Summer 2023

African American Women in the Academy: Meaningful Pathways to Productive Careers

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By
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2023

Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Kenya Marshall Harper as fulfilling the scope and quality requirements for meriting the degree of Doctorate of Philosophy in Education.

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Abstract

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African American female professors hold prominent, influential roles inside and outside university settings. In universities, professors are impactful mentors and role models influencing students' academic dispositions and outcomes (Zinn & Walker, 2018; Hine & Thompson, 1998). In communities, they provide meaningful scholarship that influences academic, workplace, and extracurricular equity and advancement opportunities (Njoku & Patton, 2017; Evans, 2016; Cooper, 2006). The current study investigates the *individual aptitude*, *school/instruction*, and *environmental factors* influencing African American females' life-span academic talent development. A mixed-method research approach, including a structured interview protocol and online survey, is used to investigate study participants' early to professional year development. Findings showed that tenure and tenure-track professors result from the various opportunities, supports, and resources aiding their academic talent development. Additionally, findings showed the essential role family members/caregivers, mentors, quality schools, and instruction play in developing their academic talent. Therefore, parents/caregivers, educators, and policymakers should provide equitable early access to conducive learning environments emphasizing academic talent development across individuals' early academic, college, and professional years.

Keywords: mixed-methods study, higher education, African American female faculty, talent development

Acknowledgments

The information reported in this study represents my academic talent experiences. I had the opportunities, resources, and support needed to thrive academically during my early academic, college, and career years. My parents, James and Renee, sacrificed much of their time and finances to ensure I attended reputable private schools emphasizing literacy and college readiness. They were both avid readers who provided various books and regularly took me to the public library. My father also took me on regular college and museum visits and exposed me to different film genres (e.g., musicals, sci-fi, comedy, and westerns).

My mother, a visual artist, read regularly, sketched, and painted frequently. From her, I was inspired to be creative and checked out several skill books (e.g., calligraphy, origami, and drawing) I practiced with during childhood. My mother also exposed me to live theater which inspired my love of the performing arts. My parents were my earliest mentors who, indirectly and directly, communicated the importance of education as a means for learning new skills and a pathway for social, economic, and career advancement. Additionally, my siblings Chad, Tunisia, and Benin are incredibly hardworking, creative, and committed to developing themselves academically and professionally. They serve as sibling role models who achieve personal success through diligence, dedication, and perseverance.

During my college and career years, my peers, colleagues, and professors were also sources of inspiration. They supplied me with numerous opportunities and support to excel academically. My best friends, Ayanna, Nytara, Maria, and Kathy, encouraged me to persevere through my most severe academic and personal challenges by validating my struggles and providing guidance, moral support, and safe spaces to share my hardships. My colleagues offered similar support and spaces. However, my most direct academic support came from my

professors. Starting with my advisor, Dr. Susan Paik, who offered me many opportunities to excel academically and who held me to high academic expectations. Dr. Paik provided me with ongoing feedback and multiple opportunities to revise and resubmit work to meet scholarship expectations. With her guidance and support, I have published, presented at scholarship and practitioner events and conferences, and successfully completed my doctoral program. I am grateful for her time and support with my doctoral journey. Dr. Perkins also provided a wealth of information and inspiration that influenced the selection of my study population and the background and context that framed my literature review. Dr. Maramba's equity and diversity research influenced my perspectives on women in higher education. In short, I had the great fortune of working with a dynamic professor group at CGU.

Last but certainly not least, my two brilliant, talented daughters, Nia and Nyla, are my current ambition to excel academically and professionally. I and their father, Erick, are so proud of their academic, social-emotional, and all other manifestations of their talent development. I aim to inspire them and the students I serve by being a role model, mentor, and overall positive example of *productive giftedness*.

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CHAPTER 1: STATEMENT OF THE PROBLEM

Introduction

Angela Yvonne Davis (1944 -) is a prominent African American woman in the academy. Well-known for her influential role in the American Civil Rights Movement during the mid-1950s to 1960s, her biography exemplifies "productive giftedness." Productive giftedness, defined as expertise, mastery, or excellence, is achievable across a lifespan (e.g., early, middle, and later years) (Paik, 2013, 2015). Davis is an accomplished activist, writer, scholar, and author (Biography.com Editors, 2014; Horsley, n.d.). She was an academically advanced student and an avid reader. As a young adult, Davis published two books while working on court cases and civil rights actions to help liberate underrepresented persons. As an adult, she continues to write and accumulate esteemed awards and national and international recognitions (Biography.com Editors, 2014).

Davis earned her Bachelor of Arts degree in French from Brandeis University in France, Master of Arts degree in Philosophy from the University of California at San Diego, and a doctorate from Humboldt University in Berlin (Horsley, n.d.). Her lectures and publications on prisoners' rights, feminism, class, and race are recognized by prestigious universities across the United States (Biography.com Editors, 2014). To date, Davis has published over eight books, lectured in national and international venues, and participated in numerous interviews and public appearances (Biography.com Editors, 2014). Additionally, she has received honorary doctorates from national and international universities[1] and accumulated multiple awards - one of which is

[1] Angela Davis has received honorary doctorates from The California Institute of Integral Studies in San Francisco (CIIS), Lenin University, and the University of Leipzig in the German Democratic Republic (Horsley, n.d.).

the Lenin Peace Prize. She is the founder of the National Alliance against Racist and Political Oppression (Biography.com Editors, 2014; Horsley, n.d.). Currently, she is Professor Emerita at the University of California at Santa Cruz (Biography.com Editors, 2014).

Davis experienced many challenges along her journey to success. Born in Birmingham, Alabama, at the rise of the civil rights struggles, she witnessed the physical violence that pervaded Birmingham's African American community (Davis, 1988; Nadelson, 1972). For example, as a child, she experienced several racially motivated home bombings in her newly integrated suburban neighborhood - brutality that led to the city's nickname, "Bombingham" Alabama (Davis, 1988; Nadelson, 1972). Moreover, Davis' early schooling was limited to Birmingham's second rate, vastly underfunded, Colored school district. Her elementary school lacked adequate physical education and playground facilities, and students received worn down and insufficient numbers of instructional textbooks and materials (Davis, 1988; Nadelson, 1972). Her parents, Frank and Sallye Davis, were both college-educated and worked for some time as teachers but were poorly paid because of state and federal practices that underfunded Colored schools and teachers (Davis, 1988).

Despite these hardships, Davis had advantages. Although her family experienced financial difficulties, they took vacations during the summer months (Davis, 1988). During her childhood, they visited New York and experienced art museums, zoos, and other landmarks while her mother worked on completing her MA degree at New York University (Nadelson, 1972). Furthermore, Davis had the benefit of being taught to read by her mother at an early age. As a child, she developed an appreciation for visiting the local library, where she spent her time reading numerous books (Davis, 1988). At the age of fifteen, Davis attended high school in New

York and boarded with a wealthy Jewish family in Bedford-Stuyvesant[2] (Davis, 1998; Nadelson, 1972). As a high school and college student, she received full academic scholarships and traveled abroad to enrich her studies (Davis, 1988).

As an MA student, Davis was advised by notable German American philosopher and sociologist Dr. Herbert Marcuse (Davis, 1988). His support and advice helped Davis through the completion of her doctorate. As a well-traveled, high-performing student and activist, she built a network of like-minded, high-achieving peers who supported her through legal and law enforcement challenges (Davis, 1988). While unjustly incarcerated, Davis maintained communication with her family and peers and hand-wrote (and eventually published) her first book, *If They Come in the Morning: Voices of Resistance* (1971), while awaiting trial[3] (Davis, 1988).

Productively gifted individuals, such as Davis, have the power to materialize their potential into productive outcomes (e.g., achievements, accomplishment, eminence) (Paik, Gozali, & Marshall-Harper, 2019). While many intellectually apt persons display potential for optimized achievement, few reach the top tiers of their fields. Davis' life and career illustrate the importance of actualizing potential into noteworthy accomplishments. The term productive giftedness is representative of both "effort" (productive) and "ability" (giftedness); fundamentally, these areas work in tandem to bring forth potential in the form of concrete outcomes (Paik, 2013; Paik et al., 2019). Effort is necessary for advancing ability into

[2] Bedford-Stuyvesant is a neighborhood located in Brooklyn, New York.

[3] In 1970, Davis was arrested and charged with murder, conspiracy, and kidnapping in connection with a courtroom revolt that attempted to free the Soledad Brothers from prison (Davis, 1998). The revolt led to the death and wounding of several persons including a judge and district attorney (Davis, 1988). Her arrest led to the "Free Angela" movement; a movement that sparked several protests and legal aid for her release (Davis, 1988). Ultimately, Davis was released from prison and cleared of all charges; she further appealed her initial charges, arguing that her imprisonment was connected to her political views, and won her appeal (Davis, 1988).

recognizable talent development, each of which is supported by salient internal and external factors (Paik, 2013, 2015; Paik et al., 2019).

Purpose of Study

Therefore, the purpose of this study is to investigate the key factors contributing to the "productive giftedness" of African American female professors in the academy. Specifically, the goals of this study will examine the *individual, instructional,* and *environmental factors* of the Productive Giftedness Model (PGM, described in the following sections) for tenured and tenure-track African American female professors. The PGM offers a comprehensive framework that specifically examines success factors on the talent development of accomplished African American women. Additionally, *contextual factors* will also shed light on the opportunities and barriers experienced by these women.

Significance of the Study

This study is significant for several reasons. First, African American women have shown consistent gains in doctoral degree attainment over the past five years[4] (National Center for Educational Statistics, 2016g). However, very little research has examined the career pathways of this population (McNeely, Cobham & Patton, 2015). In general, there is limited research on successful African American women across diverse academic fields; therefore, more research is needed to understand accomplished African American women across disciplines (Kitano, 1995).

[4] In 2005-06, African American women accounted for 8.9% of doctorate degrees; by 2014-15, African American women increased to 10.3% of all doctorate degrees (National Center for Educational Statistics, 2016g).

Second, in 2015, African American women outnumbered African American men in bachelor's, master's, and doctorate attainment[5] (National Center for Educational Statistics, 2017a, 2017b, 2017c). They are also the third highest group of conferred doctorates across all fields of study (National Center for Educational Statistics, 2017d). Additionally, African American women are the second-largest female group to hold doctorate degrees in legal and educational fields[6] and the third highest in the health profession field (National Center for Educational Statistics, 2016d, 2017f). Although the numbers are impressive, African American women only account for .09% of doctorates among women and .04% among all groups and disciplines (National Center for Educational Statistics 2017b, 2017c).

Third, while African American women outnumber African American males in doctorate attainment, African American males outnumber their female counterparts as full-time professors (National Center for Educational Statistics, 2017e). African American women represent 1.5% (2,817) of professor positions, and African American males hold 2% (4,054) of professor positions (National Center for Educational Statistics, 2017e). This discrepancy between African American male and full-time female employment might be due to traditional gender issues of women prioritizing family and community responsibilities (e.g., domestic expectations) (Evans, 2007). African American women may experience more strenuous demands than their male counterparts in the academy (Griffin, Bennett, & Harris, 2013).

[5] In 2015-2016, the National Center for Educational Statistics (NCES) reports African American males obtained 9% (194,473) while African American females obtained 11.8% (124,600) of bachelor's degrees. African American females hold 15% of master's degrees in comparison to 8% of African American males. Lastly, African American females obtained 10.3% of doctorates versus 6.2% for African American males (National Center for Educational Statistics, 2017a, 2017b, 2017c).

[6] According to the National Center for Educational Statistics (NCES) White females hold 6% (7,204) and African American females hold 2% (2,266) doctorates in education (National Center for Educational Statistics, 2016d, 2016f).

Fourth, although African American women have slightly increased their presence as tenured professors, there is a large tenure gap between African American female professors and their White counterparts. In the United States, White male faculty have a 74% higher likelihood of becoming tenured professors than African American women. Moreover, White women have a 14 times higher probability of becoming tenured professors than African American women (Cooper, 2006). These discrepancies have been attributed, in large part, to the multitude of responsibilities given to African American women faculty, who, because of both race and gender, carry the label of double minorities. They are regularly tasked with recruiting diverse faculty members (e.g., women and ethnic minorities) to build diversity within their departments. They are additionally called upon to advise both female and minority students, and they are often designees on councils representing minority student and female student interests (Cooper, 2006). Overcommitments to student service and committee roles often leave limited time for publishing. Moreover, in terms of publishing, many African American female faculty members often write two kinds of articles to meet community and mainstream commitments (Cooper, 2006). The first kind of publication typically focuses on issues pertinent to women, African Americans, or both. The second publication focuses on mainstream issues perceived as more relevant by faculty in their respective departments (Cooper, 2006). Their commitment to being of service to their communities and the university may be burdensome, impacting tenure acquisition. A clear understanding of how contextual factors, specifically race and gender, affect accomplished African American women may provide further insight into their productive outcomes.

Fifth, accomplished African American women optimize their success outcomes with the ongoing support of family, community members, teachers, mentors, and social networks (Baldi & McBrier, 1997; Hughes et al., 2006; Jin Jez, 2012). The support offered by these groups and

individuals ranges from psychological and moral support to educational and employment access and recognition. Therefore, this study will shed light on the individual, school, and environmental factors that may lead to the meaning pathways of successful African American women in the academy.

Theoretical Framework

The Productive Giftedness Model (PGM) is the theoretical framework used for this study to investigate the success factors of African American women. This framework is fitting because it allows one to understand how key factors contribute to the overall success of this population. The PGM is a comprehensive framework consisting of ten factors that contribute to "productive outcomes" (e.g., achievements, accomplishments, leadership, and eminence) (Paik, 2013, 2015). PGM defines *productive giftedness* as the ability to achieve excellence or mastery in one's talent field (Paik, 2013, 2015). Additionally, the PGM uses an *effort-ability* approach where both effort and ability are necessary for success (Paik, 2013, 2015). Although ability is essential for advanced productivity, effort and persistence can make significant long-term differences. Support, opportunities, resources, and time necessitate mastery of a talent field or discipline (Paik, 2013, 2015; Paik & Walberg, 2007).

The PGM consists of three broader categories: *Individual Aptitude* factors (ability, motivation, development), *School/Instructional* factors (learning climate, quality of instruction, quantity of instruction), and *Environmental factors* (home, mentors, peers, and extracurricular time)[7]

[7] Please note that the definitions of the ten factors were summarized from Paik's earlier work on PGM (Paik, 2013, 2015).

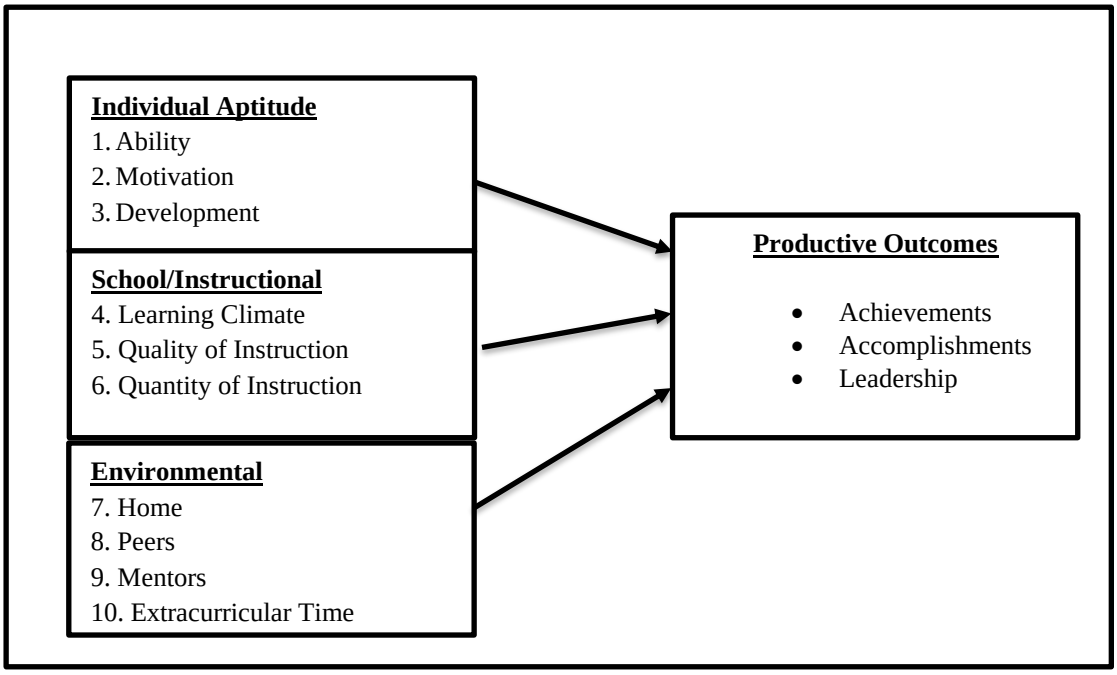

Figure 1: Productive Giftedness Model (Paik, 2013, 2015)

Individual Aptitude Factors

Ability. Ability includes measurable outcomes such as aptitude tests, standardized assessments, grades, awards, recognitions, and other domain-specific achievements (Paik, 2013).

Motivation. Mindsets, resilience, goal-setting, and delayed gratification are typically associated with motivation. Focused motivation is defined as "undeterred, intentional perseverance with an end goal or product in mind" (Paik, 2013, p.106); it may be either intrinsic or extrinsic (Paik, 2015).

Development. Development is defined as "age or life stage or maturation" (Paik, 2015, p. 276) and may occur throughout one's life. However, earlier efforts increase productivity.

School/Instructional Factors

Learning climate. Learning climate is defined as school and classroom experiences that affect student morale. The environment in which one learns may positively or negatively affect learning and outcomes (Paik, 2013).

Quality of instruction. Quality of instruction includes skilled teachers, rigorous curriculum and instruction, structured pedagogy, teaching practices, and cooperative learning. All of these factors reflect quality instruction and add to a conducive environment (in or out of school settings) (Paik, 2013).

Quantity of instruction. Quantity of instruction refers to the amount of time spent learning. Time in-school and out-of-school can significantly impact academic achievement and other productive outcomes (Paik, 2013, 2015).

Environmental Factors

Home. The "curriculum of the home" plays a critical role in an individual's successful outcomes. Family education level, parenting styles, race, socio-economic status, cultural background, and other factors also affect outcomes (Paik, 2015).

Mentors. Mentors play a critical role throughout one's development. The type of support offered by mentors and mentoring programs in the forms of guidance, advice, instruction, and networking can add to one's knowledge and skill base (Paik, 2013).

Peers. Peer influence is most influential during the adolescent and adulthood years. Experiences with peers may positively or negatively affect values and beliefs at various ages or stages of talent development (Paik, 2013).

Extracurricular time. Extracurricular time is broadly defined as how individuals spend their time outside traditional school settings. Extracurricular time may be structured (e.g., faith-based activities, sports, and other conventional programs) or unstructured (e.g., television watching, computer time, and reading). Time spent on extracurricular activities may significantly impact productive outcomes (Paik, 2013, 2015).

Alterable & Contextual Factors

Alterable factors. PGM factors are generally "alterable" and can be optimized to support better learning (Paik, 2013, 2015). Some examples include self-regulation, attitude, adjustments, and reading. Time spent studying and completing homework assignments are also alterable (Paik, 2013, 2015).

Contextual factors. The model also includes "contextual" factors (e.g., historical, cultural, social, demographic factors - race, gender, class, etc.). Contextual factors are less alterable but help to gain insight and perspective on individual experiences.

Both alterable and context factors affect the kinds of opportunities, support, and resources that individuals will experience in the home, school, and other settings (Paik, 2013, 2015; Paik et al., 2019; Paik & Walberg, 2007).

Background and Context

The purpose of this section is to provide relevant background information about the historical context surrounding African Americans' educational foundations in the United States. This section will begin with an overview of the legal challenges and defacto practices put into place barring African Americans from receiving an education historically and presently, followed by discussion of the Antebellum and Post-Antebellum educational challenges. The section will end with a brief history summarizing African American women's historical and contemporary challenges and supports in higher education.

Overview of African Americans and U.S. Education

Education is a social imperative in the African American community and regarded as a means for freedom, community improvement, and social uplift among African American scholars, activists, and educators (Hine & Thompson, 1998; Richardson, 2008; Tackach, 1998). This viewpoint was compromised by mainstream beliefs that fabricated the idea of African Americans as an inferior race of people who lack both reason and imagination (Tate, Ladson-Billings, & Grant, 1993). Historically, this belief validated and secured their subservient status socially and legally (Tackach, 1998). For example, the Supreme Court Dred Scott v. Sandford (1857) decision refused rights to slaves by claiming that "a slave has no rights that a white man need recognize" (Hine & Thompson, 1998, p. 12). This ruling alluded to inferiority beliefs in its assertion that slaves were "justly and lawfully reduced to slavery for [their] own benefit" (Tate, Ladson-Billings, & Grant, 1993, p. 256).

African American community members, as well as other civil rights groups, activists, and allies, pushed for equal educational rights for African Americans. Their efforts led to positive changes evident through the passage of federal legislation such as Brown v. Board of Education (1954) and the Civil Rights Act (1967) (Rai & Critzer, 2000; Tackach, 1998). These landmark victories opened doors for future generations of many historically underrepresented groups to persevere socially, economically, and academically (Crosby & Cordova, 2000; Rai & Critzer, 2000; Tackach, 1998). Alongside the community's push for fair legislation, new arguments emerged regarding the intellectual and social mobility of African American communities (Kozol, 2005; Tackach, 1998). These arguments targeted areas such as the denial of educational opportunities, inadequate schooling facilities, disproportionate school funding, and other such factors as disrupting their chances for achievement and advancement (Kozol, 2005; Tackach,

1998). These assertions continue to challenge arguments of genetic and innate intellectual deficiencies as responsible for the delayed progress of African Americans and other historically marginalized groups (Kozol, 2005; Tackach, 1998).

Antebellum and post-antebellum fight for education. The belief of intellectual and social inferiority runs counter to the efforts made by African American people to acquire and secure educational rights. For example, while aboard slave ships, Africans would teach each other languages, and on plantations, slaves would teach one another navigational paths to free northern states (Hine & Thompson, 1998). In some cases, reading and writing skills were taught late nights in slave quarters and the homes of freedmen and White sympathizers (Hine & Thompson, 1998). One example is that of Prudence Crandall, a White, Quaker woman in Canterbury, Connecticut, who opened one of the first schools for African American girls despite antagonism and threats from White community members (Hine & Thompson, 1998).

The onset of formal schooling during the Reconstruction Era. After the Civil War, the federal government released funding for housing, education, and other essentials for former slaves (Richardson, 2008). African American community members, White philanthropists, and others offered additional community support (Hine & Thompson, 1998; Richardson, 2008). The Freedmen's Bureau (1865 - 1872) established immediately following the Civil War by President Lincoln's cabinet made efforts to aid former slaves by providing funding for housing, health care, employment, and education (Richardson, 2008). One of their major post-Civil War successes was the establishment of free elementary schools for African American children in the south (Richardson, 2008). For example, by 1870, the bureau established more than 4,000 southern elementary schools, where nearly 25% of all African American children attended school (Tackach, 1998).

However, the challenges encountered by newly freed slaves were so significant and immediate that instruction could not occur until their basic needs were met (Richardson, 2008). The American Missionary Association (AMA), founded in 1846, worked diligently to support African American students by supplying aid to schools and community members. Members of the AMA sought public assistance to provide food, clothing, bedding, and bibles for African Americans; they also ran public awareness campaigns about the violence and brutality these communities experienced at the onset of the Reconstruction Era (Richardson, 2008). Furthermore, the AMA supplied teachers to newly established schools. The organization strongly believed that southern White teachers could not be trusted to teach African American children. Therefore, they paid for the transportation of northern White teachers and African American teachers into the south to educate former slaves (Hine & Thompson, 1998). As time progressed, the educational needs of African American children grew beyond elementary education; by 1871, the AMA operated twenty-one normal and secondary schools with approximately 100 teachers and 6,500 students (Richardson, 2008). By 1888, nearly 7,000 African American teachers received teacher training and education through AMA affiliated schools (Richardson, 2008).

