



Expanding the Pipeline to Teach: Recruiting Future Urban Teachers of Color Through a Dual Enrollment Program

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Abstract

This qualitative case study explores the perceptions of schools, schooling, and teaching prior to and after engagement in a dual enrollment program. Data from nine participants revealed insights into the ways pre-college students thought about careers in teaching, how experiences in the dual enrollment program shaped their interest in teaching, and their perceptions of the pathways to and aspirations for teaching. Pre-college students envisioned teaching as a career possibility due to intrinsic factors, such as intellectual interests and racial identity; these factors were reinforced by family and salient schooling experiences. The dual enrollment program confirmed prior interests in teaching through its focus on the education major, mentoring, and the opportunity to take college coursework at the host university.

Keywords Dual enrollment · Educator diversity · Teacher recruitment · Teacher identity

Introduction

In the decades following mandated school desegregation in the *Brown v. Board* decision, teachers of color have been underrepresented within the field of education. According to a U.S. Department of Education (DOE, 2016) report, “diversity diminishes at each point” across the teacher pipeline (p. 15). Bianco et al. (2011) expands on the points where potential teachers exit the pipeline, acknowledging that

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“the pathway starts long before a teacher accepts his or her first teaching assignment; it starts with early school experiences and continues throughout completing high school, graduating from college, and passing teacher licensing examinations” (p. 368). Advocates of teacher diversity have sounded the alarm over the years, encouraging institutions of higher education to engage in new and innovative practices for recruiting and ultimately retaining teachers of color. Headlines such as “Retaining teachers of color to improve student outcomes” and “In [state], less than 5% of teachers are people of color. The lack of diversity is hurting kids and schools” illustrate the negative impacts that P-12 schools face when filled with mostly white teachers and students of color (DeJesus, 2020; Hinkley & McCorkell, 2019). Teachers who reflect the racial diversity of the students can serve as professional role models as well as cultural brokers who are familiar with the cultural nuances that shape students’ experiences in schools (Bianco & Marin-Paris, 2019; Irvine, 1989). Moreover, educators who return to their home communities to teach signal to students that teaching is a viable and attainable career pathway for people within the community (Garcia et al., 2019). These realities illustrate the pressing need for programs geared toward recruiting and holistically supporting future educators of color.

In collaboration between an urban school district and the school of education at a four-year university, Temple Education Scholars (TES) provides a free dual enrollment experience for high school seniors. TES seeks to (1) increase access and success in post-secondary education for people of color, and (2) increase the number of people of color who complete teacher education programs and join the teaching profession in the state. TES provided cohorts, of nine to twelve high school students per year, the opportunity to spend the afternoons of their senior year engaged in college coursework and college readiness programming at the host institution, Temple University. It is our hope that the voices of youth shared within this study will aid in reimagining the recruitment pathways into teacher education for young people from historically marginalized populations.

Literature Review

In the 1980s and 1990s, several teacher preparation programs emerged, describing efforts to promote diversification of the teacher workforce. Popular programs include, but are not limited to, undergraduate populations, older adult populations, special admission magnet high schools with teacher education tracks, and programs that expose high school students to college curriculum and resources (Abdal-Haqq, 1996; Middleton et al., 1996; Torres et al., 2004). Many of these programs claim to be intentionally serving future teachers of color and strengthening the pipeline, yet upon closer inspection it is evident that their number one priority may instead be to recruit future teachers *regardless* of their race and ethnicity. Countless programs listed their desire to support future teachers of color as their second or third goal (DOE, 2000), or masked their alleged support in statements such as “recruit teachers for the urban, diverse schools” (Torres et al., 2004, p. 67). Generally, data on teacher education programs’ outcomes are unavailable, making it difficult to ascertain the impact of programs on teacher diversity efforts.

Researchers who demonstrate concern for the representation of People of Color in teaching have written about the recruitment of young people into the profession by way of intentional pathway programs that (1) engage students while they are in high school (i.e., Bianco & Marin-Paris, 2019; Bianco et al., 2011; Schmitz et al., 2013) and/or (2) target individuals who are invested in their home community (i.e., Garcia et al., 2019). More broadly, the literature describes dual enrollment programs as creating opportunities for high school students to gain collegiate experiences, often earning college credits during their high school years (Alep & Depenhardt, 2020; Karp, 2012). Although the structure of dual enrollment programs can vary, these partnerships between high schools and post-secondary institutions are viewed as a potential means of bolstering students' success in navigating the collegiate environment (Johnson et al., 2021; Karp & Hughes, 2008). High school students in these programs often learn in classrooms with matriculated undergraduate peers, and when these courses are taken on a college campus, high school students have been found to display higher rates of college persistence (Alep & Depenhardt, 2020). Along with engaging in less remedial coursework in college, students who participate in dual enrollment programs also tend to earn higher grades and overall degree attainment when compared to non-dual enrollees (An, 2013; Grubb et al., 2017).

