Spoil Your Baby Ep 27 - Feeding Your Baby's Brain feat. Dr. Marion Van Horn Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and shared background

You're always feeling guilty that you're not doing something else. It's like, you have to just give yourself, and it was like the biggest thing, it's just like I'm allowed to be a mother right now.

I don't have be pulling myself in all these different directions. My child needs so much. Hello, everyone. Welcome to Spoil Your Baby podcast. Today, I am so happy to have Marion Van Horn here with me.

She is a fellow neuroscientist and also science communicator and educator. And I'm just so to meet you and be with you today. Yeah, me too. I feel like I know you through social media, but I don't think we've actually met other than through the interwebs.

But it's really nice to be here and I love that you're doing a podcast and interviewing people. It's so great. And I loved your book. So I just been following you for such a long time.

I have to say that it inspired me also to go into the science communication route because we actually have very similar backgrounds being in academia and I did a PhD in neurophysiology and I've always been interested in health.

So I kind of went that route where I was in research. I love collecting data and asking questions and writing grants and all that kind. And I really liked doing that and doing experiments.

Yeah. At the end of my PhD is when I had my first baby. So I was like writing my thesis and having a baby and kind of juggling it all. But, you know, that's where did you do a similar thing?

I did. I didn't my postdoc at the. End of. My post doc is. When I. Had my son. Yeah, yeah. You know for someone who's not familiar like research, your your you're paid, but it's still the gear.

It's. Not a it. Is not a real career. you don't really know what you're going to do. And after a PhD, you can either go into a different industry, I always say like into industry or, but I was really still interested in the research part.

So my PhD was actually in eye movements, how the brain controls eye movement and doing neural recordings from the brains when we make different types of eye-movements.

From eye movements to astrocytes

As you move your eyes around, do you have these muscles in your eye that to move them around without you even really knowing or thinking about it. Like now that I've said it, you'll be like, oh yeah, I'm moving my eyes around.

But we don't have a great understanding of how that happens. And so we were doing different types of recordings and we're doing mathematical models to try and explain how the neural recordings fit with the different type of eye movements.

And after I finished the PhD, I really didn't want to do anything to deal with eye movements anymore. So I joined a lab also at McGill at the Montreal Neurological Institute.

And I was really interested. The brain is made up of neurons, which I think people hear about. They're the most common cell type or one of the well-known cell types in the brain that got a lot of attention because the way we

could study them, they have this electrical activity that makes them easier to record.

But at the end of my PhD, I started to realize that there's this whole other group of cells in the brain called glia or astrocytes. And so I was like, oh, just the PhD in neurosciences.

I don't know anything about that. Yeah. So I remember being at SFN where it was, they started highlighting, there was one giant lab that had been studying astrocytes and they were like guess what?

There was half the cells and the brains. Exactly. No one had looked at them for so long. Right? Yeah. Amazing. And so what do they do? And they have like different, you can use different techniques to study them.

So I was like, I'm going to join and do something totally different. Which is, it's not that traditional. Usually you do a postdoc in a lab that you did this in, a very similar field, and then you continue on the same route.

But this was kind of jumping boat heading somewhere else. And so I wanted to study astrocytes and allele cells. I joined a lab that did some really cool techniques, some two-photon imaging, so we could image the brain.

It was actually a development lab. So it was studying these cell types during development. Just happened to be a model that was really good for this two photon imaging.

We studied tadpoles. to a seeing swimming tadpole. We could study it over two weeks. It would go through a huge amount of change. And so some of the questions that we were interested in asking is like, how do these early life experiences affect the development of brain and how does this affect neural circuits and the way neurons connect to each other?

And I thought it was all really fascinating just on a on a scientific level. And I don't know if it wasn't until like year two or three that I realized like, oh, this actually really applies to my life right now, since I have a new baby, and then I had a second child during my postdoc.

So I took maternity leave. I'm writing grants about how early life experiences affect the developing tadpole. Actually, I should also think about, how do these early-life experiences effect my baby and like, how does this all fit together?

So at some point, I think I was really working in parallel. And then it was about when I had my second child that started to really like oh yeah, you say I got to be thinking more than just how is this tadpole development and start applying it to my own life, which is developing babies.

