# Research on Disciplinary Spanking is Misleading

*American College of Pediatricians - January 2017*

In recent years, some medical organizations and many media outlets have claimed that disciplinary spanking causes emotional harm in children that predisposes them to aggressive behavior when they are older. Although parents sometimes misuse or over-use spanking, does science really show that ordinary spanking of persistently disobedient children causes irreparable harm? The answer may be found by examining the quality of the research behind this claim.

It turns out that most research against spanking uses methods so flawed that such studies would be rejected if they were being used to halt a medical procedure, such as chemotherapy for combating cancer. The anti-spanking research suffers from three major fallacies or defects that invalidate its conclusions. These flaws are evident in a recent summary of research on spanking by Dr. Elizabeth Gershoff and her colleague, Dr. Andrew Grogan-Kaylor.[1] This publication is an update to Dr. Gershoff's previous meta-analysis that summarized decades of spanking research,[2] and which is the source cited most often by anti-spanking proponents.[3]

The first step in assessing the effectiveness of an intervention, whether a medical intervention against a disease or a disciplinary action to correct behavior, is to ensure the intervention is both well-defined and appropriately implemented. Disciplinary spanking has been defined as "physically non-injurious, intended to modify behavior, and administered with the open hand to the extremities or buttocks."[4] Appropriate disciplinary spanking occurs primarily with children ages 2 to 6 years of age and when milder disciplinary measures have failed to correct the misbehavior. Notably, only four of the 75 studies in the latest Gershoff overview ensured that spanking was used appropriately, and those four studies actually found disciplinary spanking to be at least as effective as the three alternatives with which it was compared.[5-8] In contrast, all the evidence against spanking came from the other 71 studies which suffer from three major fallacies, any one of which would be a fatal flaw in medical research. Let's examine each of them in turn.

- The *correlational* fallacy: Correlations, or associations between two variables, do not prove causation. Correlations are especially misleading when evaluating actions chosen to correct disciplinary or medical problems, called *corrective actions*.
- The *extrapolation* fallacy: Even if infrequent spanking is correlated with better outcomes than overly frequent spanking, that does not prove that zero spanking is best.
- The *lumping* fallacy: Only 4 of their 75 studies were limited to two open-handed swats to the buttocks for child defiance. The other 71 studies lumped together all "spanking" regardless of how it was implemented and why it was used.

**The Correlational Fallacy**

The biggest problem with the "evidence" against spanking is the correlational fallacy. Even college freshmen learn that correlation does not prove causation, yet 100% of the evidence against spanking in this latest overview is based on correlations.[1] Worse, most of their evidence is based on "cross-sectional" correlations, i.e. correlations between disciplinary spanking and child behaviors during the same time period, *regardless which occurred first*. Cross-sectional correlations only consider data collected during one overlapping time period without considering the previous state of the research participants. For example, cross-sectional correlations could be interpreted to show that an effective chemotherapy regimen caused a group of patients to develop cancer if the researcher did not distinguish whether the cancer occurred before, during, or after the chemotherapy. This is the kind of flawed correlational evidence contained in 55% of the studies that Drs. Gershoff and Grogan-Kaylor considered relevant for their meta-analysis.[1] Just as in the chemotherapy example, this kind of correlation technique superficially makes spanking appear to cause aggression since the children spanked more often are the children who were more aggressive during the same time period. However, one must ask which came first, the spanking or the aggressive behavior? Did the aggression occur first and elicit more spanking from the parents, or did the spanking occur before the aggression? One cannot tell from cross-sectional correlations.

Now consider their strongest evidence against spanking: the 21% of their studies that were longitudinal and

documented that spanking preceded the child's aggressive behavior. Correlations indicate that children who were spanked tended to be more aggressive at school the following year when compared to children who had not been spanked. Is this sufficient evidence to oppose this corrective disciplinary action by parents? Again, the answer is no. The medical field would not be impressed by the fact that patients who received chemotherapy last year are now more likely to still be battling cancer than people who had never had cancer. Medical doctors would ignore such longitudinal correlations unless the research (1) compared patients who had the same severity of cancer to start with, and (2) showed that another treatment was more effective than the selected chemotherapy. Gershoff & Grogan-Kaylor's meta-analysis did neither. Even their strongest correlations could be explained by the possibility that children who were more defiant caused their parents to try *all* their disciplinary tactics more often, including but not limited to spanking. Children who were defiant at home and spanked were more likely to get into trouble and fights at school during the next year than those who received no discipline at all. However, this outcome may not be due to how they were disciplined, but rather due to differing child temperaments. By limiting their meta-analysis to correlations, Gershoff and Grogan-Kaylor ignored evidence from studies that took pre-existing child differences into account, such as the crucial fact that some children are more defiant than others. A better meta-analysis in 2013 included 45 longitudinal studies, with 25 taking pre-existing child differences into account with statistical adjustments.[9] This analysis concluded that "the impact of spanking . . . on the negative outcomes . . . are minimal". Gershoff and Grogan-Kaylor[1] excluded 34 of those 45 longitudinal studies for unspecified reasons and used only simple correlations from the remaining 11 longitudinal studies.

