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Climate change and child abuse: Evidence from Africa

by Abreham Adera | February 2026

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Abreham Adera is a researcher at the University of Brescia, Italy. Email: abrehamadera21@gmail.com

Abstract

Climate shocks strain household resources, increase stress, and weaken protective structures, all of which may elevate the risk of child abuse. Yet little is known about how climate change affects children, particularly in the Global South. This paper addresses this gap by examining the relationship between drought exposure and attitudes toward child beating in sub-Saharan Africa. We combine individual-level data from the Afrobarometer survey with geocoded drought data from the Geocoded Disasters Dataset (GDIS). We use a spatiotemporal analysis that exploits differences in when and where the Afrobarometer surveys were conducted and when and where droughts occurred. We find that individuals living in drought-affected areas are more likely to justify physically disciplining children. These effects are persistent, potentially with no pattern of decay over time. Mediation analysis of causal pathways suggests that drought increases food insecurity, which raises the risk of intimate partner violence (IPV), and that IPV, in turn, significantly heightens the likelihood of child abuse. These findings highlight the broader social consequences of climate-related shocks and suggest that interventions targeting household stress and IPV norms may help mitigate the impact of drought on child welfare.

Keywords: Children, climate change, droughts, domestic violence, Africa

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1. Introduction

Experiencing childhood abuse leads to long-term socioeconomic disadvantages, including lower levels of education, employment, and earnings (see Herbert et al., 2023, for a review). UNICEF's (2021) Children's Climate Risk Index indicates that climate change may intensify these risks, with approximately 1 billion children facing extreme vulnerability due to climate-related disruptions. These stressors can heighten exposure to various forms of violence, including physical abuse, as climate-induced hardships exacerbate household tensions and weaken protective structures for children.

Climate change may increase violence against children by exacerbating stressors that influence parental behaviour (Cuartas et al., 2023; Datzberger, Howard-Merrill, Parkes, & Iorfa, 2024). Nonetheless, the impact of climate change on child maltreatment has long been overlooked in research. A recent exception is Evans, Gazze, and Schaller (2025), who, using U.S. county-level administrative child-welfare data, found that rising temperatures correlate with increased child neglect, suggesting that climate-induced stressors may contribute to harsher parenting practices.

In the Global South, where recurrent droughts are a pressing challenge, climate shocks are increasingly recognised as drivers of household vulnerability. While much research has examined the impact of droughts on stressors such as food security (Carpena, 2019; Ngcamu & Chari, 2020), less attention has been paid to how these events influence attitudes toward violence within households, particularly the acceptability of child beating (Datzberger et al., 2024). Against this backdrop, this paper examines the effect of drought exposure on support for physical punishment of children.

To address the research question, we merge data from the Geocoded Disasters Dataset (GDIS), covering 1960-2018, with individual-level data from the Afrobarometer surveys for rural areas of sub-Saharan Africa. The combined data set includes approximately 50,000 respondents from African countries surveyed in rounds 7 (2016/2018) and 9 (2021/2023) of the Afrobarometer surveys. These rounds were chosen because they are the only rounds in which Afrobarometer provides information on child abuse.

To assess the impact of drought exposure and examine how its effects evolve over time, we leverage spatial and temporal variation in the data. Specifically, we consider both the distance between respondents' locations and drought-affected sites, as well as the time elapsed between the drought event and the survey year. The results indicate that individuals residing in areas affected by drought are significantly more likely to justify child beating. Moreover, the findings suggest that the effect of drought exposure persists over time, showing little indication of decay.

We use mediation analysis to examine potential pathways linking drought exposure to child abuse. Drawing on existing literature, we focus on two pathways: (1) the material stressors pathway, in which drought leads to food or water insecurity, which then contributes to child abuse, capturing the effect of material stressors alone; and (2) the IPV pathway, in which drought increases food or water insecurity, heightening the risk of intimate partner violence (IPV), which in turn increases the likelihood of child abuse. Our results support the IPV pathway: Drought exposure elevates food insecurity, which raises the risk of IPV, and IPV subsequently increases the probability of child abuse.

Our study contributes to the growing but still limited literature on the impacts of natural-disaster exposure on domestic violence (Cools, Flatø, & Kotsadam, 2020; Díaz & Saldarriaga, 2023). While previous research has primarily examined the effects of rainfall shocks on violence against women, we extend this work by investigating the impact of droughts on child violence. We also contribute to the literature linking climate stress to social norms, such as trust (Ahlerup, Sundström, Jagers, & Sjöstedt, 2024; Mackay, Mavisakalyan, & Tarverdi, 2024; Schilpzand, 2023). More broadly, we advance research evaluating factors that influence norms around domestic violence (Adera, Ben Salha, Buonanno, & Pisanelli, 2024; Erten & Keskin, 2021).

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The remainder of the paper is structured as follows. Section 2 describes the potential pathways through which drought translates into child-beating behaviour. Section 3 describes the data sources and key variables used in the analysis. Section 4 outlines the empirical method. Section 5 presents the findings. Finally, Section 6 summarises the paper.

2. Conceptual framework

Figure 1 presents proposed mechanisms linking drought exposure to violence against children.