Despite the well documented benefits of engaging in dual enrollment programs, students of color, students of low-socioeconomic backgrounds, and/or first-generation students may have limited access to these programs, yet these populations have been found to especially benefit from participating (Duncheon & Relles, 2020; Museus et al., 2007; Pretlow & Wathington, 2014). Policies and practices that promote the use of academic eligibility criteria such as GPA or state based standardized test score requirements may contribute to this limitation (Museus et al., 2007; Xu et al., 2021). Furthermore, dual enrollment opportunities are often “not linked to a specific college or career pathway for students”, though these specialized experiences could strongly influence students' academic and career interests (Johnson et al., 2022, p. 57). As we seek to expand the pipeline for future teachers of color, a study that explores their perceptions may inform “strategies for recruiting and retaining people from diverse backgrounds in a college and career pathway focused on teaching” (Johnson et al., 2022, p. 58). To meet these aims, the purpose of this study is to investigate the motivations and interests of young people of color and the impact of participating in uniquely crafted dual enrollment programming for future teachers.

Theoretical Framework

This study is informed by anticipatory socialization theory and validation theory. These theoretical perspectives have been combined previously to understand the impact of participation in dual enrollment opportunities on high school youth (Hughes, 2016). First, anticipatory socialization refers to the process by which individuals are exposed to messages that shape their understanding of the norms, behaviors, and skillsets necessary to pursue future life prospects (Powers & Myers, 2017). In higher education, orientation programs are designed to prepare or “socialize” new and future students to the academic expectations and social opportunities in the col-

lege environment. In reference to dual enrollment programs, Karp (2012) uses the concept to understand the ways participating in dual enrollment allows high school students to experience authentic roles as “college students,” thus providing them with a sense of the expectations for navigating higher education academically and socially and fostering a positive transition to higher education. Vocational anticipatory socialization extends this notion to explore influences on pursuing specific career pathways. Powers and Myer’s (2017) study on vocational anticipatory socialization found parents/mothers and teachers/professors to be the most influential sources in encouraging or discouraging students’ career interests.

The ways individuals internalize and make meaning of the implicit and explicit messages they receive as it relates to developing academic and career interests is shaped by identity. In educational settings, systemic racism and classism shape the perceptions of viable academic and professional opportunities among people of color in the United States. Consequently, having additional support for, or “validation of” interests may be of particular importance. Validation theory (Rendon, 1994) takes into consideration the ways educational spaces marginalize students of color, and places particular importance on the role of institutional agents who can affirm that students are on “the right track” academically and professionally (Johnson & Winfield, 2022). Institutional agents, whether at the PK-12 or postsecondary level, simultaneously project the norms, behaviors, and skillsets needed to thrive within educational careers while encouraging students to embody these norms, behaviors, and skillsets. With this theoretical framework in mind, we investigate the motivations among dual enrollment students for pursuing a career in the field of education, with particular emphasis on relationships cultivated with various institutional agents who affirm or discourage these interests.

Methodology

This descriptive qualitative case study was designed to understand the motivations driving decisions to pursue a career in the field of education among people of color (Yin, 2003). The primary research question was: *What are the perceptions of schools, schooling, and teaching that students hold prior to and after engagement in the dual enrollment program?*

Participant Recruitment and Selection

The host institution, Temple University, a four-year university located in an urban area, designed the Temple Education Scholars program as an opportunity to support high school students’ academic and social preparedness for postsecondary education broadly, and transition to undergraduate programs in teacher education specifically.

In early spring of each academic year, high school juniors are invited by the district to submit applications for one of several dual credit opportunities reserved for seniors, including the TES program. In the application, students provide demographic and academic information and answer a few short-answer essay questions about their interest in dual enrollment and in the teaching profession. Program and district per-

Table 1 Demographic profiles of participants

Student Pseudonym	Race	Gender	Interest in Teaching as HS Student	Postsecondary Institution Type	Enrollment in Teacher Preparation Program
Cohort 1: 2018–2019					
Amanda	Asian American/ Pacific Islander	W	Y	4-year	Y (elementary and special education)
Morgan	Black/African American	W	Y	4-year (host institution)	Y (early childhood education)
Cohort 2: 2019–2020					
Eileen	Black/African American	W	Y	4-year (host institution)	Y (secondary education/ social studies)
Elizabeth	Asian American/ Pacific Islander	W	Y	4-year (host institution)	Y (middle grades education)
Jayda	Black/African American	W	Y	4-year	Y (early childhood and special education)
Yvonne	Black/African American	W	Y	2-year	Y (secondary education/ social studies)
Cohort 3: 2020–2021					
Amira	Black/African American	W	Y	4-year (host institution)	Y (early childhood education)
Hawa	Black/African American	W	Y	4-year	Y (secondary education/ English)
Vinh	Asian American/ Pacific Islander	M	Y	4-year (host institution)	Y (secondary education/ mathematics)

sonnel meet to review the applications and students' eligibility for the program. TES requires that participants have a cumulative high school GPA of at least 3.25 and a strong high school attendance record. Since the program's inception in 2018, there have been 39 participants.

