

**Adverse Childhood Experiences, Current Physical Violence, and Perceived Norms about
Child Maltreatment as Correlates of Child Maltreatment Perpetration**

by

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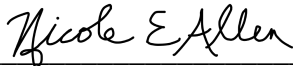
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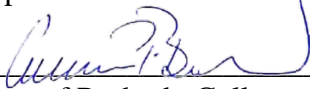
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Misperceived social norms frequently impact personal behaviors. However, little is known about how this occurrence of misperceived social norms interact with Adverse Childhood Experiences (ACEs) and Current Violence (CV) in the context of violence against children. We conducted a cross-sectional study in 2020-2022 that targeted all adult men and women with children aged 6 and up who resided within eight villages in Rwampara District, southwestern Uganda. Corporal punishment of children was elicited by self-report. We also asked participants what they believed to be the prevalence of corporal punishment of children among other parents within their village (i.e., perceived norms). Multivariable Poisson regression models were used to estimate associations between child maltreatment by adults and several potential correlates (including perceived norms, ACEs, and Current Violence) among women and men living with at least one child over age 6 in the household. Misperceiving the local child maltreatment norms to be exaggerated was associated with an increased likelihood of hitting one's child. There is a gender difference in relative risk. Men and women are both influenced by what they perceive other people of their same gender are doing in their village. Men who perceive that "Most men hit children in their households 3 or more times per week" are 4.95 times more likely to perpetrate violence as those who perceive that "Most men do this 0 times per week" ($p < 0.001$). Women were also impacted by their perception of other women's actions, and women who

reported current physical violence were 1.48 times more likely to perpetrate violence as those who had not experienced violence from the opposite sex in the past three months ($p=0.027$).

Women who reported ACEs were 1.35 times more likely to perpetrate violence as those who had not experienced ACEs ($p=0.005$). Interventions to correct misperceived norms about child maltreatment may decrease violence against children.

Keywords: Descriptive norms, perceived norms, child maltreatment, Adverse Childhood Experiences, current violence



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Introduction

Violence against children is a public health problem worldwide. In 2016, more than half of all children, or in other words, more than 1 billion children aged 2 to 17 worldwide had experienced violence within the past year (Hillis et al., 2016). Violence against children includes sexual violence (i.e., rape, sexual trafficking, sexual harassment, online exploitation), intimate partner violence (including among girls in early or forced marriages), youth violence (i.e., between children and young adults, with or without weapons), bullying involving recurring harm, emotional or psychological violence (i.e., ridiculing, intimidating, and rejecting children through non-physical hostility), and child maltreatment (i.e., any type of neglect, abuse, or violent punishment, usually within schools or the household) (World Health Organization, 2020). Across the range of experiences, violence against children is associated with detrimental outcomes. An extensive literature base describes pathways from childhood sexual abuse, physical abuse, and other forms of maltreatment to severe psychopathology during childhood, adolescence, and adulthood (Albott et al., 2018; Ashaba et al., 2022; Cluver et al., 2015; Dube et al., 2001; Hailes et al., 2019; Meinck et al., 2015; Negriff et al., 2020; Satinsky et al., 2021). Despite these negative effects, child maltreatment is part of child disciplinary actions around the world (Belsky, 1980; Elliott & Urquiza, 2006).

Many factors are associated with perpetrating child maltreatment, including poverty, parental education levels, maternal age, maternal depression, parental drug use, and low socioeconomic status (Alink et al., 2013; Chen & Chan, 2016; Connell et al., 2007; Dubowitz et al., 2011; Egami et al., 1996; Garbarino & Crouter, 1978; Herrenkohl & Herrenkohl, 2007; Kotch et al., 1995; Ondersma, 2002; Zhou et al., 2006; Zielinski, 2009). Additionally,

intergenerational (parent-to-child) violence often occurs (Pears & Capaldi, 2001). Children of parents with their own histories of abuse and neglect (including various forms of adverse childhood experiences (Felitti et al., 1998; Hays-Grudo et al., 2020)) are more likely to report having experienced neglect and sexual abuse themselves (Adams et al., 2019; Alink et al., 2019; Capaldi et al., 2019, 2020; Low et al., 2019; Widom et al., 2015; Wolford et al., 2019). Harsh parenting practices and the use of corporal punishment are also often passed down from generation to generation (Coohey & Braun, 1997; Merrill et al., 1996; Renner & Slack, 2006).

Current domestic violence is also associated with child maltreatment, with many studies showing that the co-occurrence of child maltreatment and adult intimate partner violence within the same families ranges from 30% to 60% (Appel & Holden, 1998; Dong et al., 2004; Edleson, 1999; Hartley, 2002; Herrenkohl & Herrenkohl, 2007; Jouriles et al., 2008; Little & Kaufman Kantor, 2002; Osofsky, 2003). High co-occurrence rates are common around the world (Brown et al., 2019; Capaldi et al., 2009; Chan et al., 2021; Forke et al., 2018; Slep & O'Leary, 2005). Child maltreatment may occur because one parent is trying to discipline a child using corporal punishment in order to pacify an abusive domestic partner (Hamby et al., 2010). Additionally, a parent who is the victim of domestic violence might be under so much stress that he or she is not able to calmly cope with disciplining or managing children (Coohey, 2004). Victimization of an adult caretaker can lead to other physical and mental health issues that can otherwise impair healthy parenting and lead to neglect (Coohey & Zhang, 2006).

