

How Toddlers Think and Feel: What the Research Tells Us, Part 3

Beth Zack: Good afternoon, everyone. Welcome to "Baby Talks." We're so happy to have you with us here today. "Baby Talks" is a series of webinars for teachers, family childcare providers, and home visitors working with infants and toddlers in Early Head Start, Migrant and Seasonal Head Start, and American Indian and Alaska Native programs. These webinars are designed to introduce you to research about infant and toddler development. My name is Beth Zack and I'm here with my colleague, Marley Jarvis.

Marley Jarvis: Hey, everybody. Beth and I are from the National Center on Early Childhood Development, Teaching, and Learning. It's a bit of a mouthful, but that's NCECDTL. And we are based at ILABS, which stands for the Institute for Learning and Brain Sciences, at the University of Washington. ILABS is an NCECDTL partner organization, and ILABS is one of the leading infant research centers in the country.

Beth: This episode today is the final in our three-part series where we've been examining the first 3 years of life from the child's perspective. This episode focuses on that third year of life, from about 25 to 36 months. But don't worry if you missed the first two, each episode works on its own and they're also available on the Early Childhood Learning and Knowledge Center, or the ECLKC. Each of these episodes covers research and offers research-based strategies and techniques to help you in your work.

Before we jump into our content today, I want to take a minute to go over our learning objectives. First, we want to identify strategies that 25- to 36-month-olds use to learn about people and the world. And second, to explain practices that promote learning and development during that third year of life. And we've said this in each episode and it's true again, there is so much that happens during this third year. Lots of new stuff, from toilet training to children speaking in short sentences. This really is a time of amazing growth and development.

Marley: It sure is. And there's a lot that remains the same too. At two, from the child's perspective, I love to explore and learn something new every day. And I'm still learning a lot by watching you so those special adults in my life. When you take off your shoes before entering the house and I imitate you, I'm learning about my culture and about routines.

Beth: Yes, absolutely. There are big changes across every learning domain of the Early Learning Outcomes Framework, or the ELOF. Remember, children are unique and they're going to be developing skills at their own pace and that's totally OK. Let's look at a few examples from the child's perspective at both 25 months and 36 months. If we take a look at language and literacy, when I'm two, I can say about 50 words and even some two-word phrases.

Marley: And then when I'm three, I can speak in short sentences.

Beth: Looking at social and emotional development. When I'm two, I'm still playing alongside my peers a lot, which we call parallel play but I'm also starting to join into activities with other children and starting to practice that turn-taking, although practice is key there, I still need a lot of it.

Marley: That's true. And then by the time I'm three, I'm actually initiating play with peers. And I'm engaging in longer bouts of play like cooperative play.

Beth: Yes. Big changes there too. And then looking at motor development. At two, I can run and I can jump, and I can kick.

Marley: And then when I'm three, there's some more complex things going on. Maybe pedaling a tricycle, walking up steps, alternating feet, even though those are some more complicated motor development things there.

Beth: Yes, and I just want to ... We only covered a few examples there. But for more information about the ELOF, you can check out your Participants Guide. We have a lot of links in there and resources for you to dig in deeper if you'd like. Today we're going to be focusing on the approaches to learning and the cognition domains. And that's really because self-regulation skills, they are at the heart of a 2-year-old's behavior, and they're also developing new and exciting cognitive skills during this year. And then, of course, that learning is connected across those ELOF domains.

Marley: OK. To get us going here. Here's your first Participants Guide. There's that icon, that green hand. Go find it if you haven't already. And we've got a place in there for you to write down something here. I want you to think about a 2-year-old, and what is the first word or phrase that comes to mind? And if you're comfortable, feel free to share that with us using that Q&A widget. It's a great chance to make sure you can both find your Participants Guide and that Q&A widget. Again, what is the first thing – it could be a word or a phrase – that comes to your mind when you think of a 2-year-old?

Pausing a bit, hopefully, you found those things so let us know if you need help. But remember, in this series, we are encouraging you to see and hopefully really feel what it's like to view the world from the child's perspective. Ask yourself what is it like to experience the world the way toddlers do, it's pretty different perhaps than how we do. Think back to that word or phrase that you wrote down. Does it have a negative or problem-focused or more positive connotation? And if it's negative, can you think of how to rephrase that? Can you maybe come up with a word that would show that same concept as a strength? Often "the terrible twos", that's the phrase that some adults may use to describe this time period. Let's try to shift that a little bit here.

Beth: Yes. Think about how a toddler might describe themselves. They're going to say, I'm not terrible. Maybe I'm curious. I'm persistent. I'm energetic. Or something along those lines. And, that doesn't mean we can't find their behavior challenging at times because we can and we will. But we can shift our mindset and our focus from negative to positive, from a challenge to seeing the strengths in all these new behaviors and skills and things they're showing us.

