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**[00:00:01] Host:** Welcome to *Sound Bites*, hosted by registered dietitian nutritionist, Melissa Joy Dobbins. Let's delve into the science, the psychology, and the strategies behind good food and nutrition.

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**[00:00:22] Melissa Joy Dobbins:** Hello and welcome to the *Sound Bites* podcast. Today's episode is about processed foods, in particular, the Dietary Guidelines Advisory Committee process to address ultra-processed foods in the diet. We'll discuss the role of processed foods and food processing in healthy dietary patterns and sustaining nutritious, affordable foods for the future. We'll also touch on some consumer attitudes and behaviors and have a hearty discussion, I would say, about this process of ultra-processed foods, I'm going to say the word processed a lot, and how future guidance may have some unintended consequences for federal food programs and those who experience food insecurity.

My guest today is Dr. Joanne Slavin. She is a professor in the College of Food, Agriculture, and Natural Resource Sciences at the University of Minnesota, Twin Cities. Dr. Slavin has authored more than 350 scientific articles on dietary fiber, carbohydrates, whole grains, protein, snacking, gut health, food security, and sustainable agriculture. She is a member and science communicator for the Institute of Food Technologists and is a member of several scientific societies, including the Academy of Nutrition and Dietetics and the American Society for Nutrition.

She served as a member of the 2010 Dietary Guidelines Advisory Committee, and we are so appreciative of your insights, having had that experience and that perspective that we're going to talk about today. Welcome to the show, Dr. Slavin.

**[00:02:00] Joanne Slavin:** Thanks for having me on.

**[00:02:01] Melissa:** So excited to talk with you. Our paths have crossed a little bit in the past, but you've never been on the podcast. I'm just really thrilled that you are taking the time to talk with me today. I would love for you to share more about your background and experience, especially as it relates to the topic at hand. Of course, as always, please include any disclosures to note.

**[00:02:22] Joanne:** Really nice to be on. I think back to starting, I grew up on a farm in Wisconsin, and I still own the farm. I've spent a lot of time in 4-H and a lot of time producing food, processing food. That's been a great background for me to have and with that connection to agriculture. Also, I teach Advanced Human Nutrition and Life Cycle Nutrition at the University of Minnesota.

Some of the toughest questions I get are from students to say, "Hey, what about this?" I'm also a dietician. It's interesting because that to me has been a great background for me to have. I always tell my students in dietetics, you need to understand food. You need to understand food science. It's a wonderful background because we have to provide foods to the world that are nutritious but also sustainable and also economic.

There's a lot of things that we have to do. I got to say, though, of all the things I do, and I'll give some of the disclosures, I work with a lot of different people, and most of it has to do with fiber because that is my biggest business. I've been in fiber. Fiber is one of the nutrients of concern we don't get enough of. I'm always trying to get other people to get more fiber into the diet, for sure.

A lot of the cereal companies, the pulse companies, anybody that is in the fruits and vegetable business trying to get more fiber, I definitely have worked with those different companies and commodity groups over time. Sometimes people would say, "Hey, you would take money from anybody," and I'm like, "I always want to have projects for students. A lot of funding from nutrition does come from commodity groups and food companies and scientific societies that sometimes people say they're too linked to the food industry or too linked to agriculture, but that's where it comes from."

I definitely have some experiences there. Also, I've been, recently, on the World Economic Forum. They have a nutrition group, too. I work for Simply Good Foods as a scientific advisor, who everybody is like, "Why would you work for them? They're anti-carbohydrate." To me, the more voices you get into this, the more important so you understand that nutrition is not that simple.

I got to say a lot of my most recent learning was doing the Dietary Guidelines because most of us, every five years when I teach advanced human nutrition, I talk about nutrients and dietary reference intake's really important, but the Dietary Guidelines come up every five years, and they're funded, and we can count on them, and they really are the voice of all of nutrition policy. They actually get followed around the world because no other country has that.

It is an amazingly transparent, incredible process of bringing in all the new information we have and coming up with recommendations that then will flow to all of our feeding programs, all of our labeling, it all links back to it. Even though I think, "Nobody follows them. They're really stupid. They're really basic, blah, blah, blah," it's not that at all. They're really incredibly important. When I go back even when I was on the Dietary Guidelines, we basically meet for two years before in 2008, there still was a lot of discussion about processing.

Was it a metric for good nutrition? Some of the definitions that came up at the time, minimally processed, ultra-processed, you're like, "Well, what would be the point of that?" There was a discussion, but there was no reason to include it in the dietary guidelines. Since that time, there's been a lot of interest and a lot of publications on ultra-processed foods. To me, it's great that the Dietary Guidelines is actually asking a question, and there's a lot of new research coming into that process.

I was thinking as I was getting ready for this, thinking about ultra-processed, usually ultra is considered really good, but as consumers know and dietitians and everybody else, ultra-processed foods are the most horrible things right now, and that's so wrong. I'm really glad that you're bringing this forward for us to talk about.

**[00:06:15] Melissa:** Excellent. Thank you. Thank you for several things that you mentioned. Yes, you're a registered dietitian. We value that so much. Fiber, oh my gosh. Like you said, nobody's getting enough. Thank you for the work that you do in that space. You also mentioned industry and research or industry-funded research. That's a topic I talk about a lot on the podcast. Thank you for addressing that as well.