Yeah, I love that. I mean, at the time of my life when I was starting to get ready to have a baby, thinking about it seriously, I did a lot of exploration like within the field of like, you know, visiting other labs, like women and mothers who are running labs and sort of saying like how did this work for you?

What happened? And it was so shocking to me. The answers that I was getting from everyone were, get back to work as fast as you can, maybe take off a month.

Motherhood, maternity leave, and lab challenges

you know, people said things to me like, oh, it's so much easier for someone else to raise your baby than you like you have someone do it and then come back to work.

I was like we know you're saying this and also like within like a world famous environment studying the effects of early life experience on brain development.

Yeah. Not to say like it is going to be the worst thing ever, but it, you, know that's not what I wanted to do. Right. It was amazing also, just the whole environment and coming back, I took a mat leave, which I ended up taking about eight months, so for most people in Canada, you take a year.

So I had half the people of Canada saying, oh, why aren't you taking a full year? And then I have other people inside saying like, You're taking eight month?

How can you that long? So it wasn't really a whole eight-month, because if you're doing research, then you are still really involved. experiments but I was still kind of writing papers and still trying to keep up and so there was this push-pull of where should I be?

Should I feel guilty for being home and guilty of not working? In terms of academia, they don't have a great support system because there was just no one to tell me how to go about this because I actually think I could do some part-time work at home.

It didn't you know, on leave and not doing anything versus being in the lab. So that was something separate. But then also coming back, there were eight months I was still breastfeeding and there was nowhere for me to pump.

And I had a male supervisor with no children. He was very supportive. It's like, so what do you need? I'm like well, I'm sharing an office right now with four other grad students, and there's no windows.

There's nowhere for me to… What am I… They put us in so many places with no window. The conditions are wild. It's not a green environment. So I had to text him before.

I was like, I kind of need your office. And so then his office wasn't even in our lab, so I have to go about a 10-minute walk in the other direction. warn him that I was coming.

It was just, you know, like these things you don't think about that took up my instead of going outside for lunch, I wasn't in the basement of the of The Neuro pumping while eating my lunch trying to get back to the thing while probably texting the babysitter or my husband, it was like a lot.

And at some point, there was a line to do it. But this isn't right. Actually, what happened was, You know, I felt like I had a lot of support. My husband took time off.

I have a mother-in-law who was closed. We had access and means to pay babysitter and housekeeping. You had lots of extra help. My mom was around anyways.

Um, but when you, when I went back to work, um, there wasn't, no support from, from anyone there. And then when, another postdoc came back work after she had the baby, her baby.

I just felt like she didn't have all the same resources as I had. She was, she was from another, She from Bulgaria. she here, had no, family. Her husband was here.

He was also doing a post-doc. He was from Germany. He had no family. I broke down. This is crazy. Who was helping with her baby? I was trying to do her work and she doesn't know what to with baby because there aren't daycares.

In Quebec, we have really great daycare systems, but she couldn't find a day care. There was no day-care at McGill. And so I just instantly felt everything.

And I was like, this is not fair. For sure. Then I started to become a little bit more proactive. I had a meeting with someone at McGill, someone higher up with my supervisor.

He came with me because he was very supportive. Okay, well, we at least need somewhere for us to nerd, like a breastfeeding, They're like, okay, let's find a place for you.

They bring us down to the basement and they move this refrigerator out of the way. I bet you could put a chair here. It would be fine, right? It wouldn't be better than that thing, but we could also do better.

That was February 2020. We were in the midst of talking about it and we felt like we're maybe making some progress and then COVID hit March 2020 and Everything else, that's just fine.

That was no longer a priority. We couldn't even talk about it for two years because it was all just COVID, COVID. And so that was the turning point for me.

I really felt like I needed to do something, but then to something then you're not working. I only had so much time to work and I wanted to be productive and really wanted do my experiments.

So I felt very conflicted at that point. Do you miss doing experiments? Sometimes I miss it. Yeah. Really miss experiments, I missed writing grants. But I'm still figuring out ways to do that.

I have bought a few microscopes. Oh, yes, I saw. do that without being officially associated with the university. Yeah, and educating the next generation.

Tell us about your colouring books and everything you're doing with that. COVID hit, I started, we weren't allowed to go to the labs. So all of a sudden I was at home with three children, three under 10.

COVID, health priorities, and leaving academia

And so then, but there was no official like, oh, you can stop working or take care of your children or anything like that. It was just do the, people didn't know what was happening.

