

Stop, Think, and Act: Supporting Executive Functioning and Self-regulation from Birth through Early Childhood

Shauna Tominey: Good afternoon. My name is Shauna Tominey. And I'm here from the Yale Center for Emotional Intelligence, today giving a talk on "Stop, Think, and Act: Supporting Executive Functioning and Self-regulation from Birth through Early Childhood." The learning objectives for our talk together here today and for those of you participating virtually from home are threefold -- first, to become familiar with research on the importance of self-regulation, an executive function. Second, to learn about how self-regulation develops from birth through early childhood. And third, to gain specific strategies for promoting and supporting self-regulation development in early learning settings, both in school settings, as well as in home settings, whether you're a care provider or a family advocate, parent, educator, or home visitor. So, before I jump in, I'd like to share a little bit more about myself. I've been working in the early childhood field for about the last 16 years.

And most recently, I've been doing that from the research field, where I've been working on developing interventions and programs focused on promoting social and emotional skills, emotional intelligence and self-regulation for children, as well as the adults in their lives. But before that, I worked as a home visitor and parent educator with Early Head Start. And before that, I was a classroom teacher. I started out as an infant/toddler teacher, and then worked as a preschool teacher in a number of different settings. Now, in these 16 years, I've had a lot of different roles in the early childhood world. And the role that has affected me the most, I have to say, is one that I took on about five years ago, and that was when I became a parent. So, my daughter was born about five years ago. And here's a picture of me on the left, of me holding her on her very first day.

And I remember, in those very first moments, when I first held my daughter in my arms, something surprising came to mind and occurred to me. And I sat there, holding her, and I looked down at her, and the first thing that popped into my mind was, "I don't recognize you." And I remember having that thought in that moment and thinking. Not -- It wasn't a negative thought, but it was a surprise that I was having this thought and this realization. You know, of course I knew she would be a new person, someone I'd never met before, someone I'd never seen before or held. But I realized in that moment that I'd been holding an expectation for her. I had an expectation for what she would look like. I thought, having a daughter, that she would come out looking like me, looking like my baby pictures. And that moment really struck me in that she wasn't -- she wasn't me. She was a new person learning about the world, a new person who I had the responsibility for teaching her about everything there is to know about the world. And I also realized that I didn't just have expectations for what she would look like -- I had expectations for her behavior.

I'd always been told that, when I was young, I was an easy baby, very easy temperament, easy-going, no crying. You can see where this is going now. So, we took my daughter home, and on our second night at home, after having a very, very peaceful night with our beautiful new daughter, the screaming started and the crying started. And an hour into this, both my husband and I have been taking turns passing her back and forth, rocking her, and I've been trying to nurse her. And we've been singing to her and soothing her, doing everything in our power to try and calm this screaming baby. Two hours

later, we jokingly are turning her over, looking for a return policy because we can't figure out what to do to calm her down. And after three hours of nonstop crying, where we just cannot, no matter what we try, soothe her, all three of us pass out in tears, completely exhausted. Now, in those moments, if we'd been able to think about anything, which we really couldn't, because we were so sleep-deprived, what we would have been thinking about is the importance of self-regulation and regulation because what we were doing in those moments that night and in those nights that were to follow for her first many months of going through the process of getting to know her, of her getting to know the world. And though those tears and that crying in those early days, especially, we were providing external regulation for her. She was letting us know in the way that she knew how, though crying, that she needed something, that she had a need. She needed to be comforted or held or fed or changed. And in those early years, regulation comes externally.

So, we, as the adults in a child's life, learn to recognize their cues, learn to recognize their cries, learn to recognize the different ways that they act and show us what they need, so that we can provide that regulation for them. That's called "external regulation," and that's where it all begins. This all happens at a very important time of brain development. So, as Dr. Thompson, the previous speaker, who spoke about brain development and what's going on, during the early years, there's a tremendous amount of development that's happening. And what happens first is development in these sensory pathways -- vision and hearing. Language emerges around that time, as well, a little bit later. And then comes higher cognitive functioning, including self-regulation. And all of these things are happening in the very first -- You can see the numbers across the bottom of the PowerPoint. 1, 2, 3, 4. Those aren't years. Those are months. So, in the very first year of life, brain development in each of these areas is starting to peak. And in fact, by age 3, a child's brain has developed to 85 percent the size of an adult's brain. And by age 5, that's 90 percent. That's a tremendous amount of brain development that happens in these early years that we are responsible for supporting. And as parents, that is a very, very daunting task.

The good news is it's not all on us. It's you, too. Thankfully, we have early childhood educators, family advocates on our side. A community around us. It takes a village to raise a child. And truly, when we think about how a child develops -- A child here is pictured in the center. When we think about the bio-ecological model of human development, we have a child, but immediately, in that world around them, their immediate family, the people they spend the most time with included in that is their caregivers. And we know that an estimated 90 percent of children receive care outside of the home environment. So, early childhood educators play a very significant role in helping promote children's development and supporting that development.

So, fortunately, it's not just the parents alone who are responsible for this development. It's all of us who play a role in fostering development during the early years, whether we are caregivers who provide care in school settings, in home settings, or we're going out to families' homes as family advocates, as parent educators, and supporting that growth and development. So, I would like ask a question. Let's think about that community that we're creating around children and that community that we are creating together to support their development. And I'd like to ask this question to those of you sitting here in the audience with me today, as well as those of who you are at home in our

virtual audience. If you had to choose one word to describe the community that you want children to grow up in, what is that word? So, take a moment and think about one word to describe the community that you want children both to grow up in, to have around them, to inherit as they enter childhood and adulthood. What's one word you would choose to describe that community? Yes.

Woman 1: "Nurturing."

Woman 2: "Family."

Shauna: Family. Family-focused.

Woman 3: "Respectful."

Woman #4: "Collective."

Shauna: Collective. Yes.

Woman 5: Many people online are saying things like "safe," "empowering," and "healthy."

Shauna: Okay, "safe," "empowering," "healthy." Any other words?

Woman 5: "Supportive."

Shauna: Supportive. Okay. Yes?

Woman 5: Challenging.

