Guest: Abigail A. Baird, Ph.D., is a professor of psychology at Vassar College and the principal investigator of the Laboratory for Adolescent Science. Baird’s research examines the brain and behavioral basis of adolescent development. Baird is the author of two books and her research has received awards from Harvard University and the Society for Research on Psychopathology. Baird has been elected to several scientific societies, including the International Society for Behavioral Neuroscience and the Dana Alliance for Brain Initiatives. She is the recipient of Harvard’s George Goethals Teaching Prize, as well as the Class of 1962 Excellence in Teaching Fellowship, awarded by Dartmouth College. In 2012 Baird was a co-winner of the Ig Nobel Prize in Neuroscience, a prize awarded by previous Nobel Laureates for “science that first makes people laugh and then makes them think.” She earned her Ph.D. from Harvard University.

Host: Brandon Barrera is a New York City journalist, born and raised in Queens and living in Manhattan. A public affairs assistant at the Dana Foundation, he writes about books for Cerebrum magazine. Before coming to Dana, he provided content to Bronx Net, a public access television channel. When not enthralled by all things sci-fi, Barrera is fond of cycling, film, and arguing the finer points of tabletop gaming.

Abigail Baird: The digital world is not the only way to interact and it certainly isn't going to give you everything you need to function in society, but it's not inherently bad. And I've been gentle with the kids because obviously dealing with all of the things surrounding their education during a pandemic is a massive stressor and part of my job as an educator is to help them feel comfortable speaking in my classroom. What happens is if you spend your adolescent years incarcerated, particularly in an adult system, that's going to be your culture.

Brandon Barrera: You just heard the voice of Abigail Baird, professor of psychology at Vassar College, principal investigator of the Laboratory for Adolescent Science and member of the Dana Alliance for Brain Initiatives. Dr. Baird joins the program to discuss adolescence, what maturity means to a neuroscientist, and what we should be mindful about regarding brain development when set against the backdrop of an unyielding pandemic.
Brandon Barrera: This is “Communicating Brain Science.” I'm Brandon Barrera, your ever-curious host, and we're recording this in the fall, a time when students, educators, and families are busy with the return to classrooms, true for some but not for all as school districts and institutions contend with the changing conditions on the ground. Many of us continue navigating the unfamiliar and the often-frustrating realms of distance learning and social distancing.

It's for these reasons that I felt a chance to speak with a neurobehavioral expert could be invaluable. So I hope you enjoy listening to what Professor Baird has to say about the wonderfully plastic teenage brain as much as I enjoyed getting her perspective on this unique period. Here is my conversation with Dr. Baird.

Thank you for joining us, Dr. Baird. I'm really eager to have this chance to speak with you about this subject, in part because I think it'll allay some of my alarmist tendencies when I ponder the question as to how these conditions that we find ourselves in might affect all of us, and specially young folk. Tell us a little bit about your discipline and what it is that you investigate.

Abigail Baird: I study the teenage brain, which despite popular belief is not an oxymoron. There is a teenage brain and it's actually quite functional and it's doing exactly what it's supposed to do. I come from a strong belief that adolescence is a very functional period. It's what helps you move from being a child to an adult and you need to pick up all of the skills and rules of the road, if you will, for adulthood during that time.

I originally got into this with a focus. I really wanted to understand how the adolescent brain is "supposed to develop," with the idea that maybe we could prevent things from going wrong. That was about 20 years ago and I'm still trying to figure out what's supposed to happen because I'm not sure there really is a "supposed to" anymore. I'm increasingly convinced that the adolescent brain is possibly the most malleable and most plastic, most flexible point in human development, which makes it really exciting but very hard to say, "Here's what’s supposed to happen."

Brandon Barrera: You mentioned how the adolescent brain develops. What is that process? How does it get to that point where it's [reached] maturation?

Abigail Baird: When people think of maturation and when they hear the word "growth" and you're like, "Okay, well, so growth, that means it gets bigger," and if that was the case, we'd all have heads that are necks could not support and we certainly couldn't find hats big enough for our heads that
continue to expand. Our brain doesn't continue to physically get larger. What growth means during adolescence is efficiency and communication, and so portions of the brain that maybe didn't hang out or didn't get along or didn't speak fluently to each other, they got more and more coordinated and speak more and more clearly with each other.

