

A Reply to Hancox:

The Problem with Medical and Scientific Thinking about Obesity



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I welcome Bob Hancox's commentary on my article 'Mashing the 'couch potato'' from *Childrenz Issues* 8(1). In particular, I thank him for the respectful tone (not always present in academic debates) of his article given the difference between our positions. I would like to offer the following comments by way of 'rejoinder' in the spirit of dialogue.

First, I would like to address directly some of the points Hancox raises in his article. At the risk of shameless self-promotion, my work with Jan Wright from the University of Wollongong, about to be published in our book *The obesity epidemic: Science, morality and ideology*, surveys the research into children, television and obesity. We found that the research in this area has produced confusing, contradictory and inconclusive results. As a result, a number of researchers have written articles in which they cast doubt upon the usefulness of television viewing as an index of sedentary behaviour. For examples, readers might consult Crawford, Jeffery and French (1999), Grund, Krause, Siewers, Rieckert and Müller (2001), and Wake, Hesketh and Waters (2003). In our experience, researchers almost always feel that their own research reveals the 'truth' and are prepared to argue passionately in defence of their results even if results from other studies contradict their own work. In this sense, Hancox is doing as most others do. However, this does not alter the fact that many other studies have arrived at different conclusions.

In his article, Hancox draws attention to a recent review of literature concerning young people, media use, fatness and physical activity (Marshall, Biddle, Gorely, Cameron & Murdey, 2004). While accepting the authors' conclusion that television viewing's association with body mass index is "weak", Hancox rejects their conclusion that the association is therefore of "doubtful clinical relevance". However, in Hancox's article I was unable to find any concrete argument for why we

should reject Marshall et al.'s conclusion. Instead, Hancox's argument seems to rest on appeals to our 'common sense' and speculation. The shift in the numbers or statistical distribution of overweight and obese children to which he points has no bearing whatsoever on the relevance of any single causative factor. Concerning these shifts he asks "could this [the cause of change] be television?" (p. 34). Yes it could. But it could also be many other things. Some authors have argued that the use of corn syrup and palm oil in the production of processed foods has played a significant role in the 'obesity epidemic', pointing out that the introduction of these products coincides exactly with rapid increases in population levels of obesity (for example, Critser, 2003). This view has been disputed and the truth of the matter remains unresolved. In other words, before we take the (in my view) quite serious step of advising parents about how to raise their children I think we need more than speculative correlations and hunches that we *might* be right.

On the basis of Marshall et al.'s (2004) review, Hancox concedes that the association between television and body mass index is "quite small". This is not entirely accurate. Marshall et al.'s conclusion is much stronger than this. They write:

While this relationship is statistically significant ($P < 0.05$), the fact that 99% of the variance in body fatness may be explained by factors other than TV viewing calls into question the clinical relevance of the TV viewing and body fatness relationship. (p. 1241)

Rather than "quite small", I would describe the association reported by Marshall et al. (2004) as tiny. And we should remember that this is still just an *association*. Even the one per cent of fatness variation that TV viewing *does* account for may still not be causal. We just don't know.

Hancox's suggestion that the fact that almost all children watch television is likely to obscure the impact of television

watching also seems a curious defence. Indeed, if it is true that all children watch television and that most children are *not* overweight or obese (two uncontroversial facts), wouldn't this suggest (although obviously not prove) that we would do well to look elsewhere for causes of childhood obesity?

It is also telling that Hancox (like a number of other researchers) has argued that watching television is a more sedentary pursuit than 'doing nothing' or reading a book. While I am inclined to disagree, Hancox may well be right about this although evidence is extremely scarce. However, in my view, the caloric expenditure difference between different ways of being sedentary is likely to be extremely small and I find it very difficult to see how this difference could be significant in the face of sharp and sudden worldwide increases in obesity levels. Trying to prove that television is more sedentary than reading a book seems to me to be akin to arguing about whether 10 or 12 seat life boats are more desirable while the Titanic sinks. Moreover, I am inclined to wonder whether it is the zeal of some researchers to prove that television causes childhood obesity which creates interest in what (at least to me) seem such trivial matters. This certainly should not be construed to mean that I think Hancox's research or his views are trivial. What I do mean is that if researchers need to go to the extraordinary length of proving that a significant difference exists between the calories expended watching television as opposed to some other sedentary pursuit, then this is a pretty good sign that the entire enterprise (which seeks to link television and obesity) has seriously lost its way.

Finally, Hancox makes reference to a study by Robinson (1999) as evidence that reducing television watching can reduce childhood obesity. This single study using U.S. children has carried a heavy weight in the obesity literature recently and is constantly referenced by those anxious to prove a cause-and-effect relationship between television watching and childhood obesity. As Hancox points out, the intervention group (who were instructed to watch less television) were less fat at the end of the study. However, this group recorded no decrease in VCR or video-game usage and there was no change in their fitness, physical activity levels or consumption of high-fat foods. In other words, it is impossible to know why this group of children lost weight. In fact, the results of the study give no support to

any of the existing hypotheses about the connection between television watching and childhood obesity. For example, less television did not result in more physical activity and it did not result (as far as we can tell) in less junk food consumption.

