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DOES SMACKING CONTRIBUTE TO NEGATIVE OUTCOMES FOR CHILDREN?

A narrative review on the effects of physical
punishment on children

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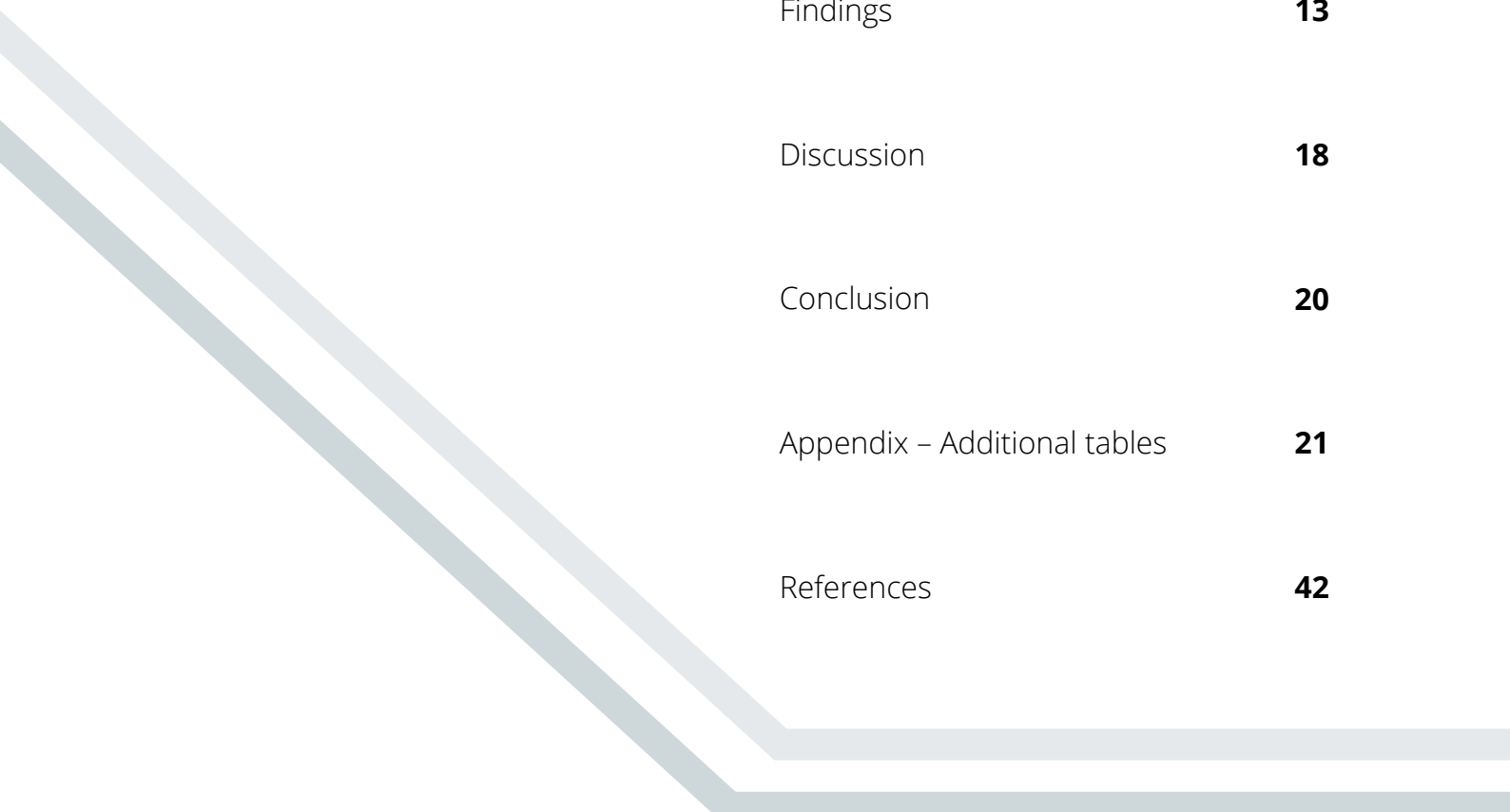
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Foreword

Having discussed smacking with various parenting 'experts' over the years, we have often found a strange form of moralism wrapped up in talk of 'evidence' and 'research'. Some of the worst culprits are the experts who insist that 'just one smack' and the child is 'scarred for life'. For the fun of it, you can often push this argument a little further by asking if even a light tap on the back of the hand of a toddler would scar them for life, and you're likely to receive a resounding, 'Yes'! Why? Because 'the evidence shows'; because 'research says'; because 'experts have found' this to be true.

However, even if we take this idea at face value and assume that there is a body of smacking expertise, we find that many of the claims being made about this 'harmful' practice are more confusing than clarifying, and more driven by a desired result than anything close to an objective or scientific study of parents and children.

Many of the studies about smacking do not have representative samples that are needed to make inferences about populations. Questions are often confused and don't differentiate between light and severe forms of punishment, nor do they take into account the nature of the parent-child relationship more generally or the emotional climate in which children are being disciplined. Most problematic of all perhaps, this research tries to isolate one thing, smacking, as a thing in itself, something that will 'scar you for life', irrespective of myriad other things going on in a child's life as they grow.

You don't have to be a genius or even a social scientist to know that love, stability and all the other dimensions of family life and relationships are significant to a child. As is the wider world they live in, the poverty or wealth of their world, the culture, their friends and education, their community or lack of one. Taking all of this and trying to isolate one, potentially tiny, aspect of their childhood, and finding 'cause' in their future behaviour or mental wellbeing makes no sense, or at least, lacks any common sense.

One of the problems with the move to talk about parents and parenting through the language of experts is that once we do this, the experiences of millions of parents, stretching back generations, can be disregarded as irrelevant. Once 'research' speaks, the lives and the 'lived experience' of tens, indeed hundreds of millions of people can be pushed aside.

When you listen to the anti-smacking campaigners, you get a sense that one of the main reasons that the experiences of ordinary people are pushed aside is because they have such a negative and at times a condescending view of parents. This would appear to be inevitable, coming from a body of people who think about smacking as 'violence' or think that a tap on the hand or bottom is 'abuse'.

Rather than constantly turning to experts, including those whose expertise is highly questionable, sometimes politicians need to use their common sense and to listen to their constituents. If they did so, they would understand that parents have a tough enough job without needing to constantly look over their shoulder or to be criminalised for trying to get on with their lives, and look after and raise their kids.



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Introduction

Parents use a variety of techniques to discipline their children. Physical punishment – “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child’s behaviour”¹ – is part of parental discipline across the world. While the prevalence of physical punishment is decreasing, a large majority of parents still report having used it at some point.²

The main emphasis of much research is on potential detrimental effects that such punishment may have on children. Much of this research has been applied within the policy sphere; careful and critical consideration of its suitability for that application is essential.

There have been increasing calls to ban smacking. Over 70 states or countries have instituted some form of preventative measure against smacking (though often short of criminalisation) and others have pledged to follow suit. In the UK, Scotland and Wales established de facto bans by abolishing the defence of reasonable chastisement to the law on common assault and battery in 2020 and 2022 respectively. This places parents who smack their child in violation of the same law that criminalises common assault and battery (Section 58 of the Children Act 2004). The defence has been retained in England and Northern Ireland.

Smacking is the most common aspect of physical punishment to receive attention, yet its measurable effects are contested and there are extensive limitations in the studies. There is a large number of such studies, but questions remain about the existence of a causal link between smacking and negative outcomes.

The term ‘smacking’ is often used synonymously with ‘physical punishment’ without any distinction. ‘Physical punishment’ is a much broader category, including criminal battery and other physical assault, as well as milder forms of chastisement such as smacking. Using such a broad category is comparable to discussing children partaking in ‘*risky play*’, but including within that category both *climbing trees* and *playing with firearms*. It is perfectly valid to use the broader category, but it must be properly defined if it is to be studied, even more so if it is to reliably inform public thought and policymaking. This study will follow the terminology of the source material where possible, but preferring the term ‘smacking’ for the sake of clarity.

Academic studies on physical punishment or smacking generally examine either its association with future externalising behaviour or internalising behaviour. With a very small number of exceptions, the measured outcomes observed are confined to early childhood years. Numerous factors must be considered as part of any such analysis, and several studies have examined the potential moderation of outcomes by parental warmth. This review will focus on these three areas, providing a narrative overview of the weight and limitations of the evidence in each case.

Previous meta-analyses and narrative reviews

Several key meta-analyses and narrative reviews have examined the relationship between physical punishment or smacking and various childhood outcomes, the results of which are outlined in Table 1.

