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### [The author responds:]

As I understand his argument, Dr. Paul Lee asserts that randomized trials (including Canadian ones) can't occur without bench research (especially Canadian). But doesn't his assertion overlook about 35 000 surgical, educational and health care trials, most of which required no prior bench research? And doesn't he defeat his own argument with the 3 recent drug trials he does cite (2 led from Canada and the other with major Canadian collaboration)? PRISM-PLUS was conducted in 12 countries, HOPE in 16 and GUSTO in 10, but only 15% of the references in these published studies were about bench research (which the investigators were comfortable to extrapolate from laboratories in just 8 countries), and 85% of their cited justification came from previous trials or clinical surveys.

Second, the need to elucidate the molecular basis for diseases affecting our First Nations families is met by shipping appropriate specimens to the best laboratories in the world. It doesn't require that the bench research be carried out in Canada; the performance of reverse transcriptase is the same in Ottawa, Omaha, Oslo and Oxford. In sharp contrast, the performance of the health care organizational elements that profoundly affect the compliance, comorbidity, co-intervention, costs of care and consequent outcomes of patients in randomized trials differs widely in these 4 sites, and these differences may require separate trials (and their associated economic analyses) in each country.

Responding to my editorial<sup>1</sup> on behalf of the Medical Research Council of Canada, Dr. Mark Bisby reported the recent growth in Medical Research Council support of randomized trials from a level that was shamefully low to one that remains profoundly inadequate.<sup>2</sup> Given that this increased level of support, on a per citizen basis, is still

far less than 10% of the rate provided American trials by the US National Institutes of Health, I see no grounds for altering my recommendation that it is time to put the Canadian Institutes for Health Research on trial.

The immediate health consequences of rejecting grant applications for good Canadian bench research and good Canadian trials are fundamentally different. I hope *CMAJ* readers noted that neither Dr. Lee nor Dr. Bisby challenged my conclusion that the opportunity cost of failing to fund scientifically sound Canadian randomized clinical trials includes the disability and untimely death of Canadians.

#### David L. Sackett

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 Irish Lake  
 Markdale, Ont.

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## Heat and light in the childhood spanking debate

### [Editor's note:]

We received 29 letters on the research paper and editorial on slapping and spanking in childhood published in our Oct. 5, 1999, issue, more than for any other article in recent years. A selection of the letters appears below.

The article by Harriet MacMillan and colleagues<sup>1</sup> presents interesting data from a large-scale epidemiological sample. Unfortunately, the authors interpret their results with insufficient caution, leading to seriously misleading conclusions. To claim "a linear association" between slapping and spanking children and adult psychopathology, they need to take into account other mechanisms that could explain their data.

As acknowledged in the paper, their

self-report data on childhood had no independent validity. In view of the vast literature on recall bias,<sup>2</sup> individuals with mental disorders may be more likely to remember negative early experiences.

The findings in this study are essentially correlational, and the authors acknowledge that confounding variables might account for the association they report. One major possibility involves common genes between parents who slap or spank and children who develop alcohol abuse or externalizing problems.<sup>3</sup>

It has been shown that children with impulsive personality traits are much more likely to receive physical punishment.<sup>4</sup> Thus, some of these parents may have been responding, rightly or wrongly, to problematic temperamental characteristics in their children.

Given all these problems in interpretation, the accompanying editorial by Murray Straus<sup>5</sup> borders on the outrageous. We need to be very careful about changing laws on the basis of epidemiological research. There is absolutely no evidence from this study, or from any other study, to support Straus' claim that "ending spanking will reduce the prevalence of mental health problems."

#### Joel Paris

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1. MacMillan HL, Boyle MH, Wong MYY, Duku EK, Fleming JE, Walsh CA. Slapping and spanking in childhood and its association with lifetime prevalence of psychiatric disorders in a general population sample. *CMAJ* 1999;161(7):805-9.
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5. Straus MA. Is it time to ban corporal punishment of children? *CMAJ* 1999;161(7):821-2.

It is curious how cautions expressed in research findings are often ignored when they become editorial opinion.