Shauna: Challenging. Okay. Now let's turn this to the classroom or early learning environments, whether that's in a classroom or a home. What are the ways you would describe? You would choose, if you had one word to describe that environment, that school environment, that home environment, in which children are growing and developing? Would your word stay the same, or would it change?

Woman 6: Same.

Shauna: Same? I heard "same" over here. Same, nodding. Anyone out of the virtual audience?

Woman 4: Yes, things like "stimulating," "acceptance," and many people would keep things the same as the answers for the community to grow up in.

Shauna: Wonderful. Okay. So, we're all saying many of the same kinds of words. "Safe," "nurturing," "supportive," "supporting," "accepting." What's really interesting to me is that I know that this really is a zero to three audience. We're all here because we're focused on zero to three. I've asked the same question to more general audiences of parents, of educators across the board, and what's interesting is that everyone chooses the same words. "Happy," "safe," "supportive," "caring." Nobody ever picks the word "mathematical." Nobody ever picks the word "literate." And yet, these academic skills are the skills that, eventually, the teachers who care for our children are responsible and held accountable for

teaching our children. But what about these skills that help children have this community around them to be caring, nurturing, safe, supported? What about those skills?

And at the heart of each of those skills is self-regulation and self-regulatory skills. To have a safe environment, we need to be aware of ourselves, of our surroundings, to pay attention, to think about how we treat one another, same with if we are promoting an environment that's caring or nurturing. Really, at the heart of each of those words is regulation. So, let's step back and think about the definition of self-regulation and executive function before we jump too far into this. Executive function really has three components. It is, first, attentional or cognitive flexibility. And what that means is the ability to pay attention, the ability to focus on something, but more than that, the ability to not only pay attention, but to pay attention to what's important.

So, when we're in a classroom environment or when we're at home, there may be something that we need to be attending to or paying attention to. We also, as part of this, need the ability to switch focus from one task to another. There are many transitions in a child's life, at home and in the classroom, where we may be playing with something, and now it's time to put it away and get ready for lunch. And being able to do that effectively is part of attentional and cognitive flexibility. Another piece of that is the ability to ignore distractions. So, when somebody else walks into the room, being able to turn your attention back to what you were working on. This also makes a difference as a teacher, when we think about leading a circle time in a classroom, and somebody comes in to drop off a child. Somebody comes in with a question.

Sometimes, it's challenging. We feel like that derails us. To return our focus back to that circle time and for children to return that focus back to that circle time. The next piece is working memory -- being able to hold information in mind long enough to see it through. And so, oftentimes, working memory relies on attention. If we were asked to complete a task, like go and wash our hands, well, we had to be paying attention in the first place to what was said to be able to remember now what are we supposed to do next and follow through and do it. And the third piece is inhibitory control. And inhibitory control is the ability to stop an impulse, stop an instinct, and respond with a more adaptive and more appropriate behavior in that moment. So, if a child grabs your toy, your instinct might be to grab it back or to push them or to bite them. Well, is that appropriate? Is that really what we, ultimately, want children to be doing? Probably not.

So, with inhibitory control, it's stopping and choosing a more appropriate behavior rather than what is instinctual to us. In order to perform that, an action, using inhibitory control, we also have to know what the alternatives are. An instinct is an instinct for a reason. Someone grabs something from you. You grab it right back. Well, we have to know what the options are if we want to do something different and exhibit that inhibitory control. Also, with each of these, they build upon one another. And so, if we want to demonstrate inhibitory control or help children demonstrate inhibitory control, a child grabs our toy -- I want to keep on going with this example -- someone else grabs it back. Now the child has to stop and remember, "What are my choices?" They have to be able to stop themselves in that moment, remember what their choices are. To know those choices, they had to be paying attention to them in the first place, if the teacher was giving them alternatives to what to do in these

situations. Instead, you could say, "My toy," or ask a teacher for help. Self-regulation is really the integration of these executive function skills together into behavior. So, in other words, as I say here, it's the conscious control of thoughts, emotions, and actions -- the ability to stop and think and then act and, also, to be able to have choices to know what to do in those moments when you do act. What this looks like in early learning settings is very different, depending on the age of the child. So, some examples are being able to participate in group activities, and part of that is following directions, paying attention, listening, regulating emotions, asking for help, waiting for a turn, taking turns, showing awareness of self and others. And this emerges in many different ways over the early childhood years.

For instance, paying attention for an infant, a young infant, may be making eye contact just for a few moments with a parent, whereas, in a preschool classroom, paying attention might be sitting and listening to an activity and being engaged in that for several minutes -- 5 minutes, 10 minutes, maybe longer -- with a teacher. With a toddler, paying attention to a puzzle might be enough to see though one or two pieces being put into a puzzle, whereas, with a preschooler, maybe we're working on a puzzle with 10 or even 20 pieces. And so, how each of these looks changes and grows and emerges as children age, as they gain those brain capacities to be able to take on more complex levels of self-regulation. Executive function is often talked about in two big components. One is cool, and one is hot. Those cool components have to do with tasks like sorting, these more cognitive or behavioral tasks that happen without that emotional charge behind them, so being able to put together a puzzle, being able to pay attention long enough and remember what you're doing and follow through -- being able to do something that doesn't require that attention to those emotionally charged situations, whereas the hot side really refers to that emotion regulation, where, and this is pretty complex.

As Dr. Thompson spoke about earlier, when you're emotionally charged, that affects the way that you pay attention. Your emotions matter. They affect your thinking. They affect your attention. They affect your learning. They affect how you're interacting with one another, particularly if you're having really intense, angry, frustrated emotions, or really sad or disappointed emotions. They can affect the way that you interact with others. And so I would actually argue that it's very challenging to actually pull this apart into cool and hot because, so often, those hot components of executive function, that emotion regulation works its way into the cool. If you have a child who's working on sorting a task or working on a puzzle, if they're feeling a lot of stress from home, those emotions may play into what they're doing. That may make it hard for them to complete that task because they're feeling frustrated, or they are thinking about something else that's going on in their mind. So, oftentimes, the cool and the hot become integrated. So, let's imagine. Thinking about how these two sides come together, let's imagine a child sitting at circle time or sitting at a group time where you're singing a song together. This could be infants and toddlers.