Table 1. Summary results of previous key meta-analyses and narrative reviews

Author(s)	Year	Number of studies	Relevant conclusions and limitations noted
Gershoff ³	2002	88 studies	Gershoff's meta-analysis considered 11 possible child behaviours and experiences. Gershoff concluded that immediate compliance was the only positive short-term outcome of smacking. Among other outcomes, an association was found between corporal punishment and increased child aggression; increased anti-social behaviour; decreased child mental health; increased risk of abuse and increased adult aggression. Gershoff called for other methods of discipline to also be subject to exacting scientific scrutiny. However, her meta-analysis was criticised for including studies of severe corporal punishment, and including studies that did not measure the initial level of effect, rendering her conclusions less certain.
Paolucci & Violato ⁴	2004	70 studies	Paolucci and Violato reported that corporal punishment only had a small negative effect on child behavioural and emotional outcomes, but there was no increased risk of cognitive problems, although the authors note there was insufficient analysis of factors that could moderate the effects.
Larzelere & Kuhn ⁵	2005	26 studies	Larzelere and Kuhn found that the type and context of physical discipline matters. They concluded that 'conditional' physical punishment is more effective than alternative strategies at reducing non-compliance and anti-social behaviour, especially when the physical punishment is not severe and is used to reinforce milder discipline tactics. Overall, they concluded that smacking was no worse than other disciplinary techniques. However, many of the studies included had small sample sizes, and the practicality of encouraging parents to only use smacking in a very specific way has been criticised.

Ferguson ⁶	2013	45 studies	Ferguson limited his meta-analysis to longitudinal studies. He concluded that while results indicate a trivial to small significant relationship between smacking and negative outcomes, “the impact of spanking and [corporal punishment] on the negative outcomes evaluated here (externalizing, internalising behaviours, and low cognitive performance) are minimal.” Ferguson pointed out that not all the studies included in the meta-analysis provided sufficient data to be able to control for other factors that could influence outcomes over time. He also acknowledged that some studies may not have clearly delineated between mild discipline and more serious physical abuse which could lead to inflated effect size estimates.
Equally Protected ⁷	2015	74 studies	The authors found that physical punishment was associated with increased childhood aggression and antisocial behaviour, affects children’s emotional and mental health, and was related to an increased risk of child maltreatment. The authors note that sample size was an issue for a fifth of the studies hence impacts on generalisability. They acknowledge the potential for recall bias in studies of adult outcomes and the potential for social desirability bias where parents may underreport physical punishment. They also point out that the studies included were dominated by US research.

Methodology and selection criteria

This review looks at the evidence published since Gershoff's meta-analysis in 2002. Studies were selected from an initial search of PubMed in July 2022. The search terms used were "physical punishment", "physical discipline", "corporal punishment", "physical chastisement", "smacking" or "spanking" and results were restricted to English. In addition to this search, other articles were identified from reference lists of earlier reviews.

Studies selected looked specifically at physical punishment by a parent or guardian, were peer-reviewed and the majority used longitudinal studies to compare initial behaviour with later outcomes.

The initial database search yielded 1,216 results after duplicates had been removed. A large number were excluded after an initial assessment of titles because they were irrelevant, did not examine physical punishment within the home, looked at prevalence, attitudes, or cognitive or other effects, or fell outside the geographical scope, which focused primarily on Europe and the Americas. After these exclusions, 187 abstracts were assessed and a total of 37 studies were included in the final analysis.

This review considers the findings of these studies across three categories: the associations between smacking and 'externalising behaviour'; the associations between smacking and 'internalising behaviour'; and the moderation of parental warmth on outcomes associated with smacking.

Limitations of existing research

There are many limitations in the body of research on the outcomes associated with smacking which must be considered when interpreting the results.

CAUSALITY

Perhaps the predominant limitation lies in determining whether physical punishment is the primary cause of a particular outcome or behaviour, or merely one factor among others. Parent-child interactions are affected by key variables such as maternal depression, family stability, household income and even pre-existing child temperament are sometimes absent from analyses.

Even where studies do account for other variables and use detailed longitudinal data, it is impossible to rule out all potential confounders (characteristics that might simultaneously affect physical punishment and outcomes). Omitted variables and other hidden factors could even explain the associations found in their entirety, given the limited magnitude of some results. Failing to control sufficiently for confounding factors is likely to lead to overestimating the association between physical punishment and various possible outcomes.

Ultimately, no study could isolate the effect of one form of punishment on development. Parenting does not comprise a small number of independent factors, but is a lifetime of interdependent choices and reactions, responded to in expected and often unexpected ways by a developing young person. What helps one child may hinder another, and consequently, two children with very similar upbringings can have widely varying outcomes.

Parenting as a whole has an impact on a child and the overall context of discipline within that is important. Parents tend to use a range of disciplinary practices dependent upon the disciplinary incident. It is especially difficult to isolate the effects of physical punishment given its use alongside other forms of discipline. A parent who uses a light smack is unlikely to do so without a verbal reprimand alongside; smacking is sometimes described by parents as a last resort rather than the default form of discipline.⁸

DEFINITIONS

'Smacking' lacks any formal definition for a number of datasets (see Table 2 in Appendix). For example, the National Longitudinal Survey of Youth (NLSY) simply asked mothers how many times they spanked their child in the past week. This question left it to the mother to assume their own definition of 'spanking', which can vary widely. It also did not gather any information on discipline delivered by other parents in the home, nor did it measure the severity of the discipline, leaving no distinction between mild and more severe physical punishment. Other studies used words such as 'slap' or 'hit' in their questions about smacking.⁹ People do rightly draw a distinction between parental 'smacking' and 'hitting',¹⁰ and "the specific verb used to refer to physical punishment alters the perception of it" with many parents believing that "spanking" was necessary whereas "hitting" was not.¹¹

The severity of children's experiences varies widely, from the lightest and most infrequent physical

interaction through to repeated physical abuse. A failure to define 'smacking' is a fundamental weakness in many studies. Frequency and study range are also significant limitations. Whereas some studies look at smacking occurring at any time, others rely on smacking within the past month or week. Each could produce a very different result. For example, the NLSY looked at smacking in the past week – this is a small snapshot in time that may not be representative given that children's behaviour can vary greatly from week to week. The Future Families and Child Wellbeing Study (FFCWS) looked at smacking in the past month, but this opens the door to the potential for difficulties in recollection.

When frequency is initially recorded, this variation in frequency may later be lost when results are grouped. Mild, infrequent smacking is either ignored and counted as 'never smacked', or set alongside more frequent or harsher punishment by parents. This failure to distinguish the frequency of smacking is significant: Heilmann noted that there were several studies for which "the magnitude of the effect varied with the frequency of the punishment".¹²

SAMPLING

While there are a large number of studies examining the outcomes associated with smacking, they draw from a relatively small number of sources. Half of the studies showing an increase in externalising behaviour problems, for example, draw on just one data source: the FFCWS.

As its original name suggests (the *Fragile Families* and Child Wellbeing Study), the FFCWS had an oversampling of single or unmarried parents and low-income families, with the sample taken from urban populations. The results cannot be generalised to more stable families, more advantaged families, or those living in rural areas. The NLSY – utilised in multiple studies – also oversampled ethnic minority backgrounds.

Most studies rely on self-reporting from parents, or on retrospective accounts. These methods are likely to suffer from recall and social desirability bias. Those that use observational data will not be immune.

TIMEFRAME

Many studies limit their timeframe to the first five years of life. With such a limited window of observation, it is impossible to determine whether behavioural problems measured at this young age will persist in the longer term. Early resilience, negative childhood behaviours and long-term outcomes interact in complex ways, and associations observed in early childhood can shift significantly as children grow and develop.

On the other hand, studies that examine outcomes at a later age tend to attribute any behavioural differences to parental actions from many years prior. But, as previously noted, parenting must be considered holistically. No single factor – such as smacking – can be definitively blamed for increased antisocial behaviour or aggression in adulthood. Over time, the number of confounding factors increases and individuals' recollection of early events diminishes, further limiting the plausibility of any claim to causality.

Further, it raises the question: at what age should behavioural or temperamental traits be considered stable? At what point – whether age 12, 18, 25 or even 50 – should parenting outcomes be accurately judged as successful? That is a question not readily answered through quantitative research, yet many studies fail to recognise this limitation as precluding easy policy application.

Findings

EXTERNALISING BEHAVIOUR

The majority of studies on physical punishment consider its impact on externalising behaviour, such as aggression, antisocial behaviour and violence. Thirty-two studies using twelve independent samples looked at the relationship between physical punishment and externalising behaviour in some form (see Appendix Table 3). Twelve studies used the Future Families and Child Wellbeing Study (FFCWS) dataset and five used the US National Longitudinal Survey of Youth (NLSY). Most of the research is US-based.