Incredibly, Gershoff and Grogan-Kaylor have failed to find *any* disciplinary response that is linked to reductions in children's behavior problems, despite investigating eight other disciplinary responses in a large international study.[10,11] That is because their reliance on correlations makes *all* corrective actions look harmful or ineffective, just as it would all cancer treatments.[12,13]

**The Extrapolation Fallacy**

If low-dose chemotherapy against cancer is associated with better outcomes than high-dose chemotherapy against the same cancer, is it correct to extrapolate that no chemotherapy will yield even better results for the patient than low-dose chemotherapy? Of course not! Yet, this is precisely the kind of flawed reasoning Gershoff and Grogan-Kaylor use in their anti-spanking research. The meta-analysis recommended that parents never use spanking despite including only one study that *actually* compared a never-spanked group to a spanked group. Moreover, that one study suggested a *beneficial* outcome in that American soldiers who recalled being spanked as children had lower rates of drug abuse than those who did not recall being spanked.[14] Thus, not only is their no-spanking recommendation an extrapolation based upon a comparison of infrequently spanked children versus those spanked too frequently, but it is also contradicted by the only directly relevant study included in the analysis.

Other studies of never-spanked children do exist, but they were not included in this latest meta-analysis. For example, one retrospective study found slightly better adolescent outcomes for those whose spanking was phased out before age 12 compared to adolescents who were never spanked,[15] replicating similar prospective results by a leading spanking-ban advocate.[16]

**The Lumping Fallacy**

This latest meta-analysis condemns all spanking without considering either appropriate ways to carry out spanking or disciplinary situations in which it might be an appropriate option. Although Gershoff and Grogan-Kaylor[1] commendably dropped most of the studies from Gershoff's[2] previous meta-analysis that investigated overly severe physical punishment, they still included a few studies with overly severe usage, such as "spanking the face, hitting on the head or back."[17] Of their 75 studies, only four explicitly limited spanking to their stated focus of "hitting a child on their buttocks . . . using an open hand" (p. 457). Those were the four studies that found spanking to be as effective or more effective than the three alternatives investigated for enforcing cooperation with time out in defiant 2- to 6-year-olds. Moreover, none of the other 71 studies limited their investigation to disciplinary situations for which spanking has been considered an appropriate option for generations (e.g., persistent defiance in 2- to 6-year-olds).

**Higher Quality Analysis**

Two other meta-analyses published since Gershoff's[2] initial meta-analysis have gone beyond correlational evidence to obtain stronger causal evidence of the effects of spanking. One concluded that any adverse effects of spanking were "trivial,"[9] whereas the other found that child outcomes of physical punishment were worse than outcomes of other disciplinary responses *only* when it was used too severely or as the main disciplinary response.[18] The latter meta-analysis also identified an optimal type of back-up spanking, which led to less defiance or aggression than 10 of 13 alternative disciplinary tactics and was just as effective as the remaining three tactics studied.[5] Back-up spanking is used non-abusively when a child refuses to comply with milder disciplinary techniques, such as time out (based mostly on research with 2- to 6-year-olds). Back-up spanking teaches a defiant child to cooperate with the milder disciplinary technique, thereby making spanking less necessary in the future.

**Banning Spanking by Parents**

This matter of misrepresenting the science on the effects of spanking in children is significant in that it is being used to influence legislators worldwide to ban spanking by parents To date, spanking-ban advocates claim that 52 countries have banned disciplinary spanking, with France as the most recent case.[19] Many of these bans are only partial, such as those in Germany (since 2000) and Austria (since 1989), where less than a third of their parents were aware in 2007 that mild spanking had been banned.[20] Some countries have adopted intrusively written bans, such as New Zealand which prohibits all forms of physical force to correct misbehavior, including restraining a toddler with firm hand holding.[21] Other countries are considering such bans and activists are preparing to lobby US legislators to do the same. Remarkably, there is no objective evidence that any of these bans have curbed child abuse or teen violence as intended. In fact, there is more evidence that the incidence of each has increased following these bans, especially in countries that enforce them more vigorously.[20,22]

**Conclusion**

In summary, Gershoff and Grogan-Kaylor's most recent meta-analysis relies on correlational evidence that would be considered woefully inadequate in any other scientific field. Further, their research ignores the beneficial findings of studies that have investigated appropriate ways of spanking in disciplinary situations traditionally considered appropriate. Consequently, Gershoff and Grogan-Kaylor's conclusions are not valid. Better constructed research has found appropriately administered disciplinary spanking to be effective in correcting defiant behavior that fails to respond to milder disciplinary measures without causing long term harm.

This critique of Gershoff and Grogan-Kaylor's work in no way justifies parents who haphazardly use physical discipline in any manner they choose. Actually, the more parents maintain a positive relationship with their child, encourage appropriate behavior, and respond to misbehavior with mild, effective disciplinary tactics, the less disciplinary spanking is required. Spanking should only be used when children fail to respond to milder disciplinary tactics (e.g., time out) or fail to stop harmful misbehavior (e.g., running into a street). Parents should ensure that their children know that any disciplinary action, including spanking, is motivated by love and concern for their well-being. Parents must also be certain they do not use disciplinary spanking too severely. Finally, spanking should always be used in a manner that reduces the need to use it in the future. Back-up spanking accomplishes this by enforcing cooperation with milder disciplinary tactics, such as time out. Every child is different, so not all disciplinary tactics will work as well with every child or for every situation with the same child. Parents need a full range of non-abusive disciplinary options to guide their children toward achieving their full potential, rather than having effective options eliminated on the basis of inadequate evidence.

**Primary Authors: Robert E. Larzelere, Ph.D. (Oklahoma State University), and**
**Den A. Trumbull, M.D. (American College of Pediatricians)**
January 2017

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