

Cultural Motivations Informing West African International Doctoral Students' decision to study STEM Programs in the U.S.

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Introduction

The Institute of International Education's report [1] presents two major West African countries - Nigeria and Ghana - on their list of the leading places of origin of international students in the U.S, with each country occupying the 7th and 18th positions, respectively. According to the 2024/2025 report, there are 21,847 Nigerian and 12,825 Ghanaian students studying in the U.S. These figures represent a 9% and 36% increase from the previous year, respectively, and account for approximately 3% of the entire population of international students in the U.S. [1] While these numbers are proof of both countries' prominence in the pursuit of advanced degrees, they also underscore the growing trend of West African students pursuing graduate studies in the U.S., a pattern that extends throughout the region.

Despite this growing number of West African International doctoral students (WAIDS) studying in the U.S., there is a paucity of research focusing specifically on their stories and experiences, especially their motivations for undertaking doctoral studies. The literature is replete with studies on general motivations for graduate studies [2], [3], [4], [5], [6], [7], [8], and motivating factors for international students choosing to study abroad [9], [10]. For instance, [10] Zhou explored 19 international students' motivations to pursue a graduate degree in the U.S., wherein the author highlighted the push and pull factors interacting to fuel motivation. On the other hand, [9] carried out an online survey of international undergraduate and graduate students' intrinsic and extrinsic motivations for studying in the U.S., and found that "...personal growth and development are important motives for international students to study in the United States" (p. 314). While these studies help to advance the literature on international students' experiences, they, unfortunately, merge the decision-making stories of all international students, without taking cognizance of the unique differences their diverse cultural backgrounds might present.

Some researchers are breaking free from this monolithic presentation of international students' experiences; examples include research that examines the motivations for studying abroad for both Indian students [11], [12], and Chinese students [13], [14]. These studies generally establish that international students' decision to study abroad is influenced by both intrinsic and extrinsic factors; however, there remains limited information as to whether or not cultural undertones underpin those decisions to study abroad. Further, we are not aware of a study that focuses

specifically on the motivation stories of WAIDS, given their economic and intellectual contribution to the U.S. higher education system [15], [16].

In the present study, we examine the influence of WAIDS' cultural background on their motivations to study Science, Technology, Engineering and Mathematics (STEM) in the U.S. Through analysis of interviews with WAIDS, we add to our understandings of West African Students' decision-making process for STEM doctoral studies in the U.S. and contribute to the broader literature on motivations for graduate study by answering the following research question: What are the cultural motivations that drive WAIDS' decision to study STEM programs in the U.S.?

Theoretical Framework

The theoretical framework underpinning this study is the Situated Expectancy Value Theory (SEVT) [17], an extension of Eccles and colleagues' [18] Expectancy Value Theory (EVT). EVT posits that individuals make academic choices based on their expectation of success and their perceived value of the task under consideration. Expanding on this theory, SEVT highlights the developmental, social cognitive, and sociocultural perspectives of achievement-related motivation, and suggests that choices and decisions are also influenced by the individual's present realities, while "...the range of options being considered in any given choice situation is limited by prior experience and by the cultural values, norms..." [17, p. 2]. Thus, in addition to highlighting the Subjective Task Value (STV) constructs (intrinsic value, attainment value, utility value, and cost) discussed in the modern version of EVT [19] and [20], SEVT asserts that motivation is deeply embedded in sociocultural settings. In other words, family, peers, institutions, and cultural norms influence an individual's motivations, expectations, and values in the same way that the experiences of discrimination, stereotypes, and identity do.

In this study, we focused specifically on the subjective task values (STVs) - intrinsic value which is the enjoyment or pleasure derived from the task itself, utility value described as how useful the task is for future goals, attainment value which highlights the personal importance of performing the task well, and cost - the negative aspects of the task, such as time, effort, or the opportunity cost of not doing something else.