Twenty studies, including ten of the twelve that used the FFCWS data, found that physical punishment was associated with increased aggression and externalising behaviour in children. Several studies highlighted that smacking at a young age, for example between one and five, is associated with behavioural issues two to four years later, including after controlling for an array of risks and previous behaviour. However, it must be noted that many of these studies were carried out by the same authors on the same dataset.¹³ This was also evident in three analyses of the NLSY data, that found that parental use of physical punishment was associated with increases in children's anti-social behaviour over time.¹⁴ Scott, Lewsey et al. used data from the Growing up in Scotland Prospective Study. They found that children smacked within their first two years were twice as likely to exhibit behavioural problems at age four than children who were never smacked. This finding remained after adjusting for factors such as parental depression, but the study does not account for heterogeneity in terms of frequency and severity within the smacked group and therefore does not differentiate between the impacts of more severe physical discipline and less frequent and less severe physical discipline.¹⁵

Several studies highlighted a dose-response relationship, indicating that the more frequently parents used physical punishment, the more problematic the subsequent externalising behaviour. Children who were smacked more frequently were found to demonstrate higher aggression or higher levels of antisocial behaviour than those who had not been not smacked.¹⁶ Alampay et al.'s multinational study found that more frequent corporal punishment reported by both parents was linked to increased child externalising behaviour and maternal reports of severe punishment were associated with higher child aggression.¹⁷ It has been suggested that the relationship between smacking and behavioural issues is cyclical: smacking increases the incidence of behaviour problems, which in turn tends to elicit an increase in smacking.¹⁸ However, this finding was not fully replicated by Coley et al. (2014).¹⁹ Mulvaney and Mebert (2007) found a modest association between parental corporal punishment and increased externalising behaviour problems through to first grade, and noted that the association was stronger for children with more difficult temperaments. However, the study also demonstrated that maternal depression had a stronger effect on behaviour than smacking.²⁰

Tracking the effects of smacking further than the first five years, Choe et al. (2014) found "only a modest effect of physical discipline on child externalizing problems".²¹ Similarly, Zulauf et al. (2018) identified a connection between early physical punishment and preadolescent peer aggression.²² Looking on into adolescence, Fortier et al. (2022) found that children smacked three times or more in their lifetime (a notably broad grouping with increased likelihood of recall bias) were more likely to exhibit defiant behaviours as teenagers.²³ However, in contrast to this finding, Bakoula (2009) found a much more mixed picture, with physical punishment at age seven being associated with higher levels of aggression and antisocial behaviour at age 18 for boys, but not for girls. Furthermore, when childhood mental health scores were considered, the associations became insignificant, suggesting that pre-existing mental health status may confound the long-term effects of smacking.²⁴

In addition to Bakoula (2009), nine studies identified important variations or exceptions within results. Lee, Pace et al. (2020) found that smacking is significantly associated with externalising behaviour at each subsequent age for low and middle income families, but smacking at age 5 for those with higher incomes was not associated with externalising behaviour at age nine, demonstrating the influence that socio-economic background may have.²⁵ Lee et al. (2015) found that while maternal smacking in the first five years predicted increased child aggression, paternal smacking did not.²⁶ Lansford et al.'s 2014 study indicated that corporal punishment was associated with increased aggression over time, but there was substantial variation across different national groups, suggesting that societal context also plays a role.²⁷ In their analysis of the NLSY,

McLoyd and Smith found that smacking was only associated with an increase in behaviour problems in the context of low emotional support, but not in the context of high levels of emotional support.²⁸

After controlling for earlier aggressive behaviour, smacking was a significant predictor of aggressive behaviour at age 3 only for Caucasian children (Stacks and Oshio, 2009). It should be noted that the smacking data for this study was very limited, including only parents who had used smacking during the past week; the frequency and severity of the discipline thus remain unknown.²⁹ Slade and Wissow (2014) found differences according to race. Using data from the NLSY, it was found that smacking frequency before age two was significantly and positively associated with child behaviour problems at school age only for white non-Hispanic children, and not for black and Hispanic children, suggesting that 'normative acceptance' plays a role, or that there are other factors that interact to affect children's behaviour.³⁰

When accounting for prior externalising behaviour, Lansford et al. (2012) found that there were no significant differences in teacher-reported externalising among those who were never smacked, experienced mild smacking or experienced harsh smacking (more than once a week or with an object). With regard to maternal reports of externalising, there were significantly higher levels only in those who experienced harsh smacking, but no significant difference between the group who were not smacked and those who reported mild smacking. Further analyses also found no significant correlation between mild smacking in one year and mother-reported externalising in the following year.³¹

Mendez et al. (2016) found that negative externalising results associated with smacking were moderated by positive parenting.³² Looking at older youth, Ma et al.'s study (2012) found that while parental smacking was associated with greater youth externalising behaviour, increases in positive parenting practices such as parental warmth and family involvement was associated with lower levels of externalising behaviour, suggesting a moderating relationship.³³

Despite a large number of studies finding some level of association between smacking and behaviour, two studies found no significant association. Peets, Hodges and Kikas (2022) highlighted the complexity of the parent-child relationship and found that overall by grade 3 neither mothers' nor fathers' corporal punishment predicted changes in aggression. In fact, fathers' behavioural control of the child was the sole parenting predictor of increases in aggression over time, suggesting other parenting techniques or strategies play an important role in child development.³⁴ Pritsker (2021) found no association between general smacking and externalising problems after removing the variance between subjects. Indeed, taking this analysis further, his research suggested that when done infrequently (once a month or less) and without objects, smacking actually had beneficial effects on behaviour problems.³⁵ There are occasions and patterns of use where smacking can predict decreased externalising problems.

While physical punishment has been linked to increased aggression and externalising behaviour in children, the majority of those studies are drawn from data sources with notable limitations. Frequently, other factors are highly relevant such as the socio-economic background of the family, the cultural context, or the frequency or severity of smacking. Furthermore, when looking across a wider range of data sources, the presence of an association, and the strength of association, is much more nuanced, putting doubt on any claim that physical punishment alone causes an increase in aggression or antisocial behaviour.

INTERNALISING BEHAVIOUR

Most studies on smacking consider externalising behaviour, but some also measure possible associations with internalising behaviours, such as mental health, self-esteem, and levels of depression and anxiety. Previous reviews have suggested that smacking is associated with internalising behaviour problems such as mental health problems and low self-esteem. *Equally Protected* concluded: "While the results for associations between physical punishment and childhood emotional and mental health are less consistent than is the case for externalising problem behaviour, the totality of the evidence, also in light of findings from earlier reviews, points towards the presence of a true link between physical punishment and child mental health."³⁶

This review considered 13 studies which looked at data from eleven independent samples. The evidence of an association between smacking and mental ill health is far from conclusive, with eight studies reporting mixed results or no association.

Three studies found no discernible association between smacking and internalising behaviour problems, one even when smacking was relatively frequent (Alampay et al.).³⁷ Baumrind et al. demonstrate that parenting as a whole is associated with a child's outcomes. Using a relatively small sample size, the study found that verbal hostility and psychological control had a stronger association with child internalising behaviours than the use of physical punishment or even severe physical punishment.³⁸

Results were mixed for several longitudinal studies, and it was unclear whether an association between smacking and internalising behaviour was more significant among younger or older children.³⁹ Maguire-Jack, Gromoske and Berger found a weak association between smacking at age three and higher internalising behaviour problems at age five.⁴⁰ Coley, Kull and Carrano found smacking was associated with slightly decreased internalising behaviour among children between age three and four, but found an increase in internalising behaviour between ages four and nine.⁴¹ In contrast, Mulvaney and Mebert found an association between smacking and increased internalising behaviours during toddlerhood, but not at first grade.⁴²

Bakoula's study tracked behaviour into adolescence, but again had mixed results. For girls, occasional physical punishment at age seven was associated with lower internalising problems at 18 when childhood mental health status was taken into account, but for boys there was no association. The authors noted that their results indicate that "mental health status in childhood mediates or confounds the long-term association between both physical punishment... and adolescent psychopathology".⁴³

Another study that points to the complexity of tracking the effects of smacking due to other inter-related factors was undertaken by Anderson and Goodnight. Their sibling comparison found that corporal punishment was significantly associated with the development of internalising behaviour problems between ages six and nine. Yet when comparing siblings this relationship was no longer significant – children exposed to higher levels of corporal punishment were no more likely to develop internalising compared to their siblings who were smacked less frequently, strongly suggesting that internalising behaviours were likely connected to other family-level environmental factors or genetic factors.⁴⁴

McKee et al. (2007) highlighted significant correlations between harsh verbal and physical discipline and child internalising problems. Mothers' harsh physical discipline was associated with child internalising problems. These problems were substantially lower when mothers' warmth was high, indicating that the context of parental discipline is very relevant.⁴⁵

Fortier, Stewart-Tufescu, Salmon et al. found that adolescents who were smacked more than three times had increased odds of mental health disorders.⁴⁶ Another study found that children who had been smacked were twice as likely to exhibit emotional problems around age four than those who had not been smacked.⁴⁷ However, these associations do not necessarily indicate causation.