One possible (and, in my view, more plausible) explanation for Robinson's (1999) results is that the families of the intervention group, understanding the purpose of the study, worked quite hard to produce the results they guessed the researcher wanted. That is, not unreasonably, having agreed to be involved in the research, they changed their normal behaviour so as not to 'disappoint' the researcher. This may or may not mean that they disobeyed the instructions of the researcher. It could be that they just became more conscious of body weight as a result of their inclusion in the study. As it happens, this kind of reaction by participants to being involved in research has been reported many times throughout the history of medical research. If this were true, the correct conclusion to be drawn from Robinson's study might be to decree that everyone should be made to think that some expert is watching them every minute of the day and will be weighing them every six months!

However, in all of this there is a bigger point to be made. Over the last one hundred years the tendency of medical and scientific researchers to tell us how we should live has increased gradually but, in the end, dramatically. The situation has reached the point that these researchers now regularly talk about what children, parents and schools 'must' or 'should' do. I have spent the last five years researching the scientific obesity literature and I have been constantly taken aback by the apparent ease with which laboratory scientists give advice to parents and school teachers, often based on highly uncertain data. One startling example is worth mentioning here.

As with some other studies (such as Hernández et al., 1999; Trost et al., 1996), Lowry, Wechsler, Galuska, Fulton and Kann's (2002) study of 15,439 American school children found children who watched the most television (often boys) were often the most physically active. The study also found differing results across gender and White, Black and Hispanic ethnic groupings. For example, they found no correlation at all between television viewing and physical activity levels for White males, Black females, Hispanic females and Hispanic males, a negative association for White females

and a positive association for Black males. In addition, they found the correlation between television viewing and body weight to be nonexistent for Black females, Black males and Hispanic males but positive for White females, White males and Hispanic females. While an association between television viewing and overweight was found for the racial group who watched the *least* amount of television (Whites), the study found no association for the groups (Blacks and Hispanics) who watched the *most* television (34.2 per cent of Whites, 73.7 per cent of Blacks, and 52.2 per cent of Hispanics watched more than two hours a day). Based on these results the authors urge parents to limit the amount of television their children watch. They write:

Efforts to reduce TV viewing among youth can help reverse the epidemic of obesity in this country, while promoting physical activity and healthy eating. A variety of strategies are available to reduce TV viewing among youth. Parents should monitor and limit children's TV viewing to no more than 2 hours/day, and encourage alternative entertainment such as reading, hobbies, and athletics. Health care professionals should include questions about media use in their assessments of youth, and reinforce efforts of parents to monitor and limit TV viewing. (p. 420)

In my view, this is an astonishingly insensitive conclusion, not to mention one that appears not to be supported by the data presented. Why, for example, do the authors not suggest that parents of Black males encourage their sons to watch more television since television watching was positively associated with physical activity and not associated with increased body weight in this group? More worrying is that the authors appear to have based their concluding advice to parents purely on the data for White students despite the ethnic diversity of their sample. In this case it appears that the authors were simply determined to give this advice regardless of (in my view) the many cautionary notes contained within their findings.

What is most noticeable about the work of those who study television and childhood obesity is their focus on individual parents and children and their desire to intervene in the daily lives of families. I have read many studies where researchers have noted that the poor and people with lower levels of, and access to, education tend to be less physically active and more overweight.

Their response? With few exceptions that I am aware of, scientific researchers usually suggest that we devise strategies which target the eating and exercise habits of the poor. This current medical and scientific preoccupation with telling individuals how to live seems mysteriously to prevent researchers advocating for what, at least to me, would seem most obvious; that is, better education systems and opposition to policies which exacerbate socioeconomic inequity.

And in case this seems to be 'pie-in-the-sky' reasoning to any readers, two points are worth stressing. First, as the leading obesity researchers Brownell and Horgen (2004) point out in their book *Food fight*, the individualistic medical approach to obesity has failed and the main arena for action now needs to be at the level of social policy. Second, I suspect that we in the West are simply going to have to live with a certain level of obesity for some time to come. This being so, the current health of Western middle class citizens would seem to be a good target for all. Certainly if middle class levels of obesity and obesity related illness were suddenly achieved across the socioeconomic spectrum, most would see this as a staggering public health victory. I also suspect that, at this hypothetical moment in the future, most scientists would consider the 'obesity epidemic' over.

Hancox writes: "Does this mean that we should also dismiss diet and physical activity as 'clinically unimportant'? Of course not" (p. 35). In my view, this form of reasoning perfectly captures the problem with current medical and scientific ways of thinking about overweight and obesity. Yes, it is time to dismiss diet and physical activity as clinically important factors. This does not mean that advice about healthy eating and physical activity should not be part of the advice we give medically ill individuals and include in our health programmes in schools. What it means is that those of us who have an opportunity to speak about population level health issues, such as increasing obesity levels, should consider advocating for the things which make a difference to health at the macro level. These include, access to high quality education, communities free from violence and crime, affordable housing, decent livable wages (as opposed to U.S. style minimum wages which result in millions of 'working poor') and a fair share of social infrastructure (such as transport and green spaces).

Focusing on the television watching habits of children is, in my view, misguided for at least two important reasons. First, the evidence to suggest they have been a significant factor in sharp increases in obesity is lacking. Second, even if they could be shown to have played an important role in increasing obesity levels, it is not at all clear that advocating for less television watching will work or is actually possible. In the future, children and parents may (for reasons we can only guess at now) decide to watch much less television than they presently do. Were this to happen, it won't be because medical or scientific experts have told them to.

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