Research on the short-term outcomes and educational trajectories of TES participants began Spring 2020. Each TES participant was contacted and invited to share their experiences in the program to both inform continued development of program activities and provide insights into the impact of the program experiences on student outcomes. Six of the 12 participants (2018–2019 cohort) and 9 of the 15 participants (2019–2020 cohort) agreed to participate in an interview with a member of the research team. The following year, 2021, the same outreach efforts were employed, and 9 of the 12 program participants (2020–2021 cohort) agreed to participate in a semi-structured interview. After confirming students' post-TES academic transitions, 15 matriculated to college in a non-education major, while 9 participants matriculated to college and enrolled in a Teacher Education Program.

Participants

Data from the 9 participants (see Table 1) who expressed an interest in pursuing a major in teaching were analyzed. Of the nine participants, two participated in TES in 2018–2019, its inaugural year, and were members of cohort one. Cohort one attended classes and programming on campus. Four participants attended in 2019–2020 and were members of cohort two. Cohort two completed all activities in-person and then

pivoted to online coursework and programming in late March 2020 due to the cessation of campus activities because of COVID-19. The three remaining participants were members of cohort three and enrolled in the 2020–2021 academic year. Cohort three was entirely online for the duration of their engagement with TES, also due to the global pandemic.

Of the 9 participants, eight identified as women, and one identified as a man. This is consistent with the overall participation in the program, which is predominantly women. Three participants identified as Asian American/Pacific Islander and 6 identified as Black/African American. After completing TES, each participant immediately enrolled in a Teacher Preparation Program at accredited 2-year and 4-year institutions, including five students who continued their education at the host institution.

Data Collection

In order to gain insight into the research question, a semi-structured interview protocol was generated by members of the research team. Semi-structured interviewing is a valuable technique to investigate a wide range of lived experiences related to pre-determined topics (Adams, 2015; Harrell & Bradley, 2009). Additionally, semi-structured interview protocols allow for consistent interview facilitation and data collection when implemented by multiple interviewers (Matteson & Lincoln, 2009). The semi-structured interview protocol asked participants about three aspects of their involvement with the program: factors leading to involvement with Temple Education Scholars, experiences while in the program, and perceived impact on their personal and professional trajectories. Regarding factors leading to involvement with TES, open-ended questions were posed such as "How did you come to learn about the program?" and "What factors or events influenced your decision to apply?". Questions such as "How have your experiences at TES compared to your experiences in high school?" and "What does involvement mean to you?" provided insight into students' experiences with the program. Additionally, participants were asked "Please tell me how involvement will impact you in the future" to solicit their perceptions about its impact on their lives after high school. These questions were often followed up with "how" (e.g., "How did you know....?") and "what" (e.g., "What were the circumstances of [event/story]?") questions to solicit additional examples of participants' experiences. Interviews lasted approximately 40 minutes and were conducted in Spring 2020 and Spring 2021 via phone or video conference technology. Interviews were audio recorded, transcribed electronically, and then reviewed line-by-line by members of the research team to verify accuracy.

Data Analysis

Members of the research team employed multiple rounds of inductive and deductive coding to analyze the data (Saldaña, 2021). First, inductive coding strategies were applied as two of the nine transcripts were read line-by-line by each team member to discuss "what was interesting" about participants' experiences in alignment with the research question. The team engaged in a discussion to agree upon the major themes that were important to consider when thinking about the impact of the dual enroll-

ment program on pathways to teaching. Second, members of the research team generated a codebook comprised of code labels identified from the raw data. The codebook also included code descriptions, examples, and non-examples derived from participant responses. Sample codes included "perceptions of teachers", "interest in teaching", "commitment to teaching", and "confirming experiences in TES".

Third, members of the research team employed a deductive approach by applying the agreed-upon codes and pulling excerpts related to the research question. Through discussion and consensus, team members organized and categorized excerpts into larger themes denoting students' perceptions of schools, schooling, and teaching. For example, excerpts related to "Desired Qualities" and "Perceptions of Teachers" were found to be interconnected and contributed to the theme, "Desired qualities and perceptions of teachers". Hence, four themes emerged from the data, explaining how engagement in the dual enrollment program influenced participants. These themes were subsequently analyzed through the lens of the theoretical framework: anticipatory socialization theory and validation theory. We noted how, for instance, under the theme of "family views influenced/linked to interest in teaching," participants were describing experiences where their interests in education as a career were "validated" by family members who affirmed these interests, or how they were exposed to implicit and explicit messages about education being a viable career pathway for them. This confirmed that the theoretical framework was relevant in understanding how perceptions of schools, schooling, and teaching were forming prior to and during participation in the dual enrollment program. This analysis also allowed the research team to connect the themes from this study to broader experiences of students of color navigating options and opportunities beyond high school.