Plessy v. Ferguson and the fight for equal education. The Plessy v. Ferguson (1896) (aka Separate but Equal) ruling delivered a severe setback to African American schools just as they were starting to gain momentum. Under this ruling, African Americans were deemed to be "socially inferior" and, therefore, not identified as equals under the U.S. Constitution; under this legislation, the court allowed for separate but equal access to public facilities (Anderson, 2004). In essence, states were able to maintain superiority over African Americans by legally preventing them from the educational opportunities readily available to White Americans. For example, by

1918, White schools in the south had established regulated curriculum and instruction, mandated attendance, and high-quality instructors (Richardson, 2008).

In contrast, African American students were limited to minimal school funding, inadequate facilities, and highly qualified yet poorly paid teachers (Richardson, 2008). The educational gap, enhanced by Plessy v. Ferguson, adversely impacted students' achievement. Meager environmental and schooling conditions contributed to high dropout rates and lower literacy (Tackach, 1998). Additionally, segregated conditions negatively affected the psychological development of African American children (Tackach, 1998). For example, educational psychologists Kenneth Clark, known nationally for the Kenneth Clark Doll Test,[8] identified segregation as resulting in numerous developmental problems among African American youth described as, "basic feelings of inferiority, conflict, confusion, in his [Black child's] self-image, resentment, hostility towards whites" (Tackach, 1998, pg.47).

Beginnings of public school integration and antidiscrimination laws. Following "The Great Depression," the nation was once again at war. President Eisenhower and Congress released funds to the national defense budget and further mandated (through immense pressure from A. Philip Randolph and other community advocates) that African American men be allowed to enlist in all branches of the military and qualify for officer commissions (Rai & Critzer, 2000). The ending of military employment discrimination through executive order opened to the door to what eventually became affirmative action (Rai & Critzer, 2000).

[8] Kenneth Clark presented three and four-year-old African-American children with Black and White dolls and asked the children to identify which doll was smarter and/or more fun to play with as part of his self-image study (Tackach, 1998). Of the children interviewed, ten identified the White doll as the nicer doll, and eleven judged the African American doll as a bad doll. His results suggested that the identification of the African American doll as the "bad doll" resulted from a tradition of racial segregation that labeled African American people as inferior (Tackach, 1998).

However, ending racial discrimination in the military did little to benefit African Americans at home. African American soldiers discharged from the war returned to abysmal conditions created by racial segregation and discrimination after experiencing brief military integration (Rai & Critzer, 2000). Schools and communities continued to experience a lack of funding and access to quality educational resources (Tackach, 1998). For example, African American public high school libraries in North Carolina carried only 16% of public school library books. Furthermore, public schools lacked sufficient numbers of science equipment, textbooks, and other instructional materials (Thuesen, 2013).

Brown v. Board of Education and beginnings of school integration. In 1954, NAACP chief legal counsel members successfully argued and won the Brown v. The Board of Education, Topeka, Kansas case debated in the Supreme Court of the United States (Tackach, 1998). As a result of this landmark victory, school segregation was deemed inherently unequal and a violation of the 14th Constitutional Amendment (Rai & Critzer, 2000; Tackach, 1998). The passage of this law, however, was met with adversity in many southern states. Southern lawmakers immediately passed over 450 laws limiting or preventing all forms of integration (Anderson, 2004).

African American students who entered newly segregated southern schools encountered violence and hostility from anti-integrationists. For example, in 1957, President Eisenhower sent federal troops to protect nine African American students who were among the first to integrate Little Rock High School in Little Rock, Arkansas (Anderson, 2004). The fight for integration and student safety continued into the early 1960s when John F. Kennedy took office and ordered the National Guard to protect African American students entering the University of Alabama (Anderson, 2004). In 1964, Lyndon B. Johnson passed John F. Kennedy's proposed Civil Rights

Act that ended all forms of discrimination based on race, color, national origin, sex, or religion (Chavez, 2000).

When the Civil Rights Act passed, approximately 1% of African American children residing in the south attended integrated schools (Richardson, 2008). Furthermore, fewer than a quarter of African American males had obtained more than a grammar school education; and over 60% did not have the necessary academic skills needed to pass the preliminary armed forces exam (Anderson, 2004). Additionally, mounting racial tensions during the 1960s and 1970s led to massive "white flight" from newly integrated southern and northern schools and communities (Kozol, 2005). White people moved into the suburbs and African Americans remained in urban and rural areas. This migration adversely affected educational opportunities and led to a re-segregation of schools and communities (Kozol, 2005). For example, during the Regan era, cuts to social security and federal assistance programs led to worsening conditions in urban communities adversely affecting urban schools, where most African American and Latino students received their education (Kozol, 2005). By the year 2000, 87% of Chicago public school enrollment was African American and Latino - with similar numbers represented in public schools in Baltimore, Cleveland, Los Angeles, and Washington DC (Kozol, 2005).

A Brief History of African American Women and Higher Education

A female as an intellectual was an uncommonly held 19th century belief; therefore, the general justification for women's education was for reliable service, refinement, and obedience (Evans, 2016). In part, the rationale behind encouraging African American women to receive formal education was for the development of their moral character and to enhance their ability to devoutly serve their communities (Hine & Thompson, 1998). Moreover, after the Civil War, the Freedman's Bureau prioritized educating formerly enslaved persons (Mabokela, 2001; Tackach,

1998). Financial aid was given in support of opening schools and universities to educate newly emancipated African-Americans (Richardson, 2008). Therefore, an emphasis on teacher training was particularly crucial since education was lacking and in high demand (Mabokela, 2001). Furthermore, teacher training was critical in southern states, where nearly 90% of the African American population lived (Mabokela, 2001).

In the early 1900s, most southern African American teachers received their education from Historically Black Colleges and Universities (HBCUs) (Collins, 2001). These institutions emphasized student liberation and empowerment within a nurturing and protective environment (Collins, 2001). For example, Spelman University (established 1881), located in Atlanta, GA, was the first-tier school for African American women (Evans, 2016). Spelman and other HBCUs (e.g., Fisk, Hampton, and Tuskegee) prioritized teacher training, rigorous instruction, and activism.[9] Spelman College also stressed ideal standards of womanhood and social positioning (Zinn & Walker, 2018). The college's commitment to academia produced skilled educators with an insistence on femininity and social status (Evans, 2016; Njoku & Patton, 2017). Spelman students were required to be impeccably dressed at all times, especially when off-campus (Evans, 2016). This requirement upheld the college's standard of, "The Spelman girl [who] walked gracefully, talked properly, went to church every Sunday, poured tea elegantly, and, in general, had all of the attributes of a fine finishing school" (Zinn & Walker, 2018).

In the late 1800s, a few of the wealthiest and most accomplished African American women attended the Seven Sister Colleges (SSC) (Barnard, Bryn Mawr, Mount Holyoke, Radcliffe, Smith, Vassar, and Wellesley). These colleges were well-known for producing the

[9] Notable alumni Ruby Doris Smith (key author of the Atlanta student movement for student rights), Marian Wright (lawyer for Mississippi freedom movement) and Alice Walker (poet and author of *The Color Purple*), each attended Spelman College (Zinn & Walker, 2018).

nation's most accomplished women (Perkins, 2018). For example, women who attended colleges in the south primarily matriculated into teaching and vocational careers, whereas many who graduated from the Seven Sister Colleges returned to their southern communities and served as professionals – recognized as the first African American female doctors, lawyers, and scientists (Perkins, 1997; Perkins, 2018).

Entrance into the SSCs was a challenging task for African American women, and very few gained entry. W.E.B Dubois remarked, "that it was easier for a Black man to gain entrance into a White men's college than for a Black woman to enter a White woman's college" (Perkins, 1997, pg. 719). By the time these women were allowed access to college in the early 1900s, they were approximately 200 years behind White men, 40 years behind African American men, and 25 years behind White women (Evans, 2016).

Those few women who attended the SSCs experienced severe housing, admissions, and financial aid discrimination; furthermore, they were isolated and excluded from social clubs and activities (Evans, 2016). For example, Booker T. Washington's daughter, Portia Washington, dropped out of Wellesley after two years due to racial hardships (Perkins, 1997). Interestingly, in the late 1800s, some African American women were unknowingly admitted because they could physically "pass" for White (Perkins, 1997). In later years, when African American women were allowed to enroll, they were admitted in "token" numbers. For example, in 1910, only four African American female students graduated from Smith and Radcliffe College and three from Wellesley (Evans, 2016).

Context matters. Social, economic, and other discriminatory barriers such as those previously mentioned contributed to what is known as the "glass ceiling," impeding progress for African American women and other women of color (Harris et al., 2011). The phrase "glass ceiling" refers to the delicate barriers that too often prevent the economic and career advancement of women of color in the academy (Harris et al., 2011). Research suggests that deficit perspectives have resulted in limited opportunities for research and leadership in the academy. In some cases, negative institutional spaces have also resulted in high turnover rates among African American women who elected to pursue faculty positions in the academy (Harris et al., 2011).

Historically, numerous African American women writers have contributed to scholarship centered on their and other marginalized groups' experiences (Collins, 2022); however, far too many were unrecognized as intellectuals or scholars (hooks, 2015). Patrice Hills Collins (2022), therefore, produced Black Feminist Thought (BFT) as an approach that considers sources not traditionally classified as traditional academic scholarship (e.g., essays, plays, films, and other forms of literature) as essential and impactful towards illustrating African American women's and other groups' experiences and resistance to oppression (Collins, 2022). Moreover, BFT highlights the historical and contemporary challenges of Black women and other oppressed groups (Collins, 2022). Many challenges have hindered their opportunities for recognition and advancement in most fields including education and the soft sciences (Collins, 2022). Research has also shown, for instance, most studies, even those impacted by Black feminist scholarship, typically overlook systemic barriers by presenting Black women "as constrained but empowered figures even in extremely difficult labor markets" (Collins, 2022, p. 62). This perspective has been criticized by hooks' (2015) argument that "be[ing] strong in the face of oppression is not

the same as overcoming oppression, that endurance is not to be confused with transformation" (hooks, 2015, p 6.).

Therefore, this study examines the “transformation” or meaning pathways of successful African American women scholars; their unique experiences, challenges, and opportunities will be studied through a comprehensive lens. As indicated by the Productive Giftedness Model, contextual factors matter in better understanding the academic and career experiences of African American female scholars. Individual, instructional, and environmental factors will also help unfold the story of accomplished African American women in the academy.

Research Questions

The overall research question directing this study is: How do individual aptitude, instructional and environmental factors, in the early to later years, influence the success of African American female faculty (tenured and tenure-track) in the research academy?

Specifically, the research questions are:

1) How do *individual factors* (ability, motivation, and development) influence their academic success?
2) How do *instructional factors* (learning climate, quality, and quantity of instruction) influence their academic success?
3) How do *environmental factors* (home, mentors, peers, and extracurricular time) influence their academic success?
4) How do *contextual factors* (e.g., socioeconomic, historical, or other factors) play a role in shaping their academic success

CHAPTER 2: LITERATURE REVIEW

As guided by the Productive Giftedness Model (PGM), the literature review addresses key internal and external factors that contribute to their success. Specifically, research findings highlight individual, school, and environmental factors and their influences on the talent development of accomplished African American women. Due to the limited literature on the topic of high-achieving African Americans, research on other groups and findings on academic achievement, in general, will be included to examine various factors in the model.

Key Concepts and Definitions in Academic Talent Development

In his groundbreaking study on talent development, Benjamin Bloom found that it was *exceptional conditions*, not *exceptional people* that made a difference in talent development. This finding is echoed in research studies that suggest nearly all could achieve at high levels when supported and trained under optimal learning conditions (Bloom, 1985; Matthews & Foster, 2007). This literature review, therefore, highlights key findings that illustrate the roles of ability and effort, supportive instructors, parents/caregivers, disciplined use of time, and conducive learning conditions and their impacts on academic talent development. Most importantly, the previously mentioned areas are "alterable" meaning they may be adjusted in ways that support academic talent development. Regarding these factors, context was also taken into consideration. Contextual factors, for the most part, cannot be changed but provide more insight and understanding of the unique challenges and opportunities affecting the academic talent development of African American women.

Talent development as discussed by Bloom (1984) is defined as, “an unusually high level of demonstrated ability, achievement, or skill in some special field or study or interest” (Bloom, 1984, pg.5). Additionally, optimized learning conditions are described by Csikszentmihalyi (1993) as a state of flow where, “the depth of involvement is something we find enjoyable and intrinsically rewarding” (Csikszentmihalyi et at., 1993, pg. 14). Therefore, in the absence of a formal definition, *academic talent development* is noted as individual and environmental conditions that support the skill development and content knowledge needed to achieve at advanced professional levels in academia (e.g., tenure, tenure-track status).

Individual Aptitude Factors

While many individuals display high intellectual aptitude early in their lives, few individuals persevere to the top levels of success in a particular talent field or discipline, as in the case of accomplished African American female faculty (Paik, 2013, 2015). To have achieved tenure, successful African American women need high intellectual aptitude, as evidenced through numerous publications, conference presentations, and leadership acquisition (Harris et al., 2011; Wallace et al., 2012). Moreover, many of these high achievers share common motivational characteristics and experiences. For example, concentrated effort and persistence are common traits amongst accomplished persons (Paik, 2012).

The following sections will discuss *ability*, *motivation*, and *development* and their relationship to the productive outcomes of African Americans.

Ability

Academic ability is often associated with educational outcomes and identified through aptitude measures (e.g., grades and assessment scores). Conventional measures of intellectual

ability used in schools are standardized tests and intelligent quotient (IQ) tests (Subotnik et al., 2011). Controversies surrounding ability testing have led to the creation of diverse forms of aptitude tests and the consideration of external factors that influence intellectual aptitude (Clarke, 1941; Thompson, 1928). For example, research suggests that aptitude tests as a single measure of one's intellectual ability may not account for the social, economic, and cultural benefits afforded to middle-class and affluent children (Castellano & Diaz, 2002; Ford, Grantham, & Whiting, 2008). Furthermore, ability tests might not consider the challenges experienced by ethnic minorities and disadvantaged groups (Castellano & Diaz, 2002; Ford et al., 2008).

Research suggests that external factors (outside experiences) are more powerful than innate ability alone (Hong & Milgram, 2011; Matthews & Foster, 2005; Paik, 2013, 2015). For example, Matthews and Foster (2005) present a "mystery versus mastery" approach that dispels the myth of innate intelligence (Matthews & Foster, 2005). From a mastery perspective, intelligence is the result of nurturing one's ability through social and environmental experiences. This approach recognizes ability as dynamic, ongoing, and changing over time (Matthews & Foster, 2005). Furthermore, the mastery perspective considers diverse groups by taking race, gender, SES, culture, and other factors into account (Matthews & Foster, 2005; Paik 2013; Paik et al., 2019). This perspective has led to the identification of more underrepresented group members as gifted[10] (Matthews & Foster, 2005).

[10] It is important to note that the ongoing criticisms of aptitude testing and the negative social, economic, psychological effects on underrepresented and marginalized groups led to the consideration of multiple methods of assessing intelligence (Castellano & Diaz, 2002; Ford et al., 2008). The realization of the adverse effects of aptitude assessments led to paradigm shifts in education. One key example is that of Lewis Terman who, in his later years, revised his staunch opinions on the hereditary nature of intelligence and resigned from the American Eugenics Society based on the revelation of new evidence and statistical findings in response to aptitude testing (Minton, 1988).

Historical context on testing. Research on the intellectual ability of African Americans has consistently painted a deficit picture of their academic achievement (Castellano & Diaz, 2002; Ford & Whiting, 2010). Historically, IQ tests have validated and upheld discriminatory and unequal practices in educational systems that have adversely affected opportunities for success. For example, Sir Francis Galton (1892), one of the earliest and most seminal researchers of eugenics studied genetics as the marker of male intelligence (Galton, 1892; Heller et al., 2001; Simonton, 1999). His research identified African American males as mentally deficient and proposed that "Negro men failed to produce any men of genius in history" (Fluehr-Lobban, 2013, p. 191). His research influenced later studies of innate intelligence and aptitude tests, specifically those developed and administered by Alfred Binet (1905), Henry Goddard (1911), and Lewis Terman (1916), each of whom used intelligence tests to identify society's intellectual top tier and mentally deficient. Their findings resulted in the sorting of high-achieving and low-performing individuals based on their aptitude scores. For example, Goddard's newly developed Binet-Simon Intelligence test results justified segregated schooling for African American and White children in Philadelphia Public Schools (Minton, 1988). The results favored in-school curriculum tracking that placed African American students on industrial education tracks based on "distinct differences between White and Negro children studied…" (Franklin, 2007, p. 217).

Criticisms on early testing. Heavy criticisms of aptitude testing, and its misrepresentation of African Americans began to gain traction in the 1920s, resulting in an extensive review of aptitude data (Franklin, 2007). Many well-known researchers in the field of education challenged the validity and reliability of these assessments. These individuals claimed that aptitude differences among African American and White students resulted from external differences (e.g., educational training, social conditions, environmental concerns, cultural bias) as opposed to innate ability (Bond, 1924; Ford et al., 2008; Thompson, 1928).

A key example was a comparative analysis conducted by Thompson (1928) of White and African American children that revealed demographic distinctions among aptitude scores (Thompson, 1928). His research findings showed that African American students within the general neighborhood of White students to whom they were compared scored significantly lower than their White peers. However, White students who lived in a different "inferior" location scored far lower than the African American students (Thompson, 1928). Following his analysis, Thompson concluded the mental inferiority of African American people was unfounded. Furthermore, Bousfield (1932) administered mental ability tests to 220 fifth grade through eighth-grade African American students in Chicago schools assessing their reading and mathematical skills (Bousfield, 1932). Her findings revealed a high correlation between low test scores and constrained home and social-economic conditions (Bousfield, 1932). She further tested these students using a non-linguistic measure of ability (composed of pictures, drawings, other wordless gauges) and found that most students scored in the normal range (Bousfield, 1932). Her findings suggested that non-linguistic tests of skill (exclusive of manners, customs, and background) might prove to be a more valid measure of ability (Franklin, 2007).

In 1968, a moratorium on the testing of African American children was called because of decades of misuse and incorrect assumptions based on aptitude tests (Franklin, 2007). Researchers, psychologists, and others argued that the adverse effects of aptitude testing culminated in the denial of social and economic opportunities for African Americans (Franklin, 2007). Furthermore, after an eight-year investigation of Educational Testing Service (ETS) data, Nader (1976) asserted that "the negative results on standardized tests were destroying the self-confidence of millions of students" (Franklin, 2007, p. 224-225). These challenges, along with others, led to the demand for more useful aptitude measurements for African American students[11] (Clarke, 1941).

Motivation

Research suggests that intelligence is a common trait amongst professionals; however, willpower and persistence are vital characteristics among individuals most accomplished in their fields (Paik, 2012; 2013). For instance, one's willingness to carry on with pursuits despite setbacks and disadvantage may result in higher achievements (Alan, Boneva, & Ertac, 2019). Furthermore, motivation is "determined by the perceived likelihood of attaining a goal and the value (affect) associated with that goal attainment" (Graham, 1994, p. 57). Research suggests that intrinsic factors such as personal growth and fulfillment, as well as extrinsic factors such as

[11] During the height of the civil rights movement came a push for African American professionals to create appropriate instruments for assessing African American children (Gordon & Rubain, 1980). In 1970 African American psychologists Williams and Dove (1970) created the Black Intelligence Test of Cultural Homogeneity (BITCH) to counterbalance culture-specific assessments with conventional aptitude assessments (Franklin, 2007). This test was meant to test the cultural and lived experiences of African American adolescents and adults (Franklin, 2007). The test itself was not meant to be used generally; however, the results proved positive for African American children and served as validation of their language, culture, and environmental experiences (Franklin, 2007).

social and economic growth, both impact motivation and self-determination (Cokley, 2003; Deci et al., 1991).

Academic self-concept of African Americans. Academic self-concept involves how individuals view their academic ability in comparison to others (Cokley, 2003). It consists of one's attitudes and perceptions about academic success (Cokley, 2003; Lent et al., 1997). Research suggests that African American students are more likely to connect their academic self-concept to academic preparedness as opposed to effort (Cokley et al., 2003; Graham, 1994). For example, a psychometric study on academic self-concept identified distinct differences between African American and White college students when comparing their educational outcomes with their ability perceptions (Cokley et al., 2003; Graham, 1994). Results showed that White students largely attributed their academic performance outcomes to internal factors - their academic performance was connected to the amount of effort they exerted toward academic tasks (Cokley, 2003). Conversely, African American students did not solely connect their academic effort to their educational outcomes (Cokley, 2003). Instead, they attributed a lack of academic preparedness to their achievement scores (Cokley, 2003).

Moreover, a second study that measured the effects of internal and external attributions[12] performance outcomes yielded similar findings (Van Laar, 2000). The results showed that upper-class African American students were more likely to connect external attributions to their future economic outcomes than White students. Nevertheless, African American students maintained high self-esteem[13] despite the prospect of earning less income (Van Laar, 2000). Overall, the research suggests that African American students may protect their self-concept by

[12] The theoretical framework utilized for this study was Attribution Theory. This theory is grounded in the belief that individuals want to understand the root causes of their life events (Schunk et al, 2007).

[13] Self-esteem is a larger characteristic of self-concept and is often associated with academic performance (Graham, 1994).

identifying how external factors, such as academic preparedness, impact their future academic and economic outcomes (Cokley, 2000; Graham, 1994; Van Laar, 2000).

Self-determination of African Americans: Intrinsic and extrinsic motivation. Self-determination involves making effective, autonomous decisions about one's behavior (Ryan & Deci, 2000). Self-determined individuals are typically internally motivated by the prospect of personal growth and fulfillment (Cokley, 2003). However, these individuals may also be extrinsically motivated by social and economic opportunities. Nevertheless, both types of motivation may impact students' school performance and educational attainment outcomes (Cokley, 2003; Deci et al., 1991).

Intrinsic motivation generally carries a positive relationship to academic performance (Cokley, 2003). This finding, however, is generalized to mainstream student populations. More research is needed to understand the relationship between intrinsic and extrinsic motivation and the academic success of African American students (Deci et al., 1991; Vallerand et al., 1993). Attribution theory findings have led some researchers to speculate that extrinsic motivation may have a more substantial influence on the academic success outcomes of African American students than intrinsic motivation. The more significant weight of extrinsic motivation may be due to an increased need to do well in school for social and economic advancement (Deci et al., 1991; Vallerand et al., 1993). For example, research has shown that opportunities for advocacy and social justice contribute to the academic motivation of high-achieving African American females (Evans-Winters, 2018; Hine, Brown, & Terborg-Penn, 1993). Shared amongst this population is the drive to use their career and educational success for themselves, their families, and communities (Evans-Winters, 2018; Hine et al., 1993). Their persistent efforts towards

educational advancement and career success are more extrinsic since immediate achievement goals are in line with social and educational mobility (Evans-Winters 2018).

Development

Early years. Students' potential for high achievement typically transpires at an early age[14] (Winner, 1996). The impacts of rapid early progress on later life success are examined through Merton's (1968) research on accumulative advantage. His findings suggest that early opportunities lead to greater rewards and productivity for talented individuals (Merton, 1968; Paik, 2013; Walberg & Tsai, 1983). During school-aged years, accumulated advantages manifest themselves through high grades, test scores, and favorable assessments from teachers (Barnett, 2008, 1998; National Research Council and Institute of Medicine, 2000; Stipek et al., 2007).