Previous studies have employed EVT to examine attrition motivators among engineering graduate students [21], students' motivations for choosing engineering [22], and the cost of persisting in engineering graduate studies [23]. SEVT is also commonly applied in studies on international students' motivation to study abroad [13], [24], and in the study of persistence

across diverse racial settings [25]. In this study, we are leveraging SEVT's focus on how participants' cultural background, sociocultural setting, expectations for success, and the value they attach to a task can shape their motivations to pursue a STEM doctoral program in the U.S. The application of this framework in a West African context allows us to highlight the impact of situative and sociocultural factors on WAIDS' decisions to study STEM in the US, informing related culturally responsive recruitment and support strategies.

Methods

This study was conducted using a general qualitative research methodology inspired by narrative inquiry [26] to understand the stories behind West African International doctoral students' (WAIDS) decision to study STEM programs in the U.S. This methodological approach was selected because it acknowledges the distinct nature of individual accounts of experiences told in a story form and emphasizes the influence of time, personal and social interactions, as well as physical and sociocultural location on those experiences [26].

Sampling and Participant Recruitment:

Eligible participants for this study are people who identify as international students from West African countries and are enrolled in STEM doctoral programs across the U.S. To recruit participants for the study, we administered a set of screening survey questions developed using QuestionPro and disseminated them to potential participants via the first author's personal social network, WhatsApp groups, and LinkedIn. Additionally, snowball sampling was used; interviewees directed us to additional possible participants. The screening questions were focused on basic demographic information such as gender, STEM program, year of study, and nationality. At the end of the screening period, we contacted eligible participants through email to schedule interviews. A total of six participants were interviewed, including three men and three women. Table 1 provides more information on the demographic information of participants.

Table 1: Study Participants' Demographic Information

Pseudonym	Gender	Country of Origin	STEM Program	Year in Program
Anthony	Male	Ghana	Material Science and Engineering	Ist year

George	Male	Nigeria	Civil Engineering	Ist year
Peter	Male	Nigeria	Architecture	Ist year
Angela	Female	Nigeria	Environmental and Social Science	2nd year
Ruth	Female	Ghana	Chemistry	3rd year
Wendy	Female	Nigeria	Computer Science and Engineering	3rd year

Data Collection

Semi-Structured Interviews: We used semi-structured interviews to collect data from the participants. The interviews were conducted on Zoom, with each one lasting for an average of 60 minutes. Prior to the interview, two expert qualitative researchers reviewed and provided feedback on the interview protocol, ensuring its suitability in eliciting the required information from the participants. Example interview questions include: “Can you share your story of how you became interested in studying a STEM doctoral program in the U.S?”; “What cultural factors do you believe influenced your decision?”; “Who or what would you say has had the most significant influence on this journey?”

During the interview process, the first author leveraged her positionality as an “insider” to build trust by occasionally acknowledging the similarities between interviewees’ stories and hers, and echoing their shared cultural norms and beliefs. This approach is supported by [27] and [28], who opined that the cultural knowledge of the researcher(s) and their positionality as an “insider” within the interviewees’ community will potentially increase the likelihood of the participants sharing their perspectives, which helps to answer the research questions. We audio-recorded the interviews with participants’ consent, and the audio recordings of the interviews were transcribed using the Zoom transcription feature. The cleaned interview transcripts were safely stored in a secure Google Drive on a password-protected laptop and shared only among the authors.

In addition to practicing reflexivity by documenting and constantly reflecting on our biases and assumptions, we also used member checking to improve the quality of the data collected by sharing the cleaned interview transcripts with participants who confirmed that the transcripts

captured their stories and experiences properly. Participants also had the opportunity to make corrections and or expand on points that were misunderstood or not properly captured [29]. Member checking marked the end of data collection, and participants' contributions were acknowledged with a \$50 Amazon e-gift card. Critical friends helped to critique the coding and interpretation of the data, and we employed direct quotes from the participants' interviews to support the confirmability of our findings and ensure "thick description" [30] of the data.

