes: Source: Authors' computations based on the UWEZO survey

Table A4: The anti-children violence awareness campaign coverage

Category	Percent (%)
Message Exposure	
Not heard message	39.3
Heard the message	60.7
Source of Messages	
TV	5.1
Radio	3.8
Newspapers	22.9
Community event	68.2
Frequency of Hearing Messages	
Once	11.9
Twice	19.8
Thrice	15.4
Four or more times	52.9
Institution (NGO) that created the message	
Raising Voices	47.7
Save the Children	35.7
UNICEF	10.7
Plan International	6.0

Notes: Source: UWEZO survey

Table A5: Covariate balance by treatment status -Anti-child violence campaigns

Variable	Control	N	Treatment	N	Difference	t-value
Age of the child	10.494	22,119	10.448	14,315	0.046	0.201
Gender (Male=1)	0.522	22,119	0.494	14,315	0.028	1.091
Asset Index	0.443	22,119	0.419	14,315	0.024	1.329
PTR	49.402	22,034	51.4	14,298	-1.998	-0.364
PCR	85.648	21,440	86.43	14,010	-0.782	-0.061
FTR	0.393	22,007	0.367	14,287	0.026	0.68
Female household head	1.58	22,056	1.647	14,241	-0.067	-2.421**
Social Norms Index Index Index	0.51	22,119	0.523	14,315	-0.013	-1.134
Household size	7.387	22,119	7.01	14,315	0.377	1.326
Grade	3.339	22,119	3.215	14,315	0.123	0.771
Urban	0.106	21,992	0.07	14,209	0.036	0.668
Sex	0.522	21,992	0.494	14,209	0.028	1.091
Disability	0.068	21,992	0.073	14,209	-0.005	-0.306

Notes: Constructed based on the UWEZO survey