Marley: Yeah, and a major goal here is so that it enables us to support them. When we're taking the child's point of view and we're taking that time to empathize with their experience and what that might actually be like, and we as the adult, we're in a much better place to support them through whatever it is that they're working on and all of their wonderful things they're working on this year.

Beth: Yes, absolutely. Before we jump into the research that we want to share with you today, I want to revisit our principles of development that we talked about in our first two episodes. And they were, so one, I learn from other people. Two, I learn through experience. Three, I need help regulating my emotions. And four, I benefit from doing things for myself. And these all continue to be true but they're going to start to look a bit different in practice because children are different. They're continuing to learn and grow. And we're going to cover research that touches on each of these and then we'll revisit them later in the webinar to see how they've changed.

Marley: OK. Relationships. Definitely still key. But they are starting to look a little bit different. Children are working on becoming social partners with their primary caregivers.

Beth: They need our help with this but this is also coming at a time when they want more autonomy. Dr. Berry Brazelton, he's a renowned American pediatrician and researcher, he called the toddler years "a declaration of independence." So true, continues to be true with my now 5-year-old but especially during this third year. We're really seeing toddlers, they're working on becoming their own person. And they're going from mostly going along with the adults' plans and then suddenly they start having these opinions, like, "no", "this way", or "me do it." And they might show these through actions rather than words if they don't have those words to communicate.

Marley: We are hearing, or seeing "no", but really the child is telling us when you let me do things by myself, I develop the sense of self-control and also confidence in my abilities as they're growing. And research actually talks about this, shows a positive relationship between parents who support their child's autonomy so their ability to do things by themselves to the best of their ability, and something called executive function skills later on in their preschool age years. Executive function skills, this includes things like self-control. And we're going to talk more about executive function skills in a bit. That's all I'll say now.

Beth: But still like so they have this new need for autonomy, from picking out their own clothes to not being ready to come inside from playing. This can actually be pretty hard for us adults too. For the most part, this little person just went along with our plans until now.

Marley: They have this new strategy for learning, really is what this is supporting during this third year. I assert my independence. As challenging as that might feel to us, remember this is part of their learning process.

Beth: Yes. But also, from the child's perspective, I'm only 2 and I still need you the adult, even though I may exclaim that I don't or push you away. I can't help but share one more quote here, this one's from Claire Lerner who is a licensed clinical social worker and author of many wonderful parenting publications and resources. And she sums up toddlers nicely by calling them "a bundle of contradictions."

Marley: I really like that. One minute they're sweetly asking for a cheese stick, and then the next minute, they're rolling on the floor crying because you gave them the cheese stick. We as adults are sitting here, "What just happened?"

Beth: And this is one reason many adults often call this year the terrible twos. From tantrums to rapid mood changes, those out-of-control feelings we see, impulsive behavior, the twos really have them all.

Marley: They do. It's a bit of a roller coaster. But when we take a developmental perspective and look at the research, we see that there's reasons for these behaviors. We like to say that their behavior has meaning. If we're being honest, as adults, we feel a lot of different feelings every day too. But we have more tools for working through them.

Beth: And no one calls those terrible all the time. Really toddlers they're not terrible at all, they just don't have the skills to act or reason like we can. And we shouldn't expect them to. They don't have the same life experience, they lack self-control, language skills, and brain maturation. We're going to touch on each of those three things in the upcoming slides here.

Marley: OK. We're going to start with brain development. One, because it's cool. Everybody always likes talking about brain development. But also, it's what's driving toddler behavior and emotions, what we're talking about here. I'm showing you here a part of the brain behind your forehead. This is the prefrontal cortex. And it plays a really critical role in all of this, especially in self-regulation. Self-regulation, as you can imagine, fundamental for school, also just life, being able to regulate oneself is a big deal.

And I hinted at this earlier, so it's part of this suite of skills that we call executive functioning. Other things in that suite of skills of executive functioning include the ability to problem-solve and think flexibly, to be able to kind of narrowing your focus on a single task, just to pay attention and sustain focus. Also, to remember rules and procedures, things that if I tell you, "Here's what we're going to do, can you remember that and focus long enough to carry that out?" As well as the ability to control impulses so a ton of really key stuff, not just for school readiness but, of course, for life there. This is all part of executive functioning.

Beth: There's a reason, a 2-year-old is not in kindergarten and it's because they don't have the neural networks in place to self-regulate and to exhibit all of these skills that you need for school yet. They can't and we shouldn't expect them to control their impulses on their own. They're still learning. The connections and the networks that form in the part of the brain, this is developed over the course of their entire childhood. And it really takes years to build those connections and their response networks that they need for self-control.

Marley: Yeah, and you all play a really big role in this. Those connections are forming on their own. They're forming in the context of responsive caring relationships. And, of course, we do see individual differences in how the children are able to manage their emotions and their behavior. Some of that may be genes, some of that from age, and also experience. Of course, there are some of these individual differences as well.

