Welcome, you are listening to Poverty in Focus. The Center for Poverty Research podcast series brings together experts in their fields to discuss new poverty research and public policy. I'm Amanda Guyer, an associate professor of Human Development and Family Studies at UC Davis and a faculty affiliate of the Center for Poverty Research.

Today it is my pleasure to speak with Stephanie Jones, she is the Marie and Max Hardwin associate professor in human development and urban education advancement at Harvard University School of Education. Stephanie's research focuses on the long term impact of poverty and violence on social and emotion. She is a principal investigator of a multiyear experimental evaluation of the school based 4Rs program which is designed to integrate social and emotional learning with literacy development.Stephanie, thank you for joining me today.

>> I'm delighted to be here.
>> It's so great to have you here, and while I also want to learn about, before ours program, I'd love to first hear more about the Chicago school of readiness project that we've been discussing recently, as the kids are now moving into the 8th grade.

So why don't we start with that?
>> So the Chicago school of readiness project. Is an approach to intervention in early childhood that addresses a pretty well documented problem among high-risk, low-income children which is that they arrive at pre-K or preschool. With, challenges and behavior, the intervention itself is providing teachers with training and effective behavior management in the classroom that is complemented by in vivo, meaning in classroom support from licensed social workers who really who are there to, not necessarily, provide direct services to kids around the but to support teachers in enacting the kind of strategies they learn in the professional development in the classroom,when behavior becomes a challenge.

So, the intervention wasn't a curriculum that was delivered to directly to kids, it was really about supporting the adult as a pathway to supporting. Kids, and focused on a particular issue in early childhood classrooms that is often not a focus, which is kids' challenging behavior. We developed the intervention.

It was implemented in a set of Headstart centers in Chicago. In some of the highest risk neighborhoods in Chicago, and we did a big randomized evaluation of it where HeadStart sites were randomized to have access to the intervention, and other sites randomized to just a business as usual control condition, and we collected lots of data from teachers and parents and kids in those classrooms, and we followed kids from the beginning of the year through the course of college into the Spring.

Sine this, since we did this project we have now have followed these kids at kindergarten, first grade, third grade, fifth grade and now you and I are planning to follow them into 8th an 10th grade, and basically what we found over the course of the year was that classrooms were better managed, behaviour was better managed in classrooms, teachers were more effective at deploying the strategies to manage kid's behavior, and as a result they had higher quality relationships with the kids in their classrooms, the kids.

Behavior, as reported by teacher and as observed by outsiders, was significantly better in the intervention classrooms than it was in the other classrooms, and, in addition, the children showed improvements in their basic. Self regulation and in their pre-academic skills. So their early math skills and their early language and literacy skills, and this is something, we think, is happening because when behavioral challenges in the classroom are reduced, kids have more opportunity to access the learning environment and teachers have more opportunity to deliver instruction around language and literacy and maybe early math.

So is a main mechanism reducing stress on the part of the teachers, to become more available to the children in the classrooms?
>> We haven't yet documented the intervention affects on characteristics of teacher stress as reported by teachers, or even burnout. But there is someone working on that.

Mm-hm?

>> But we do think that it is, it's a device that reduces overall stress in the classroom environment that is born of kids coming in with particularly challenging behavior.
>> Mm-hm?
>> And, one of the interesting things about the story of this intervention is. That not unlike many early childhood intervention in prek, that last one year.

We saw things that reacted like we expected within the intervention year. Then the kids left that environment and went onto kindergarten, to public elementary schools. When we followed them the effects that we documented at the end of the head start year had basically faded away. So, and this is something that we see reported over and over and over again in early childhood intervention work, which is that we see effects in the ways that we would expect them after that year, and then they fade out and we don't see them sustained as children move into new environments.

>> Different environments. How interesting.
>> And that was consistent with this project as well. It makes me think about how early childhood is viewed as this time in development of a great deal of changes that occur in brain development.
>> Mm-hm.
>> And then we have adolescence, which in the last 20 years has gotten.

