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BLACK WOMEN, WHITE COATS: BLACK WOMEN UNDERGRADUATE STUDENTS' USE OF COMMUNITY CULTURAL WEALTH TO PERSIST IN HEALTHCARE CAREERS

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In this qualitative, participatory action research study, we examine how six Black women undergraduate students develop, cultivate, and sustain their healthcare career aspirations while examining challenges Black women undergraduate students experience during their pursuit of a healthcare career. Using community cultural wealth to frame our study, we collected two interviews per participant along with participant-generated photographs. We found that student participants experienced multiple forms of oppression, financial challenges, and lack of access to academic resources, but they were able to persist through support from family, faculty, and peers, along with faith-based practices and creative arts. Findings provide insights for higher education leaders, STEM and health sciences faculty, and the healthcare industry to advance equity for Black women pursuing healthcare careers.

KEY WORDS: *participatory action research, intersectionality, Black women, community cultural wealth, healthcare career aspirations, health sciences*

1. INTRODUCTION

Educational and healthcare leaders and policymakers in the United States have failed to address the looming crisis of a shortage of healthcare professionals (Association of American Medical Colleges, 2015; Seo and Spetz, 2014). This crisis has been especially highlighted during the COVID-19 pandemic, as hospitals reported depleting resources and burnout of healthcare professionals (Jacobs, 2021). The shortage of healthcare professionals is coupled with two critical factors. First, people of color, who have been disproportionately impacted by the COVID-19 pandemic, are estimated to encompass the

majority of the U.S. population by the mid-2040s (Fey, 2018; Sergent, 2021). Second, healthcare professionals who are people of color are more likely than white healthcare professionals to provide care to people of color (e.g., Marrast et al., 2014). However, Black people, specifically Black women, who pursue healthcare professions experience structural challenges, including intersections of racism and sexism, which could contribute to exacerbation of the shortage of professionals in healthcare (Aiken et al., 2001; Iheduru-Anderson, 2020; Thomas, 2009).

For the discussed study, we employed a participatory action research (PAR) methodology, which is a collaborative research approach between researchers and individuals who are experiencing the phenomenon under study (Fine et al., 2003). We also used narrative methodology (Clandinin and Connelly, 2000; Josselson, 2011) to examine aspirations, resources, and networks that support persistence when pursuing healthcare-related degrees and careers (specifically, nursing, and premedical studies) for Black women. We further explored how the intersection of racism, sexism, and other forms of oppression (Crenshaw, 1989) hinder the pursuit of degrees and careers in healthcare. To better understand the experiences of Black women in healthcare-related undergraduate degree programs, our guiding questions were as follows: (a) How are healthcare career aspirations of Black undergraduate women developed, cultivated, and sustained? and (b) What are the challenges experienced by Black undergraduate women during their pursuit of a career in healthcare?

2. LITERATURE REVIEW

Undergraduate students who pursue healthcare careers (e.g., medicine, dentistry, and nursing) typically enroll in courses such as science, technology, engineering, and mathematics (STEM) as a part of their academic plan, or they are STEM majors (e.g., biology and chemistry). Thus, we first situated our research study in the broader literature regarding Black women in STEM. We then situated the study in the limited research on Black women pursuing health sciences and healthcare careers.

2.1 Black Women in STEM: Aspirations, Challenges, and Persistence

Men outnumber women in STEM degree programs and workplaces (Hill et al., 2010). Hill and colleagues (2010) explained that sexism, STEM culture, and implicit bias are the culprits for disparities between men and women in STEM. Black women experience both sexism and racism in STEM (Jordan, 2006; McPherson, 2017; Stitt and Happel-Parkins, 2019). Thus, it is critical to explore the aspirations, challenges, resistance, and persistence of Black women in STEM to ultimately diversify STEM classrooms and workplaces and to create more equitable and just learning and work environments.

Scholars who examine Black women's STEM educational and career aspirations have found that Black women often develop their interests in mathematics and science at an early age (Rice and Alfred, 2014; Rosa and Mensah, 2016). This exposure to and interest in mathematics and science is often cultivated by school teachers (Jordan, 2006; Rice and Alfred, 2014; Smith and Johnson, 2019) and family members (Jordan, 2006;

Morton and Parsons, 2018; Rice and Alfred, 2014). For example, Morton and Parsons (2018) found that Black women in undergraduate programs learn about STEM career possibilities from their mothers. Therefore, support from teachers and family is critical to encourage Black women in their decisions to pursue STEM degrees and careers (Rice and Alfred, 2014). In one study, among Black women in their first year of college, 23% intended to major in STEM (O'Brien et al., 2015). However, Black women experience systemic barriers in STEM which work to hinder their STEM educational and career aspirations (Jordan, 2006).

Black women in STEM experience racism, sexism, and classism in higher education and other STEM academic settings (Dortch and Patel, 2017; McPherson, 2017; Stitt and Happel-Parkins, 2019). In STEM academic settings, Black women experience racism and sexism from faculty and peers within their academic departments (Charleston et al., 2014b; McPherson, 2017; Stitt and Happel-Parkins, 2019). Specifically, Black women discussed experiences with having their intelligence and academic abilities questioned by students, faculty, and staff in STEM departments (Charleston et al., 2014a,b; McPherson, 2017; Morton and Parsons, 2018; Stitt and Happel-Parkins, 2019). Black women also described experiencing isolating academic environments given the lack of Black faculty members and classmates in STEM and the exclusion of Black women in STEM academic settings (Charleston et al., 2014a,b; Dortch and Patel, 2017; Stitt and Happel-Parkins, 2019), including feeling isolated by classmates who identify as Black men (Charleston et al., 2014a).

