Transcript for “Thinking Developmentally”

Dr. Dipesh Navsaria: [00:00:00] Reach Out and Read, where books build better brains. This is the Reach Out and Read podcast. I'm your host Dr. Dipesh Navsaria, a practicing pediatrician with degrees in public health and children's librarianship. I'm a clinical professor of human development and family studies at the School of Human Ecology, and a professor of pediatrics at the School of Medicine and Public Health, both at the University of Wisconsin in Madison. At Reach Out and Read, we dream of a world in which every child is read to every day. Our show explores how children and families flourish and thrive through a combination of individual well-being, confident parents, supportive communities, strong public health, and good policy. Join us here for thought-provoking conversations on these issues with expert guests, authors, and leaders in the field of early childhood health and literacy. Research shows that reading physical books together brings the strongest benefits to children. That's why we're happy to have Boise Paper, a responsible paper manufacturer, as the founding sponsor of this podcast through their paper with Purpose Promise. Boise Paper looks for ways to make a difference in local communities. Thank you to Boise Paper for investing in our Reach Out and Read community. Children's brains grow and change more in the first thousand days of their lives.

Dr. Dipesh Navsaria: [00:01:20] That is from the time of conception to their second birthdays than at any other time. What can parents and caregivers do in those first thousand days to make their children's brains grow healthy and strong? Brain boosting foods. Healthy environments. Strong relationships. All of the above. As the age-old nurture versus nurture debate continues, we do know that lifelong health is rooted in childhood experiences. Today, we're digging into the neuroscience behind healthy childhood experiences that can help us build healthy children, nurturing families, and communities that care. Our guest today is Doctor Andrew Garner. He's a primary care pediatrician with University Hospitals Medical Practices in Cleveland, Ohio, a clinical professor of pediatrics at the Case Western Reserve University School of Medicine, and a faculty associate with the Schubert Center for Child Studies. Doctor Garner has written extensively on children's health and has co-written several policy statements for the American Academy of Pediatrics, including their statement on preventing childhood toxic stress. His latest book, now in the second edition, co-authored with fellow pediatrician doctor Robert Sall, is called Thinking Developmentally: Nurturing Wellness in Childhood to Promote Lifelong Health. Andy, welcome to the show.

Dr. Andrew Garner: [00:02:37] It's always great to talk to you.

Dr. Dipesh Navsaria: [00:02:38] Yeah. Welcome back, I should say. That's right. If you hit four times, we think you get the t-shirt.

Dr. Andrew Garner: [00:02:44] So you've done it for it.

Dr. Dipesh Navsaria: [00:02:46] There you go. So, you know, we talked about this book before, but can you remind us, why did you choose to write this book? And who's it for? Who's your audience?

Dr. Andrew Garner: [00:03:00] So Donna's truth is, this book was written because my co-author harassed me into doing it.

Dr. Dipesh Navsaria: [00:03:05] There you go.

Dr. Andrew Garner: [00:03:06] So, Doctor Saul is a geneticist, and we've met several times at the aafp. And he actually read a policy statement that I wrote a long time ago and said, we really need to write something that can get this out, not only to pediatricians, but also to anyone who really spends a lot of time with young children to help them get a better understanding of how what happens in childhood doesn't stay in childhood. And so we wrote the first edition back in 2018, and the Aafp graciously decided to take a risk on a book that wasn't really in their purview. What I mean by that is most Aafp books are either directly at parents or monolith textbooks. And so this was also sort of blending in even some advocacy. And so, the primary audience is still pediatricians and pediatricians in training, I know some residency programs have used it. And even more grateful to me is that there are even some medical schools that are using their third year clerkships to sort of orient medical students as to what pediatrics is all about. So that's probably the primary audience is to sort of get our own house in order, as it were. But it also is very useful, I think, for anyone who spends a lot of time dealing with young children. So, that would be home visitors, early child care workers, maybe even community health workers, early educators, and probably parents, that want to understand a little bit more, a little bit deeper about what's going on inside that head.