Researcher Positionality

This study was developed by a team of scholar-practitioners deeply invested in promoting college access and success among historically marginalized populations. Through our service, teaching, and scholarship we promote and advocate for educational equity. At the same time, as social science researchers, we are cognizant that "the personal values of an individual researcher can and do (unwittingly) shape the way in which [we] analyze data sets and resultant conclusions" (Dean et al., 2018, p. 273). Comprised of an assistant dean, a university faculty member, and two graduate researchers, we acknowledge our own unique positionalities, diverse social locations, and responsibilities connected to the TES program and broader issues related to diversifying the teacher workforce. Author 1 is the lead administrator responsible for student recruitment and program operations. Author 2 is an assistant professor and serves as a course instructor and mentor to students. Additionally, she provides consultative support to inform curriculum and programming. Author 3 was a graduate researcher and course instructor for two of the three cohorts represented in this study. She is an experienced educator with experience teaching in the affiliated school district. Author 4 was a graduate student researcher and played a pivotal role in data analysis and dissemination of findings. To mitigate bias, we met consistently during data collection and analysis. Additionally, we acknowledged and rejected our assumptions and their influence on the outcome of this study.

Findings

The data from the study revealed insights into the ways pre-college students thought about careers in teaching, how experiences in the dual enrollment program shaped their interest in teaching, and the perceptions of the pathways to and aspirations for teaching. These findings were organized into the following themes: (1) Desired qualities and perceptions of teachers, (2) Family views influenced/linked to interest in teaching, (3) High school experiences linked to interest in teaching, and (4) Dual enrollment program experiences confirmed prior interest in teaching.

Desired Qualities and Perceptions of Teachers

Pre-college students envisioned teaching as a career possibility due to positive socialization processes, positive messages about the viability of the teaching profession, and validating experiences early on in their lives (Powers & Myers, 2017). Consistent with contemporary literature regarding pre-service candidate career decisions (Richardson et al., 2014), pre-college students envision teaching as compatible with their intellectual interests, personal characteristics, and desire to enact change.

Motivating Factors

Intrinsically motivated by their intellectual interests, program participants Vinh and Eileen connected teaching to their passion for specific subject areas. While Vinh's intention to study math education was shaped by his enjoyment of upper-level math courses, Eileen was torn between social studies or science education because she found both interesting.

Unlike her peers, Elizabeth found herself dispassionate about academic content and was instead primarily interested in supporting students. She gravitated towards secondary education to impact learners through strong interpersonal bonds and “let[ting] my students know that they can come to me... [and] so that I can help them to become better students themselves”. Hawa and Eileen also expressed a strong internal motivation to exchange ideas with and learn from their future students. Hawa described the fuel for her inquisitive nature as “when you're in a classroom, you're coming in to contact with all these different generations of people. You get to learn all day from other people, like you're teaching, but you're [also] learning.” She noted that she is drawn to consider what students are thinking about, as well as to consider “what's going on outside that I don't know about in my little teacher bubble, [or] in my little adult bubble”.

Embodied Characteristics

The embodied characteristics sub-theme reflects the ways participants were socialized to associate certain behaviors and attitudes with that of an educator. As participants engaged in these behaviors, their actions were validated by their teachers, peers, and family members (Rendón, 1994). Amira conveyed interest in early childhood education and perceived she embodied personal characteristics suitable to be an

effective teacher of young children. Drawing on perceptions that effective teachers engage students in active learning, Amira discusses these traits in relation to her own approach with tutoring children. She stated:

I'm very interactive and very engaging. I don't like the person who likes to do a lecture the entire time because I think that's just boring. I like to make sure everybody's engaged. Everybody is having fun. But at the same time, we're learning to go from fun to serious and still learn.

Contextualizing her remarks through the frame of her own experiences, Hawa drew on her racial identity and desire to enact change as factors that shaped her desire to teach. She stated, "I want to teach Black kids, period, but I want to teach Black kids in Philadelphia." Drawing on the effects of implicit bias and racialized disproportionality, Hawa linked her desire to teach to the perception that students of color derive benefits from teachers who mirror their ethnic-racial and cultural backgrounds (Villegas & Irvine, 2010). Consistent with literature, Hawa also noted the importance of teachers being cultural brokers (Bianco & Marin-Paris, 2019; Irvine, 1989), noting that she felt more understood, listened to, and better able to communicate with the teachers she had who were from her home community. She expressed:

A lot of teachers that are from like these neighboring outside county school districts, they come in and they don't understand what it means to be a Philly kid. And it shows in the way that they teach and in the way that they respond to students.

Eileen and Morgan echoed Hawa's sentiments, noting that they too wanted to enact change and felt that their racial identities influenced their desire to teach. Eileen expressed wanting to work at a school that "needs teachers like me". Morgan described a strong connection to her school district, an educational system whose student body reflects a majority of students of color, and an aspiration to return as a teacher in this district. In fact, all but one pre-college student expressed desire to return to teach in their community or move to a new geographic location to teach to be closer to loved ones.

