University College London

Physical punishment and child outcomes in the UK

June 2026

Final report

CITY ST GEORGE'S UNIVERSITY OF LONDON

NSPCC

Project team

Principal Investigator

Dr Anja Heilmann, Department of Epidemiology and Public Health, UCL

Co-Investigators

Prof. Yvonne Kelly, Department of Epidemiology and Public Health, UCL
Dr Rebecca Lacey, School of Health and Medical Sciences, City St George's, University of London
Dr Kirrily Pells, Social Research Institute, UCL

Researchers

Sharon Eager, Division of Psychiatry, UCL
Katie Hollingworth, Social Research Institute, UCL
Ruby Jarvis, Division of Psychiatry, UCL
Eleanor Mindel, Department of Epidemiology and Public Health, UCL
Andy Ross, Quant Social Research and Consultancy
Dr Maria Sifaki, Department of Epidemiology and Public Health, UCL

How to cite this report:

Heilmann A, Kelly Y, Lacey R, Pells K, Eager S, Hollingworth K, Jarvis R, Mindel E, Ross A, Sifaki M (2026): Physical punishment and child outcomes in the UK. London: University College London.

This report has been funded by the Nuffield Foundation.

The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds and undertakes rigorous research, encourages innovation and supports the use of sound evidence to inform social and economic policy, and improve people's lives. The Nuffield Foundation is the founder and co-funder of the Nuffield Council on Bioethics, the Ada Lovelace Institute and the Nuffield Family Justice Observatory. This project has been funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily the Foundation.

Find out more at: nuffieldfoundation.org.
Bluesky: @nuffieldfoundation.org
LinkedIn: Nuffield Foundation

Acknowledgements

We would like to thank the Nuffield Foundation for funding this project, and in particular Catherine Dennison and Ben Brown for their generous support throughout. We also thank our research partner, the NSPCC, and Barnardo's for their help and expertise. We are grateful to Antoinette McNulty from the NIHR Clinical Research Network and Lucy Read from Future Views Today for their support in recruiting the young people's advisory groups.

We would like to express our appreciation to the London and Midlands advisory groups of young people for sharing their views and helping us to shape and refine the research, and to their teachers for facilitating our workshops.

We are grateful to the anonymous stakeholders who participated in the qualitative research for their valuable time and for sharing their insights and perspectives.

We also wish to acknowledge the UK Data Service, the Centre for Longitudinal Studies at UCL, and the Institute for Social and Economic Research at the University of Essex for providing access to the data that were used in this research.

We are indebted to our expert advisory group, who generously shared their expertise and valuable feedback at key stages of the project.

Expert advisory group

Chair:

Prof. Jenny Woodman,	University College London

Members:

Joanna Barrett,	NSPCC
Prof. Paul Clarke,	University of Essex
Dr Catherine Dennison,	Nuffield Foundation
Jess Edwards,	Barnardo's
Prof. Sally Holland,	Cardiff University
Prof. Aoife Nolan,	University of Nottingham
Prof. Paul Ramchandani,	University of Cambridge
Prof. Umar Toseeb,	University of York

University College London

Contents

Acknowledgements		3
1	Executive summary	7
1.1	Introduction	7
1.2	Project aims	7
1.3	Methods	8
1.4	Key findings	8
1.4.1	Key findings from quantitative data analyses	8
1.4.2	Key findings from stakeholder interviews	9
1.5	Conclusions and recommendations	10
1.5.1	Recommendations for future research	10
1.5.2	Recommendations for UK policy	10
2	Background	11
2.1	Introduction	11
2.2	Theoretical framework	12
2.3	Project aims	13
2.3.1	Data analyses (quantitative workstream)	13
2.3.2	Stakeholder interviews (qualitative workstream)	13
3	Study design and methodology	14
3.1.1	Defining physical punishment	14
3.1.2	Study design	14
3.1.3	Involvement of young people	14
3.1.4	Quantitative workstream	17
3.1.5	Qualitative workstream	18
3.1.6	The research team's standpoint on physical punishment	18
4	How common is physical punishment in the UK?	19
4.1	Research questions	19
4.2	Methods	19
4.3	Findings	20
4.3.1	How common is physical punishment in the UK, and how has it changed over time?	20
4.3.2	Does physical punishment vary by characteristics of the child or family?	20
4.3.3	Do parent and child reports differ?	22
4.4	Summary	23

5 Physical punishment and behavioural outcomes in early childhood 24
5.1 Research questions 24
5.2 Methods 24
5.3 Findings 26
5.3.1 Results from analyses using the full sample 26
5.3.2 Sensitivity analyses 26
5.4 Summary 26
6 Physical punishment and cognitive skills in early childhood 27
6.1 Research questions 27
6.2 Methods 27
6.3 Findings 28
6.3.1 Cumulative measure of physical punishment across waves 28
6.3.2 Physical punishment and numeracy at age 7 28
6.3.3 Physical punishment and literacy at age 7 28
6.4 Summary 29
7 Physical punishment and later educational attainment 30
7.1 Research questions 30
7.2 Methods 30
7.3 Findings 31
7.3.1 Physical punishment and educational attainment at Key Stage 2 31
7.3.2 Physical punishment and educational attainment at Key Stage 4 31
7.3.3 Sensitivity analyses 35
7.4 Summary 35
8 Physical punishment and adolescent risky behaviours 36
8.1 Research questions 36
8.2 Methods 36
8.3 Findings 37
8.3.1 Physical punishment and risky behaviours towards the self 37
8.3.2 Physical punishment and risky behaviours towards others 37
8.3.3 Physical punishment and risky behaviours towards the environment 39
8.3.4 Sensitivity analyses 39
8.4 Summary 39

9 Qualitative research on physical punishment and law reform 40
9.1 Research questions 40
9.2 Methods 40
9.3 Main findings 40
9.3.1 What were the key drivers of law reform in Scotland and Wales? 40
9.3.2 How were barriers to reform in Scotland and Wales addressed? 42
9.3.3 How was law reform in Scotland and Wales implemented? 42
9.3.4 Insights from England and Northern Ireland 43
9.4 Summary and transferable learnings 44
9.4.1 Framing the problem 44
9.4.2 Advocating policy solutions 45
9.4.3 Socio-political environment and political leadership 45
10 Summary, conclusions and recommendations 46
10.1 Key findings 46
10.1.1 Findings from quantitative data analyses 46
10.1.2 Findings from stakeholder interviews 47
10.2 How should these findings be interpreted? 48
10.2.1 Interpretation within the context of existing research 48
10.2.2 Strengths and limitations 48
10.3 Conclusions 49
10.4 Recommendations 49
10.4.1 Recommendations for future research 49
10.4.2 Recommendations for UK policy 50
References 51
Project outputs 53

1 Executive summary

1.1 Introduction

Physical punishment is a major concern from both children's rights and public health perspectives (WHO, 2025, 2026). According to the United Nations Convention on the Rights of the Child (UNCRC), protection from physical punishment is a right of every child (United Nations, 1989). Although there has been considerable progress globally, with growing numbers of governments passing legislation to protect children from physical punishment, it is still legal in most countries (End Corporal Punishment, 2026). In the UK, a unique situation exists, with Scotland and Wales having prohibited physical punishment in all forms and settings, while physical punishment in the home remains legal in England and Northern Ireland via the defence of 'reasonable punishment'.

Research has consistently shown that physical punishment is harmful to children's development and wellbeing (Gershoff and Grogan-Kaylor, 2016; Heilmann et al., 2021; WHO, 2025). However, the evidence for its negative impact rests largely on studies from the USA, while robust research using UK data is limited. In addition, there is a lack of comparative qualitative research exploring the differences between the UK jurisdictions that have prohibited physical punishment and those that have not.

This research aimed to address these gaps using both quantitative and qualitative methods, and with input from an advisory group of young people. The findings are intended to inform the ongoing debate around law reform in England and Northern Ireland, and also beyond.

1.2 Project aims

Quantitative workstream

The quantitative work analysed existing data to examine the prevalence of physical punishment in the UK and trends over time, as well as the impact of physical punishment on children's behavioural, cognitive, and educational outcomes.

Qualitative workstream

The qualitative work involved interviews with UK stakeholders to explore how decisions around law reform were made in the four UK countries, and to identify transferable learnings.

1.3 Methods

Involvement of young people

Children and young people are most directly affected by the reality of physical punishment, but their voices are often missing from the discourse. For this project, we worked with two advisory groups of young people (one in London and one in the Midlands) to ensure important issues that matter to children were not missed. Their input informed all parts of the research, including how we approached the topic, the stakeholder interviews, interpretation of findings, and dissemination.

Data analyses (quantitative workstream)

The quantitative workstream analysed existing data from UK longitudinal studies. Most of our analyses used data from the Millennium Cohort Study (MCS), a nationally representative, longitudinal study that follows the lives of approximately 19,000 children who were born in the UK between 2000–2002 (UCL Centre for Longitudinal Studies, 2024). We analysed data collected at regular intervals from age 9 months to 17 years to examine how physical punishment relates to family characteristics and to child outcomes over time. The MCS also includes datasets linking information from the National Pupil Database for pupils in England, which were used to examine whether physical punishment was associated with later educational attainment.

Understanding Society (USoc, also known as the UK Household Longitudinal Study or UKHLS) follows the same families every year (Institute for Social and Economic Research, 2024). When a child in the household is 10 years old at the time of data collection, both parents are asked a set of questions around parenting styles in relation to that child, including questions on physical punishment. Understanding Society was used to assess the prevalence of physical punishment in the UK and trends over time.

Growing Up in Scotland (GUS) tracks the lives of Scottish children and allows comparisons between maternal and child reports of physical punishment (Scottish Centre for Social Research, 2024).

Stakeholder interviews (qualitative workstream)

For the qualitative workstream, we interviewed 29 stakeholders across all four UK countries, representing multiple sectors with a professional or organisational interest in the subject of physical punishment. Topic guides were informed by the overarching research questions, discussions with the advisory groups of young people, and findings from the quantitative workstream. Data were analysed using framework analysis, which is a form of thematic analysis (Gale et al., 2013; Goldsmith, 2021).

1.4 Key findings

1.4.1 Key findings from quantitative data analyses

Our findings corroborate the existing international evidence that physical punishment has no benefits and is linked to detrimental outcomes for children's development and wellbeing. All observed associations were in the direction of either harmful or neutral effects.

While our analyses of links between physical punishment and child outcomes cannot establish causality, all accounted for a wide range of possible confounders, as well as the initial levels of the outcome in question. This means the results are not explained by family and child characteristics such as household income, maternal education, ethnic group, family structure, maternal mental health, maternal warmth, special educational needs, or by reverse causality.

1. Physical punishment is still common in the UK.

Despite a declining trend, physical punishment was still experienced by more than 20% of 10-year-old children in 2020/21. It is likely that younger children are substantially more affected, as physical punishment is most common during the preschool years and tends to decline as children get older.

2. Physical punishment does not improve behavioural outcomes in early childhood.

Across ages 3, 5, and 7 years, children who experienced more physical punishment displayed on average more externalising behaviours (such as conduct problems), more internalising behaviours (such as emotional problems), and fewer prosocial behaviours (such as helping others).

Physical punishment did not improve children's behaviour over time. When we examined how physical punishment and behaviours influenced each other, we found that among boys, more physical punishment at age 5 predicted fewer prosocial behaviours at age 7. Among girls, more externalising behaviours at age 3 predicted more physical punishment at age 5. When the analysis was restricted to children with complete data at all three time points, a reciprocal pattern emerged: more externalising behaviours at age 3 predicted more physical punishment at age 5, and more physical punishment at age 5 predicted more externalising behaviours at age 7. This suggests that physical punishment and externalising behaviour may reinforce each other over time.

3. Physical punishment is associated with lower literacy in early childhood.

The repeated experience of physical punishment across ages 3, 5 and 7 years was associated with lower literacy scores at age 7. There were no links between physical punishment and numeracy.

4. Physical punishment is associated with poorer GCSE outcomes at age 16 in England.

Data on GCSE results were available only for England. For young people in England, physical punishment in early childhood was associated with lower attainment at Key Stage 4 (GCSE results at age 15/16). Young people who had experienced physical punishment in childhood were less likely to achieve a standard pass (grade A*–C or 4–9) in GCSE English, in GCSE English and Maths combined, and in five GCSEs including English and Maths. The strongest links were seen for physical punishment reported at age 7, and for repeated exposure across ages 3, 5, and 7.

5. Adolescents who experienced physical punishment in early childhood were more likely to report risky and antisocial behaviours at ages 14 and 17.

Young people who experienced physical punishment during childhood were more likely to report risky and antisocial behaviours towards others and towards the environment at age 14, such as bullying, physical aggression, and vandalism. These links were strongest when physical punishment was reported later in childhood or repeatedly across survey waves. Some associations were also present at age 17, although these were weaker.

When physical punishment was experienced in combination with low maternal warmth, there was also an increased risk of risky behaviours towards the self (such as self-harm or substance misuse), and towards the environment at age 14. Maternal warmth did not make a difference to the link between physical punishment and antisocial behaviours directed at others, or any outcomes measured at age 17.

1.4.2 Key findings from stakeholder interviews

In line with Kingdon's Multiple Streams Framework (Kingdon, 2014), findings from our stakeholder interviews on law reform suggest that change becomes possible when three elements come together to create a window of opportunity: recognition by policymakers that a problem exists and requires action, a feasible policy solution to address the problem, and a favourable social and political environment for the proposed policy to become accepted.

In Scotland and Wales, the main arguments for law reform were that physical punishment was a violation of children's rights, and that public health evidence demonstrated its harmful impacts on child development. Additional key arguments were the ambiguity of the existing "reasonable punishment" defence and the need to provide clarity for parents and professionals, evidence from other countries that physical punishment increases the risk of serious abuse, and that abolishing the defence of reasonable punishment should be seen as part of wider violence prevention strategies. The weight placed on each of these arguments needed tailoring to each country's context.

Successful advocacy for law reform required broad, multisectoral coalitions including stakeholders from public health, social care, parent organisations, faith groups, and police. Advocates contributed to creating a favourable socio-political environment by securing political leadership and support, and by ensuring arguments for reform were disseminated widely and heard by relevant audiences. The argument made by opponents of law reform that it would lead to the criminalisation of parents was effectively addressed using evidence from the fast-increasing number of countries where law reform had already been enacted and such concerns had not been borne out.

Scotland and Wales also provided key insights regarding implementation, with the successful approach taken in Wales offering a blueprint for change. Wales's implementation included a comprehensive public awareness campaign, clear guidance for professionals, and additional resources for parenting support, and resulted in broad public understanding and acceptance. The Welsh experience has been evaluated and documented in a 2025 synthesis report (Tully et al., 2025).

1.5 Conclusions and recommendations

While physical punishment has declined over time, it still affects a substantial proportion of children in the UK.

Physical punishment has no benefits. Instead, it is associated with a range of shorter- and longer-term detrimental outcomes for the children who experience it, including increased risks of poorer educational attainment and adolescent antisocial behaviours. Given these findings, physical punishment may have a negative impact on society as a whole.

The experience of abolishing the defence of reasonable punishment in Scotland and Wales provides valuable insights and learnings for the rest of the UK and beyond. Reforming the law requires political will and leadership, and careful implementation. Once achieved, societal acceptance of law reform is high.

1.5.1 Recommendations for future research

More comprehensive and current UK data are needed on the prevalence and distribution of physical punishment, and on attitudes towards it. Such data should include children across all age groups, with reports from both mothers and fathers as well as from children and adolescents themselves. Data should be collected regularly and considered in the planning of new large cohort studies, to monitor trends before and after any future law reform.

We also recommend qualitative research with diverse groups of parents, children, and young people to gain deeper insights into the reasons why parents do or do not use this form of punishment, how it affects children and families, and what kinds of support can help parents adopt positive parenting strategies.

Research into parenting practices should include assessing the effectiveness of interventions to reduce physical punishment.

Where law reform is enacted, its implementation and impact should be monitored. This should include assessing trends in the prevalence of physical punishment, public attitudes, and outcomes for children, as well as monitoring contacts with police and social services, prosecutions, and offers of parenting support. Research with professionals and stakeholders should identify best practice regarding processes and referral pathways.

1.5.2 Recommendations for UK policy

Given the sum of the existing evidence from previous international research and the current project, as well as consideration of children's rights, we are making the following recommendations:

Recommendation 1:

England and Northern Ireland should follow Scotland and Wales in removing the legal defence of reasonable punishment and prohibit all physical punishment by law, to give all UK children equal protection and comply with international law as laid out by the UNCRC.

Recommendation 2:

Implementation of law reform should be carefully planned and include co-development of guidance for professionals and agencies regarding processes and referral pathways, resources for the provision of family and parenting support, and plans for monitoring and evaluation. The Welsh experience provides a useful example of successful implementation and should be used to guide implementation in England and Northern Ireland.

Recommendation 3:

Law reform should be accompanied by comprehensive public awareness campaigns including information for children and young people, and provide fact-based assurance about the preventative intent of legislative change.

2 Background

2.1 Introduction

Physical punishment is the most common and socially accepted form of violence against children, including in the UK (Heilmann, Kelly and Watt, 2015; WHO, 2025). The United Nations Convention on the Rights of the Child (UNCRC) is clear that protection from physical punishment is a basic right of every child (United Nations, 1989).

At the same time, research has consistently highlighted the detrimental impacts of physical punishment on children's health and development. Evidence of detrimental effects is strongest for externalising behaviours, i.e., behavioural difficulties that manifest outward and violate social norms. Studies have also linked physical punishment with detrimental effects on children's mental health, mainly measured as internalising behaviours (manifesting through symptoms of anxiety and depression), although the evidence is less conclusive than for externalising behaviours (Gershoff and Grogan-Kaylor, 2016; Heilmann et al., 2021). Other detrimental outcomes that have been reported include poorer social skills, poorer cognitive and educational outcomes, and poorer parent-child relationships (Gershoff and Grogan-Kaylor, 2016). Associations with antisocial behaviour and substance misuse in later life have also been examined, although with inconsistent findings (Heilmann et al., 2015; Gershoff and Grogan-Kaylor, 2016). However, most of the previous research on physical punishment and child outcomes was conducted in the USA and might not be directly applicable to the UK context.

An increasing number of countries (70 at the time of writing) across all continents have legislated to prohibit physical punishment in all forms and settings, including in the home (End Corporal Punishment, 2026). However, despite being incompatible with the UNCRC and the existing evidence that physical punishment is harmful to children's wellbeing, it is still legal in most countries. In the UK, a unique situation exists, with physical punishment no longer lawful in Scotland (since November 2020) and Wales (since March 2022), while in England and Northern Ireland the common assault of a child by a parent or adult acting in loco parentis remains legal via the defence of 'reasonable punishment' (Legislation.gov.uk, 2006; Crown Prosecution Service, 2020). Figure 1 shows a timeline of significant national and international developments towards ending physical punishment in the UK.