Dr. Dipesh Navsaria: [00:04:42] And as I mentioned to you, just before we started the recording, I'm trying to figure out how to get my undergraduates in human development and family studies to read at least parts of the book, if not the whole thing.

Dr. Andrew Garner: [00:04:56] That's great. I mean, there's probably no better compliment than that because you write something and you wonder whether anyone's going to find it valuable or not. And so it's nice to hear that people are finding it valuable.

Dr. Dipesh Navsaria: [00:05:08] So this is the second edition. The first one was in 2018 when we had you on. What prompted you to write a second edition and what's changed?

Dr. Andrew Garner: [00:05:20] Well, that's a great question. And actually we sort of set up the preface of the book with this, that 2018 wasn't that long ago, on one hand, seven years on the other hand, it seems like a lifetime ago. Right? So, you know, we've had a once in a lifetime pandemic. We've had disputed presidential election. There's armed conflict in Eastern Europe and in the Middle East, and there's rising rates of loneliness. And with children and teens, you and I see it every day in clinic. There's really a mental health crisis going on right now. And so there is this sort of growing sense that the world is a lot less safe, a lot less stable, and even a lot less nurturing than it was just eight years ago. And so that sort of prompted us to say, you know, the good news is that the sort of iterative nature of science means that's progressing, too. And so this is a way of sort of pushing back and saying that, you know, it's really never been clearer that safe, stable, and nurturing relationships are really sort of prerequisites for humans to reach their potential. Because now we have anthropologists like Brian Hare explaining that the survival of the fittest really means survival of the friendliest. Mhm. And we have epidemiologists that are showing how positive childhood experiences are linked with better outcomes in health, education, and economics despite the presence of adversity.

Dr. Andrew Garner: [00:06:46] And we have geneticists showing us how methylation patterns associated with adversity being reversed by tender touch or breastfeeding. And Ruth Feldman and other neuroscientists are starting to measure this thing called biobehavioral synchrony, which is sort of trying to quantify those transcendent moments of understanding while being understood. And then we have developmental psychologists that are demonstrating this link between the restoration of that biobehavioral synchrony and secure relationships and distress tolerance. So the second edition really is sort of an affirmation of the power of relationships to nurture the next generation, to buffer adversity when it happens. And they really sort of begin healing many of our society's most intractable problems.

Dr. Dipesh Navsaria: [00:07:30] Yeah. You said at least three things that I know I want to loop back to and this will probably be our first six hour long episode as a result. But yeah, there's so much you have in here about the science of childhood experiences. And are we talking brain chemistry? Are we talking about surroundings? Are we talking about those

relationships? I know the real answers. We're talking about all those things. And how should we think about this developmentally?

Dr. Andrew Garner: [00:08:02] Yeah, well that's it. So I mean, I think that, you know, I have a background in neuroscience. And so that tends to be my perspective. And so I tend to think, you know, I love child development because it's a front row seat of seeing brain development. It just sort of materializing before your eyes. And so the question is what are those aspects of the environment, the context that sort of optimize that brain development and what are the ones that sort of hinder it? And for a long time, we've really taken very much a medical approach to understanding that. And what I mean by that is the biomedical model is very reductionistic. We're looking for one gene. We're looking for one methylation pattern. We're looking for one problem. And so, we've done a great job with adverse childhood experiences and toxic stress and understanding what goes wrong. Problem with that approach, though, is that it tends to make us think that those effects of childhood adversity are the problem, but they're not. They're the consequence of the problem, right?

Dr. Dipesh Navsaria: [00:09:01] It's the adversity.

