

CASE STUDIES FOR

Too Black to be Woman and Too Much Woman to be a Man: Best Practices from Black Women Persisting through Doctoral Engineering and Computing Programs

Case Study #1: Black Eyes

How does your race impact your experience in your doctoral program?

My race impacting my experience in this department is huge because not only am I the only Black PhD candidate in Computer Science in the history of this school, there's only been five other black students who have graduated from this department. Knowing this makes me think more about the school and why it been so difficult for the staff here to recruit other students like me. I know they exist, so it's strange for me to sit here and know that I'm the only one. I feel that affects my experience in that I am the representation. I'm one person. There's a variety of Black females and Black people, and to just have me, as the representation of an entire race of people is difficult. I constantly feel like I must be that voice. If I don't say anything, then nothing will be said, nothing will happen. It's interesting to constantly have to be "the black eyes" for the school.

When I tell people *"I'm the only black person in the department"*, they're like, *"Wow, really?"* I'm like, *"Yes, look around, do you see anyone else like me?"* It's interesting when you're surrounded by people who don't even realize the actual number of people who look like you.

We recently had a woman come to campus to speak. She was the first black female to earn a PhD in mechanical engineering at this school. She just graduated in 2016. At that moment, I thought, *"Wow, if she's the first one, I can only imagine computer science, because I don't know any other Black people in computer science."* So, I had the Center for Diversity and Inclusion look it up for me. The director told me, *"Yes, you will be the first one."* I said, *"Wow. Well, why am I the only person who knows this?"* Why is it that a school that has a Center for Diversity and Inclusion that is supposed to help increase diversity at this school, not making these things known? I think it is very strange that they haven't recognized and help other know that the number of Black Americans on campus is low.

I feel like I'm bringing in this new viewpoint that I feel shouldn't be new in 2017. If I didn't have the courage to speak to the board of trustees, to speak around to this campus, nothing would be happening. No one else would recognize that there's certain populations at this school that are low, and that shouldn't be. I feel like I

have to be that person to open up the blinds and let the sun in, and show them what's happening.

How does your gender impact your experience in your doctoral program?

My gender has not become an issue, visibly, or noticeably, in my mind. It seems pretty equal. A lot of the things I'm involved in, with classes and my PhD office and things on campus, seem to be pretty equally weighed between women and men. As a female, I don't feel there are other male students who don't take me seriously. I feel, if anything, a lot of students come to me for help. My gender has not been an issue.

What does it mean to be a Black woman in Engineering/Computer Science?

Well, it definitely means hard work. Just because you're a rare commodity doesn't mean that you're just going to get whatever's handed to you. You have to work harder because of, like I was saying earlier about my experience even just at this school, there's not very many of us. So, we really need to work hard to be the best because once we're the best, everyone's going to start associating Black women with being good. We have to be the best to be considered good. Basically, to be considered equal we have to be the best. I feel people may look at me and think "*You don't look like a computer science student.*" "Okay. Well, what does a computer science student look like?" Because I'm pretty sure I'm a human being.

GET OUT.

How does your race impact your experience in your doctoral program?

It impacts it a lot. This past week I attended a workshop and completed an intercultural development inventory. This inventory rates as you as being either in denial, at adaptation, acceptance or minimization. I was rated as "at minimization". I agree. At minimization, you are a person who is just getting by to get by, not trying to stand up, just going with the flow. And I'd say that's what I'm doing. I'm not doing the most, I'm not doing the least, I'm just trying to blend in, get in, get what I need and get out.

At the workshop, I was partnered with this Asian guy. They asked us to tell our partner, "What are you most aware of everyday?" And I said, "*What I'm most aware of everyday is that I'm Black, I'm a woman, and I'm short.*"

How does your gender impact your experience in your doctoral program?

It impacts it a lot. As an example: I was in a group project last semester, and I made some suggestions. Everybody ignored my comment. Some guy said the same thing 10 minutes later, and they're were like, "*That's a great idea.*" And I thought, "I'm just going to shut up from now on and just." I reverted back into that

minimization because it's like I literally said that's what we should do, and nobody paid me any attention.

What does it mean to be a Black woman in Engineering/Computer Science?

It's weird. My department is small so I don't think it's as stark as it would be if I was in a different department. I'm one of four of the 130 people we have now. For my cohort I was the only Black person. The cohort before me only had one Black person. The cohort before that only had one Black person and the cohort before that only had one Black person. So it's not that many.

I am not looking for a program that has my HBCU experience. I just want to feel supported in the environment. I feel the administrators support me. My professors support me after I go talk to them. But I don't think that my professors are receptive to the background I come from.

How does your race impact your experience in your doctoral program?