The different approaches taken in the four UK countries underscore that change is rarely driven by evidence-based or legal arguments alone. No comparative qualitative research has so far examined the processes around legal reform resulting in the differences between the UK jurisdictions that have prohibited physical punishment and those that have not.

To address these gaps, we carried out a mixed methods project using quantitative and qualitative methods. The quantitative workstream aimed to examine the prevalence of physical punishment in the UK, as well as associations between physical punishment and children's behavioural, cognitive and educational outcomes. The qualitative workstream sought to explore the decision-making processes around law reform in the four UK countries and to identify transferable learnings.

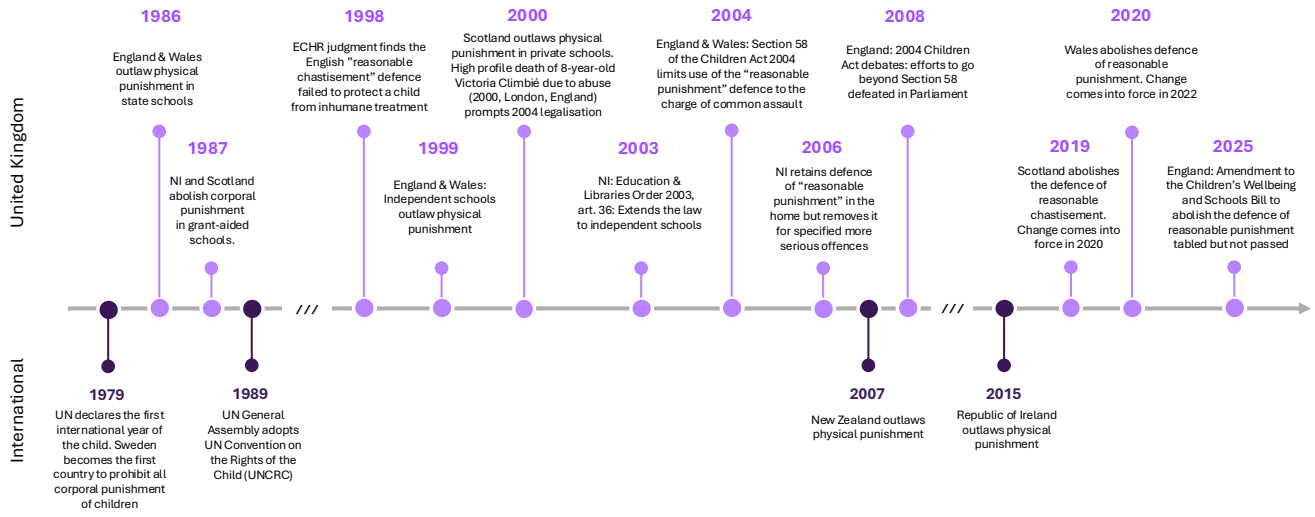

Figure 1 Timeline of significant developments towards ending physical punishment in the UK, at national and international level.

2.2 Theoretical framework

Our choice of outcome measures used in this project was informed by the theoretical framework proposed by Gershoff (2002), shown in Figure 2. The framework suggests causal links between physical punishment and outcomes such as increased aggression and antisocial behaviour, poorer mental health, and poorer parent-child relationships. According to this framework, physical punishment has immediate, short-term, and long-term effects on the child, which may be influenced by characteristics of the parent and child and the context in which the punishment occurs. It assumes that the way children process the experience of being punished involves immediate responses that may lead to compliance, but may also include pain, fear, anger, and activation of a stress response. Repeated activation of the stress response can lead to allostatic load which in turn may affect brain function (Danese and McEwen, 2012).

Other theoretical models that are implicit in Gershoff's framework and have been used to explain how physical punishment affects children's development include social learning theory, social information processing, and attachment theory. Social learning theory suggests that parents using physical punishment model the use of violence and aggression to solve conflict (Bandura, 1977). Social information processing refers to the way children learn to interpret social situations and how to react to them. Children who experience physical punishment may be more prone to interpreting others' actions as hostile, and to respond aggressively when they feel threatened (Crick and Dodge, 1996; Cuartas, 2023). Attachment theory assumes that experiencing a parent as a source of pain, fear, and threat damages the attachment bond and parent-child relationship (Bowlby, 1969).

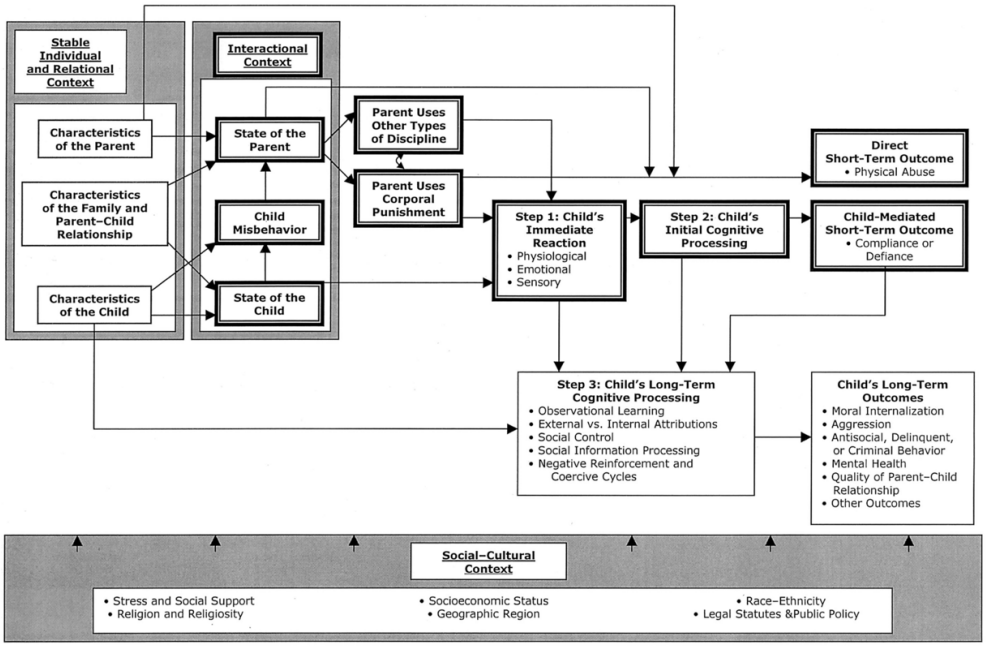

Figure 2 Process–context model of how parental corporal punishment may affect children's short- and long-term processing and outcomes (Gershoff, 2002)

2.3 Project aims

2.3.1 Data analyses (quantitative workstream)

The overarching aim of the quantitative part of this mixed-methods project was to examine the prevalence and impact of physical punishment on children in the UK using longitudinal data.

Aims of the quantitative workstream:

1. To describe the prevalence of child physical punishment in the UK and trends over time as well as associations with child and family characteristics, and to compare parent and child reports of physical punishment.
2. To examine reciprocal associations between physical punishment and child behaviours.
3. To assess associations between physical punishment and child cognitive ability (numeracy and verbal skills) in early childhood.
4. To examine associations between physical punishment and educational attainment at Key Stage 2 (age 11) and Key Stage 4 (age 16).
5. To examine associations between physical punishment and adolescent risky behaviours at ages 14 and 17.

2.3.2 Stakeholder interviews (qualitative workstream)

The qualitative part of the project aimed to explore key factors that influenced decision-making around law reform in the four UK countries, and to identify learnings applicable to other contexts.

The research questions for the qualitative workstream were:

1. How was law reform on physical punishment achieved in Scotland and Wales?
2. What were the main barriers and which strategies were used to overcome them?
3. How was law reform in Scotland and Wales implemented?
4. Are there transferable learnings from the process of achieving and implementing law reform in Scotland and Wales that are relevant for the rest of the UK and internationally?

3 Study design and methodology

This section provides an overview of the study design and methods used in this project. Information relevant to specific research questions is provided in the respective sections presenting key findings. A more detailed description of our methods is available in the Technical Appendix published alongside this report.

3.1.1 Defining physical punishment

In this project, the UNCRC definition of physical punishment was used: "Physical punishment is any punishment in which physical force is used and intended to cause some degree of pain or discomfort, however light" (United Nations Committee on the Rights of the Child, 2006).

3.1.2 Study design

We conducted a mixed methods project that used both quantitative and qualitative research methods.

The project consisted of three workstreams:

In **Workstream 1** we worked with two advisory groups of young people to explore the issue of physical punishment, identify questions and themes that matter to them, and to meaningfully involve them in the development of the research and interpretation of findings.

In **Workstream 2** we analysed UK longitudinal data from the Millennium Cohort Study, Growing Up in Scotland, Understanding Society, and the National Pupil Database to examine the prevalence of physical punishment and its impact on child and adolescent outcomes.

In **Workstream 3** we conducted qualitative research with relevant stakeholders to explore processes and factors influencing policy decisions on the legality of physical punishment in all four UK countries. This work also used emerging findings from the data analyses and input from the advisory groups of young people.

3.1.3 Involvement of young people

Children and young people are most directly affected by the reality of physical punishment. Work on this project was informed by two advisory groups of young people (one in London and one in the Midlands) to ensure that important issues that matter to children, and that were feasible to address, were not missed.

Young people were recruited via their schools and participated on a voluntary basis. A total of 24 young people volunteered to participate (12 based in London and 12 in the Midlands), comprising 13 boys and 11 girls. Members of both groups were ethnically diverse and aged between 12 and 15 years at the point of recruitment. Participants received a £10 Amazon voucher for each workshop they attended as a token of thanks.

The views and perspectives of the advisory groups were gathered through participatory methods during four workshops with the London school, and five with the school in the Midlands. The workshops began with an introduction to the project and the role of research, alongside discussions about physical punishment, children's rights, and the UNCRC. Participants explored their existing knowledge and beliefs about physical punishment and reflected on how these views were shaped. The purpose was not to elicit children's individual opinions, but through creative activities to encourage advisory group members to think about what is known or not known about physical punishment, and what might be important for this project to explore. Youth advisors expressed surprise that physical punishment was not already illegal in England, an interest in the variations across the UK, and an observation that this is a topic that they had not previously discussed or received information on at school.

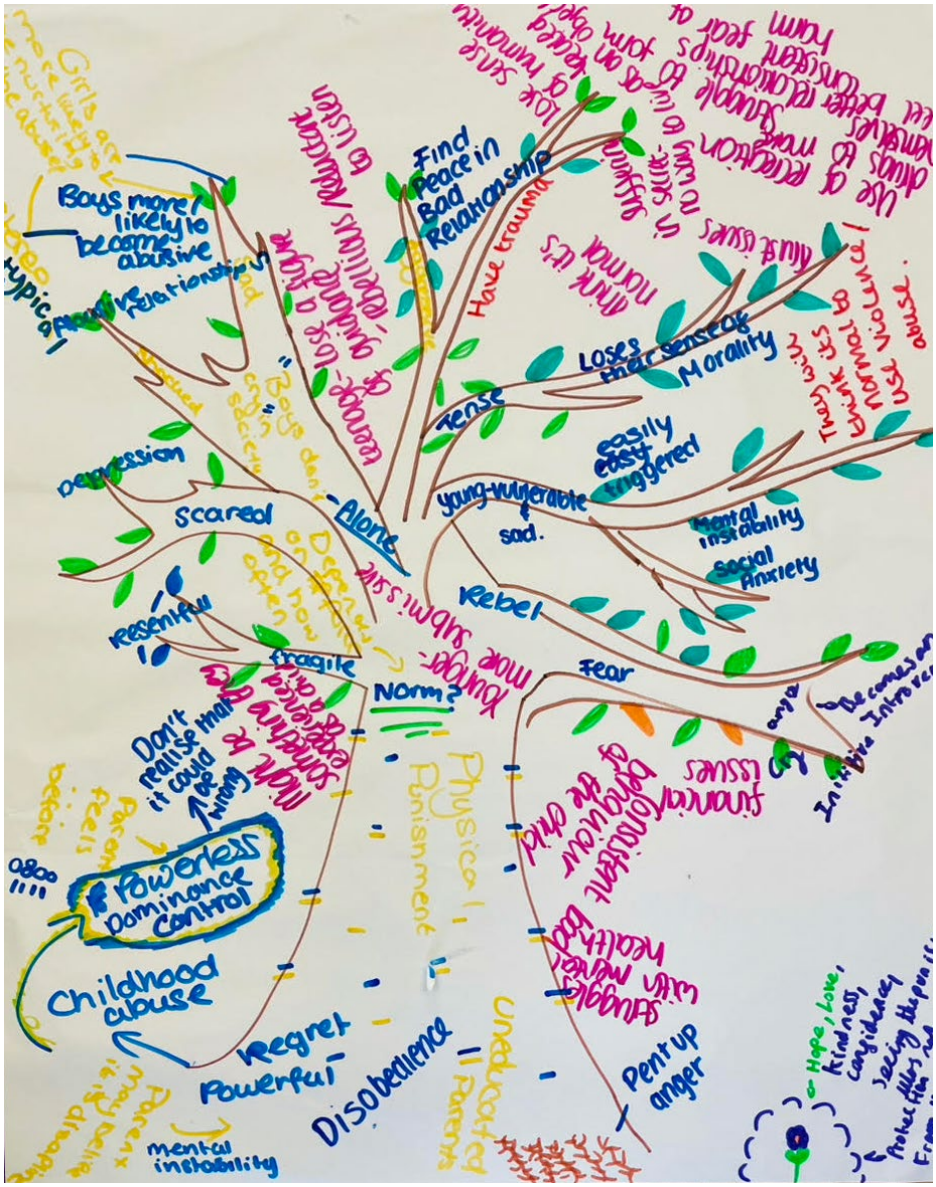

Figure 3 Problem tree produced by one of the advisory groups

The second workshop focused on research design and analysis. Participants created problem trees to map key issues, as illustrated in Figure 3. The branches represent how a child who is physically punished might feel, think, and act, and whether there might be differences by age, gender, or other demographics. The roots explore why parents might use physical punishment. The leaves discuss possible longer-term consequences of the use of physical punishment for children and their relationships with others. Finally, surrounding the tree are considerations on how the environment in which a family lives might influence the use of parental physical punishment and what support children, parents, or carers might need.

In this session, the youth advisors also contributed to the development of proposed interview questions. Key areas that the participants were keen to explore included motivations for the use of physical punishment and impacts on children, reasons for the differences between the four jurisdictions in the UK, how families have been or would be supported by changes in legislation, and the extent to which interviewees have engaged with children and young people on the topic.

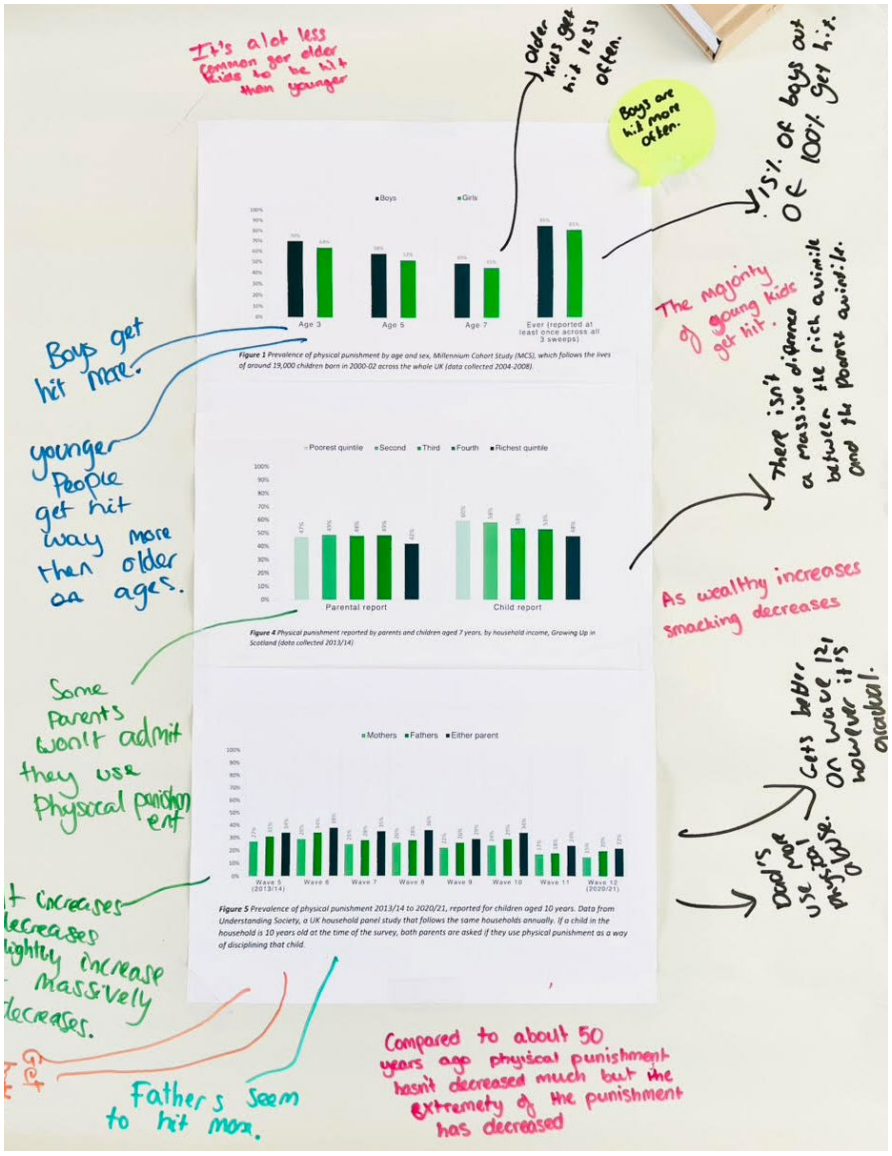

Figure 4 Data graphs with annotations made by youth advisors

In the third workshop, the groups reviewed emerging findings from both the quantitative and qualitative data analysis. Figure 4 shows one group's annotations on graphs of disaggregated prevalence rates for physical punishment. In addition, the young advisors provided their interpretations of quotations from the interviews with stakeholders. The groups' perspectives provided assurance regarding the analysis plan for the quantitative and qualitative workstreams and helped with the interpretation of our findings.