Similar focus as another period in development where we again are seeing changes and shifts in the brain. So as these kids are entering adolescence, or traveling through adolescence into adulthood, might we see some reorganization of their behavior. That's related to, you know, the reemergence of brain changes? So to speak.

>> I think that's so, super interesting, and part of the reason I think that's interesting is because some of the focus with this Chicago school readiness project, it's focused on behavior specifically. Comes out of an emerging body of research that links exposure stress and strain, sometimes described as toxic stress, in the environment, and emerging brain architecture as the pre frontal cortex expands during those early childhood years, primarily between the years of three-four-and five, which has been pretty well documented, and the, the theory is that the reason, in high stress long-term environment you see kids struggling with behavior in it.

One reason is because of this stress-brain architecture relationship, and that, that kids are not coming in with the kinds of basic behavioral regulation skills that are located. In the prefrontal cortex, and therefore struggle with behavior, and so, I think what TSRP was able to do was push against some of that challenge by giving teachers tools to support kids to regulate their own.

>> Mm.
>> Behavior.
>> Mm hm, and so at the end of the intervention year we saw some improvements in behavior. We didn't then, as kids went in to a new context, document continued effects of the intervention on kids' academic outcomes as they went along. But, as you suggest, when they hit that moment in adolescence where the prefrontal cortex undergoes another expansion.

The kids who are exposed to the CSRP intervention in early childhood may be primed
>> Mm-hm.
>> to, move through that particular period more effectively than others. I mean, it's a hypothesis.
>> Right. Mm. Right.
>> I'm not sure, and certainly, one of the ideas behind our knowledge about these effects is that, during periods of change the system is more open to the influence of outside forces.

>> Right.
>> And so.

>> Of intervention.
>> Of intervention. And so, whether it's not. Even if it's not directly being applied. That movement and change might allow for past environmental supports to sort of reemerge. Or there might be that priming kind of effect where they're better able to seek support from adults as adolescence because they've had some good, interchanges with adults.

It's in early childhood as well.
>> Mm-hm.
>> And so, we might see some of those effects working in that direction as well, so.
>> Totally.
>> Very interesting. So how does that project differ, for example, from the Four Rs program that you've also been working on?
>> The Four Rs is not dissimilar.

It comes out of, a parallel focus and similar field of study but is really targeted to kids in elementary, kids in elementary school. And it is comes out of this world of social emotional learning, which is about building basic social, emotional, and behavioral skills in school aged children in a way that is integrated with regular classroom instruction.

So, the story is really very similar which is that kids who struggle with behavior in the classroom environment tend to do less well in school, they show greater challenges accessing the learning environment. Teachers who struggle with kids in their classrooms who have challenges with behavior. Have a harder time delivering instruction to the rest of the kids and so, it is this kind of brew that is a real barrier to accessing the learning environment for everybody, and, there have been a number of approaches to, to supporting kids' behavior in classroom environments and.

One comes out of the world of social and emotional learning and, is really about building kids' social interactional skills. To offset, basic social problems that distract kids and
>> Mm-hm. get them in trouble.
>> Mm-hm.
>> And so the, you could imagine, a sequence of interventions that could start with something like the Chicago School Readiness Project, that are then, followed with interventions in Elementary School, that continue to support kids' positive behavior.

But the approach is slightly different, than it's one that's more like Four Hours. So, Four Hours is a social, emotional, learning, conflict resolution program. That was designed to be integrated with balanced literacy curriculum-
>> Hm.
>> So that it could be implemented in a school day in a way that was not viewed as an outside added program.

That it would be implemented to something that was already happening as part of the regular school day which is the literacy block. The program itself includes. Lessons in conflict resolution and social problem solving, and they are tied to high quality children's literature. So, teachers read the book, there's a classroom discussion about the book, and then for each unit, there are a number of applied lessons that are tied to the book.