The first pathway is the material stressors pathway. Droughts exacerbate food insecurity, destabilising households and increasing economic stress (Carpena, 2019; Ngcamu & Chari, 2020). Food insecurity, in turn, is strongly linked to poorer parental mental health, including heightened stress, anxiety, and impaired impulse control (Knowles, Rabinowich, Ettinger de Cuba, Cutts, & Chilton 2016; Heflin, Siefert, & Williams, 2005; Vaughn, Salas-Wright, Naeger, Huang, & Piquero, 2016). These psychological strains can spill over into parenting practices, increasing the likelihood of harsh discipline (Whitaker, Phillips, & Orzol, 2006). As a result, children in persistently food-insecure households face a substantially greater risk of exposure to violence at home (Helton, Jackson, Boutwell, & Vaughn, 2019; Jackson, Lynch, Helton, & Vaughn, 2018).

Figure 1: Proposed mechanisms linking drought to child exposure to violence, including potential feedback from child exposure to IPV

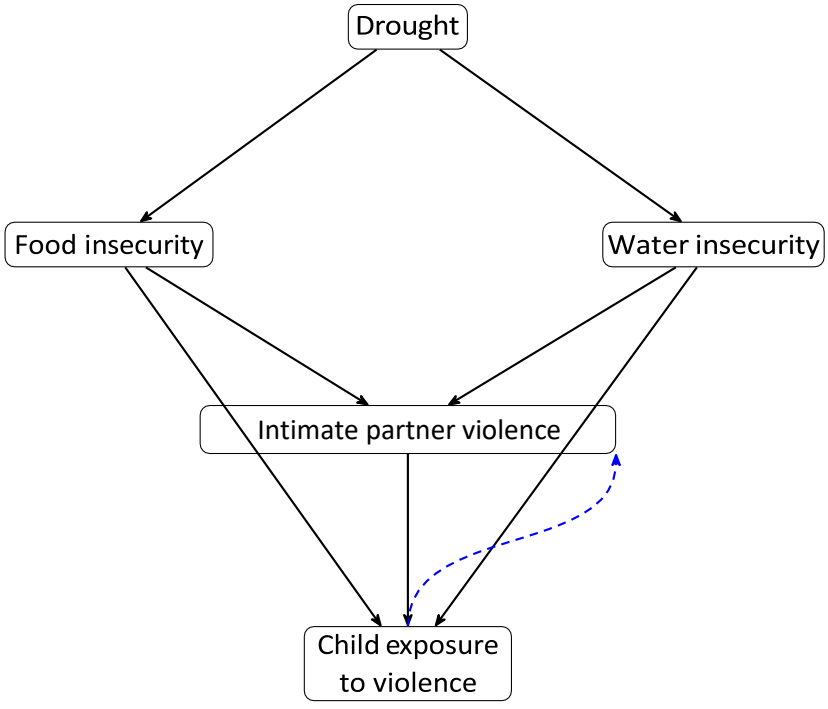

Figure 1 illustrates proposed mechanisms linking drought to child exposure to violence. The material stressors pathway (drought → food/water insecurity → child exposure) reflects the influence of household stressors alone. The IPV pathway (drought → food/water insecurity → IPV → child exposure) shows a pathway mediated through intimate partner violence. The dashed blue arrow indicates a potential feedback effect where child exposure may also influence IPV dynamics.

Water insecurity is another critical component of the material stressors pathway. In sub-Saharan Africa, an estimated 3.36 million children are primarily responsible for collecting water (Graham, Hirai, & Kim, 2016). Droughts exacerbate water scarcity, often forcing children to travel longer distances or return home empty-handed. Parents may misinterpret

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such delays or failures as disobedience. Combined with the stress of unmet basic needs – such as food and water scarcity – these dynamics can heighten parental frustration, which may, in turn, manifest as physical discipline.

IPV further mediates these pathways. Resource scarcity during droughts heightens household stress, which can exacerbate tensions between partners and increase the risk of IPV (Díaz & Saldarriaga, 2023; Tallman et al., 2023). Exposure to IPV may, in turn, foster emotional detachment and reduce parental empathy, normalising harsher disciplinary practices toward children (Chiesa et al., 2018; Coll et al., 2023). In such households, parents may resort to physical punishment as a way to manage stress, assert authority, or maintain control.

While one pathway runs from drought-induced stress to IPV and then to child abuse, it is equally plausible that stress directly shapes parental attitudes and practices around child discipline, which can then influence IPV. For instance, household stress may increase harsh childrearing practices, and these practices may subsequently exacerbate partner conflict and IPV. These mechanisms are not mutually exclusive; they may operate concurrently and reinforce one another. To capture this complexity, Figure 1 includes a dashed blue arrow from child exposure back to IPV, indicating the potential bidirectional feedback loop.

In sum, the conceptual framework identifies two potential pathways, which we explore in the analysis: (1) the material stressors pathway – from drought to food or water insecurity and then to child beating, capturing the potential influence of material stressors alone; and (2) the IPV pathway – drought leads to food or water insecurity, which raises the risk of IPV, and in turn, IPV exposure spills over into greater use of physical discipline against children.

3. Data

Our analysis is based on geo-matching disaster locations with respondents' survey locations. We extract drought data from the Geocoded Disasters Dataset (GDIS), a source for geocoded disaster locations that has been used in recent studies (Ahlerup et al., 2024; Mackay et al., 2024; Schilpzand, 2023). The GDIS is based on information from the Emergency Events Database (EM-DAT) and extends the data set by providing precise location data (longitude and latitude) for natural disasters worldwide between 1960 and 2018 (Rosvold & Buhaug, 2021). The data set records various disaster types, including droughts, floods, storms, mass movements, volcanic activity, extreme temperatures, and wildfires. After filtering the data for Africa and restricting it to drought events, we obtain geocoded spatial information on drought occurrences in 961 sub-national locations. These locations are shown in Figure 2.

