

TRANSCRIPTION

Center Announcer: Welcome to the Midwest and Plains Equity Assistance Center Equity Spotlight Podcast Series. This podcast series will feature the Center's Equity Fellows, national scholars from North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, and Ohio who are working to advance equitable practices within school systems.

Each episode will focus on a topic relevant to ensuring equitable access and participation and quality education for historically marginalized students specifically in the areas of race, sex, national origin, and religion, and at the intersection of socioeconomic status.

Dr. Cook: Good afternoon. My name is Dr. Daniella Ann Cook and I'm an Assistant Professor at the University of South Carolina, Columbia. Today we're talking with Dr. Crystal Morton, an Associate Professor of Mathematics Education at IUPUI. Her research focuses on understanding the learning experiences and identity development of black girls. And today, she'll discuss what it means to be a black girl in today's mathematics classroom. Our discussion around the experiences of black girls and mathematics can help inform how educators can create more equitable mathematics learning opportunities for black girls. Let's begin.

Dr. Morton, thank you so much for joining us. But before we get into any specific questions about young black women's experiences in mathematics classrooms, can you talk about why you're so passionate about this work?

Dr. Morton: Yes I can. As a former high school mathematics' teacher, I had a student named Angie and I, um, developed an extr-, a strong relationship with both Angie and her mother. Um, I would interact with Angie outside of school. I would interact with her mother outside of school. We would go to, um, social events together, um, they would have me over for dinner. So I got to know a lot about Angie.

Angie was a person with a learning disability who faced, um, challenges wi-with mathematics content. And the challenges she faced with mathematics was further compounded by her lack of confidence, and also her struggle with interpersonal relationships. So a lot of, uh, teachers and-and even some students would often dismiss Angie as the black girl with an attitude.

By what I found out, um, through interacting with her mother, and her outside of the school setting, was that, um, Angie suffered from severe emotional trauma behind the loss of her brother. And I believe that that trauma was connected to the struggle she had with interpersonal relationships. So what happened in the school was teachers didn't take the time to really get to know her, to find out what was behind the perceived attitude to under-, to-to understand that it just wasn't this attitude she had.

Equity Spotlight Podcast Series

Dr. Crystal Morton, MAP Center Equity Fellow – Indiana

She was just dealing some trauma and things in her life that she needed help processing through, rather than being labeled and pushed aside.

So, Angie did well - to get back to the math class - Angie did well in my Algebra 1 Part 1 class. She passed and then she was supposed to follow in a year, she was supposed to take Algebra 1 Part 2. She started off in Algebra 1 Part 2 and then Angie was back in my class again, and I inquired about why she was there. I enjoyed spending time with Angie, but she had already taken my course.

And what they told me was that her "attitude" prevented her from being taught by other teachers. And as I continued to teach at this high school, I met more students that were like Angie. Um, black young women who were placed in lower level classes not because of their academic ability, but because of their behavior. So the perception that they have some type of behavior problem, so instead of them going to more rigorous class, we're going to place them in a more basic level course.

So it was my relationship and interactions with young black women, specifically the Angies of my life, um, that's one of the major reasons why I am so passionate about my research and the work that I do with black girls.

Dr. Cook: So as you pointed out, relationships have been really important to establishing a rigorous mathematical context in classroom environment for not only all children, but specifically for young black women in our classes.

Dr. Morton: Yes.

Dr. Cook: Can you, as you continue to think about Angie and other young black women you work with, can you elaborate a little more on the challenges young black women may face in mathematics classrooms?

Dr. Morton: Yes, black women, black ... They say several. Young black women face several challenges in mathematics classroom. And I know today that we do have limited time, so I'm gonna work to center my response around issues of access and opportunity. And because I am a former secondary mathematics teacher, a lot of the examples that I will share today comes from a secondary context. But black girls are excluded from meaningful mathematics as early as elementary school. So even though the examples are not from elementary school, it does apply to that context.

So just briefly from the research, we know that black learners overall have unequal access to mathematic learning experience. So for example, only 57% of black students have access to what's known as a full range of core courses. That includes Algebra 1, Algebra 2, Geometry, Biology and Chemistry. And that's compared to 71% of white students.