Positionality

The first author identifies as a West African International doctoral student (WAIDS) in a STEM program in the U.S., a position that equips her to carry out this study, especially given that she has lived experience of choosing to embark on a STEM doctoral study in the U.S. For this specific reason, she brings her position as an insider into this research, which we believe will increase the participants' willingness to share their perspectives on the topic [27], [28]. Through this study, she aims to highlight the influence of diverse cultural norms on the decision to study abroad. She acknowledges that her overall experiences and West African cultural background, which favors collectivism, the exercise of spirituality, and recognizes the differences in gender and social roles in decision-making, shape the way she chooses to engage with literature, data, and the perspective she brings to this study.

The second author is an engineering and engineering education professor. She identifies as a white, American woman and so is an outsider to the participants on many dimensions. Holding that position, she trusts and defers to the interpretations of the first author, particularly given the focus of the work on cultural motivations. She has two decades of experience researching the experiences of doctoral students, including international doctoral students, and brings that research to bear in her contributions to this study.

The third author is a white, queer engineering education professor from the U.S. This author served as an instructor for the qualitative methods course in which the first author conducted this study. In many ways, this author is an outsider and shares few identities and research expertise relative to the topic of this paper, but often holds a systems perspective in their work. Their position with respect to this paper and their systems perspective guided their contributions to this study.

Data Analysis

We used [31]’s reflexive thematic analysis as the analytical method for this study. The de-identified interview transcripts were uploaded into Dedoose, a cloud-based software for qualitative data analysis. During the first cycle of coding, we deductively and inductively coded the data using a combination of descriptive and process coding methods. Some of the deductive codes used include: “Advisor’s reputation, research alignment, funding, knowledge advancement, prestige of a U.S. degree, limited research resources, and lack of funding.” Second cycle coding allowed us to identify categories and patterns emerging from the first cycle coding, as well as the resultant themes that helped to understand the participants’ stories.

Limitations

This study is not without limitations that may have impacted the data or our interpretation of the results. First, some of the study participants are already in their second and third years, meaning that the decision to study abroad was made about 3 years prior to this study. For this reason, the experiences and perspectives they shared might have been distorted by retrospective bias. However, we argue that for a decision as significant as going abroad for graduate studies, the events leading up to that move might remain indelible and undistorted. In addition, this study featured only participants from Nigeria and Ghana; as a result, their experiences and stories cannot be said to be representative of the entire population of WAIDS studying STEM programs in the U.S.

Results

The results of the analysis of data identified two major themes that help to explain WAIDS’ motivations for studying abroad, including: 1) Culturally Identified Motivations, having the following subthemes: Poor Education Outcomes in Home Country, State of Higher Education in Home Country, and Voices from the Home Front, and 2) Academic and Career-based Motivations. In the paragraphs that follow, we highlight these themes in the context of the data from participants.

Theme 1: Culturally Identified Motivations

Poor Education Outcomes in Home Country

This subtheme captures the study participants’ motivations informed by their dissatisfaction or frustration with the educational outcomes prevalent in their home countries. All six participants reported being influenced by either one or more of context-specific issues, such as job

unavailability after graduation, which is made worse by nepotism, poor remuneration, poor celebration of educational achievement, and underutilization of talent. Anthony shared :

“It's not actually easy to get a job in there without having great connections, even if your grades are really, really good. You have to meet someone to connect with you. It's difficult to go in there yourself.”...**Anthony**

Ruth echoed the issue of nepotism, where securing jobs after graduation heavily depends on who you know. She narrates:

So, in my African country, or in my country, for you to end up in a prestigious job sometimes, you need to know somebody in the industry. You need to have somebody who is willing to take your hand, and then help you find that job or obtain that position in the job. And looking at my background, I didn't have anybody that could offer me that help....**Ruth**

Peter, on the other hand, narrated his dissatisfaction with the salary structure and the job offers he was getting from employers. He had gone ahead to get a master's degree, hoping that it would increase his earning power, but was disappointed that an additional degree did not necessarily translate into a higher salary. In his words:

I was working before I had a master's in architecture. And a lot of like the earning power, the jobs, I was getting the jobs, but like the offerings were just not great. So I felt, okay, if I had a master's, definitely this has to change. It can't continue to be like this. So when the masters came in and there were some companies I was eyeing that I would love to work in this company. I mean, because I was like, these are companies that are one of the best in [home country], architecture-wise. But on getting the offers from these companies, it was nothing to write home about....**Peter**

