



Are Artificial Dyes Bad for You?

After a long day at school, you go home and prepare some good-old mac and cheese—arguably the ultimate comfort food. As you sit down to indulge your carb craving, you notice that it looks different. Instead of bright orange, it is more of a subdued yellow. What gives? Kraft Foods recently announced they were eliminating the use of two artificial dyes, Yellow No. 5 and Yellow No. 6 in some of their products, coloring them with natural spices instead.

This change may have been due, in part, to an online petition that gathered 350,000 signatures, requesting Kraft to stop using artificial coloring in its mac and cheese products.

Today, there are only seven approved artificial food colorings in use, which have been extensively tested by the U.S. Food and Drug Administration (FDA). But many people have concerns about the safety of these food additives, especially in light of news reports indicating that red food dyes make children hyperactive and that yellow food dyes aggravate symptoms of asthma.

The crux of the issue involves the difference between anecdotal evidence and scientific evidence. Anecdotal evidence is based on personal testimony, for example, someone tells you that red food coloring made her skin break out. **The trouble with anecdotal evidence is that other variables have not been accounted for.** In a controlled experiment, there can only be one variable. This way, you know that any change in your results was due to the change in



your variable. So you need to consider variables separately and account for all of the potential variables that cause the effect that you are trying to explain.

For example, if someone claims that red food coloring is causing a problem, it could be that the red coloring is eaten in a food that contains another substance that is causing the problem. If someone is allergic to peanuts, and the first time they eat peanuts they eat some that are dyed red, they may attribute their allergy to the red dye and not the peanuts themselves.

Scientific evidence consists of the collection of empirical data used to test a theory or hypothesis, which, in this case, would be: “Are food dyes causing allergies?” Or “Are food dyes causing hyperactivity?” Then, the results need to be replicated by other studies,

so that definitive conclusions can be drawn. If the results from one study cannot be replicated, then any conclusions drawn from that study cannot be accepted.

One study, published in 2007 in *The Lancet*, showed an increase in hyperactivity after kids consumed foods containing artificial dyes. But the FDA has not banned these additives because these types of studies only show an association, whereas a cause-and-effect relationship has not been conclusively established. After 30 years of such studies, a link still has not been established between hyperactivity and artificial food dyes.

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The moral of the story is this: Don't believe everything you hear or watch on television or read on the Internet. On issues of public health and safety, government agencies such as the FDA typically err on the side of caution, and they rigorously test a variety of substances, drugs, and products before approving them for public use.