While Black women experience challenges at the intersection of racism and sexism in STEM academic settings, they also shared how they persevere in the face of challenges by believing in themselves and remembering their passions for the STEM fields (McGee and Bentley, 2017; McPherson, 2017; Morton and Parsons, 2018; Rice and Alfred, 2014; Stitt and Happel-Parkins, 2019). Black women have also relied on their faith, including prayer and relationships with students who shared their religious beliefs, to persist in STEM (Ceglie, 2013; Jordan, 2006). Additionally, Black women discussed the support and encouragement they receive from family to persist in their careers (Rice and Alfred, 2014).

Despite support from family, higher education institutions also have a responsibility to consider, develop, and implement structures and networks to support Black women in STEM. Researchers have discussed how Black women in STEM receive encouragement and support to persist in STEM from faculty and staff (Collins et al., 2020; Smith and Johnson, 2019), classmates (Rice and Alfred, 2014), and science-based student organizations (Smith and Johnson, 2019). Researchers have also found precollege programs and scholarship funding opportunities offered by higher education institutions are critical for the support of Black women's persistence in STEM (Rice and Alfred, 2014).

2.2 Black Women and Pathways to Healthcare Careers

Aside from scholarship regarding Black undergraduate women in STEM, literature on Black undergraduate women pursuing healthcare careers is limited. The minimal re-

search on persistence, challenges, and support reflects the literature on Black women in STEM. Black women in nursing degree programs experience academic stress, which is amplified by their experiences with racism (Aiken et al., 2001; Love, 2010; Thomas, 2009), the frequent underestimation of their intelligence and academic abilities (Love, 2010), lack of support from faculty (Thomas, 2009), feeling the need to prove themselves (Thomas, 2009), and isolation and marginalization in classroom and clinical settings (Aiken et al., 2001; White and Fulton, 2015).

Further literature on persistence supports have focused on nursing, dentistry, and pharmacy. Black women discussed persisting through challenges by focusing on their aspirations (Tucker and Winsor, 2013), remaining motivated and determined (Aiken et al., 2001; Thomas, 2009), and relying on their faith for support (Aiken et al., 2001). Researchers have also found that Black women received mentoring and community support from Black women faculty and family to persist in healthcare careers (Thomas, 2009; Tucker and Winsor, 2013). Our study sought to build upon previous research to explore how the healthcare career aspirations of Black women in college are developed, cultivated, and sustained. We also sought to understand how challenges, especially systemic challenges at the intersection of racism and sexism, attempt to detour or limit Black women's educational and career aspirations.

3. THEORETICAL FRAMEWORK

Our study was framed by community cultural wealth (Yosso, 2005) and intersectionality (Crenshaw, 1989). Building upon Critical Race Theory as a frame "that challenges the ways race and racism impact educational structures, practices, and discourses," Yosso framed Community Cultural Wealth as encompassing six forms of capital that students of color possess and can use for educational success while navigating and resisting oppression in educational spaces (Yosso, 2005, p. 74). The six forms of capital are aspirational, navigational, social, linguistic, familial, and resistant (Yosso, 2005). Aspirational capital is the willingness of people to hold onto their hopes and dreams despite any setbacks or obstacles. Navigational capital is the ability to negotiate and navigate oppressive systems and spaces. Social capital is about creating and maintaining a social network of support, including student organizations, friends, faculty, and staff. Linguistic capital recognizes the value of "multiple language and communication skills," including being able to communicate in more than one language and being able to use arts and performance (e.g., storytelling and poetry) to communicate with people (Yosso, 2005, p. 78). Familial capital refers to the knowledge and culture that is gained through family, including immediate family, extended family, or chosen family and one's commitment to family. Resistant capital details the concept of resisting stereotypes and actively challenging subtle and overt forms of oppression (Yosso, 2005).

By using community cultural wealth (CCW) as the primary theoretical framework, we closely studied the types of capital, resources, and connections Black women possess and create to become successful in various aspects of the healthcare field. CCW creates a

more in-depth view of the ways Black women achieve their goals in the health sciences field, despite barriers and has previously been used in research studies to highlight the success of Black women (Cooper et al., 2017; Lane and Id-Deen, 2020). For example, Lane and Id-Deen (2020) employed CCW to study the role of STEM summer camps in inspiring and encouraging Black girls and young women to pursue STEM. The authors found that not only were these summer camps beneficial in fostering their forms of capital, but the participants also showed increased interest in and desire to enter STEM fields after attending the summer camp (Lane and Id-Deen, 2020).

In this study, we used community cultural wealth to highlight the aforementioned forms of capital Black women use to support their aspirations, while also naming how interlocking forms of oppression (e.g., racism, sexism, and classism) hinder their educational and career pathways in healthcare. Given how the intersection of racism, classism, and sexism historically and currently have led to inequities for Black women (Crenshaw, 1989), we included intersectionality in our study as a secondary theory. Intersectionality is a theory coined by Kimberlé Crenshaw (1989) which refers to how a person's social identities, especially for Black women, connect to systems of oppression. Intersectionality aims to understand how a person's social and political identities combine to determine the likelihood of an individual's experience with discrimination and/or privilege (Crenshaw, 1989). Charleston and colleagues (2014a) used intersectionality in their work to frame how the intersection of racism and sexism shaped the academic trajectories of African American women in STEM. Building upon the work of Charleston and colleagues (2014a), we include intersectionality as a necessary framework, specifically for Black women, because it allows researchers to name how identifying as both Black and woman does not lead to experiencing separate forms of oppression (sexism and racism); instead, being a Black woman means enduring a specific form of discrimination that men of color or white women may not experience (Collins, 2009).

We combine both CCW and intersectionality in this study to highlight the unique barriers that Black women face in higher education at the intersection of racism, sexism, and classism, while also naming the ways in which Black women use their cultural wealth to persist in their healthcare career trajectories. The use of both theories allowed for an exploration of their success, while also identifying the obstacles, internal motivators, and external factors that contributed to their journeys and achievements as Black women.

