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The association between spanking and physical abuse of young children in 56 low- and middle-income countries

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ABSTRACT

Background: Nearly one third of children under five in low- and middle-income countries (LMICs) experience spanking. Studies from North America suggest that spanking is associated with heightened risk of physical abuse. However, the link between spanking and physical abuse in the international context remains understudied.
Objective: To examine the association between caregivers' spanking and physical abuse of young children in LMICs, and to estimate the extent to which physical abuse might be reduced if spanking were eliminated.
Participants: We used nationally representative data from 156,166 1- to 4-year-old children in 56 LMICs from the fourth and fifth rounds of UNICEF Multiple Indicator Cluster Surveys.
Methods: A nationally weighted multilevel logistic regression model examined the association between spanking and physical abuse. We calculated predicted probabilities of physical abuse, which we present using natural frequencies.
Results: Spanking was associated with higher odds of physical abuse (OR = 5.74, $p < .001$). The predicted probability of physical abuse decreased by 14% comparing children who were spanked (22%) and who were not spanked (8%). When our estimates were translated to a hypothetical sample of 100 children using a natural frequency approach, 32 children were spanked; of those, seven experienced physical abuse. The elimination of spanking would result in four fewer children who were exposed to physical abuse. In relation to the population of abused children, estimates suggest that physical abuse could reduce by up to 33% if spanking were eliminated.
Conclusions: Results support the UN Sustainable Development Goals Target 16.2 that calls for eliminating all forms of violence against children. Child welfare advocates should discourage caregivers from using spanking, in order to prevent physical abuse.

1. Introduction

Physical abuse and physical punishment in the lives of children are urgent public health issues. According to the World Health Organization (WHO), "physical abuse of a child is that which results in actual or potential physical harm from an interaction or lack of

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an interaction, which is reasonably within the control of a parent or person in a position of responsibility, power or trust" (World Health Organization, 1999, p. 15). Physical punishment is defined as "any punishment in which physical force is used and intended to cause some degree of pain or discomfort, however light" (Committee on the Rights of the Child, 2006). Spanking is a form of physical punishment that involves hitting or slapping the child's bottom with a bare hand for disciplinary purposes (Gershoff & Grogan-Kaylor, 2016). Child rights advocates argue that child discipline should be a socialization process free from any parental violence (Durrant & Stewart-Tufescu, 2017).

The United Nations Convention on the Rights of the Child affirms that physical punishment is a violation of children's rights and calls for the abolition of all forms of physical punishment against children, including spanking (Committee on the Rights of the Child, 2006). Despite the global movement to prevent violence against children, spanking is the most frequently used form of physical punishment and remains pervasive in many countries. According to the United Nations Children's Fund (UNICEF), globally, 60% of children aged 2 to 14 years were subject to physical punishment that includes spanking, slapping, shaking, or hitting with an object in the past month. Estimates from UNICEF also show that children under five years old are most vulnerable to spanking (United Nations Children's Fund, 2014) such that nearly half of 2- to 4-year-old children were spanked in the past month by their caregivers (United Nations Children's Fund, 2014).

1.1. Coercive parent-child interactions and physical abuse

Physical punishment is legal in most countries. Often in countries in which spanking is legal, the law distinguishes physical *punishment* from physical *abuse* mainly based on whether there is physical injury (e.g., bruises, marks on the skin). Parents use spanking as a form of discipline to correct or control a child's behavior. Coercion theory describes how everyday parental disciplinary events can escalate to abuse (i.e., injury to the child) (Patterson, 1982). Specifically, when parents and caregivers use physical punishment such as spanking to stop a child's misbehavior, the use of physical force is reinforced. These aggressive parenting tactics tend to evoke more child aggression over time (Lee et al., 2013). Thus, the risk of injury increases as the caregiver's physically aggressive behaviors escalate in severity and frequency to address the child's behavior (Del Vecchio et al., 2012).

Indeed, many studies support the notion that as parental spanking intensifies, risk of physical abuse increases as well (e.g., Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021; Russa & Rodriguez, 2010; Zolotor et al., 2008). In a meta-analysis including over 160,000 children worldwide, Gershoff and Grogan-Kaylor (2016) demonstrated consistent associations between spanking and physical abuse. This meta-analysis found that among a range of adverse child outcomes associated with spanking, the largest effect was for physical abuse. Moreover, Heilmann et al.'s (2021) comprehensive review of the physical punishment literature revealed a link between spanking and suspected maltreatment investigated by child protective services. A study that examined a nationally representative sample of substantiated physical child maltreatment cases in Canada showed that 69% of these physical abuse cases had occurred due to inappropriate punishment (Gonzalez et al., 2008). This suggests that physical punishment is often a precursor to child physical abuse. On the whole, research suggests that spanking is on the same continuum as abusive parenting, with the primary distinction between the two being the severity of the physical harm inflicted on children.