Dr. Andrew Garner: [00:09:02] It is the adversity. And that's the context. Those are the relationships that children are growing up in. And so when we're giving kids ace scores, that really says very little about them. It says a lot more about the context that we're growing up in. And so one of the points of the book is to try and begin to pivot from sort of the biomedical model, which let's be clear, it's sort of the foundation for Western medicine. So it served us pretty well, right? But the problem is it also, again, is reductionistic and it sort of doesn't get at the whole big picture. And it sort of makes us think that there's sickness and then not being sick. But we know that health is much more than that. There's a whole other spectrum, another whole end to the axis there in terms of being well. And so relationships are an opportunity to really try and get things right the first time, which is really what pediatrics is all about, right? Primary care pediatrics is actually more akin to public health than medicine because medicine is very much reactionary. And what went wrong? And as a primary care pediatrician, I'm way more interested in trying to get things right the first time. And if you stop and think about it, most of our early learning happens in the context of relationships. And so yeah, like you said, it's sort of all those things. I mean, it's definitely the science and understanding what goes wrong. But then even more understanding that by getting the context right, by getting early relationships right, we can not only buffer the bad stuff, but we can sort of bake in the good stuff. And that's what's really important is that we're learning more and more that positive childhood experiences, having that sense of being connected, having that sense of being understood not only buffers adversity when it happens, but it helps you to build the skills that you need to be successful in the 21st century.

Dr. Dipesh Navsaria: [00:10:45] Mhm. Mhm. Yeah. And the other thing from a developmental perspective is this notion that the same intervention is not going to give you the same results at different places in the lifespan. Right. You trying to fix speech delay at age eight is a heck of a lot harder than it would have been at 18 months, you know, and so on. So, you know, you can't just say, oh, well, we'll just fix this later.

Dr. Andrew Garner: [00:11:11] It's a lot harder. And, you know, there are lots of examples of that, but part of it is the brain's plasticity. You know, we talk about plasticity, which is the brain's ability to sort of rewire itself in response to experience. And we know that that declines over time. So, you know, the example I often give in clinic is, you know, just watch someone like me on a skateboard. It's not pretty, you know? But the young kids pick it up lickety split. And I guess the more current thing would be them picking up an iPhone and being able to use an iPhone, they can figure it out pretty quickly. But, you know, I'm still trying to figure out how to get on the right Wi-Fi. So, you know, I think that as we get older, we know it's harder to teach an old dog new tricks. That doesn't mean it's impossible. And so I think we have to be careful with that, because sometimes people then say, well, geez, once you hit a certain age, now, you know, it's destiny. That's clearly not true. It's clearly not true. But it is true that we want to get things right the first time, if we can.

Dr. Dipesh Navsaria: [00:12:05] Sure. Now, in this book, several times you mention, in particularly in the first chapter, about this concept of the proverbial black box now. Okay. You know, I didn't enjoy my anatomy class, but I don't remember there being a black box inside the brain. So what is this brain black box that you're referencing?

Dr. Andrew Garner: [00:12:26] Well, the black box is really an analogy. It's a proverbial black box. And it's actually more not so much the black box, the brain. But we can talk about the brain, but it's actually more about understanding, associations. Because if you look at the pediatric literature, there's sort of epidemiology research where we're looking sort of retrospectively, and then there's proactive sort of interventional studies, but the timelines all the same. There's some sort of experience in childhood, and then there's this proverbial black box, which is just mechanisms that are underlying the association with outcomes. And so that's how most of our research is done. There's something that happens. There's a time period. And then we're looking for outcomes down the line. And we're looking at associations. And we want to try and peer in that box and understand the mechanisms underlying those associations. Because associations are not destiny. They are probabilities, right? And that's probably the best and most important way to think about it is that if you have certain forms of adversity in childhood, that increases the probability of poor outcomes down the line.