That are designed to build kids' skills in these areas. Similar to the Chicago School Readiness Project we, essentially came in and designed a big evaluation study around this
>> Mm.
>> program.
>> Mm-hm.
>> The study was somewhat larger than the Chicago School Readiness Project, in that. We implemented the intervention when children were in third grade and when they were in fourth grade and when they were in fifth grade, and, then we followed them through those periods and after that into high school, and, our findings are, interesting, I mean we saw after the first year of intervention when children were in the third grade we saw positive effects on their.

On their social cognitions about positive interaction with other kids, their social cognitions about aggression. So they tended to more accurately understand the intention of others in problem solving situations that were unclear. They also were less aggressive. That was at the end of third grade, at the end of fourth grade, those effects were stronger,

meaning they were bigger differences between the control group and the intervention group.

>> Mm-hm.
>> But we also saw new effects in other areas, increased social competence increased attention skills. So with increased exposure to the program over time-
>> Mm-hm.
>> We saw bigger and more effects. What's interesting about this study is that when kids moved in to fifth grade, and were at the point of transition to middle school, which has been documented by researchers as a time when.

Things typically go bad.
>> The transition to middle school has defined as a time that is a real struggle for kids who are entering into adolescence.
>> Mm-hm.
>> The effects we had documented through the end of fourth grade essential disappeared by the end-
>> Hm.
>> Of fifth grade.

So it appeared that there was something about the impending transition to middle school that was. Disorganizing kids, and we were not seeing the same difference as a result of the four R's program as far as the control and the integration kids. There I have a whole bunch of students who have been working on this problem and trying to understand not only something about the developmental context for the kids that may help us unpack.

Is that pattern of findings over time, but also, something about the ecological context of the schools that they account for lives and those affect change, and what we're seeing is that not atypical in public schools. particularly, urban low-income public schools, that there is a tremendous amount of teacher turnover.

>> Mm. Mm-hm.
>> So, the story is that we have an intervention that is being implemented by teachers. Teachers are trained to do it. They get professional coaching to do it, and, it appears that there is a differential between the intervention schools and the control schools in teacher tot, teacher turn over.

>> Huh.
>> And this, the way it works is is that teachers appear to be leaving. More, turning over more in the intermittent school.
>> Oh. Interesting. That's unexpected.
>> It is totally unexpected and it could be. I mean, there are a bunch of explanations for this. It could be that teachers have a new body of skills and they can take these skills to other positions.

>> Mm-hm, mm-hm.
>> It could be that there are real System level opportunity level costs to doing this kind of work, to trying something new in the classroom, and it is hard work and it can provide for teachers an increase in stress in the short run, which may make them in under.

You know, already stressful conditions, decided that this is not what they want to do.
>> A new set of demands on their time and energy, yeah.
>> A new set of demands on their time. So, the consequence for kids, of course, is that the, the intervention condition for them essentially becomes what we don't want it to be.

>> Mm-hmm.

>> Which is that semi-unpredicatable. Environment over time, and that they may have had experience of four Rs as a third grader, and then, not had it as a fourth grader because a new teacher came into the system and was less well-trained.
>> Uh-huh.
>> And new to all of it.

>> Uh-huh.
>> And then in fifth grade had a teacher who had been doing it for three years and they were not ready to. Do it with the teacher because their skills were not in alignment with what the teacher was trying to do. So, and you can imagine all kinds of patterns like that.

So, that's a second kind of, unpacking of those findings, and then the third is, the reality of schools is that they have. A lot to do. Teachers are required to do a great deal of stuff in a very short actual period of time the kids are in the classroom, and it's a fixed system and it's very hard to add something in.

>> Mm-hm, mm-hm.
>> And so, I think despite our intentions to. Implement and evaluate a program that's really integrated into the school day. It still didn't come off that way, it was still something that teachers had to find time.
>> Uh-huh.
>> to do in their day. So, as a consequence, there's tremendous variation in implementation.

>> Okay.
>> And, it could be that as kids were moving up in their academic trajectories, the pressures were increased.
>> Mm.
>> For teachers
>> Mm-hm.
>> To get them ready to go off to middle school. To, in New York City, where we did this study, kids when they're going off to middle school, they actually go through an application process.