1.2. Spanking and child development

A large volume of research has identified exposure to spanking as a risk for poorer child cognitive, physical, and socio-emotional outcomes (e.g., Cuartas et al., 2021; Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021). The associations between spanking and negative child outcomes have been found regardless of frequency of spanking—studies have shown that even infrequent, occasional use of spanking is linked to increased externalizing behavior and antisocial behavior in children (Grogan-Kaylor, 2004; Ma et al., 2012; Ma & Grogan-Kaylor, 2017). However, a critique is that virtually all existing studies are non-experimental due to ethical concerns about randomly assigning parents to hit or not hit their children. Thus, a recurring methodological concern in the literature is a lack of an ability to make robust causal inferences due to the observational nature of the data available.

To address this concern, studies have employed rigorous analytic approaches such as propensity score matching (Cuartas et al., 2020; Gershoff et al., 2018; Okuzono et al., 2017), fixed-effects regression (Grogan-Kaylor, 2004; Ma et al., 2020), and cross-lagged regression models (Gershoff et al., 2012; Lee et al., 2013) to demonstrate the associations of spanking with negative developmental outcomes of children while employing various statistical strategies to rule out the effects of confounding variables. The aforementioned studies have found compelling evidence of the associations between spanking and adverse child outcomes, including aggression and slower cognitive growth, using samples from the United States, Japan, and Colombia. Further, two studies employed quasi-experimental designs to estimate the effects of interventions that reduced children's exposure to physical punishment (Beauchaine et al., 2005; Gershoff et al., 2016). These studies revealed that reductions in physical punishment were associated with improved child behavior. Lastly, a recent review of statistically rigorous longitudinal studies that have examined outcomes of physical punishment found that spanking is consistently linked with subsequent child behavior problems, and increased likelihood of child protective services involvement (Heilmann et al., 2021). Taken together, a growing body of empirical literature continues to strengthen the internal validity of estimates from non-experimental research that are subject to methodological limitations, including nonrandom assignment and potential confounding factors more appropriately.

1.3. Spanking and physical abuse in LMICs

The bulk of the literature on spanking and physical abuse uses samples from high-income countries, which limits the

generalizability of extant findings to low- and middle-income countries (LMICs) that are home to more than 75% of the world's population (The World Bank, 2020). Spanking and physical abuse are prevalent and normative caregiver behaviors in many LMICs (Lansford et al., 2014; Lansford & Deater-Deckard, 2012). Population-based estimates indicate that 44% of 2- to 14-year-old children in LMICs are subjected to spanking by their caregivers in a given month. Although less common than the rates of spanking, children's exposure to physical abuse—which includes hitting the child on the head, ears, or face, or beating the child up—is at an alarming rate of 17% in LMICs (United Nations Children's Fund, 2014). Akmatov (2011) used data from the UNICEF Multiple Indicator Cluster Surveys (MICS) to separately examine rates of "moderate physical abuse" (i.e., shaking; spanking/hitting/slapping on the bottom with bare hand; hitting/slapping on the hand, arm, or leg) and "severe physical abuse" (i.e., hitting/slapping on the face, head, or ears; hitting with a hard object; beating child up) in LMICs. Across regions, severe physical abuse was experienced by a median of 43% of children in Africa, 9% of children in transitional LMICs (countries in the former Soviet Union and Yugoslavia), and 30% of children in other LMICs. Further, this study found that physical punishment and severe physical abuse in LMICs were correlated; however, the study did not isolate spanking from other forms of physical punishment such as shaking and hitting on the hand, arm, or leg (Akmatov, 2011).