Beth: I love to share a recent study that researchers did where they tested whether 2- and 3-year-olds could wait, so self-control, to get a snack or a gift reward.

Marley: And you may be familiar with Walter Mischel's classic marshmallow test, where they measured whether 4- to 6-year-olds could delay gratification really to get two marshmallows

instead of just one. And one of the things that they found was that children who used better strategies to distract themselves from the marshmallow showed more self-control.

Beth: And that's what you can see here in these photos. This little boy is doing any type of distraction that he can think of to not actually eat that marshmallow and wait. I just love these images. It's so great. What I really want to focus on though is one with the age we're focused on today, that third-year life. This study was with 2- and 3-year-olds. This is a similar type of study only they had either a box of raisins that they were trying to wait for as a snack delay or a wrapped present, so that was the gift delay. And the researcher told the child that they had another task that they needed to go do, and they asked the child to not touch the raisins or that wrapped present until they were finished. And that delay that they were waiting, it was one minute.

Marley: I love this. OK. Were they able to wait, that's the question.

Beth: OK. Well, the 3-year-olds were better at waiting than the 2-year-olds. And then like the older children in the marshmallow test, they actually found that children who used certain strategies, they were better at self-control so waiting to get that snack or get that gift. The children who looked away from it, if I don't see it, maybe I forget about it, from the raisins or the gift, or they actually like held one hand in the other almost holding themselves back, they were more successful. And those children who were successful, they actually showed those two behaviors so the looking away and holding the hands within the first 10 seconds on average of that delay, starting of that one-minute delay.

Marley: That's pretty interesting. Also, distractions can be helpful for 2-year-olds to regulate their emotions too. I think that's kind of interesting.

Beth: There's this other study I want to share and they used that same type of snack and gift delay task, only they did things a little bit different. They were interested in the type of distraction activity that children chose and whether it matched their temperament.

Marley: That's pretty cool. Yeah, tell us more about that, Beth.

Beth: OK. They tried that delay task once, so the waiting game. And then they watched a researcher play with either an active toy, so similar to this like a push wagon in the photo you see here, or a calm toy like stacking cups as a distraction during a similar waiting task. They're watching the researchers choose this active toy or this calm toy. And the researcher actually told the toddler she said, "I don't like to wait but I feel okay when I'm playing with this toy." Either that active toy or the calm toy. And then the children played the waiting game again with the different set of toys with these distractions available.

Marley: And what did they find?

Beth: Well, they found that – first of all, the more that a child used a distraction toy, the less negative emotions they showed so that actually helped keep them calm during something that can be a frustrating situation, having to wait for a gift or a snack. And then children also played with that distraction toy more after having watched the researcher play with one of them. And then one of the really cool things they found was that the toy that they chose matched their activity level. And activity level is a key dimension of temperament.

They had parents report on this before the kids played this game. If parents reported the child's activity level as more calm, then they were more likely to choose the calm toy, and if parents reported the child is more active, they tended to play with the active toy. And they chose that even if they had seen the researcher choose a toy that didn't match their activity level. If they had watched the researcher play with a wheelbarrow but they reported as calm, they would have chosen the stacking cups more likely.

Marley: That's pretty cool. Yeah, there's actually a lot in that study. We have children learning from observation, observing that researcher. And there's also something really cool there, they're learning to regulate their emotions in a way that matches the child's temperament. That's really neat.

Beth: I just love that. We can actually put these findings into practice. When a child is in some sort of like frustrating or slightly distressing situation, you can try giving them choices between different types of materials or activities such as something that's more active versus calm. Let them choose how to regulate their behaviors and their emotions. You never know, it just might be successful.

Marley: We're going to pause here and do a quick pulse check. We just want to know is this a strategy you might try or maybe recommend a family child at home when their child is feeling a little distressed or frustrated. Thumbs up if you think you will give it a try. Thumbs down if you think maybe you'll pass. And I'm going to send that pulse check out right now for you.

Beth: I wish this was something I have thought of when my daughter was younger. It's like so obvious. Like I'm sure, it's not like I never gave her different options between things but like never really made that distinction between giving her something that was more active versus more calm. So far, let's see, we've got about half of our attendees today have answered, and overwhelmingly we are seeing that this is a strategy that you will try. I love that. I guess that I'm still going to consider trying this even though my daughter is older now. I just think it's like a great way to think about really matching the types of activities that we like and their temperaments. I'm just going to give it another ... We're almost at 50% answers here. Yeah, and overwhelmingly we've got people who are willing to try. I'm going to end that pulse check and we're going to keep on moving on here.

We've been talking about children regulating their behavior and their emotions. But you've probably seen this and experienced it, but sometimes, they just can't do it, even with distractions, even with our support.