Finally, recent studies have found that perceived norms around child punishment are associated with perpetration of child maltreatment (Duong & Sirohi, 2023; Ganz et al., 2020; Klika et al., 2019). A recent study in rural Uganda estimated caregiver preferences for physically harsh discipline by using drawn scenarios of different child behavior and found a high

preference by both mothers and fathers for harsh physical punishment (Satinsky et al., 2023). A different study among mothers in South Africa found that the parents greatly overestimated the prevalence of child maltreatment and violent parenting, and that this incorrectly perceived norm was influencing their own parenting practices (Ganz et al., 2020). The perceived injunctive and descriptive social norms that parents hold regarding corporal punishment is the strongest factor in predicting whether or not a parent will use corporal punishment on their child (Taylor et al., 2011). However, people often grossly misinterpret social norms and assume that a far larger percentage of the population is engaging in risky behavior than is actually the case. In order to change the norms that are predominant in a given community, one first has to have a solid understanding of what social norms are already in place, in addition to how the social norms are perceived (Tankard & Paluck, 2016).

Perceived Norms

Descriptive norms describe what individuals believe to be typical behaviors within a social referent group (Cialdini et al., 1991), and injunctive norms describe what is believed to be appropriate behavior within that same group. There are many theories of behavior change that view perceived norms as an antecedent to behavioral change, such as alcohol consumption on college campuses (H. W. Perkins & Berkowitz, 1986), or reducing litter in public places (Cialdini et al., 1990). However, local social norms are often misperceived by individuals, and if there is an overwhelming sense that the majority of parents utilize corporal punishment, it is unlikely that individual parents will stop using corporal punishment. Normative behaviors sway individual behaviors (Cialdini & Trost, 1998).

People tend to overestimate the popularity of health-damaging behaviors, and underestimate the popularity of health-promoting behaviors (H. W. Perkins et al., 1999, 2010).

Recent studies in sub-Saharan Africa have found that many people erroneously believe health-promoting behaviors and attitudes to be less common than they really are, which then makes them more likely to engage in behavior that is riskier for their health (Nardell et al., 2022; J. M. Perkins et al., 2019; J. M. Perkins, Kakuhikire, Baguma, Meadows, et al., 2022; Rouhani et al., 2017; Shannon et al., 2012; Tsai et al., 2017). The perceived social norms of a community influence personal health-related behavior.

Few studies have assessed the extent to which adverse childhood experiences (ACEs), current violence experience, and perceptions about local child maltreatment norms independently drive perpetration of child maltreatment. Even less is known about the effects of these three factors within the context of rural Uganda. To address these gaps in the literature, this study assesses the extent to which perceived norms about child maltreatment, current violent experience, and adverse childhood experiences are associated with perpetration of child maltreatment among adults in rural Uganda.

Methods

Study context and population

We conducted a cross-sectional study in 2020-2022 that targeted all adult men and women with at least one child between the ages of 6 and 17 living with them who resided within eight villages in one rural, administrative parish in Rwampara District, southwestern Uganda. The study site was about 20 kilometers from Mbarara City. The study team selected this parish in collaboration with local leaders, due to its tractable population and geographic size, and due to its similarity to other rural areas in Uganda where the majority of Ugandans reside (Uganda Bureau of Statistics, 2016). Most households engage in an agriculture-based economy or small-scale trading/enterprise, household food and water insecurity are common, and access to

electricity and piped water is rare (Mushavi et al., 2020; J. M. Perkins, Nyakato, Kakuhikire, Tsai, et al., 2018; Tsai et al., 2016; Uganda Bureau of Statistics, 2016). These characteristics are similar to descriptions of other low-resource rural contexts in eastern and southern Africa.

Study procedures

Research assistants who spoke the local language (Runyankore) gathered data in 2020-2022. Using a continuously updated parish census list of eligible adult residents, a research assistant approached a potential participant, typically at their home, and asked the person to participate in a study about health and wellbeing after undergoing an informed consent process. A signature or a thumbprint indicating consent to participate was obtained. Data were collected with a computer-assisted, survey-based interview tool. The survey questions were written in English, translated into Runyankore, and then back-translated to English to verify the translation's reliability. Question piloting and translation followed an iterative process. If procedures could not be conducted in-person due to coronavirus-19 restrictions, then the research assistants conducted consent and data collection over the phone.