Using data from the MICS, several recent studies have demonstrated the deleterious effect of spanking on child wellbeing in LMICs (Cuartas, 2021; Grogan-Kaylor et al., 2021; Pace et al., 2019). Specifically, Pace et al. (2019) found that exposure to spanking was associated with lower socio-emotional development of 3- and 4-year-old children in 62 LMICs included in the analyses. Grogan-Kaylor et al. (2021)'s analyses using the same sample of children in 62 countries in MICS demonstrated that spanking is linked to negative socio-emotional development after adjusting for caregiver's use of non-physical disciplinary behaviors such as removing privileges and verbal reasoning. Another study by Cuartas (2021) using data from 49 LMICs demonstrated that both spanking and harsher forms of physical punishment, which included hitting with objects; hitting in the face, head, ears; or beating over and over, were associated with poorer socio-emotional, cognitive and physical developmental outcomes of children aged 3 and 4 years. However, to our knowledge, no study to date has examined the potential overlap in the association between caregiver behaviors such as spanking and physical abuse against young children in LMICs.

1.4. The present study

The present study examined the association between caregivers' spanking and physical abuse of young children using a global sample and estimated the extent to which physical abuse might be reduced if spanking were eliminated. The purpose of the current study was twofold. First, we examined the association between 1- to 4-year-old's exposure to caregiver spanking and physical abuse in 56 LMICs. Based on the strength of the evidence from developed countries such as the United States and Canada, we hypothesized that caregiver spanking would be associated with physical abuse of young children in LMICs. Analyses included covariates such as respondent's attitude toward physical punishment (Akmatov, 2011), and socioeconomic factors such as household wealth, urban or rural residence, respondent's relationship to the child, and level of education, which are factors that prior studies identified as predictors of physical punishment and maltreatment (Akmatov, 2011; Ward et al., 2021). Because child aggression is linked to increased use of spanking (Lee et al., 2013), we conducted robustness checks by examining the association between spanking and physical abuse after controlling for child aggression.

Our second aim was to contextualize the association between spanking and physical abuse. Coercion theory (Patterson, 1982) and prior research suggest that spanking contributes to the escalation of violence toward children, thus heightening the risk of physical injury to the child (Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021). Following the approach used in one prior study (Lee et al., 2014), we provide estimates of physical abuse cases that might be *prevented* if spanking were eliminated. We used natural frequencies (Gigerenzer, 2011) to extrapolate our findings to a hypothetical sample of 100 children. From our logistic regression model, we calculated predicted probabilities of physical abuse. We then multiplied these predicted probabilities by 100 to gain an intuitive sense of how these outcomes would play out across a hypothetical sample of 100 children. The goal of the second aim was to use the statistical association found in the first set of analyses linking caregiver spanking and physical abuse to provide a theoretical application that underscores the potential benefits of preventing caregiver spanking from occurring in the first place.

2. Method

2.1. Data and sample

The UNICEF Multiple Indicator Cluster Surveys (MICS) is one of the largest sources of data with cross-nationally comparable information on family life and child development. Since 1995, the MICS questionnaires have collected population-based data in over 100 LMICs (Khan & Hancioglu, 2019). Using a multistage cluster sampling design, MICS surveys select a sample of households that reflect the population they draw from, either nationally or subnationally. Trained interviewers obtained oral consent and administered the surveys in-person. The first survey respondents completed is the Household Survey, which is conducted with the head of household or another adult in the household. The Household Survey in MICS Round 4 (2009–2013) and Round 5 (2012–2017) assessed household characteristics and parenting behaviors in reference to one randomly selected child in the household aged 2 to 14 (Round 4) or aged 1 to 14 (Round 5). After completing the Household Survey, the mother or primary caregiver of each child under five years old responded to the Child Under Five Survey, which provided data on socio-emotional development when the reference child was 3 or 4 years old.

Data for this study were drawn from every publicly released MICS survey in Round 4 and Round 5 as of August 2020. The analytic sample was limited to nationally representative surveys. We only included households in which the reference child for the parenting

behavior module was between 1 and 4 years old ($n = 166,129$; mean age = 37 months), the age group at highest risk for being spanked (Straus & Stewart, 1999). After excluding cases with missing data on spanking and physical abuse ($n = 5065$) and covariates ($n = 4898$), our final analytic sample included 156,166 children in 56 LMICs. Country sample sizes ranged from 109 in Saint Lucia to 13,077 in Nigeria (see Table 1).

2.2. Measures

2.2.1. Spanking and physical abuse

Operational definitions of spanking and physical abuse came from the Parent-Child Conflict Tactics Scale (CTS) (Straus et al.,

Table 1
Countries included in analytic sample ($N = 156,166$).