Marley: Let's make sure we're looking at this from the child's perspective. I get overwhelmed by my emotions. And I'm not having a tantrum because of anything you, the adult did, I just need to release these emotions. But remember, I don't have the language skills to say what's bothering me. Sometimes I have a tantrum.

Beth: And we actually have research that shows that children's language skills can contribute to tantrums. A group of researchers at Northwestern University looked at language skills and temper tantrums in 2000 toddlers. And they found that late talkers, which they defined as children who were saying fewer than 50 words or weren't combining words into short phrases

by age 2, that those late talkers had nearly doubled the number of tantrums as their peers who talked earlier.

Marley: That's a huge difference, Beth.

Beth: It is. And not only that. For those late talkers, their tantrums tended to be more severe so think of things like holding their breath, hitting, or kicking.

Marley: What this means is perhaps if you're seeing a combination of language delays and frequent tantrums, this maybe is a good time to get some help. Either you or the families you work with can connect with some additional support through a pediatrician, early intervention if that's available to you just in case there's delays beyond the typical development there.

Beth: Absolutely.

Marley: OK. Working on self-regulation skills, it's a very important task that's going on during that third year. But there's also a lot more happening developmentally. A 2-year-old's curiosity and experimentation, these things don't always lead to behavior we think challenging, it also leads to a lot of exciting changes. Absolutely. We're seeing a lot going on in their cognitive development during this third year. This is what we're talking about next.

Beth: Yep, and I think is a great place for a video so we can see some of those cognitive skills in action and get us thinking about them. I encourage you to open up your Participants Guide now, there's a spot for you to jot down notes of what skills do you see the child practicing, and then also how is the adult supporting the child's development. Let's take a look here.

[Video begins]

Man: Is that the same?

Boy: No.

Man: No. Why isn't it moving? It looks the same. OK. Try this. See if this one works. OK. We're going to have to make more room. Bring the balls, let's make it round like that ball. OK. How about now? Does that look more like it?

Boy: Yeah.

Man: All right. Let's try it. This one doesn't look like this one, does it?

Boy: No.

Man: OK. Put the ball. Oh, oh.

[Video ends]

Beth: Just love that. This age is so fun if you're really focusing on all their learning.

Marley: Absolutely. And there's a lot of good stuff happening in that video.

Beth: Yes, I like how the adult is supporting the child, they are experimenting and problem-solving together. He is asking questions and they're testing those ideas. And he is also using language to scaffold the little boy's learning.

Marley: He's doing a great job at that. And also, I really like that they brought the outdoors in, if you noticed that was snow and ice I think for the experimentation and play. And, of course, the adult is really supporting that child's development across learning domains.

Beth: Yes, I'd like to bring back to the strategies for learning that we introduced in our last "Baby Talks" episode and that was I experiment and I play. There's so much learning that happens through play. In this video, we see him learning about cause and effect. If I push this ice down this ramp, it will roll but only if it's in the shape of a ball. They're testing out ideas through play, practicing real-world events, and figuring out how things work. And the other really cool thing about the play is that it gives children autonomy when we just let them play and they desperately crave that at this age. And they can make decisions about what and how to play.

Marley: They get to be in charge and play which is sometimes unique in their day. OK. There's a lot going on in the development of a 2-year-old. But next, I'd like to focus in on something called symbolic thinking or symbolic understanding and its connection to everything from play to children's thinking skills.

Symbols, this might seem a little random but bear with me. Understanding and using symbols. This is just a universal part of the development and participating in your culture whatever that might be. We use symbols all the time when you think about it. Writing, our alphabet system. Models that we may have to represent something else. Music, like musical notation and stuff. Signs. Symbolic gestures like that thumbs up. These are really commonplace examples but importantly we're not born with an understanding of symbols. As an adult, we take this for granted that there's this connection between the symbol like our thumbs up and the referent or sort of what it's referring to or what the object or the idea that it represents. This begs the question if I'm born with it, when do young children start to use symbols as a source of information or a resource for reasoning.

Beth: I'd love to share some experiments where they tested children's understanding of symbolic relationships. This first one was a seminal study at the time and it really contributed to our understanding of early symbolic thinking. The researchers were curious whether 2-and-a-half- and 3-and-a-half-year-olds can understand that something is a real thing in and of itself but also represent something else. For example, a map is real but it also represents where landmarks are in the real world.

Here's the basic premise. The researchers showed the children a regular-sized stuffed dog and then a miniature version of that same dog. And then they also had a big room. Imagine like the one you're in now and then they made a matching miniature version of that same room. And the experimenter showed the child features of both rooms and how they were the same. And then next, the child watched the researcher hide that little dog in the miniature room, so you can see that in the photo here, for example, under the pillow on a couch. And then they brought the child to the corresponding big room. And the child's task was simply to find the toy. The researcher even told the child that was hidden in the exact same space.

Marley: I love these studies. They're so creative. Beth, share with us what did they find.