4. RESEARCH METHODOLOGY

Our study is grounded in a critical paradigm which aims to critique and transform social, political, and economic conditions and structures that currently and have historically reinforced racism, sexism, classism, and other interlocking forms of oppression and that have created and reproduced racial and class inequities in education (Guba and Lincoln, 1998; Kincheloe and McLaren, 1998). While an analysis of the historical and structural context is important in a critical paradigm, scholars who employ a critical paradigm

must also value the history, experiences, and assets of racially minoritized students and families (Ladson-Billings and Tate, 1995; Patton et al., 2015; Yosso, 2005).

This paper is a part of a larger participatory action research (PAR) study on science degree persistence for Black students (e.g., Stanton et al., 2022). PAR is a study approach that focuses on designing, implementing, and disseminating study results, collaboratively between researchers and individuals who are potential benefactors of the research, to study and address social issues (Fine et al., 2003; McIntyre, 2008). The community of scholars included two faculty members, a graduate student, and five Black undergraduate students majoring in science. In this PAR study, our goal was to further equity and justice while centering ethics of care and respect (Paris and Winn, 2014). Black undergraduate science majors were valued as co-researchers on the team. Seen as experts with essential knowledge, Black undergraduate co-researchers collaborated on the study design, data collection, and data analysis. Currently, co-researchers are developing evidence-based products that can be used to address inequity and injustice in the sciences and health sciences, including a virtual workshop for faculty at all the research sites so they can learn how to address anti-black racism in their teaching, research, and mentoring.

In addition to PAR, we employed a narrative inquiry design for this manuscript. Narrative research centers stories told by individuals, emphasizing how they make meanings of these stories and how environments (e.g., U.S. context, school context, and community context) shape their experiences (Clandinin and Connelly, 2000; Josselson, 2011). Often, stories told can perpetuate racism, sexism, and other interlocking forms of oppression, leading to these narratives being centered and often unchallenged (e.g., Bell, 2003; Yosso, 2006). However, stories told by people of color are important and offer a counter to "majoritarian stories that omit and distort the histories and realities of" racially minoritized communities (Yosso, 2006, p. 10).

4.1 Author Positionalities

For our study, the community of scholars included two faculty of color: a Filipino-American woman in cellular biology and a Black man in education. The community of scholars also included a Black woman doctoral student in education, four Black women undergraduate co-researchers, and one Black man undergraduate co-researcher. The undergraduate co-researchers were pursuing degrees and careers in science and healthcare, and they served as knowledge experts in this study.

4.2 Research Site and Student Participants

We collected data at a rural public state college, Baker College (a pseudonym), in Georgia. Baker College is classified by the Carnegie Classification as a baccalaureate/associate's college and offers associate's and bachelor's degrees (The Carnegie Classification of Institutions of Higher Education, n.d.). The institution has 2700 students, and Black students comprise 46% of the student population. The median family income at the

institution is approximately $31,000, which is significantly below the $68,000 median family income level for college students who attend public colleges and universities in the university system of Georgia (Lee, 2019). The institution was a compelling site for the study due to the increasing Black population at the institution, including Black students in science and healthcare-related fields. Also, the institution's transition from a community college that only offered associate degrees to an institution that now offers bachelor's degrees in biology and nursing contributed to the decision to use it as a site.

We recruited Black students majoring in science or health sciences who were in the final year of their associate's or bachelor's degree program. We used a nomination process to identify students for our study (Harper, 2010). We contacted student affairs administrators (e.g., SGA Advisor) and faculty members (e.g., biology and chemistry professors) via email and asked them to nominate Black students who met one or more of the following criteria: a cumulative GPA of 3.0, an A grade in a science course, participation in undergraduate research, or engagement in a science-related student organization. In determining our criteria, we built upon the work of Harper (2012), who shared the importance of learning from Black college students who have been successful to provide "insights gathered from those who somehow manage to navigate their way to and through higher education, despite all that is stacked against them…" (p. 1). Professors and administrators sent the names of nominees to the team via email, and we contacted participants to gauge their interest and schedule interviews. To increase participant numbers, we attended a student organization fair to appeal to student leaders who met the criteria. We received self-nominations from the Science Club, Chemistry Club, a Black student organization, and the Student Government Association. Twenty-seven students were contacted by the research team and asked to participate in the study. Six Black women pursuing healthcare careers participated in the study (see Table 1). Each student participant received $50 for their participation in the study.

4.3 Data Collection

The student co-researchers collected data by conducting two semistructured interviews and gathering participant-generated photographs. The first interview focused on forms of CCW that Black women undergraduate students used to persist in science and health

TABLE 1: Student participants, major, and healthcare career aspirations

Participant (Pseudonym)	Major	Healthcare career aspirations
Gina	Biology	Psychiatrist
Katrina	Nursing	Nurse
Kenya	Nursing	Nurse
Lena	Nursing	Nurse practitioner
Melody	Biology	Nurse anesthetist
Samantha	Nursing	Nurse

sciences, as well as experiences with navigating and resisting subtle and overt forms of racism, as students persisting in their degree programs. For example, for familial capital, the undergraduate co-researcher asked, "What role, if any, has your family played, if at all, in your success as a science major?"

After the first interview, we asked the students to participate in a photoelicitation project. Photoelicitation is the process of including a photograph in a research interview and allowing research participants to reflect deeply on the social phenomenon (Harper, 2002). Specifically, in our study we asked participants to showcase photographs of people, places, and things they viewed as important to their success in science and health sciences. The student participants were asked to submit their photographs to the research team prior to their second interview.