Do the best you Okay. But I also know I have a grant due next week. No one's going to say I don't have to submit it, but I want to send it so I can be funded.

I was doing that. And slowly over that year, I started to really prioritize my family. That's when I'm writing these grants. It would be great if I get them.

As much as I could with all the resources I had. Also, I'm going to prioritize both myself and my family. I did another two years in the lab finishing projects and working as much as I could and became really interested in all kinds of different aspects of health.

During COVID, I started reading a lot of books that were about health and leaning on this science of what we know about how to stay healthy, how you keep your family healthy during these times.

And so I learned a lot. It's not that I learnt a a I start to appreciate all the things that we were doing that. I am always amazed at the amount of things our body does to keep us healthy.

That's incredible. A lot of them being sleep. At one point I said either I can stay up all night writing research papers and grants and analyzing data or I can sleep.

And I had to make the choice. I was like, I'm going to sleep because when I wake up in the morning and I have a toddler who's crying and one computer not working, like so many other things to juggle, it's going be my patience that's gonna fall short because I haven't had enough sleep and then understanding the mechanisms as to why and you need these, the sleep.

And I felt with my neuroscience background, that's when I was really able to like, yeah, it makes a lot of sense. I just, I can't discount my sleep in terms.

Oh my gosh. Well, remember sitting in my PhD office also had no windows. My supervisor got us like a seasonal affective disorder lamp to put into our office because he felt so bad that we were in this like closet in the middle of the building, whatever.

But I remember, you know, looking at papers on BDNF, I was studying it quite a bit, which is basically brain food,

right? Our brains need to grow and be healthy.

And my PhD colleague, we were I, was like, We can't just sit in this office and read about BNN. I'm like we need like go to the gym every day to get outside and get some sun.

Yeah, and start to apply some of this stuff. Right. It's so important. Yeah, exactly. And that's kind of that was my I like aha moment. Yeah. I have to take my kids outside.

We, you know, it's the most important thing for them is that we all get up and then we go outside and we get exercise and more eating real food. And I mean, it sounds easy, but it takes up your whole day to get your kids up and not stress and to let them tie their shoes.

That was, you know, I just remember that sitting, we need to go faster. You need She needs to be able to take the time she needs, to figure out how to tie her shoes.

I can't be stressing her for that. Or I'm doing it for her. So then she's not getting that opportunity to learn. So fast forward two years, then I decided to take an actual because I did a very long postdoc.

It was 12 years and I loved every moment of it. I had a supportive supervisor. But at some point it's just you can't do everything and there was just no other support coming in.

There was no financial. At some can no longer apply for grants. If you've been so far after your postdoc, you just kind of get in this weird area where I wasn't really ready to start my own lab and have my lab family.

I just knew what it would take to have to started a lab. This is not realistic. And so maybe that's why I'm realistic- And things kind have changed as well.

Like I think even the funding situation has changed quite a bit. Right. you know, principal investigators used to be able to like, be more involved in the experiments and be, you don't know be around more for mentoring and all this kind of stuff.

And now there's no more grant writing season for them. Like right in The last, in a lab I was in, it was like every day all day. You know that job now is essentially working, at least six, seven days a week, multiple, hours and it's not as attractive as it used to be.

It is a really nice job. The funding is not great. You never really know. So it's not ideal for a young mother anyways. Yeah. I always wanted to also stay in it as long as I was loving it.

And I loved it till the end, until I similar to you to move on, where it just wasn't meeting the needs. Yeah, I think that's it, it's just got to the point.

It had no regrets, but it got a point where I just like, this isn't working anymore. Someone else could do these experiments, I like doing them, but they're technical and it's at the point where someone could learn how to do this and I can move on and mentor or start to work on bigger projects.

But there was no opportunities there. There was not raise. It was actually that my funding just kept going down and down because I used to have my own funding and then I had to rely on internal It was just like each year there was no, there's nothing to be striving for.

So I did decide to leave and we had the opportunity to move to the US and to become more warm. And so my husband works remotely and so we decided to just kind of try something different.

That's when I started collaborating with Maria. Maria Zamphier, she's also a neuroscientist, and she is a mom. And she was finishing her PhD when I left my postdoc.

