Abstract—Multiple approaches have been utilized to increase the representation of African American women in computing; 2) pivotal role in African American women’s persistence in the computing pipeline. However, strategies to recruit and retain women in computing emphasize mentoring in educational settings, ignoring the emotional support that contributes to African American women’s self-confidence. Through a qualitative study, we leverage BFT as a methodology for invoking the personal journeys of African American women with a collective standpoint of study and a degree of racial/ethnic diversity. We argue that familial influences represent one form of social capital that can provide another level of professional and personal support. Content analysis of the 34 qualitative interview data of African American women in various stages of the computing pipeline reveals that emotional, financial, and social support from family members, especially parents and siblings, play a crucial role in African American women’s persistence in computing. Of the 28,884 bachelor’s degrees in computing awarded in 2018, only 1% were earned by African American women, a crucial predictor in women’s choice of major in computing. Persistence, one’s determination to complete required coursework/curriculum to attain a degree, and the family values that influence African American women’s decision to pursue computing can provide another level of professional and emotional support that contributes to African American women’s self-confidence. This study highlights the significance of family support for African American women pursuing a degree in computing.

Keywords—African American Women, family, computing

One’s ability to leverage social capital largely influences persistent and successful navigation of the computing pipeline. Despite the increasing job growth in the technological sector, recent statistics show a shortage of employees with the necessary education or job training to fill positions in the field. The underrepresentation of African American women in computing often struggle with persistence, resulting in limited recruitment, retention, and the family values that influence African American women’s choice of major in computing. African American women in computing, less is known about how relationships with family members and family values impact African American women’s decision to pursue computing. Although many mentorship models have served as examples of successful experiences of 34 African American women in various stages of the computing pipeline to explore their lived experiences of African American women in computing. We argue that familial influences represent one form of social capital that can provide another level of professional and emotional support that contributes to African American women’s self-confidence. This study highlights the significance of family support for African American women pursuing a degree in computing.

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Intersections between race and gender are often overlooked in traditional analyses. Intersectionality was coined by Kimberle Crenshaw in 1989 to describe how various forms of oppression intersect in the lives of individuals, particularly women. Intersectionality examines how power relations are contextualized within racial, social, and economic divisions, but rather at the intersection of people’s identities and experiences. This lens helps to understand the complexity in the experiences of Black women, who face intersectional barriers in various aspects of society, including education systems and the legal system. Intersectionality can be leveraged as an analytic tool when the research aim is to problematize the systemic oppressions Black women face and to understand the experiences in the context of race, gender, and other axes analyses (i.e., race or gender). Intersectionality posits that social identities and experiences are not independent in terms of being Black and of being female, and that the experience of being a Black woman cannot be understood in isolation from race and gender, but in the context of the various identities she holds.

Lack of social connections can limit one’s ability to persist in computing. For this work, we provide a detailed outline of the methodology for conducting 34 semi-structured interviews with Black girls’ parents, including the details for how we recruited African American families. Data analysis reveals that African American families do indeed contribute to their persistence in computing. We conclude with a short list of key takeaways.

In the context of the Black Feminist Thought, Intersectionality was described as a way of understanding and analyzing the complexity in the world, in people, and in human experiences. In Black Feminist E. Collins describe Intersectionality as “a way of seeing the many interrelated elements of an individual’s life” and her work focused on the discrimination of Black women intellectuals with regard to their work, class, education/training and exploring job opportunities, thus contributing to economic growth and career development. Overall, intersectional analyses provide ways to understand these influences and their impact on Black girls and women’s interest in STEM. The parent-child dyad is significant because it is one of the factors that has serious implications for upward career mobility. Thus, one can expect social capital to play a pivotal role in Black women’s ability to persist, but to thrive and succeed within their organizations.

Women’s social networks, whether professional, personal, or mentor-based, can significantly play a role in Black women’s persistence in computing. Because Black women live at the intersection of, at a division, but rather at the intersection of people’s identities, Black women often remain unaddressed or “subordinated intertwined and mutually constructing,” which means that Black women often remain unaddressed or “subordinated to the collective experience of being Black and of being female. This self-silencing has serious implications for Black women’s positionality in the workforce and the stress it places on their ability to persist in computing.
such, evaluation of one’s social network reveals both strong

and weak ties (bridging social capital

whereas the lack of bonding or bridging ties can

provide exposure to new people, new information, new ideas

(i.e., same race

support and are more likely to be within a homogenous group

family and friends, these social connections offer emotional

ethnicity).

that conne

and weak ties (bridging social capital

opportunities, assistance with employment opportunities,

in the field of

These testimonies

concluded

with other

People, institutions, professional organizations, etc.). As

We employed the snowball sampling method \[25\] to gain

Participants

METHOD

Participants received compensation for completing the

support for the case of

women in computing. These influences include

to computing, 2) support for self

Participants' status is as follows:

out of 34
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34 interviewers were conducted over a period of 10 weeks.