Measures

The primary outcome in this study was perpetration of child maltreatment among children aged 6 to 17. Specifically, participants were asked how often they had spanked, slapped, hit, or beat any child ages 6 and up who stayed in their household within the past 7 days. Response options were on a Likert-type scale including never, once or twice, multiple times per week, and every day. If participants did not have children within that age group, then they indicated 'not applicable'. Another question elicited what they believed to be the prevalence of child corporal punishment among other parents within their village (i.e., perceived norms). Specifically, participants were asked, "According to your perception, how often have most men who stay in your village spanked, slapped, hit, or beaten any child aged 6 and up who stays in

their household per week?” All participants were then asked the same question about most women in their village. They were informed that most men [or women] referred to what more than half of that population does, that is, what more than 50% of them do. The response options were the same Likert-type scale including never, once or twice, multiple times per week, and every day. Pre-testing suggested that participants easily understood most other men/women with children in their village as a salient reference group. Therefore, that group was set as the social reference group for identifying local norms. Other studies conducted in this setting have used similar wording to capture perceptions about local norms (Sherif, 1953; Shibutani, 1955).

Information was also collected in the same survey about ACEs, experiencing current violence in the home, and alcohol consumption. ACEs were assessed with a series of items and summed to provide a continuous total score. Current violence was assessed as any physical violence by the opposite sex experienced in the past three months. Alcohol consumption was assessed as at least twice a week or less than that. Sociodemographic variables in the survey included age of the participant, marital status (married/cohabiting versus divorced/separated/single), religion (Protestant, Catholic, Muslim, and Other), education (completed primary versus did not), village of residence, and household wealth quintile.

Statistical analysis

We first provided descriptive statistics of the population and the prevalence of weekly child maltreatment perpetration and displayed the distribution of perceived norms about child maltreatment behavior. To estimate the association between personally perpetrating child maltreatment and an individual’s perception about the child maltreatment norms in his or her community, we fitted Poisson regression models with cluster-correlated robust estimates of variance to adjust for clustering at the village level by sex. With a binary-dependent variable, the

modified Poisson regression model has been shown to yield estimated incidence rate ratios that can be interpreted straightforwardly as relative risk ratios (Zou, 2004). The model adjusted for the other variables included in this study. Analyses were conducted with Stata version 16 (*Stata / FAQ*, n.d.). We fit an additional model among partnered people only as a sensitivity analysis where we included reports about the partner's frequency of perpetrating physical violence against the child.

Results

All participants (overall response rate = 91%) were first asked if they had any children older than six who regularly stayed in their household, regardless of whether or not they were their biological children. Among the 1,033 adults with in-house eligible children, 594 were women and 439 were men. Most men (363 [83%]) were married or were cohabiting as if married. Most participants were Protestant [70%, (418) women; and 74% (323) men] or Catholic [22%, (130) women; and 20% (89) men]. Most participants had completed primary education or more [55%, (327) women; and 65% (287) men]. Household wealth was fairly evenly distributed, with about 20% of men and women in each quintile. The age of the participants was slightly younger on average, with 85% (497) of women and 82% (359) of men under the age of 56 (**Table 1**). Most women (564 [95%]) and men (281 [64%]) reported that they take alcohol less than twice per week. Although most women (524 [88%]) and most men (395 [91%]) reported having adverse childhood experiences, most women (570 [96%]) and men (435 [99%]) had not been slapped by the opposite sex in the past three months.

Prevalence and frequency of perpetrating physical violence against children at home

Among women, 185 (31%) reported that they personally had perpetrated physical violence against a child age 6 or older in their household once in the past week and 86 (15%) reported that they had done so at least twice. Among men, 85 (19%) reported that they personally

had perpetrated physical violence against a child over age 6 in their household at least once in the past week and 12 (3%) reported that they had done so at least twice.

Distribution of perceived norms about perpetrating physical violence against children

Regarding women's behavior, 287 (28%) participants thought that most women did not perpetrate child violence on a weekly basis. However, 426 (43%) participants thought that most women perpetrated this violence once per week and 223 (22%) participants thought that most women did so at least twice per week. Regarding men's behavior, 429 (42%) participants thought that most men did not perpetrate child violence on a weekly basis. However, 371 (36%) thought that most men perpetrated this violence once per week and 133 (13%) participants thought that most men did so at least twice per week. Thirty-eight participants (4%) reported that they did not know what most other men and women did. When assessing the distributions of perceived norms by sex, these patterns were similar (**Supplemental Table 1**). The percentage of participants who reported perpetrating violence against children in their household increased as their perception of the frequency that most others in their own village perpetrated this type of violence increased (**Figures 1 and 2**).

Correlates of perpetrating physical violence against children among men

Perceptions about violence perpetration norms among both men and women were associated with physical violence perpetration among men and among women (**Table 2**). Men who perceived that most men perpetrated violence 1-2 times per week are 3.79 (95% CI (2.78 - 5.16) times more likely to perpetrate violence compared to those who perceived that most men do this 0 times per week ($p < 0.001$). Likewise, men who perceived that most men perpetrate violence 3 or more times per week are 4.95 (95% CI (3.44 - 7.12) times more likely to perpetrate violence compared to those who perceived that most men do this 0 times per week ($p < 0.001$).