Some of the associations found are more complex: Rajyaguru et al. combined smacking, shouting and telling off to find that together they were associated with increased emotional problems and a decrease in prosocial behaviours, but did not establish that the relationship is true for smacking in isolation.⁴⁸ Eamon concluded that children who are smacked more frequently exhibit more socioemotional problems, but also found that marital conflict and maternal depression are more strongly associated with children's socioemotional problems than smacking,⁴⁹ again highlighting the complex interplay between childhood development and family experience and situation. Childhood emotional development is highly dynamic, making it difficult to draw a direct link between early signs of internalising behaviour and longer-term psychological outcomes.

While some studies do find an association between smacking in childhood and internalising behaviour problems, the evidence is far from conclusive. Far from demonstrating (or supporting claims of) a causal relationship between the two, these studies underline the complexity of any investigation into childhood development. It is possible to find an association between almost any two factors in childhood, but isolating those factors from others is extremely difficult; demonstrating a *lasting* association between *minimal* factors is in practice impossible.

PARENTAL WARMTH

Parenting does not occur in a vacuum. Children are shaped by a complex interconnected network of social, cultural, environmental, economic and familial factors. With so many different influences, it is impossible to isolate the associations between individual aspects of parenting – even single disciplinary strategies – and measurable outcomes in later childhood and adulthood.

This problem has been investigated by studies examining the context in which discipline takes place. Physical punishment is implemented in different ways in different families, and each individual parent-child relationship has a particular emotional climate. *How* parents use smacking may be just as important as *whether* they use it, and so any claim of measurable effects should be considered in the broader context of the parent-child relationship. Many datasets are not designed to adequately capture these nuances.

Ten studies investigated whether any negative outcomes associated with corporal punishment are reduced by a parent-child relationship characterised by warmth. Contrary to Heilmann et al. (2021), the majority of studies found evidence that high levels of warmth in the parent-child relationship attenuate negative outcomes, although three of the ten studies did not find evidence of any such effect.

McLoyd and Smith used the NLSY, finding that children whose parents were classed as having high levels of emotional support (warmth) did not show an increase in behaviour problems over time, regardless of having been smacked by their parents. When emotional support was low, behaviour problems increased among children who had been smacked, but also (to a lesser extent) in those who had not.⁵⁰ Another study found that 'harsh' discipline had the strongest correlation with aggressive behaviour when the mother-child relationship lacked warmth, but high levels of warmth weakened the correlation between 'harsh' parental discipline and aggressive behaviour.⁵¹

Smacking will only be one part of a parent's disciplinary toolbox, and so it is critical that the wider disciplinary context is considered. Mendez et al.'s study found that a mother's 'positive parenting' "attenuated the relationship between father's corporal punishment and child externalizing behaviors". Notably, the same study found against its own predictions that when mothers practiced 'harsh parenting', externalising behaviour "tended to decrease as mothers' corporal punishment increased".⁵²

One study found that in parent-child relationships characterised by high levels of warmth, smacking was unrelated to, or even associated with decreases in, aggressive behaviour. Where warmth was lacking,



smacking predicted greater aggression for children.⁵³ Another study found that for adolescents, increases in parental warmth and family involvement saw decreases in youth externalising behaviour. At the highest levels of maternal warmth, the association between corporal punishment and externalising behaviour was “not statistically distinguishable from zero”.⁵⁴ Similarly, McKee et al found that internalising problems were “substantially” lower when mothers’ warmth was high, and the same applied to paternal warmth and discipline.⁵⁵

An international study also found that high levels of warmth lessened the link between corporal punishment and children’s maladjustment, although with some variation between countries, again emphasising the importance of the wider context within which discipline takes place.⁵⁶

Some studies did not find evidence of maternal warmth mitigating the effects of physical punishment. One study found that maternal warmth for children aged three did not moderate the association between smacking and increased child aggression by age five.⁵⁷ A later article by the same authors (using the same dataset) found that maternal warmth did not limit change in children’s aggression over time, over and above the association between smacking and increased aggression, but warmth was shown to increase children’s social competence.⁵⁸

Stacks et al. did not find evidence of maternal warmth moderating the association between smacking and aggressive behaviour, but did find that maternal warmth was negatively correlated with aggressive behaviour at age three.⁵⁹

Existing research on the interplay between disciplinary context and childhood outcomes is severely lacking. More research is required before a coherent picture can emerge of the diverse factors pertaining to physical punishment and childhood outcomes. Given the current limited picture, it has to be concluded that smacking may, at least in the context of warm parental relationships, be associated with positive outcomes for children. Although such a claim is not universally supported by research, neither is it by any means proved untrue. More work in this area is required.

It is likely that in the context of a warm and responsive relationship, children can recognise the exercise of parental authority (*contra* parental aggression). Regardless of the disciplinary strategies that parents choose to use, the research shows that it is vitally important that parents provide a warm, protective and nurturing home environment for their children to flourish.



Discussion

EXTERNALISING BEHAVIOUR

Conclusions remain impossible regarding a causal link between smacking and negative outcomes for children. While a number of studies have found correlation between physical punishment and externalising behaviour, the magnitude of difference between those who have and have not been smacked appears to be small.⁶⁰ Efforts to isolate physical punishment as an individual influence are important but remain tentative – there are simply too many factors to account for. No study has isolated only mild smacking in the context of a longer timeframe.

The difference between ‘physical punishment’ as a broad category and ‘smacking’ as a more specific case must not be overlooked. In the latter, given the potential for significant moderation by factors such as parental warmth, it remains surprising that some studies have made such strident claims regarding policy. Indeed, even in those that acknowledge the limitations of existing research, many offer significant policy direction.

For example, Heilmann et al. claims that “The consistency of these findings indicates that physical punishment is harmful to children and that policy remedies are warranted”.⁶¹ If there were no existing limitations on physical punishment this might be an understandable position. Yet Heilmann et al. write from a UK perspective, and the existing law in England and Northern Ireland permits only smacking where it is within the stringent limits of what is considered ‘reasonable chastisement’ by the courts. Policy ‘remedies’ are already in place to mitigate overbearing and violent physical punishment that harms children.

INTERNALISING BEHAVIOUR

The association between smacking and negative internalising behaviour is far from conclusive. Rather, existing research has highlighted the difficulty in isolating one form of discipline from the vast range of experiences that impact childhood. The results of studies vary widely, with some fascinating contradictions.

There could be various reasons for the variety in results: differences in the samples especially regarding community background and the age range studied are likely to be important. More research (using large original datasets) would be required to make firmer conclusions, but on the basis of existing work it is questionable whether smacking as an isolated category produces meaningful results regarding internalising behaviour in children. The number of studies showing no significant association between smacking and internalising behaviour places serious doubt on previous reviews’ suggestion that smacking is a primary driver of internalising problems.

PARENTAL WARMTH

In common with other behavioural studies, outcomes cannot be separated from context. To return to an illustration used elsewhere in this review, parents encouraging ‘risky play’ might in one context be aiding personal development and independence, while in another be enabling disobedience or even criminal activity. Likewise, the outcomes of any disciplinary strategy used by parents is necessarily affected by context; the existing studies suggest smacking is no exception.

Most of the studies reviewed found that parental warmth had some level of moderating effect. While very notable, this does not suggest that parental warmth alone *entirely removes* any association between smacking and negative outcomes within childhood years. Indeed, it is a reminder that there are many factors influencing externalising and internalising behaviour. Once again, it is notable that existing studies do not give much insight into outcomes beyond early childhood. Since parental warmth is likely to continue long after smacking has ceased, it could be predicted that an even greater moderating effect would be noticed at later points. Given the increasing number of factors involved in later childhood, it is unlikely to be convincingly demonstrable.

The finding in Mendez et al. (see footnote 51) of an inverse relationship between smacking and externalising behaviour in the context of *harsh* parenting, was not the intended subject of this review, but is notable as it contrasts with the authors' prediction that parental warmth and harshness would have opposite effects. That study's authors found it not to be true in every case. It is a reminder that contextualising discipline is complex. Other studies have found that various cultural elements are relevant,⁶² and the question remains whether other, as yet unstudied, contextual factors might give rise to further unexpected results.

TOWARDS POLICY?

Going beyond the existing law in England and Northern Ireland implies a level of certainty regarding outcomes associated with the mildest forms of physical punishment. That certainty is absent from existing research. To pose further restrictions on smacking implies there is evidence of causation of harm, but this simply does not exist. If it is the case that those who are smacked are likely to have worse outcomes, but another factor is responsible, removing a parental disciplinary tool may do more harm than good. Parents may feel powerless to address negative behaviour or may turn to other forms of harsh parenting which are also associated with negative outcomes. There are as yet too many unknowns to predict what the long-term outcomes would be.

Methodological limitations and a lack of exploration of moderating factors and contexts prevent the firm conclusions that would be required to determine policy intervention. Caution must be exercised in the interpretation of the results of all studies on this subject.