Yes, the reason we are here talking about this is because the 2025-2030 Dietary Guidelines Advisory Committee will address the scientific question, what is the relationship between dietary patterns with varying amounts of ultra-processed foods and growth, body composition, and risk of obesity? I do want to also share that I was on standby to present oral comments during the Dietary Guidelines Advisory Committee meeting's open comment period.

I was number 97 or something, so they didn't get to me. I was prepared to address ultra-processed foods, which I have talked about on the podcast before. I'm just really looking forward to learning more about the Dietary Guidelines process, the research to date, and the consumer attitudes and beliefs that obviously need to go into anything that we would want to implement moving forward.

With that question and that statement, you shared a little bit about the dietary guidelines, and I would love for you to expound a little bit more on what they are for because you said people say we don't follow them and what's the point, but you mentioned they are important for food programs, federal policy, things like that. If you could speak to that a little bit more because I think a lot of people even--

My audience is a mix of dieticians and other health professionals but also the general public and even a lot of dieticians aren't really aware of the specifics about the Dietary Guidelines Advisory Committee, the report, the final guidelines. If you could explain that a little bit more.

**[00:08:13] Joanne:** Yes, absolutely. I learned a lot just being on the program, and anybody can be-- It's an open process, and I guess that's really important. People think, "Oh, it's not transparent," but I did get to testify on the ultra-processed foods with that open testimony, and anybody can do that. That's a really nice thing about the Dietary Guidelines. The way it's set up, it is a joint between Health and Human Services and USDA.

What they do is get together, get a scientific advisory board with really broad expertise. Once you're on that committee, you serve on these subcommittees and questions are asked and then you bring that data forward. I have to say one of the really wonderful advantages I have at the University of Minnesota, I've had some wonderful students, and one of my best was Dr. Julie Hess, who worked with me right before to work on a paper for ultra-processed foods because one of the problems you get into in science, we need to get nutrients out, absolutely.

We're really into food patterns. If you look at the Dietary Guidelines, what are they going to do? They are going to say, hey, these are the nutrients of concern. Every time we come up, "What are the nutrients of concern?" Fiber, we don't get enough of, vitamin D, calcium, and potassium. Those are ones we don't get enough of. The Dietary Guidelines have to say, "Hey, all of our policies have to try to get those increasing."

I was involved in the 2005 for the Dietary Guidelines for whole grains. I got to testify on whole grains that came up with that policy. When people are like, "Hey, how do you get your stuff into the Dietary Guidelines and move it forward?" it's a ton of science that gets published. Dr. Hess's paper where we actually modeled ultra-processed foods and showed that ultra-processed foods actually bring tons of nutrients into the diet, that processing does not take nutrients out, a lot of times it actually keeps them better. That's the thing that people don't think about.

What the dietary guidelines will do now, too, with this question is say, "Hey, let's look at all the science that's out there, and everyone can send their science forward for that committee to look at." I think what's important in nutrition and dieticians get this is most people don't know what's in their food. When people are saying, "Hey, we did this analysis and we looked at ultra-processed foods versus non-ultra-processed foods, and we found this result," well, if you don't define those right away and say, "These are the standards for what an ultra-processed food is," that data is really not very useful.

Taking all that data together, and I guess this is as somebody who has always worked in food production and has got a food science background, every one of our streams, whether it's dairy, protein, grains, fruits, vegetables, what's the appropriate processing for that to make it right because we always want to keep those nutrients? When people are always like, "Fresh is best, fresh is best," generally, if you eat it right out of the garden, once you clean it up, yes, fresh is best.

Generally, if we look at fruits and vegetables, a lot of times, the frozen or the canned have higher nutrient levels. The assumption, I think, for the consumer, a lot of people without a food science background would say, "Oh, all of processed food has no nutrients, it's low in nutrients," and that's absolutely wrong. A lot of the studies that are out there are showing the wrong thing because you have not defined what an ultra-processed food is, what a minimally processed food is.

Remember, the importance of processing is food safety. We want our foods to be safe. In the US, we are so used to having an abundant safe food supply that we never give credit for that and never step back and say, "Hey, processing makes things shelf-stable. They make them more cost-efficient. They make them available to people of all economic places." That's really important for school lunch and the WIC program and the SNAP program to provide nutritious foods to consumers that are things they like, they taste good, they're safe, and they're economic and convenient for people.

Even though I'm a dietitian, and people are like, "It's nutrition and nutrition," and it is, it's totally nutrition, but it's taste, it's convenience, and it's food safety. To just say processing is some kind of a metric that tells us it's more nutritious if it's not overly processed isn't true. That's never been discussed. As we go forward with all these studies, and now there's 1000 studies that show ultra-processed foods are bad, I believe that the Dietary Guidelines Committee, by focusing on it will say, "Wait a second, let's go back and make sure what these studies are looking at and that we have to process grains.

"We can't eat them without being processed. What is appropriate processing?" We enrich with the grains. We put in vitamins. We put in folic acid. Those are key important things that we do in food processing. Most of this ultra-processing pushback isn't based on science, and it isn't based on good nutrition and food security for the people in the US.