Similarly, Wendy decried the poor salary structure obtainable in her home country, describing it as not “ideal”. Despite her position as a faculty member in a university, she was not earning enough to sustain herself or her desire and love for conducting research. She narrated:

My motivation to, you know, move out of [home country] stemmed from my lack of satisfaction with the conditions of work and the conditions of doing research back home in [home country]. So, prior to coming to the U.S., I was working in a university in [home country], and apart from the remuneration, which were not very ideal at the time, the economy was also becoming more and more difficult to survive on the remuneration. And I'm someone who has always wanted to do research.....**Wendy**

Each of these quotes highlights the study participants' displeasure at the inadequate return on their investment in education, evidenced by poor remuneration, lack of job opportunities, and the possibility of remaining unemployed after graduation. These realities, which they identified as being prevalent in their home countries, are worsened by their dwindling economy and the knowledge that they lack highly placed people who can help them secure gainful employment. Feeling helpless and discontented, they chose to seek alternative opportunities abroad by pursuing a doctoral STEM degree in the U.S.

State of Higher Education in Home Country

Another culturally informed motivation informing WAIDS' decision to study STEM programs in the U.S. is the condition of the education sector in their home countries, which one participant, George, described as “not on par with the education system abroad.” Four participants shared problems related to limited research resources, lack of funding, union activities often resulting in the disruption of the academic calendar, lengthy time of program completion, and the association of Ph.D. study with slavery as contributing factors. For instance, George explained :

But in the process of carrying out that research, I needed to carry out a whole lot of experiments, a whole lot of tests to bring out incredibly good paper that is, say, worthy of you know, worthy of citations in many different corners of the world, the lack of instruments, would I say, or experimental lab apparatus at the time, stifled the rate at which my research could go and the standard with which I could meet.....**George**

For Angela, the idea of funding her Ph.D. by herself was far-fetched, especially given the possibility of the program lasting for a long time. She said:

And also in [home country] you can do your PhD for 10 years. I cannot keep paying school fees for 10 years due to bureaucracy. It's not possible for me to do [that]. I can't pay school fees for 10 years and still be the one funding my research. I don't have the financial capacity for that, and I can't burden my family for this....**Angela**

She went on to narrate how the only way most students in her home country graduate in record time from their PhD programs is if they become subservient and go out of their way to please their advisors. She continued:

I've seen people that spent three years, but they served their supervisor. Like what this advisor was meant to do [the student does for them]. Let me just say they call it 'boi boi' - apprenticeship in a negative way. And in my country, they said Ph.D. is not just the book. The P stands for "prostrate", the h is "humility," and the d is something I can't remember. So it's not like you are just intelligent. It's more than [that]. Like, it's not even more of you are being intelligent. It's more of being able to serve your advisor. Do his work for him and go out of your way.....**Angela**

Similarly, Ruth shared her perspective on the cost of doing a Ph.D. in her country, and how it was difficult for the school to provide students with the resources for their experiment at the undergraduate level, let alone during a Ph.D. study. She shared:

It is pretty expensive to do a PhD in [home country] because, like, even in undergraduate research, the minor research that we do, just for young undergraduate thesis, sometimes you'd have to buy some chemicals that you would need for your research by yourself, because the school doesn't have the capacity to provide for each and every individual conducting the research.....**Ruth**

In these quotes, participants described their impression of the condition of higher education in their home countries and how that is driving their decision. For George, the lack of research materials was a constraint to conducting the required experiment for their study and resulted in output that he believes does not measure up to acceptable standards. Angela and Ruth's quotes, on the other hand, highlight how the high cost of schooling, which is exacerbated by the lack of funding for research in their home country, pushes WAIDS into making the decision to study abroad, where there is a promise of funding for their studies.