Country	MICS survey round	N
Afghanistan	4	3091
Algeria	4	4388
Bangladesh	5	9372
Barbados	4	195
Belize	4,5	1614
Benin	5	3394
Bosnia and Herzegovina	4	1019
Cameroon	5	1947
Central African Republic	4	2430
Chad	4	3759
Costa Rica	4	848
Côte d'Ivoire	5	2568
Democratic Republic of the Congo	4	2423
Republic of the Congo	5	2798
Dominican Republic	5	8717
El Salvador	5	3437
Eswatini	4,5	1498
Ghana	4	1860
Guinea	5	2006
Guinea Bissau	5	1705
Guyana	5	1222
Iraq	4	7805
Jamaica	4	527
Kazakhstan	4,5	4355
Kosovo	5	613
Kyrgyzstan	5	1690
Laos	4	3146
Macedonia	4	565
Malawi	5	6205
Mali	5	594
Mauritania	4,5	4634
Mexico	5	3491
Moldova	4	808
Mongolia	4,5	4098
Montenegro	5	657
Nepal	5	2095
Nigeria	4,5	13,077
Panama	5	2147
Paraguay	5	1992
Sao Tome and Principe	5	705
Serbia	4,5	2873
Sierra Leone	4	2098
St. Lucia	4	109
State of Palestine	4,5	4879
Sudan	5	3693
Suriname	4	861
Thailand	5	7049
The Gambia	4	1633
Togo	4	1106
Trinidad and Tobago	4	488
Tunisia	4	948
Turkmenistan	5	1355
Ukraine	4	2094
Uruguay	4	715
Vietnam	4,5	2992
Zimbabwe	5	3778

1998), which is a widely recognized measure of child maltreatment in cross-cultural and international settings. The MICS measured caregiver spanking and physical abuse in the Household Survey using a UNICEF-modified version of the CTS. Household respondents reported whether they or anyone else in the household used spanking (*spanked, hit, or slapped child on the bottom with bare hand*) and physical abuse (*beat child up or hit over and over as hard as one could*; *hit or slapped child on the face, head, or ears*) toward the focal child in the past month (0 = *no*; 1 = *yes*).

2.2.2. Covariates

Covariates in our analyses were assessed in the Household Survey. Respondents provided data on child age and sex, whether the respondent believed physical punishment is necessary to raise children properly (0 = *no*; 1 = *yes*; 2 = *don't know/no opinion*), respondent's education (0 = *none*; 1 = *primary*; 2 = *secondary or more*), respondent's relationship to the child (0 = *biological parent*; 1 = *grandparent*; 2 = *other*), number of household members (capped at 50), household wealth quintile, and whether the household resided in an urban or rural setting (0 = *rural*; 1 = *urban*). We also controlled for the MICS round to account for time as well as the differences in

Table 2
Weighted descriptive characteristics of study participants (N = 156,166).

Variable	%	Mean (SD)	Min	Max
Physical abuse				
No	92.04%			
Yes	7.96%			
Spanking				
No	67.88%			
Yes	32.12%			
Household respondent believes in physical punishment				
No	78.78%			
Yes	18.19%			
Don't know/no opinion	3.03%			
Child age (months)		37.43 (12.71)	12	59
Child sex				
Female	48.91%			
Male	51.09%			
Household respondent's relationship to child				
Biological parent	69.20%			
Grandparent	24.14%			
Other	6.66%			
Household respondent's education				
None	14.45%			
Primary	29.71%			
Secondary or more	55.84%			
Number of household members		5.20 (2.41)	2	50
Household wealth quintile				
Poorest	21.32%			
Second	22.13%			
Middle	20.43%			
Fourth	19.77%			
Richest	16.36%			
Urban residence (vs. rural residence)	55.85%			
MICS round				
Round 4	20.16%			
Round 5	79.84%			
Child aggression	33.53%			

Note: All variables are weighted at household level except for child age and sex. Child aggression: n = 81,637.

the number of countries between Round 4 and Round 5.

2.2.3. Child aggression

Child aggression was measured in the Child Under Five Survey only for children who were 3 and 4 years old by an item from the 10-item MICS Early Childhood Development Index (ECDI) (Loizillon et al., 2017). The child's primary caregiver reported whether the child kicks, bites, or hurts other children or adults (0 = *no*; 1 = *yes*).