During the second interview, the student co-researchers asked participants questions about their photographs and further questions about community cultural wealth using a card-sorting activity (Trotter and Potter, 1993). The card-sorting activity included five sets of cards, with each set representing a form of capital found in CCW: aspirational, navigational, resistant, linguistic, and familial/social (we grouped these forms of capital due to some overlap). For example, the set of cards for aspirational capital included phrases such as: 1) my ambitions and dreams, 2) being self-motivated, 3) being focused when I need to be focused, 4) helping other minorities succeed, 5) surpassing my parents' success, and 6) seeing a need for more minorities in science. Participants were given one deck at a time and asked to sort cards into two piles: cards that resonated with their success in science and health sciences and others that did not. Participants were then asked to share a story for the cards that resonated with them. Participants then reviewed all their chosen cards and were given the opportunity to include new cards with concepts they felt were missing. Finally, participants were instructed to pick five overall cards and explain why those cards resonated most and best represented their success in science and health sciences.

4.4 Data Analysis

The research team began analyzing the data in the Spring of 2020 and worked together to analyze the interview data. Audio files of the interviews were transcribed verbatim, and transcripts were checked for accuracy prior to coding. The discussions about participants' photographs were embedded into the interview transcripts. Thus, we did not analyze photographs separately from the interview transcript. We used a combination of holistic analysis, an approach to examine the individual participant separate from the aggregate, and categorical analysis, an approach to identify similarities and differences across participants (Josselson, 2011). For the holistic analysis approach, we began by assigning each researcher two participants' transcripts to analyze by highlighting and taking notes on interview data that helped address our research questions. After carefully reading assigned transcripts several times, we then wrote an individual narrative for each assigned participant. Because there was more than one researcher reviewing each transcript, we then reviewed the individual narratives to identify commonalities across

researchers about each participant. For categorical analysis, we each reviewed data for commonalities across participants and then met to discuss commonalities as a research team. During this discussion, co-researchers identified three significant themes related to career aspirations, challenges, and opportunities to persist. We increased the level of trustworthiness for this study by collecting multiple forms of data and collaborating with student co-researchers who have critical expertise in pursuing a healthcare career based on their lived experiences.

4.5 Protection of Vulnerable Populations

To protect the vulnerable populations in this study, our research team engaged in three strategies. First, we created pseudonyms for each participant to protect their confidentiality. We used these pseudonyms to label, code, and store each transcript. Second, while reviewing interview transcripts for accuracy, we simultaneously masked any identifying details that could disclose the identity to readers. In all our transcripts, we removed the names of specific people, groups, and places. Third, after noticing that most participant photographs included participants and their families, we agreed not to share their pictures in this paper. While the photographs added to the rich discussions across our team, we prioritized protecting the identity of participants and their families.

5. FINDINGS

Using the six forms of Yosso's (2005) community cultural wealth, which include aspirational, familial, navigational, resistant, social, and linguistic capital, we identified three significant findings related to Black women's aspirations, challenges, and persistence in health science careers. Using participants' words, the themes included: (1) "She inspires me to be just like her": Aspirational and familial capital within health sciences, (2) "It's been a challenge": Navigational and resistant capital on the journey to careers in health sciences, and (3) "Do something great together": Social capital and linguistic capital helps Black women persist. We first present findings on students' aspirations that manifest through familial capital. Next, we identify how Black women maneuvered barriers and resisted stereotypes throughout their journeys. Lastly, we highlight the ways Black women used their community networks, creative arts, and faith-based practices rooted in social and linguistic capital to persist in health science career pathways.

5.1 "She Inspires Me to Be Just Like Her": Aspirational and Familial Capital Within Health Sciences

In this study, Black undergraduate women had strong aspirations to join health sciences careers as nurses, nurse practitioners, psychiatrists, and anesthetists. All six participants were inspired by their network of family members (e.g., moms, dads, sisters, aunts, and cousins) and chosen family (e.g., godparents, parental co-workers, and pediatricians) who worked as healthcare professionals in their local communities. Although all par-

ticipants had individual desires to pursue healthcare careers, familial networks helped amplify participants' aspirations to continue in healthcare. Even in times of difficulty in their science courses, participants' hopes and dreams, along with familial motivation, helped them reach their goals. Katrina stated, "my dad is a nurse...and so I kind of looked up to him in his career. [He] was always so caring and so involved in [patients'] lives." Because of her father's influence, Katrina believes that she can impact her patients' lives as a caring nurse.

Like Katrina, both Lena and Melody highlighted having nurses in their families as additional encouragement. For example, Lena shared:

> *My sister has also been a big help. She is [an] RN [registered nurse]. She just graduated last semester...my aunt has a personal care home... So being that I am a nursing major, she's encouraging me to finish my major because she sees how much of a... successful field it is…a lot of my family [is] in [the] healthcare profession.*

Sharing a related story, Melody noted that her mother served as her inspiration. When asked how her family contributes to her success, she praised her mother:

> *…My mama, she's a nurse. And so, she's really the reason why I wanted to go into the medical field. I wanted to follow [in] her footsteps and become a nurse. And that's it. Because none of my other family...like[s] science. So, it's really just my mama. She inspired me. She would go to work early in the morning. Come back late at night and just still take care of the family... That's something I would love to do one day. And so, she inspired me to be just like her.*

Katrina, Lena, and Melody spoke specifically about examples in their immediate families that helped them aspire to nursing careers. In addition to cultivating aspiration, family members introduced participants to healthcare professionals in their communities, providing necessary contacts and connections for shadowing and job opportunities. Furthermore, families encouraged Black women in this study to complete homework, ask for help, stay focused, and finish their degrees. Familial insight, connection, and support were influential to participants in this study.

Lastly, Gina described her mother as "the only Black respiratory therapist" at the hospital in her rural community, which served as a significant motivator for her to pursue a career as a psychiatrist. Aside from her mother, Gina named the familial support of her grandparents and extended kin from her rural community who supported her aspirations:

> *My grandparents were super involved—like everybody knew my grandfather. He had places all over town that he owned and stuff…and so it's like that community support was there because it was established in my parents and my grandparents, and so if I did something, there were people who'd be like, 'I'm*

> *proud of you. I'm proud of you.' I don't even know these people…I think they helped with my success because I felt acknowledged, which empowered me…to pursue a science career. These are people who see me as something to look up to, and so it made me want to be able to be someone who should be looked up to, essentially.*

While Gina did not personally know some of her extended family or community members who affirmed her, their acknowledgment of her success encouraged her persistence.