Beth: OK. This was easy for those 3-and-a-half-year-olds but the 2-and-a-half-year-olds, they really struggled with this. They were just randomly searching around the big room as if it did not represent anything. There is this remarkable shift in children's symbolic understanding between 2 and a half and 3 years of age. Those older children seem to understand that there was a relationship between the symbols, so that miniature room and its referent which was the big room. But the 2-and-a-half-year-olds had no clue that one room represented the other even with those prompts and the researcher pointing out how they were exactly the same.

Marley: That's pretty interesting. I mean, 2 and a half to 3 is not that big of a difference in age but sure made a big difference in that study. And the reasoning there is this development of symbolic understanding, right. At 3 years of age, most children have this sort of symbolic understanding. Again, this is something like using a map to understand the location of animals at a zoo in relation to your own location. If I walk through the main entrance, the lions, which I'm really after, they're going to be straight ahead. Great. How is this so difficult for the 2-and-a-half-year-olds when it seems so obvious to even just the 3-year-olds, and, of course, us as adults?

Beth: The researchers wondered the same thing. They did a second experiment. And I love this one because it gets at that creativity we're talking about. They created a shrinking machine.

Marley: That's great. OK.

Beth: OK. The researcher, they had the children play that same hide and find the game as before, only this time, the researcher told some of the children that they had a shrinking machine that could make the room and the toys both smaller and bigger. They had children turn that machine on and then they left the room and they heard machine sounds, beep-boop-boop. And then they came back in and only to find either the smaller toy in that same spot or even the smaller room. And guess what? When children thought that that big room was the same as the miniature model, they did much better at finding the toy and that's the shrinking room bar on the graph that you see here on your screen.

Marley: Really what's happening in this right there, they're doing the shrinking machine which is shrinking the room and the toys. Effectively, the researchers are just taking away the need for symbolic understanding.

Beth: Yes. From the child's perspective, it's now the same room and toy. It's not representing something else, it's just the same thing, it's only shrunk or made bigger. They only had to remember where it was hidden so which makes it a simple memory task. And when it was a simple memory task, the 2-and-a-half-year-olds succeeded. But when it was that symbolic game, that's when the 2-and-a-half-year-olds had trouble transferring their learning between the symbol and its reference. And the researchers proposed that this might be due to limited cognitive flexibility at that age. There's a lot happening between 2 and a half and 3. At 2 and a half, they have difficulty mentally representing a single object in two different ways. In this experiment, that means representing it as that miniature model and the object as the room itself.

Marley: I mean, while being entertaining and silly-seeming study, there's a big takeaway here. Going back to practice perhaps in a classroom or in the family home is that we can't assume

that children under the age of 3 are going to understand the connection between a symbol and an object or an action or an idea or whatever we're using to represent it.

Beth: Exactly. From other research, we also know that young children have trouble mapping from themselves to a doll or vice versa, even though these connections might seem super obvious to us as adults like Marley just said. We know that symbolic thinking becomes more sophisticated with both age and experience.

Marley: One way that we can give children practice with symbolic thinking is through pretend play. And in fact, you might have even heard pretend play referred to as symbolic play.

Beth: Tell us more about how those two are connected.

Marley: During pretend play, I mean, think about what children are doing when you see them play. They're using objects or actions or ideas to stand in for something else. They're getting practice using symbols. They might use a stick for a hair comb or something like that. This is showing symbolic thinking. They're using symbols. And pretend play like this, it's emerging in children who are typically developing by shortly after their second birthday. You can see that timeline there.

Beth: Let's watch some of this in action. We have two different scenarios to show you. And we'd love for you to think about the skills children are practicing as they play. And also, how are these adults supporting their pretend play. Again, use your Participants Guide to jot down any observations. Let's take a look.

[Video begins]

Child: [Inaudible]

Woman #1: Oh, you can't put it in your mouth. That's not your brush. Teeth.

Child: Teeth

Man: Make me a drink? I would like some apple juice.

Alonzo: Milk.

Man: Okay. I'll have milk.

Alonzo: No.

Man: No? Nicholas, Alonzo won't make me anything to drink. Will you make me something to drink? Thank you. Do you want some? Here, take a drink. Oh, thank you, Alonzo. What is it?

Alonzo: Coffee.

Man: Coffee. Ouch! Hot!

[Video ends]

Beth: Through pretend play, we see curiosity and imagination, but those children are practicing other skills too. Marley, what did you notice in the videos?

Marley: One thing I was noticing is there's sort of different levels of pretend play, right. You might have simple pretend play. And that first video was a good example of that. Brushing

teeth, using a big but realistic toothbrush to perform the pretend action but, it's fairly simple. Whereas that second video where they're having the cups and drinks and stuff, there's a lot more complex pretend play happening there. That child on the left, they're using kinetic sand it looked like to represent something else. First milk, then coffee. And the child on the right, they had I think it was a block that they're using as a cup that they are pretending.