I knew she wasn't sure. She was like, do I want to do a post-doc? And I know she had a young son. Like, I could sense this, like I really want be with my son a lot, but I also really wanted to be a scientist and an illustrator.

So she making these neuron characters, designing them and illustrating them as she doing her her postdoc and her was up in pain research. And so she would go to talks and she was learning information.

She would start to take notes, but her notes often were illustrations.

Science communication and the brain coloring books

Then she'd make them into these really nice characters. I found as I was home and I thinking like, oh, I want to teach my kids about neuroscience and what I'm doing.

We were, showing them or I printing them out. you could get them on mugs or on t-shirts. And I found that was a really nice conversation start. It's like, oh, this is what I do.

I study glia, and so I'll get a t shirt that has glial and I give it to my sister. My sister thought it was cute. So I knew that that wasn't really a nice way of communicating.

As I was becoming more interested in science communication, we started thinking about what we could do together. Kind of like I call it a sabbatical. Was like a creative year.

And then she also wanted to do something like that. So we put together first a brain coloring book. It's called the brain, coloring and learning book and each page has an illustration that Maria's made.

So it's all custom illustrations and then some information about the brain that we think is really important. Together, we have over 30 years of neuroscience research behind us.

So we went through everything. How can we start back at the beginning? What are some really things that people should know? Like, what is a neuron? And then we try to have both coloring pages and activities so that a child anywhere, you know, people ask what age and I really think that we designed it so you could start as early as you wanted as a parent.

You could pick it up. And I know you mentioned that you have it for your son. Take a page and you color together and the parent can read and kind of You know your what your child's level is and what their interests are.

So you so like we have one about biking. You could open it up about bikini. Oh, you like biking and I know I'm like, oh, did you know that you have a cerebellum that's really important for learning how to ride your bike?

And then there's a helmet like you can color the helmet together. activity book that parents could do together with their children or anyone interested, caregivers, teachers.

So that's kind of the area that we're exploring now, how to educate using these characters. I love it. You sent me the first one and the second one came a bit later.

And I would I told you I was amazed at my son's understanding and interest in the books because I mean he knows that I'm a neuroscientist too and I study the brain I have like brain art all over the house and Yeah, you know, it's here.

But it was incredible, both his, like I said, his interest and also level, I couldn't believe it. He was explaining, he was like, Oh, well, if this neuron fires, then does this one, this One gets the signal and, and and sort of repeating all of this stuff to me.

And I was just amazed. They're sponges, right? They they're taking in so much information. And what we expose them to, this is our reach, like the early life experiences, what you expose him to is what they will retain as they get

older.

So this You know, everything in that book I tried to teach to my children in different ways. At the back of the first book we had, or near the second half of book, we talk about ways to keep the brain healthy, because that's really ultimately the big goal.

So helpful. Yeah, exercise, sleep, eating well, social connections, these kind of fundamental things that sometimes we can take for granted that are really the most important thing we can do for the brain.

So we have different ways of what you can eat. And it's just like a conversation starter. As they get older, they will retain that information. My daughter is 15 now.

She knows that sleep is the most precious thing. And, and some days I know that it's that she's not getting great sleep. She actually, her school starts at a ridiculous hour and like way too early.

I tell her, it is not your fault, but you're kind of sleep deprived. You know, that, when you explain like, well, you, your not, getting enough sleep, so that might explain why, You're not feeling that well or that you are getting sick or you know you start to talk about these things and become conversation, conversations that that want to continue on throughout development.

Yeah, that the health focus I thought was so helpful. And so, you know, such a great conversation to have with kids. Yeah. Right. and it's like, why are we doing this?

Because, You know our brains are most important. I mean, all of our organs are important, but you might have a small bias to keep it healthy. It's the same for us as adults too, right?

So people are wanting to kind of see like measurable results of know, fitness and eating, right? Thinking about like the weight loss industry and all that kind of stuff.

But if we can kind, of change our mindset to eat for our brain and body health, to move for brain body, health to have those social connections, meditation, all of those wonderful things, like we're going to be engaging with them so much more and helping ourselves.

If we focus on the things that we're just doing anyways, we should be doing that. We maybe discount. I think that's what I was doing. At some point I found that early on when the kids were little and I wasn't working and then having kids, I felt like at some I didn't feel like I at home is like, you know, I don't know.