Research on African American students at the primary school level found that the formation of academic and disciplinary identities influenced their future career paths (Kane, 2012). The connection between identity construction and academic achievement further illustrates this point (Davis, 2003; Kane, 2012). Findings revealed that the choices African American males made about their academic and disciplinary identities at the kindergarten through third-grade levels impacted their future educational and career trajectories (Davis, 2003). For African American children, the formation of an early academic identity may be beneficial towards building their self-concept against broad societal views that have, in large part, labeled them as underachieving (Bounds, 2017).

[14] Research reported by Winner (1996) identified that verbal giftedness and strong reading skills are typically identified at age three, math giftedness at age two, and artistic giftedness emerges around age two or three (Winner, 1996).

Middle and later years. Both childhood and adolescent years mark rapid emotional, biological, and cognitive changes (Mahatmya et al., 2012). Counter to early year blossoming, the start of the adolescent years generally marks a decline in students' academic motivation and self-perception (Jacobs, Vernon, & Eccles, 2005). Research has shown that these areas may be restored or maintained through positive educational experiences during their primary years (Campbell & Ramey, 1995). Positive early childhood experiences may neutralize later stress associated with adolescent changes (Saudino, Gagne, & Becker, 2003). Additionally, children who experience high-quality curriculum and instruction, peer and adult support during their early academic years may demonstrate increased school progress throughout adolescence and adulthood (Campbell & Ramey, 1995; Edwards, Beverly, & Alexander-Snow, 2011; Grant & Ghee, 2015; Taylor. R., Jacobson, & Roberts, 2000).

Parental involvement plays a vital role in adolescents' academic and socio-emotional growth (Fredricks & Eccles, 2004). Adolescents rely heavily on parental judgment when making important educational decisions. Moreover, research connecting parenting practices and education have shown that adolescents perform at a high level when parents are directly involved in their learning (Taylor et al., 2000). Additionally, neighborhoods impact adolescents' self-efficacy. Research suggests that adolescents who resided in communities inhabited by professionals and that, furthermore, provided access to extracurricular and academic resources were less likely to drop out of school (Taylor et al., 2000).

In summary, the accumulation of academic skills and support offered during the early and middle years culminate in adulthood advantages (Merton, 1968). In academic fields, opportunities such as publishing, grant writing, and access to prominent faculty in one's area may lead to promotion and tenure (Paik, 2013). For example, African American female

professors who actively work with academic networks and mentors experienced more significant successes within the academy (Edwards, Beverly, & Alexander-Snow, 2011; Grant & Ghee, 2015; Jones et al., 2015).

School/Instructional Factors

Rigorous instruction, competent instructors, and advanced academic programs actively contribute to productive outcomes (Cochran-Smith & Villegas, 2016; Coleman, 1988; Paik, 2013, 2015). Conducive learning environments provide students experiences that may contribute significantly to their social and academic success (Paik, 2013; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008; Wang & Holcombe, 2010). Furthermore, the amount of time spent learning affects productive outcomes (Paik, 2015; Subotnik & Jarvin, 2005). In summary, structured use of time, teacher-student relationships, academic support, and teacher expectations help build academic confidence (Cochran-Smith & Villegas, 2016; Coleman, 1988).

The following sections will discuss *learning climate*, *quality of instruction*, and *quantity of instruction* and their relationship to academic achievement.

Learning Climate

School and classroom environments. The initial aim of public education, as stressed by John Dewey (1916), was not only to ensure students' academic learning but also to equip students with the skills and knowledge needed for productive citizenship (Dewey, 2009). Learning environments that emphasize collaboration and relationships between students and staff may influence the social skills needed for academic success (Hale, 2006). Furthermore, collaboration amongst students and instructors, at all grade levels, helps create an atmosphere of community and responsible citizenship (Hamre & Pianta, 2005; Ladson-Billings, 2000).

Social connectedness and a sense of school belonging during the primary and secondary years may influence students' academic success (Bond et al., 2007; Osterman, 2000). For example, research on low-income elementary and middle school students in Chicago public schools found that strong school leadership, community ties, and student-centered instructional practices led to substantial gains in reading and math scores (Sebring & Bryk, 2000). Additionally, at-risk first-grade students who were taught by emotionally supportive teachers with strong instructional expertise also showed increased academic scores (Hamre & Pianta, 2005).

Optimal classroom experiences. At the early and middle learning stages, most high performing students will develop their talents in school or within specialized courses (Csikszentmihalyi, Rathunde, & Walen, 1993; Paik, 2013; Paik et al, 2019). In classroom settings, teachers are vital towards facilitating optimal experiences (Csikszentmihalyi et al., 1993). Teachers who demonstrated enthusiasm for their subject matter and additionally offered classroom environments that functioned more as extracurricular spaces than traditional classrooms positively impacted student learning at the secondary level (Csikszentmihalyi et al., 1993). For example, teachers whose learning environments emphasized instruction, feedback, and support over obligatory classwork assignments and external pressures (e.g., needless rules, grades, and peer competition) prompted feelings of satisfaction and success among their students (Csikszentmihalyi et al., 1993).

School climate and African American students. Racialized challenges have impacted the relationship between public education and African American communities. Some of the difficulties experienced with public education are disproportionate special education class placement, increased suspensions, and lack of representation in Gifted and Talented Education

(GATE), and Advanced Placement (AP) courses (Griffin, Cooper, Metzger, Golden, & White, 2017). Research suggests that the perceptions African American students hold about racial fairness has an indirect relationship to their future educational aspirations and achievements (Griffin et at, 2017). For example, Griffin et al. (2017) conducted a study of African American middle and high school students' achievement outcomes. Their study compared student achievement to mediating school climate factors (cognitive, emotional, and behavioral engagement[15]). Research showed that students who were emotionally connected to their learning environments (e.g., feelings of safety, positive teacher-student relations, and a sense of belonging) received higher grades (Griffin et al., 2017). Furthermore, students who were cognitively engaged and remained focused on academic tasks earned higher GPAs (Griffin et al., 2017). Their findings suggest that schooling environments that promote a climate of racial fairness (e.g., few to no perceived experiences of racial discrimination) may positively influence student morale through positive student engagement (Griffin et al., 2017). Moreover, research suggests that knowledgeable instructors who understand the hardships faced by African American students, specifically at the university level, may be capable of providing the psychological, social, and moral assistance needed to encourage academic productivity and heighten morale (Ladson-Billings, 2000).

Quality of Instruction

[15] Emotional engagement involves student connections to their schooling environments via student-teacher relationships, safety, belonging, and school pride (Griffin et al., 2017). Furthermore, cognitive engagement is indicated through students' ability to self-regulate and strategically approach difficult tasks (Griffin et al., 2017). Lastly, behavioral engagement involves student conduct and willingness to participate in academic tasks (Griffin et al., 2017).

Quality schools and universities. Many successful African Americans have attended reputable schools and universities (Hale, 2006). Noted among these institutions are Catholic schools ("The Status of African Americans at the Nation's Most Prestigious Boarding Schools," 1996). Catholic schools, along with other private U.S. schools, maintain a standard of educating students beyond public school requirements (Bauch, 2013). Research showed that students who attended private and Catholic schools outperformed their public school peers on nearly all post-secondary achievement measures (Bempechat, Boulay, Piergross, & Wenk, 2008).

African American students make up approximately 9% of private school enrollment and 8% of Catholic secondary school enrollment (Broughman, Kincel, & Peterson, 2019, table 9; McDonald & Schultz, 2019). Additionally, private schools typically have high four-year college acceptance rates. For example, college admission data indicates that 62% of all graduates of private secondary schools attended 4-year universities, and 85% of Catholic school seniors attended 4-year universities following high school graduation (Broughman, et al., 2019, table 13). Admission findings suggest that private school graduates enter college equipped with the academic skills and knowledge necessary for the competitive 4-year college atmosphere[16] (Bauch, 2013; Green, 2009; Polite, 1992; "The Status of African Americans at the Nation's Most Prestigious Boarding Schools," 1996).

Along with the fundamental skills emphasis, Catholic and other specialized schools typically offer college preparatory and specialized courses (e.g., Science Technology, Engineering, Mathematics (STEM), Visual and Performing Arts (VAPA), GATE (Gifted and

[16] Most Catholic schools follow a traditional secondary educational program that places an emphasis on college preparatory course completion. Similarly, private academies also provide a structured college preparatory curriculum (Green, 2009). Along with academic assistance, these institutions provide students with early exposure to skills and activities beyond academia (e.g., leadership and community building activities involving collaboration with diverse student populations) and instill a necessary work ethic (Hale, 2006).

Talented Education (GATE), etc.) (Polite, 1992). At the prerequisite level, admission requirements of highly selective universities often include enrollment and successful completion of required courses and specialized courses (Nurnberg, Schapiro, & Zimmerman, 2012). The emphasis on advanced and basic course completion is especially important since many Catholic schools enroll students of color from low-income inner cities. For many of these students, parents may be unable to ensure their children are on a college track due to income or educational constraints[17] (Bempechat et al., 2008).

Colleges and university experiences. Research shows that high-achieving African American students were challenged with social and cultural barriers at Predominately White Institutions (PWIs) (Apugo, 2019; Holmes, Ebbers, Robinson, & Mugenda, 2001). Adverse experiences at PWIs typically resulted in low retention rates among African American students (Apugo, 2019; Holmes et al., 2001). As an alternative to PWIs, some African American students opt to attend Historically Black Colleges and Universities (HBCUs). HBCUs make up approximately 3% of higher education institutions in the United States and enroll 14% of African American college students - many of whom are socially economically disadvantaged (Abelman & Dalessandro, 2009).

Data revealed that approximately 28% of African American students who attended HBCUs received an advanced degree (Abelman & Dalessandro, 2009). These institutions have a reputation for providing academic rigor within a culturally responsive and inclusive

[17] Students who are economically and socially disadvantaged have been found to perform at high levels within Catholic school settings. This is a significant finding since Catholic schools have been criticized with "Catholic School Advantage" or the ability to select students who are academically or materially well off to attend their schools (Bempechat et al, 2008). However, research has shown that disadvantaged students may have been further disadvantaged by the social promotion and de facto segregation concerns surrounding urban public schools (Bempechat et al., 2008).

atmosphere (A. Killough, E. Killough, Burnett, & Bailey, 2018). For example, one of the primary functions of HBCUs is to support the social and educational advancement of African American students as well as prepare them for future careers (Hale, 2006; Killough et al., 2018). As a result, many HBCU graduates are encouraged to pursue and advance to the highest levels of their chosen career fields[18] post-graduation (Killough et al., 2018).

Effective teachers and mastery learning practices. Teacher effectiveness is a crucial part of students' academic success. Research shows that students who are coached by caring and supportive instructors advance academically (Hale, 2006). In particular, childhood teachers who demonstrated kindness and a genuine desire to support their students academically were most remembered by students later in life (Csikszentmihalyi et al., 1993). Furthermore, positive teacher-student relationships are essential because they encourage the type of rapport that may encourage students to push themselves academically. For example, research suggests that teachers who care about their students' academic and social well-being are also able to demand more and receive higher returns on their students' academic performance (Bloom, 1985). Additionally, committed teachers who carry out disciplined instructional practices are essential towards developing exceptional students (Subotnik & Jarvin, 2005). Key characteristics of effective teachers include high levels of academic support, high academic expectations, skill instruction, monitoring (typically through assessments), and provision of orderly and safe classroom environments (Hattie, 2009; Marzano, 2003; Polite, 1992; Reynolds et al., 2014).

Characteristics of effective teachers are materialized through their teaching practices (Bloom, 1984). In particular, mastery learning is a practical teaching method that suggests that

[18] Research findings indicate that 80% of all African American military officials, 80% of federal judges, 65% of physicians, 60% of attorneys, and 50% of teachers and engineers are graduates of HBCUs (Killough et al., 2018).

nearly all students have the potential to reach high achievement levels (Bloom, 1968). Its focus is on instructor feedback, corrective procedures, and formative assessments (Bloom, 1984). Bloom's (1984) research found that students instructed with mastery teaching practices[19] scored significantly higher than students in traditional classrooms. In summary, promising instructional conditions can build content and skill mastery for many students (Bloom, 1968, 1984; Guskey, 2010).

Quantity of Instruction

Developing expertise. Time use, paired with appropriate learning conditions, further supports the notion that nearly all students can achieve academically (Bloom, 1984; Paik, 2013, 2015; Walberg & Paik, 2004). Skill mastery is especially crucial for individuals who intend to pursue academic careers. Advancement in academic fields, however, requires expertise, defined as "characteristics, skills, and knowledge that distinguish experts from novices and less experienced people" (Ericsson, 2018, pgs.3-4).

Anders Ericsson's (2007) research into talent development makes the connection between superior performance and expertise through deliberate practice (Ericsson, Roring, & Nandagopal, 2007). Deliberate practice involves continuous work in a specific area of weakness until it is mastered (Ericsson et al., 2007; Nandagopal & Ericsson, 2012). Research suggests that ten years or 10,000 hours of deliberate practice leads to expert performance in talent fields (Ericsson et al., 2007). For example, research conducted with expert writers found that the ten-year rule of skill acquisition applied to, and in some cases underestimated, the time

[19] Mastery learning instruction emphasizes teacher feedback, corrective instruction, and the use of formative assessment (Guskey, 2010). Students taught in conventional classrooms that included mastery learning practices outperformed 84% of students in conventional classes (Bloom, 1984).

needed to reach professional achievement levels (Kellogg, 2018). The process of writing expertise is mostly developmental and also genre-specific (Kellogg, 2018). Expert poets and fiction writers' works were typically published anywhere from 10 to 10.6 years after they began reading and writing poetry (Kellogg, 2018). Additionally, they ranged anywhere from 15 - 20 years of cognitive and mechanical skill development before publishing, and most writers of these genres were found to publish in the later in life (in their late 20s and beyond) (Kellogg, 2018).

Environmental Factors

Home Environment

The curriculum of the home. Redding (1998) defines the "curriculum of the home" as "specific patterns of family life that correspond with a child's success in academic learning" (pg.7). Engaging in everyday conversation, recreational reading, and discussions, communal or limited television watching, and family outings (e.g., museum, library, etc.) are behaviors that encourage children's academic and personal well-being (Redding, 1998). Continuous support and repetition of these and similar family behaviors encourage young people to favor self-discipline, effort, and long-term goal-setting (Bloom, 1985: Paik, 2013; Paik et al, 2019).

Additionally, the behaviors and routines adopted in the home are, for the most part, alterable. For example, the time children spend reading can be modified in ways that support achievement (Paik, 2008). Reading is a strong predictor of academic success, and early educational support at home greatly influences academic performance (Dahlgren, 2008). For example, first-grade oral vocabulary skills are a strong predictor of reading comprehension and reading skill development (Dahlgren, 2008). Research shows that "linguistically rich" students

enter preschool with knowledge of at least 20,000 words. By consistently reading with and encouraging children to read at home, families may increase children's vocabulary development exponentially[20] (Vágvölgyi et al., 2016).

Parenting and attachment styles. Parenting style is defined as "the emotional climate in which parents raise their children" (Spera, 2005, p.127). It is one of the strongest predictors of children's academic success; parenting style outweighs factors such as parental education level, ethnicity, and family structure as a predictor of academic achievement (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Redding, 1998). Research suggests that authoritative parenting (defined loosely as firm yet responsive) may have the most substantial connection to positive youth development (Keller, 2003; Maccoby & Martin, 1983). Researchers suggest that authoritative parenting encourages a conducive home environment for socializing children (Hill et al., 2004; Jeynes, 2007; Spera, 2005). For example, an authoritative parenting style is connected to high achievement and attainment expectations, qualities indicative of leadership and social advantages for youth (Hill et al., 2004; Jeynes, 2007; Spera, 2005).

Along with parenting styles, secure attachment relationships support leadership outcomes (Keller, 2003; Towler, 2005). Research suggests that youth who carry secure familial attachments have higher self-esteem are more self-reliant and socially competent (Towler, 2005). Additionally, children who have stable familial relationships are likely to demonstrate charismatic leadership[21] behaviors as adults (Towler, 2005).

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[20] In first and second grade children should learn approximately 2 - 3 words per day to reach a goal of 800 words per year; and, by 3rd-grade children should learn roughly 6-8 words per day to reach a goal of learning 2,000 to 3,000 words per year (Dahlgren, 2008).

[21] Charismatic leaders, “articulate goals that serve collective interests and appeal to a better future for their followers, govern in an egalitarian manner, and recognize followers' needs in order to help them develop in their own right” (Towler, 2005, p.15).

African American family support. Historically, the African American community has demonstrated a firm commitment to education (Freeman, 2005). Furthermore, research findings have shown that immediate and extended family support may positively impact the personal and academic achievement outcomes of African American students (Clayton, 2017; Dougherty, 2014; Freeman, 2005). Specifically, parental and kinship[22] support have resulted in higher GPAs and academic self-concepts despite socio-economic status (Clayton, 2017; Dougherty, 2014).

The direct and indirect ways that African American parents and kinship networks[23] valued schooling plays a pivotal role in shaping students' higher education pursuits and college choices (Levine & Nidiffer, 1996). Research indicates that parental guidance and encouragement may directly influence students' decisions about attending college regardless of parental education level or social-economic status (Freeman, 2005). Additionally, Levine and Nidiffer (1996) found that African American female caregivers who shared information about the challenges and hindrances that adversely affected their schooling opportunities influenced college choice decisions among children in their care. Additionally, prevalent amongst youth who attended college was the shared understanding of college as an extension of high school (Freeman, 2005).

Conversely, some African American youth were found to be self-motivated to attend college and were determined to do so because of a lack of family support or negative

[22] Kinship networks which typically consist of extended family members (e.g., aunts, uncles, grandparents, etc.) and also close family friends (e.g., church members, social club members, and other networks, and/or affiliations) (Grey & Williams-Farrier, 2017; St. Jean & Feagin, 1998).

[23] The collective familial and kinship efforts of the African American community toward youth's success are recognizable through efforts such as church offerings collected for educational and college financial support (Freeman, 2005). Additionally, grandparents and other close relatives and friends of the family show support of youth education through on-going lectures addressing the importance of attending and completing school (Freeman, 2005).

community or family influences (Freeman, 2005). For example, common among these youth was the shared experience of observing family members who were unmotivated to work or who struggled with unemployment; observations of their experiences strengthened their desire to attend college with hopes of avoiding such future challenges (Freeman, 2005). Additionally, these youth shared concerns about adverse community outcomes (e.g., criminal activities, incarceration, etc.) that negatively impacted persons within their communities who did not advance their educational pursuits (Freeman, 2005).

Mentors

The term mentor dates back to early Greek mythology, where Mentor, a close and trusted friend of Odysseus, was given the responsibility of training and counseling Odysseus' son, Telemachus, during the Trojan War (Dougherty, Turban, & Haggard, 2007). In its current fashion, mentoring takes on a broad range of goals and outcomes. Some mentoring carries specific career and skill development emphases where "an older and more experienced employee… advises, counsels, and otherwise enhances the career development of younger and relatively inexperienced employees" (Scandura & Viator, 1994, pp.717-718). Other forms of mentoring emphasize personal and psychosocial development, with an emphasis placed on building the self-confidence of a protégé (Crisp & Cruz, 2009; Turner, Griffin, Eury, & Gaffney, 2015). Nevertheless, the vast majority of research has shown that effective mentors and mentorship programs positively influence both the personal and career development of mentees (Crisp & Cruz, 2009; Paik, 2013, 2015; Paik, Marshall-Harper, Gozali, & Johnson, 2020).

Mentoring types and mentoring at the college and career levels. There are several types of mentoring relationships;[24] amongst these mentorship types are differing mentorship forms categorized as traditional one-to-one mentorship and non-traditional mentoring programs (e.g., peer mentoring and developmental networks) (Wanberg, Welsh, & Hezlett, 2003). These different forms of mentorship are further categorized as formal or informal. Informal mentorships form organically, where a mentor and mentee share a mutual fondness for one another and voluntarily work together in support of one another (Jacobi, 1991). An informal mentoring relationship is typically unstructured and may not be institutionally recognized (Crisp & Cruz, 2009). This type of mentorship pairing usually yields high career and socioemotional results[25], especially if both the mentor and mentee share common interests (Allen & Eby, 2003; Chao, Walz, & Gardner, 1992). Formal mentoring typically involves a third party, mentor-protégé pairing based on shared characteristics among the two individuals (Allen, Eby, & Lentz, 2006). The benefit of research-based formal mentoring programs is that they often provide clear goals and objectives which may be revised and assessed for effectiveness (Crisp & Cruz, 2009). This form of mentoring is usually initiated and managed by an institution, and the length of mentoring time varies (Crisp & Cruz, 2009).

Research suggests that mentoring may positively impact minority student college satisfaction (Crisp & Cruz, 2009; Strayhorn, 2017). For example, research has shown that

[24] Researcher Crisp & Cruz (2009) identify five types of mentoring relationships. They are loosely defined as follows: first, one-on-one mentoring which is like an apprentice model where an older, more experienced adult advised a younger person (Crisp & Cruz, 2009). Next, is individual-team mentoring where a young person is supported and advised by an individual or by a team of individuals (Crisp & Cruz, 2009). The third is friend-to-friend mentoring where peers provide one another with support and safety (Crisp & Cruz, 2009). This form of mentoring is common among females (Crisp & Cruz, 2009). Fourth is peer-group mentoring that is common amongst peers exploring the same or similar topics and issues (Crisp & Cruz, 2009). And, lastly is long-term mentoring with "risk-taking" adults that is similar to one-on-one mentoring but the protégé typically has a history of risky behaviors (Crisp & Cruz, 2009).

[25] Positive informal mentorship pairings have the potential to yield several productive outcomes for both mentors and protégés. Some of the benefits for protégés resulting from informal mentorship pairings are career and

positive student-faculty mentoring relationships positively influence students' college persistence and GPAs (Crisp & Cruz, 2009). Furthermore, formal mentorship at the college level is beneficial for both the mentee and the mentor. Mentees gain the support of more experienced role models, and mentors often get the satisfaction of helping a novice navigate through his or her college and career paths (Strayhorn & Terrell, 2007). Additionally, mentors may gain an appreciation for their competence and skill in supporting future generations (Strayhorn & Terrell, 2007).

Mentoring at the college level has also been found to be effective in introducing university student mentees to the realities of their prospective career fields (Strayhorn & Terrell, 2007). For example, research with undergraduate minority students who participated in the National Administration of Student Personnel Administrators (NASPA)[26] as a part of the Minority Student Undergraduate Program (MSUP) yielded positive mentorship pairing results (Patitu & Terrell, 1997). The MSUP is a structured, formal mentoring program where each student is assigned a mentor who provides career counseling and advice. Program participants were counseled about higher education issues, equipped with educational opportunities, and assisted with career goals. Additionally, regular meetings occurred among students and mentees (Patitu & Terrell, 1997). Results revealed that the students' mentoring experiences positively influenced their future career goals (Patitu & Terrell, 1997). Many of the program participants continued their education beyond a bachelor's degree and chose to pursue senior administrative positions following college (Patitu & Terrell, 1997). A second study conducted by Grandy (1998) produced similar results. Findings from this study showed that support from

professional advancement (Allen & Eby, 2003), workplace satisfaction, higher salaries, and promotions (Scandura & Viator, 1994).

[26] NASPA is a program that supports second year undergraduate minority students who show academic promise.

university faculty members influenced students' ambitions, attitudes, and willingness to make Science, Technology, Engineering, Mathematics (STEM) field career commitments (Cole & Espinoza, 2013; Grandy, 1998).