This type of pretend play, it's really supporting children's cognitive flexibility, so the ability to think about things beyond just the very direct object that it might be, and symbolic thinking, of course. Because the children had to think about how to use these objects in totally different ways and to understand just how one object can represent else, that symbolic understanding we're talking about.

Beth: And then another practice that we saw in the video was really the adult serving as models to the children. They were language models by asking questions and providing elaboration. In that second one, the little boy said it was coffee. And the teacher said, "Ouch! Hot!" And then he blew on the coffee, and they were models for warm, supportive relationships. They also modeled thinking skills and they were also practicing social and emotional skills, right, as they test out routines and roles from everyday life, things like brushing teeth and making drinks.

Marley: They are actions to language development, social-emotional development, cognition, and so on.

Beth: Self-regulation skills.

Marley: Ok, tell us more about that, Beth.

Beth: OK. There's interesting research that shows an early connection between pretend play in young children and the self-regulation skills that we talked about earlier. One researcher found that children who were more successful on a pretending task, they were better able to wait for a sticker. Similar to that snack or that gift delay that we talked about earlier. This ability to show inhibitory control so to stop themselves from acting, this increased with age so from 1 and a half to 2 and a half years. In other words, children who play more pretend tend to show better self-control.

Marley: It's so cool. And if we're thinking about how we might support that as adults, as educators, a great way is just to have lots of open-ended materials so things that they can play with that don't have, one right way to use them so really letting children use their imaginations.

Beth: Yes, absolutely. Open-ended materials are also great for the strategies that we talked about. Far-right, so supporting children's autonomy, their experimentation, and their play. During the examples we've shared, we've also talked about another strategy for learning but that was also big during the first and second years of life and that is I watch. At age 2, children, they copy others, especially adults and other children. And learning by watching and imitating, actually continues to be important throughout this year and even throughout preschool. By age 3, children are going from simply just copying actions, to actually learning rules and strategies and things that are going to help them get ready for school. And they do this by watching and then copying others.

Marley: Sure.

Beth: I'd sort of like to wrap up that research section and move on to some effective practices. But first, I want to revisit those principles that we talked about at the beginning because I promised that we would see how they've changed across this year.

The first one, I am fascinated by people. Really it's not just that they're fascinated by people but they're really working toward becoming social partners with them. And of course, readily learning from others that is still true.

The second one, I learn through experience. We talked about how they're developing symbolic thinking skills through pretend play. And, it really takes experience to get better at regulating emotions and behaviors. And then that piece connects back to both that first principle, so learning from others, and then also our third principle which was I need help navigating change and regulating my emotions. This is such a big part of being 2, as we've talked about. But I think the thing I want to mention is that as a 2-year-old so from my perspective, I need you, the adult, to be a calm model for me. Show me how I can control my behavior and emotions.

And then finally number four is I benefit from doing things for myself when I can. And I'd like to update this one to I want to do things for myself, but I still need you to set limits and be there to scaffold my behavior.

Marley: Yeah, so important. Beth, we've revisited and revised these principles, which is great, and we've also talked about strategies for learning. I assert my independence, I experiment, I play, and I watch.

Beth: Yes. Now let's talk about those effective practices to support 2-year-olds as they use these strategies to learn about people and the world. And one of those number one practices that can be especially helpful during what can be a challenging year for us adults is to really start with ourselves and our own mindsets kind of bringing us back to the beginning. We talked about shifting from negative to positive so rather than the terrible twos, think of all the learning and the strengths that toddlers are showing during this year and push yourself in that 2-year-old's shoes, especially when they are having a hard time and think about how it feels when an adult remains calm and acknowledges your feelings. And it's like this reset for your brain when you think of it from the child's perspective.

Marley: Thanks for bringing that. I mean, that's so important. I don't know, I feel like something that adults tend to do sort of erroneously make a mistake here is that we think that we have to agree with how the toddler is acting, or how they're feeling in order to take their perspective, which is not true at all. We can take their perspective and provide that empathy without reinforcing negative behavior. We can still have empathy while setting limits. And that's tough. Of course, that takes practice but it's a big part of our role as an adult here.

Beth: Yes. And so important. One piece of doing that is really setting realistic developmentally appropriate expectations for 2-year-olds' behaviors and really meeting children where they are. It's often the case that a child turns 2 and we're like, "Oh, they're no longer a baby." And we start treating them a lot like a lot older than what they are. Sometimes we expect more of their behavior and that can be too much more.

Marley: I'm really glad you brought this up. This is a report actually from Zero to Three that conducted a national survey of parents. And in the survey, they were asking about when these parents expected their child or children to reach certain milestones. And among other things, they found that majority of parents thought their child could exhibit self-control one to two years before they're actually developmentally able.