Voices from the Home Front

In this third subtheme, all six participants described the influence of the people in their immediate environment at the time of making these decisions to study abroad. Prominent among them were the influence of family members and other people in their immediate community. Participants like Wendy, Angela, and George in the following narratives described how their parents either served as role models or as a pillar of support. According to Angela:

So both of my parents, [...] they were both in the teaching field. [...] and seeing them impacting life and seeing the result of it, like, they might be outside, and one student will greet them or even my cousins that have been opportuned to be under their teaching. How my parents have impacted them, the knowledge they've gained

when I'm in the midst of their colleagues, and the way they relate and the way they talk about them [my parents] has been helpful, has been good, and being an expert in what they do. Like, okay, though I also have the passion, that's another thing that is a drive.....**Angela**

George also shared:

My father has been my biggest influence. [...] He has motivated me in, you know, going to the university, getting a first-class degree, finishing university, working in a top firm - one of the top civil engineering firms in the world. And also being in an American university. I mean, there's so much, there's so much motivation that can just come from such a man. So, he's been, I can say, for one, my biggest motivation as a person.....**George**

For a participant like Wendy, being raised in a family where both parents were researchers and every one of her siblings either has a doctoral degree or is working towards getting one, served as a huge motivation. Growing up in such an academically inclined family, she admitted to not knowing how to do anything else apart from conducting research. She narrated:

Well, my family, I would say my dad has, you know, had the biggest impact on all of us, because we were born, and we saw our dad doing research, [...]. So, knowingly or unknowingly, that's just the life I knew, because we were also raised in a research [community]. We lived in a research institute where my dad and my mom worked. So, much later, my mom still went into research. [...] So, we were born in a research institute, so we were raised there. All your neighbors who are researchers are doing one thing or the other. So, it was kind of the culture. And then, unknowingly, it actually became a thing in my mind. And, in my family, every single one of us is, you know, either have a PhD or is working towards a PhD in my family. So yeah, there's a lot of family impact, because this is the life that I grew up seeing and knowing. I don't understand how to do any other thing, apart from you know, just being curious about life questions, asking those questions, and finding answers, and then you know, writing them down in a paper and all of that, so yeah. I think that played a huge role.....**Wendy**

Interestingly, participants' siblings also played a role in the decision-making process. For participants like Peter, it was the desire to rub off on his younger siblings, after having been majorly influenced by his elder sister. For him, there was a standard set by his sister below which neither he nor his younger siblings were expected to go. In his words:

I mean, my older sister has been like a major influence. So, because like I said, we were raised to be academically inclined. So she has always set the bar very high. So I mean, I'm directly behind her. So I'm always like, I have to also, I mean, keep the bar flying so that people coming behind me would also see that. I mean, this is the goal. This is the bar. You can't go below this. So yeah, definitely my elder sister has been... a major influence in that. And I'm also trying to also be a positive influence to my siblings, my younger siblings as well.....**Peter**

Family members played significant roles that informed WAIDS' preference for going abroad to get a doctoral degree in STEM and for advancing in their career generally. Participants saw their parents and siblings as role models, and the testimonies of the people whose lives their parents have impacted both served to fuel their passion for getting a doctoral degree in order that they might follow in their footsteps or positively influence their younger siblings.

Theme 2: Academic and Career-Based Motivations

In this theme, participants described motivations informed by their perception of academic fit, proposed career trajectories, institutional quality, and practical opportunities. All six participants reported that a major factor influencing advisor selection and their choice of studying in the U.S. is the alignment of their research interests. Other motivators include the advisor's reputation as a renowned researcher, availability of funding, the prestige associated with a doctoral degree, and the reputation of a U.S education and the host institution. The following narratives capture our study participants' voices as they shared their academic- and career-related motivations:

George stated:

I had conversations with them, two people [potential advisors], before the project started. And both of them were both in alignment with what I was doing, or what I wanted to do. A big plus for the person I was going to be working with was [that] he has been in the research space way longer. He has been chairman of I think [professional body], which was a big plus for me, because I believe for me to grow rapidly in my own career, it's also nice if you're working under someone with so much experience, so much connection in the space...**George**

Similarly, Ruth shared that "...in [Kamelogo university], they had, like a good number of professors that had their research focused on the area that I was interested in."