Family Views Influenced/Linked to Interest in Teaching

Pre-college students revealed family views shaped their participation in the program and interest in teaching. Students expressed sharing their interest in teaching with their families and although some received different reactions about their intentions, their guardians did not verbalize opposition. For pre-college students, familial approval of, or validation of, the education major and career choice mattered.

Familial Support

Amira conveyed that several of her family members, especially her grandmother (a retired educator) contributed to her interest in teaching. This is consistent with litera-

ture which notes that having an educator in the family can lead to students developing interest and motivation for becoming a teacher (Christensen et al., 2019; Rutten & Badiali, 2020). Factors such as carrying on a family tradition were also noted as influential in shaping aspirations (Fuchs et al., 2022). Amira mentioned that she and her grandmother often discussed her grandmother's experiences as a classroom teacher. Her grandmother expressed excitement at the prospect of Amira sharing her intention to teach. Amira stated, "So when she found out I want to become a teacher, you can imagine the excitement on her face! I guess that's where I get my love for it a little bit."

Amira's mother (an accountant) also influenced Amira's interest in becoming a teacher as well as the type of educator she hopes to become. In taking after her mother's knack for numbers, Amira aspires to support young students' math development and help students gain a deeper understanding of the math they are computing. Amira noted that when she turns to her mother for help with math, the conversation typically sounds like:

Amira: "Mom, so this is a math problem, and this is how I did it. This is the answer I got."

Amira's Mom: "OK, let's go through it together."

Her mother's approach in seeking to understand has encouraged Amira to intentionally ensure that her own students will understand how and why they got their answers.

Familial influence occurred a little differently for Elizabeth, whose guardians planted the seed of her becoming a teacher. Elizabeth recalled that earlier in her high school career, her guardians expressed that teaching was a good job and that she might want to try majoring in education. Elizabeth described feeling uncertain during the time of that conversation, yet open to leaning into their idea, noting "At the time, I was thinking, I'm not really sure. So maybe I should go for the education field." The encouragement that Elizabeth's family provided may have been an important influence on her that later contributed to her aspirations of becoming an educator (Christensen et al., 2019; Fuchs et al., 2022).

Familial Concerns

Jayda, Vinh, and Hawa also described sharing their intentions to teach with their families and received critical feedback that caused them to reflect on the challenges of pursuing a teaching career. Grounding his remarks in her aversion to public speaking, Jayda's father prompted her to consider the barriers that she would need to overcome as a classroom teacher. Vinh's and Hawa's families raised concerns about teacher pay and encouraged them to consider other higher-paying careers. Pre-college students appeared to understand these concerns but conveyed that the desired qualities of teaching and their respect for the profession outweighed potential disadvantages associated with teaching. Listening to their families, yet making their own decisions is consistent with the literature which suggests that while familial influence is important it may not be the leading contributor which encourages students to partake on the

path to becoming teachers (Christensen et al., 2019; Fuchs et al., 2022; Richardson et al., 2014).

High School Experiences Linked to Interest in Teaching

Aligned with vocational anticipatory socialization theory (Powers & Myers, 2017), students indicated that formative relationships and opportunities during their high school career sparked and confirmed their interest in teaching.

Connections with Teachers

For instance, Hawa and Yvonne spoke in detail about the teachers with whom they shared positive and caring relationships, a quality which they desired to replicate with their students. Describing her PK-12 experiences with teachers, Hawa said:

I've had *amazing* teachers in Philadelphia. I don't think I would be the kind of person that I am without those teachers. And I remember all those teachers by name. I remember all the specific things that they've done that have helped me be who I am.

As such, Hawa desired to embody the qualities of these teachers that positively influenced her own educational trajectory and hoped to accomplish the same for future students.

Regarding desired qualities, Hawa revealed that she often formed special bonds with her teachers who were from the same urban region that she was from. Unlike teachers from the surrounding suburban areas, she described teachers from urban areas could relate to students in ways unshared by their colleagues. She said, "Teachers that are here and grew up here know you are not slick. They know what's going on and they get the program. I think it just creates better communication." Hawa's comments here are consistent with literature regarding the benefits of culturally responsive and sustaining educators who often embody high expectations of students (Kieran & Anderson, 2019; Samuels, 2018), commitment to student intellectual engagement (Bradshaw et al., 2018), and foster strong relationships with students (Bonner et al., 2018). It is important to bear in mind that shared geographic origins are not equal to culturally responsive and sustaining practices; however, it may be the case that Hawa perceived her teachers were more culturally attuned to students because of similar origins and shared lived experiences. Notably, teachers who encompassed these qualities validated Hawa's interest in teaching. Likewise, Hawa perceived that her cultural background and experiences in the urban context were an asset to her future students. Although she felt compelled to travel and gain new experiences outside of her home city, she wanted to return to the urban district so that students could benefit from having a teacher like her.