**[00:13:05] Melissa:** Thank you. Yes, so let's put a finer point on it. You were talking about there is really a lack of a clear definition for processed and ultra-processed, or maybe it's just the ultra-processed that there's a lack of definition. Can you speak more about that? Also, NOVA is a classification system that has become very ubiquitous, very commonly used in research. Can you speak to that?

**[00:13:32] Joanne:** Yes. No, I think whenever we go forward in science, it's really good to have some agreement on definitions and what we're going to compare things to. If we want to look at health outcomes, compared to a nutrient or compared to food groups, we need to decide what those foods are. That was a nice thing about Dr. Hess's paper. It's like, "Let's try to put foods into a group."

The NOVA system was first published in 2009, so it really was back when we were talking about processing as a metric in the 2010 Dietary Guidelines. You have a system called NOVA, and the Category 4 is considered ultra-processed. When you look at the categories, the people that put this up were not people that do food processing. They don't know anything about food processing. They don't work in plants. They've never understood that. They probably don't even cook.

Some of the things were, "Wait a second, what's in Category 1, what's in Category 2 so that Category 4 is considered ultra-processed foods?" Those are considered, obviously, the most negative. Typically, they are foods with many ingredients, foods that were made in an industrial plant, things with added sugar, alternative sweeteners, additives. We forget that so much of our food supply, everything that goes into the food supply has been tested by FDA, and it's safe, or would it be there as a food additive?

That food additive may be added for stability because people are going to want to keep that product around for a long time. A lot of those decisions don't make any sense. Even when Julie said, "Hey, let's try to figure out which things will go into ultra-processed foods, most canned foods will go into that." Well, it's like, "Why is that?" "Because that's the processing for fruits and vegetables.

I think that's the frustrating thing, is even for us, she had a group of experts come together and say, "Okay, which of these would go into Category 4, Category 3? Where are we going to do this?" Most people don't know how foods are made, especially if they've never cooked. I guess that's the frustration, is that most of the data that's out there, there was a recent meta-analysis trying to put all that data together.

What they found is that most of the people that are looking at the relationship between ultra-processed foods and a health outcome, they use completely different systems. They might use the Nova system, but there are many other competing systems out there. That data, it's like garbage in, garbage out if you can't agree on what is an ultra-processed food, and there's no mechanism.

I think that's the other thing. What is it about ultra-processing that would give us a mechanism that it would be more linked to a negative health outcome, like weight gain or anything like that? You don't have a mechanism. There's nothing about processing. Typically, processing makes it safer, makes it more stable, and a lot of times, it actually maintains more nutrients, or nutrients get added back in.

From a dietician, standard nutrition way of thinking, what's the mechanism that we would expect ultra-processed foods to have a negative health outcome? It's not there. We need to start there before we start doing all these studies that keep saying, we have a thousand studies that say the same thing that ultra-processed foods are bad, but we don't even know what an ultra-processed food is and any reason we would expect them to be bad.

**[00:16:47] Melissa:** Right. We're definitely going to dig into the Julie Hess paper for sure. I actually met her at a conference last year and learned about this paper, and it's fascinating. I also wanted to mention, you talked about some of the processed foods that get categorized, whether it's NOVA or any other system. Some of these foods are flavored yogurts, breakfast cereals, low-calorie or low-fat products, soy milk, tofu, packaged whole wheat bread, and products fortified with beneficial nutrients.

The fortification and the enrichment has a long time been a concern for me. When we're talking about clean labels and things like that, well, let's take the B vitamins out of this frozen pasta dinner, for example. People, whether they know that dry pasta is enriched with B vitamins or not, they assume it's the same as what's in the frozen dinner. People wanting "these clean labels," that's a huge unintended consequence, is we're removing some of these, things like folate, folic acid that help prevent neural tube defects, and some of the nutrients of concern that you mentioned, the calcium, the potassium, vitamin D, fiber.

I would love for you to address that a little bit more because, to me, that's a really slippery slope and a very scary thought that we've made all of these advances for fortified and enriched foods that potentially could go away.

**[00:18:17] Joanne:** Yes. We forget about that because we say, "Okay, in all deficiency diseases, those are all solved because a lot of it has to do with enrichment." In the US since the 1940s, there's the standards of identity that refined grains have to bring iron, 3B vitamins, and then since 1998, folic acid. On the other side, on the flip side, milk has vitamin A and vitamin D added to it.

All of these enrichment policies and these fortification policies are for public health. We have other examples. If you think of iodine in salt, fluoride in water, that for the public health, I always tell my students, "You have to sit through my lecture and learn all this, but the reason we do that kind of fortification and enrichment is for the poorest of the poor, people that don't have the ability." We want to make sure that we don't have these deficiency diseases. In this policy, you have to do it.

I also feel like in the fiber world, the whole grain world, I've spent the last 40 years trying to get people to eat more fiber. I still am committed, the same thing with whole grains. I don't have a problem when a company can put whole grains into a product, and they can put more fiber into the product. We believe as nutritionists that those benefits are there. This idea that clean label is five numbers, you can't have more than five ingredients, who made that up? Who's the boss?

I think that's the frustrating thing with the dietary guidelines. I really believe in the US that is the best policy we have. We go with it, and we have something called the Healthy Eating Index that we can compare, "Okay, these are the things we want the dietary guidelines to do. We want to get those nutrients of concern up and then we want to get rid of sodium. We want to get rid of added sugars. We want to get rid of solid fats."