The fourth and fifth workshops provided an opportunity for participants to identify the messages they felt decision-makers and peers should hear and better understand, based on the findings. They also considered the implications for policy and practice.

A key suggestion made by the Midlands' advisory group was to reorder our recommendations, so that the recommendation on the implementation of law reform (which the group felt was more important) was placed before the recommendation on public awareness campaigns. Participants were however keen to stress the need for young people and parents to be informed about the proposed changes, and for these to be presented in a supportive manner with a focus on prevention, rather than prosecution.

Participants were also asked to reflect on their involvement with the study as youth advisors. Youth advisory group members in London stated that they liked having the opportunity to write questions for policymakers as "children should contribute to it as it affects them." Feedback was extremely positive from the Midlands' group also:

"I have understood and learned a lot in this project."

"I have really REALLY enjoyed being part of this and will miss it so much. Thank you so much and I hope you might come again!"

"You listened and asked which is essential – this wasn't expected. You helped us to understand all of the statistics, facts and findings – this helped us to truly understand the situation."

3.1.4 Quantitative workstream

Data sources

To answer the research questions related to the quantitative workstream, we used several large UK datasets, analysing data from the Millennium Cohort Study (MCS), the National Pupil Database (NPD), Understanding Society (USoc, also known as the UK Household Longitudinal Study or UKHLS), and Growing Up in Scotland (GUS).

The majority of our analyses used data from the Millennium Cohort Study (MCS), a nationally representative, longitudinal study that follows the lives of children from all four UK countries who were born in 2000–2002. It is a rich dataset tracking children's health and development and the social and economic contexts in which they grow up, including information on parenting practices and physical punishment (UCL Centre for Longitudinal Studies, 2024). The first wave of data collection in 2001 included approximately 19,000 children who were then about nine months old. The analyses for this project used seven waves of data, collected at nine months and at ages 3, 5, 7, 11, 14, and 17 years. MCS data were used to examine whether physical punishment varied by characteristics of the child and family, and to assess links between physical punishment and child and adolescent outcomes while accounting for a wide range of potential confounding factors.

Data from the National Pupil Database (NPD) for pupils in England were used to examine associations between physical punishment and later educational attainment. The MCS includes datasets linking information from the NPD with data collected through the MCS (Centre for Longitudinal Studies, 2024), which are accessed through the UKDS SecureLab (the UK Data Service Trusted Research Environment).

Understanding Society (USoc) is a UK household panel study that follows the same families annually and includes information about children and parenting (Institute for Social and Economic Research, 2024). When a child in the household is 10 years old at the time of data collection, both parents are asked a set of questions around parenting styles in relation to that child, including on parents' use of physical punishment. Understanding Society provides the most recent available data on the prevalence of physical punishment in the UK, and enables an assessment of trends over time.

Growing Up in Scotland (GUS) is a representative, longitudinal research project tracking the lives of three cohorts of Scottish children, and is the only large UK study that includes child-reported data of physical punishment. We used GUS data to compare maternal and child reports of physical punishment, which were collected in 2012/13 for Birth Cohort 1, when the children were 7 to 8 years old (Parkes, Sweeting and Wight, 2014; Scottish Centre for Social Research, 2024).

Statistical analyses

Analysis strategies employed to address each of the main research aims are briefly described in the relevant sections, with a more detailed description of the statistical analysis plans provided in the Technical Appendix.

Ethical considerations

All quantitative analyses were based on the secondary analysis of fully anonymised datasets that were accessed through the UK Data Service. All quantitative data are safeguarded data requiring authenticated registration with the UK Data Service subject to the UK Data Service End User License Agreement. The studies that generated these data underwent the relevant ethical approval processes (see Technical Appendix for details). As these data are fully anonymised, additional ethical approval for their analysis is not required.

Linked data from the National Pupil Database (NPD) are Controlled Data subject to more restrictive access conditions and were accessed through the UK Data Service SecureLab. Access to these data was granted on application following the completion of Safe Researcher Training and a Secure Access User Agreement by those analysing and accessing the data.

3.1.5 Qualitative workstream

Sample

We conducted individual interviews with a sample of stakeholders from all four UK countries. We recruited 29 interviewees from a broad range of sectors with a professional or organisational interest in the topic, including children's charities, Children's Commissioners, parliamentarians, health and social care professionals, police, faith representatives, and parenting organisations.

Data analysis

We used framework analysis to develop our coding framework (Gale et al., 2013; Goldsmith, 2021). Themes were developed from the coded interview transcripts and described in an analytic narrative, including quotes to illustrate the findings.

Ethical approval

Ethical approval for stakeholder interviews and the workshops with the advisory group of young people was granted by the University College London Research Ethics Committee (reference 5366/005). All participants provided informed written consent.

3.1.6 The research team's standpoint on physical punishment

Research on the physical punishment of children is situated within broader social, cultural, and ethical debates and cannot be approached as entirely neutral. The researchers involved in this project hold the position that physical punishment should be prohibited, a standpoint informed by a children's rights perspective and the international evidence of its developmental and social harms, including evidence and policy recommendations produced through team members' previous work (Heilmann et al., 2015; Bevilacqua et al., 2021; Heilmann et al., 2021). While the conception of this research project and its research questions have been informed by this position, our main concern is reducing violence against children and law reform is not the only policy response that can further this aim.

This project was supported by the NSPCC (National Society for the Prevention of Cruelty to Children), an organisation that has long been advocating for the removal of the defence of reasonable punishment in all UK jurisdictions. The NSPCC provided expert advice on the identification of relevant stakeholders and the dissemination of findings.

We took a number of steps to ensure academic rigour and our own impartiality. As researchers we are committed to and bound by the principles of academic integrity and open, transparent research. All quantitative analysis plans have been pre-registered with the Open Science Framework to minimise cognitive biases. Qualitative work incorporated diverse perspectives, including from our advisory groups of young people, and interview guides were developed with precise, non-emotive language.

4 How common is physical punishment in the UK?

This analysis addressed the first aim of the data analysis (quantitative) workstream, to describe the prevalence of child physical punishment in the UK, how it is related to child and family characteristics, and to examine trends over time.[1]

4.1 Research questions

1. How common is physical punishment in the UK, and how has it changed over time?
2. Does parents' use of physical punishment vary by characteristics of the child or family?
3. Do parent and child reports differ?

4.2 Methods

To answer our research questions, we used data from three representative UK studies: Understanding Society (USoc), the Millennium Cohort Study (MCS), and Growing Up in Scotland (GUS). The analyses presented in this section are descriptive, which means the results are simple prevalence estimates broken down by child and family characteristics. All estimates were produced using appropriate survey weights, meaning they are representative of the underlying populations. Significance tests were not carried out as these are not recommended for descriptive analyses (Vandenbroucke et al., 2007).

Understanding Society administers a questionnaire on parenting style when the family has a 10-year-old child at the time of data collection, including the following three questions on physical punishment: whether parents use physical punishment to discipline the child, spank the child when disobedient, or slap the child when misbehaving. From this information we derived a yes/no measure of physical punishment (based on responding yes to any of the three questions) for each parent. We report data on physical punishment of 10-year-olds collected over eight waves, from 2013/14 to 2020/21. Sample sizes ranged from 406 in 2020/21 to 698 in 2016/17.

In the MCS, physical punishment was measured at three time points when the children were 3, 5, and 7 years old (data collected in 2004, 2006, and 2008), by asking the main caregiver (in almost all cases, this was the mother) how often they smacked the child when the child was naughty. For each wave, we derived a binary measure indicating whether or not the parent reported using physical punishment at that age, and present the prevalence of physical punishment by child age, sex, and ethnicity as well as household income and maternal education. The sample included up to 13,367 children at age 3, 14,217 children at age 5, and 12,899 children at age 7.

Growing Up in Scotland (GUS) includes maternal and child reports of physical punishment, collected in 2012/13 for children aged 7 to 8 years (Parkes et al., 2014; Scottish Centre for Social Research, 2024). Mothers were asked how often they smacked or slapped the child when he or she had done something wrong, while children responded to the statement "My parents smack me when I have done something wrong". For both mothers and children, we derived a measure indicating whether any physical punishment had been reported (yes or no) and present its prevalence by household income. The sample sizes were 3,156 for parent reports and 3,095 for child reports.

[1] *Analyses presented in this section were pre-registered with the Open Science Framework, available here: osf.io/7uwtx/overview.*

4.3 Findings

4.3.1 How common is physical punishment in the UK, and how has it changed over time?

The most recent data on the prevalence of physical punishment in the UK come from Understanding Society, and relate to 10-year-old children. Figure 5 shows the prevalence of reported physical punishment by mothers, fathers, and either parent. At each wave, fathers were more likely to report using physical punishment than mothers. From 2013/14 to 2020/21, the reporting of physical punishment by either parent declined from 34% to 22%. However, this means that more than one in five 10-year-olds still experienced physical punishment in 2020/21.

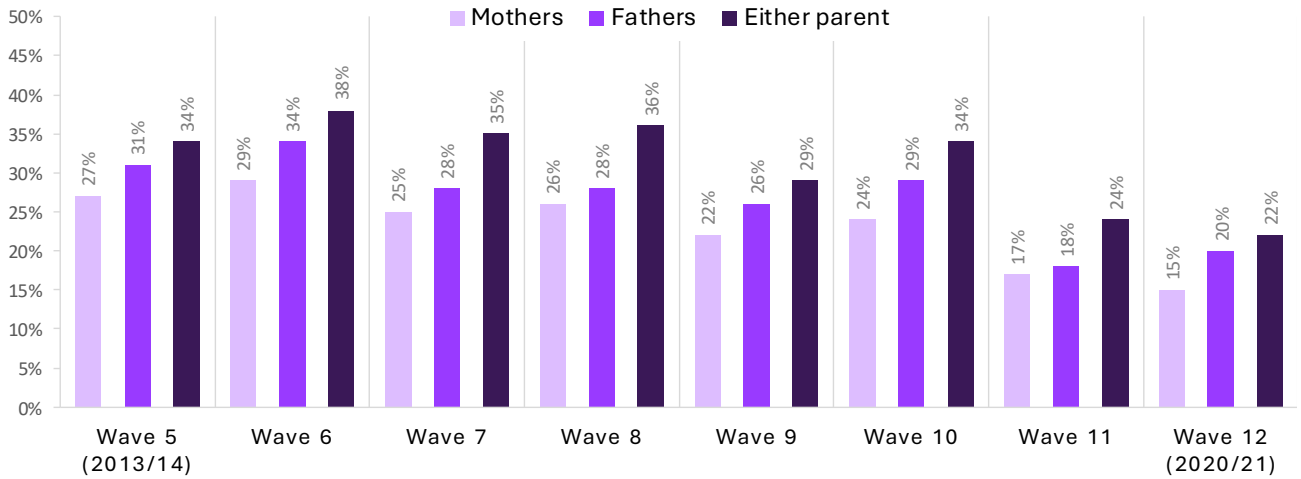

Figure 5 Prevalence of physical punishment 2013/14 to 2020/21, reported for children aged 10 years. Data from Understanding Society.

4.3.2 Does physical punishment vary by characteristics of the child or family?

We used MCS data collected at age 3 (2004), age 5 (2006), and age 7 (2008) to examine variation in physical punishment by child and family characteristics. Figure 6 shows the prevalence of physical punishment at ages 3, 5, and 7 years, for girls and boys separately. Physical punishment was most commonly reported at age 3 (70% for boys and 64% for girls) and decreased as children got older. The peak around age 3 and decrease with age has been reported in comparable contexts internationally (Slep et al., 2022). Looking across the three data waves, more than 80% of caregivers (mothers) had reported using physical punishment by the time children were 7 years old. Throughout, boys experienced more physical punishment than girls.

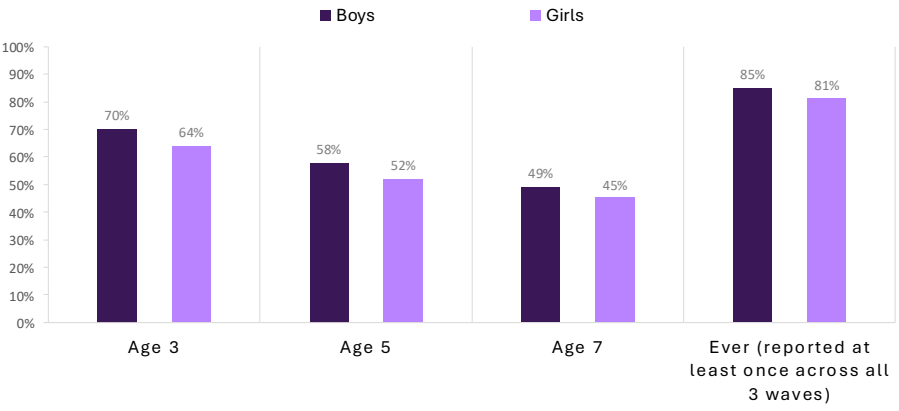

Figure 6 Prevalence of physical punishment by age and sex, Millennium Cohort Study (MCS).

The prevalence of physical punishment by household income and maternal education is shown in Figures 7 and 8. Physical punishment was common across all social groups, with little variation by household income, although prevalence was slightly lower for children living in households with the highest incomes. A clearer social gradient was however apparent by maternal education. At all ages, mothers with higher education levels were less likely to report the use of physical punishment.

Figure 9 shows physical punishment by the child's ethnicity, suggesting that physical punishment was common across all ethnic groups, with similar prevalence reported for white, mixed, Indian, and other ethnic groups, while mothers of Pakistani and Bangladeshi children reported lower and mothers of Black Caribbean and Black African children higher prevalence.

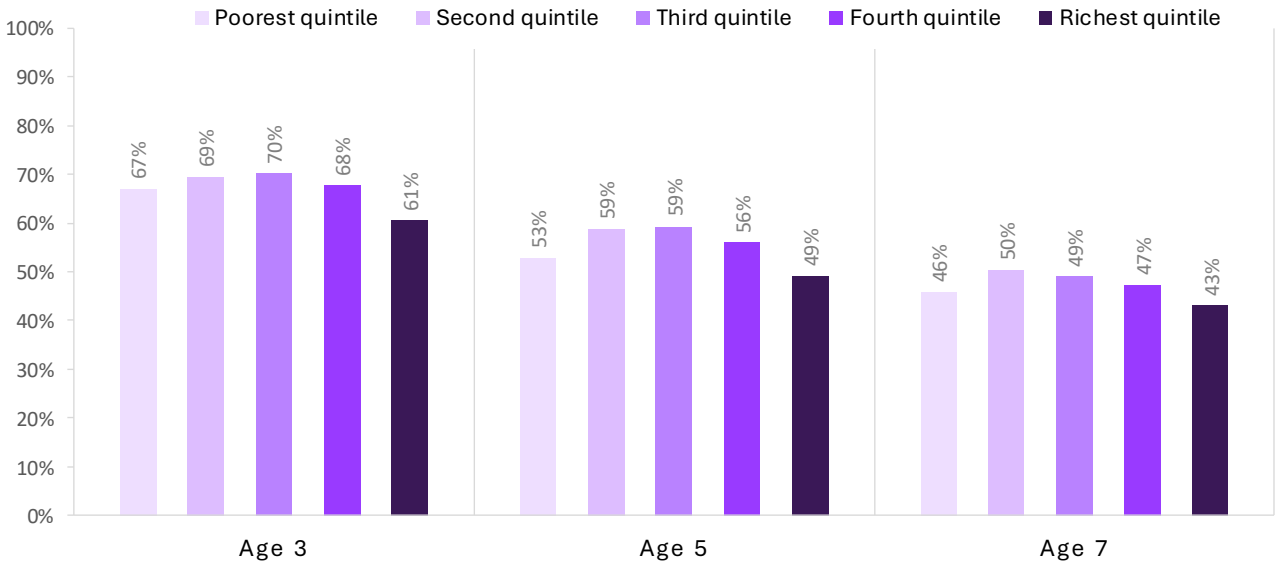

Figure 7 Physical punishment by age and household income, Millennium Cohort Study (MCS).

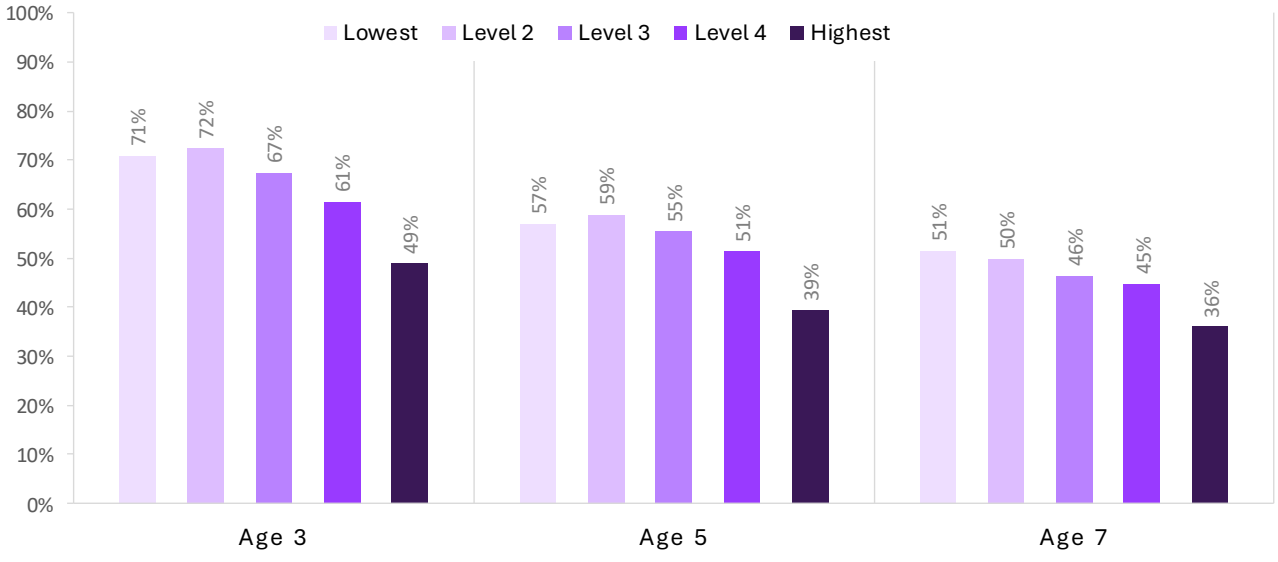

Figure 8 Physical punishment by age and maternal education, Millennium Cohort Study (MCS).