I don't know that it has. Like I said, my program and my lab are very different. It's majority women and majority minority. I don't think my race has impacted me in my particular program at all.

How does your gender impact your experience in your doctoral program?

my program is majority women. When people come to my department and my lab, initially they might be shocked to see a roomful of women computer scientists, but then they start to see it as a norm. They get used to it. Some of the guys at first when they get to our lab might, depending on where they're from and what their experiences have been, they might not know how to handle women as leaders, but they get over that quickly.

Yeah, I don't think in my particular program, my race or my gender have been a negative. People are actually intrigued when they walk in and see a roomful of black women computer scientists. And then they know this is the lab that has brought in X amount, millions of dollars, this is the lab that works on these projects. So, if anything, it's kind of piqued people's interest, in not just me, but for us as a group, and then that trickles down to each individual.

What does it mean to be a Black woman in Engineering/Computer Science?

I think, so, Hidden Figures was really big for us. I think, now to be a black woman in Computer Science, I

think people look at us different now after seeing that movie. To know that black women have been

doing this for a very long time, we just haven't been getting the accolades that other people have. And

now, I think people look at black women in STEM and Computer Science as more highly regarded or

esteemed. It's like, "Oh, wow. You're in Computer Science, like in Hidden Figures."

Whereas before, it was just kind of like, "Eh, what does that mean? Are you tech support? I guess that's cool." I think now the perception has changed. And before, it was more like black women in STEM, to a lot of people, are unicorns. You know, you might find one, but it's very rare. Or, do they even exist. But, I think now that perception is changing. It's almost revered because Hidden Figures was such a great movie. It showed the women in such a good light. I think the perception is definitely changing right now.

Case Study #2: Black In Engineering

What does it mean to be a black woman in engineering?

It means to put yourself in the line of fire and putting yourself in a place that is not made for you. Because institutionally, the conversations, the questions, the priorities of this industry do not line up with the things that I need for my survival, the things that my community needs to survive. It means that you're constantly in a space of translation, of making what's real to you real to other people. Because it's engineering, you're also making the case for why, how you feel about things is important. Because that's not even on the agenda for most conversations. You're bringing a lot of stuff that doesn't have anything to do with things and trying to make people understand why they do matter.

*I think it's also a bit of in a lot of ways I feel deeply but necessarily contrary to society, because to be a woman in STEM, especially to be a woman in your PhD, quite directly resisting the idea of marriage as a goal, resisting the idea of defining myself by society. Instead, I'm deciding to define myself by what I'm interested in, define myself by my work and that is its own weight. **Because I've decided not to prioritize society does not mean I don't have the same societal needs, I don't need the same partnership and support. I think in that regard, being a black woman in STEM is a decision to take the independent thing quite seriously and to sink with your own ship because you know it's for a reason.** Because you know what whoever your partner is supposed to be, has to be able to understand what that space is.*

I think that's definitely something I wasn't expecting, but also it's empowering to know that I'm very much inviting my own future. In the research I choose, in the emails I respond to, in the conferences I go to, deciding where I want to live and how I want to live and what I want it to look like. I think that as a black woman is a form of liberation, especially given the placement we've been given in society and what our normal professions are, and even thinking about the difference between me and my mother's generation and my mother and my grandmother's generation.

How would you say your race impacts your experience in your doctoral program?

I'm hyper visible. Everything I do means something about who I am, from the events I go to-- to the clothes that I wear. It never really feels like it's just about me, but always feels like it's very important, who I am and what I do and what I say and how I feel and because of that, it makes me ... Because of my life, I think I'm very particular about the words that I choose, which is frustrating because I'm at the level where they weren't ... The expectation is to have a lot of words, have a lot of thoughts, have a lot of free thinking, right. It's like it's hard to think freely when you know people don't really speak the same language in terms of what worries me and what is important and what the priorities are.

How about gender? How does your gender impact your experience in your doctoral program?

I think my resistance to gender as a social construct has buffered me from really perceiving how people are understanding my gender. Because I think my ways and my general outlook on life is a lot stronger than whatever gender I might be doing. My gender becomes relevant when I'm dealing with white women.

We finally have feminist conversations. We talk about what we're experiencing because then it becomes a matter of ... What is that called ... Really able to unpack this interpersonal oppression and even in the roles that I have in my department, being able to be there for other women of color and other women in general who experience people not listening to them. It becomes apparent that oppression is unilateral in a lot of ways that I felt might be different.

*People in general don't like to be oppressed and when they are oppressed, they react to it a certain way. My gender has showed me, given me a way to connect with other people's oppression, **but I often feel like it's given me a way to resist my own oppression, because I don't identify, I don't hold myself to what their expectations of my gender are.***