2.3. Analytic strategy

We employed a nationally weighted multilevel logistic regression model to examine the association between spanking and physical abuse. Because prior studies have shown a significant link between child aggression and spanking, we performed a robustness check that included child aggression as a covariate with a subsample of 3- and 4-year-old children ($n = 81{,}637$) for whom aggressive behavior was measured in MICS. Our multilevel models included country-level random intercepts to account for the clustering of families in each country. Multilevel logistic regression results provided odds ratio (OR) coefficients; an OR equal to 1 would suggest no association between spanking and physical abuse, whereas an OR greater than 1 would suggest a positive association, and an OR less than 1 would indicate a negative association.

From these results, we calculated predicted probabilities, which show the percentage of physical abuse among children who were spanked and who were not spanked by their caregivers in this sample. These predicted probabilities were also used to estimate the number of physical abuse cases that might be prevented if spanking were eliminated (Gigerenzer, 2011) among a hypothetical sample of 100 families. We used Stata 15.1 for the analyses (StataCorp, 2017). The Institutional Review Board of the University of Michigan deemed this study exempt from oversight.

3. Results

Table 2 shows weighted descriptive statistics. In the past month, 32.12% of households had children who were spanked and 7.96%

Table 3
Multilevel logistic regression models predicting physical abuse.

	Model 1 ($N = 156{,}166$)			Model 2 ($n = 81{,}637$)		
	OR	95% CI		OR	95% CI	
Spanking						
No (reference)						
Yes	5.74***	4.04	8.14	5.01***	3.49	7.20
Household respondent believes in physical punishment						
No (reference)						
Yes	2.48***	2.00	3.08	2.55***	2.25	2.90
Don't know/no opinion	1.21	0.89	1.65	1.15	0.92	1.46
Child age (months)	1.02***	1.01	1.02	1.01**	1.00	1.01
Child sex						
Female (reference)						
Male	1.18**	1.07	1.31	1.11**	1.04	1.19
Household respondent's relationship to child						
Biological parent (reference)						
Grandparent	0.69***	0.57	0.83	0.75**	0.61	0.93
Other	0.55**	0.39	0.78	0.62*	0.40	0.96
Household respondent's education						
None (reference)						
Primary	0.71	0.46	1.10	0.65	0.40	1.08
Secondary or more	0.53*	0.31	0.90	0.55**	0.35	0.86
Number of household members	1.07**	1.02	1.12	1.07**	1.02	1.12
Household wealth quintile						
Poorest (reference)						
Second	1.02	0.89	1.15	0.97	0.81	1.18
Middle	1.24	0.90	1.72	1.30	0.90	1.88
Fourth	1.25	0.90	1.74	1.30	0.90	1.88
Richest	1.22	0.85	1.75	1.15	0.79	1.69
Urban residence (vs. rural residence)	0.72*	0.53	0.97	0.77*	0.62	0.96
MICS round						
Round 4 (reference)						
Round 5	0.35*	0.16	0.78	0.31*	0.12	0.77
Child aggression				1.51***	1.36	1.69
Intercept	0.03***	0.02	0.07	0.06***	0.04	0.11
Random effects	β	95% CI		β	95% CI	
Country-level variance for intercept	2.49	1.33	4.65	2.32	1.42	3.79

Note: *$p < .05$, **$p < .01$, ***$p < .001$; OR = odds ratio, CI = confidence interval. All variables are weighted at household level.