Figure 2: Location of Afrobarometer survey clusters and drought events

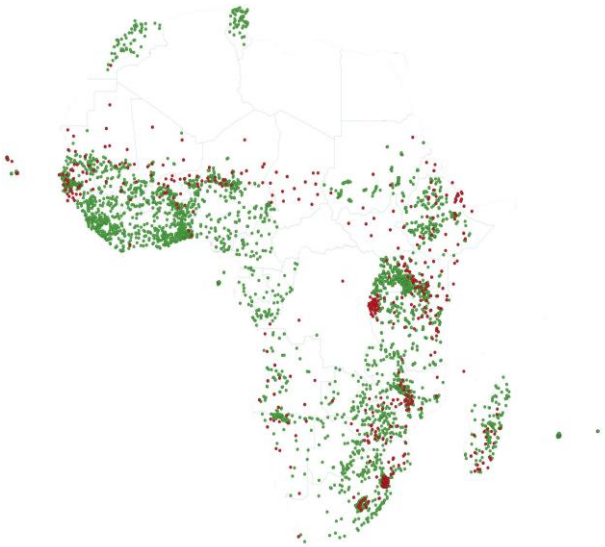

Figure shows the location of Afrobarometer survey clusters (green dots) and drought events (red dots). Afrobarometer clusters are constructed by grouping respondents who share similar geographic locations.

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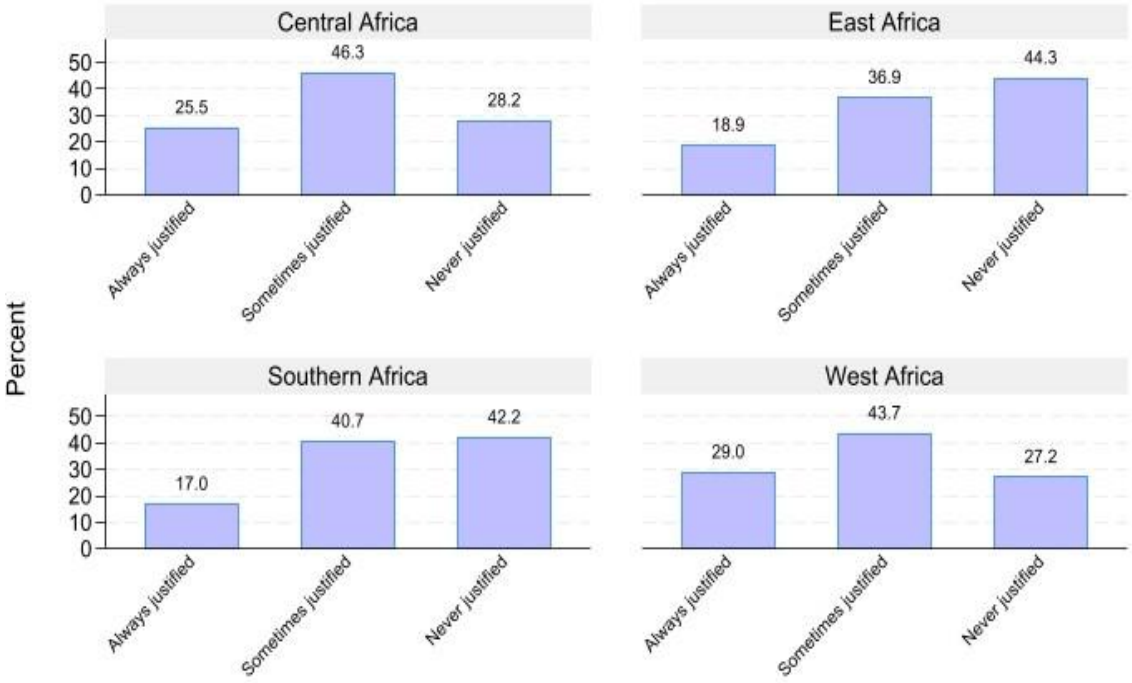
For individual-level data, we utilise Afrobarometer surveys. Afrobarometer is a pan-African public opinion survey that collects information on a wide range of political, social, and economic issues, including perceptions of climate change, environmental stressors, and social behaviours. The survey is conducted through face-to-face interviews with adult citizens (aged 18 years and older). It uses national probability samples designed to generate a sample that is a nationally representative cross-section of all citizens of voting age. We extract several variables from Afrobarometer, including attitudes toward physical discipline, perceptions of drought severity, attitudes toward wife beating, and experiences of food and water insecurity. We focus on Round 7 (2016/2018) and Round 9 (2021/2023) data from 34 African countries[1] because these rounds include an indicator of child abuse, which is not available in other rounds.

Child beating: Child beating is our key dependent variable and is based on a question on whether parents should physically discipline children. Respondents were asked: "*Please tell me whether you think it can always be justified, sometimes be justified, or never be justified for parents to use physical force to discipline their children?*"

Overall, 64% of respondents in the sample said that such discipline is either always or sometimes justified. As illustrated in Figure 3, however, there is regional variation. In East and Southern Africa, support is closer to 50%. Endorsement is highest in West and Central Africa, where approximately 70% of respondents consider physical discipline acceptable.

Figure 3: Views on child beating across African regions



Graphs by country by region; author's tabulation based on data from Afrobarometer survey rounds 7 and 9.

Perceptions on drought severity: Afrobarometer captures respondents' perceived exposure to droughts over the past 10 years. Respondents were asked: "*In your experience, over the past 10 years, has there been any change in the severity of the following events in the area*

[1] The countries in the analysis are Angola, Benin, Botswana, Burkina Faso, Cabo Verde, Cameroon, Congo-Brazzaville, Côte d'Ivoire, Eswatini, Ethiopia, Gabon, the Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, South Africa, São Tomé and Príncipe, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

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where you live: Droughts? Have they become more severe, less severe, or stayed about the same?"