Yvonne also conveyed that her interest in teaching was sparked by positive relationships with teachers. A self-identified African American woman, Yvonne spoke about the prominent influence of a Black male math teacher. She stated, "I realized I wanted to be a teacher in 10th grade... [Mr. Hall] motivated me to go into the field of

teaching with like Black Studies.” Reflecting on his affect and pedagogical approach, Yvonne described that Mr. Hall incorporated Black History and cultural figures into his math lessons. She found his approach appealing and engaging; with regards to this, she desired to adopt similar practices into her future pedagogy. Drawing on culturally responsive and sustaining pedagogies, Mr. Hall’s interdisciplinary approach and effect as a role model compelled Yvonne to pursue Secondary Education/African American History as an undergraduate major with the intention of teaching on the collegiate level one day.

Connections with Children

Amanda and Amira expressed positive experiences with elementary school children while working at their local libraries influenced their desire to teach. Amanda described that prior to gaining employment at the local library, she had not considered education as a career path. However, she worked at the library as a tutor to elementary school-age children "helping them with homework, running programs... and I really came to enjoy doing that." Amira also worked at the local library with young children. Whereas Amanda described she worked primarily as a tutor, Amira's responsibilities fluctuated based on the needs of the librarians at the local branch. She described, however, that she preferred working with young children, whom she found to be “awesome” and “amazing” with "mindsets [that] are very spontaneous and creative." All of these were personal attributes that compounded her interest in working with elementary-aged children. An aspiring elementary math teacher, Amira's job at the library afforded her opportunities to tutor math and teach academic content. She gave one such example of a math activity that she accomplished. She said,

I wanted to make sure they understood [addition and] how they got answers so I would use geometric cubes. Then, I would have children count them out altogether so they could then understand how they got the answer. I wanted them to understand how they got the answer and why that was the answer. It was very enjoyable for me.

In this excerpt, Amira described using manipulatives to support students in thinking conceptually about their answers. It may be the case that she found manipulatives to be helpful in solidifying her own understanding or that these materials were simply available to her at the time. However, she enjoyed the process of having children achieve a deeper level of understanding beyond memorization. Taken together with her emphasis on conceptual understanding, her choices mirrored the types of pedagogical strategies often used by elementary math teachers (Boggan et al., 2010; Bungao-Abarquez, 2020). Ultimately, Amanda and Amira’s experiences working in the library led to and enhanced their interest in teaching, thus raising important implications regarding expanding the teaching pipeline. It may be the case that paid opportunities to interact with and tutor younger children can positively influence potential pre-service teacher candidates to consider pursuing education as a career path. While unpaid opportunities such as internships or volunteering in academic settings (e.g., early childhood centers or schools) may also pique students’ interest, it may be the

case that paid work may attract students who previously have not considered teaching as a career possibility (as in the case with Amanda).

In addition to working at the library, Amira also tutored young extended family members and other children in her social network. She linked these informal opportunities to her interest in teaching elementary math. She said:

I have family members and family friends whose kids need help with their homework so I always give my number so when they need help with homework, they can call or FaceTime me. I had one experience a couple of weeks ago... [the boy] was at school, and he needed help with math, and I was able to help him with his work.

Likewise, Vinh revealed that informal tutoring of his peers satisfied his desire to make a positive impact as an educator. An aspiring math teacher, Vinh said, "I often help my peers who are struggling with math problems, and I feel that is really interesting to me." Vinh described tutoring as challenging, yet it also fulfilled his intellectual interests. Mediated through formative relationships and opportunities during their high school career, these pre-college students revealed these experiences factored into their realization of teaching as a desirable career.

Dual Enrollment Program Experiences Confirmed Prior Interest in Teaching

Pre-college students revealed three key features of TES which confirmed and deepened their prior interest in teaching: program focus on education, program-embedded mentoring, and university coursework.

Pipeline to Higher Education

The first key feature conveyed by pre-college students was the dual enrollment program's explicit focus on teaching. Students revealed that although they were familiar with other dual enrollment opportunities available through their school district's partnerships, TES was the sole program to their knowledge with a focus on teaching. For instance, Jayda attributed the program's focus on teaching as a compelling feature that influenced her decision to apply for and attend the program. She explained:

TES was geared towards people who wanted to be educators. I don't see that a lot in the district, especially for my high school because it's an engineering and science school. However, I always knew I wanted to be an educator. So, an opportunity for me to be able to focus on what I wanted to do was a nice change.

In addition to the focus on teaching, TES also equips students to earn up to 15 credits in undergraduate education courses and explore topics directly related to their interest in earning a degree in teaching. Enrollment and participation in the program come at no cost to the students. For students such as Elizabeth and Hawa, the possibility of exploring a career in teaching prior to committing to a college major was

appealing. Elizabeth remarked, “I didn’t really know what I wanted to pursue in college. I always thought about education as an option but after completing this program, it helped solidify my passion to be an educator.” Likewise, Hawa described great excitement at the prospect of a dual enrollment program that aligned with her interest in teaching. In particular, she found involvement in TES was a “confidence booster” when applying to university teacher education programs due to her positive experiences in education-related coursework. Consequently, students found that TES provided a unique opportunity to explore- and subsequently- affirm their career aspirations to teach.