Overall, it was clear that having family members in healthcare and having a community of support helped participants imagine themselves in the healthcare profession. Even in the face of barriers, Black women in this study could recall their family members' advice and success in health sciences, which kept them focused on their own goals and aspirations. Both familial and community connections were vital and encouraged participants to ask questions (e.g., What are long-term job outcomes in the healthcare industry? Outside of nursing, what other career opportunities are available in healthcare? How might someone in healthcare contribute to the community?) and gain additional support to ensure they were not alone on their career trajectories.

5.2 "It's Been a Challenge": Navigational and Resistant Capital on the Journey to Careers in Health Sciences

Although Black women in this study were motivated to stay in health sciences, they had to navigate various trials including, but not limited to, financial, health, academic, and systemic challenges along their career trajectories. While most college students must overcome some challenges, participants in this study found that the intersection of their identities, including race, gender, class, and ability levels, were connected to multiple forms of oppression (e.g., racism, sexism, classism) that created additional hurdles to overcome. Instead of quitting or succumbing to hardship, Black women in this study advocated for themselves, asked for help, worked long hours, formed study groups, went to tutoring, transferred schools, joined student organizations, prayed, and used creative problem-solving techniques to overcome their challenges and plan for the future.

Three participants, Melody, Lena, and Kenya, cited barriers related to classism and social class barriers when financing their education (e.g., money for tuition, food, and rent). They indicated having to work long hours or make additional requests to financial aid for more monetary support. Additionally, Melody and Kenya shared deeply traumatic events that heavily impacted their well-being (e.g., health concerns and loss of family members and friends). Further, Katrina, Lena, and Gina discussed academic hurdles (e.g., not being admitted into programs, transferring schools, and poor advisors) and systemic concerns related to simply being Black and women in health sciences. While these experiences were difficult to overcome, Black women in this study used their navigational and resistant capital to meet their goals.

5.2.1 Using Navigational Capital to Maneuver Personal Challenges

During our interview, Lena, a working-class student, mentioned that her parents did not support her financially when she decided to transfer institutions. Without their financial assistance or knowledge on how to apply for financial aid, Lena ventured out on her own. As she navigated her transfer to Baker, Lena identified living arrangements and found a job that would cover her monthly expenses, all while managing her duties as a student. Lena reflected on her transition:

> *Initially, my parents wanted me to stay home. They flat out told me that they were not going to pay for school; they weren't going to pay for rent...So, I basically had to come down here and figure out where I was going to stay, how I was going to pay rent, where I was going to work... How I was going to survive… So, it's been a challenge. And I love them, [but] I wish they wouldn't have thrown me to the wolves.*

While Lena did experience some financial troubles, she used her navigational capital, including budgeting her money, cooking her meals, and advocating for more hours at work, to manage her responsibilities. Working to overcome her monetary shortcomings, Lena found work at two low-wage jobs and managed to balance rigorous courses and a hectic work schedule. Reflecting on a typical week, she articulated:

> *…Usually, I'm pulling like a two to ten shift...Tuesdays and Thursdays are pretty much the only days that I'm off. And I work two jobs, so Wal-Mart's my main job, and then I clean a doctor's office at night after they're closed. I do that every day. So, I'm either doing some schoolwork, actually resting, or I'm at work.*

Lena was not alone in her experience of coming from a working-class family. In our interviews, both Kenya and Melody also discussed using their navigational capital to find financial support when they needed it most. Specifically, Melody reflected on a time when she used navigational capital to stay in school:

> *…For this semester... I didn't have enough...Well, I had [some] money but it didn't pay for everything… I actually went to the [business] office and asked about it…The lady in the business office actually gave me a scholarship. It was enough [to] pay for my schooling. And if I didn't get it then I wouldn't be here.*

While Melody could have let her financial circumstances discourage her, instead she maneuvered through Baker College by finding the appropriate contact person in financial aid, setting a meeting to discuss her options, and asking for exactly what she needed.

Aside from being a working-class Black woman, Melody also identified as a person with a disability. In her interview, Melody mentioned she had a brain injury at age 16. To correct this problem, doctors conducted seven surgeries, which left her paralyzed on the

left side of her body. She had unique challenges concerning her health and well-being that she navigated before and once she enrolled in college. She reflected on living at the intersections of being a Black woman and a person with a disability when she shared:

> *I was able to sign myself up [for] college. Get myself in. I had to go and get the stuff on my own...Find out how to do this. Find out how to do that...And I just keep surprising myself. Because I do doubt myself a lot because of the injury that I had. But I know that if I put more effort into it and believe in myself more, I can do what I put my mind to...And so...when I study, I tend to fall asleep. And I guess that's because [of] the way my brain is set up... So... instead of cramming it all in my brain at one time, I get a little bit by little bit.*

While living with a disability and coming from a working-class background, Melody used navigational capital to ask for support and find techniques to help her succeed. Overall, from the narratives of both Lena and Melody, Black women in this study had to overcome significant financial and health obstacles; however, they utilized strategies such budgeting, studying, and asking for help to navigate barriers that hindered them.

5.2.2 Using Navigational Capital to Traverse Academic Difficulties

Whereas the aforementioned obstacles may be identified as *personal challenges,* other participants in this study named *academic difficulties* and focused on how institutions placed barriers in their way. Specifically, Katrina had to manage a major setback related to being accepted into a nursing program. While nursing was a major goal for her prior to arriving at college, she was not accepted into the nursing program at a technical college. She used her resources to connect with administrators on campus and later transferred to Baker to complete core nursing courses. She hopes to transfer into a nursing program to demonstrate to naysayers that she could persist and pursue a career in nursing.