What you see during adolescence is a shift from a lot of very labor-intensive-type networks to very quick, smooth, facile networks, and so it's a change in organization that reflects the growth instead of literally physically adding onto the brain.

Brandon Barrera: Do there happen to be phases or periods during development that are more important or more crucial than others?

Abigail Baird: Absolutely, and so in animals those actually are called critical periods, and most people are familiar with the example of a number of avian bird species, if they hatch and see something that's not their mother they will still imprint on that thing as if it's their mother. That's a critical stage. That means there's only one thing that can happen and it must happen in that moment. Humans are not known to have critical stages, but we do have sensitive periods, meaning ideal time, and the easiest way to explain this to anyone is to just think about trying to learn a second language as an adult. It's possible and that's why it's not a critical stage. It's possible, but it is incredibly labor-intensive, and our brain is just not interested in doing that as an adult.

That said, to anyone listening who is bilingual from birth, you don't remember using flash cards, you don't remember having quizzes or tests on your language. You just got it because between 18 and 24 months in the younger brain is an ideal time to soak up languages. The brain is primed for language acquisition and you put two, three, four languages in there at that point with virtually no effort at that time, and again, important qualifier, not by like playing a tape of someone speaking Arabic while your kid's napping. You acquire language by interacting with other humans who speak that language. Again, it's functional.

In adolescence, there's an analogy to this. I like to think of it as our social language, so instead of acquiring our spoken language, what happens in adolescence, it's the ideal time to acquire most of your adult social behavior.

Brandon Barrera: That's what we refer to as adolescence?
Abigail Baird: That's what adolescence is about. This is probably actually scarier to talk about than the pandemic, but the point of adolescence is to become reproductively viable, which I know that alone is a topic that frightens any parent of any adolescent far more than the pandemic. That doesn't mean you're going to have a baby next week, it means that your body believes that you are capable of doing that, and once you become a reproductively-viable part of our species, you've got a whole different set of responsibilities and they're big. Your brain needs to be prepared for that. The adolescent period really is aimed at making you a successful adult in your environment, and that part in your environment is very much like the language you learn as a toddler.

I grew up outside of Boston in a third, fourth-generation American family. The odds of my growing up learning Farsi fluently were very slim because I wasn't exposed to that. Similarly, in my adolescence, the kinds of experiences I was exposed to would be typical for the area that I was going to theoretically live in as an adult. I then moved to New York, which from Boston to New York is like the most massive cultural shift you could possibly imagine. I cannot speak about sports any longer, which is fine-

Brandon Barrera: Yeah, it can get ugly out there.

Abigail Baird: ... but I've adjusted, I've adjusted.

Brandon Barrera: It sounds like experience is important. Is that accurate?

Abigail Baird: Very, yes. It's really the next chapter in my research because I really feel that unfortunately with the best of intentions, a lot of parents have been moving away from letting their children have actual experiences in terms of screwing up. We have to make mistakes. We have to get hurt. We have to have our hearts broken and we have to get bad grades. We also have to have successes, but the brain actually learns a little better from danger and mistakes it cares about keeping you alive. That's the bottom line. The bottom line is we have to stay alive and we have to do the best we can to thrive in this environment. When you haven't had your heart broken until college, you have no idea how to handle it. None. You have no experience with it.

Brandon Barrera: I know that feeling.

Abigail Baird: I have students who struggle with getting a B. A B's a really good grade. I used to hope for B's, like, "B's are great." B's a very good grade, but if you are used to only one kind of grade... One of the things I'm learning, the brain is all about experience. The brain shows up overconnected,
overwired, and it's sort of selectively sculpted literally by what you experience in your world. It becomes tailored to what you need. If you're from a culture, for example, there are cultures where looking someone directly in the eye is very rude, if you grew up in that culture, you won't do that. You won't have to think about it, you just won't do it because your brain over time learned by experience not to do that, so those networks weren't preserved.

All kinds of things, the way we hold our bodies, the distance we stand from people, who we give deference to, all of that stuff that we don't actually really consciously think about, but adolescence is a time when all of that stuff is getting literally firmly like chiseled into the human brain.

Brandon Barrera: Well, how effective is that chiseling? Would we refer to these as learned behaviors? As habits? Is it all of the above?

Abigail Baird: Yeah, it's all of the above, and I think one of the really interesting questions, and I it dovetails with the larger topic that you're interested in today and it's something that's really been intriguing to me about today's teenager is that I do think that there are some virtual experiences that can be real experiences. As an elderly person, I'll just say I'm older than 23, we'll just put it there.