What men perceived most women to do regarding child violence perpetration was also associated with their own propensity to perpetrate child violence. For example, men who perceived that “Most women do this 1-2 times per week” were 2.06 times more likely to perpetrate violence as those who perceive that “Most women do this 0 times per week” ($p=0.038$). Men who perceive that “Most women do this 3 or more times per week” are 2.17 times more likely to perpetrate violence as those who perceive that “Most women do this 0 times per week” ($p=0.024$). Men who “Could not estimate how often women do this” were 4.24 times more likely to perpetrate violence as those who perceive that “Most women do this 0 times per week” ($p=0.049$), which is odd and deserves further consideration (**Table 2**).

Men who reported that they had “some food insecurity” were 1.99 times more likely to perpetrate violence as those who reported being food secure ($p<0.001$). The adjusted relative risk for perpetrating physical violence for women who reported food insecurity was not significant. Likewise, the adjusted relative risk for perpetrating physical violence toward a child aged 6 years or older in household at least once per week was not significant with respect to household wealth for men and women, alcohol consumption for men and women, ACEs for men, and marital status, wealth quintile, and education levels for men and women (**Table 2**). However, one interesting finding was that the proportion of women engaging in slapping/beating/spanking increases as poverty increases, but there is not the same pattern for men (**Table 1**). In the 5th quintile (wealthiest), it showed that 36% of women beat a child, 4th quintile (42%), 3rd quintile (47%), 2nd quintile (50%), and in the 1st (poorest) (50%) of women beat a child 6 years and up in their household at least once in the past week, whereas for men, the proportion did slightly increase, but not in the same pattern (**Table 1**). For men in the 5th quintile (wealthiest), it showed 21%, 4th quintile (17%), 3rd quintile (25%), 2nd quintile (24%), and in the 1st (poorest) (25%) of

men beat a child 6 years and up in their household at least once in the past week (**Table 1**).

Although more research in this area is needed, one possible reason for this discrepancy in men and women maltreating children could be the amount of time that the mother spends with the children is greater than the amount of time the father spends with the children, or that the mother bears a greater amount of the stress in dealing with household responsibilities.

Correlates of perpetrating physical violence against children among women

Perceived norms about child violence perpetration were also associated with women's reports of perpetrating child violence. For example, women who perceived that "Most men do this 1-2 times per week" are 1.66 times more likely to perpetrate violence as those who perceive that "Most men do this 0 times per week" ($p < 0.001$). Men who perceive that "Most men do this 3 or more times per week" are 1.81 times more likely to perpetrate violence as those who perceive that "Most men do this 0 times per week" ($p < 0.001$). Their perception of what other women in their village had about the same impact on them.

Women who perceived that "Most women do this 1-2 times per week" are 1.68 times more likely to perpetrate violence as those who perceive that "Most women do this 0 times per week" ($p < 0.001$). Women who perceive that "Most women do this 3 or more times per week" are 1.81 times more likely to perpetrate violence as those who perceive that "Most women do this 0 times per week" ($p < 0.001$). Women who "Could not estimate how often women do this" were 2.06 times more likely to perpetrate violence as those who perceive that "Most women do this 0 times per week" ($p = 0.002$) (**Table 2**).

When it came to Adverse Childhood Experiences and current violence in the home, women were at an increased risk for perpetrating physical violence toward child aged 6 years or older in household at least once per week. Women who reported "Has been slapped by the

opposite sex in the past 3 months” were 1.48 times more likely to perpetrate violence as those who had not experienced violence from the opposite sex in the past three months ($p=0.027$).

Women who reported that they had “Experienced adverse childhood event(s)” were 1.35 times more likely to perpetrate violence as those who had not experienced ACEs ($p=0.005$) (**Table 2**).

Correlates of perpetrating physical violence against children among men and women who live with a partner

The risk of partnered male participants perpetrating physical violence towards a child aged 6 years or older in household at least once per week was greater the more frequently that the men believe that their partner “spanks, slaps, or beats a child in household.” Men who perceive that their “Partner does this 1-2 times per week” are 3.67 times more likely to perpetrate violence compared to those who perceive that their “Partner does this 0 times per week” ($p<0.001$). Men who perceive that their “Partner does this 3 or more times per week” were 3.31 times more likely to perpetrate violence as those who perceive that their “Partner does this 0 times per week” ($p=0.003$). Men who “Could not estimate how often partner does this” were 2.84 times more likely to perpetrate violence as those who perceive that their “Partner does this 0 times per week” ($p=0.016$).