Equity Spotlight Podcast Series

Dr. Crystal Morton, MAP Center Equity Fellow – Indiana

Now these courses, especially Algebra 2, is usually required, um, from, uh, many colleges so they want you to have a course in Algebra 2 or beyond Algebra 2 for entry. And you have, uh, 43% of black students not even having access to it. Um, black girls face additional barriers to access because as I said before, as early as elementary school their positioned outside of mathematics, and in a high school they're often steered away from rigorous mathematics courses.

In the work that I do, um, with black girls, I talk to them a lot about their experience within the classroom. And so when they do, they gain access to certain courses, they are in classrooms that are more of a traditional teacher-centered class, wher- which is true for most mathemat-mathematics classrooms in the country. But black girls are disproportionately placed in what many will call a basic mathematics classroom. So you're in a teacher-centered class in a classroom that lacks rigor and relevance, so young ladies are not able to connect with the content and often times they don't build those relationships with their teachers.

When they talk about what happens in a class, so if I say, "Describe your typical day," the majority of the time I hear, "We do a warm-up. We go over homework. We listen to a lecture. We complete new homework." And that's what they're doing on a daily basis. Now separately the, uh, instructional strategy have some benefit to it. But when a student is only engaging with homework, go over homework, listen to lecture, then they are, um, denied the opportunity to engage in meaningful mathematics.

They don't have opportunities to think critically. Um, they're, they are actually not empowered to see, you know, how they can use mathematics as something to better their lives. They're really sort of stuck in this, um, routine of, you know, lecture, try it, move on. And so they're really not able to connect with the content.

I hear a lot about worksheets and doing worksheet packets and so over and over again, these girls talk about being in a learning environment that are non-engaging, non-rigorous. The content is presented in a way that depersonalize and decontextualize. And so really what happens is, when you're constantly in this setting, you can easily become disinterested and, uh, grow indifferent to mathematics. And that's, the liter-the research has shown that it's happened, that happens a lot with black girls, is because of a type of pedagogy they're experiencing that they disconnect from the mathematics.

Dr. Cook: So in your work, you speak to the important of having meaningful learning opportunities in mathematics. Can you specifically talk a little bit more about how race and gender shape black girls' experiences in mathematics classrooms?

Dr. Morton: Yes. So I will say that, um, black ... As I said before, black girls are disproportionately placed in lower level classrooms where they don't have access to rigorous learning

Equity Spotlight Podcast Series

Dr. Crystal Morton, MAP Center Equity Fellow – Indiana

experiences. And part of, part of the problem with them being disproportionately placed, it-it actually lies with, um, teachers and other ed-educators within the schools.

Often black girls are labeled a stereotype as being loud and rambunctious, and because of that (clears throat) many people focus on dealing with their social correction, rather than their academic development. So a lot of attention is placed upon, "Let's help this black girl fit in with white, middle-class, norm of femininity," versus "Let's put her in a rigorous course."

So often black girls are placed in classes that focus more on, you know, them having opportunity to dialogue and talk instead of mathematics classrooms. But what happens is educators don't understand that mathematics classrooms, that's the place where dialogue can take place as well. So it's just not something that's limited to an English class or a social studies class, but that dialogue can occur in mathematics classrooms.

But often times, black girls are steered away from those courses because of the stereotypes, um, that they somehow need to be in a context where they can speak more and they're not pushed towards more rigorous mathematics courses. Black girls are also, um, not told about informal STEM learning opportunities, so there may be opportunities for them to engage outside of school and they don't hear about those things often. So if it's, if you have people who think that black girls can't do this work when they actually can, and because they have these perceptions, they then place girls in classrooms that are not going to give them access to those meaningful and rigorous experiences.

Dr. Cook: One of the things that you just identified are ways that educators can create inclusive and responsive mathematics classrooms for young black women. What are some other things that they can do, outside of focusing on the academics and exposing them to STEM learning opportunities that are outside schools and classrooms?

Dr. Morton: I think there's a few things that they can do. Um, I think first of all is move away from this notion that all girls are white. If you look at, you know, some of the data, you'll see. Like if you look at college data, you'll see that, I mean over 50% of those getting college degrees in science and engineering field are women. And so you might see that and think, "Okay, we're doing, we're doing something right in high school because we have people matriculating to undergraduate institutions, they're graduating." But when you look at that data, you will only see, you will, you'll see that only, uh, 5% of those degrees are awarded to black women.