Similarly, another academic concern that Melody and Lena shared was being one of few Black students in their science courses. Lena communicated, "…I do see a lot more white people in the science classes rather than African Americans…in any of my classes here at Baker, there's only been about five. At most, five Black people in a science class." Additionally, Melody mentioned:

> *...It's not a lot of Black people in my science classes. And so, it's like one or two or three. And so, it's a lot of white people. And so, they'll look at me like I don't know a lot. They look at us like we don't know that much. And so, I don't try to fit in, but I try to let them know. Yes, it might not be a lot of us in here, but we know the same things that you guys know. Just give us a chance to show you that we can all work together and figure the same things out.*

To navigate being one of few, Lena and Melody shared the importance of not hesitating to ask questions. In her interview, Lena provided advice to other Black students

who are navigating the academic institution that was historically not created with people of color in mind. She mentioned: "You can't be scared to ask questions, especially in a field like this. You have to ask questions. Because if you don't ask a question, you're going to be lost." For Katrina, Melody, and Lena, successfully navigating barriers in health sciences meant having the courage to ask for what they needed. Whether it meant researching and transferring schools, speaking up in class, getting tutoring, or reviewing old tests, students in this study found solutions to overcome academic barriers.

5.2.3 Using Resistant Capital to Overcome Racism and Sexism

Aside from navigating structures in their way, Katrina, Lena, and Gina, were savvy in using resistant capital to overcome stereotypes and messages received about Black people. In her interview, Katrina discussed resisting general stereotypes about Black people and said, "A lot of people think about African Americans as CNAs. Not registered nurses or LPNs. They think of them [as] just the kind of person that cleans up for them." Both certified nursing assistants (CNAs) and licensed practical nurses (LPNs) are healthcare providers in the nursing field, but CNAs make a lower salary and work under the supervision of LPNs. From this quote, Katrina explained that CNAs have a lower educational level than LPNs; it is assumed that African Americans are more likely to be in the position with less authority and a lower salary as CNAs. Additionally, it is important to name the unique experiences of Black women, who have been stereotyped throughout history, in the media, and through anti-black racism as people of "inferior" status, subjugated to careers such as "mammies" and maids. Similarly, unafraid to speak about her lived experiences, Lena mentioned racism within health sciences careers.

> *... We're in competition with white people...And they have it a lot easier for them to get their foot in the door than it is for us...We may even get our own careers, but it may take us double the time to promote ourselves than it will be for a white person.*

By discussing that she will have to work twice as hard to enter health sciences due to her race, Lena named lessons she was taught about navigating racism. Additionally, she continued to name obstacles (e.g., working twice as hard) she might face after obtaining her degree. Nevertheless, she persists.

Gina also discussed how interlocking forms of oppression (i.e., racism and sexism) worked to limit her opportunities:

> *I am aware that at some point, that I will likely face some sort of discrimination because of my gender and my race, and quite frankly, that just makes me want to do even better because it's like, 'You're really going to tell me that I can't do this because I am a woman and because I am Black?' That doesn't make sense.*

To inspire herself, Gina mentioned:

> *The Black female experience to me is just showing that just because you say I'm this and that doesn't mean that I am what you say that I am, and I can be better than even I think that I can be, and so that's my goal—to be the best that I absolutely can.*

Intending to be the best they could be, Katrina, Lena, and Gina spoke truth to power and recalled harmful past experiences. They used their resistant capital to unapologetically discuss how systemic racism and sexism impacts career trajectories for Black women in healthcare (e.g., being one of few Black women in science classes and having to work twice as hard as white peers to be seen as intelligent). By highlighting unjust systems and speaking on their past experiences, participants in this study helped resist and challenge anti-black and patriarchal messages. Relying on both navigational and resistant capital, Black women undergraduates in this study survived personal, academic, and structural challenges to obtain degrees in health sciences.

5.3 "Do Something Great Together": Social Capital and Linguistic Capital Helps Black Women Persist

Black women in this study used their social and linguistic capital to resist and persist in health science careers. Even when their classroom spaces lacked community, Black undergraduate women in this study created their own support networks and coping mechanisms. These networks and mechanisms encompassed family, peers, faculty, faith-based practices, and creative arts, all of which helped Black women achieve their goals.

5.3.1 Supportive Peer Groups

Samantha and Gina used their social capital to build networks with peers who had similar aspirations. Samantha recognized the importance of having relationships with those who are on the same or a similar pathway.

> *I try to be...around a lot of people who are going through related [majors]... Like one of my close friends here, she's also a nursing [major]. We're both in [the] nursing pathway. And so, this is why we sit in classes together. So, having her reminds me [that] there's...others...going through the same thing. [It] helps a lot when you're stuck.*

For Samantha, finding peers with similar majors in health sciences helped her stay motivated and on track even during difficult seasons. Overall, having friends who could understand her experiences encouraged Samantha to continue.

Like Samantha, Gina stated that having high-achieving friends pushed her to work harder toward her goals so they could "do something great together." When navigating through her studies, she expressed that, "It's very helpful to have people who've been around, who know what's up, to be there." For participants in the study, there was an

understanding that leveraging social capital meant building a supportive peer group to help with persistence rather than navigating campuses alone. Having both a familial and collegial support system allowed students to ask for help, share information, and focus on their aspirations with less fear and doubt.

5.3.2 Dedicated Faculty and Advisors

Besides family and peers, Lena and Katrina discussed faculty and advisors as significant figures throughout their matriculation to Baker College. In this study, Lena specifically stated that her microbiology professor, who also served as her advisor, was key to her success:

> *My advisor, she is the bomb...She has been supportive of everything that I've wanted to do, and she's been supportive of the steps I'm going to take...she has been a big help...a great tutor. So, if I needed help with any of my other science classes, because... she... teaches those basic intro-level biology [courses], and... microbiology... she's able to help me with all of them... She's a lot easier to talk to... She's more relatable to me as a female.*

In her interview, Lena mentioned the tremendous impact of having a dedicated faculty member, advisor, and tutor, who also identifies as a woman, to support her goals. Echoing this same idea, Katrina spoke about one of her professors who went the extra mile to support her throughout her time at Baker College. Her professor helped her register for classes, answered her questions, and offered advice regarding career options postgraduation. Therefore, while family and peers were helpful, having faculty and advisors who were knowledgeable, accessible, relatable, and supportive was paramount to Black undergraduate women's success in this study.