Likewise, women who lived with a partner were also influenced by their perceptions of their partner’s frequency of violence. The risk of partnered female participants perpetrating physical violence towards a child aged 6 years or older in household at least once per week increases the more frequently that the women believe that their partner “spanks, slaps, or beats a child in household.” Women who perceive that their “Partner does this 1-2 times per week” are 1.86 times more likely to perpetrate violence as those who perceive that their “Partner does this 0 times per week” ($p<0.001$). Women who perceive that their “Partner does this 3 or more times

per week” are 1.64 times more likely to perpetrate violence as those who perceive that their “Partner does this 0 times per week” ($p<0.001$). The risk of partnered female participants perpetrating physical violence towards a child aged 6 years or older in household at least once per week increases the more frequently that the women believe that most men in own village spank, slap, or beat a child in own household. Partnered women who perceive that “Most men do this 1-2 times per week” are 1.44 times more likely to perpetrate violence as those who perceive that “Most men do this 0 times per week” ($p=0.021$). Partnered women who perceive that “Most men do this 3 or more times per week” are 1.59 times more likely to perpetrate violence as those who perceive that “Most men do this 0 times per week” ($p<0.001$) (**Supplemental Table 2**).

Discussion

In this population-based study of child maltreatment by adults across eight villages in rural Uganda, most men (78%) and women (54%) do not beat children ages 6 and up in their household on a weekly basis. However, about one in three adults over-estimated the prevalence of child maltreatment in their village. They incorrectly thought that other men and women were more frequently hitting or beating their children than was actually the case. Other factors, such as having experienced Adverse Childhood Experiences or experiencing current violence in the home also increased the likelihood that a women would hit or beat her own child whereas men experiencing food insecurity were more likely to do so.

Implications

Perceived child maltreatment frequency by most men and women was associated with greater likelihood of perpetrating maltreatment of children in one’s own home. This pattern of overestimating dangerous behavior is similar to other studies in which perceived norms are inaccurate descriptions of what the actual behavior is in a community (Borsari & Carey, 2001;

Dempsey et al., 2018; Miller & Prentice, 2016; J. M. Perkins, Kakuhikire, Baguma, Meadows, et al., 2022; J. M. Perkins, Kakuhikire, Baguma, Rasmussen, et al., 2022). However, this particular study fills a gap in the literature surrounding social norms and child punishment in rural Uganda.

A novel opportunity exists to reduce violence against children by conducting a social norms approach intervention. There have been several other efforts by public health experts to apply behavioral science (through a social norms intervention approach) to shift attitudes and behaviors across Sub-Saharan Africa (Cislaghi & Berkowitz, n.d.; Ganz et al., 2017, 2020). Informing people about how most people do not physically punish their children through various dissemination methods could lead to a reduction of child violence in this context. Various types of media (such as posters, radio, television, etc.) have been used in social norms approach interventions to shift public perception of acceptable behavior, ranging from safe sexual practices (Cislaghi & Berkowitz, n.d.; J. M. Perkins, Nyakato, Kakuhikire, Mbabazi, et al., 2018; Tankard & Paluck, 2016) and drinking alcohol (Borsari & Carey, 2003), to handwashing (Dickie et al., 2018) and drug use (McAlaney et al., 2011), to healthier diets (Lally et al., 2011; Robinson et al., 2014) and sun protection (Mahler et al., 2008; Reid & Aiken, 2013).

A mass media social norms approach in rural Uganda may also reduce inaccurate information surrounding the supposed popularity or use of maltreatment to discipline children. By showing that the prevalence of child corporal punishment is far less than the perceived norm, community parenting behaviors can shift to comply with the new perceived norms.

Limitations

The interpretation of our findings is subject to some limitations. First, the data represent a single rural parish, made up of eight villages in the Rwampara District in Southwestern Uganda, so the findings may not generalize to the national population or to other countries. However, the

data represent the entire population of all adults with children over six living in their households who resided in the parish, and the context of this study is similar to rural areas across Uganda and in Eastern and Southern Africa. Thus, the findings provide a foundation for conducting research on perceptions about child discipline norms in similar contexts. Second, the prevalence of corporal punishment is based on self-report. However, any under-reporting and over-reporting of this behavior is likely to cancel each other out. Finally, the data are cross-sectional and we do not make claims of causality. Rather, we highlight opportunities where changing perceived norms in the future might support subsequent behavior change.

Conclusion

In this population-based study of adults across eight villages in rural Uganda, a substantial minority of adults (46% of women and 22% of men) beat a child aged 6 or older in their household at least once in the past week. However, about one in three adults (36%) believed most men beat their children once/twice a week, and nearly one in two adults (43%) believed most women beat their children once/twice a week. Perceptions mattered, as greater perceived prevalence of violence against children was associated with greater likelihood of beating one's own children in the house. A great opportunity exists for reducing violence against children in rural Uganda by conducting a social norms approach intervention. Informing people about the low local rates of harsh discipline practices through various dissemination methods would reduce violence against children in this context. Doing so may also reduce inaccurate information surrounding child maltreatment.

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Appendix

Table 1. Prevalence of child maltreatment among adults in eight villages in Rwampara District, southwest Uganda (N=1033).