Brandon Barrera: I join that club as well.

Abigail Baird: Yes. Actually, the best way to describe it is I'm actually not a digital native. The internet did not exist when I was born. Computers did not really exist other than large industrial computers, so I didn't grow up looking at a screen. I didn't grow up texting or messaging or anything like that, and so I think you have a group of scientists who are around my age who because we aren't digital natives, we have a tendency, because it doesn't feel authentic for us, to assume that it is not authentic for younger people.

Now, that said, there's some really cool studies that even my age group, if I get a text message from someone I feel close to that I know in real life, if I get a text message from them, my heart rate does go up. I do have a physiological response to it. It is real. People who are older who are not digital natives can use this stuff to feel things, but we don't believe that someone who grew up with it could feel it more authentically, which I think they probably can.

Then, the second piece of that that's really interesting to me is, "Okay, so if they can, why do most adults and scientists and practitioners go straight to therefore it’s
bad, therefore it’s terrible?” Whereas, I am very close to a brother who lives on the West Coast. I feel much closer to him since we've become better at being in touch online. I feel like I know what's going on with him, which is weird because I haven't physically seen him in months, but I've seen him virtually, and that does make me feel like I know how he and his kids are doing. I think we've been really quick to look at all of the bad and not think about the possibility that obviously the digital world is not the only to interact and it's certainly isn't going to give you everything you need to function in society, but it's not inherently bad.

Brandon Barrera: It's not nothing. It is an experience.

Abigail Baird: It's not nothing, absolutely. It is, and we just have to figure out how to use it. It's funny because of people like myself who are trying to figure out how to use it effectively are possibly the worst people in terms of training and experience to try to answer this question that we have all been bluntly confronted with because of the pandemic.

Brandon Barrera: That's probably only a matter of time, right?

Abigail Baird: One can hope.

Brandon Barrera: Okay, so it sounds like adolescence is key, experience is key, so that leads to this next question. Is there an age range that we just consider adolescence and that's that?

Abigail Baird: I wish there was. There used to be to be adolescents. It's funny because, again, experientially it's environmentally-driven, so biologically, and this is one of those distinctions that's important to make, we have puberty, which is the biology of your body changing to become reproductively viable. Then, you have adolescence, which is the social and emotional construction that surrounds that biological change and makes it possible to implement that biological change in a real-world context.

In most places, the onset of puberty is followed by a maximum of about two years of adolescent social and emotional development. In the United States, in a lot of Western places, that's a lot longer. The United States I believe currently holds the record for the extended dance mix of adolescence. Our adolescence, again, there's brain evidence supporting this it goes into the early 20s, which in most cultures is unheard of. Why does it go that long? It goes that long most people believe, and I agree with this, frankly, because there are no social cues telling an 18-year-old that they're an adult.
If you are in a job that's your adult job and you have adult responsibilities and you are treated like an adult at 15 or 16 or 17, your brain will be mature. I would love to say as a college professor that college makes you mature. It does not. It educates wonderfully-

Brandon Barrera: Right.

Abigail Baird: ... and it gives you, to me, a luxurious, wonderful, irreplaceable skill set. Obviously, I love college. It doesn't give you the same live skills that living on your own in an apartment would. It just doesn't, and I don't think it's good or bad, it just is.

Brandon Barrera: What can we attribute that to? Is it just because of the form of the institution? Is it too much of a protection?

Abigail Baird: I wouldn't say it's too much of a protection. I think it's a choice. When you look at other countries where their primary in high school is more rigorous and what is considered fully-educated by senior year of high school like most European countries if you complete high school, you're considered educated. Those kids at 18, 19, 20, by the time you're 19 or 20, you've been on your own for a couple of years. You absolutely are functioning like an adult and would look like a fully mature adult. That doesn't mean you won't change into your third, fourth, fifth decades. Of course you will, but the changes become much more subtle. It's a uniquely American thing. It's not a bad thing.

Brandon Barrera: Is it a uniquely recent American thing?

Abigail Baird: Yes.

Brandon Barrera: Not too many decades ago, you would graduate high school and you were considered to be an adult. You had a different set of responsibilities that 20-year-olds and 19-year-olds just probably don't share today.