Beth: Wow! This stat just always blows my mind a little bit. But this is so important, it's important for education staff, for us, and to share with families too.

Marley: Absolutely. There's a link to it in your Participants Guide. We included that, you can go find it.

Beth: Awesome.

Marley: I don't really want to stop right there, I want to share one more thing. We know from research, some other research that this happens a lot with black children. We're seeing ... Research tells us that often we expect a young child to behave much beyond their years more often with young black children than white peers.

Beth: Really, tell us more about that.

Marley: It has a name. It's called adultification, which is sort of what it sounds like. And basically, it's just the practice of treating black children like they're older than their age. And this is happening more with black children than with their white peers of the same age.

Beth: Great. And this is why it's especially important to understand when typically developing children develop certain skills and abilities so we can have those realistic expectations.

Marley: Absolutely. I mean, and the goal here is that we have realistic expectations and we're holding all children to those same standards of behavior for their developmental level. And this is a big part of creating equitable learning spaces.

Beth: Yes, this is so important. What else can we do?

Marley: We can acknowledge toddlers' big feelings and let them feel them. We can help families do the same. It's okay for them to feel those big feelings.

Beth: And the middle of a tantrum is not the time to try to reason with them or negotiate. They are being flooded by emotions during a tantrum. They're not in a place to reason themselves or to even learn when they're overcome with emotions.

Marley: Exactly. What you can do is be calm, be present, be responsive. Your tone of voice and your body language. And just remember young children aren't developmentally ready to exhibit self-control. They need us, the adults, to do that and to help support them in that.

Beth: And sometimes that means just being nearby as a gentle reminder for a child not to do something. Many of you might have experienced the child who waits for you to turn your back and then they touch something they're not supposed to. But when you're close by, just your presence can be a reminder enough for them not to do it.

Marley: You have to find what works for each individual child in your care. For some, it might be providing a hug or maybe taking deep breaths together, showing them how to do that. For

others, maybe it's best to hang back and give them some space to let it out while you're holding some boundaries, making sure that they are physically safe.

Beth: This really ties into that next piece we've been talking about, self-regulation. Our role as adults is to help young children move from dysregulated to regulated. And we do this when we model for them how to respond, and we give them tools for regulating. I love this photo here. It is an older preschooler, but I just love how the adult is breathing with him and they're working on regulating together. And another thing we can do as adults is label our own emotions throughout the day and share with families how to do this too. Say, "I feel frustrated when you run away when I'm trying to brush your teeth. I'm going to take some deep breaths to help me feel calm, and then we'll try again."

Marley: Building warm and responsive relationships. This is showing children that we are there for them even when they have this meltdown that they can't quite deal with their emotions yet, we're still there for them. That's a big part for us.

Beth: We can set up a cozy corner in a learning environment, or home, a space for them to go to regulate their emotions or their behaviors. And it doesn't have to be elaborate. Just take a look at this picture. It can just ... A few pillows on the floor can be super cozy.

Marley: Totally. Another thing, I mean, children tend to do best when they know what to expect. You can create predictable schedules and routines and that can also help.

Beth: Yes. And, another thing we can do is give children that time to practice self-regulation skills during calm times too. Not just when they are flooded by emotions and they can't really learn right in that moment, let them do it during calm times. For example, you can play games where children need to listen and follow instructions or stop a behavior, things like red light, green light, or even for this age, a slowed down version of head, shoulders, knees, and toes.

Marley: That's a great one. And you can adapt games like these for children with a disability or suspected delay. For red light, green light, you might assign a stationary movement. For example, tapping their fingers on the table when you say green, they can tap on that. Or if you're thinking about that slowed-down version of head, shoulders, knees, and toes, maybe they point to laminated images of the body parts as you sing.

Beth: Being present, giving them tools to practice regulating emotions and their behaviors. This is all part of being responsive caregivers.

Marley: Speaking of responsive caregiving, one aspect that's particularly important for children's developing executive function skills, so back to those, is nurturing children's initiatives and their ideas. This is something that researchers call autonomy support.

Beth: Yes. Autonomy support, it can look like offering choices and really encouraging children's interests, following their lead. Working to understand children's perspectives and feelings, and also explain why you're asking for a behavior. Rather than just be quiet, say why it's important to be quiet during that time. It's also making physical modifications to a space. Things that allow children to do or try things more independently such as selecting their shoes to try to put on themselves or having that stepstool available to reach the sink.

Marley: And remember for children with disabilities or suspected delays, you have to think about how you can make modifications or maybe additional supports. All children really deserve this opportunity to explore their ideas and do things they are interested in really as independently as they can and that they have an interest in doing.

If a child is not able to access a toy that they're interested in or a space, for example, that's really your cue that you need to change something about it. This might mean physical modifications to that space or to the toy, whatever that might be, or maybe some other emotional or instructional supports depending on what that might be. Again, for home visitors, your job then is also to work with families to help them identify what their child's interests are and coach them in ways to support but not take over, not dominate whatever that interest or that activity that their child might be doing.