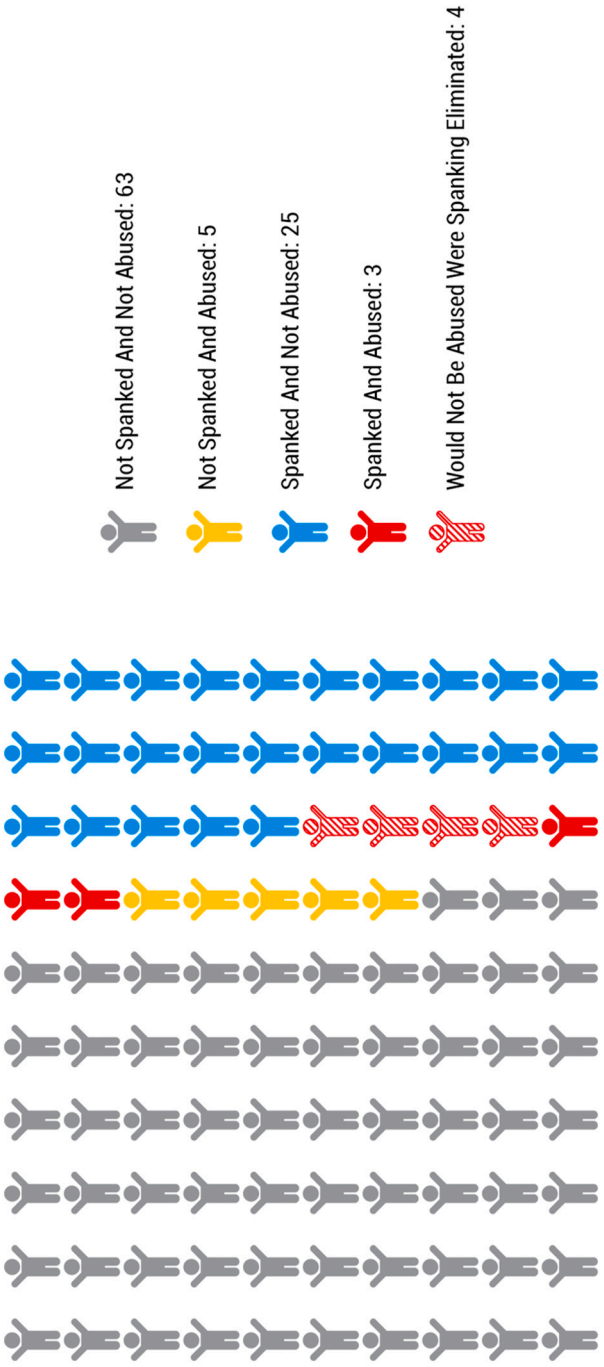

Fig. 1. Spanking and physical abuse among 100 hypothetical children.

of households had children who were physically abused by their caregivers. Nearly 70% of respondents were the child's biological parent, and 18.19% of respondents believed physical punishment is necessary to raise a child properly.

The unconditional intraclass correlation coefficient suggested 32% of the variation in the baseline odds of physical abuse could be explained by the country in which the child resided. As seen in Model 1 of Table 3, results from the multilevel logistic regression model indicated that the odds of physical abuse was 5.74 times higher among children who were spanked by their caregivers than children who were not spanked (OR = 5.74, $p < .001$) after controlling for covariates, including favorable attitudes toward physical punishment, which was associated with 2.48 times higher odds of physical abuse (OR = 2.48, $p < .001$).

To rule-out the possibility that these results could be attributed to child behavior problems that may elicit use of spanking, we conducted a robustness check where child aggression was included as a covariate. Because MICS only measured child aggression among 3- and 4-year-old children, the robustness check was conducted on a subsample of 3- and 4-year-olds. Results from the robustness check (see Model 2 of Table 3) indicated a statistically significant association of spanking with higher odds of physical abuse (OR = 5.01, $p < .001$) even when accounting for child aggression (OR = 1.51, $p < .001$).

To aid interpretation, we calculated the predicted probability of physical abuse for children who were spanked and who were not spanked. In absolute terms, the predicted probability of physical abuse increased by 14% when comparing children who were not spanked (8%) and children who were spanked (22%). Fig. 1 shows a visual representation of these probabilities applied to a hypothetical sample of 100 children. In our hypothetical sample of 100 children, 68 children (67.88%) were not spanked, and 32 children (32.12%) were spanked. Of the 68 children who were not spanked, five were exposed to physical abuse (67.88 × 0.08) whereas 63 were not exposed to physical abuse (68−5). Out of the 32 children who were spanked, seven were exposed to physical abuse (32.12 × 0.22) while 25 (32−7) were not exposed to physical abuse. Of the 32 children who were spanked in our hypothetical sample, three children would still be exposed to physical abuse if they had not been spanked (32.12 × 0.08). Thus, for a hypothetical sample of 100 children, our estimates suggest the elimination of spanking would result in four fewer children exposed to physical abuse (i.e., a change from seven children to three children). In relative terms, this corresponds to a 33% reduction because four fewer children of the 12 children who were physically abused would have been exposed to physical abuse if spanking were eliminated.