Peers

Peer effects involve the roles that contemporaries play in shaping one another's academic development and achievement outcomes (Hong & Lee, 2017; Lavy & Schlosser, 2007; Paik, 2013; Poldin, Valeeva, & Yudkevich, 2016; Winston, Zimmerman, & Williams, 2003). The benefits shared amongst peers may be recognized through knowledge-sharing opportunities and educational ties (Poldin et al., 2016). High-achieving peers may serve as academic role models who provide one another guidance and support (T. Stinebrickner, R. Stinebrickner, & University of Western Ontario. Department of Economics, 2001). Benefits ascribed to positive peer effects have led to an increase of mixed ability classes and detracking policies at the K-12 classroom levels (Hoxby, 2000; Stinebrickner et al., 2001). Furthermore, research suggests that peer groups influence students' academic achievement outcomes (Berthelon, Bettinger, Kruger, & Montecinos-Pearce, 2019; Poldin, Valeeva, Yudkevich, 2016). For example, high scoring classes of peers are typically assigned high-quality teachers and allocated quality academic resources, both of which may significantly affect academic outcomes (Lefgren, 2004).

Peer effect research. Research has shown that high ability peers influence the academic achievement of middle and low-performing students (Stinebrickner et al., 2001). For example, researchers Winston and Zimmerman (2003) found a link between peer effects and higher education students' verbal Scholastic Aptitude Test (SAT) scores. Their results indicated that middle ability students are typically predisposed to peer influence more than students at

high and low ends of the SAT ability distribution (Winston et al., 2003). Their research also indicated that roommates with low SAT scores negatively impacted middling student's grades (Winston et al., 2003). At the secondary school level, researcher Hong and Lee (2017) found that peer effects carry influence with below-average students. Their findings showed that students' performance might be increased based on the proficiency of the person sitting next to them in class. Specifically, students who sat next to classmates who scored one standard deviation higher on midterm exams final exam scores increased by .12% (Hong & Lee, 2017).

Peer effects and gender. Peer effects have produced mixed results regarding grade level and gender. For female students, research shows favorable connections between peer effects, achievement scores, and school retention (Stinebrickner et al., 2001). In general, male and female students show increased academic scores in female-dominated classrooms and educational programs (Arcidiacono, Nicholson, & National Bureau of Economic Research, 2002; Hoxby, 2000; Larson, Hansen, & Walker, 2005; Lavy & Schlosser, 2007). For example, at the elementary school and secondary school levels, both male and female students produced higher test scores in classrooms with more female students (Lavy & Schlosser, 2007). Furthermore, researchers Arcidiacono and Nicholson (2002) found that female students who attended medical schools with female classmates with high Medical College Admissions Test (MCAT) scores received higher board scores (Arcidiacono & Nicholson, 2002). Overall, research shows that female peers may positively influence both male and female students' academic outcomes (Lavy & Schlosser, 2007). Additionally, research has shown that female-dominated classrooms positively influence instructional environments (Lavy & Schlosser, 2007). For instance, higher numbers of female students in classes led to fewer disruptive behaviors, improved teacher-student relationships, and an overall increase in school satisfaction

for both students and teachers (Lavy & Schlosser, 2007). Moreover, higher proportions of female students have been connected to responsive classroom teaching methods, such as increased teacher feedback and individualized teacher-student instruction (Lavy & Schlosser, 2007).

Extracurricular Time

Youth extracurricular involvement both inside and outside of school may impact positive youth development (Barber, Stone, Hunt, and Eccles, 2009; Larson et al., 2005; Mahoney, Larson et al., 2005). For children, structured extracurricular participation has been connected to positive beliefs about school, higher academic achievement, and increased physical and psychological health. For adolescents and adults, these benefits also include identity formation, skill mastery, efficacy, and preparation for post-secondary education and careers (Barber et al., 2009; Larson et al., 2005; Mahoney et al., 2009; Pedersen & Seidman, 2005; Scales, Benson, Leffert & Blyth, 2000).

Educational and social-emotional benefits of extracurricular participation.

Researchers Eccles and Barber (1999) noted that 40% of adolescents' time is spent outside their home and formal school settings. The use of personal time varies among these youth; however, how they choose to utilize their time may significantly impact their academic achievement and social-emotional outcomes (Fredricks & Eccles, 2006). For example, kindergarteners and first graders who participated in afterschool programs received higher reading and math achievement scores when compared to youth who did not participate (Mahoney et al., 2005). Furthermore, low-income middle schoolers who participated in school-based, formal afterschool programs received higher grades and reported fewer conduct problems, less television watching, and higher academic engagement (Pedersen & Seidman, 2005). Moreover, African American

students who participated in athletic, educational, or fine arts extracurricular programs were less likely to drop out of school (Neely & Vaquera, 2017). These findings are particularly crucial since low-income and/or racial and ethnic minority students are less likely to participate in, and therefore less likely to reap the benefits of extracurricular activity participation (Casey, Ripke, & Huston, 2005; Neely & Vaquera, 2017).

Furthermore, extracurricular activity participation may positively influence youths' social-emotional development in ways that may be unavailable in schools (Barber, Eccles, & Stone, 2001; Mahoney et al., 2005). For example, out of school activities (e.g., music, sports, etc.) have been found to positively influence self-esteem, particularly among those who are not exceptional students (Casey, Ripke, Huston, 2005). Additionally, youth who participated in religious or community service activities during high school had higher self-esteem and fewer behavior problems during adolescence (Pedersen & Seidman, 2005). Participation in afterschool and community-based after-school programs may also provide youth cognitive and interpersonal skills necessary for college and career success (Barber et al., 2005). Students who participate in extracurricular activities outside of school reported positive perceptions of their educational environments (Pederson & Seidman, 2009).

Gender, identity, and extracurricular participation. Research on gender roles and extracurricular activity participation suggested that middle school boys' activities were more homogeneous than middle school girls' activities (Stattin, Kerr, Mahoney, Persson, & Magnusson, 2005). During early childhood years, this may be, in part, connected to gender-typed parental beliefs that often influence children's feelings about their activity participation (Jacobs, Vernon, & Eccles, 2009). Research suggests that higher parental value is placed on the arts for girls and athletic participation for boys (Jacobs, Vernon, & Eccles, 2009). As a result,

boys are more likely to partake in team sports, whereas girls were more likely to participate in a variety of diverse clubs and activities (Stattin et al., 2009).

Additionally, researchers Colley, Comber, and Hargreaves (1994) found that among early adolescence (ages 11-13) girls were more likely to participate in music at school than boys; and that most students identified music as a "feminine" subject. Furthermore, boys who did participate in music classes were more likely to play guitar or drums, whereas girls were more likely to play violin or flute possibly due to gender preferences (Colley, Comber & Hargreaves, 2009). These findings support the idea that children are more likely to become involved in activities that match their gender type, skill competence, and values (Jacobs et al., 2009).

Conclusion

This review of the literature illustrated the complexity of African American educational experiences. For African American women in the academy, it is important to understand how individual, school, and environmental factors play a role in their development as scholars. Further, historical context provides insight into their personal and professional struggles, including the roles of race, class, and gender (Evans, 2016; Hine & Thompson, 1998; Paik et al, 2020). For example, African American women have carried the concurrent roles of community support providers, educators, and homemakers while enduring racial and domestic hardships in the form of societal discrimination and gender constraints. Altogether, these multiple factors help us to understand how they develop resilience in diverse settings and experiences (Paik et al, 2019). The PGM provides insight into these contextual experiences that, in turn, provide a complete picture of these largely unalterable challenges. However, the increased presence of African American women in the academy is a testament to their hard work and resilience.

Furthermore, their successes are an indication of the importance of educational and environmental support networks – factors that are alterable and may be changed in ways that support productive outcomes.

On the whole, research findings illustrate the importance of supportive learning environments across an individual lifespan. The PGM provides a comprehensive lens in which to view how multiple factors influenced intellectual development over time (Paik, 2013, 2015). For example, early exposure to conducive learning environments and supportive instructional conditions lead to increased productive outcomes. Additionally, parents, teachers, and mentors play an essential role in youths' intellectual development by providing access to instructional resources and by encouraging academic excellence. Finally, self-determination and a positive academic self-concept play a crucial role in educational and career success. Overall, the PGM highlights the importance of partnership collaboration amongst key individuals responsible for nurturing intellectual development - reinforcing the African adage that *"it takes a village to raise a child."*

CHAPTER 3: METHOD

Researcher Positionality

I have wanted to be a writer for as long as I can remember. My love for language arts began during pre-k when I learned to read. My parents, grandmother, and teachers frequently offered reading materials, took me to the library, and encouraged me to continue reading. It also helped that I attended private elementary and secondary schools that emphasized literacy. Students were given daily reading activities, summer and winter reading lists, and writing assignments. My elementary school, for example, offered weekly library visits. On weekends, in summer, and during winter breaks, I would visit the local library several times a week and spend countless hours reading and checking out all genres of books to keep me busy at home. When not reading, I would journal or write short stories to share with my grandmother. My love of reading and writing strengthened my ability in language arts and English, my best subjects in school.

Additionally, throughout the school year and vacation months, my father would load me up with ethnic works of literature by authors such as Langston Hughes, Malcolm X, Nikki Giovanni, and other primarily Black authors. During the summer, he required me to summarize what I read to ensure I was keeping up. My mother read often, and from her love of suspense, romance, and gothic literature, I read authors such as Anne Rice, Dean Koontz, and Victoria Holt. My parents played a significant role in inspiring me to pursue my education by encouraging me to read and ensuring I had access to interesting and challenging reading materials.

Therefore, it may not be surprising that after briefly declaring a dance major followed by a journalism major, I opted to complete my undergraduate years as an English and Ethnic Studies major with a minor in African American studies. As a graduate student, I sustained my access to advanced literary works by pursuing and completing a master's in Curriculum and Instruction with an emphasis on English and Language Arts and a second MA in Reading. Predictably, I became an English and Ethnic Studies secondary teacher not long after completing my undergraduate and pursued a Ph.D. mainly to acquire the knowledge and skills needed to publish.

All this to say that my academic talent development began with a love of reading which inspired a love of learning, and the support that I was given by my parents, other family members, instructors, and other supportive persons helped me sustain my confidence and motivation to learn. As an African-American girl and woman, I faced academic and career challenges (e.g., microaggressions, deficit perspectives, social isolation) as I pursued advanced degrees and received promotions in my teaching career. However, my early educational experiences with supportive persons and conducive learning environments inspired me to persevere in ways that supported my academic talent development.

As a mother of two girls, I hope to provide for them the same ways that I was provided for, and as an urban school teacher of pregnant and parenting teens, I hope to inspire them to pursue their post-high school education. Therefore, I am very invested in this study that helped me understand the academic talent development of highly skilled and knowledgeable African-American professors who have excelled in their fields with the hopes that I may one day accomplish the same.

Research Design

The study utilized a mixed-method research design to examine individual aptitude, school, and environmental factors that influenced the development of African American women in the academy. Quantitative and qualitative methods allowed for an in-depth analysis of the research problem (Creswell & Clark, 2017). According to Creswell (2016), the use of both methods and the triangulation of data sources are useful in understanding research participants' experiences. Specifically, qualitative research is beneficial "when studying people who have not often been studied" (Creswell, 2016, p.7). Interviews captured the voice and perspective of each participant's experiences, and the supplemental survey provided additional data on participants' experiences.

Sample

A sample of 31 African American female tenured and tenure-track college professors at primarily[27] 4-year research institutions in the United States was recruited for this study. The research and scholarship expectations at research institutions (research emphasis) differ from those at state universities and community colleges (teaching emphasis). Additionally, Carnegie classification of higher education institutions defines Research-1 (R1) institutions as having "very high research activity" and Research-2 (R2) institutions as having "high research

[27] A few participants serving at teaching institutions were included as the exception to this study due to the prominence of their university as well as their level of productivity which was considered "comparable" to those at some research universities.

activity"[28]. Therefore, only tenured and tenure-track[29] African American females at research or comparable institutions were considered for this study (Fugate & Amey, 2000; Jenkins, 2016).

A purposive and snowball sampling (chain-referral) method was used to recruit study participants. The researcher asked participants who qualified for the study to recommend participants for the study who also met the requirements. The researcher also invited potential candidates to participate in the study through email solicitation (see Appendix A: Recruitment Letter/Email).

Study participants were recruited from a compiled list of faculty scholarship and professional organizations (specifically organizations emphasizing women and women of color) (see Appendix B). Contact was made via email to each organization to enlist study participants. The final sample size of 31 participants was obtained for adequate quantitative and qualitative analyses; it allowed for patterns and themes to emerge in both survey and interview data.

Since African American women currently hold only 9% of professional and academic degrees across all U.S. female groups (National Center for Educational Statistics, 2017), the sample included African American women faculty from diverse academic fields (e.g., education, liberal arts, and sciences, general education, and humanities) (National Center for Educational Statistics, 2017f).

In summary, study participants met all of the following criteria:

1) A U.S. born or naturalized citizen

2) Biologically female

[28] Carnegie Classification of Institutions of Higher Education, 2023. Basic Classification: Basic Classification Methodology. https://carnegieclassifications.acenet.edu/carnegie-classification/classification-methodology/basic-classification/

[29] While tenured and tenure-track professorial experiences do differ, tenure-tracked professors were included to expand the current sample.

3) Currently hold a PhD or an EdD

4) Identify as “Black, African American, or a person having origins in any of the Black racial groups of Africa” (United States Census Bureau, 2020)

5) Currently, a full-time, tenured, or tenure-track professor at a 4-year accredited research (or comparable) university in the United States.

Description of Participants

Tables 1 and 2 summarize participants' demographic information by providing descriptive information related to each participant. Table 1 lists each participant's pseudonym alphabetically and provides each interview's length and format. As noted, all interviews were conducted online, the shortest interview lasted 38 minutes and 18 seconds, and the longest lasted for two hours and thirty-three seconds. Participants' ages ranged from 35 to 77; the mean age was 51.32 (SD= 10.25). Additionally, all participants earned either a Ph.D. or an Ed.D.

Table 1 indicates that twenty-two participants (70.96%) are tenured university professors, and nine (29.03%) are tenure-track professors. Twenty-four participants (77.41%) work in R1 universities, two participants (6.45%) work in R2 universities, and five participants (16.12%) work in teaching institutions. All participants (100%) identify as female and Black or African American. Two participants identify as Black or African American, along with Alaskan Native and Latin.

Most participants reported their religion as Christian (61.28%), and the second highest percentage reported none (22.6%) as religious affiliation. Furthermore, most participants reported the United States as their place of birth (83.87%). Other birthplaces reported were Barbados (3.2%), the Caribbean (3.2%), Jamaica (3.2%), and Martinique (3.2%). Nearly all participants reported English (96.77%) as their home language, with only one reporting French

(3.2%) as mainly spoken at home. Additionally, three participants (9.67%) reported speaking English along with Jamaican Patois (6.4%), Spanish and French (3.2%), and Creole and Spanish (3.2%) in their homes.

Table 1

Participant demographics (n=31)

Pseudonym	Birth Year	Tenure Status	University rank	Gender	Ethnicity	Religion	Place of Birth	Language	Interview Length	Interview Format
Althea	1976	Tenured	Teaching	F	Black or African American	None	Barbados	English	44:03	Online
Angela	1975	Tenured	R1	F	Black or African America, American Indian or Alaskan Native, Hispanic, Latin or Spanish	Other	Dominican Republic	English, Spanish, French	02:04:09	Online
Ashanti	1983	Tenured	R2	F	Black or African American, Hispanic, Latin or Spanish	Other	United States	English	01:58:07	Online
Bianca	1974	Tenured	R1	F	Black or African American	Roman Catholic	United States	English	01:42:59	Online
Cynthia	1963	Tenure-track	R1	F	Black or African American	Christian	United States	English	01:44:04	Online
Dorothy	1981	Tenure-track	R1	F	Black or African American	Christian	United States	English	39:47	Online
Erica	1971	Tenured	R1	F	Black or African American	Christian	Caribbean	English	02:33:16	Online
Erin	1976	Tenure-track	R1	F	Black or African American	Christian	United States	English	01:45:10	Online
Ester	1946	Tenured	R1	F	Black or African American	Christian	United States	English	02:33:24	Online
Ginger	1962	Tenured	R1	F	Black or African American	None	United States	English	01:43:47	Online
Harriett	1974	Tenured	Teaching	F	Black or African American	None	Martinique	French	01:28:31	Online
Imani	1979	Tenure-track	R1	F	Black or African American	Christian	United States	English	01:10:54	Online

Jamie	1988	Tenure-track	R1	F	Black or African American	Christian	United States	English	48:10	Online
Josephine	1967	Tenured	R1	F	Black or African American	Christian	United States	English, Jamaican Patois	01:05:48	Online
Kahlil	1964	Tenured	Teaching	F	Black or African American	Christian	United States	English, Creole, Spanish	01:03:04	Online
Kamala	1976	Tenure-track	R1	F	Black or African American	Christian	United States	English	43:27	Online
Kara	1949	Tenured	R1	F	Black or African American	Christian	United States	English	53:52	Online
Katrina	1982	Tenured	R1	F	Black or African American	Christian	Jamaica	English, Jamaican	38:18	Online
Lorraine	1966	Tenured	R1	F	Black or African American	None	United States	English	01:05:20	Online
Marla	1952	Tenured	R1	F	Black or African American	No answer	United States	English	02:17:39	Online
Michelle	1969	Tenured	Teaching	F	Black or African American	Christian	United States	English	45:20	Online
Nicole	1970	Tenured	R1	F	Black or African American	Roman Catholic	United States	English	01:05:35	Online
Nikki	1981	Tenure-track	R2	F	Black or African American	Christian	United States	English	01:10:25	Online
Rebecca	1978	Tenured	Teaching	F	Black or African American	Christian	United States	English	59:10	Online
Ruth	1957	Tenured	R1	F	Black or African American	Christian	United States	English	01:06:39	Online
Sabrina	1971	Tenured	R1	F	Black or African American	Christian	United States	English	01:18:13	Online
Sarah	1971	Tenured	R1	F	Black or African American	Christian	United States	English	01:12:04	Online
Seka	1971	Tenure-track	R1	F	Black or African American	None	United States	English	01:40:17	Online
Shirley	1978	Tenure-track	R1	F	Black or African American	None	United States	English	01:33:50	Online
Teresa	1961	Tenured	R1	F	Black or African American	None	United States	English	01:11:17	Online
Tonja	1983	Tenured	R1	F	Black or African American	Christian	United States	English	47:42	Online

Table 2

Sample demographic (n=31)

Category	Frequency	Percent of sample	Mean	Standard deviation
Age	-	-	51.32	10.25
Highest level of education	-	-	-	-
Doctoral Degree (e.g., Ph.D. or Ed.D.)	31	100%	-	-
Religious Affiliation			3.50	2.209
Christian (Catholic, Mormon, Orthodox, Protestant)	19	61.29%	-	-
Roman Catholic	2	6.5%	-	-
Other	2	6.5%	-	-
None	7	22.6%	-	-
Missing	1	3.2%	-	-
Gender				
Female	31	100%	-	-
Ethnicity				
Black/African American	31	100%	-	-
Language spoken in home				
English	30	96.77%	-	-
English, Creole, Spanish	1	3.2%	-	-
English, Jamaican Patois	2	6.4%	-	-
English, Spanish, French	1	3.2%	-	-
English, BEV	1	3.2%	-	-
French	1	3.2%	-	-

Protection of Human Subjects

Before conducting the study, the researcher secured full Institutional Review Board (IRB) approval from Claremont Graduate University. The purpose of the study, potential risks (primarily loss of time), consent and privacy, and participation requirements were all brought to the attention of each participant. Compensation for this study also included a raffle for a $100 Amazon e-gift card for their time.

Before starting the online survey, participants were prompted by a software program to sign an online e-consent form. Participants' interviews were audio-recorded, and all recordings will be kept confidential on a password-protected laptop owned and used only by the researcher. Only the researcher will manage and have access to audio recording files and participants' responses for both qualitative and quantitative data. Email correspondence and all other forms of communication and data will be handled appropriately from the researcher's laptop, email accounts, and cloud storage under IRB regulations and timeframe.

To further protect the participants, the researcher used pseudonyms to keep each subject's identity confidential; all other identifiers (e.g., employer name or organization) were amended to protect confidentiality further.

Instrumentation

A mixed-method design used the PGM Interview Protocol, Factor Survey, and Demographic Survey the fit qualitative and quantitative instruments. The sections below describe these tools in further detail (Paik, forthcoming).

Qualitative Instrument

PGM Interview Protocol. An interview protocol developed by Paik (forthcoming)[30] was the primary tool used for this study. This protocol was created based on inter-rater agreement on items, pilot studies, research studies, and a large-scale literature review (Paik, forthcoming; 2013, 2015). Aligned with the PGM factors, the protocol consists of 34 interview questions (along with sub- questions). Since the study includes a lifespan perspective, participants were asked to share their experiences during the following periods: (1) Early Years (PreK to 12th grade, ages 0-18 years) and Later Years (after high school, college, and beyond). Mostly retrospective, participants were asked to provide answers based on their childhood, adolescence, and adulthood experiences.

Additionally, the interview questions (main- and sub-questions) fell under the respective PGM factors: Development (5 items), Mentoring (4 items), Home Environment (4 items), Quality of Instruction and Learning Climate (6 items), Ability (3 items), Motivation (3 items), Extracurricular Time (1 item), Peers (1 item), and Contextual Factors (2 items). The interview protocol ended with a section on Work-Life Productivity (2 items) and Interview Wrap-up (3 items). Sample items can be found in Appendix D.

The structured interview protocol helped establish consistency with data collection and analysis for all participants in the study. Still, in all, the researcher carried a degree of flexibility to encourage interviewees to speak openly in a relaxed space (Creswell, 2016). Each interview was anticipated to last for approximately 60-90 minutes. To code the data, the researcher used a

[30] *Permission was granted to use the PGM interview protocol, surveys, and accompanying materials for this study:* Paik, S.J. (forthcoming). Productive Giftedness Model Manual and Instruments. In S. J. Paik, Nurturing Productive Giftedness. Cambridge, UK: Cambridge University Press.

preliminary list of a priori codes and followed the coding procedures in the *Productive Giftedness Model (PGM) Manual and Instruments* by Paik (forthcoming).

Quantitative Instrument

The online survey, created by Paik (forthcoming), was composed of two parts: (1) The Productive Giftedness Model (PGM) Demographic Survey and the (2) Productive Giftedness Model (PGM) Factor Survey (Sample items can be found in Appendix E). Survey items included either multiple-choice, Likert-scale, or open-ended questions. All items were developed based on interrater reliability, pilot studies, quantitative studies, and a large-scale literature review.

Both surveys combined took approximately 20 to 30 minutes for participants to complete. The *PGM Manual and Instruments* (Paik, forthcoming) outlined the coding procedures and instructions on quantitative items. The surveys captured data that would be difficult to record through an interview protocol; it also aided the researcher with any follow-up interview questions. *Qualtrics* software was used by the researcher for participant survey distribution.

PGM Demographic Survey. The purpose of the demographic survey was to gather information about each participant's ability and educational background across a lifespan (early childhood through adulthood years). The survey asked questions about each participant's educational background, ability, professional, and doctoral program participation (Pre-K - graduate school) (45 items). These sections were grouped by developmental stage: Pre-kindergarten (1 item), Elementary school (6 items), Secondary school (6 items), and College (9 items), and Graduate school (23 items sectioned by masters, doctoral, professional, and other programs). The childhood family background section included parental educational attainment,

religious affiliation, and social-economic status questions (6 items). The survey also asked about participants' religious affiliation, language, place of birth, gender, race, and educational level (11 items). The entire demographic survey consisted of 62 questions. Participants who completed the PGM demographic survey also completed the PGM factor survey.