As noted in some studies, the magnitude of difference in outcomes associated with smacking is smaller than the magnitude in difference for other factors. Some argue that that smallness of magnitude is less important than the fact it is a near-universally negative association.⁶³ But it can equally be argued that the magnitude size renders the conclusions far more tentative than is often portrayed. Contra Mackenzie et al. while most studies find an overall slightly negative trend, a significant number of individual cases will necessarily have had positive outcomes. Allowing for limitations in study design and the available datasets, the proportion of positive outcomes amongst an overall negative trend could be readily determined in future studies. Regardless, it remains highly likely that the mildest parental smacking could be associated only with negligible difference in outcome. In the policy sphere, other factors undoubtedly play a far more relevant role.

As such, it is more reasonable to provide information and guidance to parents, rather than to intervene in law. Smacking only ever exists within a larger pattern of disciplinary methods used by parents.

Given the number of studies that recognise that maternal depression, family income and other parental factors influence the impact of smacking, it appears far more important that governments invest in supporting parental mental health and helping parents and families in supporting their children's holistic healthy development.

Conclusion

Parenting is complex and disciplining children is one of the most important, yet difficult, responsibilities. Effective discipline is essential for enabling children to mature and live harmoniously with others. Discipline is not merely about enforcing obedience, but about instructing and directing children away from harm and towards responsible behaviour. It plays a crucial role in children's overall development, helping them to internalise rules, distinguish right from wrong, acquire appropriate behaviour patterns and develop a healthy conscience. Children raised without reasonable limits will struggle to live cooperatively with others.

Those researching in this area seek to analyse the effects of particular forms of discipline. This is the arena in which disagreement about which methods are most 'appropriate' rears its head, although this is ultimately far less an academic question than a practical, or indeed political, one.

Parents use a variety of techniques and strategies, and they frequently adapt their approach based upon their child's specific personality, current behaviour patterns, circumstances and stage of life. The parent-child relationship and the temperament and age of the child heavily influence the form of discipline that is chosen.

Parents need a range of disciplinary options to help their children achieve their full potential; the unnecessary limitation of such options only increases the burden on parents.

Insofar as it pertains to 'smacking' (as within the terms of the English and Northern Irish 'reasonable chastisement' defence), it is impossible to isolate measurable effects on child development. In other cases, harsh parental discipline including verbal punishment has also been associated with negative developmental outcomes.⁶⁴ But as with verbal admonishment, it may not be possible to distinguish between potentially harmful cases of punishment which are nevertheless legal, and those which are moderated by parental warmth and other factors – even to such an extent that they might be beneficial over time. Since there is some reason to believe the latter to be possible (though more research would be needed), wholesale opposition to the law permitting mild forms of smacking stands in contradiction to the existing evidence base.

In contrast, across the range of studies included in this review, it remains impossible to determine that physical punishment causes negative outcomes, or whether instead confounding factors explain the observed associations between smacking and these outcomes. Child development is the result of a complex interplay of social, cultural and environmental factors and becomes increasingly more complicated as children grow older and the influences on them multiply.

Many children who are smacked will not face any negative outcomes. Despite its abundance, the research on smacking is not without severe limitations and often shows nuanced results depending on context. It cannot be escaped that many studies rely on the same dataset (FFCWS) which, due to its sampling, cannot be generalised to the wider population. Few studies are specific to the UK context, and even among those pertaining to the global west, specific communities are sometimes in view.

It is essential to note that most studies only assess short-term outcomes while children are still young. The relevance of these tentative results to long-term outcomes is little more than speculation.

The inadequacies in the scientific evidence make it difficult to call for such a strong intervention as an outright ban. Creating law based only on the quantity of studies, rather than the level of certainty provided by the results, is deeply problematic. Indeed, some of the studies note that outcomes are of a very small magnitude.⁶⁵ Well-intentioned thought does not preclude the possibility of research bias, and there is little doubt some of the most forceful claims from researchers in this area at the very least mask the limitations of their work.

Almost none of the studies defined either smacking or physical punishment well enough to ensure they are considering the limited form of chastisement permissible in England and Northern Ireland. The present defence of reasonable chastisement ensures that only what the courts deem 'reasonable' is permitted. Should studies decisively demonstrate that a particular form of physical punishment is unreasonable, the courts, police and prosecution service can and should already act.

Appendix – Additional tables

Table 2. Definitions of smacking / physical punishment used in datasets

Definition of smacking / physical punishment	Dataset	Studies using dataset
Spanking at age 1, 3 and 5 was measured by the following question: <i>“Sometimes children behave pretty well and sometimes they don’t. In the past month, have you spanked (child) because (he/she) was misbehaving or acting up?”</i> Response was yes/no. If the parent reported spanking in the past month, they were then asked, <i>“Did you do this... every day or nearly every day / a few times a week / a few times this past month or only once or twice?”</i>	Fragile Families and Child Wellbeing Study	Ma, Lee and Grogan-Kaylor (2021) Lee, Pace, Ward et al. (2020) Ward, Lee, Pace et al. (2020) Altschul, Lee and Gershoff (2016) Lee, Altschul and Gershoff (2015) MacKenzie, Nicklas, Brooks-Gunn et al. (2015) MacKenzie, Nicklas, Waldfogel et al. (2014) Lee, Altschul and Gershoff (2013) Lee, Taylor, Altschul et al. (2013) Maguire-Jack, Gromoske and Berger (2012) MacKenzie, Nicklas, Waldfogel et al. (2012) Taylor and Manganello (2010)
At age 9, the spanking data were found in the Conflict Tactics Scale, which had different response categories to previous waves of data. Parents were asked <i>how many times in the past year they had spanked the child on the bottom with a bare hand</i>. The response categories were once, twice, 3–5 times, 6–10 times, 11–20 times, more than 20 times, yes but not in past year, and this has never happened. Responses were frequently grouped.	Fragile Families and Child Wellbeing Study	Lee, Pace, Ward et al. (2020) MacKenzie, Nicklas, Brooks-Gunn et al. (2015) Maguire-Jack, Gromoske and Berger (2012)
The use of corporal punishment was measured in the NLSY by asking mothers (using HOME) about the number of times they had spanked their child in the past week. All of the questions about corporal punishment in the NLSY left it to the respondent to define what spanking means.	National Longitudinal Survey of Youth	Anderson and Goodnight (2022) Grogan-Kaylor (Aug 2005) Grogan-Kaylor (Oct 2005) Slade and Wissow (2004) McLoyd and Smith (2002) Eamon (2001)

Lifetime spanking was assessed by asking adolescents: <i>"How many times did a parent and other caregivers spank you with their hand on your bottom (bum), or slapped you on your hand?"</i> Response options: never / 1 or 2 times / 3 to 5 times / 6 to 10 times and more than 10 times. The variable was then dichotomized into 2 categories: 3 times or more versus 2 times or less. Spanking 1 or 2 times was grouped with never, given that some parents/caregivers may spank their child once and choose to never do it again.	2014 Ontario Child Health Study	Fortier et al (2022)
Corporal punishment was measured with three items from the Alabama Parenting Questionnaire (Shelton et al., 1996; e.g., I hit my child with a belt or other object when s/he has done something wrong). Ratings were provided on a 5-point scale (1 = never, 5 = always).	Estonia Longitudinal Study	Peets, Hodges and Kikas (2022)
Harshness of Discipline scale was administered during home interviews at T1 and T2. Mothers reported the frequency with which each parent had physically disciplined their child (e.g., spank with a hand or object, grab, or shake) during the last three months using a 5-point scale: never (0), once per month (1), once per week (2), daily (3), and several times daily (4).	Various longitudinal studies	Zulauf, Sokolovsky, Grabel et al. (2018) Choe, Olson and Sameroff (2014)
The dataset contained 7 items pertaining to disciplinary practice, originating from the Conflict Tactics Scale. Mothers were asked about these items based on the child's behaviour over the past 6 months and included, <i>"How often do you ignore/smack/shout/send to bedroom or naughty chair/take away treats/tell off/bribe with sweets or other when [Jack] is naughty."</i> Responses: never, rarely, once a month, at least once a week, daily, and can't say. Items were grouped on a priori grounds to differentiate between positive punishment or active approaches (smacking, shouting, and telling off) and negative punishment or withdrawal of child reward approaches to discipline (ignoring, removal of treats, and sending to bedroom). Two continuous variables were created to reflect this distinction by summing the individual items in each discipline category.	UK Millennium Cohort Study	Rajyaguru, Moran, Cordero et al. (2019)