Dr. Andrew Garner: [00:13:31] Conversely, though, exposure to positive childhood experiences increase the probability of positive outcomes down the line. And so what we

mean by peering inside the box is sort of beginning to understand the biological mechanisms that are helping us understand how experiences in childhood become biologically embedded and stay with you and impact learning and health and economic outcomes down the line. Certainly the brain plays a major role in that. But so does your genome. So does the way the relationships around you help you understand the world and how you respond to adversity in the future, and how you learn to interact with others and repair, and whether you have sort of social capital moving forward. So there's a lot going on inside that box. Not just the brain, but the box is helping us begin to understand that it's not destiny, but it's probabilities. And the more we understand about the mechanisms underlying those probabilities, the better we're positioned. We are to not only prevent the bad stuff, but actually promote the good stuff.

Dr. Dipesh Navsaria: [00:14:35] Yeah, I think we think a lot about the inputs and then the outputs and the whole concept you're getting at here is trying to peer into the what's happening in between. And if we understand those mechanisms, we get to the how and the why as well and can be more thoughtful about what we're doing. You mentioned adverse childhood experiences, which are, I think, well known to many people about the adverse circumstances that can occur in childhood and then the lifelong effects they have. But people may be less familiar with the concept of pieces of positive childhood experiences. And they may be wondering, like what constitutes a positive childhood experience?

Dr. Andrew Garner: [00:15:18] Well, they're not the only ones that are wondering, because we're actually still trying to figure that out. Be honest with you. There are a number of different measures that have been used in the pediatric literature. One of the first ones was actually the Benevolent Childhood Experiences Scale. Doctor Christina Bethel has been very successful at using a a positive child experiences scale that looks a lot about the relationships. And so if you look and there's one figure in the book, but if you look at sort of the most recent literature, all the scales that have been used to try and quantify positive childhood experiences and their association with positive outcomes down the line, but they're really looking at relational experiences, you know, feeling belonging, feeling understood, feeling accepted, having someone who cares for you, having you feel like you have resources at your disposal when bad things happen, those sorts of things. And so it's really unfortunate because probably the best moniker would actually be affiliative childhood experiences. But we already have aces, and that gets really complicated. So we can't have two aces.

Dr. Dipesh Navsaria: [00:16:23] We have a marketing problem. Got it.

Dr. Andrew Garner: [00:16:25] We have a major marketing problem. So that's why this sort of positive childhood experiences is sort of stuck.

Dr. Dipesh Navsaria: [00:16:31] Sure.

Dr. Andrew Garner: [00:16:32] But the thing that's interesting about that is, you know, you could also probably come up with other things that are potentially positive in childhood, like, potentially having material wealth or, you know, being a jock or being really good academically. And while those may play a role, they don't quite seem to be as powerful as the relationships. And it's interesting, sort of circles back to the work of Robert Waldinger and the Harvard Longitudinal Study. It's relationships that bring us meaning. He was looking backwards as opposed to looking forward. He was looking at, you know, people in their 80s and saying what brought meaning to your life? And it really is those relationships. So yeah, it's all about the relationships.

Dr. Dipesh Navsaria: [00:17:11] Mhm. Yeah. Yeah. You mentioned the term biobehavioral synchrony, which sounds gloriously technical. Can you demystify for our audience what that is.

Dr. Andrew Garner: [00:17:26] Sure. Well basically biobehavioral synchrony just means that in some of those sort of transcendent magical moments that we've all had with people where you truly feel seen and you are truly understanding the other person, there is something truly magical going on in the sense that some of your biological processes are sinking. So your anatomic nervous system tends to go in sync. There are sinking of hormonal levels, brainwaves even, and even the way you interact with others and so. Probably the foremost scientist area is Ruth Feldman. And so she talks about the fact when there is biobehavioral synchrony, there really is a sinking of brainwaves, hormonal activity, your behaviors and so what's exciting to me about bio synchrony is it's a beginning to get at a way of quantifying what seems sort of inevitable, these magical experiences that we've all experienced not only with our children, but with each other, our spouses. During those moments, there's great joy. And that joy can really become addictive, right? And being seen and being understood. And so I think that understanding is very powerful in helping us understand how relationships get started, what really keeps them going, what's the mojo, what's the energy that keeps them going? And I think it really comes down a lot to our biology. We're really programmed to be social creatures. We're programmed to try and understand and try to be understood. And when that happens, we literally get shots of joy in our brain. And that can be addicting. And that's great if the relationship's a nurturing one. Right. And so that's where the problem that Biobehavioral synchrony is helping us understand is that we're really starved for predictability. And so particularly with little kids, we often will say, well, you know, they're behaving because they want your attention.