Angela, on the other hand, discussed how the U.S. is notable for its investment in education and research, and how that informed her choice for the U.S. over Canada. She recounted:

“Then I have friends that have been in the U.S. and they were like, the U.S. invests a lot in research, in education. Like the U.S. is the number one country that invests so much in education, in research.”.....**Angela**

Each of these quotes highlights participants' impressions of the U.S. as a choice destination for their doctoral studies, either because of the country's support for knowledge advancement and technological development, as evidenced by the high investment in education, or the alignment of their research endeavors with those of their potential advisors or their STEM program in general.

Discussion

In this study, we examined the factors driving West African International Doctoral Students' (WAIDS) interest in studying abroad. The results of our analysis yielded two main themes: 1) Culturally Identified Motivations, and 2) Academic and Career-based Motivations.

Examining the influence of cultural setting on WAIDS' decision to study abroad yielded some motivations that can be classified as push factors, or factors that push students away from their home country [32], [33]. Participants in our study shared problems related to poor education outcomes in their home countries, including perceived job unavailability and poor remuneration, which is linked to the country's economic condition. This is in alignment with the work by [34]. Others include underutilization of talents and nepotism, factors which differ from the traditional push factor available in extant literature because they are context-specific and were identified by participants as being peculiar to their home countries. For instance, nepotism, a practice participants described as being deeply rooted in West African culture, requires that one must have the “right” connections before they can secure gainful employment post graduation. This practice diminishes an individual's effort towards obtaining a college degree, discourages hard work, and entrenches a system where one survives based on who they know. Underutilization of talents, on the other hand, refers to a situation where academically sound college graduates remain idle after graduation, causing participants to dread finding themselves in a similar position. These extrinsic factors, while not obviously related to the value attached to the task of obtaining a Ph.D., nonetheless informed WAIDS' choices due to their expectation of success [17] abroad in more ways than they have been privileged to experience in their home countries.

Findings from this study also highlight more extrinsic motivations resulting from the condition of higher education in participants' home countries. These motivators, supported by those found in previous studies, include limited research resources, lack of funding/poor investment in education [35], [11], [32], [36], high cost of education in the home country [12], and misalignment or lack of research interest. Other negative, yet unique factors fueling WAIDS' decision to study in the U.S. were identified as well. Salient among them is the association of Ph.D. study with servitude and the lengthy time it takes to complete a doctoral program. The idea of servitude, as described by Angela, requires the Ph.D. student to serve and run errands for the advisor to facilitate their graduation. This practice portrays advisors as "demi-gods" in whose hands the student's future lies, and is evidence of the rot in an education system where there are no checks and balances. For Angela, choosing to study in the U.S. was the only way to gain full control of their career and future. Additionally, a combination of an unpleasant advisee-advisor relationship and academic union activities that result in strike actions, disrupting the academic calendar, and stretching the time to doctoral degree completion indefinitely, leaves WAIDS with no choice but to seek out a more stable academic structure abroad with the expectation of academic success. These two factors are peculiar to this study, and to the best of our knowledge, have not been reported in any previous study, thus adding to the body of literature on motivations for studying abroad.

In contrast, participants were also motivated by voices from their home front - parents, siblings, and random people in their immediate environment who served either as role models or a significant source of support in their journey abroad. This is consistent with the study by [12] that examined the factors motivating Indian students to pursue a master's program in STEM, and another by [13] which explored the motivators driving Chinese international doctoral students' decision to study STEM programs abroad. For participants in our study, this motivation is rooted in the West African culture, notable for its collectivist nature. Members of one's family are often key players in any decision-making process, and in the majority of cases, decisions are made solely because they are going to benefit every member of the family. In addition, this motivation is tied to the idea of the utility value, as specified by SEVT, WAIDS attach to the task of studying STEM Ph.D. programs in the U.S. They see a doctoral degree earned in the U.S as a tool they could utilize to better their lives and that of their loved ones. On the other hand, however, this decision often comes with the psychological or emotional cost of being away from family members for a long period of time, a price participants in this study were willing to pay in exchange for the prestige of a U.S. advanced degree.