Harriet MacMillan and colleagues, in their research study of slapping and spanking in childhood, conclude that “limitations of design and measurement in this study require caution in interpreting the findings.”<sup>1</sup> In the accompanying editorial, however, Murray Straus argues strongly that it is time to ban corporal punishment of children on the basis of the research findings.<sup>2</sup>

There is to my mind an untested hypothesis from the study that deserves careful consideration. Children who have inborn externalizing behavioural problems, for example, attention deficit hyperactivity disorder, oppositional defiant disorder and conduct disorder, are much more likely to be slapped and spanked by their families than their peers without behavioural problems, simply because their behaviour is so much more difficult to control.

In my experience working with behaviourally disordered children, some families need to use physical punishment as the last step in trying to control their children. Like all potentially toxic treatments in medicine, however, there must be strict guidelines for this intervention. I usually advise that it be done in an emotionally neutral state and that the child be struck only once or twice, on their bottom with an open hand. This is never a first-line intervention. The risks involved in using controlled spanking must be balanced against the risk of having children who are out of control — for example, a placement in a foster situation. Having said this, I retain an open mind on the issue of whether spanking should be banned, but I must say that I do not find the research of MacMillan and her coworkers compelling in this regard. Using their methodology, one might conclude that children who inject insulin are more likely to have diabetes as adults.

#### Derryck H. Smith

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2. Straus MA. Is it time to ban corporal punishment of children? *CMAJ* 1999;161(7):821-2.

**H**arriet MacMillan and colleagues acknowledge that a limitation of their study<sup>1</sup> is inaccurate recall of events before age 5 and they concede that the spankings received by the respondents in their study may have been a response to their behavioural problems rather than the cause. What is not mentioned is that individuals with the disorders considered in this study are possibly more likely to have a negative bias regarding their early recollections. The “linear association” implied in the interpretation is more an expression of current fashion than of objective analysis.

#### Philip Whatley

Family physician  
Emo, Ont.

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**W**hile Harriet MacMillan and colleagues<sup>1</sup> performed a methodologically rigorous study and the association between childhood corporal punishment and increased lifetime prevalence of psychiatric problems appears solid, there are some unresolved issues that should be noted.

First, MacMillan and colleagues examined only the psychiatric outcomes of children who reported having been slapped or spanked “often” and “sometimes.” Editorist Murray Straus went on to cite this study as testament to the “potential benefits of not spanking, including decreased lifetime risk of mental health problems.”<sup>2</sup> However, we should consider the flip side of the coin. Proponents of the judicious use of childhood spanking, especially popular in Asian countries, often claim that spanking and slapping are useful adjuncts of the discipline process. They

often argue that children grow up to become more “successful” than had they not been subjected to such strict disciplinary measures.

Second, the “extension of full human rights” to children and teens mentioned by Straus is a masked expression for liberalism and the positive rights movement gone wild in the United States. I suspect that this extreme liberalism comes at a price: nowhere else in the world do we witness the frequency and severity of teen violence seen in the United States.

Nor am I advocating the communitarian approach, or “Asian values,” espoused in Singapore, and increasingly Hong Kong, where the interests of society trump individual rights. Rather, I propose that we consider the issue through a utilitarian prism, where all the potential benefits and harms of childhood spanking are carefully weighed. Moreover, the debate about whether there is a threshold of harm (as opposed to a linear dose–response relationship) from spanking should be vigorously pursued.

#### Gabriel M. Leung

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1. MacMillan HL, Boyle MH, Wong MYY, Duku EK, Fleming JE, Walsh CA. Slapping and spanking in childhood and its association with lifetime prevalence of psychiatric disorders in a general population sample. *CMAJ* 1999; 161(7):805-9.
2. Straus MA. Is it time to ban corporal punishment of children? *CMAJ* 1999;161(7):821-2.

**R**aw data can lead to half-baked conclusions. Harriet MacMillan and colleagues<sup>1</sup> isolated a single marker, spanking, from the complexities of childhood. They then established a correlation with adult psychiatric disorders. Considering the multitude of “confounding variables unaccounted for in [their] study” it is surprising to me that the study was even published. Just think of some of them: parental alcoholism or psychiatric disorder, poverty, family size, birth order, socioeconomic status and education.