4. Discussion

The present study used data from the UNICEF MICS in which more than 156,000 families in 56 LMICs were sampled using nationally representative sampling procedures. Prevalence of spanking in the past month (32.12%) and physical abuse in the past month (7.96%) among 1- to 4-year-olds in these 56 countries were lower than the rates for 2- to 14-year-olds reported by UNICEF (United Nations Children's Fund, 2014), yet our estimates show that both are commonly experienced by young children in LMICs. Because MICS only assessed caregiver's behaviors in the preceding month, these rates are likely to be an underestimation of children's exposure to spanking and physical abuse over several months or a year. Results of multilevel logistic regression demonstrated that 1- to 4-year-old children's exposure to spanking is associated with increased risk of physical abuse after controlling for socio-economic characteristics as well as attitudes in support of physical punishment. Results from our robustness check that adjusted for child aggression among 3- and 4-year-olds further affirmed that spanking is associated with increased likelihood of being physically abused. Collectively, these findings suggest that use of spanking, even if caregivers used it as a response to child aggression, may escalate the risk for physically abusive parental behaviors such as beating the child up and hitting the child's face and head.

Physical abuse is a complex global challenge that is detrimental to the health and wellbeing of children, families, communities, and societies (World Health Organization, 1999). Spanking is a common parenting behavior that uses physical violence to respond to child misbehavior and puts child wellbeing at risk. Based on the association linking spanking and physical abuse, results of the current study suggest that eliminating spanking may contribute to the prevention of approximately one-third of the cases of some forms of child physical abuse, based on self-reported data from caregivers about their aggressive behaviors toward their child. When translated to a hypothetical sample of 100 children, our findings suggest four children would not be subject to physical abuse if they had not been spanked by their caregivers. Importantly, an extrapolation of these findings to the current study sample of 156,166 young children in LMICs suggests that 6246 fewer children would be physically abused if spanking were eliminated. Based on these analyses and our hypothetical extrapolation to real-world settings, the relative potential impact of preventing spanking would decrease exposure to physical abuse among the child population under the age of five in LMICs by approximately one third.

Our findings parallel prior studies connecting spanking to physical abuse and suggest that spanking and physical abuse are correlated parenting behaviors (Durrant et al., 2009; Zolotor et al., 2008). Research suggests that parents who injure their child in the process of discipline, thereby creating an abusive situation, may do so unintentionally. That is, the escalation of so-called “normative” physical punishment such as spanking can result in physical abuse (i.e., leaving a bruise or mark on the child), regardless of the caregiver's intent in that specific situation (intent to discipline the child vs. intent to abuse the child) (Durrant et al., 2006; Gonzalez et al., 2008). Nevertheless, spanking is not legally defined as physical abuse in most countries, which consider spanking to be abusive only when it escalates to the point of observable physical injury such as marks and bruises to the child. Likewise, most parents do not perceive spanking as a form of violence against children, despite its potentially damaging effect on child wellbeing (Brown et al., 2018; Durrant et al., 2019; Taylor et al., 2016). As of 2022, 63 countries have outlawed the use of physical punishment in all settings including the home (Global Initiative to End All Corporal Punishment of Children, 2022). Children in these countries are legally protected from physical punishment, including spanking, but they only include approximately 14% of the world's children.

4.1. Policy and practice implications

Our results underscore the potential harm caused to children by forms of violence that are "socially normative and culturally accepted" (Durrant et al., 2020, p. 2), and provide strong support for the United Nations Convention on the Rights of the Child's call for eliminating all forms of violence against children, including violence used in child rearing (Committee on the Rights of the Child, 2006). Because eliminating spanking would likely prevent some cases of physical child abuse, the results of this study highlight the urgency of the United Nations Sustainable Development Goals Target 16.2 to end all forms of violence against children in the 2030 Agenda for Sustainable Development (United Nations General Assembly Resolution A/RES/70/1, 2015). Our results highlight the importance of advocacy and policy interventions within the systems of care for children and families and add further support for policy and practice statements issued by organizations such as the American Academy of Pediatrics (AAP), the American Professional Society on the Abuse of Children (APSAC), and the American Psychological Association (APA) that urge professionals to guide parents in finding alternatives to the use of spanking and support policy interventions such as legislative bans (Sege et al., 2018).