Information about physical punishment was gathered using the parent-reported Physical Punishment Questionnaire (PPQ) designed by Rohner and Khaleque. Frequency of punishment is measured by a single item: <i>"Have you ever punished your child physically?"</i> where 1 = 1-2 times ever, 2 = less than once a month, 3 = once a month, 4 = once a week, or 5 = almost every day. The severity of the punishment is captured by a 4-point PPQ item: <i>"Overall, when I physically punish my child it is..."</i> 1 = not hard at all, 2 = not very hard, 3 = a little hard, or 4 = very hard.	Parenting Across Cultures Study	Alampay, Godwin, Lansford et al. (2017)
At T1, mothers and fathers were each asked the single-item question, <i>"How often do you spank or slap your child when your child does something wrong?"</i> Responses were scaled from 1= never to 5 = always	Family Transition Project	Mendez, Durtschi, Neppl et al. (2016)
Parents were asked to choose which disciplinary techniques they had ever used by selecting options from a card list. For each list, a response of mentioned or not mentioned was recorded.	Growing up in Scotland Study	Scott, Lewsey, Thompson et al. (2014)
Mothers were asked whether they or anyone in their household had used each of four forms of corporal punishment (i.e., spanked, hit, or slapped with a bare hand; hit or slapped on the hand, arm, or leg; hit or slapped on the face; shook) with the target child in the last month (0 = no, 1 = yes).	An international study	Lansford, Sharma, Malone et al. (2014)
Youths were asked, <i>"How often does your mother (father) strike or hit you with her hands or an object?"</i> with four response categories ("never," "sometimes," "often," "always").	Santiago Longitudinal Study	Ma, Han, Grogan-Kaylor et al. (2012)
When children were ages 6, 7, and 8, mothers annually rated the frequency with which they spanked the child with their hand and spanked their child with an object during the past year on a scale where 0 = never; 1 = less than once a month; 2 = about once a month; 3 = about once a week, and 4 = about every day.	Child Development Project	Lansford, Wager, Bates et al. (2012)

The CP variable was derived from the Home Observation for the Measurement of the Environment. Two items from HOME were used: (a) an interview with the mother, to determine whether the children had been spanked more than once in the previous week, and (b) the test administrators' observation of whether the children were spanked in their presence. Scores could range from 0 to 2, depending on whether the answer to neither, one, or both of the items was a yes. Because this composite variable included both self report and observations of the parenting behavior, the validity of the measure should be better than either alone, although a two-item measure is not ideal with respect to reliability.	NICHD SECCYD	Mulvaney and Mebert (2007)
Mothers rated how frequently they used physical discipline at T3 using a questionnaire created from the same group of researchers that developed the previous Harshness of Discipline scale for younger children. The 13-item questionnaire contains two items addressing physical discipline techniques (i.e., spank with hand, spank with object). Mothers answered how often they had used the technique over the last year to correct children's behavior using a 5-point response scale ranging from never (0) to about every day (4).	A longitudinal study	Choe, Olson and Sameroff (2014)
Mothers completed a detailed interview regarding discipline practices. Harshness was assessed by the mother reporting on the use of discipline strategies with each child including: reasoning/explanation, praising/rewarding, time out, removal of privileges, spanking, cuddling, expressing feelings, ignoring misbehaviour, and scolding. The interviewer then completed a globally rated item regarding the harshness and restrictiveness of discipline (1 = non-restrictive, mostly positive guidance; 3= moderately restrictive, sometimes physical punishment; 5=severe, strict, usually physical punishment).	TRACKS twin study and Northeast-Northwest Collaborative Adoption Projects	Deater-Deckard, Ivy and Petrill (2006)
Harsh physical discipline was assessed using one item completed by the child on each parent: <i>"After you have disobeyed your father (mother) or done something he (she) doesn't approve of, how often does he (she) slap or hit you?"</i> This item was scored on a 1 (always) to 5 (never) point scale, which was reverse scored.	Dartmouth Prevention Project	McKee, Roland, Coffelt et al. (2007)

Mothers' endorsement of spanking was assessed at each wave with two items from the Parent Styles Scale, "<i>sometimes the child needs a good spanking to help him/her understand</i>" and "<i>I spank the child when he or she has done something really wrong</i>" (1 definitely true to 4 definitely false). This measure taps into mothers' endorsement and engagement in spanking but does not address the numerical frequency (in terms of times per month, e.g.) that mothers spank their children. Reports on spanking frequency ("<i>During the past 12 months, how often have you spanked or hit [child]?</i>" 1 almost every day to 6 never) were collected in the first two waves only.	Three City Study	Coley, Kull and Carrano (2014)
Parental report of spanking use at 14, 24 and 36 months was measured using a binary variable in which the parent indicated whether she has spanked the child in the past week. A score of 1 on this measure indicates that the parent spanked the child in the last week and a 0 indicates that spanking had not been used in the previous week.	Early Head Start Research and Evaluation Study	Stacks, Oshio, Gerard et al. (2009)

Table 3: Studies examining associations between externalising behaviour and physical discipline

Author(s) and year	Study Title	Sample source	Sample size	Associations highlighted
Taylor, Manganello, Lee and Rice 2010	Mothers' spanking of 3-year-old children and subsequent risk of children's aggressive behavior	Fragile Families and Child Wellbeing Study	2,461	Detrimental (Minor CP such as spanking raise risk for subsequent child aggressive behaviour)
MacKenzie, Nicklas, Waldfogel and Brooks-Gunn 2012	Corporal punishment and child behavioral and cognitive outcomes through 5 years-of-age: Evidence from a contemporary urban birth cohort study	Fragile Families and Child Wellbeing Study	1,110 families	Detrimental (Frequent maternal spanking at age 3 was associated with greater externalising behaviour at age 5)
Maguire-Jack, Gromoske and Berger 2012	Spanking and child development during the first 5 years of life	Fragile Families and Child Wellbeing Study	3,870 families	Detrimental Reciprocal effects (Spanking at both age 1 and 3 associated with greater externalising problems at 3 and 5)
Lee, Taylor and Altschul 2013	Parental Spanking and Subsequent Risk for Child Aggression in Father-Involved Families of Young Children	Fragile Families and Child Wellbeing Study	923 families	Detrimental Dose-response (Being spanked more than twice in the past month at age 3 was associated with increased aggression aged 5)
Lee, Altschul and Gershoff 2013	Does warmth moderate longitudinal associations between maternal spanking and child aggression in early childhood?	Fragile Families and Child Wellbeing Study	3,279 families	Detrimental Reciprocal effects (Maternal spanking at age 1 associated with higher aggression at 3 and spanking at 3 predicted increases in aggression by age 5)

Altschul, Lee and Gershoff 2016	Hugs, Not Hits: Warmth and Spanking as Predictors of Child Social Competence	Fragile Families and Child Wellbeing Study	3,279 families	Detrimental Reciprocal effects (Maternal spanking at age 3 predicted increase in aggression between age 3 and 5)
Ward, Lee, Pace et al 2020	Attachment Style and the Association of Spanking and Child Externalizing Behavior	Fragile Families and Child Wellbeing Study	2,211 families	Detrimental Reciprocal effects Moderation by maternal warmth (Spanking at age 3 associated with increased externalising behaviour at age 5)
Ma, Lee and Grogan-Kaylor 2021	Adverse Childhood Experiences and Spanking Have Similar Associations with Early Behavior Problems	Fragile Families and Child Wellbeing Study	2,380 families	Detrimental (Spanking at age 3 a risk factor for increased externalising behaviour problems at age 5)
MacKenzie, Nicklas, Brooks-Gunn and Waldfogel 2015	Spanking and children's externalizing behavior across the first decade of life: evidence for transactional processes	Fragile Families and Child Wellbeing Study	1,874 families	Detrimental Reciprocal effects (Maternal spanking predicts increases in later child's externalising behaviour at each wave)
MacKenzie, Nicklas, Waldfogel et al 2014	Spanking and child development across the first decade of life	Fragile Families and Child Wellbeing Study	1,933 families	Detrimental Dose-response (Maternal spanking at age 5 associated with higher levels of child externalising behaviour at age 9)
Anderson and Goodnight 2022	Maternal use of corporal punishment and behavior problems in early childhood: A sibling comparison analysis	National Longitudinal Survey of Youth	11,506 children	Detrimental (Corporal punishment was significantly associated with externalising behaviour problems)

Grogan-Kaylor 2005	Corporal punishment and the growth trajectory of children's antisocial behavior	National Longitudinal Survey of Youth	6,912 children	Detrimental Dose-response (Parental physical punishment was associated with increases in children's antisocial behaviour)
McLoyd and Smith 2002	Physical discipline and behavior problems in African American, European American, and Hispanic children: Emotional support as a moderator	National Longitudinal Survey of Youth	1,990 children	Mixed Moderated by high levels of emotional support (Spanking associated with an increase in behaviour problems where low emotional support)
Grogan-Kaylor 2005	Relationship of corporal punishment and antisocial behavior by neighborhood	National Longitudinal Survey of Youth	1,943 mother-child pairs	Detrimental Dose-response (Parental use of corporal punishment was associated with an increase in children's externalising behaviour problems)
Scott, Lewsey, Thompson and Wilson 2014	Early parental physical punishment and emotional and behavioural outcomes in preschool children	Growing up in Scotland Study	1,600	Detrimental (Children smacked in the first two years were twice as likely to have behavioural problems as children never smacked)
Alampay, Godwin, Lansford et al 2017	Severity and Justness Do Not Moderate the Relation Between Corporal Punishment and Negative Child Outcomes: A Multicultural and Longitudinal Study	Parenting Across Cultures Study	998 children	Detrimental (Positive relation between frequency of corporal punishment and child externalising behaviours)