Therefore, when you actually get rid of sodium, we look at a diet and say, "Okay, how does it do with the Healthy Eating Index?" It mostly, and I think this is what was nice about Julie's paper, too, is that ultra-processed foods do really well in bringing together the food groups we want and the nutrients that we need and lowering the things that we're trying to get out of the diet and because they have been formulated to help us out on that.

Often, too, as somebody who's grown up in the cooking world, I know exactly how much fat and how much sodium is in a lot of my recipes. A lot of times, it's much less than what you get on a packaged food. The other thing in the US, the Nutrition Facts panel really gives me all that information, too. The manufacturers are committed to increasing whole grains, decreasing sodium, and making those things work.

It's all transparent. They're right on the label. I find that really frustrating that people think if there's-- and you're right that the enrichment, the B vitamins, iron that they have to, by law, add, those are five ingredients right there, the right away that anything that legally they have to put into their refined grains. I think as nutritionists, too, that we have to meet consumers where they are.

I think they're really sick of placentaware stuff like, "Oh, is it low-fat? Is it high-fat? Blah, blah, blah. What proteins?" As you mentioned, plant proteins typically are all ultra-processed. As people want to switch to a more plant-based diet, they don't have any options. Everything is going to be ultra-processed, by these definitions.

**[00:21:33] Melissa:** Right. When you brought up the Healthy Eating Index, I think it's a good segue into talking more about the Julie Hess paper. Then I do want to address some of these consumer realities, but tell us about the Hess paper and what its aim was and what they found and I guess the results point to future research that would be needed after this and how that relates to the Healthy Eating Index because I found that fascinating.

**[00:22:01] Joanne:** Yes. No, I have a huge respect for Dr. Julie Hess because she came to me with a liberal arts background and a really good way of thinking. We also did some work on modeling that was really driven by her. All of my publications in snacking were really driven by Julie because she can think on the behavioral side. We can do quantitative. We can do qualitative research to answer questions.

I just find that she's been really up on the dietary guidelines, too, so following the dietary guidelines and understanding how they work and how all of the food patterns and the diets work. If you go into the dietary guidelines, they're trying to give people flexibility. They have the USDA diet, the Mediterranean diet, the DASH diet, sort of put-together diets, and Julie used that as her model.

"We are going to use those types of diets, but also as a dietician, we're going to have a 7-day menu that has 2,000 calories, but we're going to put it together with ultra-processed foods." She got a group of experts to help her say, "Does this go in this category? Let's do that." If you look at some of the other authors of the paper, it was people that are plant people, people that are nutrient people but understand food.

Everybody's like, "Oh, you guys just set this up to win." Not at all. It was the foods that were available to put together these diets and then model these diets and to say, "Okay, if we look at these diets from ultra-processed foods, which are all on the Dietary Guidelines' website, these are recommended diets because you're going to bring in the nutrients. You're going to bring in the recommended food groups."

We look at myplate.gov, we have to get those five food groups every day, so putting it together with the food groups, with menus that were suggested in the dietary guidelines. Then with that calculation, are there nutrients that are low or some of the ones that are too high? You talked about we didn't get-- There are a few nutrients that were slightly low, choline, I think, for example, but in general, the nutrients are pretty darn close to the 100% of the recommended levels.

We didn't get exactly the amount of whole grains. Part of this was we didn't go in and make that work either, right? These are the diets that we put together. We're a little low on whole grains and a little high on sodium. If you look at the Healthy Eating Index, which is this metric comparing recommendations to the dietary guidelines to "Are we actually successfully getting to what the dietary guidelines want us to do?" I think that was like an 86, which is a really high score.

Most people in their normal diet don't go anywhere close to that with the Healthy Eating Index. The point was, these are foods that are considered ultra-processed. This message that those aren't healthy is really not right. When you do this modeling, these are diets put together with ultra-processed foods, and you actually get really good outcomes from that. Part of it, people are talking about, "Well, what milks do you use?" Well, you have to use milks that are ultra-processed, right?

Some of the newer milks that increase protein, take out lactose, things that consumers don't want, actually work really well. A lot of the ultra-processed foods that are getting all this negative, either they're high in whole grains, they're lower in sodium, they have some real advantages because they're put together to help us beat some of the nutritional challenges that we have.

**[00:25:17] Melissa:** Yes, clearly, not all ultra-processed foods are created equal. This categorization conundrum, I guess, is at the heart of a lot of the challenges with, like you said, comparing the different research studies. You talked a little bit about the role of processing and the importance, the functions that it serves, food safety, enrichment, providing good nutrition, and the affordability aspect. Before we get into some of the consumer realities, and maybe you already addressed this, but I just want to make sure I don't skip over this, why is ultra-processed foods becoming more of an issue these days?

**[00:26:02] Joanne:** Yes, I think it is this public access to information and what you see get covered. All of a sudden, ultra-processed foods are-- part of it, too, is in nutrition, typically, there's too many metrics that we talk about, right? You need to get the calories right. You need this much protein. We need to get all these many vitamins. It seems like a simple way to separate good nutrition from bad nutrition.

I think that might be why it's as appealing as it is and the idea that natural is better than anything, what was made in a food plant. To me, I'm really amazed how much media coverage it's gotten, and how people have really bought into it. If they say, "Okay, something is ultra-processed, I shouldn't eat," and it's like, "Hey, don't think that, right? That's not the right answer."