This could be preschoolers. And imagine a child sitting there turns and hits another child. How do you respond in that moment? What do you do? Okay. I'll make this easy. It probably depends. It depends. And it depends because we've got to think about not just the behavior, but the emotions behind that behavior. What if that child hit the other child because he is feeling angry that that other child took his toy right before circle time and he's still thinking about that? What if that child is frustrated because he

likes the other child, and he keeps trying to get that child's attention? That child won't pay him any attention, and so he's hitting him, trying to say, "I want to be your friend. Will you play with me? Please just look at me. I really like you." What if that child is bored and looking for something else to do because circle time activity was a little bit too long or not engaging? Now, what we would do with self-regulation in any one of these situations differs based on the underlying emotion.

The behavior looked the same. One child hit another child. It would be very easy to go into that situation and say, "Hitting's not allowed," and remove that child from circle time or to move that child over or to sit them in a teacher's lap. That may help in the moment. It may help de-escalate the situation in circle time or help get children on track, but it misses a critical learning opportunity, one where we want to teach children what to do instead. That inhibitory control piece -- what should they be doing? What could they be doing when they have these moments of a self-regulation breakdown, or where they haven't learned what to do instead in that situation? And so, how we might respond to the situation differs. In the first situation, we might help a child, now outside of that situation, learn to ask for their toy back when somebody takes it away from them, learn to ask a teacher for help. In the second scenario, we might give a child words to say, "Can I play, too?" or, "Do you want to play?" or, "Can I sit here?" And in the third, we have to think about our own responsibility as educators. What are we doing in the classroom to set children up for self-regulation success? Sometimes, it's our role to change an activity, to change the length of an activity, to change the type of an activity. It may be too challenging for children and lead to frustration. It may be too easy and lead to boredom. It may be too long, too short, and so on, so we also have to think about our own role in that.

The same thought process can also be applied to behaviors at home, as well as in classroom situations. Self-regulation is important for a number of reasons. What research is showing is that self-regulation relates to relationship quality. When we think about the children that we've worked with in the classroom, when you see two tables of children, and your co-teacher says, "Which table do you want to sit with today at lunchtime?" And you look over, and you see the children who are sitting there, serving themselves food very quietly and peacefully, and the children who are struggling with self-regulation and grabbing things from one another and hitting each other over the head. Which is the table that you think, "Well, if I want an easy lunchtime, which one do I choose?" Probably the one that's more self-regulated.

And research shows that children who have stronger self-regulation actually have better relationships with their peers and with their teachers. And when we think about this in our adult lives, does anybody in the audience have a family member who struggles with self-regulation, maybe who has a little bit of trouble managing their temper? How many people get excited when you know you're riding with that family member on the long car ride toward the family reunion? It affects our relationships. It affects the way that we interact with one another, the way that people see us. Self-regulation also has effects on our physical activity and our health. Being able to stick to healthy living styles, to make good eating choices, and, also, to manage stress, both in the short term and the long term, all of which have long-term health consequences for us, relate to our self-regulation. It also relates to short and long-term academic success. In the classroom, being able to pay attention, remember and follow through with instructions, and control those impulses is critical to early learning, is critical for later learning. And in

fact, some studies are showing that attention abilities in preschool actually predict whether or not you complete college later on. There's one study showing that the odds of completing college for children who have strong attention skills in preschool are 50 percent greater for children by age 25 than children who struggle with being able to pay attention in preschool. Self-regulation also relates to decision-making, wages, and employment. So, there are a lot of short and long-term consequences to self-regulation abilities. And importantly, what research is showing now is that self-regulation is actually a protective factor for children who are growing up in the context of risk. So, children who experience chronic poverty or experience violence, depression, and other risk factors in their families, those who have strong self-regulation skills are oftentimes still able to thrive in social and academic settings more so than their peers also experiencing those risks who have poor self-regulation. And we know that self-regulation can be taught. It can be practiced. It can be improved. And so, this is a key mechanism through which we can help support all children, whether they are in at-risk situations or not, but really buffer them against those stressful impacts of risk.

Let's talk about how self-regulation develops. So, self-regulation, as I shared in my story in the beginning, largely begins as an external process. Other people are providing self-regulation for young children. Now, young children let us know, oftentimes, when they need help regulating, because they're born with a, many children born with a strong set of lungs that they use to cry, to scream, to communicate with us. There's a reason for that cry. There's a reason for those emotions that children show in the early years, that frustration or anger or joy and excitement that they show. That tells us something. That tells us something about what we can do to help them regulate in those moments. If a child is cooing and laughing and smiling, we know that they enjoy that, so we do more of what we were doing, engaging with them in the same way -- singing songs, laughing, making eye contact. If a child is crying, they're telling us that there's something wrong in their situation or that they have some need. They need to be changed, held, soothed, fed, regulated in some way. And this is a very gradual process. So, the shift from external regulation to internal regulation, where children can actually regulate themselves, is a long and slow process that takes a lot of support and a lot of time. At the heart of this is the attachment relationship.

Theodore Roosevelt said, "No one cares how much you know until they know how much you care." And this is absolutely foundational to early learning. Children, in the early stages, want to learn from the adults in their lives. They want to be like the adults in their lives. They want to take your advice. How many parents of teenagers say the same thing? "My child turns to me first when they have a question, when they want a role model." In the early years, most children do. This is our opportunity to shape children's behaviors, their beliefs, the way that they see the world, and to be those models that we want them to have around them in that community that we want to create. And so, those early attachment relationships are absolutely critical, and we'll talk a little bit more in a minute about some strategies for promoting that as caregivers. Also, an important piece of this is thinking about each child's temperament. So, when my own daughter was born and I expected an easy, quiet child, that's not who she is -- it's not who she was then. And I had to learn to think about who she was and how I could adapt myself to meet her needs. Some children -- All children are born with a temperament, and temperament is the seeds of their personality. Their temperament affects their activity level, their

reactivity -- how easily they get upset, how quickly they calm down -- and many aspects of a child's early personality. And when we think about our own personalities, some of us do better with certain temperaments than others. Some of us do very, very well with children who are really reactive. For me, being around a child who's really reactive makes me really anxious. And I had to learn that about myself and learn what I can do to meet, to blend my temperament and my personality with my daughter's temperament to find that goodness of fit. Children cannot adapt their temperaments to match us and our needs. We are the ones responsible for doing it the other way, for meeting their needs. And so, in thinking about that context, what I'd like to do is share with you five primary tips for how we can promote self-regulation.