	N (%) of female participants		n (%) of women who beat a child 6 years and up in their household at least once in the past week		N (%) of male participants		n (%) of men who beat a child 6 years and up in their household at least once in the past week	
Total	594	58%	271	46%	439	42%	97	22%
Takes alcohol at least 2 times per week								
No	564	95%	257	46%	281	64%	54	19%
Yes	29	5%	13	45%	157	36%	43	27%
Had adverse childhood experiences								
No	69	12%	26	38%	41	9%	7	17%
Yes	524	88%	245	47%	395	91%	90	23%
Has been slapped by opposite sex in past 3 months								
No	570	96%	253	44%	435	99%	96	22%
Yes	23	4%	17	74%	4	1%	1	25%
Age (years)								
17-25	64	11%	22	34%	32	7%	4	13%
26-35	163	28%	94	58%	77	18%	18	23%
36-45	160	27%	74	46%	134	31%	38	28%

46-55	110	19%	47	43%	116	27%	20	17%
≥ 56	88	15%	27	31%	78	18%	16	21%
Marital status								
Not married / cohabiting	184	31%	63	34%	76	17%	5	7%
Married / cohabiting as if married	410	69%	208	51%	363	83%	92	25%
Religion								
Catholic	130	22%	58	45%	89	20%	32	36%
Muslim	12	2%	5	42%	3	1%	0	0%
Protestant	418	70%	195	47%	323	74%	62	19%
Other (Not religious, Seventh-Day Adventist, Pentecostal)	34	6%	13	38%	24	5%	3	13%
Education								
None / some primary education	267	45%	123	46%	152	35%	35	23%
Completed primary education or more	327	55%	148	45%	287	65%	62	22%
Household asset wealth								
1st quintile (poorest)	125	21%	63	50%	67	15%	17	25%
2nd quintile	123	21%	62	50%	96	22%	23	24%
3rd quintile	129	22%	61	47%	89	20%	22	25%
4th quintile	111	19%	47	42%	96	22%	16	17%
5th quintile (least poor)	106	18%	38	36%	91	21%	19	21%

Table 2. Modified multivariable Poisson regression model estimating associations between child maltreatment by adults and several potential correlates among women and men living with at least one child aged 6 and over in the household across eight villages in Rwampara District, southwestern Uganda (n=425 for men and n=515 for women).

Perpetrates physical violence toward child aged 6 years or older in household at least once per week						
	Male participants			Female participants		
	aRR	(95% CI)	p-value	aRR	(95% CI)	p-value
Perception about the weekly frequency that most men in own village spank, slap, or beat a child in own household						
Most men do this 0 times per week	REF	-	-	REF	-	-
Most men do this 1-2 times per week	3.79	(2.78 - 5.16)	<0.001	1.66	(1.30 -2.11)	<0.001
Most men do this 3 or more times per week	4.95	(3.44 - 7.12)	<0.001	1.81	(1.48 -2.23)	<0.001
Could not estimate how often men do this	1.13	(0.38 - 3.38)	0.824	1.21	(0.73 -2.00)	0.456
Perception about the frequency that most women in own village spank, slap, or beat a child in own household						
Most women do this 0 times per week	REF	-	-	REF	-	-
Most women do this 1-2 times per week	2.06	(1.04 - 4.08)	0.038	1.68	(1.45 -1.94)	<0.001
Most women do this 3 or more times per week	2.17	(1.11 - 4.25)	0.024	1.81	(1.45 -2.25)	<0.001
Could not estimate how often women do this	4.24	(1.01 - 17.86)	0.049	2.06	(1.32 -3.22)	0.002
Has been slapped by the opposite sex in the past 3 months (vs. has not)	1.08	(0.25 - 4.69)	0.916	1.48	(1.05 -2.11)	0.027
Experienced adverse childhood event(s) (vs. did not)	1.59	(0.65 - 3.93)	0.311	1.35	(1.10 -1.67)	0.005
Consumes alcohol at least twice per week (vs. does not)	1.38	(0.89 - 2.14)	0.152	0.87	(0.58 -1.30)	0.484

Has some food insecurity (vs. is food secure)	1.99	(1.57 - 2.51)	<0.001	1.13	(0.85 -1.50)	0.398
Number of biological children alive	1.12	(1.04 - 1.22)	0.005	1.02	(0.95 -1.09)	0.655
Age (years)						
18-25	5.61	(1.84 - 17.12)	0.002	1.86	(1.24 -2.80)	0.003
26-35	2.21	(1.14 - 4.27)	0.019	1.91	(1.26 -2.88)	0.002
36-45	1.93	(1.28 - 2.91)	0.002	1.50	(1.01 -2.24)	0.046
46-55	0.97	(0.66 - 1.42)	0.880	1.33	(0.99 -1.78)	0.058
≥56	REF	-	-	REF	-	-
Marital status						
Married / cohabiting vs. single and never married	REF	-	-	REF	-	-
Separated, divorced, widow	0.57	(0.15 - 2.12)	0.404	0.97	(0.74 -1.28)	0.846
Single and never married	0.19	(0.06 - 0.59)	0.004	0.79	(0.49 -1.25)	0.308
Completed primary education or more vs. did not	0.99	(0.71 - 1.38)	0.956	0.96	(0.78 -1.19)	0.728
Household asset quintile						
1st quintile (poorest)	REF	-	-	REF	-	-
2nd quintile	1.13	(0.70 - 1.82)	0.608	1.05	(0.86 -1.29)	0.635
3rd quintile	1.29	(0.71 - 2.34)	0.405	1.17	(0.89 -1.54)	0.251
4th quintile	1.08	(0.58 - 2.01)	0.801	0.94	(0.61 -1.44)	0.769
5th quintile (least poor)	1.33	(0.86 - 2.06)	0.202	0.95	(0.67 -1.34)	0.763