That's why I'm really glad that the Dietary Guidelines is going to take a look at it. I don't expect them to say, "Hey, don't eat any ultra-processed foods or only eat this many." It's good to get it on the agenda and keep the research moving and get some definitions of what it is, what's appropriate processing because, to me, it really is the safety aspect in every food component.

Like you mentioned, I go to the store and I buy a pasta dish where all these things have gone into it. Obviously, how do I say, if I buy it at a store, if a restaurant makes it, somehow it's different than what I would do at home? A lot of the people are saying, "Oh, if it's not homemade, then it's not as good." That's really not at all true, as we know. That's why we're going to go down this path. Let's figure out what ultra-processed means. It's going to have to mean something different for every, whether it's grains, fruits, vegetables, protein groups, we're going to have to figure that out. Otherwise, we're just going to waste a lot of ink and scare consumers with data that's really not true. It's just not there.

**[00:27:50] Melissa:** That's a great point about each food group having different criteria. That makes a lot of sense.

**[00:27:56] Joanne:** Well, just think of oats or anything. "I can't eat oats, only cows." That's the thing that we have to process things to get it, therefore, and then we enrich it and we put more stuff in it, and that makes it more nutritious. To give it a label that it's ultra-processed, to me, it's a whole grain. It's low in sodium. It's low in added sugar. We've really tried to make it perfect for consumers to do the best we can and still make it taste good and make it convenient for them.

**[00:28:23] Melissa:** Right. We talked about the Hess paper. I think we should touch on the Hall study, just to say, "What did that find, and what are maybe some of the limitations there?" It's my understanding that research is not being included in the Dietary Guidelines Advisory Committee review process. I would love for you to address why.

**[00:28:41] Joanne:** Yes. I love the idea of the body of science. This is what I learned in the Dietary Guidelines. We're always bringing the body of science into the discussion. We have epidemiological data. The Dietary Guidelines does not use animal studies or mechanism studies. That's where epidemiology becomes more important. It will bring in feeding studies. The Hall paper, if people haven't read it, is a paper where it was ultra-processed foods versus not ultra-processed foods.

The same problem you have there is that you have to define that and have experts to say, "Okay, this is, and we'll use the NOVA system, and we'll use that," right? There are a lot of examples of that that if the foods are different, so if the calories are different or the sodium is different, then you have a lot of mechanisms running in the background. I think that's been the criticism that if you look at the number of calories that they consumed on the ultra-processed diet, they consumed more, and they had worse outcomes than that.

I think the Dietary Guidelines will say, "Hey, wait a second. Whenever you're doing an intervention like that with whole foods and nothing is being held constant, you really can't answer the question, 'Is it processing?' because everything else is moving in the background, too.'"

**[00:29:52] Melissa:** Too many other factors.

**[00:29:53] Joanne:** As people are saying, "Let's do more randomized controlled trials like this until we understand the processing concerns we have. What is it about processing that gives us a mechanism?" I don't think that people would say it's processing. That's the difference between any outcomes. There's just too much other noise in nutrients and the foods that were consumed during those diets.

**[00:30:16] Melissa:** Right. The Hall study had too few subjects in order to be included.

**[00:30:21] Joanne:** Yes. You know that definitely, that's a hard thing, too. You get dropouts. Trying to balance women, men, age, things like that, how big a study would you have to do, and how long do you have to feed that? Do all the foods have to be controlled, everything being given to them? That's a huge participant burden, too, to do so to get people to stay on that diet. It's hard to-- It can't be blinded. I think that's the other thing. We always say that, the ideal on the top of the "We would love to do a randomized control trial."

Well, it's not possible to do that because I can tell what I'm eating, and the food is there. You can't blindfold me and say, "Eat this food for 10 days or however long we want you to eat this food." It's an interesting study, but I think as other studies come out along those lines where people say, "We're going to eat 100% ultra-processed foods versus 0," you have to control for all the nutrients, so you're not going to find anything out.

That's why I think Julie's approach in different ways of modeling is the first step because if there's no difference in nutrients, why would I expect a difference in processing, right? It doesn't make any sense. These studies cost millions of dollars to do intervention studies. Unless we have some preliminary data to convince us that we're going to see a difference, I think without a mechanism, there's no reason to go down that path.

**[00:31:39] Melissa:** Right. Great. I think the Hall study was too short as well.

**[00:31:43] Joanne:** Exactly. Yes. When we think of it like in cholesterol studies, we used to do cholesterol studies with fiber, three weeks, people would say, and generally it's hard to keep people on these controlled diets, and then this idea of, "Should we swap people back and do a crossover?" because you can't really have a control, a parallel study where you say, "Hey, this subject is going to be on Diet A and this other subject, I'm going to pair them, and then we're going to go and not compare them" because everything's going to be different.

Their resting cholesterol, their blood pressure, they're going to start at a different place. It's really hard to do a study like that. That's why we've had animal studies along the way. I believe that probably if you wanted to prove a mechanism for this, you'd have to say, "What is it about an ultra-processed diet that I believe is the most important and start with an animal study and see if you can get any signal with an animal long-term feeding study?"