What is infinitely more disturbing to me is to see Murray Straus pick such a lame-duck study, which itself admits that “[its] nature ... precludes comment on the causal role of slapping and spanking for psychiatric disorder,” call it “definitive evidence ... on the potential benefits of not spanking”<sup>2</sup> and use it to suggest making spanking illegal.

**R. Lee Isaacs**  
Family physician  
Ashern, Man.

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2. Straus MA. Is it time to ban corporal punishment of children? *CMAJ* 1999;161(7):821-2.

I propose that the emotional, social and coping difficulties of adults who were spanked as children<sup>1</sup> have a genetic and environmental cause. These people may have shown behavioural or emotional disturbances early in life and their parent(s), not knowing what else to do, may have resorted to spanking in an attempt to instill acceptable behaviour. Another, more likely, scenario is that the parents themselves had emotional or social problems and they resorted to spanking inappropriately.

They may have been incapable of showing the proper love and caring that a child needs to develop a sense of emotional security. A loving and emotionally mature parent who has a “normal” child will not need to resort to ongoing, inappropriate spanking.

**Raymond Jacques**  
Family physician  
Sudbury, Ont.

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If the purpose of scientific inquiry is to illuminate the truth, what purpose exactly did the article by Harriet MacMillan and colleagues<sup>1</sup> serve? If one followed the popular media in the days following its release, one would think that a causal relationship between spanking and psychiatric disorders had been established. Only the very astute commentator picked up on the fact that the study’s results could have been accounted for by other explanations (for instance, character traits that make it more likely a child will receive a spanking may also be associated with increased risk of mental ill-

ness). From the rapidity with which the popular media latched onto this study I assume that it was promoted with press conferences and releases, but I am left wondering if the pitfalls of drawing conclusions about cause and effect from the study were even mentioned in such promotions. A whole lot of heat was generated but very little light.

**Len Prins**  
Family physician  
Ridgetown, Ont.

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I am writing in response to a recent article by Harriet MacMillan and colleagues.<sup>1</sup> The number of children committing crimes in the United States is staggering. Where is the discipline that these children should be receiving at home? I was raised to understand that if I did something wrong, I would be punished for it — not coddled, and certainly not allowed to believe it is okay to have a bad attitude or to show a lack of respect. I spank my own children to reinforce the fact that wrong-

doings will be punished, not tolerated; my husband and I have done our best to explain to them that they will be spanked only when their behaviour is unacceptable.

**Victoreia Foss**  
Phoenix, Ariz.

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1. MacMillan HL, Boyle MH, Wong MYY, Duku EK, Fleming JE, Walsh CA. Slapping and spanking in childhood and its association with lifetime prevalence of psychiatric disorders in a general population sample. *CMAJ* 1999; 161(7):805-9.

I sincerely hope that no one is thinking of taking seriously the article on spanking by Harriet MacMillan and colleagues.<sup>1</sup> The members of my husband's family were spanked, and all of them turned out to be model citizens. A spanking is not going to hurt a child's personality. If anything, it is going to help the child in the long run: spare the rod, spoil the child. I do not want children who have not been spanked to be our leaders of tomorrow.

**Arnita Lee**  
Madison, Ala.

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I would like to comment on the article by Harriet MacMillan and colleagues.<sup>1</sup> I have noted over the years that people I have known who were spanked and slapped as children have become either overachievers (still trying desperately to please or succeed) or underachievers (giving up, with the sense of never being able to please no matter how hard they try). They seem to experience no happy in-between state; this often affects not only their physical and mental well-being but also the people who share close relationships with them.

The people I have known who were not spanked and slapped in childhood seem to have a feeling of self-worth that does not depend on always feeling they *must* please others, but rather on the joy

of knowing that they do please others.

**Kathy Lasell**  
Edmonton, Alta.

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Spanking<sup>1</sup> teaches children right from wrong, discipline and respect. When I was a child I got spanked whenever I did anything wrong. I am not an alcoholic, I was never into drugs and I was not a juvenile delinquent. I have respect for my parents and to this day do not swear in front of them. Today if you tell your children that you're going to spank them they reply, "I'll tell my teacher, and you will be put in jail."

We have no control over children these days; they have control over us.