Material stressors: To operationalise the material stressors pathway, we rely on measures of food insecurity and water insecurity reported by Afrobarometer. These indicators capture key dimensions of material hardship that droughts are most likely to affect. Both measures directly reflect material hardships that households face during environmental shocks. They provide a way to empirically test whether the pathways from drought to food and water insecurity, and ultimately to increased likelihood of child beating, operate as proposed in the conceptual framework.

Food insecurity is measured using responses to the Afrobarometer question, "*Over the past year, how often, if ever, have you or your family gone without enough food to eat?*" Water insecurity is measured similarly, based on the question, "*Over the past year, how often, if ever, have you or your family gone without enough clean water for home use?*" For both questions, responses range from 0 ("Never") to 4 ("Always").

To capture severe insecurity, we construct a binary indicator equal to 1 if respondents reported experiencing shortages "many times" or "always" and 0 otherwise. This approach assumes that frequent shortages reflect the intensity of deprivation (Mattes & Lekalake, 2025).

Intimate partner violence (IPV): This variable is derived from a survey question asking respondents whether they believe it is justified for a man to beat his wife.[2] The response options include "Always justified," "Sometimes justified," and "Never justified." Based on these responses, we construct a dummy variable for IPV for which individuals who consider wife beating "always" or "sometimes" justified are assigned a value of 1.

Other variables extracted from Afrobarometer include household asset ownership, respondents' religious affiliation, employment status, education, gender, and age. Appendix Table A.1 provides summary statistics of variables extracted from Afrobarometer.

4. Estimation strategy

To examine the relationship between drought exposure and attitudes toward child discipline, we begin by measuring proximity to drought events. Because droughts are spatially localised and their intensity declines with distance, we classify survey clusters as *exposed* if they lie within a specified radius of a recorded drought event. This definition is designed to capture households most plausibly affected while minimising the inclusion of unaffected areas.

We first estimate a spatial model:

$$Beat_i = \beta_1 Exposed_i + \gamma X_i + \delta_{y(i)} + \delta_{r(i)} + \varepsilon_i \quad (1)$$

where $Beat_i$ is an indicator equal to 1 if Respondent *i* says it is justifiable to physically discipline a child, and $Exposed_i$ equals 1 if the respondent resides within the defined proximity of a drought event. X_i is a vector of controls, $\delta_{y(i)}$ are survey-year fixed effects (capturing differences across Afrobarometer rounds), and $\delta_{r(i)}$ are country- by-region fixed effects (West, East, Southern, North, and Central Africa). Standard errors are clustered at the survey-cluster level.

[2] The question was worded slightly differently in the two survey rounds. Round 7: "*Please tell me for each of the following actions whether you think it can always be justified, sometimes be justified, or never be justified: For a man to beat his wife?*" Round 9: "*For each of the following actions, please tell me whether you think it can always be justified, sometimes be justified, or never be justified: For a man to use physical discipline on his wife if she has done something he doesn't like or thinks is wrong?*"

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A key consideration is that the estimated effects may reflect primarily short-term shocks. Droughts can create acute spikes in stress, food insecurity, and water scarcity, which immediately heighten household tensions and increase the likelihood of harsh discipline. Over time, however, these impacts may attenuate as families adapt, external assistance arrives, or coping mechanisms develop. Distinguishing between transitory and persistent effects is therefore critical for both interpretation and policy design: Short-term shocks may call for rapid emergency relief, whereas lasting effects require longer-term resilience strategies.

To explore this dimension, we incorporate a temporal measure. Using Afrobarometer survey dates and drought occurrence dates from the GDIS, we construct *time to exposure*, defined as the difference between the survey year and the year of the nearest drought event. This allows us to test whether the association between drought exposure and child-discipline attitudes depends on how recently the drought occurred.

We then estimate a spatiotemporal specification:

$$Beat_i = \beta_1 Exposed_i + \beta_2 Time_i + \beta_3 (Exposed_i \times Time_i) + \gamma X_i + \delta_{y(i)} + \delta_{r(i)} + \varepsilon_i \quad (2)$$

where $Time_i$ represents the years since the closest drought event and $Exposed_i \times Time_i$ is the interaction between exposure status and drought timing.

In specification 2, β_1 captures the average difference between exposed and unexposed households, β_2 reflects the cross-sectional association with drought recency, and β_3 tests whether the effect of exposure varies with time since drought.

5. Results

5.1. Benchmark estimates

Table 1 presents the benchmark estimates of how drought exposure relates to attitudes toward child beating. The variable *Exposed* indicates whether a respondent lives within 20 km of a recorded drought event.

Table 1: Drought exposure and child beating: Benchmark

	(1)	(2)	(3)	(4)
Exposed20	0.026**	0.021**	0.055***	0.053***
	(0.011)	(0.011)	(0.011)	(0.011)
Observations	49,392	49,392	49,392	49,171
R-squared	0.000	0.007	0.032	0.034
Controls	No	No	No	Yes
Year fixed effects	No	Yes	Yes	Yes
Region fixed effects	No	No	Yes	Yes
Mean of dep. var.	0.642	0.642	0.642	0.643

*The dependent variable is a dummy indicator equal to 1 if respondent believes that it is justifiable to physically discipline a child. The results are based on Afrobarometer rounds 7 and 9. Controls include household asset ownership, respondents' religious affiliation, employment status, education, gender, age, occupation, country by region and year fixed effects. Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

Across all specifications, drought exposure is associated with a higher likelihood of endorsing physical discipline. The estimated effect becomes stronger when we control for region and

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year fixed effects, suggesting that regional and temporal differences were dampening the observed relationship. By focusing on within-region, within-year variation, the fixed-effects model provides a more accurate picture of the local impact of drought.