Abigail Baird: Absolutely. I actually remember getting my first I guess report card, my first grade report from college from Vassar where I teach now. I was very lucky to be here as an undergraduate. I remember being excited that I didn't flunk anything and I went to show it to my parents and they were kind of like, "Well, are you happy with that?" I said, "Well, yeah." They're like, "It's not our responsibility. That's your future."

Brandon Barrera: Ouch.
Abigail Baird: They were happy for me, but it was a very different... I was used to receiving their praise for good grades, and instead, they were very clear like, "Well, you better get good grades because this is your life." Absolutely when I was here, we'll just say it was... My son likes to say, "Well, you're from the 1900s," which is actually true and scary when you say it like that, but yes, I am from the 1900s and I went to college in the 1900s. You're absolutely right. We didn't come here seeking adults. We talked to our parents. We had one phone for the whole hallway in our dormitory and we always since I was-

Brandon Barrera: That's almost unthinkable.

Abigail Baird: ... unthinkable, unthinkable, and since I was from the Boston area, I was four hours from home, I was on a floor with kids who were from the West Coast and the Midwest who were that much farther from home, so we always let the other kids who were farther from home use the hall phone first. I probably called home once a month and it was expensive. It was super expensive.

Abigail Baird: There's a researcher named Sherry Turkle, and I'll have to double check that name, but she wrote a book called Alone Together, Together Alone, I should check that, too, but she talks about this concept that's fascinating called tethering, that college students today, one of the things that... It's one of those plus sides of tech that could go either way, and I see it all of the time. As students leave my room, they take out their phone and they call their parents to ask them a question, to check on how something's going, even to share with them how they're feeling about stuff. I can't fathom calling my parents.

Brandon Barrera: I share the sentiment. Right, we're talking college-age students-

Abigail Baird: Yeah, and they-

Brandon Barrera: ... just regularly do this.

Abigail Baird: ... they do it all of the time. They also... At the same time, I have to be honest, these relationships are rich and I think they're fulfilling and nurturing and I don't think they're pathological or bad, but it's so funny to me to be like, "Wait, are you serious? You're calling your Mom right now?"

Brandon Barrera: "Like you actually want to?"
Abigail Baird: "You're 19. Why are you calling?" The other thing that, again, if you talk to people my age, when you went away to college, you often lost touch with a lot of your high school friends because you were at college and you made new friends at college. This tethering thing, students also still tend to keep a lot of their high school friends, regardless of where they go to college because they can be in touch with them 24/7.

It also makes it a little tricky to develop really strong social ties in college with people because if you don't find someone you like right away, you don't have to get along with anyone. You can stay with your high school friends and just go to classes, which when I was at college, that really wasn't an option. You had to have some friends and everybody was in the same boat about that.

Brandon Barrera: Okay, so I understand the lay of the land a little better now and we spoke about this a little bit already, but now I kind of want to explore and I want to be disabused about my cause for concern here. It sounds like this period of adolescence can stretch well into our 20s, our college educational careers, and it's not unfair to say that right now students aged pre-K all the way through college are experiencing what I would call a disruption. I'm curious to know what research says we can expect from this and whether it will be good or bad. I just don't know what to expect.

Abigail Baird: You know, the easiest answer I have for you is—yes. That's not a good answer, I'm sorry. The answer's really complex and nuanced and I don't know that anybody has a totally comprehensive answer for that kind of query about what's going on. I think a couple of important things to keep in mind in trying to think about this issue, one is that there's going to be different impacts at different ages.

The move to remote schooling and physical separations and distance, when you think about younger kids, I put my money on it being very disruptive for them in the short run, but in the long run, it being another tool in their tool box of how to cope with life because I think whenever we return to after this, the younger the kid is... Again, it's like learning language. They'll be more fluent in going between being in person and being online than people my age. The older you get, the harder the transitions are.

The younger kids look more actively disrupted right now because they don't understand why we have to do this, but they're going to acquire a skill set faster about sort of negotiating all of the parameters, what the digital world is about. I think somewhere in the middle you're going to have some disruption. You're going to have some adjustments. I actually
think it's going to be hardest the mid-to-older adolescents who are starting to really practice their mature behavior and they already have a lot of social skills set, but what they're trying to do now is kind of polish up and finish up their real-world skills. Unless, and God help us if we have to maintain a permanently distanced digital world, I don't think that's where we're going, I'm going to believe we're not headed there, they're missing valuable time.