And so moving away from this idea that, you know, everybody's doing okay and recognizing that black girls have unique experiences, and because of that you have to look at yourself and your practices. You have to ask yourself, "Am I stereotyping this young lady? Am I focusing more on trying to correct her socially, rather than focus on

Equity Spotlight Podcast Series

Dr. Crystal Morton, MAP Center Equity Fellow – Indiana

building her academics? Am I, um, implementing, you know, culturally appropriate practices, culturally relevant practices in my classroom? Do I have a classroom environment that's really focusing on excellence in the brilliance of this young lady and empowering her, you know, to do mathematics as well as to be a learner of it, as well as a doer of mathematics."

So I think those are some areas, um, that they can, that need to be addressed. I think teachers also need to examine their practices on how they recommend students for higher level courses, um, as well. And, 'cause that's the way that, um, black women are being, young black women are being left out of those more rigorous experiences.

Dr. Cook: Thank you so much for identifying specific ways that teachers and educators can behave differently, and that pedagogy can be informed by your research. Can you specifically talk a little bit about how administrators can continue to support educators, as they seek to design classrooms that are inclusive and responsive, mathematics classrooms?

Dr. Morton: Yes. I think it has to be a shift in the whole school environment. So it has to ... I think administrators have to, um ... Themselves, they have to put things in place and-and help create an environment that's going to be inclusive and responsive to all learners. In this case, it's specif-specifically talking about, um, learners who are black and [inaudible 00:12:31], learners who are black girls.

So creating that environment, and part of that can come-come through professional development for both themselves, the teacher and staff, and just making sure that it's, that it's quality professional development that's then followed up to help them put what they learn into practice. I also think, um, that administrators have to, um, monitor placement decisions. They have to monitor what's going on in mathematics classrooms and make sure that regardless of what class a student is placed in, that they're being, that they're engaging with meaningful mathematics and that they're being pushed to think at a deeper level. And that's not something that's only say for those in your "upper level classes."

And I also think that administrators, and I haven't, they have to be very, um, really put forth an effort to diversify the teaching force. And I'm going to say the next comments for both teachers and administrators, is to maximize their-their community assets. There's so many people in the community that can come in and be, um, an example for young black women. You know, they can bring in people, um, that are in STEM fields. Uh, they also can just pull on what cultural knowledge may come from the community. That could be, then be implemented inside of a mathematics classroom.

Equity Spotlight Podcast Series

Dr. Crystal Morton, MAP Center Equity Fellow – Indiana

Dr. Cook: As we begin to come to a close, are there specific tools and resources you would recommend to support the development of young black women as learners and doers of mathematics?

Dr. Morton: Yes. There's several resources out there. I'm just going to talk specifically about a few that I've been, um, working with as I prepare to do a summer program with my girls. So the, um, Great Lake Equity Center, their website is G-L-E-C.education.iupui.edu. So glec.education.iupui.edu. They have tools for self-reflection and self-assessment, um, so you're able to look at your equity practices at the classroom level, as well as the school level.

There are two books that I have used a lot in the past and have used recently, and it's a book called the Impact of Identity in K-8 Mathematics: Rethinking Equity-Based Practices by Aguirre, Mayfield-Ingram and Martin. And in that book there is a, um, a framework that really deals with implementing equity-based practices in the mathematics classroom.

Also, another book is The Brilliance of Black Children by Leonard and Martin, and there's several resources within that book. And one that I recently used was a framework for developing culturally relevant and high content demand mathematics task. Rethinkingschool.org is another resource that has, um, a lot of material that can be used within mathematics classroom as well.

Dr. Cook: Dr. Morton, thank you so much for sharing your research and insights in today's podcast. Again, we're focusing on the experiences of black girls in mathematics, that can help educators create more equitable mathematics learning opportunities for black girls.

Again, a primary goal of the Midwest and Plains Equity Assistance Center is to promote equitable education opportunities, and we hope that you found today's podcast engaging, enlightening, and inspiring.

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Within The Intersection: What Does It Mean to Be Black and A Young Woman in Mathematics Classrooms?



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Equity Spotlight Podcast Series

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