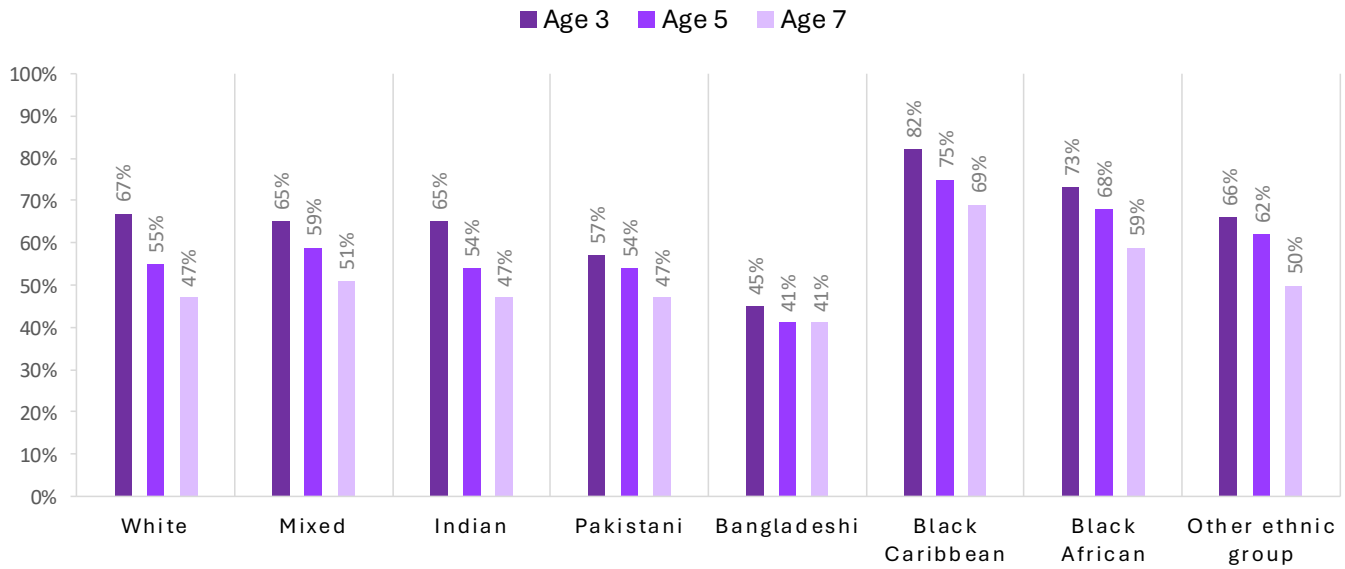

Figure 9 Physical punishment by age and ethnicity, Millennium Cohort Study (MCS).

4.3.3 Do parent and child reports differ?

Growing Up in Scotland provides parent and child-reported data of physical punishment for children who were 7 to 8 years old in 2012/13. Data were only collected from the main caregiver, which in almost all cases was the mother, meaning that physical punishment by fathers was not captured. The prevalence reported by children was higher than for maternal reports and more socially graded (Figure 10). The difference might be due to children reporting physical punishment by either parent, maternal underreporting, or both. The prevalence and relatively flat income gradient of maternal reports are similar to the reports for 7-year-olds in the MCS collected in 2008, shown in Figure 7.

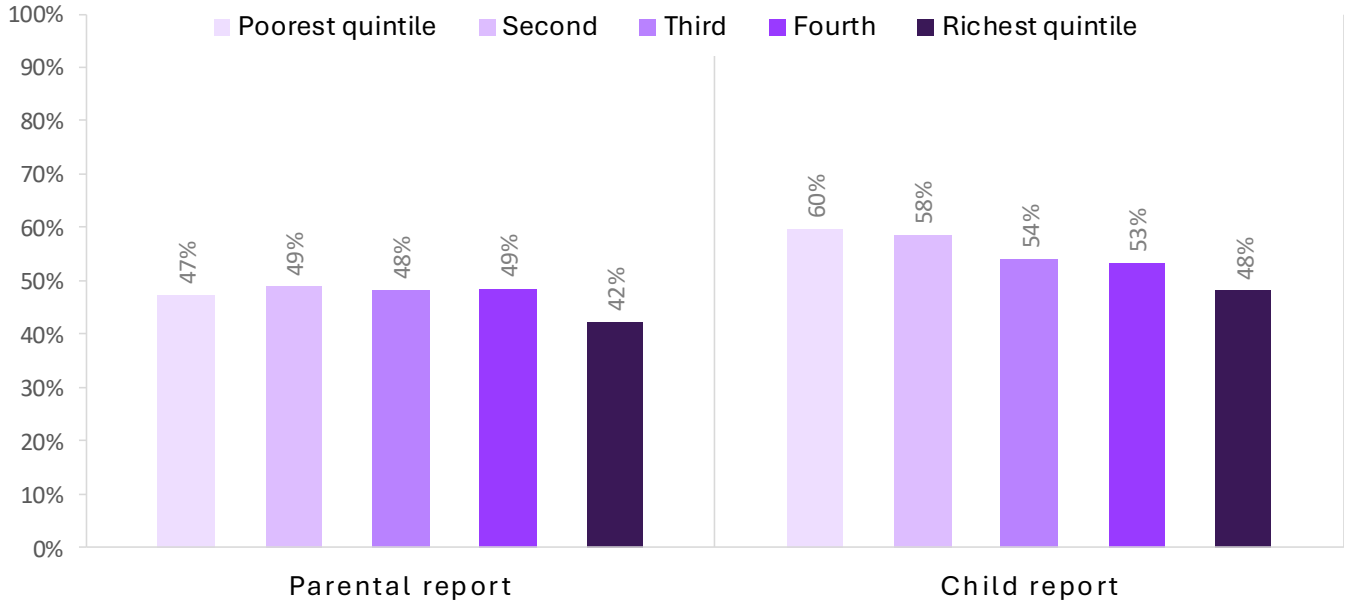

Figure 10 Physical punishment reported by parents and children aged 7 to 8 years, by household income. Data from Growing Up in Scotland, collected in 2012/13.

4.4 Summary

The data from the Millennium Cohort Study showed that the prevalence of physical punishment was highest for pre-school children and declined as children got older. Boys experienced more physical punishment than girls at every age. Physical punishment was common across all social groups, although slightly less prevalent for children living in households with the highest incomes. Differences by maternal education were more pronounced – prevalence was lower among children of more educated mothers. There was also some variation by ethnic group.

The prevalence of physical punishment reported for 7-8-year-olds in the Growing Up in Scotland study was similar to that reported for 7-year-olds in the MCS about five years earlier. Children themselves reported a slightly higher prevalence of physical punishment compared to maternal reports, and child reports were more socially patterned.

Physical punishment is still common in the UK. While the observed decline is encouraging, in 2020/21 physical punishment was still experienced by one in five children aged 10. Given the overall pattern of physical punishment being more common at younger ages, it is likely that the prevalence of physical punishment in 2020/21 was higher for younger children than for those observed at age 10 years.

5 Physical punishment and behavioural outcomes in early childhood

Childhood behaviours examined for this project were externalising behaviours (behaviours directed outward that violate social norms, such as conduct problems), internalising behaviours (behaviours directed inward, such as emotional problems), and prosocial behaviours (such as helping others). Links between physical punishment and behavioural difficulties are likely to be reciprocal: physical punishment may lead to more behavioural difficulties, while parents may also use physical punishment in response to challenging behaviour (in particular to externalising behaviour). The analyses described in this section addressed the second aim of the data analysis workstream, to explore how physical punishment and child behaviours influenced each other across ages 3, 5, and 7 years.[2]

5.1 Research questions

1. Are there reciprocal associations between physical punishment and children's externalising behaviours over time?
2. Are there reciprocal associations between physical punishment and children's internalising behaviours over time?
3. Are there reciprocal associations between physical punishment and children's prosocial behaviours over time?
4. Does the strength of associations between physical punishment and children's externalising, internalising, and prosocial behaviours vary by child sex, child ethnicity, or maternal warmth?

5.2 Methods

The analysis used longitudinal data from the first four waves (up to age 7) of the UK Millennium Cohort Study (MCS).

Physical punishment was measured at three time points when the children were 3, 5, and 7 years old, by asking the primary caregiver (almost always the mother) how often they smacked the child when the child was naughty. Answer options were never, rarely, sometimes, often, or daily. We used the categorical version of the physical punishment variable and a binary version (physical punishment of any frequency versus none).

Internalising, externalising, and prosocial behaviours were assessed by the Strengths and Difficulties Questionnaire (SDQ). The SDQ captures child socioemotional difficulties and prosocial behaviour and was completed by the main caregiver at ages 3, 5, and 7 years.

Analyses were adjusted for a wide range of potential confounders. Confounding occurs when an association between two factors is partly or entirely explained by a third factor that influences both. Failure to account for such third factors might result in spurious links between physical punishment and child behaviours. The selection of potential confounders was based on the literature and included child sex and ethnicity, UK country of residence, household income, maternal education, parental social class, maternal age at the child's birth, family structure, number of children in the household, maternal psychological distress, and maternal warmth. We also considered whether the strength of any associations between physical punishment and behavioural outcomes varied depending on the child's sex or ethnicity, or was influenced by the level of maternal warmth.

[2] *The analysis plan was pre-registered with the Open Science Framework, available here: osf.io/m8n9w/overview.*

However, the influence of ethnicity and maternal warmth could not be fully examined because some categories of these variables contained too few participants to produce stable estimates.

To assess reciprocal associations between physical punishment and child outcomes, we applied random intercept cross-lagged panel models (RI-CLPM), which separate between-person differences from within-person variation over time (Figure 11). These models are a rigorous method to control for confounders that may be unmeasured but are stable over time (such as enduring personality traits). The within-person part of the model assesses how change in one variable (such as physical punishment) within an individual predicts change in another (such as behaviour) over time. Externalising, internalising, and prosocial behaviours were analysed separately and all models adjusted for the full set of confounders listed above. The full analytical sample that used all available data (with those who had some data missing also contributing to the estimation) included 16,150 children. We also carried out a sensitivity analysis that included only the 9,321 children who had complete data at all time points, to see whether the way missing data were handled made a difference to the results.

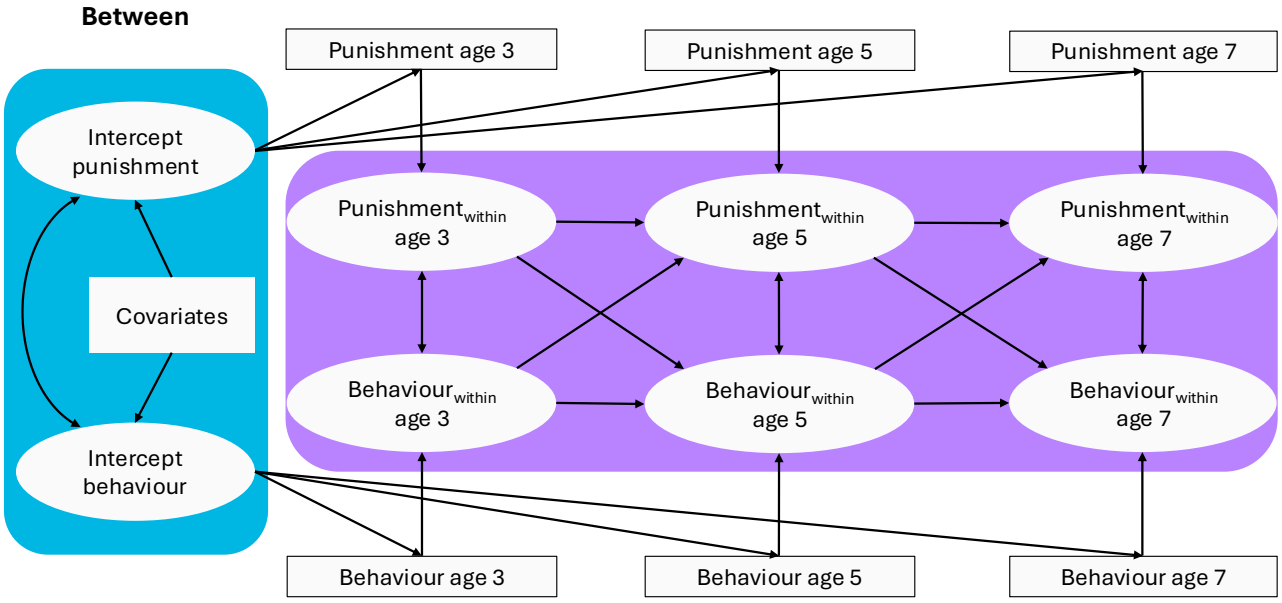

Figure 11 The Random Intercept Cross-Lagged Panel Model.

5.3 Findings

5.3.1 Results from analyses using the full sample

In Random Intercept Cross-Lagged Panel Models using the categorical measure of physical punishment, children who experienced more physical punishment across ages 3, 5, and 7 displayed on average more externalising behaviours, more internalising behaviours, and fewer prosocial behaviours, in adjusted models (between-person effects). Associations were strongest for externalising behaviours. Using the binary (yes/no) physical punishment measure, strong between-person associations were again observed for externalising behaviours, and to a lesser extent also for prosocial behaviours, but not for internalising behaviours.

The within-person part of the model assessed whether a change in one variable (physical punishment or child behaviour) predicted a change in the other variable (child behaviour or physical punishment) over time, within the same person (the cross-lagged paths in Figure 11). There was evidence that associations were different between boys and girls. For boys, more physical punishment at age 5 was associated with fewer prosocial behaviours at age 7. For girls, more externalising behaviours at age 3 were associated with exposure to more physical punishment at age 5. No other within-person paths were statistically significant and no within-person associations were observed for internalising behaviours.

5.3.2 Sensitivity analyses

In sensitivity analyses including only children with complete data at all time points and using the binary measure of physical punishment, within-person associations were observed for externalising behaviours: more externalising behaviours at age 3 were associated with more physical punishment at age 5; and more physical punishment at age 5 was associated with more externalising behaviours at age 7. These results were the same for boys and girls.

5.4 Summary

Using a rigorous statistical approach, our analyses showed that overall, children whose caregivers reported using (more) physical punishment tended to display more externalising, more internalising, and fewer prosocial behaviours. Looking at reciprocal associations between physical punishment and child behaviours within the same children across the three time points, there were some differences between boys and girls: physical punishment was associated with fewer prosocial behaviours over time among boys only, and externalising behaviours were associated with more physical punishment over time only for girls. However, sensitivity analyses including only children with complete data suggested that physical punishment and externalising behaviours reinforce each other over time.

Our main analyses handled missing data with an approach that uses all available information, including from participants who contribute incomplete data. This approach assumes that the reasons for data being missing are not related to the missing values themselves. While this approach to missing data handling ensures the impact of bias resulting from missing data is minimised as far as is reasonably possible, it might be that this assumption does not hold in the context of physical punishment (for example if parents who use physical punishment are more likely to skip the question), meaning these results might underestimate true associations.

Another limitation of our analysis is that data on physical punishment were only available at three waves of the MCS. This is the absolute minimum number of time points required to run a Random Intercept Cross-Lagged Panel Model. Models based on only three waves can sometimes have issues with stability and statistical power, making the estimates of change (the within-person effects) less precise than a model with more data points over time.

In summary, using a rigorous analysis method we found no evidence that physical punishment improves children's externalising, internalising, or prosocial behaviours over time. Where there was evidence of associations, these were in the direction of detrimental effects.

6 Physical punishment and cognitive skills in early childhood

This section describes the analyses and findings pertaining to the third aim of the quantitative workstream, to assess associations between physical punishment, numeracy, and verbal skills in early childhood.[3]

6.1 Research questions

1. Is physical punishment across early childhood associated with numeracy at age 7, and is there a dose-response relationship, i.e. does more exposure to physical punishment (a higher 'dose') result in a larger effect size (a stronger 'response')?
2. Is physical punishment across early childhood associated with literacy at age 7, and is there a dose-response relationship?
3. Is there evidence that associations vary by child sex, ethnicity, or maternal warmth?

6.2 Methods

To answer these research questions, we analysed data from the first four waves of the Millennium Cohort Study (collected at ages 9 months, 3 years, 5 years and 7 years).

Physical punishment was measured at ages 3, 5, and 7 years. Information from across the three ages (waves) was used to create a binary (yes / no) indicator of physical punishment at each age. We then derived as our exposure a cumulative measure of the number of waves when physical punishment was reported by the caregiver, indicating whether physical punishment had been reported at one, two, or three waves, versus never.

Numeracy and literacy were assessed using the National Foundation for Educational Research Progress in Maths (adapted) measure and British Ability Scales Word Reading scale. Both tests were administered by MCS interviewers at age 7.

To minimise the possibility that any observed associations were driven by third factors, both analyses adjusted for the following potential confounders: UK country, cognitive ability at age 3 (naming vocabulary for the analysis of literacy; numbers and shapes for the analysis of numeracy), child characteristics (sex, age in months at the time of taking the cognitive tests, ethnicity, birthweight, Special Educational Needs or SEN status), family socioeconomic position (maternal education, household income, parental social class), family structure, maternal age at birth, maternal psychological distress, and maternal warmth. All covariates were measured at age 3, except SEN, which was measured at age 7.

Numeracy and literacy were analysed separately. Associations were examined using linear regression, adjusting for the above listed factors to minimise confounding. The analysis of numeracy included 13,402 children who had completed the numeracy test. For literacy, the sample included 13,241 children with complete data on the word reading test. Missing data on physical punishment and potential confounders were handled by multiple imputation.

[3] *Analyses were pre-registered with the Open Science Framework: osf.io/5tmuv and osf.io/pf8u3.*

6.3 Findings

6.3.1 Cumulative measure of physical punishment across waves

Figure 12 shows the distribution of the cumulative measure of physical punishment across the three waves of data collected at ages 3, 5, and 7 for the children included in the analysis. Just 23% of mothers never reported any use of physical punishment between ages 3 and 7, while 36% reported it at all three survey waves.