**[00:32:33] Melissa:** Yes, regarding the mechanism.

**[00:32:34] Joanne:** That can't be used in dietary guidelines. We don't use any animal data.

**[00:32:38] Melissa:** Right. Just to clarify, too, you said that the Hall study showed that the people on the ultra-processed foods diet gained weight, but they also had higher calorie intake.

**[00:32:47] Joanne:** Exactly. Exactly. That's, duh.

**[00:32:50] Melissa:** I'm like, "Okay." All right. I just want to make sure I had that right.

**[00:32:54] Joanne:** I think what happens, too, Melissa, and this is really important, in my opinion, that so often people all of a sudden get excited about diet studies and say, "Hey, we're going to get in the diet-studying world." They don't hire dietitians and other people to actually get the diets right from the beginning because you're going to spend all this money on a study and if you don't control what your variables are and get the diet right and control diet, have good analytical software, so at least you know if they're out on their own, it just doesn't happen. I don't think people appreciate that. So often I think studies are designed, a lot of money is spent, and you can't even link it to diet because it wasn't controlled, and it wasn't designed correctly.

**[00:33:34] Melissa:** Right. Right. Just a side comment because people always look at, "Well, it was funded by the industry," but the design of the study is so important. That gets overlooked. Dr. Julie Hess's paper, what are the recommendations for future research based on this modeling study that she did?

**[00:33:55] Joanne:** Well, I would say the first thing is to get an agreement, "What are we going to use for these definitions?" because, as I mentioned, there are other ones that have come out besides NOVA. Every time when we have instruments in nutrition, they have to be validated. We have to validate them. Before we move forward with this metric of "This is what's going to be in ultra-processed foods, these are all the foods," as you know, food is so complicated.

It's always changing, and people change their diet. To actually have a metric that says, "Okay, these are all the things that are in ultra-processed foods. We'll get it into a database. We'll be able to measure it." At this point, it's a free-for-all-all, in my opinion. The good thing about the dietary guidelines going through the analysis is you will have some experts there that can have some advice of "This would be the next step."

I know, well, USDA, the dietary guidelines group, has had some other published papers where they bring in experts and say, "Hey, let's talk about this. What's the future of this? What are the kinds of studies that we should fund?" because I think everybody's like, "Hey, let's do more of the Hall studies where we feed it to people." It's like, "No, we can't jump to Stage 8. Let's start at Stage 1, get our definitions right, and get agreement that there is a mechanism there that would explain it beyond the other things that we've already been working on."

I would say it's to slow it down and not just publish a thousand more papers looking at this because it's not going to help us. It's definitely not going to help consumers. It's very confusing to them.

**[00:35:25] Melissa:** In your opinion, let's say we miraculously come up with this excellent, consistent definition for ultra-processed foods. Should science go down that road? What do you think?

**[00:35:37] Joanne:** I don't see how it can work because when we looked at the ultra-processed foods, fruits, and vegetables, canned, frozen, like you mentioned, tofu, all these foods that we recommend in dietetics, you're in the "Category 4, never consume." I think there's the other thing in nutrition, too, "Consume less." This is rather than "You can never have it. These are really bad. Stay away from them." That's the wrong message for consumers.

To me, it's a good discussion to have a discussion on processing, that there are advantages, there are disadvantages, and let's bring in the food scientists because I know when I was on the Dietary Guidelines Committee, typically, you have nutritionists, public health people, but you're really low on food processing people, food safety people. I think both farmers and food scientists tend to lay low and never say, "Hey, I'm important."

They just do their job, provide incredible, safe, inexpensive, amazing food to consumers, and we're used to it, but we never appreciate how difficult it is and how to process foods and have food safety is a huge lift. It is really important. Having people on those committees, too, that understand processing rather than just say, "All food processing is bad," which we know isn't true, I would like those people invited in and each one of them, whether it's grains, nuts, fruits, vegetables, there are different expertises and different concerns for processing that we need to bring into that conversation.

**[00:37:02] Melissa:** Yes. I love that you're involved with the Institute of Food Technologists. I've been attending their conference for the past couple of years, and I find it fascinating. Like you say, we need more food science voices out there. For decades, I've been saying we need more dietician voices out there, but we really need more food science voices out there as well. Interestingly, almost every session I attend at the IFT FIRST meeting, there is a comment or a question or a conversation about the importance of food scientists doing more with communications, which I think is so exciting.

**[00:37:35] Joanne:** Yes, because my first job was extension, a 100% extension.

**[00:37:39] Melissa:** I love extension.

**[00:37:41] Joanne:** I learned so much because food safety, here it is, we have got all these tomatoes, and we have to put them up. Otherwise, they'll be wasted. Growing me up on a farm, I always tell this story that we had one peach tree one year in Southern Wisconsin that got a million peaches, and we canned peaches like crazy because they only last for a couple of days, right?

All of a sudden, you have this production line. The peach tree never produced another peach, but this is the thing about food processing that, otherwise, there's food waste all over the place unless we stabilize food and keep it safe and can it, freeze it, dry it just so we have it when we need it.

**[00:38:18] Melissa:** Yes. I worked at the state extension office when I was attending the University of Missouri for my master's degree. Oh, I learned so much. I think that really planted the seed for a lot of the work that I still do today. Let's talk about the consumer realities and maybe dovetail that with some of the potential negative or unintended consequences of moving forward with ultra-processed foods, definition, lack of definition, research, applying this to food policy.