5.3.3 Creative Arts

Apart from social capital and networks of peers, family, and faculty, almost all the participants mentioned the creative arts as a source of strength and empowerment. Clift (2012) asserts that individuals "voluntarily engage with a wide spectrum of creative arts in many different ways and at different levels" (pp. 121–122), such as music, to support health and well-being. Similarly, Yosso (2005) shares that students of color engage in linguistic capital, such as "skills [that] may include memorization, attention to detail, dramatic pauses, comedic timing, facial affect, vocal tone, volume, rhythm, and rhyme," (p. 79) and also include the use of visual arts, music, and/or storytelling to communicate with others. Centered in the use of their linguistic capital, Katrina, Gina, Melody, Lena, and Kenya described the creative arts of music, singing, poetry, and dance as assistive coping mechanisms, which helped them relax when they were stressed or overwhelmed with academics. Melody shared that singing served as significant support for her success in science. She communicated, "I love to sing. If I'm sad, I sing. If I'm frustrated, I sing.

Singing keeps me going, and it pushes me and motivates me to do whatever...Yeah. I can sing. It takes away the shyness." She also shared an example with a co-researcher about how singing helped her navigate a stressful class presentation. Before her challenging class presentation, Melody asked her professor if she could step outside to calm herself. Reflecting on the scenario, she reenacted the story:

> *...So, I stepped out. Sang a little song. [I] came back in, and I was ready. I did my presentation, and that's all I needed. I just needed something to just calm me down and bring the real me out.*

Gina also said singing was a helpful coping technique, and she shared, "Sometimes when I'm sad, I'll sing. When I'm stressed, I'll listen to music. Just usually if I feel some sort of negative emotion, I'll usually sing, if anything else." Aside from singing, Lena also shared her love for dance by showing a video.

> *... It's a dance video…dance was basically an outlet. It was something to do when I was bored and needed some way to work out, some way to get out some pent-up aggression, something to keep my mind off of a little bit of stress I was going through with school. It was a happy place…I just feel like everyone needs an outlet. You can't always be school, school, school, work, work, work. You need an outlet.*

From her reflection, Lena shared that creative arts, like dancing, served as a helpful balance for her to express herself outside of the classroom. Though Lena discussed the significance of dance and Melody and Gina discussed singing, other participants in this study included listening to music and writing poetry as vital to their persistence in healthcare careers.

5.3.4 Faith-Based Practices

Melody, Kenya, Lena, and Katrina relied on their spiritual beliefs, based in Christianity, to succeed in health sciences. Specifically, participants mentioned reading the Bible or praying as significantly helpful faith-based practices, taught to them by their families and community networks, to help overcome stress. Kenya mentioned:

> *I'm a very spiritual person, so when I do get overwhelmed, I pray hard, and that really helps me relax because it makes me feel like, 'Okay, you're really not in this alone. It may feel like you in here alone, but not really.'*

In her words, it was clear that Kenya used prayer as a support tool during her collegiate journey. Further, using prayer was vital to help her relax during stressful times. Echoing similar sentiments, Melody mentioned her religious and spiritual beliefs during the interview when she affirmed:

I'm a Christian. I grew up a Christian. Basically, I believe in God...I know that whatever I want to be, all I have to do is pray and talk to God about it, and he will find a way to make it happen. And if I just keep believing in that, then I know I'll be on the right path and starting my life out right.

Based on Melody's response, her faith-based practice of prayer and her belief system helped her stay on her journey to pursue a career in healthcare.

When reflecting on her spiritual beliefs and faith-based practices related to her success, Lena shared a photograph of a Bible:

I have a picture of a Bible. I had to…start reading my Bible and believing in myself…I have to keep God first in everything that I do. So, I just have to make time to read it...Honestly, I wouldn't be anywhere without God.

In sharing this photograph, Lena attributed her success to her belief system. Like both Kenya and Melody, Lena shared that reading her Bible boosted her belief in herself. Overall, in this study participants used their faith-based practices, mostly identified as prayer and reading the Bible, which they learned using their social and linguistic capital, to help them cope with loneliness at school or uncertainty about their futures in healthcare careers.

6. DISCUSSION

Overall, in this study, we sought to understand how six Black women undergraduate students with diverse social identities (e.g., social class and ability) developed, cultivated, and sustained their healthcare career aspirations despite barriers. Using community cultural wealth and intersectionality (Crenshaw, 1989; Yosso, 2005), we illustrated how Black women survived and thrived as they pursued their healthcare career aspirations. With aspirational and familial capital, participants envisioned their careers in healthcare by following in their family members' footsteps. Further, using navigational capital, Black women in this study were able to maneuver through difficult challenges related to their health, finances, and institutional policies. In addition, participants named some of the systemic challenges they faced within the healthcare profession and how they used resistant capital to push back against racism, sexism, and classism. Lastly, working collectively, Black women in this study used words of advice, information sharing, community networks, their faith, and creative arts to persist in their degree programs and careers. Specifically, our study extends the literature in three areas.