Now, there are two sides to this. I've heard from students who have some social anxiety, that the pandemic's actually been kind of a relief. They don't have to worry about what to wear to school. They don't have to worry about who they're going to run into. They can plan who they hang out with. They can plan who they talk to and that reduces a lot of anxiety. That's good in the short run. It's certainly always great to have a break from things that make you anxious, but a lot of times, things that make you anxious are the kind of things that help you grow and mature. Learning to deal with people you don't like is a very important human skill. We all will have to interact with people who aren't our favorite people, and that's okay.

We have to learn to interact with people who hold different ideas than we do, and that's okay. Ideas don't really hurt us unless they're implemented. Discussing an idea you disagree on doesn't hurt you, but if you're choosing by virtue of who you let into your Zoom life and who you text and who you hang out with, you're choosing all of those things actively. You're not going to get the same experience as a kid who is literally put in the classroom with people they don't know who have different ideas and different experiences. They learn to appreciate and respect and interact with appropriately. That's where I worry about a little bit of a setback.

Brandon Barrera: Then, could we adopt techniques or practices in the digital realm that might prove beneficial to proper development or optimal development?

Abigail Baird: I think we could and I think we're just starting to learn about this. I read an interesting... I believe it was an opinion piece, not a research paper, a little while ago about students who go to Zoom classes but opt to leave their cameras off because they feel it's an invasion of their privacy. I remember thinking, "Yeah, I can understand that. If I was at home, I might not want people to see my messy room or whatever." Then, the counterargument that was raised was, "Would you go into a classroom and expect to not be seen? Is your privacy violated because you're going into a classroom?"
That's absurd. You'd never walk into a classroom [crosstalk 00:23:12] "Don't look at me. I'm going to sit here but don't look at me. You cannot see me." And so-

Brandon Barrera: "Yeah, I'll be in my corner. Everybody else just in their corner." Yeah, yeah.

Abigail Baird: Right. "Don't call on me, don't look at me." We all have those days where we feel like that. Certainly as an adolescent where I'd be like, "Oh God, I hope no one sees me," but if you're in a classroom, you're going to be seen. I'm speaking a little bit specifically to Zoom. I'm sure, again, if this goes on longer, we'll have more platforms and more choice, but we're kind of learning as we go. That's just unique in that our administration, our President has been incredibly supportive of however we want to handle our pedagogy, how we want to handle our classes as long as our students are being effectively educated.

That's been very freeing and very liberating for a lot of us who really want to maximize this time as teachers, and I've been gentle with the kids because obviously dealing with all of the things around their education during a pandemic is a massive stressor. I haven't really thought about the one or two kids that have their cameras off, but after reading this thing, I was sort of like, "You know, I don't know if that's good for them." As hard as it might be to turn your camera on, it might be healthier for them to turn their camera on and have my support to do so and to be able to talk outside of class, either on the phone or over the computer. Talk about why it's hard to do that. What can I do to help you feel okay about that? The same way that speaking in class can be hard, and part of my job as an educator is to help you feel comfortable speaking in my classroom. We may need to translate some of the stuff with the digital work of like, "No, if you come to class, you come to class so that everybody can see you. I acknowledge that that's hard and I support you in that, so let's figure out how to make that doable for you." I've been lucky to be at an institution where that kind of thought about our classrooms is supported.

Brandon Barrera: Perhaps a little window for experimentation for new methods?

Abigail Baird: Absolutely, and without that, I think we'd almost be scared to deviate from like, "Put on Zoom, deliver your lecture just like you're in your classroom, and pretend everything's okay." That doesn't really appeal to students in the same way that I think it's awesome that you guys are doing podcasts on the brain and on all kinds of things. Think about how
many people now have learned so much more stuff because during their morning commute, they put on a podcast, or while they're exercising or going for a walk, they put on a quick podcast.

We've learned that one way to deliver information really nicely and easily and digestibly to people is this thing called podcast. It didn't exist when I was a kid. It's fantastic. The number of students who can't remember the chapter I assigned them but can tell me about four podcasts they heard this week that are related to the stuff they were supposed to read, but stuck much better in their brain because it was more entertaining and it was more digestible. Maybe this is an opportunity in some ways to think about how we're doing what we're doing.

Brandon Barrera: You mentioned earlier a phrase, "lost ground," that might have been in reference to perhaps these disruptions that don't allow for normal development to proceed as they would, but can this lost ground be regained?