I just didn't feel that I was that important even. And I feel like through your books and through different podcasts that they've listened to, kind of given myself permission to just say like actually you are doing so much more than you realize.

If you discount it, then you're not getting the dopamine associated with what you were actually doing. So these like early life, just holding your baby breastfeeding them, nurturing them.

You could just put them in the car seat or the stroller or whatever, but that's not the best for their brain development. Just being with them and it doesn't take much.

Taking them outside and getting natural sunlight, you don't realize what is so important for eye development, so these things that you're doing every day, they're actually so, important.

Yeah, that's why we call this spoil your baby, right? Yeah. Carry them instead of put them in the stroller, you know, get outside, getting in touch with nature.

They're not nice, just nice to do. they're really, really important to grow your babies brain. And the parent, like you said, because we do need to be in that right mindset to get the benefits as well.

There's huge benefits for us to have. If you're always feeling guilty that you are not doing something else, it's like, The biggest thing is just like, I'm allowed to just be a mother right now.

I don't have to be pulling myself in all these different directions.

Teaching kids brain health and modeling habits

My child needs so much. And then to learn about how your brain is changing, all of these things has been just so eye-opening for me. and I thought it was really important that since I had access to this information that I wanted to share and that's how I kind of got into them.

the science communication and that's something I'm still learning. Lots to learn. With your science brain, even Marie and I, right now we're working on our third book.

It's going to be all about vision and how we see. So there's two books. The first one is called The Brain. And the second one The third one is about how we see.

So the visual system is kind of more my area of expertise. And you find yourself like, right, like this, no, that's gonna want to read this. This is, you know, take it down so many different levels.

But still keep it robust and still scientifically accurate. We should be able to do that. hard. It's a big learning curve. The first version of my book was like deep, deep neuroscience and mechanisms.

And then same process, right? You're like, okay, what, let's find the sweet spot where it's engaging, interesting, and still accurate. Right. People want to know how does it affect them?

And so that's why we want it really wanted to have the translational component in it. I love it. I Love it so for people listening, this book is great for, you know, any child, right?

We can read any book to really any childish, beautiful pictures, we could start with our babies. And it can grow with them too, as they enter childhood.

and engage in the coloring and activities and everything as well. And it's great for us, right? So many people listening are also really interested in neuroscience and can really learn some beautiful basics.

Right. We hope that it opens some curiosity, that some people can feel that's it an intimidating area, the brain, neuroscience. But really, there's a lot of basic things that we can just learn slowly you start to become curious and you open up a coloring book and they're like, Oh yeah, sleep is important.

And then the next time you hear a podcast or something on Instagram or Facebook, like Oh, yeah. Then maybe that'll catch your interest a little bit more.

It's like I feel like it's a stepping stone to Yeah. to something to a book. You could read Matt Walker. Yeah. And when we're guiding our children to make healthy decisions and healthy habits as well, then it's a grounding to do that for them and for us as.

Well, and at the beginning of the book, we have this little message that The best way to get your kids to start doing something that you want them to do is to it yourself.

Because if you find a little corner and you pull out your crayons and start coloring, within a few minutes, like, oh, what are you doing? Let me see. They're curious.

What's got your attention? And whenever you try and take a moment for yourself, they'll see that. So I think that's really… Modeling is so important.

Yeah. We have to everything. Completely amazing. So if people are interested, where can they find the books? So they're available on Amazon and we have a website where we also have lot of free resources called thebraincoloringbook.com.

Coloring is spelled by U because we are both Canadian, so we kept the U. You can find more information there. The third book should come out. We're planning for fall.

And we're, you know, we have social media where we are trying to share coloring pages if people are interested. We're really interested in testing them out.

So Maria and I are both homeschooling with our sons. We've been using this as part of our curriculum and you can kind of follow us along as we will print out some pages we see that they're not interested.

Then we try something different. And then I just know how I find it so fascinating how each child is interested in different things and we'll pick up on different parts of the book.

And so that's just been my, my interest is that to see how, how children learn and how they're engaging with the books. Amazing. Well, we'll share, will share that for everyone in the notes as well.

Thank you so much for being here. It was so nice to hear your story and, uh, and connect with you. Yeah. So thank you, thank You so and thank for having this podcast.

I think I love sharing it with everybody. Amazing. Well, maybe we'll have we will have you back with the next book. Yes, for sure.