And we'll go through each of these in detail. I'm just going to read them off now, and then we'll go into them a little bit more in detail in a moment. So, the first is, one, laying the foundation for a secure attachment and really setting up that relationship in which children want to learn, where children feel safe learning, where they look to us as those role models. Two, promoting critical thinking through caregiving. Part of the shift from external to internal regulation is giving children the language, the skills, the problem-solving abilities to be able to think about the choices that they make and know what those choices are. Third, modeling self-regulation ourselves. It's one thing to teach children self-regulation, but it absolutely is a critical piece to model those skills, as well, so that they see it in the world around them, in their interactions with other adults, in the interactions between adults in their lives, and with other children.

How -- Also, how we can embed self-regulation in classroom management, thinking about the activities we choose, about the routines that we set up, and other ways that we can set up the classroom to really support self-regulation development. And finally, to teach self-regulation skills directly, and there are a couple of parts to that. First, we want to teach children to be able to stop and think before they act, so that they can stop those impulses. Second, we also want to teach children what the choices are when they do stop and think. Well, what are the skills they have now to draw from? What are the tools in their toolbox? What are the different alternatives they have? And this is very important. I'll share a quick story with you. A good friend of mine shared a story with me about her young son. He was riding in the car with his father, who was driving in traffic. And one day, they were driving along, and another car cut him off, and he started swearing, and then he realized his son was in the back. And his son looked at him and said, "Daddy, those are bad words." And he immediately said, "Oh, you're right. You're right. I shouldn't have said those words." And his son said, "Yeah, Dad, next time, don't say bad words. Just point one finger, like Mom does."

[Laughter]

So, now, of course, the one finger that Mom pointed was this one, right? But whichever finger it actually was, what this, our young friend was learning was that we have a choice. When something happens that upsets us, we have a choice. Another message that he was learning was that some choices are better than others. And these are important skills to teach young children.

So, let's go through each of these. Tip 1: Lay the foundation for a secure attachment. At the beginning, I asked you a question about how we want children to feel in the community, what we want society -- what we think is important in our society and in our classroom, and so we've got to bring that to our classroom environments and our home environments, whether it's ourselves coming into a home on home visits or whether it's setting up a classroom environment in a home care setting or in a classroom setting. How do we want children and families to feel? Most of us would pick those same words that came up earlier. We would choose feelings like happy, safe, supported, valued, appreciated. What are the things that we do that help children feel that way and that help families feel that way? One thing that we do is that we get to know them as individuals. We get to know children right away, from the start. You know, these parents who are coming in and bringing their children to you are giving you the most important thing in their lives to care for. And for them to trust you, for them to feel safe with you, this relationship is absolutely critical. Demonstrating sensitivity and responsiveness. So, looking for cues in children to guide us in what they need -- look for those cues that tell us, "I need help being regulated in this way."

But the same is true for parents. Some parents come in, and we show them respect by making eye contact with them. Other parents come in, and they never make eye contact because in their culture, that might be a sign of disrespect. So we've got to be sensitive and responsive to the cues that we see, both in children and in parents, as we build these relationships. Being present and engaged. Usually in the classroom, in school and home settings, we don't pull out our technology. It may be more common for families to do that at home. Oftentimes, families are multitasking and trying to get dinner on the table while checking their e-mail, while texting other family members or friends, while also caring for children. As caregivers, we have to model those moments of being present with children. It's not possible all the time. But when children are in our care, we can do that, and we can help families enjoy those moments, as well.

Another way to do this is to share personal stories. And by that, I don't mean personal stories that are inappropriate, like, "Well, you're not going to believe that my girlfriend's husband is cheating on her." Not these types of personal stories, but personal stories that help you connect. So, when we talk to children in a classroom, talking about times that we feel frustrated sometimes, too, if they're going through a frustrated moment. "You know, sometimes, when I try to make a picture and I get frustrated, here's what I do, or here's what I try," to make a connection, help children feel that they know you. That they -- That you understand their experiences, that you can give them ideas, you can help them, and the same with families, sharing in an appropriate way things on which you can connect to build and foster those relationships. Tip number 2. Promoting critical thinking through caregiving. And a very simple phrase that helps remember this is, "Say what you see." So, this is something that, as an adult, may make other adults crazy who are in your presence, if you walk around and you narrate your entire day. "Okay, I'm going to walk down the stairs now because I'm going to go over here and say hello to my friend. And now I'm going to come over here and put my shoes..."

This often makes other adults crazy, but it is so critical for young children because what we do in doing this is we share with them our inner voice, and we share with them our thought process and why we're making decisions. So, if, every time I walk into the room, whether a child is preverbal or already

speaking, And I say, "Well, I'm going to take my shoes off. And, you know, I'm going to put them over here because I don't want anybody else to trip on my shoes. That's why I tuck them to the side of the room." Now I've given a child a reason behind what I did. Not only did I explain what I was doing when I was coming inside, but I told them why I was doing it. And this is part of setting up those choices for children. When we want children to self-regulate and we want them to have choices about what behaviors to choose, if they've been hearing this inner dialogue and this narration from parents in their lives, from caregivers in their lives, they have heard many, many different choices in many, many different situations, and you're laying that foundation for them. It also promotes critical thinking and problem-solving because you talk through why you're doing something. "You know, I'm going to take this away because it looks like there's only one pair of scissors and two friends who really want them. And this actually isn't a cutting activity.

So I'm going to put those scissors away and give each of you a crayon to use. We're also letting children know why we're doing this -- what we're doing and why. Another thing we can do in our caregiving is promoting shared attention. Promoting shared attention refers to helping children develop their attention. So when we have young infants, you know, making that eye contact with them and gazing at them, even if it's only a few seconds, and then helping them stretch that a little bit longer, so making it more interesting when they start to look away. And we know that babies and young children are drawn to things that are novel, so we make it more interesting. Now we're making eye contact together. But now I make a new face. And now I start to sing a song. And now I stick my tongue out. And they watch a little bit longer. And we help draw that attention in fun ways, engaging ways that they connect with. The same is true for children who are older -- not necessarily in that face-to-face contact, but maybe in activities. So we have circle times with infants and toddlers that might just be a few minutes long where we sing a few songs.