PGM Factor Survey. Questions listed in this section aligned with the following PGM factors and subfactors: Opportunities, Support, and Resources (3 items), Extracurricular Time and Quantity of Instruction (44 items - elementary school - graduate school and professional years). These questions were based, in part, on participants' recollections; however, several questions examined participants' current practices and experiences. The overall factor survey contained 47 items.

Additionally, survey questions asked about participants' developmental stages – early childhood years (primary school) through adulthood (college and beyond). The developmental approach considered subtle details and changes that may occur across one's life stages. And finally, it is important to note that the researcher tested the overall PGM Factor survey items for reliability (see Reliability Analyses section).

Pilot Test

Due to the low numbers of tenured African American female faculty in the United States, most participants meeting all study criteria were reserved for the actual study. However, to test the measurement tools, a pilot study, of five tenure-track female faculty of color participated in the structured interview. These participants were also asked by the researcher to participate in the online survey[31] to assure clarity and content validity of the items. Information

[31] Surveys generally require a minimum of at least 30 participants for pilot testing; however, many pilot studies and actual studies have already been conducted on the PGM measurement tools (Paik, 2013; forthcoming).

gathered from the pilot study was used to help identify revisions on the tools before the full implementation of the study.

Procedures

After IRB approval was received, contact was made to professional organizations to recruit study participants (see Appendix B: Faculty Recruitment Organization). The researcher sent an initial email to organizational leaders that briefly introduced the importance and the goals of the study as a method for outreach to find prospective participants. Subsequently, the researcher began recruitment by sending an email to potential participants with the following information: (1) the study purpose, (2) guidelines for participation, (3) participant consent and safeguards, (4) study procedures, (5) contact information (Appendix F). Participant selection occurred in order of the returned questionnaires. The researcher created a roster of eligible participants.

Selected study participants received either an email confirmation or a phone call (depending on the preferred communication method) about how to access the online survey. The researcher shared the following information with potential participants via email communication: (1) online survey consent form, (2) online survey link, (3) online interview schedule link, and (4) the researcher's contact information. Before completing the online survey, participants were prompted by the software program to read and sign the e-consent form. Research participants were encouraged to finish the online survey before their planned interviews to give the researcher adequate time to review all answers. Reminder emails were sent to participants by the researcher one week before interviews. Additionally, participants were given access to the Calendly link to self-schedule an interview. Participants were also

given an opportunity to select an interview date via email based on their availability. These dates were confirmed by email and an Outlook calendar invite was created for participants.

All interviews were held remotely through *Zoom*, an online video conferencing platform. Before the interview, the researcher thanked each study participant for agreeing to participate in the study, review the consent form, and allow each participant time to ask questions about the study. The researcher also informed participants that each interview was video and audio-recorded and that personal interview notes were taken during the interview. The researcher asked for permission to follow-up with participants, if additional information or clarification was needed, following the interview's close. All interviews were transcribed verbatim by the interviewer using Rev.com within a week of the meeting.

Data Analysis

Qualitative Data Analysis

The qualitative software program, MAXQDA, was used to analyze qualitative data. Each interview transcript was read several times by the researcher to "reflect deeply on the contents and nuances of [the] data and to begin to take ownership of them." (Saldana, 2016, p.115). The initial coding cycle began with identifying factors and subfactors as outlined in the *Productive Giftedness Model Manual and Instruments* codebook by Paik (forthcoming). The second round of coding examined the first set of codes' accuracy and identified similarities from the findings. The researcher documented essential themes and similarities through minimal abbreviated excerpts. For each subfactor across each tier of development (early childhood to adulthood), contradictions and similarities among participants were identified by the researcher and the final results were tabled.

Quantitative Data Analysis

Statistical Package for the Social Sciences (SPSS), a software program, was used to analyze online survey data. In this study, the success outcomes (e.g., tenure and tenure-track positions) of professors might be understood as the "dependent variable" and the PGM factors as "independent variables"; however, it is important to note that the researcher only used descriptive analysis for analyzing the information on tenured and tenure-track African American women. Specifically, frequencies, standard deviations, means, and ranges were analyzed for PGM factor and demographic survey questions. Qualitative data was the primary data source for this study as it answered the *why* and *how* questions related to the study, and quantitative data helped complement qualitative findings by providing essential "news style," investigative data. For all data analyses, the researcher utilized a list of codes provided by Paik (forthcoming), with final results organized into tables. All data was consolidated by the researcher to triangulate the analysis.

Reliability Analysis

A reliability analysis aims to test the consistency with which a survey tool or instrument adequately measures what it was designed to assess (Krathwohl, 2009). Table 3 below indicates Cronbach's alpha reliability score assigned to each question set in the participants' survey. Cronbach alpha scores range from 0 to 1, and the higher coefficient indicates higher reliability of the subscale, with the highest Cronbach score being 1.[32] The general standard for reliabilities is at .7. For this study, most subfactor scores in Table 3 are generally strong reliabilities.

[32] Alpha scores of 0.91-0.93 indicate strong reliability (Tabler, 2017). Scores of 0.84-0.90 indicate reliable scores and a score of .81 is identified as robust (Tabler, 2017).

However, questions related to the Home environment – Learning Resources (.635), Extracurricular Time – Graduate (.591), and Extracurricular time – Professional (.613) fall into the satisfactory and adequate reliability score ranges[33] (Tabler, 2017). While some references have noted these reliabilities are acceptable, these numbers appear to be generally lower in the range. These lower scores may be due to the limitations of this study including the small sample size, outliers within a small sample, heterogeneity of the population itself (e.g., age, status, experience, socio-economic status, diverse disciplines, and type of school, etc.), and variance issues statistically or technologically.

Table 3

Alpha Reliability Scales

Subfactor	Variables Included	Alpha
Home Environment - Opportunity, Support, and Resources (Childhood)	S1.2_H_CF_Childhood_Opportunities S1.2_H_CF_Childhood_Support S1.2_H_CF_Childhood_Resources	.815
Home Environment - Opportunity, Support, and Resources (Adulthood)	S1.3_H_CF_Adult_Opportunities S1.3_H_CF_Adult_Support S1.3_H_CF_Adult_Resources	.913
Home Environment - Learning Resources	S1.1_H_Learning_Books S1.1_H_Learning_Newspapers or Magazines S1.1_H_Learning_Computer or Tablet S1.1_H_Learning_Smartphone S1.1_H_Learning_Other Electronic Devices S1.1_H_Learning_Internet Access S1.1_H_Learning_Study desk/Table S1.1_H_Learning_Own Room S1.1_H_Learning_Tutoring S1.1_H_Learning_Art Supplies S1.1_H_Learning_Musical Instruments S1.1_H_Learning_Strategy or Board games S1.1_H_Learning_Other	.635

[33] While these subscale scores have been found to be lower in this study, previous studies have shown consistently high reliabilities across all the scales. More info on the reliability analyses of the various PGM factors and subfactors can be found in the PGM Manual and Instruments (Paik, forthcoming).

Extracurricular Time – Elementary	S2.1_ET_Elem_Per_Day_Studying S2.1_ET_Elem_Per_Day_Reading S2.1_ET_Elem_Per_Day_Friends S2.1_ET_Elem_Per_Day_Family S2.1_ET_Elem_Per_Day_TV_Educational S2.1_ET_Elem_Per_Day_TV_Leisure S2.1_ET_Elem_Per_Day_Tech_Educational S2.1_ET_Elem_Per_Day_Tech_Leisure S2.2_ET_Elem_Per_Week_Academic S2.2_ET_Elem_Per_Week_Community S2.2_ET_Elem_Per_Week_Religious S2.2_ET_Elem_Per_Week_Hobby S2.2_ET_Elem_Per_Week_Honors society S2.2_ET_Elem_Per_Week_Sports S2.2_ET_Elem_Per_Week_Student leadership S2.3_ET_Elem_Visual and Performing Arts S2.3_ET_Elem_Sleeping S2.4a_ET_Elem_Job_Paid S2.4b_ET_Elem_Job_Unpaid S2.5_QT_ET_Elem_Professional_Training S2.6_QT_ET_Elem_Field_Training S2.7_QT_ET_Elem_Competitions	.842
Extracurricular Time – Secondary	S3.1_ET_Sec_Per_Day_Studying S3.1_ET_Sec_Per_Day_Reading S3.1_ET_Sec_Per_Day_Friends S3.1_ET_Sec_Per_Day_Family S3.1_ET_Sec_Per_Day_TV_Educational S3.1_ET_Sec_Per_Day_TV_Leisure S3.1_ET_Sec_Per_Day_Tech_Educational S3.1_ET_Sec_Per_Day_Tech_Leisure S3.2_ET_Sec_Per_Week_Academic S3.2_ET_Sec_Per_Week_Community S3.2_ET_Sec_Per_Week_Religious S3.2_ET_Sec_Per_Week_Hobby S3.2_ET_Sec_Per_Week_Sports S3.2_ET_Sec_Per_Week_Leadership S3.2_ET_Sec_Per_Week_Arts S3.3_ET_Sec_Sleeping S3.4a_ET_Sec_Job_Paid S3.4b_ET_Sec_Job_Unpaid S3.5_QT_ET_Sec_Developing_Talent S3.6_QT_ET_Sec_Talent_Training S3.7_QT_ET_Sec_Competitions	.813
Extracurricular Time – Undergraduate	S5.1_ET_Undergrad_Per_Day_Studying S5.1_ET_Undergrad_Per_Day_Reading S5.1_ET_Undergrad_Per_Day_Friends S5.1_ET_Undergrad_Per_Day_Family S5.1_ET_Undergrad_Per_Day_TV_Educational S5.1_ET_Undergrad_Per_Day_TV_Leisure S5.1_ET_Undergrad_Per_Day_Tech_Educational S5.1_ET_Undergrad_Per_Day_Tech_Leisure S5.2_ET_Undergrad_Per_Week_Academic S5.2_ET_Undergrad_Per_Week_Community S5.2_ET_Undergrad_Per_Week_Religious S5.2_ET_Undergrad_Per_Week_Hobby S5.2_ET_Undergrad_Per_Week_Sports S5.2_ET_Undergrad_Per_Week_Leadership	.721

	S5.2_ET_Undergrad_Per_Week_Arts S5.2_ET_Undergrad_Per_Week_Vocational S5.3_ET_Undergrad_Sleeping S5.4_ET_Undergrad_Job_Paid S5.5_QT_ET_Undergrad_Developing_Talent S5.6_QT_ET_Undergrad_Talent_Training S5.7_QT_ET_Undergrad_Competitions	
Extracurricular Time – Graduate	S6.1_ET_Grad_Per_Day_Studying S6.1_ET_Grad_Per_Day_Reading S6.1_ET_Grad_Per_Day_Friends S6.1_ET_Grad_Per_Day_Family S6.1_ET_Grad_Per_Day_TV_Educational S6.1_ET_Grad_Per_Day_TV_Leisure S6.1_ET_Grad_Per_Day_Tech_Educational S6.1_ET_Grad_Per_Day_Tech_Leisure S6.2_ET_Grad_Per_Week_Academic S6.2_ET_Grad_Per_Week_Community S6.2_ET_Grad_Per_Week_Religious S6.2_ET_Grad_Per_Week_Hobby S6.2_ET_Grad_Per_Week_Honors S6.2_ET_Grad_Per_Week_Sports S6.2_ET_Grad_Per_Week_Leadership S6.2_ET_Grad_Per_Week_Arts S6.2_ET_Grad_Per_Week_Vocational S6.3_ET_Grad_Sleeping S6.4_ET_Grad_Job_Paid S6.5_QT_ET_Grad_Developing_Talent S6.6_QT_ET_Grad_Talent_Training S6.7_QT_ET_Grad_Competitions	.591
Extracurricular Time – Professional	S7.1_ET_Prof_Per_Day_Studying S7.1_ET_Prof_Per_Day_Reading S7.1_ET_Prof_Per_Day_Friends S7.1_ET_Prof_Per_Day_Family S7.1_ET_Prof_Per_Day_TV_Educational S7.1_ET_Prof_Per_Day_TV_Leisure S7.1_ET_Prof_Per_Day_Tech_Educational S7.1_ET_Prof_Per_Day_Tech_Leisure S7.2_ET_Prof_Per_Week_Community S7.2_ET_Prof_Per_Week_Religious S7.2_ET_Prof_Per_Week_Hobby S7.2_ET_Prof_Per_Week_Politics S7.2_ET_Prof_Per_Week_Sports S7.2_ET_Prof_Per_Week_Arts S7.2_ET_Prof_Per_Week_Vocational S7.3_ET_Prof_Sleeping S7.4_ET_Prof_Job_Paid S7.5_QT_ET_Prof_Developing_Talent S7.6_QT_ET_Prof_Talent_Training S7.7_QT_ET_Prof_Competitions	.613

CHAPTER 4: RESULTS

This study explored the academic talent development of 31 tenure-track and tenured African American female faculty in primarily research institutions; individual aptitude, school, and environmental factors were examined from a lifespan perspective and how they contributed to their professional success. Results were based on a mixed-method design, using both interviews and surveys. The first set of findings provides demographic and other survey-related information. The second set of findings consists of interview data organized according to the Productive Giftedness Model (PGM) factors (i.e., Individual Aptitude, School Factors, and Environmental Factors). The chapter concludes with summarized information on each PGM factor.

Quantitative Data

The online PGM survey was administered in two parts: a demographic and a factor survey. For the demographic survey, participants identified available resources, support, and opportunities at home in their early years. For the early and later years, the PGM factor survey included questions about their *Home*, *Quality of Instruction*, and *Extracurricular time*.

Demographic Survey

Participants completed a demographic survey, providing information about their educational and academic ability, beginning with pre-kindergarten and continuing through college and professional years. For example, participants were asked about their school type, program participation, and awards and accomplishments. They were also asked additional

questions about their childhood and family background such as their parent's educational levels, socioeconomic status, and language background.

Elementary and secondary education. For Table 4, participants were asked several questions about the types of programs and schools they attended and achievements they received during their elementary and secondary school years. Starting with their early education, results showed that most attended preschool (83.9%). Most attended public elementary schools (64.5%), and the second highest percent attended private elementary schools (29%). Of the remaining two participants, one attended a magnet school (3.2%), and the other was homeschooled (3.2%). These percentages remained relatively the same for secondary school, with the slight difference being that the percentage of participants who attended private school dropped to 25.8%, and one participant reported attending a secondary charter school (3.2%).

Regarding participants' academic scores, most reported receiving high grades during elementary and secondary school. Nearly three-quarters received A grades (74.2%), and about a quarter (25.8%) received B grades. Participants' scores remained relatively the same for secondary school, with only one participant who received C grades (3.2%).

Moreover, most participants reported no participation in academic and fellowship programs during their elementary years (48.4%). However, among those who participated in academic programs and fellowships, most were involved in elementary accelerated programs (38.7%). The second and third-highest groups of participants reported participation in arts and music programs (19.4%) and sports (16.1%).

By their secondary school years, most participants engaged in accelerated academic programs (67.7%); the second and third highest categories were sports (38.7%) and arts and

music programs (29%). Additionally, most received academic awards during elementary (67.7%) and secondary (71%) school years. However, only eleven participants reported being identified as gifted and talented (35.5%) during elementary school, and a slightly higher percentage reported gifted and talented identification during secondary school (38.7%).

Table 4

Elementary and Secondary Educational Background (n=31)

Variable	**Elementary (n=31)**		**Secondary (n=31)**	
	Frequency	**%**	**Frequency**	**%**
Attended preschool				
Yes	25	83.9	-	-
No	5	16.1	-	-
Type of school				
Public	20	64.5	20	64.5
Private	9	29.0	8	25.8
Magnet	1	3.2	1	3.2
Charter	-	-	1	3.2
Other (e.g., homeschool, etc.)	1	3.2	1	3.2
Type of calendar year				
Year round (12 months)	1	3.2	1	3.2
Traditional (9 months)	30	96.8	30	96.8
Grades mostly received				
A (i.e., 90-100)	23	74.2	23	74.2
B (i.e., 80 –89)	8	25.8	7	96.8
C (i.e., 70-79)	-	-	1	3.2

Types of accelerated programs and fellowships				
Academic	12	38.7	21	67.7
Arts and music	6	19.4	9	29.0
Service and leadership	3	9.7	8	25.8
Sports	5	16.1	12	38.7
Other	2	6.5	-	-
None	15	48.4	6	19.4
Awards and scholarships received				
Academic awards	21	67.7	22	71.0
Arts and music awards	5	16.1	4	12.9
Service and leadership awards	3	9.7	12	38.7
Sports awards	4	12.9	5	16.1
Other	-	-	1	3.2
None	9	29.0	5	16.1
Identified as gifted/talented				
Yes	11	35.5	12	38.7
No	20	64.5	19	61.3

Undergraduate and graduate education. Table 5 provides information about participants' undergraduate and graduate educational experiences. First, the table indicates that all study participants attended a college or university and earned a bachelors and a doctorate degree. Yet only seventy-one percent of participants reported receiving a master's degree. This may have resulted from some participants selecting the highest graduate degree option (i.e., Ed.D or Ph.D.) and bypassing the master's degree option when answering this question.

Additionally, an equal percentage of participants (58.1%) reported attending a private 4-year undergraduate university and a public 4-year graduate university with professional

programs. When prompted to report their primary major and academic emphasis, most participants selected social science (38.70%). The second highest undergraduate major was humanities (22.6%), and the third highest reported undergraduate majors Business, and Science, Technology, Engineering, and Mathematics (STEM) tied at 12.9%. Also, three participants reported double majors (9.67%).

Participants were also prompted to report their academic emphasis, and the results showed that most selected social sciences (61.3%) as their emphasis during graduate school. Their second and third highest reported emphasis was in the humanities (25.8%) and STEM related fields (6.5%). Moreover, the majority of participants reported that their undergraduate and graduate majors related to their current occupations (undergraduate, 83.9%; graduate degree, 96.8%). When asked about their academic grades, a considerable percentage of participants received B grades during their undergraduate years (61.3%). However, nearly all participants reported receiving A grades (93.5%) during graduate school. Two participants reported that their graduate universities did not assign students grades (6.5%).

Most participants reported not being involved in accelerated programs or fellowships (51.6%) during undergraduate school. However, those who did participate reported being most active in service and leadership programs (25.8%), followed by academic (22.6%) and sports (12.9%) program participation. During graduate school, however, most reported participating in accelerated academic programs (51.6%), and service and leadership programs (25.8%). Lastly, during their undergraduate and graduate years, most participants received academic awards (undergraduate 51.6%; graduate 54.8%) and service and leadership awards (undergraduate 25.8%; graduate 22.6%). It is important to note that over a third of participants (undergraduate

35.5%; graduate 38.7%) reported receiving no awards during undergraduate and graduate school.

Table 5

Undergraduate and Graduate Educational Background (n=31)

Variable	Undergraduate (n=31)		Graduate/Doctorate (n=31)	
	Frequency	%	Frequency	%
Did you attend a college or university?				
Yes	31	100.0	31	100.0
Did you attend graduate school (e.g., master's, doctoral, or other professional degree programs)?	-	-	31	100%
Yes	-	-	31	100.0
Type of degree or certificate earned				
Bachelor's degree (e.g., B.A, B.S., BFA)	31	100	-	-
Master's degree (e.g., M.A., M.S., MBA, MFA)	-	-	22	71.0
Doctoral degree (e.g., Ph.D., Ed.D.)	-	-	31	100.0
Type of undergraduate and graduate institutions				
Public, 4 year	13	41.9	-	-
Private, 4 year	18	58.1	-	-
Public, 4-year with graduate /professional programs	-	-	18	58.1
Private, 4-year with graduate/professional programs			13	41.9
Primary major (undergraduate)				
Academic emphasis (Doctorate)				
Social Sciences (e.g., anthropology, communications, economics, education, political science, pre-law, psychology, sociology, etc.)	12	38.70	19	61.3
Humanities (e.g., English, geography, history, languages and cultures, literature, philosophy, religious, studies, etc.)	7	22.6	8	25.8
Business (e.g., accounting, finance, management, marketing, etc.)	4	12.9	-	-

Science, Technology, Engineering, and Math (e.g., agriculture, architecture, physical sciences, statistics, etc.)	4	12.9	2	6.5
Health Sciences (e.g., nursing, pharmacy, physical therapy, pre-med, etc.)	1	3.2	-	-
Visual and Performing arts (e.g., film, radio, studio art, computer/graphic design, theatre, dance, music, etc.)	-	-	1	3.2
Double major undergraduate (please specify)	3	9.7	-	-
German/Women's and Gender Studies	1	3.2	-	-
History and English	1	3.2	-	-
Music and Educators and Elementary Education	1	3.2	-	-
African American Studies & Anthropology	-	-	1	3.2
Degree related to current occupation				
Yes	26	83.9	30	96.8
No	5	16.1	1	3.2
Grades mostly received				
A	12	38.7	29	93.5
B	19	61.3	-	-
My school did not give grades	-	-	2	6.5
Type of accelerated programs or fellowships				
Academic	7	22.6	16	51.6
Arts and music	-	-	-	-
Service and leadership	8	25.8	8	25.8
Sports	4	12.9	-	-
Other	-	-	-	-
None	16	51.6	12	38.7
Awards and scholarships received				
Academic awards	16	51.6	17	54.8
Arts and music awards	-	-	-	-
Service and leadership awards	8	25.8	7	22.6

Sports awards	1	3.2	-	-
Talent-related awards	-	-	2	6.2
Other	-	-	-	-
None	11	35.5	12	38.7

Childhood family background. Table 6 contains participants' family backgrounds (e.g., marital status, parental education levels, socioeconomic status, religion, and home language). The largest percentage shared that during childhood, their parents were married (51.6%). The second highest group reported that their parents never married (16.1%), and the third highest group tied with 12.9% divorced or separated. The smallest percentage reported their parent as a widow(er) during childhood (6.5%).

Next, participants reported their parent's educational levels and childhood socioeconomic status. Starting with their early education, overall participant responses showed that an equal percentage of mothers and fathers received only a high school diploma or equivalent (25.8%). On the other hand, post-secondary results showed that more mothers earned advanced undergraduate and graduate degrees except for doctoral degrees. For instance, slightly more mothers than fathers were reported to have bachelor's degrees (mothers,16.1%; fathers, 12.9%). Additionally, a higher percentage of mothers received master's degrees than fathers (mothers, 29%; fathers, 16.1%), yet slightly more fathers were reported as having earned doctoral degrees than mothers (mothers, 3.2%; fathers, 9.7%). Lastly, when asked about their childhood socioeconomic status, slightly over half of the participants responded that they were raised middle-class (51.5%). The second highest percentage reported being from working-class backgrounds (41.9%), and very few reported growing up affluent (6.5%).

Lastly, when asked about their family's religious affiliations and language backgrounds, nearly all participants reported Christianity (93.5%) as their childhood religion. Within this group, 71% identified as "practicing," and 19.4% stated that their families were "nominally" involved. Additionally, most participants reported that English was the only language spoken in their homes (80.6%). A small percentage shared that English and a second language were spoken at home (e.g., English, Creole, Spanish (3.2%), English, Jamaican Patois (3.2%), English, Spanish, French (3.2%), and English, Black English Vernacular (BEV) (3.2%)). One participant reported that French (3.2%) was their primary home language.