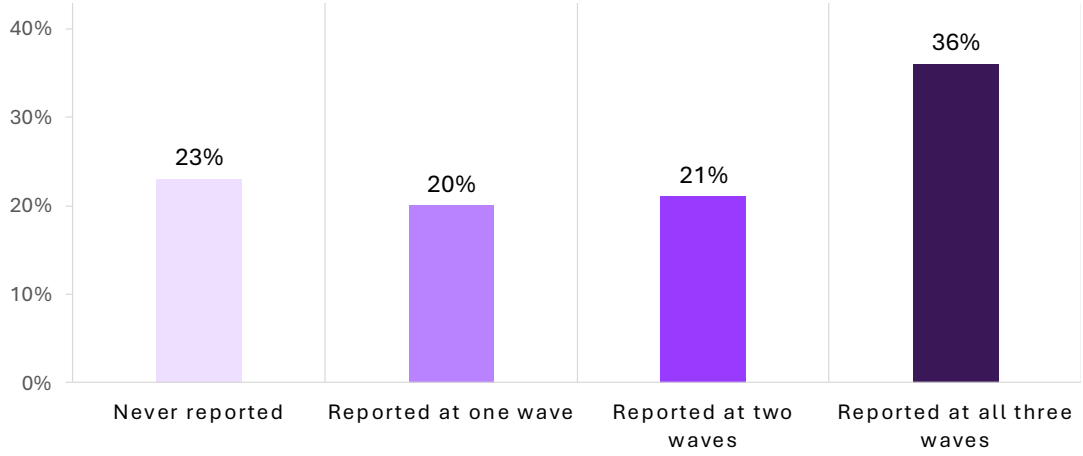

Figure 12 Cumulative prevalence of physical punishment across ages 3 to 7.

6.3.2 Physical punishment and numeracy at age 7

The cumulative measure of physical punishment was associated with lower numeracy scores at age 7 in the unadjusted model, but there was no association after adjustment (results not shown).

6.3.3 Physical punishment and literacy at age 7

Literacy (word reading) scores ranged from 55 to 145, with a sample mean of 112 and a standard deviation of 18. The association between the number of survey waves for which physical punishment had been reported and reading test scores at age 7 are shown in Figure 13. The results suggest a graded relationship, with the lowest literacy scores observed for children who experienced physical punishment at all three survey waves (ages 3, 5, and 7). The association was less strong after adjustment for potential confounders (Model 2). However, there remained a statistically significant difference between children for whom physical punishment was never reported and those who experienced it at all three waves, although the effect size was relatively small. Children whose mothers reported physical punishment at all three time points (ages 3, 5, and 7 years) had reading scores at age 7 that were on average 1.6 points lower than for children whose mothers reported never using it (ß = -1.60; 95% CI -2.52, -0.68). For comparison, the magnitude of the difference in reading scores between girls and boys was 3.2 points, with an average score of 110.1 for boys and 113.3 for girls. Associations did not vary by child sex, child ethnicity, or maternal warmth.

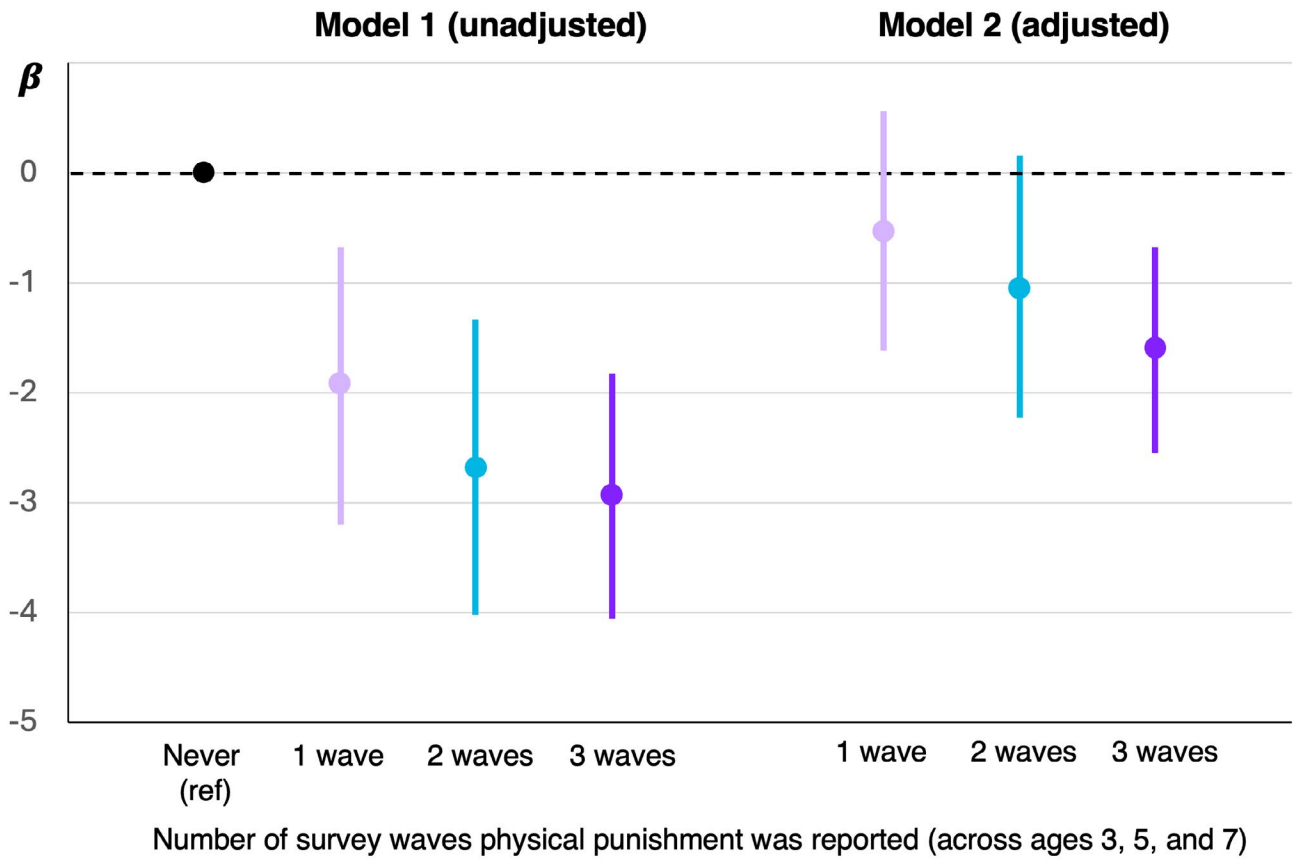

Figure 13 Results from linear regression models predicting literacy test scores at age 7, by number of waves physical punishment was reported.

6.4 Summary

In adjusted analyses, including adjustment for verbal skills at age 3, physical punishment across ages 3, 5 and 7 years was associated with poorer literacy at age 7, although the effect size was small. No association was found between physical punishment and numeracy.

7 Physical punishment and later educational attainment

Addressing the fourth aim of the quantitative workstream, we examined associations between physical punishment in early childhood and educational attainment at Key Stage 2 (age 11) and Key Stage 4 (age 16) in England. [4]

7.1 Research questions

1. Does physical punishment across ages 3, 5, and 7 years predict educational attainment at Key Stage 2 (age 11) and Key Stage 4 (age 16)?
2. Is the timing or duration of physical punishment important?
3. Do associations vary by child sex or maternal warmth?

7.2 Methods

We used data from the first four waves (collected at ages 9 months, 3 years, 5 years, and 7 years) of the Millennium Cohort Study, and linked data on educational attainment at ages 10/11 and 15/16 from the National Pupil Database for pupils in England, which were accessed via the UK Data Service SecureLab. The analysis was therefore restricted to MCS cohort members attending state-funded schools in England.

Physical punishment was measured at ages 3, 5, and 7 years. Information from across the three ages (three waves of data collection) was used to create the following indicators of physical punishment: for each wave across ages 3, 5, and 7, whether any physical punishment was reported (yes / no); the number of waves when physical punishment was reported (0, 1, 2, or 3 waves); and an indicator whether physical punishment was ever reported across ages 3, 5, and 7 (ever versus never reported).

For attainment at Key Stage 2, we examined whether a pupil failed to achieve level 4 (expected level) or above separately for English and Maths, and for both English and Maths combined (three outcomes at Key Stage 2). For Key Stage 4, we examined whether a pupil failed to achieve a GCSE at grade A*–C (9–4), or standard pass, separately for English language and Maths, and for English and Maths combined. We also examined whether they failed to achieve a total of five or more GCSEs at grades A*–C (9–4), or standard pass, including English language and Maths (four outcomes at Key Stage 4).

Analyses adjusted for the following potential confounders, measured at age three: child sex, ethnicity, and birthweight; household income, maternal education, parental social class, family structure, number of children in the household, maternal age at birth, maternal psychological distress, and maternal warmth. We also adjusted for Special Educational Needs (SEN) status recorded up to age 11 for Key Stage 2 analysis, and up to age 16 for Key Stage 4 analysis. Finally, we conducted sensitivity analyses additionally adjusting for numeracy and/or literacy at age 3 years, as appropriate. Child behaviours were not included in the adjustment because we hypothesised that behavioural difficulties are on the causal pathway between physical punishment and educational attainment.

Our sample included 7,559 respondents with complete data on our outcome variables (Key Stage 2 and Key Stage 4 attainment). Missing data on exposures and covariates were handled using multiple imputation (with sensitivity analyses carried out on complete data). Logistic regression models were used to assess if physical punishment was associated with Key Stage 2 and Key Stage 4 attainment. Models were run unadjusted and adjusted for covariates. We also tested whether associations varied by child sex and maternal warmth. For ease of interpretation, the results are presented as predicted probabilities, expressed as percentages.

[4] *The analysis was pre-registered with the Open Science Framework, available here: osf.io/ruf64/overview*

7.3 Findings

7.3.1 Physical punishment and educational attainment at Key Stage 2

There were no statistically significant associations between early physical punishment and Key Stage 2 outcomes (results not shown).

7.3.2 Physical punishment and educational attainment at Key Stage 4

Figures 14 to 20 present unadjusted and adjusted results from regression analyses for Key Stage 4 outcomes. Differences in outcomes are shown between those for whom physical punishment was reported at age 3, 5, and 7 compared to those who did not experience physical punishment at that age, and also by the number of survey waves or time points across ages 3, 5, and 7 at which physical punishment was reported (never, 1 wave, 2 waves, 3 waves, or ever across the three waves).

We observed one statistically significant interaction by child sex in relation to achieving a GCSE in English, reported in the respective section. There was no statistical evidence that associations varied by maternal warmth.

GCSE English

Figure 14 shows the percentage of young people who did not achieve a GCSE in English at grade A*–C (9–4), by physical punishment experienced at ages 3, 5, and 7 years. After adjustment for potential confounders, young people who had experienced physical punishment at age 5 and/or age 7 were less likely to go on to achieve a GCSE in English at grade A*–C than those who had not.

At age 5, the probability of not achieving a GCSE in English at grade A*–C was 34.4% for those who experienced physical punishment compared to 31.6% for those who did not (Figure 14). There was a statistically significant interaction with child sex, suggesting an association was only present among boys. The corresponding predicted probabilities for boys were 43.2% vs. 37.9%. None of the other associations varied by child sex.

For those who experienced physical punishment at age 7, the probability of not achieving a GCSE in English at grade A*–C was 35.5%, compared to 31.0% for those who did not.

In relation to the number of waves physical punishment was reported, the probability of not achieving a GCSE in English at grade A*–C was 36.1% among those who had experienced physical punishment at all three waves (at ages 3, 5, and 7) compared to 31.1% among those for whom it had never been reported, after adjustment (Figure 15).

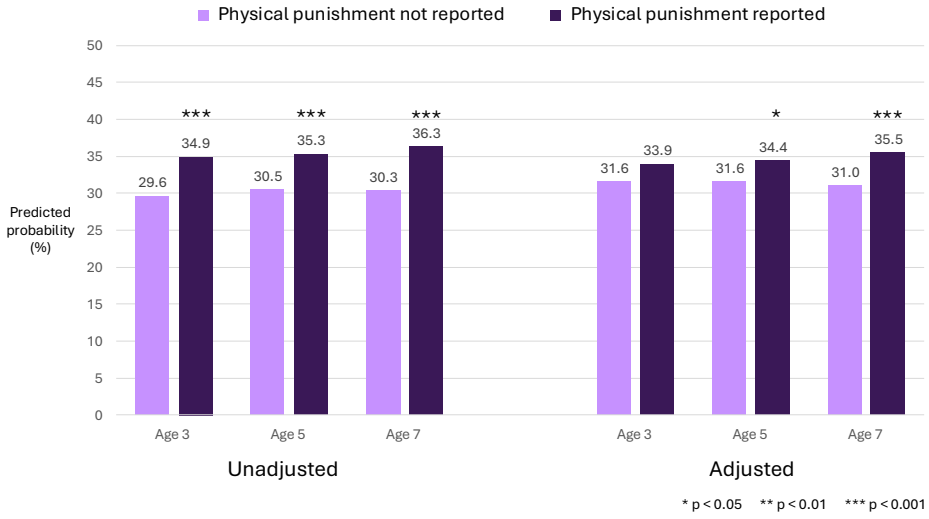

*Figure 14 Predicted probabilities of **not** achieving a **GCSE in English** at grade A*–C (9–4), by physical punishment at ages 3, 5, and 7 years. Asterisks indicate whether contrasts are statistically significant.*

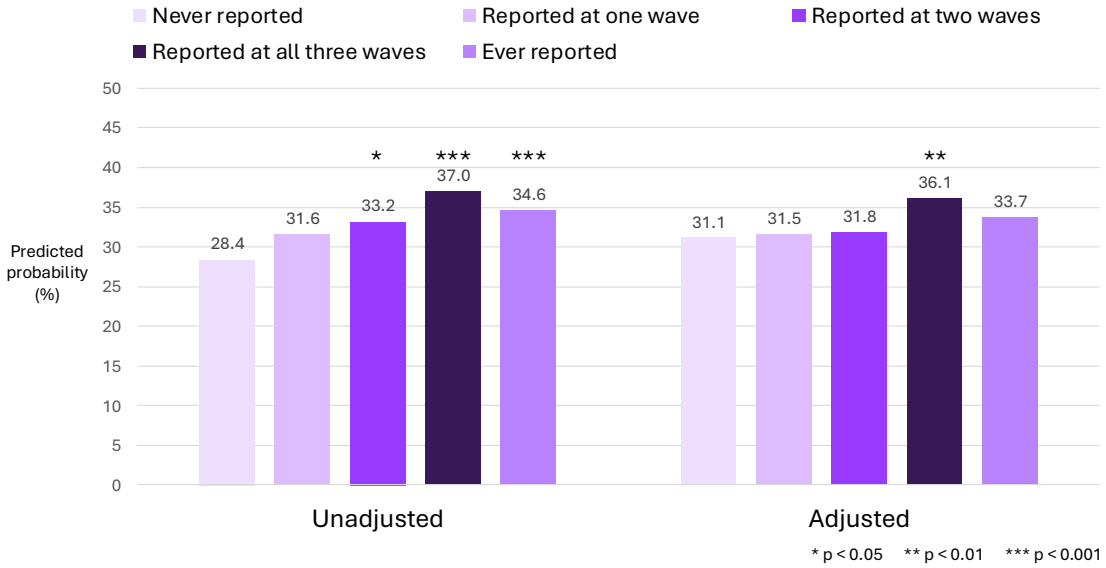

*Figure 15 Predicted probabilities of **not** achieving a **GCSE in English** at grade A*-C (9-4), by number of survey waves at which physical punishment was reported. Asterisks indicate whether contrasts (against never reported) are statistically significant.*

GCSE Maths

Differences in the achievement of a GCSE in Maths were smaller. In adjusted models, physical punishment reported at age 7 was associated with an increased probability of not achieving a GCSE in Maths at grade A*-C (9-4) as shown in Figure 16. The adjusted probability for those who experienced physical punishment at age 7 was 34.2%, compared to 30.7% for those who did not.

There was no association between the number of survey waves physical punishment was reported and achieving a GCSE in Maths, after full adjustment (results not shown).

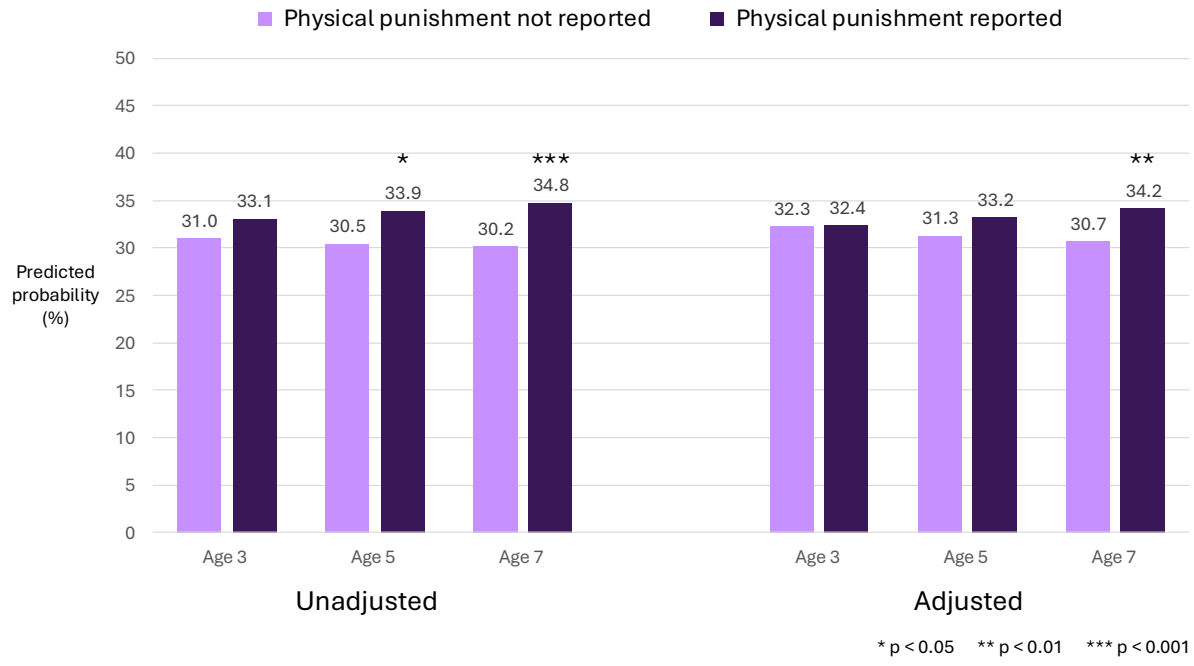

*Figure 16 Predicted probabilities of **not** achieving a **GCSE in Maths** at grade A*-C (9-4), by physical punishment at ages 3, 5, and 7 years. Asterisks indicate whether contrasts are statistically significant.*

GCSEs in both English and Maths

In adjusted models, physical punishment was associated with an increased probability of not achieving a GCSE in both English and Maths at grade A*-C (9-4).

The probability of not achieving a GCSE in both English and Maths at grade A*-C was 42.4% when physical punishment was reported at age 3 compared to 39.6% when it was not, 43.5% for physical punishment reported at age 5 compared to 39.0%, and 44.3% when it was reported at age 7, compared to 39.0% when it was not (Figure 17).