Well, as the year goes on, maybe now we add a movement activity. Maybe we also add a book, and we make it engaging and new, and we help them build those attention skills through the caregiving that we give to them. This is a tricky one. Tip number 3. Modeling self-regulation. Now, this refers to ourselves, and in thinking about, what do we do every day? What can we do every day to show children and demonstrate the self-regulation skills that we want them to have? So often, we forget to think about this. And they do things like ask every child in a classroom to come in and wash their hands. But we also want them to wait until the child in front of them is done washing their hands before they wash their hands. And yet as a teacher, we might come in and cut right to the front of line. "Wash your -- Oh, excuse me -- wash our hands," and go back to what we were doing. Sometimes, that's necessary. Sometimes, we're the only one there. We have to get our hands washed, and we have to get back to attending to the other children in the classroom. But either way, whether we are stopping and standing at the back of the line to model to children that we, too, are showing our self-regulation, or we're jumping to the front because it's critical in that moment, we should explain to children what we're doing and why. "I notice there are two friends waiting in line to wash their hands, so I'm going to wait right here and wait my turn just like you," or, "usually I go to the end of the line just like you, but today I have to go help those other friends.

So I'm going to ask if I can step in front first and wash my hands," but letting children know why we're doing it, again. This is especially challenging in those emotionally charged moments, just like for young children. In those trigger moments, it is hard to model self-regulation. What happens when we get triggered, when we have feelings of frustration, of anxiety, of anger, what happens in our brains is that we begin to release stress hormones. And those stress hormones, especially cortisol, actually inhibits the pathways to our prefrontal cortex. That's the front -- This front region in our brain that is largely in control of self-regulation. So, what happens is we get emotionally triggered, and this happens, as we see it all the time with young children, having a temper tantrum, having something not go their way, being frustrated that they can't communicate, but it also happens to us as adults. Sometimes it's a particular child, a particular behavior, sometimes a particular parent who comes in and is upset about something, and that makes us feel upset or makes us feel on guard or defensive. And what happens in that movement is that our brain becomes flooded with cortisol. And when we are flooded with cortisol, these pathways to our prefrontal cortex are inhibited, meaning that we're essentially shutting down part of our brain. And that helps us sometimes.

We've all heard of "fight or flight." That's something that's adaptive. It helps us. If we're in a danger situation, we want our brain to shut down so that we can face an emergency. And if there were a fire in the building, I want my brain to shut down and tell me to just run out the door. If I -- If my brain didn't do that, I might stop and think first. "Oh, self-regulation -- stop, think, then act," so I might do that. If someone said, "There's a fire in the building," and I said well, "Let me practice my self-regulation right now," so I stop and I think and I look around the room, and I say, "Okay, one, two, three, four, five exits. Which one would be the best one for me to go out right now? Let me think through all the different choices that I have." I'd be in big trouble. Now, the problem is, oftentimes, we get triggered and we're not in a danger situation. If we were to be triggered and to run out the door like our instincts are telling us, we'd be leaving our children behind, we'd be leaving the children who we're supposed to be there, caring for, in the classroom. So we can't do that. We must self-regulate in those moments and fight those impulses to let our instincts take over and get us out of danger. We're not in danger with young children, even if our bodies feel like we are, even if we, our brains are acting like we are when we get triggered.

And so thinking about those trigger moments, one of the ways to really model self-regulation through those moments is to take time and think about those trigger moments. What are they? And I'd love to ask just a quick question. What are the things that trigger you throughout the day as early childhood educators, as family advocates, those of you working with young children? What are some of the triggers that might arise during the day for you? Woman: Whining.

Shauna: Whining, okay. I see lots of head nods, so I know that's not just your trigger. Any others? Do we have any from the back or from our virtual audience?

Woman #2: A scream.

Shauna: Scream. Sure. Anybody else in the room?

Woman #3: Biting.

Shauna: Biting. Absolutely. Both as a parent and as an educator, in trying to figure out -- Biting can be quite the trigger. Do you have others?

Man: Kids screaming and, again, whining.

Woman #4: And to be hit by a child.

Shauna: Okay. To be hit by a child. Screaming and whining is coming up a lot, as well.

Woman #5: And biting.

Shauna: Biting is another one.

Woman #6: Not following directions.

Shauna: Not following directions. I'm sorry.

Man: Spitting, throwing objects.

Shauna: Okay. So, a lot of behavior issues are triggers for us. Something trigger children into those behaviors, but those are also trigger moments for us. And when we feel ourselves getting escalated, the way that we respond, you know, when you're feeling, You can see, in my body, as I think about this. My shoulders are tensing. My fists are clenching a little bit. My eyebrows are coming in. When we respond to these moments, if we respond when we're feeling like this, we're also responding without our full ability to stop, think, act, without our self-regulation. So we have to stop ourselves in those moments.

And one of the ways we can do that -- What was that? One of the ways that we can do that is to take deep breaths in that moment, because we need immediate ways to bring ourselves out of those trigger moments. If meditating for 10 minutes is what helps you, it won't work in the moment. We need long-term strategies to help us regulate our triggers, like maybe meditation, exercise, getting social support from others, taking time for ourselves. But we also need strategies for in the moment. Taking deep breaths is one very quick way to help dissipate, get rid of that cortisol, and bring yourself back. Also, thinking about who we want to be as teachers, who we want to be as educators.

And thinking about that outside of those trigger moments, so that we're more likely to be that person in those trigger moments. This takes a lot of practice. And it takes both practice, thinking about some of these things, if we thought through our day, like waiting in line to wash hands, sitting down and making sure all of the children had a turn at taking their lunch before we served up the teacher lunches and showing that and showing why we do that with children. Other things like that might be a little bit easier to think through than some of these other really emotionally charged triggers, but both are important, so we have to practice. Practice, practice, practice. Think about your triggers. Think about times during the day when we can model self-regulation. And when we think about it outside of those trigger moments, we're more likely to be able to do them in those trigger moments.