Coley, Kull and Carrano 2014	Parental endorsement of spanking and children's internalizing and externalizing problems in African American and Hispanic families	Three City Study	592	Detrimental No reciprocal effects (Spanking was associated with increased externalising problems)
Mulvaney and Mebert 2007	Parental Corporal Punishment Predicts Behavior Problems in Early Childhood	National Institute of Child Health and Human Development Study of Early Child Care and Youth Development	1,028	Detrimental (Parental corporal punishment contributes to negative behaviours in children)
Choe, Olson and Sameroff 2014	The interplay of externalizing problems and physical and inductive discipline during childhood	A longitudinal study	237 children	Detrimental (but nuanced) (Physical discipline increased children's externalising problems)
Zulauf, Sokolovsky, Grabell and Olson 2018	Early risk pathways to physical versus relational peer aggression: The interplay of externalizing behavior and corporal punishment varies by child sex	A longitudinal study	193 children	Detrimental Results differed somewhat by sex (Corporal punishment at T1 was associated with externalising problems at T2 and physical aggression at T3)
Fortier, Stewart-Tufescu, Salmon et al 2022	Associations between Lifetime Spanking/Slapping and Adolescent Physical and Mental Health and Behavioral Outcomes	Ontario Child Health Study	1,833 adolescents	Detrimental (Lifetime spanking was associated with increased odds of defiant behaviours in adolescence)

Bakoula et al 2009	Parental stress affects the emotions and behaviour of children up to adolescence: a Greek prospective, longitudinal study	Greek Birth Cohort (Greek National Perinatal Survey)	2,065	Mixed (Significant association between being often physically punished in childhood and scoring higher on externalising problem scales for adolescent boys)
Lee, Pace, Ward et al 2020	Household economic hardship as a moderator of the associations between maternal spanking and child externalizing behavior problems	Fragile Families and Child Wellbeing Study	4,149 mother-child pairs	Mixed – not detrimental for higher income Reciprocal effects (For low and middle income groups, maternal spanking at each age associated with child externalising behaviour)
Lee, Altschul and Gershoff 2015	Wait until your father gets home? Mother's and fathers' spanking and development of child aggression	Fragile Families and Child Wellbeing Study	1,298	Mixed – mothers only detrimental (Mothers' spanking was predictive of subsequent child aggression but fathers' was not)
Lansford, Sharma, Malone et al 2014	Corporal punishment, maternal warmth, and child adjustment: a longitudinal study in eight countries	An international study	1,196	Mixed (Hypothesis that corporal punishment would predict more subsequent child adjustment problems generally supported, but significant variability across groups)
Peets, Hodges and Kikas 2022	Unravelling the Parent-Child Contexts in Which Corporal Punishment Predicts Increases vs. Decreases in Children's Aggression	Kindergarten-School Study	325 families	No significant association (By grade 3 neither mothers' nor fathers' corporal punishment predicted changes in aggression)

Pritsker 2021	Spanking and externalizing problems: Examining within-subject associations	Child Development Project	585	No significant effects (No significant effects of general spanking on externalising)
Stacks, Oshio, Gerard and Roe 2009	The moderating effect of parental warmth on the association between spanking and child aggression: A longitudinal approach	Early Head Start Research and Evaluation Study	2,792	Mixed results (Spanking was associated with aggressive behaviour only for Caucasians)
Slade and Wissow 2004	Spanking in early childhood and later behavior problems: a prospective study of infants and young toddlers	National Longitudinal Survey of Youth	1,966	Mixed results (Only an association between smacking and behaviour problems among white non-Hispanic children)
Lansford, Wager, Bates, Pettit and Dodge 2012	Forms of Spanking and Children's Externalizing Behaviors	Child Development Project	585 families	Mixed (Mild spanking was not related to subsequent externalising behaviour)
Mendez, Durtschi, Nepple and Stith 2016	Corporal punishment and externalizing behaviors in toddlers: The moderating role of positive and harsh parenting	Family Transition Project	218 families	Mixed (Frequency of fathers' corporal punishment predicted externalising behaviours, but positive and harsh parenting moderated the relationship)
Ma, Han, Grogan-Kaylor et al 2012	Corporal punishment and youth externalizing behavior in Santiago, Chile	Santiago Longitudinal Study	919 adolescents	Mixed (Parental corporal punishment associated with greater externalising behaviour scores, but positive parenting resulted in lower levels of externalising)

Table 4: Studies examining associations between internalising behaviour and physical discipline

Author(s) and year	Study Title	Sample source	Sample size	Associations highlighted
Grogan-Kaylor 2005	Relationship of Corporal Punishment and Antisocial Behavior by Neighborhood	National Longitudinal Survey of Youth	1,943 mother-child pairs	No discernible association
Baumrind, Larzelere and Owens 2010	Effects of Preschool Parents' Power Assertive Patterns and Practices on Adolescent Development	Baumrind's Family Socialization project	87 families	No association
Alampay, Godwin, Lansford et al 2017	Severity and Justness do not moderate the relation between corporal punishment and negative child outcomes: A multicultural and longitudinal study	Parenting Across Cultures Study	998 children, and their mothers and fathers	No association in the relationships between severity/frequency and internalising behaviours
Anderson and Goodnight 2022	Maternal use of corporal punishment and behaviour problems in early childhood: A sibling comparison analysis	National Longitudinal Survey of Youth	Uncertain (Full sample 11,506 but a subset may have been used)	Mixed – CP associated with internalising between 6 and 9, but no association when comparing siblings, suggests confounding factors override corporal punishment
Maguire-Jack, Gromoske and Berger 2012	Spanking and Child Development during the First Five Years of Life	Fragile Families and Child Wellbeing Study	3,870 families	Mixed – effects seemed to be age dependent
Mulvaney and Mebert 2007	Parental Corporal Punishment Predicts Behavior Problems in Early Childhood	National Institute of Child Health and Human Development Study of Early Child Care and Youth Development	1,028 mother-child pairs	Mixed – only control variables predicted internalising behaviours at first grade

Coley, Kull and Carrano 2014	Parental Endorsement of Spanking and Children's Internalizing and Externalizing Problems in African American and Hispanic Families	Three City Study	592 families	Mixed – results were age-dependent
Bakoula, Kolaitis, Veltsista et al 2009	Parental stress affects the emotions and behaviour of children up to adolescence: A Greek prospective, longitudinal study	Population-based representative sample of Greek adolescents	2,065 children	Mixed – results depended on mental health status in childhood
McKee, Roland, Coffelt et al 2007	Harsh Discipline and Child Problem Behaviors: The Roles of Positive Parenting and Gender	Subset of Dartmouth Prevention Project	2,582 child-parent dyads	Negative
Fortier, Stewart-Tufescu, Salmon et al 2022	Associations between lifetime spanking/ slapping and adolescent physical and mental health and behavioural outcomes	Ontario Child Health Study	1,883 adolescents	Negative but excludes rare occurrence of smacking
Rajyaguru, Moran, Cordero and Pearson 2019	Disciplinary Parenting Practice and Child Mental Health: Evidence from the UK Millennium Cohort Study	UK Millennium Cohort Study	4,732 in final analysis	Negative (results include shouting and telling off alongside smacking)
Scott, Lewsey, Thompson and Wilson 2014	Early parental physical punishment and emotional and behavioural outcomes in preschool children	Growing up in Scotland Prospective Study	1,600 children	Negative (unusual metrics: smacked below 2 years old, behaviour parent-reported at 4)
Eamon 2001	Antecedents and socioemotional consequences of physical punishment on children in two-parent families	National Longitudinal Survey of Youth	1,397 children	Negative

Table 5: Studies examining moderation of parental warmth on outcomes associated with physical discipline

Author(s) and year	Study Title	Sample source	Sample size	Results
McLoyd and Smith 2002	Physical discipline and behavior problems in African American, European American, and Hispanic children: Emotional support as a moderator	National Longitudinal Survey of Youth	1,990 children	Positive – High levels of warmth did not show increase in behaviour problems
Deater-Deckard, Ivy and Petrill 2006	Maternal warmth moderates the link between physical punishment and child externalizing problems: A parent-offspring behavior genetic analysis	TRACKS twin study and Northeast-Northwest Collaborative Adoption Projects	297 children	Positive – Correlation between discipline and externalising problems was moderate for lower-warmth, but negligible and not significant where there was higher warmth
Mendez, Durtschi, Nepple and Stith 2016	Corporal punishment and externalizing behaviors in toddlers: The moderating role of positive and harsh parenting	Family Transition Project	218 families	Slightly positive – Where positive parenting was high, expected levels of externalising stayed stable, but increased if positive parenting was low
Peets, Hodges and Kikas 2022	Unravelling the Parent-Child Contexts in Which Corporal Punishment Predicts Increases vs. Decreases in Children's Aggression	Kindergarten-School Study	325 families	Positive – Parent-child relationships with high levels of affection were unrelated to or associated with decreases in aggression
Ma, Han, Grogan-Kaylor et al 2012	Corporal punishment and youth externalizing behavior in Santiago, Chile	Santiago Longitudinal Study	919 adolescents	Positive - Parental corporal punishment associated with greater externalising behaviour scores, but positive parenting resulted in lower levels of externalising