Compared to those for whom physical punishment was never reported, the probability of not achieving a GCSE in both English and Maths at grade A*-C was 6.2 percentage points higher for those whose caregivers had reported it at all three waves (45.0% vs. 38.8%), and 3.4 percentage points higher (42.2% vs. 38.8%) for those whose caregiver had ever reported it at any wave (Figure 18).

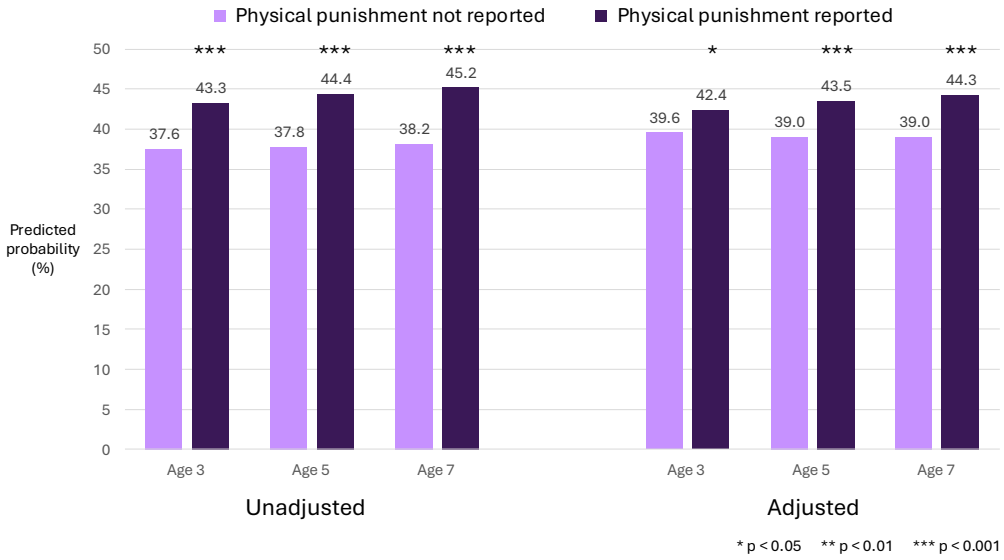

*Figure 17 Predicted probabilities of **not** achieving a GCSE in **both English and Maths** at grade A*-C (9-4), by physical punishment at ages 3, 5, and 7 years. Asterisks indicate whether contrasts are statistically significant.*

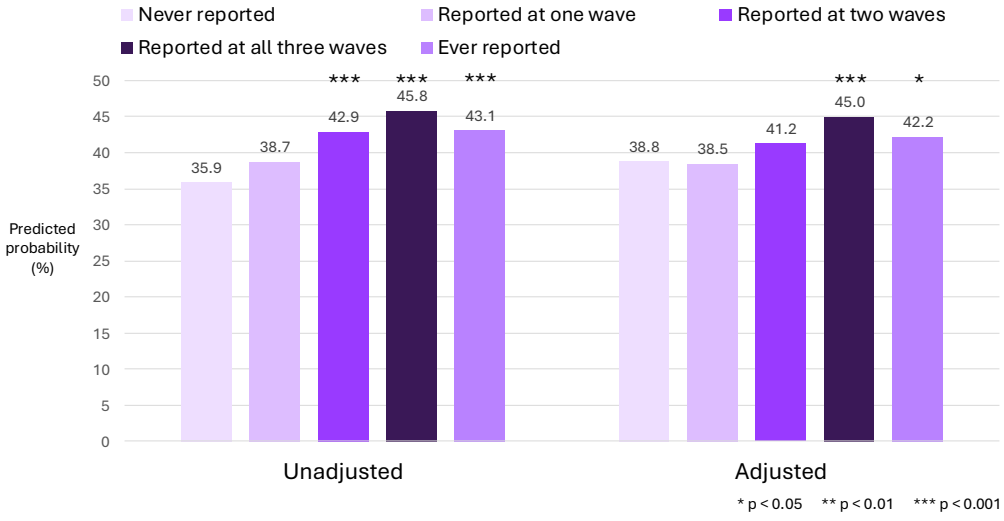

*Figure 18 Predicted probabilities of **not** achieving a GCSE in **both English and Maths** at grade A*-C (9-4), by number of survey waves physical punishment was reported. Asterisks indicate whether contrasts (against never reported) are statistically significant.*

Achieving five GCSEs at grades A*–C (9–4 including English and Maths

Children who experienced physical punishment had a higher probability of not achieving five GCSEs at grades A*–C (9–4) including English and Maths, in the adjusted models.

After adjustment, physical punishment at age 5 increased the predicted probability of not achieving five GCSEs at grades A*–C by 4.6 percentage points (46.5% vs. 41.9%), while physical punishment at age 7 increased this probability by 5.3 percentage points (47.3% vs. 42.0%) (Figure 19).

Experience of physical punishment at all three waves (at ages 3, 5, and 7) increased the probability of not achieving the specified five GCSEs by 5.7 percentage points compared to the 'never reported' group (48.0% vs. 42.3%), in the adjusted model (Figure 20).

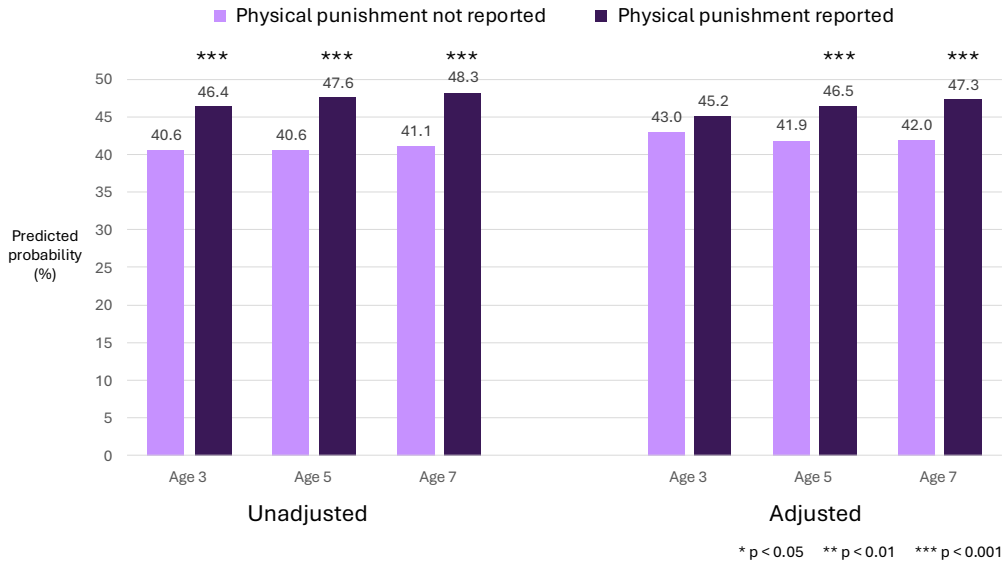

*Figure 19 Predicted probabilities of **not achieving five GCSEs at grades A*–C (9–4) including English and Maths**, by physical punishment at ages 3, 5, and 7 years. Asterisks indicate whether contrasts are statistically significant.*

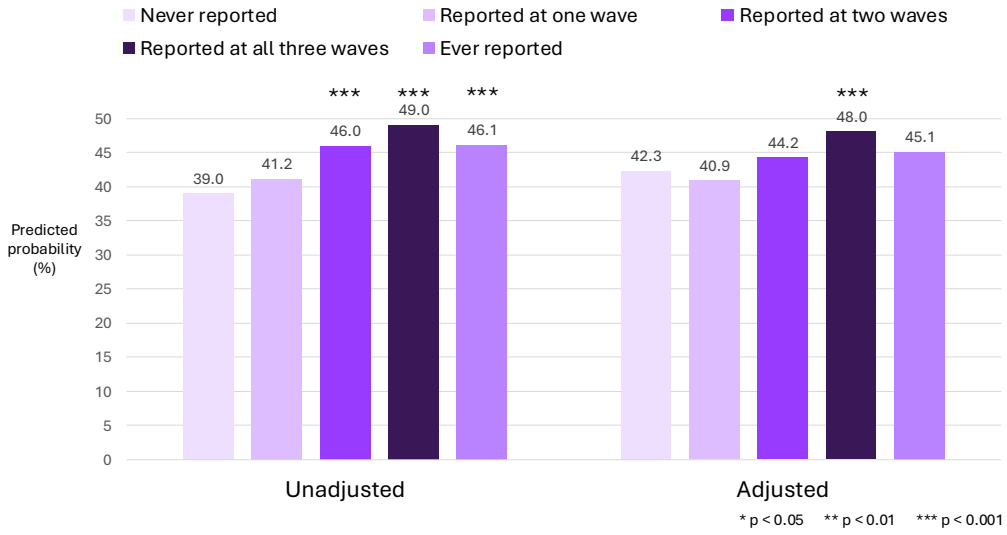

*Figure 20 Predicted probabilities of **not** achieving **five GCSEs at grades A*–C (9–4) including English and Maths,** by number of survey waves physical punishment was reported. Asterisks indicate whether contrasts (against never reported) are statistically significant.*

7.3.3 Sensitivity analyses

All models were additionally adjusted for relevant measures of cognitive ability observed at age 3, i.e. outcomes that included the GCSE in English were adjusted for early verbal ability, and outcomes that included the GCSE in Maths were adjusted for early numeracy. These further adjustments for cognition at age 3 made no difference to our findings.

We also ran all models including only participants with complete data, with overall similar results. Restricting the sample to those with complete data resulted in slightly larger effect sizes, and some statistically significant results for Key Stage 2 outcomes in the direction of detrimental effects.

7.4 Summary

Physical punishment reported at ages 3, 5, and 7 was associated with lower educational attainment at age 16 (Key Stage 4, GCSE levels) in analyses adjusted for a wide range of possible confounders. No associations were found for Key Stage 2 outcomes.

Adolescents who had experienced physical punishment at age 3 were less likely to achieve a standard pass (grade A*–C or 4–9) for GCSEs in both English and Maths, compared to those who did not experience it at that age. Those whose caregivers reported using physical punishment at age 5 were less likely to achieve a standard pass for a GCSE in English, less likely to achieve a standard pass for GCSEs in both English and Maths, and less likely to achieve a standard pass in five GCSEs including English and Maths. Effect sizes were largest for physical punishment at age 7, which was associated with a lower likelihood of achieving any of the Key Stage 4 outcomes studied. Looking at the cumulative experience of physical punishment (number of survey waves), adolescents whose caregivers reported physical punishment at all three waves (ages 3, 5, and 7) were less likely to achieve a standard pass for a GCSE in English, GCSEs in both English and Maths, and five GCSEs including English and Maths, compared to those for whom physical punishment was never reported. Some of the effect sizes appeared quite substantial, such as the difference of 5.7 percentage points in the probability of not achieving five GCSEs between those who experienced physical punishment at all three waves and the 'never reported' group. For comparison, the difference in this outcome between boys and girls was 12 percentage points (38.4% for girls and 50.4% for boys).

Associations did not vary by maternal warmth. There was also little evidence for differences between boys and girls, with only one statistically significant interaction observed for GCSE English.

In conclusion, physical punishment did not predict better educational attainment for any of the outcomes analysed – all statistically significant results were in the direction of detrimental effects.

8 Physical punishment and adolescent risky behaviours

This section presents analyses addressing the fifth aim of the quantitative workstream, to investigate longer-term associations between physical punishment in early childhood and adolescent risky behaviours.[5]

8.1 Research questions

1. Is childhood physical punishment related to higher odds of risky behaviours in adolescence?
2. Is the timing and duration of physical punishment important?
3. Do associations vary by child sex or maternal warmth?

8.2 Methods

We analysed data from the first seven waves of the Millennium Cohort Study, up to when the cohort children were 17 years old.

Physical punishment was measured in the same way as for the analysis of educational attainment described in Section 7. Information from across ages 3, 5, and 7 (three waves) was used to create five indicators of physical punishment: an indicator whether physical punishment was ever reported across ages 3, 5, and 7; three binary (yes / no) indicators of physical punishment at each age; and a combined variable of the number of waves when physical punishment was reported (reported at one, two, or three waves, versus never).

Adolescent risky behaviours were self-reported by the young people at age 14 (wave 6) and age 17 (wave 7). We analysed outcomes separately at each age because the prevalence of risky behaviours changes with age, as does the meaning of engaging in risky behaviours at earlier or later ages. Risky behaviours were measured for three domains – risky behaviours directed towards the self; risky behaviours directed towards others; and risky behaviours directed towards the environment. Risky behaviours towards the self included aspects such as binge drinking, drug use, self-harm, and risky sexual behaviour. Risky behaviours directed towards others included bullying and a range of antisocial behaviours such as physically or sexually assaulting someone, using a weapon against someone, or stealing from someone. Risky behaviours towards the environment included behaviours such as vandalism, being rude or noisy in a public place, stealing from a shop, or setting fire to something. Further details on these measures are provided in the Technical Appendix.

In addition to examining each item included in the above domains separately, we created three summary measures indicating any risky behaviours for each domain (towards the self, towards others, or towards the environment).

All models were adjusted for a range of potential confounders, including child sex, ethnicity, and special educational needs; maternal age at birth, household income, maternal education, parental social class, family structure, maternal psychological distress, maternal warmth, and UK country of residence. Child sex and maternal warmth were also considered as potential effect modifiers.

The sample included all cohort members with outcome information at ages 14 or 17, with sample sizes ranging from 9,194 to 10,746. Missing data for physical punishment and covariates were handled using multiple imputation. Associations were assessed using logistic regression models. Interaction terms were used to test whether associations differed by child sex or maternal warmth.

[5] *The analysis plan was pre-registered here: osf.io/vguz7/overview.*

8.3 Findings

8.3.1 Physical punishment and risky behaviours towards the self

Physical punishment was not associated with risky behaviours towards the self at age 14 in any of the main analyses. However, there was evidence that maternal warmth acted as an effect modifier. Among adolescents who experienced low maternal warmth, physical punishment reported across ages 3, 5, and 7 was associated with a 45% higher likelihood of risky behaviours towards the self at age 14 (OR=1.45; 95% CI: 1.04, 2.02) compared to those for whom physical punishment was never reported, after adjustment for potential confounders. Physical punishment was not associated with risky behaviours towards the self at age 14 among those whose mothers reported high warmth.

At age 17, adolescents who had experienced any physical punishment across ages 3, 5, and 7 were 17% more likely to report risky sexual behaviour (OR=1.17; 95% CI: 1.01, 1.35). This did not vary by maternal warmth.

None of the associations with risky behaviours towards the self varied by child sex.

8.3.2 Physical punishment and risky behaviours towards others

Adjusted analyses showed that adolescents for whom physical punishment was ever reported across ages 3, 5, and 7 were more likely to engage in risky behaviours towards others, both at age 14 and age 17.

At age 14, adolescents whose main caregiver had reported any physical punishment in early childhood were 33% more likely to have engaged in any risky behaviours towards others (OR=1.33; 95% CI: 1.21, 1.46). In terms of specific behaviours, those who experienced physical punishment were 41% more likely to report bullying siblings (OR=1.41; 95% CI: 1.18, 1.68), 26% more likely to report cyberbullying (OR=1.26; 95% CI: 1.11, 1.44), 25% more likely to report other bullying (OR=1.25; 95% CI: 1.04, 1.50), and 35% more likely to report having hit, pushed, or shoved someone (OR=1.35; 95% CI: 1.21, 1.50).

At age 17, any physical punishment was associated with a slightly higher likelihood of engaging in any risky behaviours towards others (OR=1.01; 95% CI: 1.00, 1.02), and having hit, pushed, or shoved someone (OR=1.02; 95% CI: 1.01, 1.03).

Figure 21 shows the adjusted odds ratios for any risky behaviours towards others by the timing (age) at which physical punishment was reported. In analyses that were mutually adjusted for physical punishment at other ages, physical punishment at age 5 was associated with a 13% higher likelihood of reporting risky behaviours towards others at age 14, while those who experienced physical punishment at age 7 were 23% more likely to report risky behaviours towards others at age 14, and 18% more likely to report any such behaviours at age 17.

Looking at the number of survey waves physical punishment was reported (duration), Figure 22 shows that associations were strongest for those whose caregivers reported it at all three survey waves. Compared to those for whom it was never reported, physical punishment at two waves was associated with an 18% higher likelihood of risky behaviours towards others at age 14. For those who experienced physical punishment at all three waves, engagement in risky behaviours towards others was 40% more likely at age 14 and 26% more likely at age 17.

Associations with risky behaviours towards others did not vary by child sex or maternal warmth.

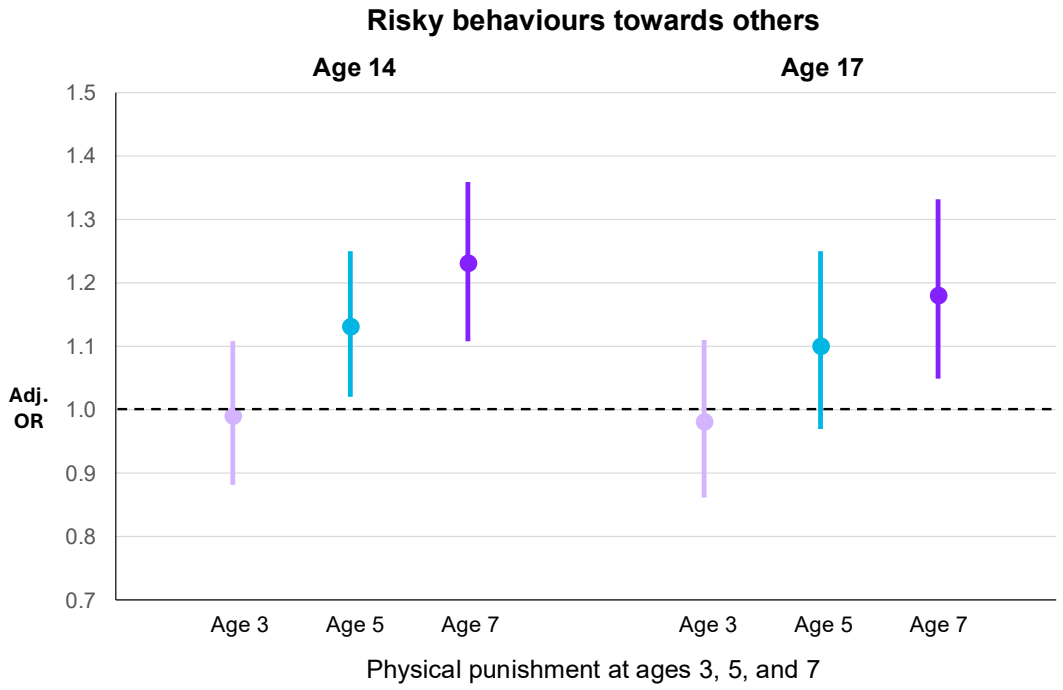

Figure 21 Adjusted odds ratios for any risky behaviours towards others at ages 14 and 17, by physical punishment at ages 3, 5, and 7. Reference category for each result is no physical punishment reported at that age. Analyses also adjusted for physical punishment at other ages. Bars represent 95% Confidence Intervals.