Supplemental Table 1. Perceived norms about parental violence among adults in eight villages in Rwampara District, southwest Uganda (N=1033).

	n (%) believed		n (%) believed		n (%) believed		n (%) believed	
	most men beat their children once/twice a week		most men beat their children multiple times a week/every day		most women beat their children once/twice a week		most women beat their children multiple times a week/every day	
Total	371	36%	133	13%	426	43%	223	22%
Had adverse childhood experiences								
No	45	41%	18	16%	46	42%	26	24%
Yes	325	35%	115	13%	378	41%	197	21%
Has been slapped by opposite sex in past 3 months								
No	360	36%	128	13%	415	41%	217	22%
Yes	10	37%	5	19%	10	37%	6	22%
Takes alcohol at least 2 per week								
No	297	35%	118	14%	360	43%	180	21%
Yes	74	40%	15	8%	66	35%	42	23%
Sex								
Men	151	34%	40	9%	192	44%	88	20%
Women	220	37%	93	16%	234	39%	135	23%
Age (years)								

17-25	24	25%	8	8%	37	39%	14	15%
26-35	83	35%	42	18%	103	43%	54	23%
36-45	113	38%	36	12%	119	40%	76	26%
46-55	86	38%	30	13%	101	45%	43	19%
>=56	60	36%	16	10%	59	36%	36	22%
Marital status								
Not married / cohabiting	73	28%	31	12%	103	40%	36	14%
Married / cohabiting as if married	298	39%	102	13%	323	42%	187	24%
Religion								
Catholic	78	36%	21	10%	97	44%	45	21%
Muslim	3	20%	1	7%	8	53%	0	0%
Protestant	274	37%	105	14%	291	39%	167	23%
Other (Not religious, Seventh-Day Adventist, Pentecostal)	16	28%	6	10%	30	52%	11	19%
Education								
None / some primary education	158	38%	52	12%	158	38%	101	24%
Completed primary education or more	213	35%	81	13%	268	44%	122	20%
Household asset wealth								
1st quintile (poorest)	80	42%	29	15%	85	44%	44	23%
2nd quintile	75	34%	26	12%	95	43%	50	23%

3rd quintile	72	33%	29	13%	89	41%	43	20%
4th quintile	72	35%	24	12%	86	42%	50	24%
5th quintile (least poor)	72	37%	25	13%	71	36%	36	18%

Supplemental Table 2. Modified multivariable Poisson regression model estimating associations between child maltreatment by adults and several potential correlates among women and men **with a partner** living with at least one child 6 years or older in the household across eight villages in Rwampara District, southwestern Uganda (n=378 for men and n=408 for women).

Perpetrates physical violence toward child aged 6 years or older at least once per week						
	Male Participants			Female Participants		
	aRR	(95% CI)	p-value	aRR	(95% CI)	p-value
Perception about the frequency that partner spans, slaps, or beats child in household						
Partner does this 0 times per week	REF	-	-	REF	-	-
Partner does this 1-2 times per week	3.67	(2.11 - 6.38)	<0.001	1.86	(1.47 - 2.34)	<0.001
Partner does this 3 or more times per week	3.31	(1.51 - 7.22)	0.003	1.64	(1.37 - 1.97)	<0.001
Could not estimate how often partner does this	2.84	(1.22 - 6.64)	0.016	2.09	(0.95 - 4.57)	<0.065
Perception about the weekly frequency that most men in own village spank, slap, or beat a child in own household						
Most men do this 0 times per week	REF	-	-	REF	-	-
Most men do this 1-2 times per week	2.89	(1.69 - 4.92)	<0.001	1.44	(1.06 - 1.95)	0.021
Most men do this 3 or more times per week	3.94	(1.95 - 7.94)	<0.001	1.59	(1.35 - 1.87)	<0.001
Could not estimate how often men do this	1.02	(0.32 - 3.20)	0.977	1.12	(0.64 - 1.94)	0.694
Perception about the frequency that most women in own village spank, slap, or beat a child in own household						
Most women do this 0 times per week	REF	-	-	REF	-	-
Most women do this 1-2 times per week	1.42	(0.79 - 2.56)	0.241	1.37	(1.23 - 1.52)	0.001
Most women do this 3 or more times per week	1.36	(0.69 - 2.68)	0.380	1.44	(1.09 - 1.91)	0.011