Near Peer Mentorship

Additionally, TES integrated mentoring into its program model. Pre-college students engaged in weekly meetings with assigned “Tutor-Mentors” (undergraduate students at the host institution) who supported students with developing their organizational, writing, self-advocacy, and communication skills as well as completing their college, financial aid, and scholarship applications. Students described these supports as “a great experience”; they found bonds with Tutor-Mentors to be meaningful because “they have your best interests at heart... and really want to see you grow and succeed.” Program-embedded mentoring remained a consistent feature during the shift to online coursework and programming due to the COVID-19 pandemic. Pre-college students met weekly with Tutor-Mentors to discuss upcoming assignments and participate in skill-building exercises. Additionally, Tutor-Mentors consistently reached out to pre-college students throughout the week to provide guidance with coursework and TES requirements. As such, students described feeling “very connected” with Tutor-Mentors, program staff, and university faculty who taught their courses despite the absence of in-person contact. Even after graduating from the program, Amanda shared that her Tutor-Mentor “still texts every other week”, a quality which Amanda appreciated and felt embodied the care shown to her by TES staff.

In other instances, students described how relationships with Tutor-Mentors and program staff led to external opportunities as well. Jayda conveyed that her Tutor-Mentor and program staff encouraged her involvement with a partnering educational organization, the Center for Black Educator Development. She said:

They introduced me to this program called Freedom Academy... [I] get extra training to prepare me for my role as an educator, especially as a Black educator. So, TES has really been helpful in opening doors and opportunities in order to help me in my future endeavors.

Taken together with a college coordinator who worked closely with university professors to monitor academic progress, pre-college students conveyed that these supportive mentoring relationships contributed to their ability to navigate the challenges of simultaneously taking undergraduate courses while in high school, meet program requirements, and participate in education-related opportunities outside of TES.

Structured Curricular Opportunities

Pre-college students also revealed that course selection—specifically courses in child development, general education, and sociology of education - affirmed their interest in teaching. These courses were predetermined by content and instructor. Some students attributed certain courses played a significant role in confirming their career interests. Although she later changed her major to middle grades education, Elizabeth described that coursework in early childhood development confirmed her "desire to pursue early education as opposed to middle school or like high school." She also described how taking coursework in special education influenced her decision to select a special education major in addition to early childhood education. Likewise, Amira remarked, "I think the current college course I'm taking now, early childhood development, has really put a real spark in my brain." She conveyed later in the interview that the course influenced her choice of early childhood education as a college major. Vinh also expressed certain courses stood out in his experience. Namely, he described TES's initial course, a general education class, as most relevant to selecting and navigating his future major, secondary math education.

While students enjoyed classes in which they saw directly connected to their future majors and career aspirations, Hawa described that coursework in sociology of education expanded her knowledge of the historical origins of school and intersecting contemporary factors that shape education. Hawa explained exploration of these topics alerted her to the role of unequal school funding in shaping opportunity and achievement gaps in PK-12 schools of which she was formerly unaware. She found these topics to be related to the social context of schooling in America but also explained disparities she observed between city schools and the reputable magnet school she attended. She said:

The class really broke down the impact of poverty on education. We talked about poverty in the United States but in other countries too... This makes you check your privilege. Especially, going to magnet schools, I'm around a lot of people who think they are the best of the best or the smartest kids around. We talk about other [non-magnet] schools like those kids are less than us. However, we don't really understand they [are just like us]. They just want to go to school and go to college. But they haven't been given the same resource we had. I really liked both of those points that we talked about in the classes, because poverty is directly linked to education and what kind of education you get is linked to your social status. When students understand it and when teachers understand that it helps reveal so many layers to education.

Hence, Hawa found coursework in sociology of education profoundly shaped her thinking as a student; additionally, she found this newly gained understanding of micro- and macro-level factors influencing schools and schooling contributed to her development as an aspiring teacher.

Discussion and Implications

This descriptive qualitative case study was designed to understand the motivations driving decisions to pursue a career in the field of education among people of color. Focusing on participants in the Temple Education Scholars dual enrollment program, this study also sought to explore the impact of participating in such a program on confirming and validating one's interest in pursuing a teaching career. This study builds upon previous research on the utility of dual enrollment opportunities by highlighting the unique impact of dual enrollment on pathways to careers in education. Additionally, the application of anticipatory socialization theory and validation theory provided a lens through which to interpret the forces shaping and supporting pre-college students' interests. Taken together, this study provides insights into what pre-college programs can do to encourage people from diverse experiences and backgrounds to consider a career in teaching, ultimately addressing the teacher recruitment and teacher diversity issues that plague the nation.