Column 4 shows that respondents living near a drought are 5.3 percentage points more likely to support physically disciplining a child. Compared to the overall sample mean of 64.3%, this translates into an 8.2% increase, highlighting a tangible link between environmental stressors and shifts in childrearing attitudes.

5.2. Robustness

The identifying assumption underlying the benchmark specification is that drought can be treated as an exogenous shock to households. This assumption is plausible given that droughts are largely driven by climatic variability rather than by household- or community-level decisions. Nevertheless, to further reduce concerns that unobserved differences between exposed and unexposed households might drive the results, we implement coarsened exact matching (CEM), which reduces imbalance by temporarily coarsening the covariates into substantively meaningful categories, performing exact matching within these categories, and then estimating the treatment effect on the matched sample of original (uncoarsened) data (Iacus, King, & Porro, 2012). This approach directly addresses potential confounding by ensuring that treated and control units are more comparable on observable characteristics.

Implementation was carried out in Stata using the routine CEM by Blackwell, Iacus, King, and Porro (2009), with exact matching on gender, religion, age (coarsened into six brackets), and survey-wave dummies. The CEM estimates, reported in Appendix Table A.2, closely mirror the benchmark results in Table 1, strengthening confidence that the observed effects reflect genuine impacts of drought exposure rather than artifacts of specification.

At baseline, spatial exposure to drought is defined as being within 20 km of the event. One potential concern is that our results may be sensitive to the choice of this geographic cutoff, which delineates the radius around a drought within which individuals are considered exposed. Selecting this cutoff involves a trade-off between minimising noise and ensuring a sufficiently large treatment group. If the cutoff distance is too small, the sample of treated individuals may be limited. Conversely, an excessively large cutoff would include many untreated individuals within the treatment group, potentially attenuating the estimated effect.

To address this concern, Appendix Table A.3 re-estimates the baseline specification using alternative spatial thresholds. At 15 km, exposed households are about 11 percentage points more likely to endorse child beating relative to unexposed households, with the effect size declining monotonically as the exposure radius expands (falling to roughly 5 percentage points at 40 km). This pattern is consistent with droughts exerting more localised impacts that attenuate with distance.

5.3. Spatiotemporal analysis

Appendix Table A.4 reports estimates of the spatiotemporal specification across alternative spatial thresholds (15-40 km). As in the benchmark results, proximity to drought is positively associated with support for child beating, with the strongest effects observed in the closest communities. For example, within 20 km of a drought event, exposed households are on average about 7 percentage points more likely to justify child beating than unexposed households (Figure 4).

Time since the drought event (*Time*) is associated with a modest but statistically significant decline in support for child beating, with a coefficient of approximately –0.001 per year. This indicates a gradual, population-wide softening in attitudes as more time passes since the drought. The interaction between exposure and time since drought (*Exposed* × *Time*) is statistically insignificant, suggesting that these effects are persistent, with no tendency for decay over time. However, these findings should be interpreted cautiously, as the cross-

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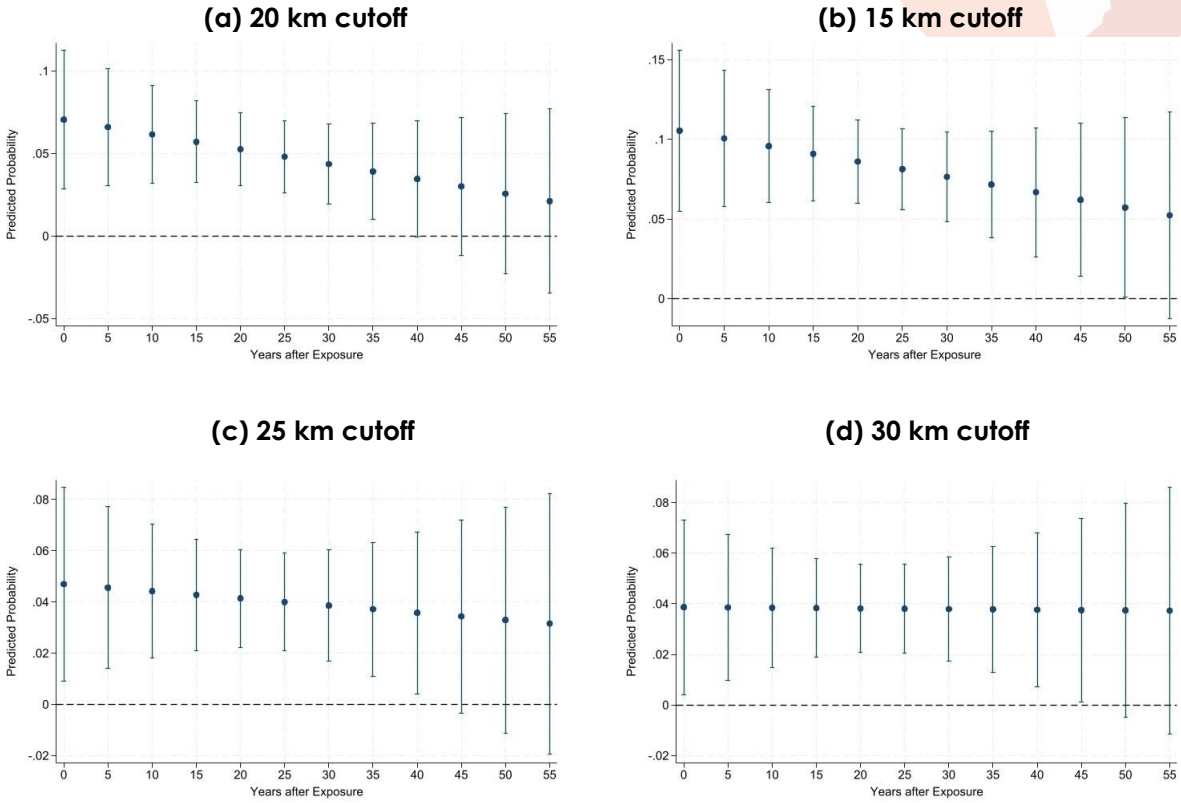
sectional nature of our data captures differences between households in exposure and timing, rather than within-household dynamic adjustments. Longitudinal data would be needed to assess these dynamics more directly.