Abigail Baird: I want to say that it could be, it will be. One thing that does concern me are a lot of people are quick to use the phrase "arrested development." It's even a fantastic show, but-

Brandon Barrera: Very, very funny. Wonderful.

Abigail Baird: ... there is no such thing as arrested development. Humans develop constantly, whether we like it or not. The best analogy I can give you is a ball rolling down a hill and that ball is just going to roll down the hill. Development's going to happen no matter where you are and no matter what you're doing. It's going to progress. The question is, is your development going to be helpful for you in terms of how you thrive in your environment? Or less helpful? By setbacks, I mean it's like the ball coming down the hill for kids in the social arena who are now all isolated from each other. There are going to be some bumps in that hill that we didn't anticipate. Now, they're going to be a little bit farther down the hill trying to learn the stuff they were supposed to learn a little bit earlier. It may just going to be a little trickier.

The good news is that they're all in it together, and so one of the fortunate things is they're all experiencing a somewhat similar thing. If you have... Now, this is a very crude, rough kind of coarse analogy because it's no longer true by any means, but back in the 1980s, 1990s, homeschooling was unusual and kids who were homeschooled often lacked some of the social skills that you got by going to school, just casual interaction, casual slang. You could always pick out the kid who was
"homeschooled." Again, this is no longer true and I have absolute no judgments about... These days, homeschooling is such a fantastic enterprise. I’m thinking about its inception years and years ago when it was not quite so good.

What's changed about it? Well, what changed out it, one of the many things that's changed about it is people realized how important just being together for teenagers is, just hanging out. The simple hanging out. The thing when I refer to setbacks, some of the stuff I worry about is like the understanding, the right look someone gives you if they're interested in you.

Brandon Barrera: Yeah.

Abigail Baird: Hard to do that online. They can do it with emojis and stuff and the subtlety... Again, this is one place where adults pathologize or catastrophize where they shouldn't.

Brandon Barrera: Yeah, it's a language.

Abigail Baird: Adolescents really have a very nuanced language when it comes to emojis, it really is. I didn't realize until a couple of years ago that if you ended a text with a period, it meant you were kind of irritated. I was like, "Oh, I was just trying to be polite and use grammar. Okay, no, no, I'm not irritated." There's a lot of nuance that we don't get, so I hope I'm kind of wrong, to be honest with you, in that they might just be developing a little differently.

Now, let's say we drew a line down the middle of the country and the West Coast was all online for five years and the East Coast was all in person for five years. That might be a problem because then you'd have a generation with very different skill sets in terms of how to interact with each other. The upside of this terrible time is that almost everybody's going through it, so if there is a bit of a delay or a bit of lost ground or there are these older adolescents who become young adults the next few years, if they end up with kind of a little couple of quirky ways of interacting with each other, they'll all be doing it.

One thing about adolescents that I love is they learn from each other like wildfire. If there's a way around this, if there's code for things, they'll figure it out. They really will.

Brandon Barrera: Be able to spread among [crosstalk 00:29:44]-themselves.
Abigail Baird: It will [crosstalk 00:29:45] spread.

Brandon Barrera: That's great.

Abigail Baird: Absolutely.

Brandon Barrera: Okay. I think the worst of my pessimistic outlook has been assuaged. Yeah, so thank you for that. When I consider our conversation, we're kind of reexamining or looking at how we traditionally view education or the period of adolescence. Tell me a little bit about juvenile law. Is that some of what your research covers?

Abigail Baird: Absolutely. I'm incredibly passionate about juvenile justice and the profound inadequacy of our current juvenile justice system. The school to prison pipe, the industrialization of juvenile detention and prison. We've been working hard in New York State to raise the age of automatic sort of holdover to adult court used to be 16, so if you were a kid in the Bronx and you got picked up for spray painting, you could end up in Rikers and the gyms as a 16-year-old boy, which to me is disgusting. Now, 17, which isn't that much better if you ask me, but we're working on 18 and there's definitely legislative support for that.

The reason that those things are so disturbing is that part of adolescence, as we talked about early, is making mistakes. Part of it is learning by trial and error and messing up. One of the things about the juvenile justice system I think is possibly the most problematic is that the more severe a crime is, the more likely an adolescent is to be treated like an adult, which when you think about it logically makes no sense. If they commit a worse crime, they're probably more immature, so I can do the most immature thing, but because of my chronological age, it is not possible for me to be sentenced as a juvenile.