**Teresa Leeth**  
Chillicothe, Ohio

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**[Dr. MacMillan and colleagues respond:]**

We are pleased that our article<sup>1</sup> generated such interest among professional and public audiences, because investigation of the relationship between physical discipline and emotional health is an important but neglected area of research in Canada. As outlined in our article, we hope that a longitudinal, prospective Canadian study will be carried out in the future to add to the information obtained from the 5 recent prospective American studies Murray Straus referred to in his editorial.<sup>2</sup> Despite its cross-sectional design, the Ontario Health Supplement has nevertheless led to some important results on which to build further Canadian studies. Although a number of rig-

orous US studies have been conducted in the area of physical discipline, differences between the 2 countries such as demographic and cultural factors preclude a reliance by Canadians solely on American data.

As most of the letter writers are no doubt aware, researchers often need to apply a step-by-step approach when examining a scientific question about causation. The information about the hazards of smoking, for example, resulted from an accumulation of data over many years.<sup>3</sup> The initial hypothesis-generating studies were based on case series, with far fewer subjects than in our survey. We do not suggest that ours is by any means the definitive study with regard to the relationship between childhood spanking and mental health problems in adults. Rather, it provides important information about the epidemiology of physical discipline on the basis of the largest Canadian survey to examine this question to date.

As we emphasized in our paper, "limitations of design and measurement in this study require caution in interpreting the findings."<sup>1</sup> We stated that "... the cross-sectional nature of the survey precludes comment on the causal role of slapping and spanking for psychiatric disorder."<sup>1</sup> It is therefore surprising that Joel Paris states that "the authors interpret their results with insufficient caution, leading to seriously misleading conclusions." We were very clear that the association between a history of slapping and spanking in childhood and adult psychiatric disorder could have several explanations. (We would also like to reassure Len Prins that in any information provided to the media, this point was consistently highlighted. Whether or not the media chose to relay this to the public was beyond our control.)

Joel Paris and Philip Whatley suggest that the "linear association" between a history of slapping and spanking in childhood and adult psychiatric disorder is invalid. The statistical approach used to test whether there was a linear association between spanking and slapping and psychiatric disorder is a standard well-established technique.

We acknowledge in the paper that this association could be due to other factors. Lee Isaacs suggests that we “isolated a single marker” and did not control for several confounding variables. Indeed we did control for 2 of the variables that he listed, including current family income and parental education. Determining which factors to control for is based on an understanding of possible confounders (variables that make 2 other variables appear to be associated when they are not).<sup>4</sup> By excluding people who reported a history of either child physical or sexual abuse, we controlled for 1 of the most important factors that is associated with a history of physical discipline: exposure to maltreatment.

Joel Paris, Raymond Jacques and Derryck Smith suggest interesting hypotheses about our findings regarding the relationship between a history of exposure to spanking and slapping and psychiatric disorder. We welcome any attempts to explore these hypotheses in a longitudinal prospective study.

The letters from Victoreia Foss, Kathy Lasell, Arnita Lee and Teresa Leeth provide opinions about spanking and slapping of children based on personal observations. A survey of almost 10 000 people has the advantage of moving beyond personal experience to investigating a question using a sample representative of the general population. Our data do not suggest that most people who were spanked or slapped in childhood will experience emotional problems, but rather that a history of being slapped or spanked “often” is associated with an increased risk of psychiatric disorder.

We agree with Gabriel Leung that the issue of whether there is a threshold of harm associated with spanking is a crucial question. In contrast to what he states, however, we did examine the association between reported slapping or spanking “rarely” and “never” and found that the lowest rates of psychiatric disorder were associated with a history of “never” being spanked or slapped (this reached statistical significance for the association between a history of being slapped or spanked rarely, and externalizing problems).

In summary, we stand behind the results outlined in our recent article on slapping and spanking but encourage others to take up the challenge to understand further the relationship between exposure to these experiences and psychiatric disorder. Surely this issue is of sufficient importance to the mental health of children and adults that it warrants investigation in a Canadian longitudinal survey.