Table 6

Childhood Family Background (n=31)

Variable	Frequency	Percentage %
Parents' marital status during childhood		
Married	16	51.6
Widowed	2	6.5
Divorced	4	12.9
Separated	4	12.9
Never married	5	16.1
Father's education level		
Doctoral or Professional degree (e.g., Ph.D., Ed.D., JD., MD., DDS)	3	9.7
Master's degree (e.g., M.A., M.S., MFA, MBA, LLM)	5	16.1
Bachelor's degree (e.g., B.A., BFA, BAS)	4	12.9
Some college credit, no degree	2	6.5
High school graduate, diploma or equivalent	8	25.8
Some school completed	8	25.8
Not applicable/unknown	1	3.2

Mother's education level		
Doctoral or Professional degree (e.g., Ph.D., Ed.D., JD., MD., DDS)	1	3.2
Master's degree (e.g., Ph.D., Ed.D., JD., MD., DDS.)	9	29.0
Bachelor's degree (e.g., B.A., BFA., BAS)	5	16.1
Associate degree (e.g., A.A., A.S., AAS)	1	3.2
Trade/technical/vocational training	4	12.9
High school graduate, diploma or equivalent	8	25.8
Some schooling completed	2	6.5
Not applicable/unknown	1	3.2
Family SES		
Working class (e.g., income less than $50,000 annually)	13	41.9
Middle class (e.g., income between $50,000 to 150,000 annually)	16	51.6
Upper class (e.g., income above $200,000 annually)	2	6.5
Family religious affiliation		
Christian (e.g., Catholic, Mormon, Orthodox, Protestant)	29	93.5
Muslim	1	3.2
None	1	3.2
Family religious involvement		
Practicing	22	71.0
Nominal	6	19.4
None	3	9.7
Languages spoken at home		
English	25	80.6
English, Creole, Spanish	1	3.2
English, Jamaican Patois	2	6.4
English, Spanish, French	1	3.2
English, BEV	1	3.2
French	1	3.2

Educational resources and opportunities at home. Table 7 contains information about the educational resources available in participants' childhood homes. Nearly all participants reported access to reading materials at home. For example, books (96.8%), newspapers and magazines (90.3%) were within reach. Likewise, equally high percentages indicated regular access to musical instruments (74.2%) and strategy or board games (74.2%). Conversely, participants did not have access to online resources since many were born before widespread internet use. Therefore, only a few participants reported access to online technology. Only six participants (19.4%), for example, reported having internet access, four (12.9%) reported access to other electronic devices, and zero (0%) reported smartphone access.

Table 7

Educational Resources and Opportunities at Home (n=31)

Variable	Frequency	Percentage %
Books (excluding school books)	30	96.8
Newspapers and magazines	28	90.3
Computer and tablet	10	32.3
Smartphone	-	-
Other electronic devices	4	12.9
Internet access	6	19.4
Study desk/table	18	58.1
Own room	20	64.5
Tutoring	8	25.8
Art supplies and construction materials	17	54.8
Musical instruments	23	74.2
Strategy or board games	23	74.2
Other	3	9.7

Access to opportunities, influential people, and resources. Table 8 categorizes access to opportunities, support, and resources by mean and standard deviation. A five-point Likert scale (see appendix) was used to calculate participants' responses. Response categories were labeled in ascending order (e.g., 1, never, 2, rarely, 3, sometimes, 4, often, and 5, very often). A detailed response breakdown of participants' data, inclusive of frequencies and percentages, is available in the appendices.

Participants were asked to report the frequency with which they accessed talent related opportunities, influential people, and resources during childhood and now. *Access to opportunities* involved participation in enrichment programs, summer school, and out-of-school training. *Access to influential* people included engagement with eminent adults and/or master teachers, instructors, and/or coaches. Lastly, *access to resources* included the availability of books, computer software programs, and other academic resources.

Participants reported greater access to *talent related opportunities*, *influential people*, and *resources* now than they did growing up. For instance, they reported fairly frequent access to *talent-related resources* growing up and their most frequent access now (Growing up, M = 3.65, SD = 1.226; Now, M = 4.74, SD = .575). Additionally, most participants reported moderate access to talent-related *opportunities* growing up and frequent access now (Growing up, M = 2.97, SD = 1.378; Now, M= 4.30, SD = 1.055). Lastly, participants reported their least access to *influential people* when growing up and frequent access now (Growing up, M = 2.84, SD = 3.64); Now, M= 4.48, SD = .769).

Table 8

Access to opportunities, influential people, and resources (n=31)

Variable	Growing up (n=31)		Now (n=31)	
	Mean	**SD**	**Mean**	**SD**
Access to opportunities related to talent area (e.g., internships, specialized training, summer programs, out-of-school enrichment program)	2.97	1.378	4.30	1.055
Access to influential people related to talent area (e.g., eminent adults, master teachers, instructors, coaches, leaders)	2.84	3.65	4.48	.769
Access to resources related to talent area (e.g., specialty magazines and books, computer software, other helpful resources)	3.65	1.226	4.74	.575

Extracurricular time use. For Table 9, participants were asked to share how they used their *extracurricular time daily* during their elementary through professional years. Responses were recorded on a five-point Likert scale in increasing order from 1 to 5 (i.e., 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often). Table 8 reports the means and standard deviations for each element of participants' *extracurricular time* usage. Appendix G includes tables with frequencies and percentages related to each Table 8 time element.

Participants were asked to report how much *daily* time they spent engaged in extracurricular activities during their early academic, college, and professional years. Their top two extracurricular activities were *homework*/*studying* and *leisurely television* watching. Participants reported spending between *two* to *five* or more hours daily engaged in these activities. For example, most indicated *doing homework/studying* very frequently during secondary (M=3.52, SD = .811) and graduate (M = 4.23, SD =.845) school. *Leisurely television* watching, however, was frequent throughout their academic and professional years. The most time spent occurred during elementary (M= 2.48, SD = .677) and secondary school (M = 2.48, SD = .769). Their least time occurred during undergraduate (M= 2.35, SD = .950) and graduate school (M = 2.32, SD = .909). *Leisurely television* watching picked up again during participants' professional years (M = 2.42, SD = .958).

Next, during their early years, several participants reported spending *two* to *five* hours daily engaged with *family members* and *reading for leisure*. However, their engagement in these areas decreased in their undergraduate and graduate school years and increased again during their professional years. For instance, participants reported frequent time spent with family during elementary and secondary school (elementary, M= 3.58, SD = 1.025; secondary, M = 3.10, SD = .978) and far less during undergraduate and graduate school (undergraduate, M = 1.55, SD = .768; graduate, M= 1.74, SD = 1.032). Participants' *family time*, however, increased to nearly its early year frequency during their professional years (M=3.19, SD = 1.167). In addition to *family time*, *leisurely reading* occurred most frequently for participants during elementary (M = 2.48, SD = .667) and secondary school (M = 2.81, SD = 1.078) and declined during undergraduate (M = 2.42, SD = .92) and graduate school (M – 2.00, SD = 1.065). *Leisurely reading* increased slightly during participants' professional years (M = 2.23, SD = .956).

On the other hand, participants' *daily time spent with friends* remained fairly consistent during their early and later academic years, and the time they spent watching educational television remained fairly infrequent. First, participants' most frequent *time spent with friends* happened during undergraduate school (M = 3.26, SD = 1.125), and their least frequent *time with friends* occurred during their professional years (M = 1.97, SD = .605). Moreover, participants' time watching *educational television* was highest during their elementary (M = 2.16, SD = .934) and secondary school years (M = 1.94, SD = .854). It was lowest during their undergraduate (M = 1.52, SD = .769) and professional (M = 1.74, SD = .815) years.

Participants' *daily* use of *technology for educational purposes* and *technology for leisure* yielded less use during their early years and frequent use during their college and career years.

This is most likely due to the increased availability and use of the internet in schools and businesses around the time most participants entered college and/or started their careers. For example, *educational technology* use was lowest during participants' elementary and secondary school years (elementary, M = 1.55, SD = .850; secondary, M = 1.58, SD = .958) and highest during their graduate (M = 3.35, SD = 1.305), undergraduate school (M= 2.55, SD = 1.362), and professional years (M = 3.13, SD = 1.310).

A similar trend occurred with participants' *daily* use of *technology for leisure*. During their elementary and secondary school years, participants reported minimal use of *technology for leisure* (elementary, M = 1.42, SD = .720; secondary, M = 1.45, SD = .723). However, their daily use of technology increased gradually during their undergraduate (M = 1.77, SD = 1.023) and graduate school (M = 2.10; SD = .908) years, with their most frequent use of *technology for leisure* happening as professionals (M = 2.58, SD = 1.119).

Participants reported time spent *weekly* engaged in *extracurricular activities*. Overall results indicated regular participation, with the most frequent involvement during elementary and secondary school. Participants noted, for example, engagement in *academic clubs and activities* during their early and college years, with their most frequent involvement during secondary school (M = 2.77, SD = 1.146). They also pointed out regular attendance in *community service clubs and activities* during their early academic and college years, and their most frequent involvement was during undergraduate school (M = 2.42, SD = 1.177).

Interestingly, participants frequently engaged in *weekly religious and faith-based* activities during their elementary (M = 2.68, SD = 1.301) and secondary school years (M = 2.55, SD = 1.457). Yet, their involvement decreased significantly during college and increased slightly during their professional years. For example, participants were least active during

undergraduate and graduate school (undergraduate, M = 1.61, SD = .761; graduate, M = 1.58, SD = .958) and only slightly increased their activity during their professional years (M = 1.74, SD = .999).

Lastly, participants reported frequent *weekly* engagement in *sports and fitness club* activities, and their most frequent participation occurred during secondary (M= 2.77, SD = 1.359) and elementary school (M = 2.35, SD = 1.279). Participation declined during their undergraduate (M = 1.97, SD = 1.278) and graduate years (M = 1.87; SD = 1.284) and increased during professional years (M = 2.45, SD = 1.480).

Table 9

Extracurricular Time Use (n=31)

Variable	Elementary (n=31)		Secondary (n=31)		Undergraduate (n=31)		Graduate (n=31)		Professional (n=31)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Daily activities										
Homework/coursework/studying	2.61	.761	3.52	.811	3.52	.996	4.23	.845	2.94	1.153
Reading (leisure)	2.94	1.093	2.81	1.078	2.42	.923	2.00	1.065	2.23	.956
Spending time with friends	2.48	.996	2.48	.769	3.26	1.125	2.42	.765	1.97	.605
Spending time with family	3.58	1.025	3.10	.978	1.55	.768	1.74	1.032	3.19	1.167
Watching TV (educational/work related)	2.16	.934	1.94	.854	1.52	.769	1.81	.833	1.74	.815
Watching TV (leisure)	2.48	.677	2.48	.769	2.35	.950	2.32	.909	2.42	.958
Technology (educational)	1.55	.850	1.58	.958	2.55	1.362	3.35	1.305	3.13	1.310
Technology (leisure)	1.42	.720	1.45	.723	1.77	1.023	2.10	.908	2.58	1.119

Weekly activities										
Academic clubs/activities	2.39	1.174	2.77	1.146	2.45	1.434	2.16	1.573	-	-
Community service clubs/activities	1.97	.983	2.39	.882	2.42	1.177	1.87	1.088	1.97	.912
Faith-based clubs/activities	2.68	1.301	2.55	1.457	1.61	.761	1.58	.958	1.74	.999
Hobby & special interest clubs/activities	2.00	1.033	2.16	1.068	1.87	.885	1.32	.599	1.58	.720
Honor societies & Political & civic /activities	1.29	.643	1.87	1.024	1.45	.675	1.10	.301	1.71	.783
Sports & fitness clubs/activities	2.35	1.279	2.77	1.359	1.97	1.278	1.87	1.284	2.45	1.480
Student leadership clubs/activities	1.81	.873	2.35	1.050	2.10	1.165	1.58	.848	-	-
Visual & performing arts clubs/activities	2.06	1.289	2.32	1.275	1.58	.848	1.39	.882	1.35	.839
Vocational & professional associations/activities	-	-	-	-	1.58	1.119	1.68	.871	2.29	1.395

Hours spent sleeping, working, and developing talent. Participants reported the hours they slept daily and the time spent weekly *working* and *developing their academic talent* across their life spans. Their responses were recorded using a 5-point Likert scale arranged in ascending order (e.g., 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often). For the most part, the time spent developing their academic talent increased across their lifespan. In contrast, their time on recreational activities decreased or remained relatively consistent. Additionally, table 9 contains the means and standard deviations related to each variable. Frequencies and percentages related to each item are reported in Tables \located in the appendices.

When asked about the number of hours spent *sleeping,* participants reported receiving their most sleep, *eight* hours per day, during elementary school (M=2.87, SD=.991). Secondly, participants noted sleeping *six* hours per day during secondary and undergraduate school and as professionals (secondary, M= 2.06, SD=.998; undergraduate, M=3.03, SD=1.048; professional, M=3.26, SD=1.094). They reported *sleeping* least, *five* hours per day, during graduate school (M=2.77, SD=1.117).

Not surprisingly, most participants indicated *none* when asked about working an *unpaid or paid job* during elementary school (M= 1.42, SD = .886) since most elementary school-aged children do not work. Additionally, several participants reported *none* when asked how many hours they spent working in an *unpaid job* (M=1.81, SD=1.276) during secondary school. However, seven participants (22.5%) reported working in a paid job (M=3.26, SD=1.527) *three to four hours* per week during secondary school. Lastly, participants reported working most in a paid *job, forty-one* to *sixty* hours, as professionals (M= 4.06, SD=.854).

Moreover, participants were asked about the time spent *daily* developing their *academic talents* during their early academic, college, and professional years. Their results indicated that their *academic talent development* occurred most during graduate school and professional years. Most participants, for example, reported spending time daily developing their academic skills during graduate school (M= 3.68, SD= 1.045), and the second highest response indicated most developed their *academic talent* as professionals (M = 3.39, SD = 1.230).

The same trend occurred with participants *weekly* reported t*alent-related training or instruction* results. Most reported receiving their *talent-related training or instruction* during graduate school (M = 2.32, SD = .979) and as professionals (M = 2.48, SD = 1.151), and the least amount of training or instruction in elementary and secondary school (elementary, M = 1.55, SD = .675; secondary, M = 1.74, SD = .729). Lastly, participants reported their *annual* participation in *competitions, presentations,* or o*ther leadership events,* and their most frequent participation occurred during their professional years (M=3.03, SD= 1.404), and their second most frequent participation occurred during graduate school (M= 2.58, SD = 1.177). The least involvement occurred in elementary and undergraduate school years (elementary, M = 1.81, SD = .873; undergraduate, M = 1.90, SD = .700).

Table 10

Hours spent sleeping, working, and developing talent (n=31)

Variable	Elementary (n=31)		Secondary (n=31)		Undergraduate (n=31)		Graduate (n=31)		Professional (n=31)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Sleeping per day	2.87	.991	2.06	.998	3.03	1.048	2.77	1.117	3.26	1.094
Working (paid) per week	1.68	1.376	3.26	1.527	2.16	.638	2.39	.90	4.06	.854

Working (unpaid) per week	1.42	.886	1.81	1.276	-	-	-	-	-	-
Developing skills or talent per day	2.90	1.248	2.77	1.087	3.35	.950	3.68	1.045	3.39	1.230
Attending talent-related training or instruction per week	1.55	.675	1.74	.729	2.16	.969	2.32	.979	2.48	1.151
Participating in competitions, presentations, or other events that demonstrated or acknowledged leadership per year	1.81	.873	2.06	.929	1.90	.700	2.58	1.177	3.03	1.402

Qualitative Data

This section categorized participants' responses into *four* to *eight* major themes. Additionally, themes, frequencies, and percentages were reported under the additional table heading following each theme. Unless stated otherwise, percentages and frequencies were calculated using the entire sample (N=31). Moreover, participants gave more than one response to several interview questions; therefore, table percentages total over 100% in some sections and are noted in each section. Lastly, due to the quantity information presented in each table, *three* to four major findings were discussed in each narrative. The remaining information is available in tables.

Individual Aptitude Factors

PGM defines individual aptitude factors (e.g., grades, test scores, effortful behaviors, age, and life stage) as uniquely contributing to academic talent development. The following section will discuss the *ability*, *motivation*, and *development* experiences contributing to participants' academic talent development.

Ability

The Productive Giftedness Model (PGM) associates ability with measurable outcomes such as standardized test scores, capacity measures, grades, awards, and other field or domain-specific achievements (Paik, 2013). Interview questions from this section ask participants to describe themselves as students in their early and later years. They were also asked to discuss strengths, exceptional abilities, awards, and accomplishments.

Early and later year student descriptions. Table 11 includes descriptive words that participants used to represent themselves as learners during their early years (preschool to high school) and later years (college and beyond). The descriptive terms were categorized and placed under the "word group" table heading based on likeness. For instance, if participants described themselves as *bright* and *above average*, responses were labeled *aptitude* since both relate to academic scores or talent. Word groups are presented in the first column of the table, and the subsequent headings categorize the frequency of each response and the percentage of participants who responded, followed by examples.

Table 11

Early and Later Years [34] *(n=31)*

Word Group	Frequency	Early Years (%)	Frequency	Later Years (%)	Examples of Words Used
Aptitude	12	38.70	9	29.03	Excellent, bright, strong, average, good, everything came easy, slightly above average
Effortful	8	25.80	13	41.93	Serious, disciplined, driven, determined, hard-working, focused, serious, self-regulated, collaborative, wanted to be great

[34] Some participants used more than one term to describe themselves as learners during their early years and therefore the total percentage in the early year's section of the table exceeds 100%.

Open-minded	7	22.58	9	29.03	Curious, inquisitive, thoughtful, exploratory, practical, expansive, non-linear
Oppositional	3	12.90	0	0	Lost & confused, insufficient, not prepared, unsure, lacked self-control, & low self-esteem, cynical

In their early years, most participants described themselves using *ability-related terms*. For example, "bright", "excellent", "above average", and "average" each term represented innate ability and were therefore categorized as *aptitude* (38.70%). Their aptitude levels ranged from exceptional to average. For example, Nicole consistently received high scores in school. She described herself as "excellent and excellent" in both her early and later years. She said, "I got good grades and was a dutiful student, so I was excellent." Other students shared similar experiences with being fast learners or easily understanding concepts taught in school.

On the other hand, seven participants used terms related to good or, in a few cases, average to describe themselves as students. However, many participants in this category attended rigorous school or were placed in GATE or advanced courses. Their mid-range scores may have been higher had they attended less demanding schools. Ashanti highlighted this point when she shared, "I would probably describe myself as average. I think if I [had] been in public school, maybe I would have been considered gifted or above average." The quality of the instruction and curriculums they were instructed with were advanced. Most of these participants were learning content a grade level or two above their current grade.

The second highest percentage of participants used *effortful* (25.80%) terms to describe themselves as students, and the third highest descriptor was *open mindedness* (22.58%). Participants in the effortful category shared various "self-regulatory" methods they applied to keep up in classes or advance academically. Josephine, for example, wanted to meet or exceed the expectations set by her instructors and therefore worked hard to showcase her skills. She

stated, “I think across my entire academic life, I was an incredibly hard worker, and I set my own standards. I needed to know what my teachers thought of as excellent, and whatever that was, I was going to exceed it.” Other participants shared similar goal-setting experiences in connection with their academic effort. They discuss exerting maximum effort in school to be accepted into top colleges, to prove their intelligence to others (primarily teachers but also peers), or to experience career success and financial stability.

Participants who used terms related to *open mindedness* shared the words “curious” or “inquisitive” to describe themselves as learners. Teresa, an avid reader, stated, “I say inquisitive because I always wanted to know. I would read the dictionary just because I wanted to know stuff.” Like, Teresa, participants in this category satisfied their curiosity by reading. In addition to reading, participants discuss how they would often ask their teachers or other knowledgeable people questions about what they read. Finally, it is important to note that the participants who did not fit in with the *effort, ability,* or *open minded* terms were grouped as *oppositional*.

As students, during their early years, they faced challenges fitting into the structure of their academic environments. Some were labeled by school personnel as lacking self-control or inadequately prepared for class. However, in their later years, they no longer described themselves using *oppositional* terms.

In their later years, most participants used *effortful* terms (41.93%) to characterize themselves as students instead of *aptitude* terms. Participants used the words “focused,” “driven,” “determined,” and “self-regulated,” along with others, to characterize their academic behaviors. Participants shared that they were more focused, confident, and determined by the time they reached college.

Additionally, many participants who described themselves using *effortful* terms felt that as college students, they were working towards their own goals and no longer met the expectations set by their parents or teachers. For example, Sabrina used the terms "self-regulation" and "self-esteem" to describe herself in her later years because of her confidence in her academic ability. When asked to describe herself during her later years, she stated:

> The word is self-esteem and self-regulation for my older years... I always second-guessed myself growing up. So my confidence was much lower than it is now. Self-regulation came in [and] my self-esteem was boosted, and I realized I needed to look out for myself. I needed to believe more in myself to be successful.

At this point, participants who described themselves as *effortful* had met their early-year college goals and were on track to their career paths, but skill and content application needed to be applied as opposed to basic learning at the college level, and therefore, more *effort* was required to develop themselves academically.

Aptitude (29.03%) and *open mindedness* (29.03%) are tied as the second-highest word group categories that participants used to describe themselves as learners in their later years. Participants shared how they flourished academically as college and graduate school students. Lorraine highlighted her academic growth by stating:

> Early years, [I was a] very good student, college years, okay, undergraduate and graduate years very strong…You know k through 12, I was very motivated. I worked really hard….and as a graduate student, it was completely by choice that I wanted to be there, so I was engaged. I was a very strong student because I [wanted] to be there and do [the] work.

Like participants in the *effortful* category, participants who used *aptitude* descriptors also flourished academically during their college years.

In terms of *open mindedness*, during their early years, participants used terms such as "curious" and "inquisitive" to describe themselves. During their later years' terms, participants used terms such as "thoughtful" and "exploratory." For example, some participants discussed experiences with trying out several majors before settling on one. They also brought up traveling abroad and how their childhood curiosity carried over into their adulthood years.

Childhood exceptional strengths and abilities. Table 12 outlines participants' exceptional strengths during their early years (preschool to high school). The second section of the table categorizes the awards or accomplishments they were most proud of and why. Participants could not identify a single strength or ability and named two or more. Some participants indicated two or more strengths and two or more highly-prized achievements or accomplishments; therefore, the response percentage is over 100%.

Table 12

Childhood Exceptional Strengths and Abilities (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
What strengths or exceptional abilities did you have as a child?	Academic excellence	13	41.93	"When we had assignments, I felt like I would try to go above and beyond."
	Early or avid reader	10	32.25	"I learned to read when I was very young, [and] I was an avid reader."
	Compassionate	9	29.03	"I was a very sensitive child that deeply cared about people."
	Determined	9	29.03	"I'm going to think something through, and then I'm, I'm going to be

			determined to resolve it, whatever it is, whether it's finding some information or solving a problem, or getting things done."
Excelled musically	2	6.45	"I was someone who was very musical without music training."
Excelled athletically	1	3.22	"I was extremely athletic, [and] I was a gifted athlete very young."

Most participants credited *academic excellence* (41.93%) as their exceptional childhood ability. They regarded themselves as "excellent" students, as did their family members and instructors. Jamie, for example, shared that she "retained information really well and I had really good critical thinking skills." Moreover, participants shared they were fast learners, organized, critical, or creative thinkers.

Additionally, nearly a third of participants shared that *early or avid reading* (32.25%) was their exceptional childhood strength. Participants shared how reading contributed to their academic talent development by offering models for good writing, language development support, or accessibility to their subject matter interest. Lorraine spoke directly about how being an excellent reader helped satisfy her curiosities and helped with developing writing skills when she stated:

> I started reading at age two…and all things come from reading. It made writing a little bit easier because you mimic what you've been reading in terms of how you write… and then curiosity. I would sit down with an atlas and just read an atlas and look at where different countries were and read about them and that kind of engagement with just wanting to know things."

Most participants shared how continuous reading contributed to their GATE program placements, conversation skills, and confidence when speaking with adults.