You've touched on some already, but let's go through the laundry list of the consumer realities, perceptions, behaviors. We know that people don't just eat food for nutrition. It's got to taste good. It's got to be affordable. It's got to be accessible, but I don't want to put words in your mouth. Lead us through that.

**[00:39:04] Joanne:** No, it's for sure that nutrition's important. One nice thing for us is we've had metrics so we can measure nutrients. We have food groups to help people make choices, and the dietary guidelines are set up on that. We have this nice base to go from, but I think consumers say, "Hey, wait a second. You just told us this. You said fat was bad. Now you're saying that is good."

Whenever we focus on nutrients versus foods, we get painted into the corner with consumers. I think this is going to get us in another place, "Oh, wait a second. You told me adding whole grains to bread would be good, and now you're saying if it's processed, it's bad." To me, that is really the biggest problem we're going to have because if we don't believe it, I don't believe it, right? I believe that processing is not bad.

This idea that grocery stores are full of "If it's in a good package and it tastes good, it can't be had," right? I do think these dietitians and food scientists, there's nothing-- Why do people choose food? I think culture, their community, all of this about food. When we get into this, "Don't ever eat this because it's processed, don't ever eat this because it's high-sodium," you got to put together the overall diet, culture, my religion, all these things really matter.

When we go down to the South and all of a sudden there's a different eating pattern, we say, "Hey, you shouldn't eat this. It's full of sodium." No. We've done too much of that. I understand why consumers are annoyed with us as, "Hey, you guys are always changing your tune. Now it's just processed. If I avoid this stuff, voila, everything is good?" I think that's the biggest issue we're going to run into that, for consumers, if you go back to the amount of time on our farm, we butchered our own chickens.

We've milked our own cows. We made all of our bread. What happens when people are busy, they can't do that anymore. They don't even know how to do it. People don't know how to make their own food. There's products out there, and they're healthy. They are safe, and they're low-cost, and people shouldn't feel guilty consuming those, putting them into a diet.

I do think the MyPlate idea is here. We need this variety in moderation. That was the first thing USDA said, variety in moderation. If something's poisonous, don't eat too much of it. You have to do it that way. There's lots of opportunities to put that together. There's no vegetable you have to eat every day. There's no fruit you have to eat every day. You shouldn't say if it's ultra-processed and it's canned tuna, I can't eat it.

To me, if we get to that, consumers will really give up on us. Just say, "Wait a second." I talk about the nutrition elite, that people, whenever you're at this meeting, these people have never done anything on a farm. They've never been cold. They've never been hungry. Once you're cold and hungry, the rules change a lot. I think the food security, food waste thing are going to say, "Hey, wait a second."

Food processing is our friend. It provides foods to people. It's important that there's no reason to say that just because it's processed, correctly that there's anything negative about it. I have no data to go down that path.

**[00:42:07] Melissa:** Yes, definitely, food insecurity increases those financial and time constraints that everybody has. It's way amped up with people with food insecurity. I appreciate your comments about people following traditional cultural dietary patterns as well. The public is already consumed about the processed terminology. Could you speak to the fact that I was reading, I think it was in the Dr. Julie Huss's paper if we did adopt some ultra-processed food avoidance guidance, it will not likely improve diet quality. Can you speak to that?

**[00:42:43] Joanne:** Yes. No, that's really I think the big finding in that work, too, is here you put together a diet, and it wasn't staged. It was all these foods that are part of the dietary patterns, fruits, vegetables, grains, protein, dairy. You put those together, and they're all ultra-processed, and you have a very high HEI, so you know that you're making most of your metrics. You're bringing your nutrients in. It's 91% ultra-processed is what you have.

It's a really fine diet that people are going to do very well on. All of a sudden, it's like, "Why would we go out and tell people to avoid ultra-processed foods because when we model it, that's not what we get at all?" Then for us as dieticians, we want people to put together the best diets. I teach, in lifecycle nutrition, too, a lot of nutrition and enjoying food is eating together and sharing food.

It's so much more than nutrients and obsessing over some metrics. To go down the ultra-process thing, I think Julie's discussion in the paper is really good that that will just be a misfire for us. It'll be, "Hey, you guys got ahead of it." I cannot believe that the dietary guidelines will go out and say, "Avoid it" because the science isn't there. It would be a huge misstep and make our diets worse.

It would not improve public health. I hope that people will put on the breaks and say, "Hey, this is not the be-all and the end-all. We need to slow it down and realize that nutrients, food groups, enjoying your food, avoiding food waste, and caring about people is where it's at in nutrition."

**[00:44:16] Melissa:** Great. Thank you. Circling back to the Dietary Guidelines Advisory Committee process, there's a lot of questions that could be posed and addressed. This process is done every five years, but not every question is looked at every five years. How are the scientific questions prioritized?

**[00:44:34] Joanne:** That's a really good question. It's changed over time because there are so many nutrition questions. I know in our group, USDA and HHS switch off every five years. They'll take the lead, so there could be some differences. This year, this new one, these questions were set up in advance. Those questions are right there because it's so much work. It really is updated and then I know we had a really interesting discussion on settled science.