Unsurprisingly, this study also revealed some academic and career-based motivation, which are not necessarily tied to West African culture or systemic cultures in the participants' home country, but have been identified as the pull factors [32], [33], influencing student mobility. Key

among these motivators is participants' desire to advance and impact knowledge, an intrinsic motivation related to the intrinsic (interest) value, identified by SEVT, which they attach to the task of contributing to knowledge creation and the joy derivable from performing the activity (in this case, obtaining a doctoral degree) [17]. Additionally, two major extrinsic motivations that are representative of the high utility value of studying STEM programs in the U.S. emerged. These include the reputation of a U.S. degree/education, and the future career prospects (e.g. STEM OPT, high-stakes job) which a U.S. doctoral degree offers. This aligns with the study by [11], which explored Indian students' motivations and drawbacks for studying abroad, and the work of [10] which examined international students' motivation for embarking on and completing doctoral programs in the U.S. Similar results were recorded by [37] in their study of international STEM graduate students' decision to remain (or not) in the U.S. after graduation. Importantly, since the desire to attain a certain occupation is one of the things that makes a U.S. doctoral degree attractive, its utility value cannot be divorced from the attainment value, which reflects an individual's personal goals and aspirations [17]. In fact, [24] suggests that the attainment value of a given task is the major motivation for studying abroad, despite the intrinsic interest in that task.

This study also identified other academic and career-based extrinsic motivations for choosing to study in the U.S., such as a prospective advisor's reputation as an established researcher [13], research alignment, and funding availability. [12] reported similar findings in their study of Indian master's students' motivation for STEM programs abroad. For participants in our study, research alignment is considered an important factor necessary to sustain interest in graduate school and is indicative of the utility value of developing competence and expertise in a given area of research.

Putting it all together, our study supports, to a large extent, the idea that the push and pull factors already established in literature are also relevant for WAIDS. However, there are also salient motivators arising from the participants' sociocultural setting that call for institutional, departmental, and advisor support to ensure that WAIDS in STEM are fulfilled in the choices they have made and that their expectations of success are not shortchanged as they navigate their doctoral studies.

Implication and Future works

This study has significant implications for research and practice, as well as for recruitment. By centering the voices of WAIDS, an understudied population, the present study contributes to the body of knowledge on international students' experiences and their motivations for choosing doctoral studies abroad. WAIDS represent a growing population of international students studying in the U.S., hence studies highlighting their unique perspectives and contributions are

essential to the promotion of diversity and inclusive practices, especially in STEM environments. In addition, U.S. institutions could borrow insights from this study to inform culturally-sensitive recruitment strategies and provision of adequate support for WAIDS in STEM programs. Findings could also inform orientation, mentoring practices, and funding tailored to the specific needs of WAIDS.

Future studies could explore whether there are differences in motivation across gender groups, nationality, and STEM programs. Also, it would be important to examine how these motivations inform the persistence of WAIDS in their STEM programs. Finally, a longitudinal study that examines the post-graduation career trajectories of WAIDS could provide insight into how they sustained their motivation through graduation.

Conclusion

In this study, we explored the cultural motivations that informed WAIDS decision to study STEM programs in the U.S. Viewed through the lens of the Situated Expectancy-Value Theory (SEVT), the findings detail both intrinsic and extrinsic factors informing their choices. While some of these factors were similar to those reported in studies with other populations, there are others, peculiar to this study, which were found to be deeply embedded in the West African sociocultural milieu and education system. These include nepotism, academic union activities resulting in strike action, the time of degree completion, and the association of Ph.D. study with servitude. Although negative in every sense of the word, these factors were identified by participants as being the norm in their home countries.

With the growing number of WAIDS studying in the U.S., this qualitative study contributes to the scarce literature that emphasizes their experiences and scholarship, especially within the context of their motivations for choosing to study abroad. The study also recognizes the diversity this population brings to STEM education research and calls for the inclusion of their unique perspectives in the broader educational discourse.

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