The other thing is to be forgiving of yourselves because we cannot be a perfect model all the time. We are human. We are continually triggered throughout the day, just like everybody else is, whether it's traffic on the way to school or when biting occurs the moment you walk in the door. We make mistakes. We act in ways that we don't feel good about from time to time. And in those moments, if we can share with children, "Gosh, now, I got really upset earlier. Maybe what I should have done is taken a deep breath and then used my calm voice instead of yelling in that way." We are also modeling an important skill for children in being forgiving of ourselves and showing that learning self-regulation is a process, a lifelong process that we, as teachers, are also working on, as well as they are. Our fourth tip is embedding self-regulation in classroom management.

So thinking about creating and maintaining routines and schedules at school and at home. When children know what to expect and know what's coming up, they can anticipate them. They can more easily self-regulate, prepare themselves for it. And you can do a lot to prepare children for things, too, by telling them what's happening next or creating visual and oral cues, you know, a visual schedule that shows pictures of what happens throughout the day and then teaching children how to read those pictures, going through, especially in the beginning of the year, and talking through, "First we do this, then this, and this is what's coming next."

And even encouraging children as they get older to walk their parents through those visual schedules so they have practice talking about them, describing them, explaining them, and thinking back over their days. We also want to think about the choices we make in those schedules. When, during the day, do children need high-energy activities? When are they ready for quiet activities? If, right after nap, we schedule outdoor time immediately then, our children groggily walking outside to the playground, are they ready to really get that energy out and really to take advantage of that playtime as they might be earlier in the day? We can also use lights, music as cues for these different times of day or different energy levels that we want children to be regulated into.

So we can help them both externally and help them prepare so they start developing those internal regulation abilities themselves by maybe dimming the lights as you're coming inside, getting ready for quiet book time, or using music, quiet music during a time when, maybe today, we're going to be doing art activities that are a little bit quieter, and we want to bring the mood of the room down. And then we can also think about the physical layout and where things are physically placed in the room. So if, at circle time, all of the blocks that are really appealing are sitting right there and children keep reaching over and grabbing blocks and pulling them into circle time, that might not be the best place for those blocks. We want to set children up for self-regulation success and give them the best chance possible to do so. So, the final tip on here is teaching self-regulation skills. And we can do this, as I said, to help children practice just the act of stopping and thinking before acting. There are a lot of games that can be modified for very young ages that we can play on up, like freeze dancing, so dancing when music plays and freezing when it stops.

And we can do this with children even when they're babies, as we -- if we are holding them and dancing, or if we're moving their arms and legs while we listen to music, and freezing when it stops.

And they can watch the older children dance around, freezing and stopping. We can practice some of these emotion regulation strategies, like taking deep breaths together.

[Breathes deeply]

Or blowing out birthday candles and smelling a flower. [Breathes deeply] Or putting stuffed animals on our stomachs and watching them move up and down as we're breathing or games like something I call "quiet, loud." Maybe we sing a song together, but we practice really needing to pay attention and following directions because we're going to do it in different ways.

So, as children are learning to sing a song like "Old MacDonald," we might sing together in a normal way. Old MacDonald had a farm. But then we might do something silly and play a game where, "When I do this, we sing in a very quiet way." Old MacDonald had a farm. And now, when I put my arms up here, we're going to be really loud. E, I, E, I, O [Whispering] Okay, let's be quiet again. Old MacDonald had a farm. So, children, in a fun and engaging way, they get excited to see the quiet times and the loud times and quiet again. We help them practice following directions, paying attention, and doing it in fun ways. So, we can do that with songs. We can do it with finger plays. Games like Simon says, where, with very young children, we might just play it more like a copycat game. "Can you touch your head? Can you touch your shoulders? What about your nose? Where is your nose?"

And we scaffold, from having them copy us in our movements to them doing it themselves in response to the words that we use. And we could also make that more complicated for older children. "Okay, when I say a word that starts with an 'H,' like a 'haa, haa' sound, then touch your head. But if I say a word that starts with a 'tuh-tuh,' 'T' sound, touch your toes. Okay. Ready? Hair. Haa, haa. Toys," and so on. So we can make these games at different, different levels to really support children's development of these skills. We can also use books to support self-regulation development, because we want to think about not just, you know, these games that I talked about here really support sort of the stopping and thinking and making a choice before acting. But we also want to give children a range of choices in how to respond to a lot of different situations and how to act in a lot of different situations. And books are a wonderful way to do this, so choosing books that have characters going through different situations -- meeting friends for the first time, going to school, getting upset because someone took their toy away, and talking about what the child did in the book and what we can do at school and then practicing those activities.

And what we do when we use books in this way is that we help teach children skills. We teach them alternatives. We teach them different ways of acting, that, ultimately, help them make choices, but we're doing it outside of challenging moments. So we're doing it outside of a moment where another child has just grabbed their toy. We've already been practicing saying, "My toy," or, "Can I have my toy?" or, "Can you help me?" Over and over and over, looking at books, doing this through role plays, and making it more likely that, in those challenging moments, a child might be able to do it then. Because if we try to teach a child for the first time to do something when they're in an emotionally challenged moment, what happens to our learning when we're triggered? It's not as effective. We can't think. We can't concentrate. So we must help children practice these skills outside of those moments

so they can learn to do them in those moments. We also need to focus on teaching transition activities. Transitions are a critical part of the day, and children spend more time in transition probably than any other activity throughout the day. And this is true at home, as well as in the classroom. So, let me ask you a quick question. What happens -- Well, I'll ask it this way. Who enjoys waiting? Hands? There are no hands in going up in this room. In the virtual world, did anybody say yes? Nobody said yes. Nobody enjoys waiting. What happens now when we have to wait for more than a minute, two minutes? If you're waiting in line to ride the subway, the bus, standing in line at a restaurant, if you look around at the people waiting in line, what are they doing? Yeah, they're pulling out their cellphones, their technology.