Dr. Andrew Garner: [00:19:37] They want your attention. That's true. But the reason kids want your attention is because as a parent, you are the most predictable thing in their universe. And you do dances with them all day long. And by dances I mean back and forth.

The serve and return. They do something, you do something, they do something, you do something that's very predictable. And it's that predictability that they get addicted to. So we know that they're actually experts out there. Marty Seligman, who's well known for his, you know, positive and optimistic child, talks about homo prospectus that actually the brain is basically designed to constantly be making predictions and we make those predictions. We know you get a shot of joy in your brain. And so kids love our attention because it's predictable. And that productivity brings them joy, which is why when we have routines, routines are safe and self-reinforcing. That's what they're looking for some more of, because it's predictable. Consequently, when chaos happens and it's not predictable, it's literally like withdrawal and withdrawal. I want that productivity and productivity. I need to have that connection again. So I think in many ways that sort of is the beauty of Reach Out and Read is that there is that productivity that every night we're going to sit down, we're going to read together. No matter what happened in the chaos of the day, I'm going to have that connection again. And there is evidence that that ability to look forward to being connected is what builds distress tolerance and secure relationships.

Dr. Dipesh Navsaria: [00:21:14] Yeah, yeah. Thank you. Hopefully this podcast will be number one, top rated in biobehavioral synchrony between the host and the guest. So you talk about five broad, overarching principles of brain development. And I wonder if you could give us a brief description and why they're significant of each one. I'll name all of them. So the first was experience dependent.

Dr. Andrew Garner: [00:21:44] I think it's important because and again, what we're talking about here are sort of overarching principles to help people understand how the brain happens. So if you think about it, we start out as a fertilized egg, one cell. And you know, by the time you're 18 months old, you literally have billions of neurons with trillions of connections. And so how does that develop? And by understanding how it develops, it helps us understand how experiences might either interfere or promote that. So experience dependent refers to the fact that the brain when it gets wired, part of what happens there is its experience that triggers activity. And activity is what determines what connections persist and what connections get eliminated. And so in that sense, the brain architecture is really directly informed by the experiences the child's having, because those experiences determine what the activity is. And that activity then determines what connections get maintained and what connections get lost.

Dr. Dipesh Navsaria: [00:22:48] And similarly for the second item, which is cumulative, right, that they do build on one another.

Dr. Andrew Garner: [00:22:54] They build on one another. And that's really important because it actually sort of parallels our thoughts about scaffolding the skills. Right. And

learning. So absolutely. So, you know, it starts with just a connection between two cells, a synapse. And then several of those can form pathways ,and then pathways form more complicated networks that then lead to our consciousness, our behavior. And so yes, what starts at the bottom is really important. And so that's why scaffolding and cumulative is important. It's cumulative is important also because again things that go awry make it very hard to catch up down the line. On the other hand, when we get things right the first time, it's a lot easier.

Dr. Dipesh Navsaria: [00:23:38] And how's that different from the third, which is integrated?

Dr. Andrew Garner: [00:23:41] The brain is so incredibly integrated that I often make the analogy. It's like tickling a spider web. You know, there's a spider in a web, you know, it knows whether there's a fly way across the room because it senses it. And so the brain is so incredibly integrated that it's hard to actually parse things out. In order to understand the complexity of the brain, we often will separate out different capacities language, motion or movement, and cognitive skills. But the brain is so integrated that it's hard to actually remove one without the other. And the example I would use for that is we often use standardized tests as a way of looking for cognitive skills. But if you think about it, there's a lot more that goes on there. You have to be able to sit still. You have to be able to focus. You have to drown out what other people are doing. You have to make sure that you're not paying attention to your belly rumbling because you're hungry, you know, and you have to be able to read as well as comprehend what's going on in order to answer the question. So, you know, we tend to try and parse things out, but the brain is actually very, very integrated.