Beth: We talked about one way to support autonomy is providing choices. And I'd love to share some recent research where they found that 2-year-olds show what they a recency bias, that's picking the last thing that they hear and the option that they select.

They call this paper cake or broccoli. And in the game, the researcher asked children a series of questions about Rori the Bear as you see on the screen here. Does Rori like to eat apples or bananas? And then the child chose one of those. And then they went through a lot of these questions. And then they asked them those same questions again, only their responses were flipped, so rather than does Rori like to eat apples or bananas, does Rori like to eat bananas or apples? And what they found was that children gave a verbal response about 70% of the time, and when they did give a verbal response, so when they said either apples or bananas, for example, they chose that second option they heard 85% of the time.

Marley: Wow. I mean, that's pretty high. Of course, this is in a lab so what about everyday interactions, Beth?

Beth: Yes. I'm glad you asked because they did a second study where they looked at conversations between the parents and their children at home, so to do this more naturalistic setting. And they marked down when parents asked those type of X or Y questions. And what they found that children under 3 show that recency bias still so they chose the last item that the parent said. But at age 3 and 4, children no longer showed this bias. They were just as likely to choose the first option as the second.

Marley: Let's talk about translating this to practice here.

Beth: Yes. First, I just want to say when giving choices, start by giving two that you're comfortable with but just two because then it's not overwhelming to the child, you're still giving the child that sense of control but staying within your boundary. And this is something you can have families try too. And then from that research, before age 3, you could give this strategy we just talked about a try. Offer your preferred option second, you never know the toddler just might choose broccoli over cake.

Marley: It's great. Any other language tips for us, Beth?

Beth: One of the things that I catch myself doing a lot is I add OK to the end of a sentence. It's time to get ready for a nap, OK? It's time to sit and eat, OK? And when we add OK, it gives them

a chance to be like no. Like, no, it's not OK. I don't want to do that. It's like we're asking them for approval. Return to that first strategy and offer choices. Say "It's nap time, would you like to turn off the light yourself or would you like for me to do it?" Moving away from adding OK like we're actually giving them more of a choice here. And then also avoid using simple don't statements. Like "don't bang on the door." Don't statements tell children what not to do, not what to do. What behavior you'd like to see so you could rephrase to "You can bang on something soft like a pillow so it doesn't make noise, that will wake your friends or your brother from a nap."

Marley: Another effective practice here. Listen and give them space to try things on their own.

Beth: When I say I can do it and you let me try, even if you think I can't or it's going to take longer, you're really helping me feel accomplished and confident in my abilities.

Marley: You can give hints, help them work through it. But don't take over. You want to let them have that pride in accomplishment.

Beth: Yes, absolutely. There's also what about when a child doesn't want to try to do something on their own, for all the times they want to try, you might also hear, "I can't do it."

Marley: We can add the word "yet" when a child is saying something that they can't do.

Beth: Yes, I can't zip my coat.

Marley: You can't zip your coat yet. This is something that takes a lot of practice even for adults.

Beth: Yes. The third year continues to be all about language, children need to hear language throughout the day to support their growing language skills. Remember they're moving from saying about 50 words to speaking in short sentences by the end of that third year.

Marley: And letting children play is really a great way to let them practice their language skills with peers.

Beth: Yes, absolutely. The final effective practice I want to highlight today is really creating a caring community to build belonging. Our relationships with young children and how they feel in a learning space or how they feel in their home is really an important part of their social and emotional development. Building belonging is about creating spaces where children feel seen and understood and safe. Any types of spaces, that's when children can develop confidence and pride in their relationships and their abilities and their identities and, importantly, they learn it's okay to make mistakes, mistakes are how we learn. When children feel like they belong, they're excited about learning and they have a healthy sense of self, and they also have higher physical, mental, and overall wellbeing.

Marley: That's so important.

Beth: That was our last effective practice we have time to share today. I just want to quickly recap all six. Remember your mindset matters.

Marley: During the third year, we're supporting children developing self-regulation skills, providing autonomy support.

Beth: The language we use matters. We continue to grow their communication skills and their vocabulary skills.

Marley: Play, hugely important. Providing those open-ended materials nurturing their imagination.

Beth: And, creating that caring community by building belonging. And helping families to do so in their homes as well. I think that serves as a great summary. With that, we're pretty much out of time. But before we go, I just want to mention this was our last "Baby Talks" of the year. We will be back on January 19, 2023. It seems pretty far away but we'll be here before you know it for us to share more research and practice with you. And we really hope to see you all then.

Marley: Thank you again for your time and attention and for all that you do on behalf of children.

Beth: Yes. Thank you all so much for being here today. Have a great rest of your afternoon and we will see you in January.