Compassion and *determination* (29.03%) are tied as the third highest reported exceptional childhood strengths. Participants' terms and phrases related to compassion were “sensitive,” “caring,” “kind,” and “good at helping others.” These characteristics were shown through their willingness and success in advocating for others and bringing people together. Teresa, for example, shared that as a child, she possessed "an overt sense of fairness." She also stated that she "[was] not afraid to let everybody know, that's not fair." Compassion was also shown through participants' willingness to assist others socially and academically. In most cases, these supportive relationships resulted in solid friendships and ease of working with others.

Additionally, participants shared that as children, they were “determined.” Ester, for example, was resolved to “think something through and then.. resolve it, whether it’s finding some information or solving a problem or getting things done.” Other participants shared experiences with determination by excelling academically despite challenges or barriers they encountered inside or outside of school.

For Table 13, participants were asked to share the major awards and achievements of which they were most proud, and they were also asked why. Again, several participants could not share a single achievement or award and instead named two or more. As a result, the total percentages in this category total over 100%.

Table 13

Awards and Accomplishments (n=31)

Item	Theme	Frequency	Percentage (%)	Example
From all of your major awards and accomplishments, which ones are you most proud of?	Highly prized/competitive academic awards and achievements	20	64.51	"I received the early career award you can only get it when you're five years or less out from your Ph.D., and it's, it's a big deal."
	Mentorship, advocacy, & service awards	13	41.93	"I'm proud of them because fundamentally, I think our responsibility is to cultivate the people around us."
	Parenting and/or caregiving	3	9.67	"Becoming a mother to a daughter was probably my most amazing accomplishment, more so than a Ph.D., more so than any teaching award that I could have received."
	Media and/or financial investment	2	6.45	"My real estate investment."
	No relationships to awards	1	3.22	"I don't have a relationship with awards."
Why?	Recognition (e.g., name, advocacy work, service work, publications)	9	29.03	"What makes [this] award so special is that I work in advocacy."
	Personal growth or gratification	8	25.80	"A six-month consulting position as a researcher…with transformational education…I feel really good about the work I did there. The experience is transformational."
	Helping others	7	22.58	"I have gotten mentorship awards. I'm proud of them because fundamentally, I think [it's] our responsibility to cultivate the people around us."
	Career mobility	4	12.90	"My book has won a lot of awards…it's helping me in my career progression."
	Financial gain	2	6.45	"I was awarded a fellowship for minority students…and that paid for my grad school."
	No relationship to awards	1	3.22	"I don't have a relationship with awards."

Most participants shared that a *highly prized award or esteemed accomplishment* (60.51%) was their most notable achievement. "Book completion", "tenure", "Ph.D. completion", "major grants", "doctoral fellowships," "Fulbright," and "NSF Career" awards were the types of achievements and accomplishments participants named. Participants shared that their career mobility was attached to naming these achievements as most prized. For example, Bianca shared, "I'm most proud of my book. My book is a major one because it's helped [me] get tenure." The second-highest percentage of participants named a *mentorship, advocacy,* or *service* award (41.93%) their most prominent achievement. Participants named

"civic engagement awards," "mentorship," and "advocacy awards," and "elected and appointed board positions" as some of the distinctions they received. Finally, *becoming a parent* (9.67%) was the third highest participant response. They shared experiences with homeschooling their children, putting their kids through college, or parenting in general as a major accomplishment.

When participants were asked why they identified specific awards and achievements as those they were most proud of, the top three responses given were "recognition for advocacy" or "academic work" (29.03%), "personal growth" or "gratification" (25.80%), and "helping others" (22.58%). The awards and recognitions were external and internal acknowledgments of their efforts and ability. Their achievements and accomplishments were a result of "a culmination…of a whole lot of good decision making" as shared by Teresa. Nicole shared that her award acknowledged "contributions to people's well-being in the institution " a sentiment that several participants also shared. Their achievements provided tangible acknowledgment of their "service", "determination", and "academic skillfulness."

Motivation

Student motivation impacts achievement outcomes, and motivation may be internally driven by an innate reward system (e.g., desire to learn) or externally driven by tangible rewards (Paik, 2013, 2015). Interview questions in this section provide insight into what drives perseverance and achievement during schooling and professional years. The following section discusses participants *early and current learning motivations*, *success attributions*, and their *effort and ability perceptions*.

Motivation during early years and now. For Table 13, participants were asked to share specific information about their motivation. They were first asked to share a word that captured their early and current "personalities as children." Next, they were asked about "practices and disciplines" that helped them achieve their talent goals. Lastly, they were asked to share what "motivated them to excel" during their academic and professional years. Most participants could not state a single person or goal that influenced them to excel during their schooling or present years. Instead, they named two or more motivators. Therefore, the table percentages total over 100%.

The table is divided into two sections: external and internal motivation. Extrinsic reward systems drive external motivations, whereas internal validations inspire intrinsic motivation. As noted in the table, the largest percentage of participants were motivated by external influences. For example, during participants, early years validation from others (64.51%) was the most frequent response category. Nine participants (29.03%) stated that they were motivated to excel in "making their parents proud", five (16.12%) wanted to "impress their mothers," three (9.67%) wanted to "impress their entire families," and two (6.45%) wanted to "impress their fathers." One participant (3.2%) wanted to "impress her peer."

Table 14

Motivation During Early Years and Present Motivation to Excel (n=31)

Item	Type of Motivation	Frequency	Early Years (%)	Frequency	Current Years (%)	Representative Quote
	External motivation					
What motivated you to excel throughout your school years (preschool through university and beyond)?	Validation from others (family, peers, teachers)	20	64.51	2	6.45	"In the beginning, it definitely was not disappointing my family and wanting to meet that bar that my parents set for me."
	Financial gain	9	29.03	0	0	"I think my motivation pre-K through college was that

						yearning for financial success and independence because we didn't have it growing up."
What motivates you to excel in your profession now?	Academic or career goal completion (E.g., tenure, promotion, etc.)	2	6.45	6	19.35	"Completion was a motivation and being tenured was the motivation being promoted to full professor was the motivation."
	Spiritually motivated	1	3.22	1	3.22	"My Christian faith, I think that's the ultimate motivator for me"
	Helping others	1	3.22	16	51.61	"I was motivated by social justice, so I knew that I wanted to get my degree so I could go out in the world and like create more just circumstances for the people in the communities I care about."
	Travel opportunities	0	0	3	6.45	"I get to do all kinds of amazing things in this profession, and I lived in Taiwan for a while, and I went to Israel on somebody else's money."
	Internal motivation					
	Loved Learning	6	19.35	1	3.22	"So in those early years, I feel like it was just the love of learning."

Financial gain (29.03%) was the second highest response given by participants as impacting their motivation to excel. A *love for learning* was the third highest response category (19.35%) and the only internal motivation participants shared.

Participants shared how family members, especially mothers, contributed time and, in some cases, money to ensure they received the best education. They also shared that failure was not an option and how their parents held them to high academic expectations. Bianca shared how she sought her parents' approval and feared getting low scores. When asked about her motivation to excel, she stated, "my parents probably desire to have their approval, but also fear. In my house, you don't get bad grades. You don't do poorly in school." Moreover,

participants talked about how their parents shared with them how education is connected to opportunities leading to future success in caring for themselves and others. For example, Josephine shared:

> My mom always told me that your education is not about you. When we were growing up the understanding was that a lot of people sacrificed to help my mom put us through school and it was really clear that was because we were responsible for helping the family [and] the folks in the community…So if you have the opportunity to be excellent, you have a responsibility to be excellent. People need us.

The desire to support and help others is a consistent theme shared throughout participants' interview responses.

Additionally, financial gain was a motivator for several participants because while growing up, they experienced financial hardships. Kamala shared, "I think my motivator pre-k through college was that yearning for financial success and independence because we didn't have it growing up." Participants in this category cited poor economic conditions or community conditions as their motivation to succeed. Finally, the third highest response given by participants for their continued childhood motivation was a *love of learning*. A *love of learning* was the only intrinsic motivation given during participants' early and later years. Six participants shared that they either learned things easily and quickly during their early years or enjoyed learning new things. Jamie stated, "in those early years I feel like it was really just the love of learning. I really enjoyed school."

Only one participant's response fit the intrinsic motivation category in her later years: Lorraine, who shared, "I think early on it was to please my parents, and now I think it's to please

myself." Overall results showed that extrinsic motivation was the primary motivator for participants to excel academically in their early and current years.

Participants' *motivations to excel* shifted significantly from their early to current years from "parents" as primary (early years 64.51%; later years 6.45%) as primary influencers to "helping others" (early years 3.22%; later years 51.61%) as their primary motivation to excel. Kamala, for example, stated:

> My goal is to make a difference and if I can make a difference, I'm happy. I don't care about anything else. Just making a difference in the lives of those people who need it." Participants additionally shared information about their desire to improve conditions for Black people, youth, women, and others, by providing opportunities for equitable education.

Additionally, Ruth shared, "what motivated me now is equity-mindedness [for the] next generation of leaders, so we can get rid of the equity gaps for students, for women, for people of color as they navigate this environment. Several participants in this response category echoed Ruth's sentiment and emphasized the importance of equitable education to transform experiences for persons from historically underserved communities.

The second highest response participants gave as their motivation to excel was *academic or career success* (19.35%). Participants shared "promotion" and "tenure" as their primary motivators. Several participants shared that they were motivated to meet the expectations set by academia to achieve their desired goals. Nicole summarized this point when she shared:

> I am the kind of person who wants to meet standards and expectations…if what it takes to get tenure means to write a book, I'm going to write a book, if what it takes to get

promoted to full professor is to write a second book. I'm going to write a second book. So, that's kind of what motivates me.

Success definitions and attributions. For Table 15, participants shared their definitions of field success and discussed their success attributions. When asked how they would define success in their field, the top two response categories were *helping others* (48.38%) and doing *personally satisfying work* (35.48%). For example, Shirley stated, "Success in my field, which is education, is making particularly public school spaces more equitable, more attentive and more loving or care-centric spaces for those who have been most marginalized in those spaces." Several participants in this category shared Shirley's attitude and felt successful when they saw others, primarily persons from unserved communities, achieve success. Most participants defined success as doing "personally satisfying work," as the ability to express themselves in their work and the opportunity to write about personally meaningful issues. Most of those topics involved conditions impacting people of color. Ginger expressed these points when she shared:

> Success is that we change the way we see students of color in mathematics and that we include the voices of teachers of color in the preparation of teacher preparation. So success for me is being able to see that work continues and that there is a difference in an area of research that wasn't opened before.

Table 15

Success Attributions (n=31)

Item	Theme	Frequency	Percentage (%)	Example
How would you define success in your field?	Helping others	15	48.38	Influencing and helping others, speaking up and taking on challenges to help others

	Doing personally satisfying work	11	35.48	Exploring topics of personal interest, doing work based on the experiences of Black people
	Job security	3	9.67	Having a tenured position
	Receiving funding	1	3.22	Getting funding for research interests
	Showing up each day	1	3.22	Showing up each day
	Religion/Spirituality	12	38.70	God, Jesus, wisdom, belief, religious faith
	Family	11	35.48	Mother, father, husband, parents
	Friends, Colleagues, Other supportive persons	10	32.35	Loving persons, mentors, community members
Based on your experience, what would you most attribute to your success?	Determination	9	29.03	Persistence, detail-orientation, personal sacrifice, assertiveness
	Professors	3	9.67	Doctoral advisor, African American faculty
	Financial investments	2	6.45	Savings, investments

Participants were asked what they *attributed their success to*, and the top three responses were *religion or spirituality* (38.70%), *family members* (35.48%), and *friends, colleagues, or other supportive persons* (32.35%). Fifteen participants (48.38%) attributed their success to religion or spirituality and shared that belief in a higher power contributed to their success. For example, Seka shared how "God working through her family" contributed to the success she has experienced with working on tasks to "improve the lives of Black people." Shirley spoke specifically about the power of prayer and how it manifested tangible support in her life from others when she stated:

> My mother or my people prayed for me. There was somebody in the background pulling for me, whether it was my grandmother [who] gave me $10 for gas…people buy me a book that they thought I would really like and that book changed me in some ways…but every step of the way, I've had people…absolutely nothing was I've done is because of me alone.

Eleven participants (35.48%) shared that "family members" supported them in attaining success in their field, and ten participants (32.25%) attributed their success to "supportive persons" outside their family. These participants credited "close family and friends" with seeing their potential when they could not see it in themselves. Ginger, for instance, shared how her dissertation committee members, specifically her advisor and others, believed in her and supported her along her doctoral pathway. When asked what she most attributed her success to, Ginger replied:

> My doctorate committee advisor…I wish I could see myself through his eyes because he really believed in my work, and sometimes your committee says things that sustain you for years. So I thank my advisor and people really believing in me helped.

For Ginger, the recognition of her potential by others helped her reach levels of success that she may not have achieved alone.

Perceptions of effort and ability. Table 16 shows participants' responses to the question: do you think effort or ability is more important, and why? The largest percentage of participants (67.74%) stated that effort was more important than ability. Most [participants shared that ability materialized through individual effort, or as stated by Angela, "you can have all the ability in the world [but] you have to do something with that ability." The consensus

among participants in this category is that ability alone is not enough, and that effort is essential because it galvanizes ability.

Table 16

Perceptions of Effort & Ability (n=31)

Item	Theme	Frequency	Percentage	Representative Quotes
Do you think effort or ability is more important? Why?	Effort	21	67.74	"I know lots of people with ability and they are failing because the just won't put the time in."
	Both	9	29.03	"I think there are some people who are really great writers and they have this innate ability…, but I think without effort you cannot develop your abilities."
	Ability	1	3.22	"I think we can all put in a ton of effort and it might still not be good. I think ability shows that you've mastered the craft, but that you have facility with it."
How did you come to develop that perspective?	Personal experiences	22	70.96	"If you look at my career, my trajectory, it's not ability it's parcel related. You know, you have to show up, you gotta do the work, you gotta put in the time."
	Watching and learning from others	8	25.80	"You have to have some ability but if you give no effort then you're not going to succeed either. The chair told it to me [after] watching several students who could not interpret their data."
	Research	1	3.22	"I think children were being misrepresented...you know research [that] would say African American students don't have the same cognitive ability."

The second highest group of participants believed that *effort* and *ability* are equally important (29.03%). Participants in this category shared how effort is needed to galvanize ability and how more than effort alone may be needed for persons who do not have the skill or knowledge needed to produce quality work. Erin believes effort and ability to be equally important and shared a personal experience about students who struggle with research. These

students put forth lots of effort with little result because they lacked the ability to fulfill the task. She shared:

> I think you need to be creative enough to come up with a research question. If you have no ability to come up with that question or understand or interpret that question, because I have seen students who have put in a ton of effort, but they didn't, they couldn't interpret what the data was telling them. So, it didn't matter how long they worked on it, they couldn't generate any kind of hypothesis from this data. You have to have some ability, but it you've given no effort then you're not going to succeed either.

Additionally, participants spoke of persons who have the ability but do not put forth the effort. In these cases, even though they were well equipped to advance academically, they did not take advantage of opportunities or take steps to optimize their potential. Lack of effort contributed to their lack of academic talent development.

Finally, Althea claimed that ability outweighs effort (3.22%). She stated:

> I think we can all put in a ton of effort and it might still not be good. I think ability shows that you've mastered the craft, but that you have facility with it…You know, effort [is] great, but it doesn't mark success in my opinion, I think it's ability.

According to Althea, no matter the effort, individuals who do not carry ability cannot produce solid work. Overall, however, effort was the response participants gave as being more important than ability since participants tied effort to persistence and willingness to complete tasks.

When asked how they developed their effort and ability perspectives, most participants shared personal experiences (70.96%). The experiences they shared were related to their scholarship trajectory. Participants shared experiences with overcoming academic success

hurdles. For instance, Jamie talked about her academic trajectory with learning quantitative sociology and how math was not a strength, but her efforts led her to achieve her career goal. She stated:

> I am now a quantitative sociologist, and math was not one of the central things that I studied in undergrad or high school, but being able to have the space and opportunity to put that effort in and have someone help me with it is how I mastered it. It wasn't like a natural ability that I had, I wasn't a math whiz kid, it wasn't one of my huge strengths…so I think effort does translate into ability.

Participants also discussed how people might need to consider the time and effort that goes into achieving success. Lorraine highlighted this insight when discussing the pathways Olympic athletes take toward achieving a gold medal. She stated:

> There's a certain point where even the national athlete has to put forth effort in order to win that medal. You wanna go to the Olympics, you have to put in the additional effort even if you have all the skill and talent in the world.

Participants also talked about their experiences with trial and error, failures, mistakes, and in some cases, discrimination, and how they continued to strive to overcome these challenges. Their experiences with these challenges helped shape their perceptions of effort and ability.

Participants shared how *watching and learning from others* (25.80%) influenced their *effort* and *ability* perspectives. They discussed experiences with watching talented persons not utilize their abilities and how those observations shaped their perspectives about effort and ability. Nicole, for example, has a very talented brother whom she shared "was super smart but didn't turn in any homework." and how his schooling experience shaped her belief that effort

drives ability. Additionally, participants discussed individuals they described as having abundant resources and supports that aided their skill and knowledge acquisition. However, they did not utilize their ability in ways that would help others. Shirley shared her experience with learning from others who did not give back. She stated:

> Meeting a bunch of…folks with a lot of ability and no effort and seeing that they had everything given to them, they had access to the best schools and resources…they have money they have connections, they have the social capital, they have the cultural capital, they have all the ability in the world yet nothing is offered.

Participants' experiences learning from and watching others solidified their effort and ability perceptions.

Only one participant cited research as shaping her perspective on effort and ability. She shared her knowledge of a study that references eugenics as an argument for Black students having low cognitive ability. This study framed her perspective that effort and ability are equally important since, historically, unrepresented persons were excluded from intelligence research or categorized as intellectually low-performing.

Early and later year personality descriptions. For Table 17, participants were asked to share words that described the type of students they were during their early and later years. The terms they used were grouped based on similarity and listed under the "word group" heading. For example, the terms "shy," "introverted," "reserved," and "quiet" was categorized as *introverted* since they each related to introversion. Word examples were listed in the "Examples of words used" column.

Table 17

Type of Students in Early and Later Years (n=31)

Word group	Frequency	Early years	Frequency	Later years	Examples of Words Used
Introverted	11	35.45	5	16.12	Shy, introverted, quiet, introspective, reserved, listener, pensive, reflective, bashful, reticent, thoughtful
Assertive	9	29.03	12	38.70	Determined, headstrong, will-power, bold, serious, political, opinionated
Extroverts	5	16.12	6	19.35	Fun, humorous, outgoing, very social, playful, hedonistic
Advanced	2	6.45	0	0	Precocious
Imaginative	1	3.22	2	6.45	Imaginative, curious
Spiritual	0	0	2	6.45	Evolving, spiritual
Caring	0	0	4	12.90	Compassionate, sensitive, generous
Extreme	3	9.67	0	0	Intense, selfish, out-of-control, overly sensitive, loud, vivacious, excited

Most participants used words related to *introversion* (35.45%) to describe themselves as students during their early years. In contrast, a slightly larger percentage of participants described themselves using terms related to *assertiveness* (38.70%) during their later years. Participants shared their proclivity for being "thoughtful," "attentive," "quiet," "reserved," and "reflective" during their younger years. Lorraine discussed her inwardness when she shared, "As a child, I was always sort of the quiet one, kind of precocious. I was more inward and not engaged with a wide variety of people." Participants in this group shared similar experiences with being attentive to their surroundings.

As adults, *assertiveness* was the definitive personality characteristic. Participants spoke about experiences making career moves and speaking up for themselves and others as models of their assertiveness. For example, Ruth's "problem-solving" and "time-management" skills exemplify her assertiveness. She shared:

> I have a strong-will. I'm confident. I'm straightforward and take no prisoners. I just don't have time to waste. I'm an astute problem solver. I'm very quick on my feet. It can take somebody two hours to have a discussion. I can have the discussion done in 15 minutes. I just don't waste a lot of time.

Other participants in this category spoke of their assertiveness in similar ways. They talked about using assertiveness skills to navigate academia in ways that benefit themselves and the populations they serve.

The second and third highest early-year descriptive words participants used fit into the categories of *assertiveness* (29.03%) and *extroversion* (16.12%). Participants who used terms related to assertiveness described themselves as "serious," "bold," "stubborn," and "determined." These personality traits translated into firm actions and behaviors or, as Teresa stated, "[the] headstrong part of my personality means that when I say never, that's what it means." Participants shared experiences with intense determination and commitment to task completion.

Conversely, those who described themselves using terms related to *extroversion* spoke more lightheartedly about themselves as youths. They used "fun," "humorous," and "energetic" terms to describe themselves. Dorothy shared her childhood ambition "to make people laugh…[and] see the humor in most situations." Participants talked a lot about the joy and excitement they experienced in social settings, most often with friends. Overall, their pleasurable experiences with others represented their extroversion.

The second and third highest later year word group categories were *extroversion* (19.35%) and *introversion* (16.12%). Participants used terms related to extroversion to talk

about the joy they experienced when engaged in social activities. Angela shared that her extroversion extended from her teen years into her current year personality description. She stated:

> I have always been, since my teenage years, a hedonist. I love pleasure. I love things that are related to pleasure and joy. I like good food. I love to travel. I like laughing. I like beautiful places, beautiful things, not so much material possessions but going to beautiful places.

Participants talked about being outgoing, energetic, and fun as their dominant adulthood personality characteristics.

Early and later year practices and disciplines. Table 18 provides information about the early year (pre-k through college) and current year practices and disciplines that impacted participants' academic talent development. The top three practices and disciplines for early and later year academic talent development were *self-regulation, working with others,* and *self-care and wellness routines*. Please note that during their later years, participants engaged in two or more practices and disciplines; therefore, the total percentage for later-year practices and disciplines is above 100%.

Table 18

Early & Later Practices and Disciplines (n=31)

Theme	Frequency	Early Years	Frequency	Current Years	Representative Quote
Self-regulation	24	77.41	19	61.29	"I set up a very disciplined schedule to stick to it."
Self-care & wellness routines	0	0	14	48.27	"I get eight hours of sleep every single night."
Working with others	5	16.12	8	25.80	"When I was young, what helped me was…, being able to go to my mom and ask questions, or if it was

					something that neither one of us could figure out having folks to call and get help."
No practice	2	6.45	0	0	I can't say that I necessarily had conscious practices that I used through my K through 12 years…it was sort of ad hoc for a lot of it."

Most participants shared that *self-regulation* practices (77.41%) supported their early-year academic talent development. The largest percentage of participants also reported self-regulation practices (64.51%) as the current practice they used to maintain their academic talent development. Early year practices and disciplines reported by participants included self-discipline, time management, organization, and focus. These childhood practices were revealed through consistent reading and writing, homework completion, and goals setting behaviors. Nearly all participants spoke about being hyper-focused on task completion and goal accomplishment. Tonja shared, "In my school years, I would have incredible focus and discipline, so I would spend hours reading, playing the clarinet, and writing."

Similarly, Bianca talked about being "good at taking a lot of notes and trying to be organized with my materials. I'm a big fan of being detail-oriented." Participants possessed several self-regulatory tools; among the top tools, they were well organized and maintained clear structures and routines for task completion that they continued to utilize during their later years.