Dr. Dipesh Navsaria: [00:24:49] Okay. And then the definition of asynchronous is?

Dr. Andrew Garner: [00:24:52] So asynchronous refers to the fact that different parts of the brain mature at different rates. And so their functions sort of come online at different times.

Dr. Dipesh Navsaria: [00:24:59] And then you have this notion of dynamic which is that the brain is constantly changing. Right. That it's not fixed in stone.

Dr. Andrew Garner: [00:25:06] It's not fixed in stone. And it gets back to that idea we were talking about plasticity. So there's actually kind of two different forms of plasticity in the brain. There's synaptic plasticity which refers to the strength of the connection between two cells. And the good news for old dogs like us is that that's lifelong, right. So there's always opportunity for us to learn new skills. The other type of plasticity, though, is much more powerful, and that's cellular plasticity. What that refers to is the fact that during development, it's opportunity for one neuron to connect with one neuron or with 150 neurons, and so increasing the number of connections with different cells. So that's way more powerful. So

the analogy I tend to use in synaptic plasticity is like just turning up the volume on one synapse from low to high. But cellular plasticity is like one person yelling versus a stadium screaming. Much more powerful. Problem with those two forms of plasticity, though, is that, cellular plasticity is declining rapidly by the time kids hit preschool. And so again, if we want to get things right, we want to do a good job of trying to help parents and those early childhood caregivers nurture those connections early on.

Dr. Dipesh Navsaria: [00:26:21] Mhm. Sure. Great. Thank you. So, last concept I'd like to touch on is, you know, there's this whole notion of, of epigenetics, right, that the expression of genes is not just simply, hey, you know, and different mechanisms just kind of transcribe and and do what the gene says, but that the environment matters. The surroundings matter, the circumstances matter, and genes are turned on and off, as you mentioned earlier, through things like methylation and so on. There's also this connection with this eco bio developmental model. Could you explain what that ebbed model kind of is? And you know what the implications are from kind of a maybe an epigenetic perspective?

Dr. Andrew Garner: [00:27:10] Yeah, I mean, I think that developmental neuroscience and epigenetics both tell us that the context can become biologically embedded, that what happens in those first few years of life can influence the way the brain is wired and rewired in response to experience. And those first couple years of experience can influence the way the genome functions. Literally determining what parts of your genome are read over time, which is glorious because, you know, we used to think, as you said, that what you inherited from your parents was your destiny. When the reality is if the environment doesn't turn that gene on, it's not really much of a risk factor, right? And so that's good news. So both of them then are telling us that the ecology is becoming biologically embedded. So eco bio ecology is becoming biologically embedded. But of course the ultimate output of biology is behavior. What are you doing. And that behavior then in terms determines what happens next. So there is this ongoing cumulative feedback loop between our ecology what's happening around us and our biology. But then when you add in the dimension of time development, that's the cumulative nature, right. So the eco bio developmental, all those ongoing cumulative changes to our genome and our brain that happened over time drive development and not just in childhood but across the lifespan. And so that's where this eco bio developmental model comes from. And it really is an out, just another way of saying, stating things that have been said before, which is Bronfenbrenner and others that different elements of the ecology are going to influence the child. We're just adding in the biology now.

Dr. Dipesh Navsaria: [00:28:58] Sure, sure. Yeah. Last question. What's the number one message that you'd like people to take away from this book? And is it different for pediatricians and other professionals in the field versus what you'd want parents to know?

