

Sugar and Hyperactivity in Children

A Modern Socratic Dialogue

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2014

Background

In this hypothetical dialogue, Socrates has targeted a parent's belief that sugar makes children hyperactive. Through the discussion, the parent comes to understand that correlation does not entail causation.

Persons of the dialogue

Parent

Socrates

Location

Facebook

Parent: My advice to all parents is to keep your children away from sugar. The last thing you want to deal with is children on a sugar-high. Sugar makes kids hyperactive.

Socrates: I've heard that sugar makes children hyperactive. I admit, I have no experience in this matter. Are you saying that sugar alone makes children hyperactive?

Parent: There are probably many things that make children hyperactive. Sugar is one of those things. Kids go crazy when they've eaten sugar. That's why I try to keep them away from it.

Socrates: How do you know sugar makes children hyperactive?

Parent: I've seen it with my own eyes, and lots of other parents agree. Whenever we organize a birthday party, for example, the kids go crazy. All the sugary birthday food gives them a sugar-high.

Socrates: That's an interesting observation. What food do children typically eat at a birthday party?

Parent: Candy, chocolate, chips, cheesy bites, mini cocktail sausages, coke, and, of course, there's always a birthday cake covered in sugary frosting. Lately I've been serving sushi at birthday parties for a bit of variety.

Socrates: And what happens when the kids eat this food?

Parent: They get hyperactive. They go crazy. They run around, make lots of noise, and really turn the place upside down. There's always a lot of mess to clean up after a party. It's exhausting.

Socrates: It certainly sounds like the kids have a lot of food on offer at a birthday party. Tell me, do all those foods contain sugar?

Parent: Not the chips, cheesy bites, or cocktail sausages. I'm not sure about the sushi. I've read that the rice has added sugar. But everything else is full of sugar.

Socrates: Do the children usually eat the chips, cheesy bites, and cocktail sausages?

Parent: Of course. They love that treat food. There's never much left at the end of a party.

Socrates: Chips and cheesy bites have a high salt content, don't they? Do cocktail sausages contain salt?

Parent: Probably. That sort of food is usually packed with added salt.

Socrates: Can I make an observation? It seems to me that whenever children go to a birthday party, they consume food that contains lots of salt. At these parties, they tend to get hyperactive. Would I be justified in concluding that salt causes hyperactivity?

Parent: I see what you're saying, but I don't think you could conclude that.

Socrates: Why not? If they always get hyperactive when they consume salt, why would I not conclude that salt causes hyperactivity?

Parent: Well, sometimes they don't get hyperactive after eating salt. And sometimes they're hyperactive when they have had no salt, so I don't think it's the salt that does it.

Socrates: I think you are suggesting that there is no causal connection between the salt and hyperactivity. So why do you think there is a causal connection between sugar and hyperactivity? Isn't the situation the same?

Parent: Not really. Lots of other people have the same experience. It always involves sugar.

Socrates: But don't these occasions also always involve salt? How do you know it is the sugar and not the salt?

Parent: As I said, kids don't always get hyperactive after eating salt.

Socrates: Do kids always get hyperactive after eating sugar?

Parent: They seem to.

Socrates: Do children get hyperactive after eating fruit?

Parent: Not that I've noticed

Socrates: But fruit contains sugar, does it not?

Parent: Yes, fruit contains fructose, which is a type of sugar.

Socrates: So it seems that we have a situation in which eating sugar does not make children hyperactive. Would this serve as a counter to your claim that eating sugar always makes children hyperactive?

Parent: I think it's a different situation, Socrates. I'm talking about refined sugar in candy, not natural sugar in fruit.

Socrates: It is certainly the case that sugar comes in different forms: glucose, fructose, and sucrose.

Parent: That is correct.

Socrates: From what you understand about sugar, am I correct in thinking that fructose is found in fruit and is converted by the body to glucose, which is used to power living cells?

Parent: That's right.

Socrates: And am I correct in thinking that a sucrose molecule is a bond between a molecule of glucose and a molecule of fructose?

Parent: I think this is true.

Socrates: If the body converts fructose to glucose, what does it do with sucrose?

Parent: The body breaks sucrose down into fructose and glucose.

Socrates: If this is true, can we assume that as far as the body is concerned, it makes no difference whether the sugar comes in the form of sucrose or fructose?

Parent: Perhaps. But remember, I'm talking about occasions where children consume huge quantities of sugar — far more than what they'd get from a piece of fruit.

Socrates: Like at parties?

Parent: Especially at parties!

Socrates: Yes, where they also consume salt, right? Can you think of any examples of parties where children have gone crazy but have not eaten salt?

Parent: Usually at birthday parties they have candy and salty treats. But I doubt their craziness comes from the salt. Sugar is responsible. Even school teachers tell me that if kids have candy at school, they get loopy.

Socrates: Why would children be given candy at school?

Parent: They don't normally, but sometimes the teacher might organize a class party or celebration, and the children get some candy.

Socrates: Would you say that these celebrations involve games and socializing?

Parent: Sure.

Socrates: Just like a kid's birthday party, right?

Parent: Yes, they play similar sorts of games.

Socrates: You indicated that this doesn't happen often. Are class parties an uncommon occurrence?

Parent: Yes. They might have a two or three in a year.

Socrates: Like birthday parties are special. They don't happen every day.

Parent: That's right.

Socrates: Children must be pretty excited about these special occasions. In your experience as a parent, do you ever find your children getting over excited at events such as sports days, trips to the arcade, or similar special occasions?

Parent: Of course.

Socrates: Am I correct in suggesting that events such as sports days or trips to the arcade do not necessarily involve sugar consumption?

Parent: Sugar is not always part of such events.

Socrates: Is it possible that kids at a birthday party might get hyperactive due to the excitement of the special occasion and games, even if there is no sugar served?

Parent: Maybe... I suppose it is possible.

Socrates: So at birthday parties, hyperactivity might be caused by something other than sugar, perhaps salt or just general excitement brought about by the fact that the occasion is special and unusual — and of course, all the other kids to play with.

Parent: Anything is possible, but the sugar is always present at the birthday parties nonetheless.

Socrates: I'm wondering, have you ever taken your children out to dinner?

Parent: Of course.

Socrates: And at dinner, what do they drink?

Parent: Usually soda or orange juice. Sometimes they get an ice cream soda.

Socrates: Those drinks are full of sugar. Do they eat dessert?

Parent: Yes.

Socrates: Do you find that they get hyperactive or out of control after their dessert?

Parent: hmmm, if I am honest, not really. It's not usually that sort of environment.

Socrates: Do you think the situation would be different if there were games and other children present, perhaps at a birthday dinner?

Parent: Possibly.

Socrates: So would you agree that a formal family dinner presents a situation in which your children eat high levels of sugar, certainly more than contained in a piece of fruit as we talked about earlier, but do not get hyperactive?

Parent: I have to admit this.

Socrates: Is it possible, then, that in some situations, eating sugar does not make kids hyperactive?

Parent: It is possible.

Socrates: Is it possible that in the case of exciting situations such as birthday parties, children are hyperactive because of the situation rather than the sugar?

Parent: I suppose this is possible.

Socrates: During our discussion many more questions about sugar have come to mind. For example, it is often said that sugar is bad for people. I'm wondering why people make this claim and whether it is true. My burden is that I often have more questions than answers.

Parent: Maybe we can talk more about sugar some other day.

Socrates: I very much look forward to it.

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