



# Estimating the Economic Burden of Violence against Children in East Asia and the Pacific

## Research overview

Research commissioned by UNICEF has found that child maltreatment is costing countries in East Asia and the Pacific US \$209 billion per year, equivalent to 2 percent of the region's GDP. This includes emotional abuse (\$65.9 bn), physical abuse (\$39.6 bn) sexual abuse (\$39.9 bn) neglect (\$32.4 bn), witnessing domestic violence (\$31 bn) and death from maltreatment (\$0.5 bn).

Violence against children is fundamentally wrong and is a tragedy for every child affected. In addition to the moral case for action, this research shows that there is also an impact on health and human capital, and an economic cost. This is first ever costing of child maltreatment in the Asia-Pacific region. The research began in 2012 with the systematic review of existing regional research, followed by a report, *Violence against Children* (Fang et. al, 2014), and peer-reviewed journal article 'The burden of child maltreatment in the East Asia and Pacific region' in *Child Abuse & Neglect* (Fang et. al, 2015).

Violence against children causes mental health and behavioral disorders, undermines physical and sexual health, increases risk taking behavior in adolescents, and has long-term impacts on adult aggression, violence and criminality. In extreme situations, violence against children results in excess use of health services and even early death. These lead to high societal costs for the region.

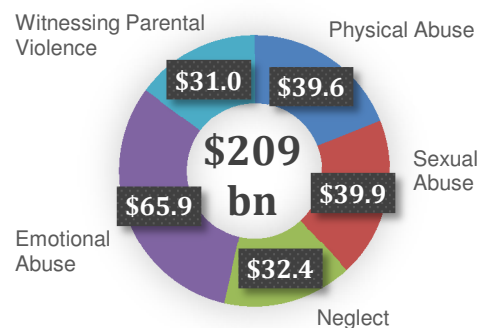
Violence against children is a critical issue for human capital and economic development. It impacts on children's schooling, their mental and physical health and their work performance as adults. It contributes to the burden on hospitals and already stretched outpatient systems. Estimating the economic burden is important to increase awareness of the severity of child maltreatment, to assist policy makers and government officials in prioritizing funding and developing preventive services, and to place the problem in the context of other public health, welfare and justice concerns.

All governments in the East Asia and Pacific region have signed the UN Convention on the Rights of the Child, which commits them to protect children from violence, abuse and maltreatment. This includes binding commitments to put in place measures to protect children from "all

forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse".

More needs to be done to meet these commitments, including greater investment in social services. Most governments in the region do not significantly invest in measures to prevent violence, thus leaving one of the most vulnerable populations and a critical human resource for sustained productivity – children – unprotected.

Estimated loss in GDP by type of abuse (in billions)



UNICEF is working with governments in the region to take action based on these findings. For example, in Cambodia we have supported a detailed national survey which provides, for the first time, national estimates that show the magnitude and nature of violence experienced by girls, boys and young people in the country. This study will inform action by the Cambodian government to prevent and respond to violence against children. We have also launched a public awareness campaign to change public perceptions, attitudes and behaviours.

## Methodology

The methodology used by the researchers had five steps:

1. The study was based on data obtained through a systematic review of literature concerning the prevalence, incidence and consequences of violence in East Asia

and the Pacific (UNICEF, 2012). This identified 364 research studies that met minimum quality standards. Data on prevalence and incidence was grouped by type of maltreatment, including: neglect; physical abuse; emotional abuse; sexual abuse; and witnessing parental violence.

- Primary research studies of possible consequences were included if they explored the relationships between maltreatment and outcomes in the following areas: mental health and behaviour; physical health and sexual behaviour; violence and criminal behaviour; education and employment; and health service use.
- The researchers then developed population attributable fractions (PAFs) for five type of child maltreatment and for each of the outcomes. PAFs are an epidemiological concept used to calculate the proportion of a disease or condition that can be attributed to a specific risk factor – in this case, a form of child maltreatment. This requires relative risk or odds ratio of a type of maltreatment to an outcome, and an appropriate measure of prevalence.

PAFs could not be calculated for two of the five categories of outcomes (education and employment; and health service use), due to a lack of sufficient data on the impact of child maltreatment on these areas. Therefore, it is likely that the result of the study has significantly underestimated to the overall economic burden.