Figure 4: Drought and child-beating behaviour: Spatiotemporal analysis



95% confidence intervals are shown using standard errors clustered at the Afrobarometer cluster level.

5.4. Gender heterogeneity

We now explicitly address gender heterogeneity in our analysis, as results may differ between men and women. Prior research suggests that men are more likely to perpetrate IPV and, by extension, may influence child-abuse outcomes directly (Straus, 2000). Women, as primary caregivers, are more directly responsible for daily childrearing and may internalise household stress differently, making changes in parenting attitudes – positive or negative – more observable among women (Lansford et al., 2005).

Understanding these gender differences is central to our study, particularly as we examine how climate-related shocks, such as drought, intersect with household dynamics. Table 2 presents the effect of drought exposure on support for child beating, disaggregated by gender. Column 1 shows results for the full sample, while columns 2 and 3 present results for women and men, respectively.

Drought exposure is positively associated with the justification of child beating across the entire sample. Notably, the estimated effects for women (0.054) and men (0.052) are nearly identical, with overlapping standard errors, indicating that the impact of drought on support for child beating does not differ meaningfully by gender.

This suggests that, despite theoretical expectations that caregiving roles or IPV dynamics might generate heterogeneity, both men and women appear to respond similarly to drought-related stress in terms of their attitudes toward child discipline.

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Table 2: Effect of drought exposure on support for child beating, by gender

	(1) Entire sample	(2) Women	(3) Men
Exposed20	0.053*** (0.011)	0.054*** (0.013)	0.052*** (0.012)
Observations	49,171	24,570	24,601
R-squared	0.034	0.037	0.031
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Mean of dep. var.	0.643	0.647	0.639

*The dependent variable is a dummy indicator equal to 1 if the respondent believes it is justifiable to physically discipline a child. Robust standard errors in parentheses. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

5.5. Exploring mechanisms using mediation analysis

We observed a positive association between drought exposure and child beating, suggesting that drought-related stress may influence household discipline practices. The question remains: Through which pathways does this effect operate? Our conceptual framework identifies two interrelated potential pathways: (1) the material stressors pathway – from drought to food or water insecurity and then to child beating, capturing the influence of material stressors alone, and (2) the IPV pathway – from drought to food or water insecurity, then to IPV, and subsequently to child beating, representing a pathway through IPV. Together, these pathways illustrate how drought exposure can generate substantial economic and psychological stress for

households by reducing access to food and water, limiting income, and straining daily living conditions. Such stressors may increase tension and frustration within families, potentially heightening the risk of IPV and harsh child discipline. To investigate these mechanisms, we conduct a mediation analysis. We examine both pathways simultaneously using structural equation modeling (SEM), which allows for the estimation of multiple mediation effects within a unified framework (Baron & Kenny, 1986; Gunzler, Chen, Wu, & Zhang, 2013).

Table 3 above presents the mediation analysis. It reports the indirect effect (the pathway through the mediator), the direct effect (the relationship between drought exposure and child beating after accounting for the mediator), and the total effect (the sum of direct and indirect effects).

The results indicate that drought exposure increases food insecurity but does not significantly affect water insecurity. Nonetheless, water insecurity is positively associated with child beating, whereas food insecurity is not. However, because these factors are interrelated and do not operate in isolation, there is limited evidence to suggest that drought directly influences child abuse via material stressors alone.

When considering IPV, the interconnections become clearer. Drought exposure increases food insecurity, which contributes to higher levels of IPV. Both food and water insecurity are associated with increased IPV, and IPV strongly predicts child beating. These interdependencies suggest a cascading effect: Drought exacerbates material stress, which raises the likelihood of IPV, and IPV then significantly elevates the risk of child abuse.

Taken together, these findings indicate that material stressors and IPV interact rather than function independently. While material stressors alone have limited direct impact on child abuse, their influence is amplified through IPV. This underscores the importance of considering the interconnected household-level dynamics when examining how climate-related stressors, such as drought, affect child welfare.