You can be a 16-year-old who's been taking care of younger siblings, holding down a part-time job, doing all of the right stuff, and if you get caught in the wrong moment with the wrong group of kids, you won't be considered an adult in terms of being... No social service will let you take care of your younger siblings if your parents go to prison because you're not an adult, but if you get caught in a fist fight and someone's really injured, you could be tried as an adult for assault. It should be the same thing. You're chronologically-

Brandon Barrera: Right.
Abigail Baird: ... not possible for you to be an adult. Those kinds of paradoxes are very frustrating. It's also the fact that the reason we created juvenile justice system is because we acknowledge that younger people are still developing. The possibility of rehabilitation, the possibility for course correction, if you will, is really much, much greater among younger people. It's most important give them those opportunity if the crimes they've committed are grievous, are bad crimes. Those are the kids that get the least services and are more likely to be transferred to adult systems where there's not the same emphasis on rehabilitation.

There's a lot of work to be done there because what happens is if you spend your adolescent years incarcerated, particularly in an adult system, that's going to be your culture, that's going to be your home. That's going to be the language you use. That's going to be the customs you have and that's where you're going to want to be. We all want to hang out with our friends from high school. We all miss those great years, the high school/college time. We all want to be with those people. Really feel most comfortable with those people and using those expressions and going to those hangouts.

If that time has been spent incarcerated, part of you is going to want that, which is very hard to believe but it's true and it's one of the reasons that recidivism is so high among people who are incarcerated very young. It becomes home because the brain is so adaptable. It's like, "All right, I'm here. I'm stuck here. I'm going to make the best of it. I'm going to learn this culture inside out and backwards and I'm going to thrive here." They do and it gives them nothing in terms of real-world skills.

Brandon Barrera: Wow. That is something to seriously consider. It sounds like we're saying that we are wired to develop like this, so why find ourselves or why put young people in this situation?

Abigail Baird: Absolutely. To go a little farther in, but some of the intervention programs close to New York City and the some of the intervention programs that they think will be fantastic for inner-city kids, take them out to a farm and teach them how to milk cows and be independent and raise horses and be responsible for themselves. Some of those overarching lessons are quite good, but it is not going to help an inner-city kid to learn how to live on a farm.

The sense of teamwork, the sense of belonging, sure, that stuff is very good for you, but what we haven't effectively done is come up with appropriate cultural rehabilitation and culturally appropriate interventions. We haven't listened to people in neighborhoods and asked
people in the neighborhood, "What do the kids in your neighborhood need to become better citizens? What would they need to learn from this? What's the best way to teach them grow from this situation?"

Brandon Barrera: That is a big conversation.

Abigail Baird: Yes.

Brandon Barrera: ... and a vital one. Professor Baird, you’ve offered us much to think about. This is a lot to mine. For the curious, where can our listeners find more about your latest work or any upcoming projects?

Abigail Baird: Honestly, the easiest thing to do is to go to Vassar College's website. I'm very easy to find in the Psych Department there. I also do have a website that's called theteenspecies.com. It's all one word, theteenspecies.com, and a lot of our recent work is posted there. You could find videos there. I believe there's a link to our YouTube channel, which we're still shaping up. We're still growing that a bit, and then I do have a... I've done an Audible original for The Great Courses, so it will be on the teenage brain, and that will likely be out this spring, but there's no official release date.

I'm happy to let you know when they give me the official release. It's a 10-part series, 30-minute lectures, 10 of them that I hope they’re more like conversations about topics that I think parents and teachers and people who work with teens, maybe even older teens themselves might be interested in hearing about. It's very user-friendly. It's about the brain, but it's not inaccessible. My goal is to make it fun to listen to.

Brandon Barrera: Looking forward to that. That sounds fantastic. That can be found on the Audible platform?

Abigail Baird: Correct, yep, through Amazon, Audible Courses.

Brandon Barrera: Great. We will have those links posted in the description when they become available. Dr. Baird, thank you for being a wonderful science communicator. Thank you for sharing all of your wisdom and experiences with us today and thank you for joining us.

Abigail Baird: Thank you so much for having me. It was great talking with you.

Brandon Barrera: As always, thank you, dear listeners, for journeying with us on this episode of Communicating Brain Science. You can find all of our brainy content by visiting Dana.org. This is Brandon saying keep those noggins safe and in good health. Till next time.