So you have to, and their middle school choice is based partly on how well they do on certain kinds of tests, and how well they do in elementary school, so the pressure is amping up and there may be just less room for something like this.
>> Mm-hm. Hm.

Thanks so much for sharing that, it's so interesting, and it's particularly interesting to me as somebody who conducts developmental neuroscience research. In that, I follow some of the literature on. The intersect of neuroscience and education-
>> Mm-hm.
>> And one of the things that I, I find your work particularly interesting in that context is that you're focusing quite a bit on the social and emotional realm of development and how that-

>> Mm-hm.
>> And how that can be better supported where, in contrast, some of the work in neuroscience education areas has focused more on, on, you know, what are those cognitive skills? What, you know, how do we get kids to read better? Be more proficient readers, or learn math and things like that.

>> Mm-hm.
>> And, I think it, it'll be really interesting to try to weave in some of these social emotional indicators into that body of, of research, and some people have started-

>> Mm-hm.
>> Doing so in terms of looking at things processes like mentalizing. So, trying to understand the thoughts of other people, how people are feeling, you know, that, those sorts of social cognition types of skills.

So there, there is work in neuroscience that's finding differences in the brain related to those processes that I think, you know, have a lot to. Say in terms of that, the things you're doing in the classrooms, which are really, really interesting. So.
>> I totally agree. And I think one thing that came, becomes really clear when you start to talk across disciplines, about this area in particular, is that we all talk about all that different ways.

>> Mm-hm.
>> So there's a movement in the. I would say a little bit in the policy world, a lot in the practice world, and certainly emerging and growing in the academic world around non-cognitive skills, and you hear about it in early childhood and you hear about it in elementary school and you hear about it in high school and it gets defined in a lot of different ways, and the way our group.

Has tried to define this body of skills, which really, if you google non-cognitive skills, you will come up with a million different things. We tried hard to get very clear about exactly what we mean in this space, so you said something really interesting, you said mentalizing, which if I were interpret that in my terms, it would be something like.

Meta-cognition.
>> Right.
>> And it would be also something like the applied version of meta-cognition is thinking about your thinking, talking about your thinking, and focusing your attention on certain kinds of things. So what's so exciting about, the non-cognitive space, however clunky and inaccurate that term is it's that it seems like we're beginning to capture phenomena.

That really represent the link between what neuroscientists are documenting and kids real world behaviors, so their academic behaviors and their behavior behaviors, and it's just super super exciting to have something that serves as the bridge between those two fields.
>> That's right. Yeah, and, and in the, in the developmental space, also thinking about the distinctions that occur as kids develop and change over time in terms of there's, there's likely an essence to what those.

>> Mm-hm.
>> Non-cognitive skills are. Across the life span, but they need to, to change with age, and with the capabilities of of a child, of an adolescent, of an adult.
>> And the demands of the context.
>> And the demands of the context.
>> Hm. hm.
>> Exactly
>> So it's like age specific manifestations of the same, of the same, Yeah.

>> Yeah. Which takes us, oddly that you bring this up. You have, actually I think a couple of things that you have said have, brings us back to our joint training as doctoral students together back in, the day.
>> That's true.
>> In child development and social policy

>> That's right.
>> Where we were talking, we spent a lot of time. Talking about the intersection between developmental theory, which is a lot of what we've just been talking about, and direct application to policy and practice-

>> That's right.
>> In the world.
>> Exactly. Exactly, Well, thanks so much for talking with me today.

It's been a real pleasure to have you visiting UC Davis and I'm so excited to hear your talk.
>> Thank you for having me. It's been really fun to be here.
>> I'm Ann Stevens, the director of the Center for Poverty Research at UC Davis, and I want to thank you for listening.

The center is one of three federally designated poverty research centers in the United States. Our mission is to facilitate nonpartisan academic research on domestic poverty to disseminate this research and to train the next generation of poverty scholars. Core funding comes from the U.S. Department of Health and Human Services.

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