Along with legal bans, parent education programs across the world should continue to discourage caregivers from using spanking and promote positive non-aggressive disciplinary practices to prevent child abuse. Not all spanking results in physical abuse, however, spanking elevates the risk of parents engaging in abusive behaviors. For example, a parent or caregiver who spanks a toddler because they fail to comply with a parental directive may eventually use more frequent punishment that escalates in harshness, such as hitting with an object, as the child becomes more resistant and hostile toward the parent's use of physical punishment. In this way, both parents and children develop patterns that lead to high levels of conflict, which can contribute to increasingly aggressive forms of punishment, including physical abuse. Importantly, coercive patterns of parent-child interactions can be prevented through intervention. A universal parent education resource that has shown reductions in the use of physical punishment is Positive Discipline in Everyday Parenting (PDEP) (Durrant, 2020). PDEP is a child-rights based intervention that aims to change patterns of parent-child relations from coercive to collaborative and has been delivered in more than 30 countries including low-resource settings. Other promising intervention strategies have been reviewed elsewhere (Gershoff et al., 2017; Gershoff & Lee, 2020), although a limitation of the existing intervention research is that most studies have been conducted in upper-income countries and contexts.

4.2. Limitations and considerations for future research

Our results should be interpreted with the following limitations in mind. First, the use of cross-sectional data precludes our ability to make causal inferences. An implication of this limitation is that our estimate of a one-third reduction in physical abuse may be larger or smaller than the true reduction that would be seen in practice. Nevertheless, results from a robustness check indicate that spanking was linked to physical abuse even after controlling for child aggressive behavior, which prior research has shown to have associations with parental use of spanking (Lee et al., 2013). Further, a recent review of statistically well-controlled longitudinal studies found robust links between spanking and deleterious child outcomes, a finding congruent with a causal interpretation (Heilmann et al., 2021).

A second limitation of the current study is that because the CTS items in MICS were dichotomous, our models were unable to consider frequency or severity of caregiver's spanking. Yet, a number of studies show that spanking is linked to negative child outcomes regardless of frequency (Grogan-Kaylor, 2004; Ma et al., 2012; Ma & Grogan-Kaylor, 2017). Thus, it is reasonable to consider that our findings are robust to children's exposure to any spanking in the past month, which aligns with a children's rights perspective that argues that all forms of violence against children violates their human rights. In other words, even so-called "low levels" of spanking (low to moderate severity and frequency) should be avoided and banned.

Another limitation is that caregivers may have underreported spanking and physical abuse. In MICS, respondents were asked to report on whether spanking and abusive behaviors toward the focal child occurred or did not occur by *any* caregiver in the past month. Thus, the respondent may have been unaware of incidents of spanking and abuse toward the child by other caregivers, or the respondent may have difficulty recalling events from several weeks prior, resulting in underestimation of the child's exposure. Furthermore, given social desirability concerns, respondents may not want to report incidents of spanking and abuse toward the child. Even so, the reliance on caregiver self-report is likely to be much more accurate than other strategies, such as asking teachers; indeed, most young children under age five would not be in school settings.

The use of administrative data, such as child protection records, is hindered by concerns regarding lack of accuracy, and administrative records would lack the detail necessary to examine daily caregiving behaviors. Furthermore, child welfare laws differ significantly across countries and regions, and to our knowledge, there are no data sources on child protection involvement across all 56 LMICs included in this study. Finding similar patterns with child protection data (e.g., showing that reducing spanking is associated with declines in child protective services involvement) would strengthen the argument proposed herein that reducing or eliminating spanking would reduce the burden of physical child abuse; however, these data are not available in MICS. Thus, in the current study, caregiver self-report is the most accurate and reliable form of assessing children's exposure to violence in the home.

An important direction for future research would be to strengthen causal estimates concerning spanking and child physical abuse across the world by employing rigorous methods such as matching techniques on longitudinal data. Moreover, whether country-level legislation against physical punishment may reduce the risk of physical abuse awaits investigation by collecting pre- and post-ban data on these parenting behaviors. Finally, future research could estimate how the elimination of spanking among older children might also prevent physical abuse and could potentially incorporate other forms of physical punishment such as shaking and hitting on the hand, arm, or leg that may have differential associations with physical abuse.

5. Conclusion

In a large international population-based sample of young children in 56 LMICs, spanking was related to the occurrence of physical abuse. Results suggest that the elimination of spanking would be associated with substantial reductions of physical abuse worldwide. Referencing the population of children who experienced physical abuse, analyses suggest that eliminating spanking would result in 33% fewer cases of child physical abuse. These findings reinforce the need to eliminate spanking globally and suggest that banning spanking and public information campaigns to reduce spanking could be important steps in preventing child physical abuse in LMICs.

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