There are several pre-college initiatives that aim to strengthen the pipeline to various careers, yet few are structured as dual enrollment programs (Johnson et al., 2022). The findings of this study have implications for practice and implementation of future iterations of dual enrollment programs focused on teaching. First, participants affirmed the positive impact of early experiences in teaching-like roles on their interests in pursuing teaching as a career (Bianco & Marin-Paris, 2019; Christensen et al., 2019). Building on previous research, the pre-college students in this study interacted with younger students and peers in educational settings in ways that mimicked the professional behaviors of educators (Bianco et al., 2011; Coffey et al., 2019). These interactions were both recognized and encouraged by teachers and family members, signaling that pursuing a career in education is a viable option for students of color (Rendon, 1994; Karp & Hughes, 2008). Thus, teaching-focused dual enrollment programs should intentionally incorporate “fieldwork” opportunities for supervised interactions with children, mirroring the practicum experiences that teacher education majors will encounter. When possible, these experiences should occur alongside undergraduate teacher education majors, effectively extending pre-college students' peer networks on the college campus. These practices can simultaneously prepare pre-college students for the academic rigor of postsecondary education and affirm their interests in and commitment to a career in teaching (Johnson et al., 2021; Villegas & Irvine, 2010).

Additionally, the findings of this study reinforce the importance of working with young people early and often to expose them to the diverse array of career opportunities available to them (Christensen et al., 2019; Rutten & Badiali, 2020). Community centers, libraries, and other institutions situated within urban centers should be targeted to cultivate the pipeline of talented young people who can become future educators. High achieving students of color have a myriad of choices when it comes their career trajectory and may need additional encouragement to see teaching as an option that will bring economic stability and professional joy (Fuchs et al., 2022; Rendon, 1994). Formalized interactions with educators in the field (e.g., classroom teachers, department leads, principals) overtime may help to expand students' worldview when it comes to recognizing the possibilities associated with this career path.

The pre-college students in this study reflected on the salience of their identity as persons of color when considering career opportunities. Teachers of color have been underrepresented within the field of education for decades. Consequently, notions of representation, or lack thereof, was shared as motivating factor for becoming a teacher within urban communities like Philadelphia (Bianco & Marin-Paris, 2019; Carver-Thomas, 2018). The participants identified as Asian/Pacific Islander and Black/African American, two racial categories with a significant population in the city yet underrepresented in the teaching profession. Once students of color matriculate into undergraduate teacher education programs, they likely will be underrepresented in these spaces as well. They will need to connect with individuals who will support their success through their coursework, fieldwork, interviews, and first years in the classroom (Carver-Thomas, 2018; Johnson & Winfield, 2022). Upon matriculation to teacher education programs, students will be more likely to persist with support of faculty and staff who intentionally engage in culturally relevant and affirming practices (Gist, 2018; Kieran & Anderson, 2019). To prepare students for the transition to college and a career in education, programs should collaborate with educators of color on campus and within the community who can serve as mentors and role models (Cheruvu et al., 2015; Irvine, 1989; Schmitz et al., 2013). Viewed from a social justice lens, these partnerships may also serve as spaces where students can build lasting connections with other People of Color deeply invested in the “education for liberation” aspect of becoming an educator in one’s community.

Aside from mentorship and academic support, there are still many hurdles for the young people who participate in TES while they journey towards their academic and professional goals to become educators. Support for those who aspire to be teachers often requires financial assistance, for the cost of background clearances, transportation to fieldwork sites, certification tests, certification applications, and the loss of wages from part-time employment that is experienced while teacher candidates engage in full-time student teaching (Garcia et al., 2019). It is incumbent upon those who wish to support young people entering the teaching profession via a pathway program such as TES that they clearly articulate these financial obligations, and look to provide financial assistance to those in need.

Finally, dual enrollment program implementation is expensive and labor-intensive. As such, programs must continue to evaluate the impact of program participation through qualitative and quantitative research. Such studies will help determine whether investment in dual enrollment opportunities for high school students is a meaningful area in which to dedicate resources amongst the array of strategies employed for the recruitment and retention of people of color in teaching. Anticipatory socialization theory and validation theory proved to be effective theoretical perspectives for building an understanding of how pre-college students come to develop perceptions of the teaching profession and working within urban educational settings. Future research could illuminate the short-term and long-term trajectories of program participants and expound upon whether they remain education majors throughout college, apply for and receive teaching certification following graduation, and ultimately enter the teaching profession. Additionally, insight from those who do not continue on the path to becoming an educator is critical in order to acknowledge

and eliminate the structural and systemic barriers across the educational pipeline that may have precipitated or caused their departure.

Declarations

Conflicts of interests On behalf of all the authors, the corresponding author states that there is no conflict of interest associated with this research study

Ethics Approval This research study was approved by the Institutional Review Board, Temple University

Consent to Participate This research study was approved by the Institutional Review Board, Temple University

Consent for Publication Participants in this research study completed a consent form authorizing findings from this research study to be published

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