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Once a

weak bridging ties

However,

employment opportunities, including encouragement to pursue educational

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support and are more likely to be within a homogenous group

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“I have my family, whose response is just like, you can do

...all are...I can't really do; it's not as simple as it

system.”

“...the most salient value that family

enhancement of their

as

hired

as

...Like, I hear you all, but no, it's not that simple.

...you all are…I can't really do; it's not as simple as it

system.”

“...the authors found

...the authors found

...we have kind of attributed our life to that, essentially...my

...graduate student at a PWI.

...he was like, hey, I don't know how to build web

...Later on...I started learning how

...It had no internet, so I had to find

...it, you can do it. I'm just like, yeah, you all say that but

...you all are…I can't really do; it's not as simple as it

system.”

“...in one of the

...and join the formal education, we learned “never

...My brother is actually in computer science...I was

...concentrate o

...and figure it out.”

...defined as an individual’s belief that s/he

...increase one’s self

...women’s s
“I was talking to my dad and he was like, well, you always liked taking apart computers. Why don’t you try that, and

“I was talking to my dad and he was like, well, you always liked taking apart computers. Why don’t you try that, and

“My dad... comes to me and he tells me – it’s like my senior year in high school and he’s like, yeah, you know, he gives me this newspaper article and it’s this – it’s a

“…my mom didn’t have a person in a similar situation to communicate with on a regular basis.”

“I was like, sure…. I’ll figure it out. So, what I realized very

“My brother is also in computer science... and he was

P1 shares her mother’s influence in changing her major.

“They were huge in terms of emotional support because I

“...my mom didn’t have a person in a similar situation to

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“…my mom didn’t have a person in a similar situation to

“My husband … you know, the people that were in my

“…my mom didn’t have a person in a similar situation to
"From my mother, I’ve always learned to be a hard worker and that if you want something, you have to work for it. She’s instilled in me and the inspiration and the lessons that they taught me. I’ve had so many successful if you don’t work hard. So hard and build upon everything that she’s created. So the narrative P4’s mother of being strong and successful has always encouraged me to be persistent in my life.

"But from her, I’ve learned how to work hard and what comes to me. I’m so grateful to both of my parents for the preparation means, and taking opportunities that are available to them. In addition, it also creates an opportunity for African American families to play a counter to the idea of computing professionals and American community has become more astute about encouraging their children to acquire value computing as a viable career option, nor do they contrast with the idea of opportunities available in the field of computing.

"I have a little sister who really looks up to me. She’s starting computer science this year, so this is her first year of undergrad. She’s starting computer science, and I just don’t want to let anybody down, and I know that like I’m not just doing this for me. Like I’m doing this for me. I’m doing this for my family."

These African American women’s lived experiences do not solely on numerical data, researchers need to conduct more qualitative research to understand the nuances of socio-cultural norms that are often attributed to women of color) in computing, research that chronicles their empowering voices of marginalized populations to capture the real stories and experiences of African American women (and other women). Just a BFT espouses a collective stance that African American women in the field of computing.

"From my mother, I’ve always learned to be a hard worker and that if you want something, you have to work for it. She’s instilled in me and the inspiration and the lessons that they taught me. I’ve had so many successful if you don’t work hard. So hard and build upon everything that she’s created. So the narrative P4’s mother of being strong and successful has always encouraged me to be persistent in my life.

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These African American women’s lived experiences are a result of their family members who are computing professionals and have proven to be beneficial. However, a more holistic approach is required if the field of computing is to be more diverse. Family members who are computing professionals and have proven to be beneficial. However, a more holistic approach is required if the field of computing is to be more diverse.

Similar to Ellison et al.’s criticism of scholarly...
The first step towards understanding the countering factors that negatively impact on evolving discipline, 

African mechanisms for combination of these familial influences serves as positive school expectations.

American women’s ability to persist in computing

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