What is settled science versus "Is there new science coming in?" A lot of times, like with nutrients, things are settled. We agree on that. If we're still not getting that, then we still have to ask questions about that. Some of the questions of fermented foods, prebiotics, all these, there are so many topics in nutrition, but they can only expand so many. They only take a few that are new questions and then the idea is every five years, those have to be updated. Is there something?

I always tell my students one study is not going to move things up. We have this body of evidence that we know about. Things can change, but they're not going to change overnight. Bringing that new science in is really important. Also, I think this idea of the people that are on the committee typically are academicians rather than people that work in the food industry and work in plants, so that's why it's hard to get food science people that know a lot about that.

Some of the behavioral people, all of those things are people you need, too. To get the number of experts on the number of topics is really difficult, for sure. I think it's a challenge, but it's still the staff that work on the dietary guidelines. I have just a huge amount of respect for their scientific ability. What they do is bring in experts to present or help them on these topics.

Right now, they're looking for volunteers to review what they've done and say, "Hey, can you give us some advice?" I guess I still believe it's an amazingly open process, and that gives me great hope for the results. That's why I think so often people are like, "Ah, it doesn't change every five years." Well, it's not going to. Nutrition doesn't change every five years, but some of these new questions it's good to address them and bring them forward.

**[00:46:45] Melissa:** Do you know or do you have an opinion on how or why ultra-processed food question was prioritized? Does it meet the criteria for selection?

**[00:46:53] Joanne:** Yes. I think anytime when there's a lot of new 1,000 papers when Julie-- There are so many papers. It's like, "Hey, everybody's down this path." I do think clean label, all these things have been going on for a while. Let's look at one question on it. I think it's good to bring the discussion forward and then to have some people on the committee, too, or the people that can review it and say, "Wait a second. We don't have the data to move forward on this. This is not going to give us-- We don't have some really basic data since we haven't even defined what an ultra-processed food is."

A lot of the food that we're suggesting our healthy are all in that Category 4. That really is going to throw off all of the dietary guidelines, everything we have. We have to align those. Otherwise, we're speaking out of eight sides of our mouth, right? We can't have that because it affects all these programs, too. Whether it's school lunch, SNAP, all these programs have to run by the dietary guidelines.

All of a sudden, if there was a recommendation, "You can't have ultra-processed foods, here's a list of them," it would be terrible. It would be really terrible. I think there will be this, "Here's the science, let's look at the studies," but then as we move forward, these are the types of studies that we have to see before we would even move down that path.

**[00:48:08] Melissa:** Thank you. As we're wrapping up and before we share some bottom-line takeaways and where people can learn more information, is there anything I didn't ask that you think is important to address or to share with our listeners?

**[00:48:21] Joanne:** One thing I would talk about, Melissa, I think people always assume when you're on the Dietary Guidelines that everybody is calling you up and trying to get their opinion, but everybody gets the equal experience. The different groups that are there and the fruits and everybody can come forward and bring data there, and there is no lobbying at all. I guess, to me, I often get that question.

I find it an amazing process that we have in the US that we should be very thankful for. It's an amazing process. Sometimes people don't get the fast change that they want. Food is so important and to make sure that we don't come up with rules that are disrespectful and they're not science-based. I guess I'm quite positive that the good things happen in the Dietary Guidelines. I think it's good that they accept things that are a little controversial like that, it's like, "No, we're not only going to think about it; we will consider it."

**[00:49:14] Melissa:** Good. Great. Well, thank you. That gives me more confidence in the process. Thank you. Are there any bottom-line takeaways or parting thoughts you'd like to share with our listeners?

**[00:49:24] Joanne:** I would say it's so nice to have this kind of process that is open to consumers and with science, open access. A lot of science is open to consumers, and it's wonderful. I just always appreciate people coming. The media gets out a lot of good information on nutrition and good ideas. That's what I loved about extension, too. You'd go out to a county and somebody would ask you a question. You'd think, "Wow, it's a really good question. I never thought about that."

I think the openness of bringing questions forward and understanding that we are omnivores, we are very flexible on our diets, but we do need to get nutrients. As nutritionists and dietitians, we're going to stick true to that. We want to make sure that those nutrients of concern, calcium, vitamin D, potassium, and fiber, we have to find ways to get that into the diet. We might need to fortify or do other things just to make sure everybody that's out there has a chance for getting the nutrients they need.

**[00:50:18] Melissa:** Okay. Thank you. Of course, all of the research articles that we talked about and some other resources that I have on hand, I will put links in the show notes at soundbitesrd.com if anybody wants to take a look at those. Are you on social media? I should know this.

**[00:50:33] Joanne:** I'm terrible. I'm an old person. LinkedIn, I just can't, but I'd be easy to find. I've been at the university, jslavin@umn.edu, and people can absolutely contact me. I'd be happy to answer any questions.

**[00:50:46] Melissa:** Wonderful. Well, love to have you come back on and do a fiber episode. I've been wanting to take a deep dive into fiber. There's so much that we can talk about, prebiotics and whole grains and regulatory stuff, all kinds of good stuff. Would you consider doing that?

**[00:51:02] Joanne:** I would love to do that anytime.

**[00:51:04] Melissa:** Excellent. Well, thank you again so much, Dr. Slavin. This has been very enlightening. Like I said, everybody listening if you want to check out some of the resources, the show notes are soundbitesrd.com. As always, enjoy your food with health in mind. Till next time.

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