First, researchers have previously discussed how Black women experience academic stress, racism, sexism, and classism in the health sciences field. Specifically, they experience being underestimated, lacking support, and feeling isolated and marginalized (Aiken et al., 2001; Love, 2010; Thomas, 2009; White and Fulton, 2015). Further, our study findings indicated how Black women in the health sciences field also experienced

financial, health, academic, and systemic challenges along their career pathways. For example, student participants discussed struggles with not being admitted into academic programs and poor advising. The Black women in this study also described how racism, specifically anti-black racism, along with sexism and classism, made students feel the need to work twice as hard to pursue their career aspirations. However, the students in this study used resistant capital to challenge anti-black and patriarchal messages. Knowing the challenges that they faced as Black women, those in this study used navigational and aspirational capital to persist through financial, personal, academic, and structural challenges.

Second, researchers have documented the critical role of social networks, including family, classmates, and faculty, in support of Black women as they persist in STEM and health sciences (Collins et al., 2020; Rice and Alfred, 2014; Smith and Johnson, 2019; Thomas, 2009; Tucker and Winsor, 2013). In this study we found that student participants used their networks of peers and college staff (e.g., faculty, advisors, and administrative staff) to receive support, information, and encouragement as they pursued educational and career aspirations. In addition, students relied on familial networks for inspiration, encouragement, and social support. Finally, similar to previous scholarship regarding the connection between faith and persistence in STEM and health sciences for Black women (Aiken et al., 2001; Ceglie, 2013; Jordan, 2006), we found participants used religious texts (e.g., the Bible) and prayer to overcome challenges in their academic careers.

Our study extends the current literature on persistence for Black women in STEM and health sciences by offering insight into the critical role of linguistic capital, specifically, arts and music, to support their persistence on their academic and career pathways. While participants did not mention the use of their linguistic capital in classroom spaces and assignments, they did identify how linguistic capital helped them succeed in their majors. Almost all the participants mentioned music, singing, poetry, and dance as sources of strength, empowerment, and coping to persist in the face of academic challenges.

Drawing upon community cultural wealth and intersectionality (Charleston et al., 2014a; Crenshaw, 1989; Lane and Id-Deen, 2020; Yosso, 2005), our findings indicate Black women in this study are using various forms of capital to traverse and overcome inequitable spaces in health sciences. While Black women can and will use many forms of capital to retain themselves, they should not be solely responsible for their success in these programs. Higher education institutions should also play a critical role in retaining and graduating Black women. With the looming shortage of healthcare workers and the increasingly changing demographic in the United States (Association of American Medical Colleges, 2015; Fey, 2018; Seo and Spetz, 2014), healthcare, faculty, and campus administrators should consider the urgent need to retain Black women in healthcare career programs. Furthermore, institutions should value Black women marginalized at the intersections of race/ethnicity, class, gender, and dis/ability as communities with unique viewpoints and assets that deserve to be honored.

7. IMPLICATIONS

The experiences of Black women in this study can be used to improve how faculty, campus administrators, and the healthcare industry support Black women students in their healthcare career pursuits. We offer four major implications. First, as discussed in the findings and discussion, students in this study were inspired to pursue careers in healthcare based on their familial and community support. While participants witnessed family members in healthcare, they understood each of those members to be one of few Black women within their workspaces. Therefore, the participants aspired to pursue careers in healthcare to change the narrative regarding who could serve as nurses, psychiatrists, nurse practitioners, and anesthetists. To that end, faculty and administrators in higher education and healthcare should develop and expand programs that engage Black girls and their families in learning more about the health sciences and cultivating healthcare career aspirations.

We used our research to analyze the barriers Black women face as they navigate healthcare fields. While participants were motivated to enter the field, they faced tremendous barriers during their earliest stages of development (i.e., poor advising, lack of resources, and loneliness and isolation in STEM courses). To help Black women students navigate their journeys in healthcare, institutions can create peer and faculty support programs to help Black women during their undergraduate experiences. These support programs can be charged with connecting Black women to peers, mentors, and leaders in healthcare who can provide experiential and research-based learning opportunities. In addition, faculty, and university administrators should evaluate their admissions processes and policies to ensure they are not serving as a gatekeeping barrier for Black women with healthcare career aspirations. However, recruitment is only part of the challenge. Faculty and university administrators should also ensure their practices, policies, and processes support the retention of Black women in the health sciences.

Colleges and universities can also support Black women by providing more scholarships and working with local hospitals and healthcare corporations (e.g., CVS Health Corp., UnitedHealth, Cigna, Walgreens, and Anthem) to create internship and mentorship programs that could cater primarily to Black women. While programs with similar outcomes exist, including the Summer Health Professions Education Program and Health Careers Opportunity Programs, current programs are not always accessible to rural or community college students. Moreover, these programs usually include a difficult application process that requires multiple documents, transcripts, and recommendation letters that could present a barrier for those interested in applying. Finally, while current programs targeted to minoritized students exist, these programs need to be assessed to investigate the degree to which they support retention and success of Black women.

Finally, our findings help share the unique stories of Black women; however, Black women are not a monolith and may have other intersecting identities that contribute to their marginalization. While both Blackness and womanness were salient, participants in this study also navigated other identities, including living in rural areas, being working class, and living with a dis/ability. Thus, future research should continue to examine how the

intersection of multiple forms of oppression (e.g., racism, sexism, ableism, heterosexism, classism, colorism) shape the development, cultivation, and sustainability of healthcare career aspirations for Black women. In addition, future research should employ community cultural wealth and intersectionality to examine the experiences of Black women who work full time in the healthcare profession; this research could provide insights into how to better support the recruitment and retention of Black women in the healthcare profession.

8. CONCLUSION

From the findings in this study, Black women see themselves continuing their family legacies and serving their communities as healthcare professionals. While Black women aspire to continue in healthcare, they cannot reach their goals alone. Ultimately, the interviews from these Black women provided us with enough data to identify a critical need for higher education to better support Black women in STEM and healthcare fields. Based on our findings, college professors, faculty, and staff can better support Black women by becoming aware of how institutional agents and organizational structures may perpetuate racism and sexism and can, instead, create the educational structure that helps Black women succeed in the STEM and healthcare fields.

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