Income group	Countries included
Low income	Democratic People's Republic of Korea, Myanmar, Cambodia
Lower middle income	Indonesia, Fiji, Kiribati, Lao People's Democratic Republic, Republic of Marshall Islands, Mongolia, Nauru, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Vanuatu, Viet Nam
Upper middle income	China, Cook Islands, Niue, Palau, Thailand, Tuvalu
High income	Brunei Darussalam, Japan, Republic of Korea, Malaysia, Federated States of Micronesia, Singapore

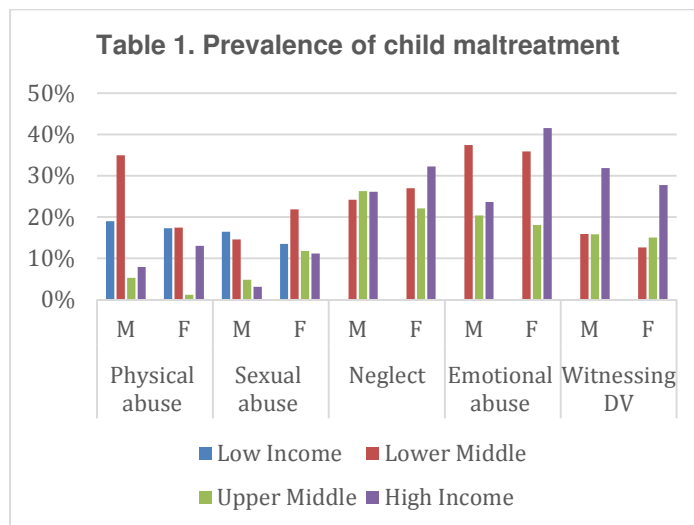
- Each individual PAF was then mapped to the closest match in the World Health Organisation (WHO) 2004 Global Burden of Disease project. This provided 'disability adjusted life years' (DALYs) lost to each type of maltreatment, with one DALY representing the loss of the equivalent of one year of full health.
- The loss of DALYs was then converted into monetary value, assuming one DALY is equal to the sub-regions per capita GDP. This was calculated both in terms of the four WHO epidemiological sub-regions in East Asia and Pacific and for the four World Bank country classifications based upon income level. Here, we limit analysis to the World Bank Classifications.

## Study results

### Prevalence of maltreatment

The analysis of existing research faced a number of gaps – notably the lack of studies addressing all forms of maltreatment in the low income countries in the region. Nevertheless, a picture emerged that is relatively clear:

- Child maltreatment is prevalent across East Asia and the Pacific. Between 14 and 37 percent of children experience at least one form of abuse.
- Child maltreatment affect boys and girls in different ways, but both are equally at risk.
- Child maltreatment is prevalent in all societies, regardless of income level.



It is noteworthy that the highest rates of 'contact maltreatment' – physical and sexual abuse – are found in low and middle income countries. However, there is a lack of research on non-contact maltreatment – emotional abuse, neglect and witnessing parental violence – in low income countries. The most common form of maltreatment was emotional abuse, affecting in particular girls in high income countries.

Studies in China, for example, have shown that 67.1 percent of parents with a 3 to 6-year-old child emotionally maltreated their children in the previous year (Cui, Pang, Du et al., 2010) and that 28 percent of 3 to 6-year-olds in 25 Chinese cities experienced neglect (Pang, Yang, Ren et al., 2005).

In the Philippines, 35 percent of sixth grade students reported seeing their parents hit each other in anger (Maxwell, 2001). The same children are often subject to multiple forms of abuse. In Malaysia, for example, 22 percent of secondary students reported multiple types of victimization, with 3 percent experiencing all four types: physical, sexual, emotional, and neglect (Choo et. al., 2006).

## Impact on health

To estimate the lifetime prevalence of violence against children at a population or regional level, a formula was used to calculate population-attributable fractions (PAFs) as described above. In this study, the risk factors are the types of violence exposure (e.g. physical abuse) and the cases are the health consequences (e.g. depression).

PAFs require information on the prevalence of child maltreatment and the relative risks, including the relationship between each type of violence and subsequent health consequences. PAFs are scaled from 0.0 to 1.0, representing an estimated share of responsibility for the outcome from 0 to 100 percent.

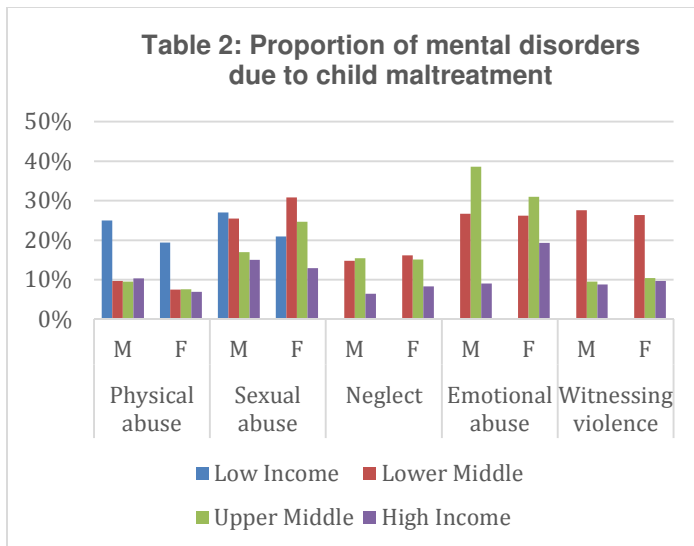


Table 2 illustrates the proportion of mental disorders in East Asia and the Pacific that are attributable to various forms of child maltreatment. Similar analyses can be developed for other negative health outcomes. This table shows, for example, that 25 percent of mental disorders among males in low income countries are attributable to childhood exposure to physical abuse.