**Harriet L. MacMillan**

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#### [Dr. Straus responds:]

**C**ontrary to the views expressed by Arnita Lee, Victoreia Foss,

Gabriel Leung, and Teresa Leeth, ending spanking does not mean permissiveness in the sense of tolerating misbehaviour<sup>1</sup> nor is it “liberalism ... gone wild.” It is a commitment to use only nonviolent modes of discipline. The research evidence cited in my editorial<sup>2</sup> clearly indicates that children whose parents use only nonviolent modes of discipline are, on average, better behaved than the children of parents who spank.

Derryck Smith expresses discomfort with spanking but believes that it is necessary as a last resort. The idea that spanking works better than other corrective steps is not supported by the empirical evidence.<sup>3-7</sup> It is a cultural myth that distorts our perception of what actually happens in disciplinary encounters. The reality is that, even with normal toddlers, all methods of correction, including spanking, have a very high failure rate in the short run.<sup>6</sup> But because of the cultural myth, when nonspanking modes of discipline are used and the almost inevitable repetition of the misbehaviour occurs, after 2 or 3 times parents conclude that this approach did not work and they have to spank. However, when the same almost inevitable repetition of the misbehaviour occurs after spanking, parents are prepared to spank over and over again until it does work. That actually is the right approach: consistency and persistence. What parents need to realize is that this approach is also needed with nonspanking modes of discipline. Thus, spanking is never necessary.

Although Kathy Lasell, Victoreia Foss, Arnita Lee and Teresa Leeth can be assumed to have accurately described the cases they mention, the main thing these cases show is that personal observation and common sense can be misleading. It is parallel to the situation with smoking. Most heavy smokers can say “I smoked all my life, and I’m fine.” The implication that smoking is therefore harmless is false. Epidemiological research shows that 1 out of 3 heavy smokers (more than a pack a day) die from smoking-related diseases.<sup>8</sup> This means that 2 out of 3 heavy smokers will not die of a smok-

ing-related disease, hence most heavy smokers, like most people who have been spanked, will be able to point out that they are in good health.

Cross-national comparisons can also be misleading. Gabriel Leung points out that Asians believe that Asian "children grow up to become more successful than had they not been subject to such strict disciplinary practices [as spanking]." However, there are a host of other differences between Canada and Asian nations that could account for differences, if any, between the success of Asian and Canadian children.

If my call for an end to spanking had been based only on the study by Harriet MacMillan and colleagues,<sup>9</sup> it would indeed have been "disturbing," as Lee Isaacs points out. But it was based on the accumulated evidence of over 80 studies (which, with rare exception, have found harmful long-term effects<sup>10</sup>) and especially the 5 recent prospective studies I cited in my editorial. No single study controlled all of the possible confounds (including various family demographic characteristics, parental role behaviours, characteristics of the child, and psychosocial problems of the parents) but those missed by one study were covered by others. It is a well-recognized scientific principle, sometimes called triangulation,<sup>11</sup> that one can come to valid conclusions on the basis of evidence from studies that, taken one by one, are not definitive. I think we have reached the point of triangulation concerning spanking.

Derryck Smith correctly says that with the research design used by MacMillan and colleagues, "one might conclude that children who inject insulin are more likely to have diabetes as adults." This problem was also pointed out by MacMillan and coworkers. The 5 prospective studies that I cited in my editorial, however, controlled for the presence of the disease (misbehaviour) at the time of the equivalent of the "injection" (spanking), and found that, on average, the long-term effect of the "injection" was to make the disease worse.

None of these 5 prospective studies depended on adults recalling childhood events, which addresses the concerns of

Philip Whatley and Joel Paris about recall bias, and they all controlled for the fact that parents hit children who misbehave.

Joel Paris and Raymond Jacques feel that the link between spanking and mental health problems might reflect common genes. For this to explain the findings of MacMillan and colleagues on spanking, one has to assume that parents who spank are mentally ill. Moreover, assuming a genetic link of some type does not mean that learned behaviour and reactions to the way one is treated by others (such as being hit by a parent) are not also important.

I will conclude by suggesting a revision to the last sentence of Raymond Jacques' letter, which implies that there is appropriate spanking. To make the sentence consistent with the research evidence, it would have to read that a well-adjusted parent will never need to resort to spanking.

#### Murray A. Straus

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