If they don't have someone to stand and talk to, well, they're talking to somebody virtually, like we're talking to you today, but in a different context. We, as adults, don't like to wait. We want something to do. We want to connect with people. We want something to occupy our minds, to make the waiting go by more quickly. And so often, children are asked to wait during the day. And what do we tell them? Well, we may sometimes tell them, "Well, it's time to wait. You know, put your hands down or wait quietly." Children need to learn how to wait. They need to learn something to do during those waiting times to occupy their hands, to occupy their minds. They don't have cellphones like adults do, and we don't want them to have cellphones to pull out in early childhood classrooms to be entertaining themselves, instead of engaging with their friends.

And so what we can do instead is give children something to do during that time. Teach them. Use songs and finger plays. Twinkle, twinkle, little star Or if we're standing there with a line of children getting ready to go outside or waiting for other friends to put their outside clothes on so that we can go together or waiting in line to walk down the hallway or sitting at the lunch table waiting for food to be passed around, we can lead them in activities. We can do finger plays together. We can sing songs together. And eventually, children will learn that as a skill in those waiting moments. There was a study that came out a number of years ago that looked at, actually, put children through a whole battery of self-regulation tasks. And one of those tasks involved waiting for a long period of time. And about half the children in the study had taken community music classes. The other half had not. Guess who could wait longer. The children who had taken music classes. And what they saw was that those children would sit and sing to themselves.

So they could wait longer because they had learned a skill that they could use while they were waiting. If they got bored, if they got frustrated, they started singing to themselves. And so this is a skill that we can teach children -- something to do when they have to wait, rather than just saying, "Wait," because we as adults don't do that. We can give them something to do that's appropriate, something that enhances their life in some way, through singing, through finger plays. Now -- Now that we've been through these five tips, I want to give just a few more concluding tips on supporting self-regulation development. So, in thinking about each of these tips, we really want to give children opportunities to practice across multiple contexts -- in circle time, through songs, through stories, in role plays, all throughout the day. And we do that also by modeling, by sharing our inner narration of what we're doing and why we're doing those things. Also, this is important because we want children to practice self-regulation outside of those challenging moments. If the only time we help a child think about

saying, "That's mine," or, "I need help," is when another child is grabbing their toy, hitting them, screaming, biting, and they're triggered, they will have a hard time learning in that moment. We have to help them learn outside of those moments. But then, we also need to support self-regulation during those challenging moments and have ourselves placed so that we can do that. We need to consider the emotions that underlie behavior, so when we see these behaviors, thinking about, "Why is this happening? Why is the screaming happening or the biting happening?" Children are often telling us something, that they're upset, that they don't have words or skills to interact in a way that they might want to. And if we think about those emotions that underlie that behavior, we're better able to help and support them. And finally, to provide supportive feedback and to let children know that we noticed when they were regulating effectively and when they weren't, when they were having trouble, that we also saw that, too, and that we're here to help them learn. My final point is that I think it's very critical to reframe how we teach self-regulation.

Self-regulation is a very challenging skill. It's one that develops very slowly over time. And unlike other skills, it's one that's disruptive in our classrooms. When somebody has a breakdown in self-regulation, it often leads to somebody getting hurt, somebody yelling, somebody biting, somebody screaming. It's disruptive to our circle times. It can often hurt another child. But we have to step back and really think about this as a skill. This is something that children are learning and developing. So, think about how we teach children how to cut with scissors. How do we do that? Well, we hand them a pair of scissors. We show them the scissors. We show them the sharp part. We show them what to touch, what not to touch. We show them how we cut with scissors. We might give them an opportunity to cut hand over hand. And then we give them lots of opportunities to practice. We give them papers with, with little lines to cut that are straight, with curvy lines, with circles, and we give them a lot of opportunities. When children have trouble cutting with scissors, we don't turn and say, "Cut that out. I told you not to do that. Just put it away. You're not allowed to do this anymore."

But, oftentimes, with self-regulation, that is our impulse to do that because breakdowns in self-regulation, unlike a breakdown in cutting with scissors, that doesn't disrupt anybody else. But a breakdown in self-regulation often does. And so we respond as if we've been triggered, as well. So I really encourage all of us as a field to think about reframing self-regulation and reframe children as learners, that this is a skill that we're working on. Too often, children become labeled very early. Very, very early, children are labeled as the mean child, the problem child, the bully. And once we start labeling children, we're not able to help them anymore. If, instead, we step back and say, "Okay, they're learning." A child says, "I don't want to stand next to her. She always pushes." "Well, you know, she's learning how to stand next to friends without pushing. Maybe we can stand there together and show her how," so reframing children not as the mean child or the problem child, but as somebody who's learning and someone who we want to help support in that learning will ultimately help us better support children's self-regulation. So, thank you so much for having me here today. I am excited to take your questions, and I really appreciate you, both those of you here in the room and those of you virtually. Thank you.

Woman: Thank you, Dr. Tominey. That was wonderful. So, we have lots of questions here. So we'll get right to it because of our time. A question from Sarah -- "Regarding attentional flexibility, practical

strategies for a child age 5 who is so laser focused, he cannot put on a jacket if someone is talking to him or does not hear someone calling his name if he is busy with something. Are there strategies that you might have for Sarah?

Shauna: Okay, so, what's so interesting? What I love about this question is that often we're thinking about, how do we help a child focus more? And what Sarah's saying is, "There's a child here who is so intently focused that we want to pull that focus away." And that's an important part of attentional flexibility is switching from one thing to another. So my recommendations in this -- I'm sure there are many others, as well -- would be, one, to prepare a child as well as possible ahead of time that something is going to come next. So, "I know you're going to start this puzzle, but we only have five minutes for it, and then we need to get ready to go outside," so giving that child lots of warning to anticipate what's coming next. And with that, if the child needs it, it may even be helpful to pre-get those things ready. So, we say, "We're gonna set your coat. Let's go get your coat and put it right here," so we know, in five minutes, it'll be time for that, and then giving that child multiple warnings about it because it may be a challenge. For some children, switching focus is a very hard thing to do. So giving them the ability to anticipate what's coming and then the support through that, multiple warnings would be my recommendation to Sarah.

Woman: All right, thank you. So thinking about the opposite end of the spectrum, there's a question about, what are some examples of what self-regulation looks like in infants, and what is the range that we might expect for young infants?