McKee, Roland, Coffelt et al 2007	Harsh Discipline and Child Problem Behaviors: The Roles of Positive Parenting and Gender	Subset of Dartmouth Prevention Project	2,582 child-parent dyads	Positive – Internalising problems were lower when warmth was high
Lansford, Sharma, Malone et al	Corporal punishment, maternal warmth, and child adjustment: a longitudinal study in eight countries	An international study	1,196	Positive – High levels of warmth lessened the link between corporal punishment and children's adjustment
Lee, Altschul and Gershoff 2013	Does warmth moderate longitudinal associations between maternal spanking and child aggression in early childhood?	Fragile Families and Child Wellbeing Study	3,279 families	Negative – Effects of discipline were not moderated by parental warmth
Altschul, Lee and Gershoff 2016	Hugs, Not Hits: Warmth and Spanking as Predictors of Child Social Competence	Fragile Families and Child Wellbeing Study	3,279 families	Negative – Although warmth was shown to increase children's social competence
Stacks, Oshio, Gerard and Roe 2009	The moderating effect of parental warmth on the association between spanking and child aggression: A longitudinal approach	Early Head Start Research and Evaluation Study	2,792	Negative – Although maternal warmth was a significant negative correlate of aggressive behaviour, it did not moderate the effect of smacking on aggression

Table 6: Characteristics of included studies

Author/year	Country	Dataset/study population	Sample size	Analysis method	Follow up period	Comments
Taylor et al. (2010)	USA	Fragile Families and Child Wellbeing Study	2,461	Regression models	2 years; age at baseline 3 years	
MacKenzie et al. (2012)	USA	Fragile Families and Child Wellbeing Study	1,110	Regression models	2 years; age at baseline 3 years	
Maguire-Jack, Gromoske and Berger (2012)	USA	Fragile Families and Child Wellbeing Study	3,870	Cross-lagged path analysis	4 years; age at baseline 1 year; 3 time points	Reciprocal effects for externalising, not for internalising
Lee, Taylor, Altschul and Rice (2013)	USA	Fragile Families and Child Wellbeing Study	923	Regression models	2 years; age at baseline 3 years	Dose-response
Lee, Altschul and Gershoff (2013)	USA	Fragile Families and Child Wellbeing Study	3,279	Cross-lagged path analysis	4 years; age at baseline 1 year; 3 time points	Not moderated by maternal warmth; reciprocal effects
Atschul, Lee and Gershoff (2016)	USA	Fragile Families and Child Wellbeing Study	3,279	Cross-lagged path analysis	2 years; age at baseline 3 years	Reciprocal effects
Ward, Lee, Pace et al. (2020)	USA	Fragile Families and Child Wellbeing Study	2,211	Cross-lagged path analysis	4 years; age at baseline 1 year; 3 time points	Moderation by maternal attachment; reciprocal effects

Ma, Lee and Grogan-Kaylor (2021)	USA	Fragile Families and Child Wellbeing Study	2,380	Multilevel models	2 years; age at baseline 3 years	Retrospective
MacKenzie, Nicklas, Brooks-Gunn and Waldfogel (2015)	USA	Fragile Families and Child Wellbeing Study	1,874	Cross-lagged path analysis	8 years; age at baseline 1 year; 4 time points	Not moderated by sex or race/ethnicity; reciprocal effects
MacKenzie, Nicklas and Waldfogel (2014)	USA	Fragile Families and Child Wellbeing Study	1,933	Regression models	6 years; age at baseline 3 years	Not moderated by sex or race/ethnicity; dose-response
Anderson and Goodnight (2022)	USA	National Longitudinal Survey of Youth	11,506 in full sample, but a subset may have been used	Linear models	6 years; age at baseline 3-4	
Grogan-Kaylor (2005)	USA	National Longitudinal Survey of Youth	6,912	Hierarchical Linear Models	10 years; age at baseline 4 years	Not moderated by race/ethnicity; moderation by child age and sex
McLoyd and Smith (2002)	USA	National Longitudinal Survey of Youth	1,990	Growth curve models	6 years; age at baseline 4-5 years; 4 time points	
Grogan-Kaylor (2005)	USA	National Longitudinal Survey of Youth	1,943	Fixed effects models	6 years; age 4-14 years; 4 time points	

Scott, Lewsey, Thompson et al (2014)	UK	Growing up in Scotland Study	1,600	Regression models	2 years; age at baseline 2 years	
Alampay, Godwin, Lansford et al (2017)	International	Parenting Across Cultures Study	998 children	Multigroup path models	1 year apart; age 7-10	More severe punishment linked to more aggression
Coley, Kull and Carrano (2014)	USA	Three City Study	592	Cross-lagged path analysis	6 years; age at baseline 3 years; 3 time points	No reciprocal effects. Internalising results varied by age
Mulvaney and Mebert (2007)	USA	National Institute of Child Health and Human Development Study of Early Child Care and Youth Development	1,028	Regression models	6 years; age at baseline 15 months; 4 time points	
Choe, Olson and Sameroff (2014)	USA	A longitudinal study	237 children	Structural equation modeling	7 years; age at baseline 3	Reciprocal effects
Zulauf, Sokolovsky, Grabel and Olson (2018)	USA	A longitudinal study	193 children	Cross-lagged path analysis	7.5 years; age at baseline 3	Results differed somewhat by sex

Fortier, Stewart-Tufescu, Salmon et al (2022)	Canada	Ontario Child Health Study	1,883	Regression models	Children aged 14-17	
Bakoula, Kolaitis, Veltsista et al (2009)	Greece	Greek Birth Cohort (Greek National Perinatal Survey)	2,065	Regression models	11 years; age at baseline 7 years	Results differed by sex and by preexisting mental health
Lee, Pace, Ward et al (2020)	USA	Fragile Families and Child Wellbeing Study	4,149	Cross-lagged path analysis	8 years; age at baseline 1 year	Moderation by household income; reciprocal effects
Lee, Altschul and Gershoff (2015)	USA	Fragile Families and Child Wellbeing Study	1,298	Cross-lagged path analysis	2 years; age at baseline 3 years	Reciprocal effects; not significant for fathers
Lansford, Sharma, Malone et al (2014)	International	An international study	1,196	Meta-analytic approaches; latent linear slopes	2 years; age at baseline between 7 and 10	Warmth played a moderating role
Peets, Hodges and Kikas (2022)	Estonia	Kindergarten-School Study	325	Path models	3 years; age at baseline Grade 1	Parenting relationship affects outcomes
Pritsker (2021)	USA	Child Development Project	585	Cross-lagged path analysis	3 years; age at baseline 6	

Stacks, Oshio, Gerard and Roe (2009)	USA	Early Head Start Research and Evaluation Study	2,792	Regression models	2 years; age at baseline 1 year; 3 time points	
Slade and Wissow (2004)	USA	National Longitudinal Survey of Youth	1,966	Probit models	4 years; age at baseline 0-23 months	
Lansford, Wager, Bates et al (2012)	USA	Child Development Project	585	Cross-lagged path analysis	2 years; age at baseline 6 years; 3 time points	
Mendez, Durtschi, Nepple and Stith (2016)	USA	Family Transition Project	218	Regression models	1 year; age at baseline 2 years	Fathers' but not mothers' punishment associated with later externalising
Ma, Han, Grogan-Kaylor et al (2012)	Chile	Santiago Longitudinal Study	919	Multivariate analysis	2 years; baseline age was adolescence	Moderated by parental warmth and family involvement
Baumrind, Larzelere, Owens (2010)	USA	Baumrind's Family Socialisation Project	87	Regression models	10 years; mean age at baseline 5 years	
McKee, Roland, Coffelt et al (2007)	USA	Dartmouth Prevention Project	2,582	Regression models	Children in 5th or 6th grade	

Rajyaguru, Moran, Cordero and Pearson (2019)	UK	UK Millennium Cohort Study	4,732	Regression models	8 years; age at baseline 3 years; 2 time points	Results include other forms of discipline
Eamon (2001)	USA	National Longitudinal Survey of Youth	1,397	Regression models	5 years; age at baseline 4 years	
Deater-Deckard, Ivy and Petrill (2006)	USA	TRACKS twin study and Northeast-Northwest Collaborative Adoption Projects	297	Regression models	Children aged 3-8	

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