Dr. Andrew Garner: [00:29:15] Yeah, I'm not sure I can just do one. I'll say several quickly. How's that? Go for it. So the first is that what happens in childhood doesn't stay in childhood. And so, you know, I think it was Bowlby that said, a society that values its children must cherish their parents. And so I think that we want to do a better job of helping parents. That's probably the first thing along those lines. There are no perfect parents. And that's actually okay. One of the things we didn't have a lot of time to talk about was this with this biobehavioral synchrony, it sort of grows out of sort of cycles of relating rupture and repair that happen all day long. And it really is the repair that's important. And so it sounds counterintuitive, but the studies suggest that if a parent is exquisitely sensitive to child and is always in sync with their child, there is no actually ruptures that actually relatively fewer opportunities for repair. And those kids actually don't do as well as kids that have opportunities for repair, which is counterintuitive, right?

Dr. Dipesh Navsaria: [00:30:17] We had a recent conversation with Doctor Claudia Gould about this concept.

Dr. Andrew Garner: [00:30:20] There you go. Exactly. That's it. So the point is that there are no perfect parents, and that takes the pressure off parents. So, you know, in our book, we talk about the idea of good enough parenting. What's good enough parenting? Good enough parenting means, again, that that child has that expectation of repair and has the sense that someone is watching them. And so I think that's probably one of the most important things, is that as we talk about how we can nurture kids to fulfill their potential, we have to go back to the context and the ecology and find a way to help parents be their best versions of themselves, because parents are also biologically involved to connect with their kids. But we as a society put up barrier after barrier after barrier, making it harder and harder. And then there's all the cacophony of, you got to do it this way, you got to do it that way. And what we're basically saying here is, you know, follow your gut. Spend some time, you know, connect, you know, it's joyful for you and for them. So play is good. Reading is good. All things that bring joy together. All in.

Dr. Dipesh Navsaria: [00:31:27] Indeed. Andy, thank you so much for this conversation and for this book. You're really bringing together so much depth and complexity in the science with these broad, overarching principles that I think will really help us inform this, you know, practice programs and we hope policy.

Dr. Andrew Garner: [00:31:47] You should hope so. Thanks so much for having me.

Dr. Dipesh Navsaria: [00:31:53] Welcome to today's 33rd page or something extra for you, our listeners. In the epilogue of his co-authored book, Doctor Garner tells us a few things about the big picture of all this really incredible work, and I thought I'd share this with you. He

says, but everyone has a contribution to make, similar to the way that a toxic stress response might initially appear to be adaptive, but ultimately proved to be harmful over time. Supporting or simply tolerating disparities, inequities, marginalization, racism, and nationalism might empower the insecure with a sense of superiority and provide the fearful with an illusion of security. But we dream of a day when students of human development recognize all these divisions as intergenerational threats to relational health and our collective well-being. We dream of the day when a comprehensive, integrated public health approach is implemented not only to address early childhood adversity and toxic stress, but to proactively build, eliminate barriers to, and repair relational health. We believe such an approach has the best chance to translate what is known about human development into healthy, resilient children, strong families and communities that care.

Dr. Dipesh Navsaria: [00:33:14] Promoting lifelong health begins by nurturing wellness in childhood. And that's today's 33rd page. You've been listening to the Reach Out and Read podcast. Reach Out and Read is a nonprofit organization that is the authoritative national voice for the positive effects of reading daily, and supports, coaches, and celebrates engaging in those language rich activities with young children. We're continually inspired by stories that encourage language literacy and early relational health. Visit us at reachoutandread.org to find out more. And don't forget to subscribe to our show wherever you listen to your podcasts. If you like what you hear, please leave us a review. Your feedback helps grow our podcast community and tells others that this podcast is worth listening to. Our show is a production of Reach Out and Read. Our producer is Jill Ruby. Lori Brooks is our national senior director of external affairs. Thank you to our founding sponsor, Boise Paper, for making a difference in local communities like ours. I'm your host, Doctor Dipesh Navsaria. I look forward to spending time with you soon. And remember, books build better brains.