Could not estimate how often women do this	2.48	(0.66 - 9.28)	0.176	1.92	(1.08 - 3.42)	0.027
Has been slapped by the opposite sex in the past 3 months (vs. has not)	0.88	(0.17 - 4.54)	0.876	1.48	(1.03 - 2.12)	0.035
Experienced adverse childhood event(s) (vs. did not)	1.35	(0.64 - 2.84)	0.429	1.36	(1.02 - 1.80)	0.033
Consumes alcohol at least twice per week (vs. does not)	1.35	(0.95 - 1.93)	0.093	0.78	(0.52 - 1.17)	0.235
Has some food insecurity (vs. is food secure)	1.81	(1.40 - 2.33)	<0.001	1.04	(0.82 - 1.33)	0.744
Number of biological children alive	1.09	(1.02 - 1.15)	0.006	1.00	(0.94 - 1.07)	0.909
Age (years)						
18-25	4.47	(0.96 - 20.69)	0.056	1.81	(1.09 - 3.01)	0.021
26-35	1.62	(1.01 - 2.58)	0.044	1.90	(1.17 - 3.09)	0.010
36-45	1.47	(0.90 - 2.40)	0.121	1.50	(0.96 - 2.35)	0.075
46-55	0.87	(0.63 - 1.21)	0.412	1.47	(0.97 - 2.23)	0.069
≥56	REF	-	-	REF	-	-
Marital status						
Married / cohabiting vs. single and never married	REF	-	-	REF	-	-
Separated, divorced, widow	1.68	(0.63 - 4.48)	0.296	0.71	(0.37 - 1.33)	0.281
Single and never married	0.31	(0.04 - 2.46)	0.266	0.25	(0.06 - 1.12)	0.071
Completed primary education or more (vs. did not)	0.89	(0.64 - 1.24)	0.506	0.93	(0.74 - 1.16)	0.517
Household asset quintile						
1st quintile (poorest)	REF					
2nd quintile	1.27	(0.83 - 1.93)	0.269	1.06	(0.78 - 1.44)	0.711

3rd quintile	1.31	(0.74 - 2.31)	0.347	1.09	(0.82 - 1.44)	0.565
4th quintile	1.08	(0.61 - 1.90)	0.791	0.99	(0.68 - 1.43)	0.948
5th quintile (least poor)	1.24	(0.81 - 1.89)	0.331	0.96	(0.66 - 1.39)	0.839

Figure 1: Percent of participants who beat their children by perception about what women in their village are doing among adults in rural Uganda.

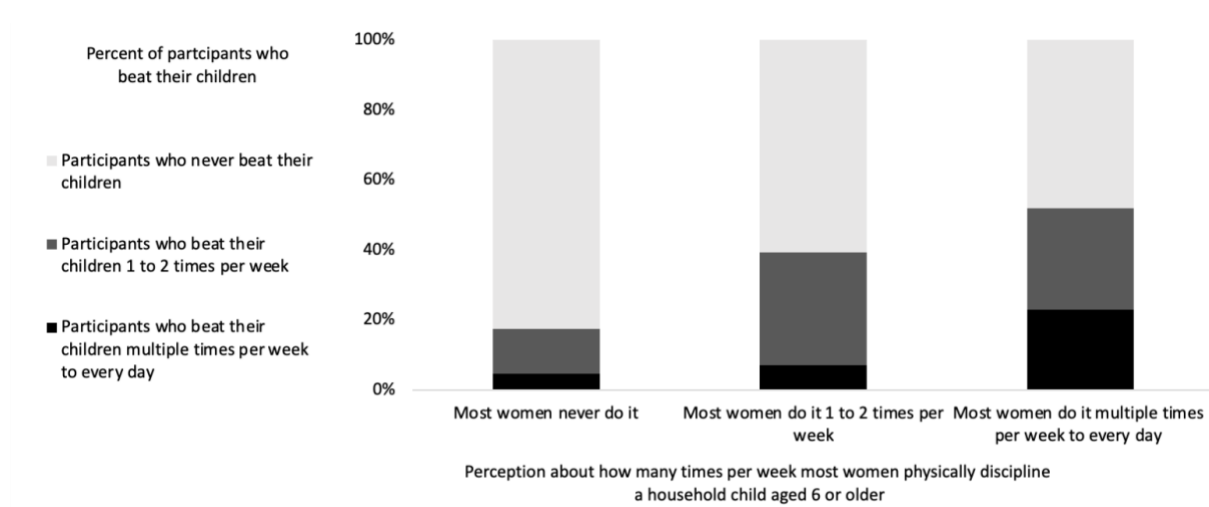


Figure 2: Percent of participants who beat their children by perception about what men in their village are doing among adults in rural Uganda.