Shauna: Terrific. So self-regulation, as I talked about earlier, it's largely external in infancy. However, we do see signs of self-regulation very early on. So, when you think about a very young baby, once they start gaining, all of this comes into play with these different skills that they're learning, their different physical abilities. So if you've ever held a young infant and maybe another relative has come up who gets right in their face and is really excited to see them, if it's overwhelming for that baby, oftentimes that baby turns their head away. And that is an early sign of regulation, because that child is saying, "This is too much for me. This is overwhelming," or, "I don't like this," and turns away. And we can start picking up on those cues, so that's one. Others are that young children sometimes -- You'll be driving in the car. A young child is crying. All of a sudden, they're not crying anymore. And you look back, and they have found their fist or they have found their thumb or they have found something to suck on. That's another way of regulating. So children, they turn away. They find things to suck on to soothe themselves. And, also, they learn through regulation that they learn through external regulation that they can ask for help. So, sometimes, crying also becomes a regulation strategy in that, "This is how I know I'll get a response," before children are verbal or have those ways to do that. So there are a lot of different ways that self-regulation looks. And I know there was a second part to the question. You were asking about -- I believe it was range. I want to make sure I --

Woman: Yes, what is the range of what we can expect?

Shauna: So the range of what we can expect -- it's a hard question to answer in just a few minutes because it is so diverse in that children do develop these skills in many different ways. And it depends

on what age we're talking about, and it depends on the abilities of the child, the experience of the child, as well. So there's a tremendous range in self-regulation. But I'm happy to answer. I've provided my e-mail up here. And if anybody would like to get in touch with me, I'm also very happy to answer that more in depth.

Woman: Thank you very much. In many of our programs, teachers and home visitors are often overwhelmed, overworked, and stressed. What are some ideas for incorporating increased self-awareness, self-care, and support for staff so they can, in turn, help children learn skills around self-regulation?

Shauna: That is a wonderful question. And actually, a direct program at the Yale Center for Emotional Intelligence called Preschool RULER that focuses, first and foremost, on exactly that question, on staff, on what we do to demonstrate self-regulation in ourselves, what we do to take care of ourselves so that we can effectively take care of children. So I'd be more than happy to talk with others about that, but I'll also try to give a few quick tips now in the moment. And some of it is this awareness that those of us in early childhood and those of you, both here in the audience and at home, you are caregivers. And oftentimes you come to this field because you enjoy taking care of others, because you're good at giving to others. And something that I found over the years is that something that caregivers are not so good at is taking care of ourselves. You take care of other people all day. You take care of other people's children all day. And then you go home, and you take care of your own family or your own spouses or your own friends and your neighbors. And when is the time to take care of yourself? Many educators and especially early childhood educators will say nowhere. And it's absolutely critical to step back and say, "Okay, what do we do for ourselves?" because this will ultimately help us care for others in a better way. So some of that is those quick regulation strategies.

We have triggers throughout the day that come up. If we let those triggers, even if we manage them in the moment, put on a good face and just suppress those triggers throughout the day, they build up, and they lead to burnout. They lead to stress. They lead to chronic problems and health problems for early childhood educators. So finding ways to effectively manage your triggers in the moment is really critical so that you're not carrying the weight of that stress. So whether that's taking deep breaths or reframing the situation or having positive self-talk that helps you through a moment of, "You know, this is one part of my day, but it doesn't define my day." And then, also, we need to have those long-term regulation strategies to take care of ourselves. And some of those strategies might be getting enough sleep at night, which can sometimes be hard to do, finding ways to exercise or take a walk, to get ourselves out, away. Take those moments -- find moments, whether it's little moments of just taking a book with you to the restroom because that's the only time you have for yourself to just read, to do something for yourself. Seek social support. Make time with friends. And sometimes that's also a hard thing to do, particularly if you're working and you're a parent, but it's absolutely critical to be able to take care of yourself and give that best care possible.

Woman: All right, thank you. How do genetic tendencies relate to self-regulation development?

Shauna: In many ways, and in one, temperament. So, we spoke about temperament being that some children are more active than others. Some are more reactive than others and have a more difficult time calming down. So, there are some children who actually can learn self-regulation much more easily than others. Some, who are quick to get angry or quick to get frustrated or quick to get upset, have a harder time calming down. And those natural tendencies often affect how much support children need to learn self-regulation. So, children who have those temperaments where they are quicker to react or more difficult to calm down, they need more practice than other children who are very easygoing and aren't bothered as easily at other things. And so genetics plays a role not just in the relationships we build with children, but the amount of support that they ultimately need and the amount of practice that they need and the types of practice that they need.

Woman: Right. So, one last question. And this one may be a little bit longer response. I don't know. So, in the classroom and at home, how do we balance implementing structured ideas around facilitating self-regulation, and, yet, also allow children to navigate challenges on their own?

Shauna: That is a wonderful question. And I think it's one that is so important to helping children develop self-regulation abilities, problem-solving and critical-thinking skills because, ultimately, if we tell a child what to do in every single situation and make it so structured that everything is thought out for them, they're not learning those skills. And so it's a balance in that we want to provide children with guidance, with examples to say, "Here's what we do in these different situations," but then we want to step back from that. So if a child is, you know, in this situation I mentioned earlier, another child takes their toy, and we walk in and say, "Okay, now say this. Now say this. Now say this. Now do this." Well, we may be showing a child what to do, but we're not ultimately letting them self-regulate. We are still doing the self-regulation for them.

So we want to -- Here is some degree of structured support. We do want to show children what the different choices of response are, but as children learn that, we also want to step back and to be able to say, "I saw he took your toy. Do you want to say this or this? Do you want to say -- Do you want to ask a teacher for help, or do you want to tell him yourself that, 'That's my toy?'" and then letting a child make a choice. And eventually, stepping back even from that, not coming in and giving the choices, but then saying, "I saw he took your toy. What do you think we should do?" And so we eventually move back from giving children an answer to giving them choices to now standing back and asking them for those choices, and when they don't have them, then offering them to them. "Well, you're not sure? Well, maybe you could do this. Make you could do that. Which one would you like to choose?"

And ultimately, our hope is that we can step back entirely and let children navigate those situations themselves, so it is very critical to think about how we give that support, but then how we move away from that support so that children have the opportunity to self-regulate. Thank you so much for your questions.

[Applause]