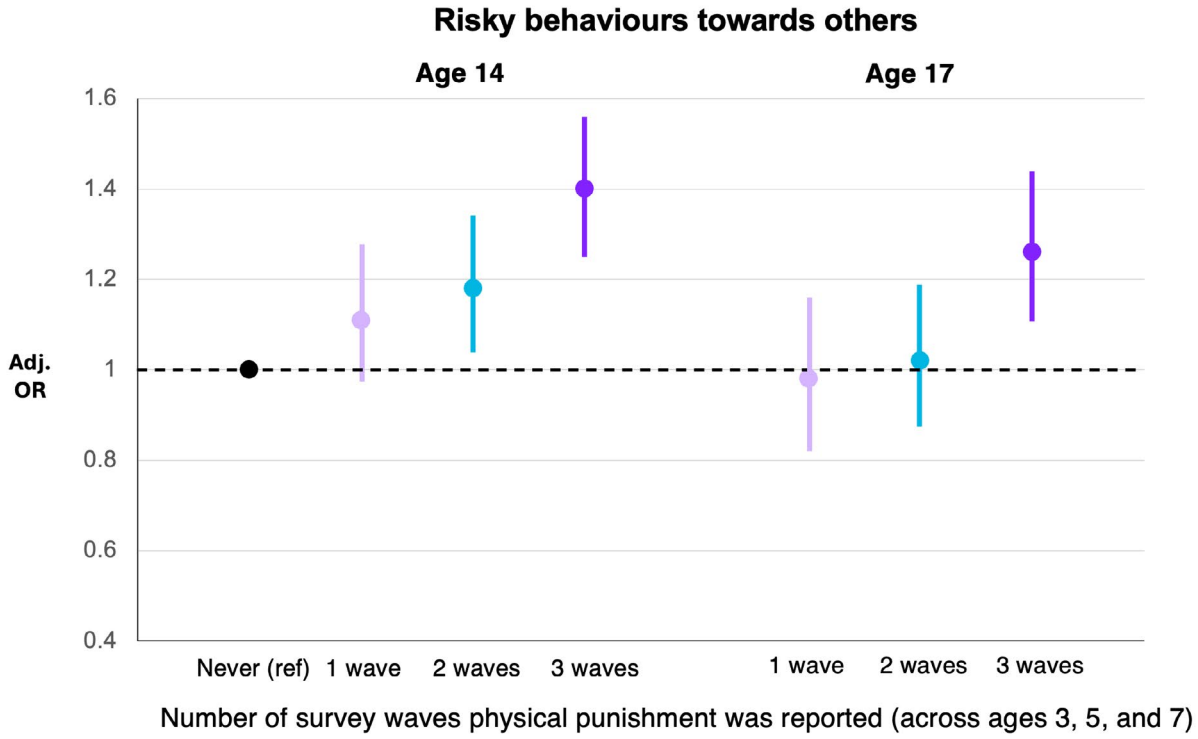

Figure 22 Adjusted odds ratios for any risky behaviours towards others at ages 14 and 17, by number of survey waves physical punishment was reported. Bars represent 95% Confidence Intervals.

8.3.3 Physical punishment and risky behaviours towards the environment

Adolescents for whom any physical punishment was reported were 17% more likely to report risky behaviours towards the environment at age 14 (OR=1.17; 95% CI: 1.02, 1.33). Looking at specific behaviours, they were 15% more likely to report having been rude or noisy in a public place (OR=1.15; 95% CI: 1.00, 1.33) and 43% more likely to have graffitied something they should not have (OR=1.43; 95% CI: 1.02, 2.01). In terms of the duration of physical punishment, adolescents for whom it had been reported at three survey waves (ages 3, 5, and 7) were 28% more likely to report risky behaviours towards the environment (OR=1.28; 95% CI: 1.11, 1.48) than those for whom it was never reported.

There was evidence for variation by maternal warmth: experience of any physical punishment in the context of low maternal warmth was associated with an 84% higher likelihood of engaging in any risky behaviours towards the environment at age 14 (OR=1.84; 95% CI: 1.22, 2.77), while there was no association in the context of high maternal warmth.

Associations with risky behaviours towards the environment did not vary by child sex.

8.3.4 Sensitivity analyses

Analyses were repeated including only participants for whom all data were complete. Results were broadly similar; however, in complete case analyses none of the associations varied by maternal warmth.

8.4 Summary

Physical punishment during childhood is linked to a higher likelihood of engaging in risky behaviours during adolescence. Young people who experienced physical punishment were more likely to report risky and antisocial behaviours towards others and the environment at age 14, such as bullying, aggression, antisocial behaviour, and vandalism. These links were particularly pronounced when physical punishment had occurred when the child was older and when it was reported repeatedly across childhood. Some associations were also present at age 17, although these were weaker.

None of the observed associations varied by child sex. Maternal warmth moderated two of the observed associations: children who experienced physical punishment in addition to low maternal warmth (measured at age 3) were at increased risk of engaging in risky behaviours towards themselves and their environment at age 14, while these associations were not present in the context of high maternal warmth. However, maternal warmth did not moderate antisocial behaviours directed at others or any outcomes measured at age 17.

Taken together, our findings highlight the longer-term behavioural risks associated with physical punishment and suggest that these risks accumulate over time.

9 Qualitative research on physical punishment and law reform

This section reports key findings from the qualitative workstream, which sought to explore how law reform was achieved in Scotland and Wales, and identify transferable learnings.

9.1 Research questions

1. How was law reform on physical punishment achieved in Scotland and Wales?
2. What were the main barriers and which strategies were used to overcome them?
3. How was law reform in Scotland and Wales implemented?
4. Are there transferable learnings from the process of achieving and implementing law reform in Scotland and Wales that are relevant for the rest of the UK and internationally?

9.2 Methods

The qualitative research sought to capture a broad range of perspectives by recruiting stakeholders from different groups including policymakers, children's charities, advocacy organisations, public health professionals, academics, faith groups, parents' groups, social care professionals, and police representatives. Stakeholders were purposively selected, including through recommendations from the project's expert advisory group and snowball sampling. Potential participants received email invitations to take part in online interviews via Microsoft Teams, each lasting up to one hour. All interviews were recorded and then transcribed by an external transcription service, removing any potentially identifiable information. Altogether, 29 semi-structured interviews were carried out between September 2023 and April 2025.

The research team jointly developed interview topic guides, which were tailored for specific stakeholders and adapted throughout to reflect emerging themes and integrate input from the young people's advisory groups. Framework analysis, a form of thematic analysis, was used to develop an inductively and deductively derived coding framework (Gale et al., 2013; Goldsmith, 2021). Interview transcripts were coded using NVivo software (version 14). Themes and subthemes were developed from the coded transcripts and reviewed by the qualitative research team. Findings were described narratively including illustrative quotes.

9.3 Main findings

9.3.1 What were the key drivers of law reform in Scotland and Wales?

Framing the problem

Interviewees told us that the framing of arguments for law reform had been critically important. In both Scotland and Wales, two main arguments were central to the discourse: the violation of children's rights, which was deemed unacceptable in a modern society, and the public health impact of physical punishment. In both countries, the children's rights argument was framed around values and language of equal protection, which meant giving children the same legal protection from any form of physical assault that adults have – an argument that cut through:

"...definitely in making the case the equa protection, the same protection as adults, was the strongest thing that people got... it... definitely landed with the public" (Children's charity, Wales).

Another key argument was that law reform would remove the inherent ambiguity of the existing defence of "reasonable punishment" and provide clarity for parents and professionals working with children and families:

"It was a grey area, and people would still belt their children and think that was acceptable… So it did need reform because it was too grey, there was too much room for interpretation." (Police, Scotland).

Making the research evidence for the detrimental impact of physical punishment on child wellbeing accessible to a broad audience and arguing from a public health perspective had been important, particularly in Scotland where stakeholders recognised that the children's rights argument alone had not been enough to convince policymakers change was needed:

"…that research that was commissioned in 2015 in Barnardo's – that was actually a real significant change in terms of the campaign and having a real strong evidence base to then build the wider campaign around." (Children's charity, Scotland).

In addition, physical punishment was framed within the broader context of violence prevention:

"…we placed the physical abuse or physical punishment of children within a continuum that starts way over here – that if we normalise physical punishment to children, what does that teach them about relationships further down the line?" (Children's charity, Scotland).

Building broad advocacy coalitions

Interviewees emphasised the fundamental importance of building a broad coalition of stakeholders from a range of sectors including police, public health, social care, parent and faith groups:

"The fact that the enforcement bodies were in favour of it and weren't saying that this is going to use a lot more resources…it's the same with social services and health, all the evidence from those professionals was saying this is going to help and we don't envisage that it's going to be an extra burden. Had it not said that, then things might have been different" (Government Advisor, Wales)

Responding to opportunities

Scotland and Wales were only able to reform their own laws on physical punishment following the devolution of certain powers from the UK Central Government. Another important development was the establishment of Children's Commissioners, whose role it is to promote and protect the rights of all children in line with the UNCRC. A further significant driver was the evidence of shifting public attitudes and declining acceptance of physical punishment:

"The main parties only came on board once it was clear that the public was on board…unlikely that this would be a campaigning issue for a political party unless they were clear that there was public support behind it." (Government Advisor, Scotland).

Political leadership

Leadership from politicians who would champion the issue and ensuring it became part of the political agenda had been instrumental in both Scotland and Wales. In Scotland, law reform was achieved through a private member's bill, while in Wales the bill to reform the law was supported by the Government.

9.3.2 How were barriers to reform in Scotland and Wales addressed?

Ideological opposition

Advocates of reform had to respond to ideological opposition, including claims that legislative change would intrude on family life, with critics frequently invoking "nanny state" rhetoric. This argument was countered by proponents of reform by pointing out its contradiction, as governments are expected to legislate on matters of violence:

"This thing about we're not going to intervene in the family. But against that we would then say well so if a bloke decides to hit his wife are you not going to intervene?... It just... you know it makes no sense at all." (Public Health, Scotland).

Political ambivalence

Some stakeholders had come across policymakers who did not perceive the issue as a problem to prioritise, or argued that reform was not needed because they thought that physical punishment was no longer common. Stakeholders responded with survey data demonstrating that amid growing public support for legislative change, a substantial number of children continued to experience physical punishment.

Arguments that law reform would have negative consequences

Interviewees had frequently encountered the argument that prohibiting physical punishment in the home would result in the criminalisation of parents for minor transgressions and place additional strain on police and child protection services. Such claims were countered with evidence from countries that had already prohibited all physical punishment, where these fears had not been borne out:

"It didn't show any evidence in countries that had outlawed physical chastisement that it meant that lots of parents were getting criminalised and getting charged with assault as a consequence. So that was mega-helpful in terms of giving us good robust authoritative evidence to counteract some of the clear arguments that are in the way of equal protection" (Parent Group, Scotland).

9.3.3 How was law reform in Scotland and Wales implemented?

Timing and preparation

Stakeholders highlighted the importance of preparation, noting that the longer implementation period of two years in Wales had allowed more time for public engagement and responding to concerns than had been the case in Scotland, where the law came into force one year after it was passed.

Public education

Wales ran a broad public education campaign using positive messaging about children's rights and wellbeing, which resulted in high levels of awareness:

"There has been public information adverts on television and on social media, different platforms, just explaining that we don't do that in Wales. So it's not frightening, it's just much more a positive message." (MP, Wales).

Due to budget constraints and the COVID-19 pandemic, public education was less comprehensive in Scotland, which Scottish stakeholders saw as a missed opportunity:

"I think we were all disappointed that there wasn't more emphasis put on it. I think we would have liked a big campaign, an awareness raising campaign for parents, and services as well ... and children, so that everybody understood it... So I think that part of it was missing." (Parent Group, Scotland).

Guidance for frontline professionals

Interviewees emphasised the importance of clear, high-quality guidance for professionals working with families, and the importance of involving frontline services in their development. In Wales, clear guidance was provided to social workers, health visitors, and other practitioners regarding their responsibilities in communicating with families and referral pathways. In Scotland, some challenges had initially emerged for police but could be resolved:

"So the … guidelines were reasonably clear but left some interpretation about how it was to be dealt with. So there was no doubt that it was now a crime, but it was how it was dealt with by agencies specifically… So we've come up with protocols for across the region about how it's reported and it works a lot better now… If it falls into this equal protection from assault guidelines then social work will hand it over to us – they'll make an initial assessment." (Police, Scotland).

Parenting support

An essential part of implementation was to ensure parents had access to support. Welsh and Scottish stakeholders emphasised the importance of providing guidance on positive parenting practices, and reassurance about the preventative intent of law reform.

Monitoring and evaluation

In Wales, reform was accompanied by a legal commitment to structured monitoring and evaluation, which stakeholders saw as highly valuable. Scotland's evaluation was more limited, as noted by Scottish participants:

"By the time the law was passed it wasn't hugely controversial, but that's a real missed opportunity because we know that violence still is prevalent in Scotland and we're not doing enough to monitor and evaluate that." (Government Advisor, Scotland).

9.3.4 Insights from England and Northern Ireland

Stakeholders in England and Northern Ireland offered their perspectives on barriers to reform and how they might be overcome. Several stakeholders felt that a children's rights framing was unlikely to drive reform in England or Northern Ireland. Arguments centring on the public health impact of physical punishment, violence prevention, and the need for legal clarity were seen as more persuasive:

"Paediatricians do tell us that they see children in their child protection clinics where there has been an allegation of physical punishment – and that creates complexities. It uses resources, it's not right for the children themselves, and it could be handled in a more efficient way if there was an absolute clarity in the law." (Academic, England).

"I think the evidence is clear. The time for talking about this is over now, there's no debate anymore, this is bad for children's health…read the evidence and understand the risk of mental health adversity, the risk of educational adversity, the risk of physical abuse, the risk of significant health harm." (Paediatrician, England).

The link between physical punishment and physical abuse was particularly salient in Northern Ireland, where the legacy of institutional and church-related child abuse has shaped public and political sensitivities around child protection.

Arguments that law reform would criminalise parents were also frequently voiced in England and countered by highlighting the experiences of countries with similar reforms. The Republic of Ireland's 2015 legislation, which removed the "reasonable chastisement" defence, was seen as a highly influential example in Northern Ireland).

"... what's happened in Ireland, or not happened in Ireland, has been huge... So we were able to say, look the world hasn't fallen, you know prisons aren't full of parents, the courts aren't full of parents, the police stations aren't full of parents ... the more countries did it, the better, you know the stronger the argument is, which is why I think it will pass in Northern Ireland." (Children's charity, Northern Ireland).

In England, stakeholders described a lack of political will and limited opportunities to secure a vote on law reform. Although the transition to a Labour Government (in July 2024) was seen as creating a more favourable environment, stakeholders were doubtful that reforming the law on physical punishment would be a legislative priority. In Northern Ireland, the two-year suspension of the Executive (from October 2022 to February 2024) had created a barrier due to policy backlog. However, interviewees were aware of support for change from stakeholders including political parties and faith groups, and were hopeful that a window of opportunity would eventually open up.

9.4 Summary and transferable learnings

Our findings broadly align with Kingdon's Multiple Streams Framework (MSF), which offers a widely used model for understanding how and when policy change occurs (Kingdon, 2014). The framework suggests that change becomes possible when three streams – problem, policy, and politics – converge to create a window of opportunity. The problem stream concerns how an issue is framed and whether it is recognised as a problem requiring a policy solution; for example, whether physical punishment is viewed as a violation of children's rights or a legitimate practice. The policy stream is about whether potential solutions exist to address the problem, such as legislative change and/or parental education campaigns. The political stream refers to the broader socio-political context, which needs to align with the other two streams to make change possible. We applied the Multiple Streams Framework in this section to structure the insights and transferable learnings from the qualitative research.

9.4.1 Framing the problem

For physical punishment to gain traction as a policy issue, it must first be recognised as a problem requiring government action (problem stream). In Scotland and Wales, two framings were central: the violation of children's rights (framed around societal values and equal protection) and the impact of physical punishment on children's development and wellbeing. A further key argument was that reform would remove the ambiguity of the existing "reasonable punishment" defence and provide clarity for parents and professionals. In Scotland, the children's rights argument alone proved insufficient to convince policymakers, and making the research evidence accessible within a broader violence prevention framing was instrumental.

In England and Northern Ireland, a combination of public health, violence prevention, and legal clarity arguments was seen as likely to be most persuasive. The link between physical punishment and physical abuse held particular resonance in Northern Ireland given the legacy of institutional and church-related child abuse.

A key lesson is that strategic framing must be tailored to context. It should not be assumed that the same framing and evidence will resonate equally in countries with apparent similarities in political, social, or cultural makeup. However, while robust evidence and contextual framing are essential, they are not in themselves sufficient to bring about legislative change.

9.4.2 Advocating policy solutions

Central to successful reform in Scotland and Wales was the establishment of broad advocacy coalitions supporting legal reform (policy stream), including children's rights advocates, police, public health, social care, parent and faith groups. Securing support from enforcement bodies and frontline services as well as reassurance that it would not create additional burdens helped to address opposition arguments.

Advocates must clearly articulate why legal change is necessary, while proactively addressing concerns that reform would criminalise parents for minor transgressions. Evidence from countries that had already prohibited physical punishment, where these fears had not been borne out, was critical in countering such arguments.

Several lessons emerged in relation to implementation. Phased implementation, as adopted in Wales, allowed time for public education and for concerns to be addressed. Public education campaigns using positive messaging about children's rights and wellbeing were considered vital, as was early engagement with stakeholders to develop clear guidance for professionals and practical support for parents. Well-planned monitoring and evaluation are important to ensure that processes work as intended, and to consolidate reform.

9.4.3 Socio-political environment and political leadership

The political stream must align with the problem and policy streams; without sufficient political will, change will not occur. Political leadership from champions willing to advance the issue is therefore instrumental. A key insight is that political support was secured relatively late in both Scotland and Wales. This underscores that advocates need to work towards creating a "policy window", often over long periods of time, to foster the conditions that provide opportunity for change.