## Economic impact

Taking the prevalence of maltreatment and the impact on health consequences, we can translate this into dollar terms in order to assess the economic impact of violence against children.

Following the work of WHO (2001) and Brown (2008), two steps were used to estimate the economic costs of child maltreatment:

1. Estimate the disability-adjusted life years (DALYs) lost from deaths, diseases and health risk behaviors attributable to maltreatment for each type of violence and for each gender and sub-region group.

2. Convert the DALY losses into a monetary value for each of the subgroups, assuming one DALY is equal to the sub-region's per-capita gross domestic product (GDP).

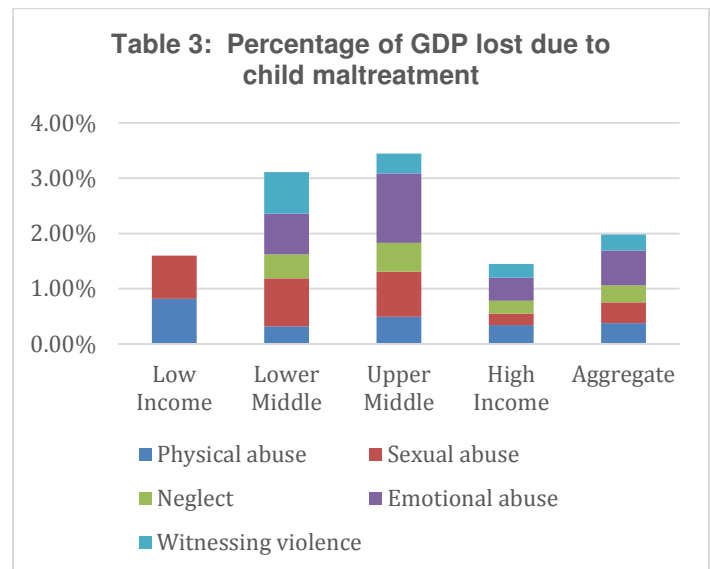


Table 3 analyses the estimated economic value of DALYs lost to violence in 2004 as a percentage of GDP. The total loss to GDP was 2 percent across the region. However, it varied from 1.45 percent in high income countries to 3.45 percent in upper-middle income countries. When converted to 2013 dollars using the gross domestic product deflator, the total estimated economic loss for the region was \$209 billion dollars per year.

## Note on limitations

As with any research study, the analyses are subject to several limitations. First, the data available for this type of research were limited. In the violence against children field, there is a high degree of variation in reported rates of maltreatment, suggesting potential measurement and definitional problems. Surveys also use different types of samples, rendering comparative analysis difficult.

Second, PAFs of health consequences were matched to the most appropriate burden measures from the 2004 Global Burden of Disease (GBD) study. We maintained as close to a one-to-one correspondence as possible between PAFs and adverse outcomes. However, not all available child maltreatment consequences studies had matching GBD outcomes, and for those that did, some were limited by the definitions and levels of aggregation used in the GBD categories.

Third, we were limited to the 2004 GBD/DALY estimates from WHO instead of 2008 or 2010 data, as country-specific data was available only for the year 2004.

## Conclusion

Until now, the costs of violence against children had only been calculated for a handful of countries, but were not available at the regional level. For this study, UNICEF commissioned economic and public health researchers to combine existing research on the prevalence of violence against children and its impacts in the region, in order to develop estimates of the economic costs of child maltreatment.

The study found that the estimated economic loss of child maltreatment in 2004 totaled US \$160 billion, accounting for approximately 2% of the region's GDP. Updated to 2013 dollars (using the World Bank GDP deflator), the estimated economic loss would total US \$209 billion.

This study also adds important new results to gauge the burden of child maltreatment in this region relative to other parts of the world, and in comparison to other public health concerns. The approach used here for estimating regional economic burden can be utilized by other countries or regions as a tested model for replication

The costing model applied to the analysis of child maltreatment in East Asia and the Pacific provides a powerful tool for child protection advocates and policy makers. On one hand, this approach can be used for estimating the economic burden of violence against children at national level, contributing to in-country advocacy and improving a country-by-country understanding of economic impact. On the other, it helps situate national investment in child protection systems not only on moral/human rights grounds, but as a critical issue for human capital and economic development.

The economic burden of violence against children in East Asia and the Pacific is substantial, and effects – directly or indirectly – everyone in the region.

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