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Table 3: Mediation analysis for drought exposure on child beating

Outcome	Predictor	Direct effect	Indirect effect	Total effect
Path 1: Drought → material stress → child beating				
Water insecurity	Exposed20	0.00861	-	0.00861
		(0.00961)	-	(0.00961)
Food insecurity	Exposed20	0.02171**	-	0.02171**
		(0.00833)	-	(0.00833)
Child beating	Water insecurity	0.03655***	-	0.03655***
		(0.00564)	-	(0.00564)
Child beating	Food insecurity	0.00626	-	0.00626
		(0.00610)	-	(0.00610)
Child beating	Exposed20	-	0.00045	0.00045
		-	(0.00040)	(0.00040)
Path 2: Drought → material stress → IPV → child beating				
Water insecurity	Exposed20	0.00895	-	0.00895
		(0.00962)	-	(0.00962)
Food insecurity	Exposed20	0.02183**	-	0.02183**
		(0.00834)	-	(0.00834)
IPV	Water insecurity	0.05515***	-	0.05515***
	Food insecurity	0.03644***	-	0.03644***
	Exposed20			0.00129*
				(0.00070)
Child beating	Water insecurity	0.02050***	-	0.02050***
		(0.00223)	-	(0.00223)
Child beating	Food insecurity	0.01354***	-	0.01354***
		(0.00229)	-	(0.00229)
Child beating	IPV	0.37163***	-	0.37163***
		(0.00451)		(0.00451)
Child beating	Exposed20	-	0.00048*	0.00048*
			(0.00026)	(0.00026)

*Robust standard errors in parentheses. "-" indicates effect not estimated. Significance levels: ***p<0.01, **p<0.05, *p<0.1. Effects reported to five decimal places using estat teffects* command in STATA.

5.6. *Linking perceptions to drought events*

Two related exercises allow us to trace the pathway from objective environmental shocks to perceived hardship and, ultimately, to social and behavioural outcomes. First, we examine the extent to which drought events predict perceived drought severity, linking objective

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shocks to subjective experience. Second, we assess how these subjective perceptions of drought severity relate to attitudes toward child discipline.

Afrobarometer collects a subjective measure of drought severity by asking respondents whether, over the past 10 years, droughts in their area have become more severe, less severe, or remained about the same. We construct a binary indicator equal to 1 if respondents reported droughts had become "somewhat more severe" or "much more severe," and 0 otherwise. This measure allows us to link objective drought events to the lived experiences and perceptions of affected communities. Understanding these perceptions is important because they can influence household decision making, stress responses, and adaptation strategies in ways that purely objective measures cannot capture.

Table 4 presents the relationship between objective drought exposure and perceptions of worsening drought across different km radii. Individuals residing in objectively drought-exposed areas are significantly more likely to report worsening drought severity, with positive and highly significant coefficients.

These findings are interesting for several reasons. First, they indicate that subjective perceptions captured by Afrobarometer closely track objective drought events. This provides strong validation that Afrobarometer surveys reliably reflect real-world environmental shocks. Second, the results show that perceptions of drought are localised: Households closer to affected areas are more likely to report worsening conditions. Finally, this alignment between objective exposure and subjective reporting suggests that the survey data can be confidently used in analyses linking environmental shocks to social and behavioural outcomes, such as household stress, coping strategies, and, as shown in our main results, attitudes toward child discipline. In other words, Afrobarometer appears to be doing an excellent job of capturing both the material and perceptual impacts of droughts.

Table 4: Drought events and drought-severity perceptions

	(1) 15 km	(2) 20 km	(3) 25 km	(4) 30 km	(5) 40 km
Exposed15	0.110*** (0.012)				
Exposed20		0.110*** (0.011)			
Exposed30				0.108*** (0.009)	
Exposed40					0.106*** (0.008)
Observations	46,838	46,838	46,838	46,838	46,838
R-squared	0.037	0.039	0.039	0.040	0.041
Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes
Mean of dep. var.	0.546	0.546	0.546	0.546	0.546

*Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

Next, Table 5 examines the link between the subjective measure of drought severity and attitudes toward child beating. We find that the subjective measure is significantly associated with child discipline: Individuals who perceive droughts as more severe are about

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5 percentage points more likely to justify physically disciplining children. This effect is comparable in magnitude to the link observed using objective drought exposure.

Table 5: Drought severity and child beating: Using perception-based measure

	(1)	(2)	(3)	(4)
Droughts are severe (1/0)	0.041***	0.041***	0.052***	0.049***
	(0.005)	(0.005)	(0.005)	(0.005)
Observations	46,882	46,882	46,882	46,710
R-squared	0.002	0.011	0.039	0.040
Controls	No	No	No	Yes
Year fixed effects	No	Yes	Yes	Yes
Region fixed effects	No	No	Yes	Yes
Mean of dep. var.	0.642	0.642	0.642	0.642

*Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

These findings have important implications. First, reported drought severity can be interpreted as a proxy for perceived hardship. Even when objective drought conditions are similar, households closer to the drought or with fewer resources may experience greater disruption to livelihoods, water access, or crop production. Higher reported severity thus signals that the drought is being felt at the household level.

Second, perceptions integrate multiple dimensions of stress, including economic loss, food insecurity, and psychological strain. When respondents report that droughts are "more severe," they provide a measurable signal of experienced adversity, beyond the raw climatological event.

Finally, the alignment between drought exposure, perceived severity, and child-discipline attitudes suggests that the social effects of drought are mediated by experienced hardship. In other words, changes in attitudes toward child discipline are not solely driven by living near a dry area but by the hardships that households perceive and endure.

6. Conclusion

Climate shocks strain household resources, increase stress, and weaken protective structures, all of which may elevate the risk of child abuse. Yet little is known about how climate change exacerbates these risks, particularly in the Global South. This paper addresses this gap by examining the relationship between drought exposure and attitudes toward child beating in sub-Saharan Africa. We combine individual-level data from the Afrobarometer survey with geocoded drought data from the Geocoded Disasters Dataset (GDIS). We use a spatiotemporal analysis that exploits differences in when and where the Afrobarometer surveys were conducted and when and where droughts occurred.