10 Summary, conclusions and recommendations

This research provides high-quality evidence from representative, prospective UK data on the prevalence of physical punishment and its impact on a range of outcomes related to children's development. In addition, qualitative research with UK stakeholders has highlighted important learnings from the experience of law reform in Scotland and Wales.

The following sections present and contextualise the key findings from this project, summarise our conclusions, and formulate recommendations for research and policy.

10.1 Key findings

10.1.1 Findings from quantitative data analyses

1. Physical punishment is still common in the UK.

Despite a declining trend, physical punishment was still experienced by more than 20% of 10-year-old children in 2020/21. It is likely that younger children are substantially more affected, as physical punishment is most common during the preschool years and tends to decline as children get older.

2. Physical punishment does not improve behavioural outcomes in early childhood.

Across ages 3, 5, and 7 years, children who experienced more physical punishment displayed on average more externalising behaviours (such as conduct problems), more internalising behaviours (such as emotional problems), and fewer prosocial behaviours (such as helping others).

Physical punishment did not improve children's behaviour over time. When we examined how physical punishment and behaviours influenced each other, we found that among boys, more physical punishment at age 5 predicted fewer prosocial behaviours at age 7. Among girls, more externalising behaviours at age 3 predicted more physical punishment at age 5. When the analysis was restricted to children with complete data at all three time points, a reciprocal pattern emerged: more externalising behaviours at age 3 predicted more physical punishment at age 5, and more physical punishment at age 5 predicted more externalising behaviours at age 7. This suggests that physical punishment and externalising behaviour may reinforce each other over time.

3. Physical punishment is associated with lower literacy in early childhood.

The repeated experience of physical punishment across ages 3, 5 and 7 years was associated with lower literacy scores at age 7. There were no links between physical punishment and numeracy.

4. Physical punishment is associated with poorer GCSE outcomes at age 16.

For young people in England, physical punishment in early childhood was associated with lower attainment at Key Stage 4 (GCSE results at age 15/16). Young people who had experienced physical punishment in childhood were less likely to achieve a standard pass (grade A*-C or 4-9) in GCSE English, in GCSE English and Maths combined, and in five GCSEs including English and Maths. The strongest links were seen for physical punishment reported at age 7, and for repeated exposure across ages 3, 5, and 7.

5. Adolescents who experienced physical punishment in early childhood were more likely to report risky and antisocial behaviours at ages 14 and 17.

Young people who experienced physical punishment during childhood were more likely to report risky and antisocial behaviours towards others and towards the environment at age 14, such as bullying, physical aggression, and vandalism. These links were strongest when physical punishment was reported later in childhood or repeatedly across survey waves. Some associations were also present at age 17, although these were weaker.

When physical punishment was experienced in combination with low maternal warmth, there was also an increased risk of risky behaviours towards the self (such as self-harm or substance misuse), and towards the environment at age 14. Maternal warmth did not make a difference to the link between physical punishment and antisocial behaviours directed at others, or any outcomes measured at age 17.

10.1.2 Findings from stakeholder interviews

In line with Kingdon's Multiple Streams Framework (Kingdon, 2014), findings from our stakeholder interviews on law reform suggest that change becomes possible when three elements come together to create a window of opportunity: recognition by policymakers that a problem exists and requires action, a feasible policy solution to address the problem, and a favourable social and political environment for the proposed policy to become accepted.

In Scotland and Wales, the main arguments for law reform were that physical punishment was a violation of children's rights, and that public health evidence demonstrated its harmful impacts on child development. Additional key arguments were the ambiguity of the existing "reasonable punishment" defence and the need to provide clarity for parents and professionals, evidence from other countries that physical punishment increases the risk of serious abuse, and that abolishing the defence of reasonable punishment should be seen as part of wider violence prevention strategies. The weight placed on each of these arguments needed tailoring to each country's context.

Successful advocacy for law reform required broad, multisectoral coalitions including stakeholders from public health, social care, parent organisations, faith groups, and police. Advocates contributed to creating a favourable socio-political environment by securing political leadership and support, and by ensuring arguments for reform were disseminated widely and heard by relevant audiences. The argument made by opponents of law reform that it would lead to the criminalisation of parents was effectively addressed using evidence from the fast-increasing number of countries where law reform had already been enacted and such concerns had not been borne out.

Scotland and Wales also provided key insights regarding implementation, with the successful approach taken in Wales offering a blueprint for change. Wales's implementation included a comprehensive public awareness campaign, clear guidance for professionals, and additional resources for parenting support, and resulted in broad public understanding and acceptance.

10.2 How should these findings be interpreted?

10.2.1 Interpretation within the context of existing research

The findings from our data analyses corroborate the large body of international research demonstrating that physical punishment is harmful to children's development and wellbeing, and does not achieve parenting goals. The existing evidence for detrimental outcomes is particularly strong for externalising behaviours (behaviours directed outward that violate social norms). Well-controlled studies have consistently shown that physical punishment is linked to more antisocial behaviour and aggression over time (Gershoff et al., 2012; Gershoff and Grogan-Kaylor, 2016; Heilmann et al., 2021; Wiggers and Paas, 2022), which is in line with our results on adolescent risky behaviours and supports Bandura's social learning theory (Bandura, 1977). Evidence for detrimental effects also exists for cognitive outcomes (Straus and Paschall, 2009; Cuartas et al., 2020), similar to our findings on literacy at age 7 and educational attainment at GCSE level. Taken together, there is consistent and compelling evidence that physical punishment has no benefits and does not work even if judged purely on its own terms.

Physical punishment violates children's rights as set out in the UNCRC, an international treaty ratified by all countries except the USA. The UNCRC is unequivocal that no form of physical or corporal punishment of children is acceptable and that all state parties have an obligation to protect children from such punishment in all forms and settings (UNCRC, 2006). Indeed, the Committee on the Rights of the Child has recently called on the UK to prohibit all corporal punishment, including in the home, throughout all its jurisdictions (UN Committee on the Rights of the Child, 2023).

The qualitative findings of this project support theoretical accounts of the evidence-policy gap (Kingdon, 2014), which postulate that research evidence, although essential to achieving law reform, is rarely sufficient on its own. Where a window of opportunity exists and law reform is enacted, successful implementation is dependent on effective communication with the public, clear guidance to professionals working with children and families, and support for parents. The Welsh experience has been evaluated and documented in a 2025 synthesis report marking its three-year post-implementation review period (Tully et al., 2025). The report concludes that implementation has been successful, with representative surveys showing high public awareness of the law and majority support. Concerns regarding the prosecution of parents were not borne out: over the three years since the new law was enacted, there had been fewer than five prosecutions and zero convictions of parents in relation to physical punishment. As part of its implementation processes, Wales introduced a government-funded Out-of-Court Parenting Support Scheme, providing the police with a referral pathway for bespoke parenting support as an alternative to prosecution. About 100 referrals have been made per year under the scheme, with the vast majority of participating parents reporting positive outcomes (Tully et al., 2025).

10.2.2 Strengths and limitations

Strengths and limitations of the quantitative data analyses

We used large, representative longitudinal data that followed the same children over time, which is essential for establishing temporal associations and controlling for the initial levels of the outcome under study. In addition, this project examined a range of different outcomes measured in childhood and adolescence, and the consistency regarding the direction of effects strengthens our confidence in the overall conclusions.

While our analyses of links between physical punishment and child outcomes do not readily lend themselves to causal interpretations, we accounted for an extensive range of potential confounding factors, which means the observed associations are not explained by socio-economic or other family characteristics that may influence both physical punishment and the outcomes we have examined. However, the possibility of residual confounding cannot be entirely ruled out.

Our data on trends in the prevalence of physical punishment are restricted to the experiences of 10-year-olds and based on relatively small samples, limiting the ability to provide further breakdown by child and family characteristics. The findings from the UK Millennium Cohort Study and from international research strongly suggest that physical punishment is more common at younger ages, however, more recent data on younger age groups were not available.

It must be noted that the results presented in this report were not peer-reviewed at the time of publication and are therefore subject to change.

Strengths and limitations of the qualitative research

A key strength of the qualitative research is the breadth of stakeholder groups who participated, resulting in rich data from multiple different perspectives. We however wish to acknowledge some limitations. Despite our efforts, participants from Muslim faith communities could not be recruited, which may narrow the range of religious and cultural perspectives represented. Participation in Northern Ireland was also limited. Recruitment of politicians was particularly challenging; however, we were able to interview representatives of three major parties.

10.3 Conclusions

While physical punishment has declined over time, it still affects a substantial proportion of children in the UK.

Physical punishment has no benefits. Instead, it is associated with a range of shorter- and longer-term detrimental outcomes for the children who experience it, including increased risks of poorer educational attainment and adolescent antisocial behaviours. Given these findings, physical punishment may have a negative impact on society as a whole.

The experience of abolishing the defence of reasonable punishment in Scotland and Wales provides valuable insights and learnings for the rest of the UK and beyond. Reforming the law requires political will and leadership, and careful implementation. Once achieved, societal acceptance of law reform is high.

10.4 Recommendations

10.4.1 Recommendations for future research

More comprehensive and current UK data are needed on the prevalence and distribution of physical punishment, and on attitudes towards it. Such data should include children across all age groups, with reports from both mothers and fathers as well as from children and adolescents themselves. Data should be collected regularly and considered in the planning of new large cohort studies, to monitor trends before and after any future law reform.

We also recommend qualitative research with diverse groups of parents, children, and young people to gain deeper insights into the reasons why parents do or do not use this form of punishment, how it affects children and families, and what kinds of support can help parents adopt positive parenting strategies.

Research into parenting practices should include assessing the effectiveness of interventions to reduce physical punishment.

Where law reform is enacted, its implementation and impact should be monitored. This should include assessing trends in the prevalence of physical punishment, public attitudes, and outcomes for children, as well as monitoring contacts with police and social services, prosecutions, and offers of parenting support. Research with professionals and stakeholders should identify best practice regarding processes and referral pathways.

10.4.2 Recommendations for UK policy

Given the sum of the existing evidence from previous international research and the current project, as well as consideration of children's rights, we are making the following recommendations:

Recommendation 1:

England and Northern Ireland should follow Scotland and Wales in removing the legal defence of reasonable punishment and prohibit all physical punishment by law, to give all UK children equal protection and comply with international law as laid out by the UNCRC.

Recommendation 2:

Implementation of law reform should be carefully planned and include co-development of guidance for professionals and agencies regarding processes and referral pathways, resources for the provision of family and parenting support, and plans for monitoring and evaluation. The Welsh experience provides a useful example of successful implementation and should be used to guide implementation in England and Northern Ireland.

Recommendation 3:

Law reform should be accompanied by comprehensive public awareness campaigns including information for children and young people, and provide fact-based assurance about the preventative intent of legislative change.

References

Bandura A (1977): Social Learning Theory. New York: General Learning Press.

Bevilacqua L, Kelly Y, Heilmann A, Priest N and Lacey RE (2021): Adverse childhood experiences and trajectories of internalizing, externalizing, and prosocial behaviors from childhood to adolescence. Child Abuse & Neglect, 112, 104890

Bowlby J (1969): Attachment and loss. New York Basic Books.

Centre for Longitudinal Studies (2024): Millennium Cohort Study: Linked Education Administrative Datasets (National Pupil Database), England: Secure Access. [data collection] [Online]. Available: http://doi.org/10.5255/UKDA-SN-8481-3

Crick NR and Dodge KA (1996): Social information-processing mechanisms in reactive and proactive aggression. Child Dev, 67(3), 993–1002

Crown Prosecution Service (2020): Offences against the Person, incorporating the Charging Standard [Online]. Available: https://www.cps.gov.uk/legal-guidance/offences-against-person-incorporating-charging-standard

Cuartas J (2023): Corporal Punishment and Child Development in Low- and- Middle-Income Countries: Progress, Challenges, and Directions. Child Psychiatry & Human Development, 54(6), 1607–1623

Cuartas J, McCoy DC, Grogan-Kaylor A and Gershoff E (2020): Physical punishment as a predictor of early cognitive development: Evidence from econometric approaches. Dev Psychol, 56(11), 2013–2026

Danese A and McEwen BS (2012): Adverse childhood experiences, allostasis, allostatic load, and age-related disease. Physiol Behav, 106(1), 29–39

End Corporal Punishment (2026): Progress: States prohibiting all corporal punishment of children, including in the home [Online]. Available: https://endcorporalpunishment.org/countdown/

Gale NK, Heath G, Cameron E, Rashid S and Redwood S (2013): Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Medical Research Methodology, 13(1), 117

Gershoff E (2002): Corporal Punishment, Physical Abuse, and the Burden of Proof: Reply to Baumrind, Larzelere, and Cowan (2002), Holden (2002), and Parke (2002). Psychological Bulletin, 128, 602–611

Gershoff ET and Grogan-Kaylor A (2016): Spanking and child outcomes: Old controversies and new meta-analyses. J Fam Psychol, 30(4), 453–69

Gershoff ET, Lansford JE, Sexton HR, Davis-Kean P and Sameroff AJ (2012): Longitudinal links between spanking and children's externalizing behaviors in a national sample of White, Black, Hispanic, and Asian American families. Child Dev, 83(3), 838–43

Goldsmith LJ (2021): Using Framework Analysis in Applied Qualitative Research. The Qualitative Report, 26(6), 2061–2076

Heilmann A, Kelly Y and Watt RG (2015): Equally protected? A review of the evidence on the physical punishment of children. London: NSPCC. Available: https://www.cypcs.org.uk/wpcypcs/wp-content/uploads/2020/03/Equally-Protected.pdf

Heilmann A, Mehay A, Watt RG, Kelly Y, Durrant JE, van Turnhout J and Gershoff ET (2021): Physical punishment and child outcomes: a narrative review of prospective studies. Lancet, 398(10297), 355–364

Institute for Social and Economic Research (2024): Understanding Society: The UK Household Longitudinal Study [Online]. Available: https://www.understandingsociety.ac.uk

Kingdon JW (2014): Agendas, Alternatives and Public Policies: 2nd ed. New York: Pearson.

Legislation.gov.uk (2006): The Law Reform (Miscellaneous Provisions) (Northern Ireland) Order 2006 [Online]. Available: https://www.legislation.gov.uk/nisi/2006/1945/article/2

Parkes A, Sweeting H and Wight D (2014): Growing Up in Scotland: Family and school influences on children's social and emotional well-being. Edinburgh: The Scottish Government. Available: https://dera.ioe.ac.uk/id/eprint/20296/1/00452548_Redacted.pdf

Scottish Centre for Social Research (2024): Growing Up in Scotland [Online]. Available: https://growingupinscotland.org.uk

Slep AMS, Rhoades KA, Lorber MF and Heyman RE (2022): Glimpsing the Iceberg: Parent-Child Physical Aggression and Abuse. Child Maltreat, 10775595221112921

Straus MA and Paschall MJ (2009): Corporal Punishment by Mothers and Development of Children's Cognitive Ability: A Longitudinal Study of Two Nationally Representative Age Cohorts. Journal of Aggression, Maltreatment & Trauma, 18(5), 459–483

Tully M, KilBride K, Howells J, Fikry M and Thomas L (2025): Children (Abolition of Defence of Reasonable Punishment) (Wales) Act 2020: evidence and data synthesis. GSR report number 124/2025. Cardiff: Welsh Government. Available: https://www.gov.wales/children-abolition-defence-reasonable-punishment-wales-act-2020-synthesis-report

UCL Centre for Longitudinal Studies (2024): Millennium Cohort Study [Online]. Available: https://cls.ucl.ac.uk/cls-studies/millennium-cohort-study/

UN Committee on the Rights of the Child (2023): Concluding observations on the combined sixth and seventh periodic reports of the United Kingdom of Great Britain and Northern Ireland, CRC/C/GBR/CO/6-7 [Online]. Available: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CRC%2FC%2FGBR%2FCO%2F6-7&Lang=en

United Nations (1989): Convention on the Rights of the Child [Online]. Available: https://www.unicef.org.uk/wp-content/uploads/2016/08/unicef-convention-rights-child-uncrc.pdf

United Nations Committee on the Rights of the Child (2006): Forty Second Session. General Comment No. 8: The right of the child to protection from corporal punishment and other cruel or degrading forms of punishment. [Online]. Geneva. Available: https://digitallibrary.un.org/record/583961?ln=en&v=pdf

Vandenbroucke JP, von Elm E, Altman DG, Gøtzsche PC, Mulrow CD, Pocock SJ, Poole C, Schlesselman JJ, Egger M and for the SI (2007): Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and Elaboration. Epidemiology, 18(6)

WHO (2025): Corporal punishment of children: the public health impact. Geneva: World Health Organization. Available: https://www.who.int/publications/i/item/B09424

WHO (2026): Corporal punishment and health [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/corporal-punishment-and-health

Wiggers M and Paas F (2022): Harsh Physical Discipline and Externalizing Behaviors in Children: A Systematic Review. Int J Environ Res Public Health, 19(21)

Project outputs

Research briefing

Heilmann A, Lacey R, Kelly Y, Pells K, Hollingworth K and Sifaki M (2024): Physical punishment of children in the UK. Research Briefing [Online]. Available: www.ucl.ac.uk/population-health-sciences/sites/population_health_sciences/files/ucl_briefing_physical_punishment_april_2024.pdf

Journal articles submitted / preprints

Lacey R, Kelly Y, Sifaki M, Eager S, Hollingworth K, Jarvis R, Pells K and Heilmann A: Child Physical Punishment and Adolescent Risky Behaviours. Archives of Disease in Childhood (under review). Available at SSRN: http://dx.doi.org/10.2139/ssrn.5961906

Hollingworth K, Pells K, Eager S, Jarvis R, Mindel E, Lacey R, Kelly Y, Sifaki M, and Heilmann A: Violence Prevention Through Legislative Change: Qualitative insights on ending the physical punishment of children in the UK. Social Science and Medicine (under review).

Conference presentations

Sifaki M, Lacey R, Kelly Y and Heilmann A (2025): P64 Is physical punishment associated with cognitive outcomes in early childhood? Findings from the UK millennium cohort study. Journal of Epidemiology and Community Health, 79(Suppl 1), A68.10.1136/jech-2025-SSMabstracts.141

Sifaki M, Lacey R, Kelly Y, and Heilmann A (2024): Bi-directional associations between physical punishment and child internalising, externalising, and pro-social behaviours. SLLS Annual Conference 2024. University of Essex, UK. www.slls.org.uk/pages/conference-archive

Blog

https://childofourtimeblog.org.uk/2025/03/physical-punishment-harms-childrens-wellbeing-the-time-to-act-is-now/