Our analysis provides robust evidence that exposure to drought is positively associated with support for child beating. Benchmark estimates show that households within 20 km of a drought event are significantly more likely to justify physical discipline, and these effects persist after we control for region and year fixed effects as well as a wide set of individual and household covariates. Robustness checks using coarsened exact matching and alternative spatial cutoffs confirm that the observed relationships are not artifacts of model specification or geographic definition, and the effects are strongest in communities closest to the drought event.

Spatiotemporal analyses further indicate that approval of child beating declines slightly over time following a drought, but the temporal softening is modest relative to the baseline difference between exposed and unexposed households. This suggests that drought exposure imposes an immediate and lasting influence on child-discipline norms. Importantly,

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the impact does not differ meaningfully by gender: Men and women show comparable increases in support for physical discipline following drought, highlighting that climate-induced stress affects household attitudes broadly rather than along caregiving or IPV lines alone.

Mediation analysis reveals that the relationship between drought and child-beating attitudes operates through both material stressors and the escalation of IPV. While direct effects of drought on child-discipline attitudes are small once mediators are accounted for, the indirect pathways underscore how environmental shocks generate economic and psychosocial stress, which in turn heighten the risk of harsh parenting practices.

Together, these findings illustrate a clear pathway from climate-related shocks to household behaviours: Drought exposure increases household stress, which then elevates the likelihood of endorsing physical discipline of children. This underscores the importance of considering the broader social and familial consequences of climate variability, particularly in regions where households are highly vulnerable to environmental stressors. Policies aimed at mitigating drought impacts – such as food-security interventions, water-access programmes, and support for family well-being – may therefore not only alleviate immediate material hardship but also help reduce the secondary social consequences of environmental shocks, including the risk of child maltreatment.

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Appendix

Table A.1: Summary statistics

Variable	Obs.	Mean	Std. dev.	Min.	Max.
Child beating	49,392	.6420878	.479391	0	1
Wife beating	49,236	.3072549	.4613606	0	1
Drought perceived as severe	46,882	.5461158	.4978741	0	1
Food insecure	49,353	.2015886	.4011906	0	1
Water insecure	49,338	.2752037	.4466214	0	1
Exposed15	49,392	.0785957	.2691095	0	1
Exposed20	49,392	.1111516	.314323	0	1
Exposed25	49,392	.1427154	.3497859	0	1
Exposed30	49,392	.1752915	.3802201	0	1
Exposed35	49,392	.2045068	.4033448	0	1
Exposed40	49,392	.2315962	.4218566	0	1
Time since drought event	49,392	21.00004	10.43731	0	57
Asset index	49,392	1.483682	1.040755	0	3
Religion (Muslim dummy)	49,392	.2823332	.4501391	0	1
Employed	49,329	.2343855	.4236184	0	1
Education	49,263	2.812456	2.039829	0	9
Female	49,390	.4999798	.5000051	0	1
Age	49,353	38.21267	15.31019	18	106
Occupation (agriculture)	49,392	.4101474	.4918652	0	1

Data extracted from rounds 7 and 9 of the Afrobarometer survey

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Table A.2: Drought exposure and child-beating behaviour using coarsened exact matching (CEM)

	(1)	(2)	(3)	(4)
Exposed20	0.030***	0.030***	0.055***	0.053***
	(0.011)	(0.011)	(0.011)	(0.011)
Observations	49,376	49,376	49,376	49,171
R-squared	0.000	0.006	0.029	0.030
Controls	No	No	No	Yes
Year fixed effects	No	Yes	Yes	Yes
Region fixed effects	No	No	Yes	Yes
Mean of dep. var.	0.642	0.642	0.642	0.643

*Results based on Afrobarometer rounds 7 and 9. Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

Table A.3: Drought exposure and child-beating behaviour for different km radii

	(1) 15 km	(2) 20 km	(3) 25 km	(4) 30 km	(5) 40 km
Exposed15	0.086***				
	(0.013)				
Exposed20		0.053***			
		(0.011)			
Exposed25			0.042***		
			(0.010)		
Exposed30				0.039***	
				(0.009)	
Exposed40					0.033***
					(0.008)
Observations	49,171	49,171	49,171	49,171	49,171
R-squared	0.035	0.034	0.033	0.033	0.033
Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes
Mean of dep. var.	0.643	0.643	0.643	0.643	0.643

*Results based on Afrobarometer rounds 7 and 9. Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

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Table A.4: Drought exposure and child-beating behaviour: Spatiotemporal analysis

	(1) 15 km	(2) 20 km	(3) 25 km	(4) 30 km	(5) 40 km
Exposed15	0.105*** (0.026)				
Exposed15 × Time	-0.001 (0.001)				
Exposed20		0.071*** (0.021)			
Exposed20 × Time		-0.001 (0.001)			
Exposed25			0.047** (0.019)		
Exposed25 × Time			-0.000 (0.001)		
Exposed30				0.039** (0.018)	
Exposed30 × Time				-0.000 (0.001)	
Exposed40					0.036** (0.016)
Exposed40 × Time					-0.000 (0.001)
Time	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
Observations	49,171	49,171	49,171	49,171	49,171
R-squared	0.035	0.034	0.034	0.034	0.034
Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes
Mean of dep. var.	0.643	0.643	0.643	0.643	0.643

*Results based on Afrobarometer rounds 7 and 9. Time represents the time since the closest drought event. Standard errors clustered at the Afrobarometer cluster level. Significance levels: ***p<0.01, **p<0.05, *p<0.1.*

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#95 Nortei Ababio Loop,
North Airport Residential Area
Legon-Accra, Ghana
+233 (0) 302 776142/784293
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