Their later-year practices and disciplines consisted of keeping a consistent schedule, setting goals, setting deadlines, and prioritizing tasks. For example, Ginger shared, "my best strategy is [that] I love timers…because I have deadlines. Sometimes I don't feel like doing anything but I'll set it for 15 minutes. I'll give 15 minutes. I will work with 15 minutes." Also, the common theme communicated by participants was prioritizing tasks and planning backward

to achieve the task. Angela, for example, shaped her structured task-completion plan. She shared:

> I will have multiple writing projects going on at the same time and I might be working on poetry. I always schedule time to work. If I have a deadline, I'll work backwards from that deadline. I need to have a penultimate version done a week ahead of time. So I will schedule myself out a week ahead of time. I'll have my work day from eight to four and then from four to eight, I'm writing two, three, days a week, and so I'll schedule myself like that. The practice and disciplined time management is really important.

Participants in this category shared the same sentiment that self-regulation methods played a significant role in sustaining their academic talent.

Working with others (16.12%) was the second highest practice that participants engaged in during their early years. Most participants talked about working with study, church, mentoring, or other groups, whereas one participant talked about working consistently with a relative. Rebecca, for example, discussed how working with others aided her public speaking skills and fitting into diverse spaces. She shared:

> Pre-K through 12 was definitely the speeches that I would do or rhetorical contests. Those got me really comfortable in front of an audience [using] a microphone. I sung in the choir, and being a part of a unit and having to fit in with the whole was something that I got a lot of experience [with]... belonging in different places and spaces, especially in mathematics where there isn't a large Black community. So for me being successful in that space was partly because I had these other communities that I could identify with.

Participants also talked about how working with others helped them academically by providing them with feedback on their work or sharing methods for solving challenging problems. In most cases, academic support showed up in the form of helpful persons who gave them feedback and encouragement to persist through complex tasks.

During their later years' participants credited working with a group as providing them with the encouragement and the academic support needed for their academic advancement. For example, Erin shared:

> It wasn't until I [joined] a study group in grad school that I learned how to study and that really helped me. I also have a biweekly group with the … writing camp…and I'm going to keep meeting with these people until I get funded. I told them if you want to get rid of me, you gotta help me get funded.

Most participants in this category also met with others through university-sponsored programs or professional outside group affiliation. Participants in these programs were often provided participants with academic support that aided them with task completion and career advancement.

Self-care and wellness practices (45.16%) were cited as the second highest practice or discipline utilized during their later years. Participants discussed practices such as celebrating achievements (no matter how large or small), surrounding themselves with good people, and engaging in physical activities, prayer, and other spiritual activities that helped them sustain their academic talent. Imani talked about her wellness practice as a part of her writing ritual. She said, "When I'm getting ready to write, I have my alarm set. I light a candle. I turn on a particular playlist. I think that's what gets through, it's the consistency part." Other participants

shared practices that helped them maintain a work-life balance by compartmentalizing their work and maintain a work-life balance. For example, Sarah talked about spending time with her partner as a regular practice that helps her be more productive and balanced with her scholarship. She shared, “I think in my life now being able to carve out time for some of the little things with my husband even if it’s just sitting around watching the most senseless TV, and talk about people. That’s balance.” Participants in this category generally found ways to accompany their self-regulated behaviors with rituals that helped them complete tasks.

Development

The Productive Giftedness Model (PGM) defines *development* as changes based on age or life stage (Paik, 2015). Talent development may flourish at various life stages; however, early recognition and investments may lead to an accumulation of recognition and accomplishments (Ericsson et al., 2007). Questions in this interview section examined participants' talent identification, mastery, and preparation during their childhood and professional years. Participants were also asked about their professional talent development.

Talent development: Field interest, influences, and introductions. Table 19 categorizes the ages and reasons participants became interested in their talent field. The majority became interested in their fields during childhood and early adolescence, from ages 5-12 (32.25%). The second largest group became interested during their 20s (29.03%), and the third largest group became interested during their teenage years (22.58%).

Table 19

Talent Development: Field (n=31)

Item	Theme	Frequency	Percentage	Representative Quote
Tell me about how you first became interested in your field.	Ages 5-12	10	32.25	"I always wanted to teach, if you were coming to my house, we were going to play school."
	Ages 13-19	7	22.58	"I was 15 when I became interested in the field."
	Ages 20- 29	9	29.03	"I was probably in my twenties when I decided to do this."
How old were you?	Graduate school	5	9.67	"I didn't become interested in this field until I was accepted [into] graduate school."
	Job or program experiences	14	45.16	"I started with non-profit work."
	Secondary or University course	11	35.48	"It just blew my mind to be able to study women, or history of Mexico or African or African American history, just all the people who had been excluded from my curriculum and the K through 12 experience."
How did you become interested in your field?	Playing school	3	9.67	"I used to play school house all the time and talk to my dolls and act like the teacher."
	Instructor (e.g., teachers, professor, etc.)	2	6.45	"I had one Black female professor, and I had a conversation with her about, well, how did you end up doing what you're doing?" "She was very down to earth, and we had discussions, and it planted the seed."
	Mother's encouragement	1	3.22	"I would say my mother had the greatest influence on me … she was someone who really valued education."
	Undergraduate or graduate professor	11	35.48	"A White male professor asked me to come to his office hours after class, and I did, he said, have you ever thought about getting a Ph.D. in sociology" " So I guess you could say he introduced me to it."
	College program or course	8	25.80	"I came across a program at the university with counselor education…where I would get training and train with others who wanted to be school counselors."
Who introduced you to your field?	Primary or secondary school teacher	5	16.12	"I was 15 when I became interested in the field, and a teacher at the prep school… was the one who encouraged me…"
	Mother	4	12.90	"My mom would always say she knew that I was going to be a teacher."
	Co-worker	1	3.22	"There was a woman who I was working with who was herself working on her Ph.D. and was really encouraging me to go on and get a master's degree."

Personal experiences	1	3.22	"I can't say that nay one person introduced me to the profession what peaked my interest was my own experiences, my own culture, and my own language."
School track	1	3.22	"It was in the natural course of what was supposed to happen, you go to school to study, and it's a given that you're going to go to the highest level and that you will end up doing what you like."

When asked how they became interested in their field, the largest percentage of participants shared that they became interested in education through their *job or academic experiences* (45.16%). Participants discussed job experiences that provided opportunities to explore topics related to their field, in ways that allowed them to apply their knowledge in ways supporting others. For example, Kahlil talked about her experience attending school half day and working in a field-related position the other half of the day. This experience sparked her interest in her current field. She shared:

> I was in high school and my career goal was to become an executive secretary…I did what they called a co-op where you go to school half-day and then you work at a company half day. At that time, I was working in a computer company…there was an analyst who asked me to type in some information for her because of my accuracy and speed and she kept coming back time and time again… I later learned that I was actually typing code and she said to me, "you should really consider computer science." and so that's how I got there.

Moreover, some participants shared academic program experiences that piqued their interest in their field. Entering the graduate program in higher education pushed Lorraine's interest from being a teacher to becoming a researcher. She shared:

> I think I was always interested in being a teacher and I think my interest in becoming an academic, teaching in higher education, came when I was doing my master's degree which was more creative than research focused…I think broadly graduate school made me more aware of some of the possibilities.

Several other participants shared Lorraine's experience where a job or educational experience opened doors related to higher education that inspired and sustained their interest.

The second largest group of participants (35.48%) shared that *in-school learning* about their field contributed to their interest. Participants in this group identified specific classes they took in secondary school or during their undergraduate or graduate school years. Some courses were field specific (e.g., philosophy, political science, biology, etc.). For example, Ruth stated, "I think I was in elementary school when I became interested in African American history because I had a little art project that I did, and it said that Black musicians saved the music industry." Other participants discussed advanced courses that helped them enrich their field knowledge (e.g., qualitative methods, research methods, college algebra, biology statistics, social welfare, etc.). Nikki, for example, began to identify as a "math person" after taking a college algebra course where she became the go-to expert in the class. When asked about her field interest, Nikki stated:

> It was a college algebra class, and I think in that class, that's when I realized my identity as a math person…I became the go to make person in that class. I think having those moments shifted me into thinking I know math, I can do math. I'm good at it and it makes sense to me."

Lastly, other participants shared that *playing school* as a child, instructor encouragement, and their mother's encouragement inspired their field interest.

Participants were later asked who introduced them to their field. The top-three responses were *undergraduate or graduate professors* (35.48%) and *college programs or courses* (25.80%), and *primary or secondary teachers* and *mothers* tied at (16.12%) as the third-highest participant response. Participants who stated that a professor introduced them to their field talked about professors who were their undergraduate or graduate advisors or course instructors. Josephine, for example, became interested in psychology during high school. However, her professor, whom she shared "was a practicing anthropologist," introduced her to the field of anthropology and encouraged her to pursue her interest in this area.

The second highest percentage of participants credited *college programs or university courses* (25.80%), (e.g., fellowship program participation, informative classes, and/or internship opportunities) as helpful in establishing their field interest. Ruth, for example, shared how her experience in a graduate school class shifted her interest from being a public school teacher to becoming a higher education professor. She shared:

> It was a graduate class. It was three hours once a week and having an opportunity to branch out and do research and service was appealing to me. So that is when I transitioned in my thinking from being a public school teacher to teaching in higher education.

Many participants in this category shared that they were looking for other opportunities and avenues while in school or working that served their greater academic interests.

Primary and secondary school teachers and mothers represented the third and fourth highest percentage of participants' responses. Similar to college professors and advisors, early childhood and adolescent teachers recognized their abilities or potential and nudged them toward their talent field. For instance, Rebecca shared how her AP calculus teacher encouraged her to pursue mathematics. She stated, "I was talented in mathematics at a young age…in particular, my AP calculus teacher really encouraged me to think about majoring in math even though I didn't think I was that great." Additionally, mothers played a significant role in peaking four participants' interest in their fields. For some, their mothers encouraged education as a pathway to promising careers and advancement opportunities. This point was exemplified by Nikki, whose mother she shared, "was very influential in my identity as a math educator. She believed very strongly that STEM disciplines would help you succeed [and] have better jobs." Other participants shared that their mothers believed strongly in the value of receiving education for its intrinsic worth. For instance, Marla shared, "my mother had the greatest influence on me…she is someone who really valued education [and] she always pursued it. It took her eight years to get her master's degree and then she received a master's degree. She was just always pushing for that and literacy." Nevertheless, influential instructors and mothers encouraged and inspired interest in participants' current fields.

Talent development: Professor role. Table 20 identifies information related to participants' professional roles. This section provides details such as the ages participants began their careers and how they started professionally. Most participants were in their mid to late-20s (35.48) when they started working as college professors. However, participants who began working as professors in their 30s (32.25%) ran a close second to those who started in their 20s. The third highest percentage of participants did not share the age they began working as

professors. However, they reported that they began work after completing a post-doctoral, graduate, or doctoral program (25.80). The fewest participants began working as professors in the 40s (6.45%).

Table 20

Talent Development: Profession (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
Tell me about how you got started professionally.	Ages 24 - 29	11	35.48	"I was 25 years old when I got started on this career path that I'm on now."
	Ages 30 – 39	10	32.25	"I was 38 or 39 when I got my Ph.D. and started teaching at the collegiate level."
	Ages 40 – 41	2	6.45	"41 years old and so I become a professor after about eight years of teaching."
How old were you?	After post-doc, graduate, or doctoral program	8	25.80	"I was a postdoc for one and a half years before I applied for and earned a permanent position on the faculty."
	Career change	17	54.83	I worked in that industry for a while, 10, 11 years, and there were very few people of color in computer science, so I pivoted and left the industry to go into higher ed strictly with the hopes of encouraging more Black and Brown girls to consider science."
How did you get started as a professor?	Traditional education pathway (e.g., college, grad school, post-doc, professor)	9	29.03	"I went directly from undergrad to grad school, and then I did [a] post-doc, and then I came and started my position here." "I feel like I had never really left the academy."
	Assistance from professors	5	12.90	"I was talented in mathematics at a young age, and I had teachers who really sort of pushed me to stay in it and to do well."

When asked how they started professionally, over half of the participants shared that they began working as professors after a *career change* (54.83%). Eight participants (25.80%) worked in K-12 roles, primarily as teachers or counselors, and others worked in closely related fields as program evaluators, computer scientists, or with non-profit work. Participants' experiences with working in environments that lacked employees of color or carried poor schooling conditions (e.g., poor quality of education) were reasons they gave for their career changes. Cynthia, for example, stated:

> I taught in an urban setting and I taught in suburban settings as well and I could see the disparity between urban and suburban school and it was driving me crazy. I had a lot of questions that my master's program did not answer or prepare me for, so I got really curious about the social political context of schooling and decided to pursue my PhD.

Similarly, participants talked about wanting to provide more opportunities for Black and Brown students to enter career fields historically dominated by White males. Kahlil highlighted this point when she shared, "there were few people of color in computer science, so I pivoted and left the industry to go into higher ed strictly to encourage more Black and Brown girls to consider science." Additionally, a few participants shared that low pay and dislike of their job were reasons for their career change. They opted to pursue a career as a university professor for monetary gain or job satisfaction.

The second and third highest percentages of participants shared that they started as professors by following their *traditional educational pathway* (29.03%) or with *assistance from professors* (12.90%). Those who started by following their educational pathway talked about their educational experience as placing them on track toward becoming a professor. These participants went straight through school with the end goal of becoming college professors. They had an educational goal of becoming professors and stayed in the academic course until they reached their professional goal. Jamie, for example, stated, "I went directly from undergrad to grad school and then did the post-doc, and then I came and started my position here. So I feel like I never really left the academy."

On the other hand, five participants shared that they reached their career goals with assistance from professors. Some talked about receiving support from professors they met through conference attendance, and others talked about being recruited by faculty at their

graduate universities. For instance, Josephine stated, “I started because when I was graduating from the university… I was recruited by my department to stay on as faculty.” Participants in this category were recognized by professors as carrying the skill and potential needed to educate the next generation of students.

The scholarship development process. Participants were asked how many years they believed it took to master their academic skills, and the majority (80.64%) responded that they had *not yet mastered* their skills. The consensus among participants' responses was that academic talent development is an ongoing process and, therefore, never quite mastered. Nicole, for example, stated, "I think being a qualitative researcher you're always learning new skills and new approaches. … there's no way that you can have mastered doing all kinds of ethnography." Additionally, participants talked about how they were beginning to own their identity as scholars and starting to find their writing voice, style, and where their research fits into their field. For example, Dorothy stated:

> I’ve been three, almost four years in this role, I feel like I’m just now starting to feel like, okay, this is what I contribute to the field and this is how I do it, and it’s really aligning with what I want it to do from a passionate level, from a heart level.

Table 21

Scholarship Mastery (n=31)

Item	Theme	Frequency	Percentage	Representative quote
How many years did it take to feel like you had mastered your scholarship skills?	Not yet mastered	25	80.64	“I feel that I’m always a work in progress.”
	9 years – 10 years	3	9.67	“It wasn’t until I published the 23rd piece at that point, I had been a professor for nine years.”
	11 years - 20 years	2	6.45	“A good command, I would say about 18 years.”

	Once tenured	1	3.22	“Once I achieved tenure, that would have been about five, six years.”
	Still developing	15	48.38	“I'm getting more creative, but I don't think I've fully arrived there.”
At what point did you start to develop your own style?	Always used a personal style	6	19.35	“I don't remember a time when I didn't have my own style, and I don't remember a time when I wasn't creative.”
	2 years – 10 years	6	19.35	“It probably was maybe five or six years [when] I started to even become creative [in] my scholarship and my teaching.”
	11 years or more	4	12.90	“It took about 15 years to feel really comfortable.”

Overall, participants in this response category felt that there is still a lot to learn before they could consider themselves mastering the content and skills required in their field and profession.

Three participants (9.67%) shared that they felt they *had reached mastery* of their scholarship skills (9.67%), and it took them approximately 9 -10 years to reach mastery. These participants shared that their university preparation and multiple publications helped them achieve a sense of mastery of their work. Cynthia shared, “I would say it wasn’t until I published piece 23 in 2013. At that point, I have been a professor for nine years.” Additionally, Harriet discussed preparing for her professional role throughout her early and later schooling years when she stated, “having a good command of language, those skills from secondary until you got to college was all the preparation that you need to become a specialist. So that’s approximately, maybe 10 years of …preparation for that.” Lastly, a few participants shared that they felt they had mastered their skills after 11 - 20 years (6.45%) or after receiving university tenure (3.22%). These participants felt they had a good command of their work and felt confident in their roles as professors. However, it took several years for them to reach mastery of their skills.

Secondly, participants were asked at what point they started developing their own style. Over half of the participants stated that they were still *developing their style* (51.61%). Participants felt skilled and knowledgeable about their craft but still believed they had more work to do with developing their style or establishing creativity. When asked at what point she started to develop her style, Ashanti replied:

> I would say I'm still developing it." I would say over the course of the past 12 years, I have spent five as a Ph.D. student, one year as a postdoc and then six years as an assistant professor and now transitioning to an associate professor. I think I have grown a lot in the past 12 years, and my academic voice has really come through my research skills and my scholarship skills have really developed.

Many participants held the same or similar sentiments where they felt confident as professors but were still developing their creativity with their work.

Participants who *always used a personal style* with their work tied (19.35%) with those who took between *two and ten years* to develop their style. Tonja, for example, shared:

> I always was creative and had my own style. I found qualitative research and recognized myself in it, and that's when I was like, this is my scholarship identity. This is the way I contribute to the literature in a way that remains true to the more creative aspects of my storytelling process.

Participants in this category felt they found their writing voice and teaching style before becoming professors. For example, Erin took two years to develop her style and shared that she already carried considerable skill and content knowledge before becoming a processor. Erin shared:

> In terms of my teaching style, I was probably two years into my faculty position before I did go out with my teaching style. But, there is no real research style. There is maybe a leadership style that I have from my lab. but it's engineering. There's no engineering style. There are fundamentals of engineering and the facts of engineering.

Moreover, three participants (9.67%) shared that developing their style took *6 to 10 years*. Althea developed her style in 2017, approximately nine years into being a professor when she was asked to present her research professionally. Althea stated, " I was invited to a conference where I was able to be more expansive about how I felt about my own writing, my own personal writing in terms of German literature." Other participants discussed developing a personal style while in *graduate school* or *through university teaching*.

Early, middle, and later year academic talent contributions. Table 22 identifies activities that participants engaged in during their early years (pre-school through secondary years), later years (college and beyond), and current years (now) that contributed to their scholarship development. Participants were asked, "How did you develop your academic talent in your early, middle, and later years?" During their early years, many participants credited their scholarship development to *avid reading* (51.61%). During their later years, the highest percentage of participants attributed *academic program participation* (41.93%) to their academic talent development. *Work production* (54.83%) contributed most to participants' current academic talent development. It is important to note that several participants could not select a single area that impacted their talent development during their early, later, or current years and therefore discussed two or more topics. As a result, the total table percentages are over 100%.

During their early years, participants discussed their *love for reading* challenging texts, specifically, text related to their field or personal interest. For example, Jamie had a childhood interest in law and hoped to become a lawyer. She shared:

> My early years, as I mentioned briefly, I wanted to be a lawyer, [and] I ended up focusing a lot on writing, and also in the humanities, reading text, reading pieces of fiction, interpreting and analyzing those texts. That was the skill that I wanted, and I feel like it still transfers well into sociology.

Table 22

Academic Talent Development in Early, Later, and Current Years (n=31)

Type of Experience	Frequency	Early years (%)	Frequency	Later years (%)	Frequency	Current years (%)	Representative Quote
Avid reading	16	51.61	7	22.58	7	22.58	"I began to develop my scholarship with very excessive reading."
Work production (e.g., homework, projects, publications, presentations)	9	29.03	7	22.58	17	54.83	"I was constantly doing homework in all different areas."
Academic programs/courses /groups (e.g., GATE, honors courses)	7	22.58	13	41.93	9	29.03	"I was in some extracurricular activities like math clubs and student government and things like that, which I think developed me as a leader."
Self-regulation (E.g., goal setting, time-management, etc.)	2	6.45	1	3.22	0	0	"I ended up working and focusing a lot on writing and also on the humanities, reading texts, reading pieces of fiction, interpreting and analyzing those texts."
Instructional support (e.g., Instructors, colleagues, etc.)	1	3.22	10	32.25	2	6.45	"I got a lot of encouragement about [writing] from my professors."

Other participants talked about *reading for the sake of reading*. These individuals enjoyed reading about various subjects and had access to books both in-school and outside-of-school. Lorraine, for example, shared, “I had lots of books, tons of books around, encyclopedias and atlases. So I was always curious about things. I read everything I got my hands on so I developed a love of literature and history very early on.” Additionally, participants talked about how many adults recognized them as readers and were therefore recommended and given access to high-interest, challenging books by supportive adults.

Work production (29.03%) was the second highest area participants credited contributing to their early-year academic talent development. 16.12% of participants singled out “homework completion” as an important part of their academic development. These participants shared how finishing homework was a parental expectation and a regular part of their after-school routine. Dorothy shared, “I think elementary school, middle school, high school, was really living up to my parents expectations of going to college and homework was a must.” Other participants shared similar experiences with immediately starting homework after school and how their parents were actively involved with setting the expectation that they get their assignments done.

Academic program participation prevailed during participants' later years. Experiences in rigorous courses (e.g., honors, GATE, college classes) helped them develop their academic talent. For instance, Imani, who was identified as an early-year gifted student shared:

> I always got good grades, but I don’t know that I was a good scholar K through undergrad, and even my master’s degree program. I just had a natural, I guess I’m a hard worker and things make sense to me.

However, once she reached her graduate program she realized that more work was needed with developing her writing skills, she shared:

> When I started my graduate program, I had to really learn what it is to be a scholar and how to read effectively and efficiently and how to write well… So I've done the diversity and development program, I did the scholar boot camp, [and] [I] have a daily writing practice.

Other participants shared similar experiences where they did well academically in their early schooling years but experienced writing challenges at the university level. 19.35% of participants shared that they took writing courses, participated in writing programs, or regularly practiced academic writing to build their writing skills. Participants also talked about the content and skill-specific courses they took in college, preparing them for becoming scholars.

Instructional support (32.25%) was the second highest area participants credited with impacting their academic talent development. Participants shared that working on challenging tasks such as their master's thesis, doctorate, or other advanced, mostly writing assignments, required support from experienced persons. They received support from instructor feedback, writing critiques, and advice and encouragement about how to produce stronger writing. Cynthia, for example, had been a high-scoring student throughout her early schooling years and received her first experience with professional criticism in college. She shared:

> It wasn't until I got into post-secondary that I had a teacher finally expect more from me than what I gave. [She] was a professor. I handed in a paper and the next week she gave it right back to me and said, "you can do better.

Work production and *avid reading* tied (22.58%) as the third highest areas that aided participants' later year academic talent development. Even into the participants' professional years, many continued to be avid readers.

Work production (54.83%) and *academic program participation* (29.03%) were the second and third-highest categories that participants credited with sustaining or enriching their current academic talent development. Participants in the work production category credited "writing tasks", primarily book writing and publications, as contributing to their academic talent development. For example, Jamie shared:

> I['ve] made this transition to constructing narrative and constructing stories [that] would be useful for law school. The graduate program was really focused on quantitative methods, so now I feel like I'm trying to pull those pieces together, so I put a lot of energy into the analysis. How do I frame the story, frame the narrative in a way that has impact and translate not only to the academic sphere, but beyond as well.

Similarly, several participants discussed writing about their discipline or fields that capture the interest of diverse audiences and encourage persons in the field or discipline to consider perspective or understand the material in innovative ways.

Finally, *academic program participation* (29.03%) currently impacts participants' academic development. For example, most discussed continued participation in writing boot camps, faculty success programs, and other associations and workshops that aid them in sustaining their academic talent.

School/Instructional Factors

The Productive Giftedness Model (PGM) considers the instruction students receive *in-school* and *outside of school* as learning opportunities in varied contexts (Paik 2013, 2015). *In-school* and *out-of-school* learning experiences play a pivotal role in academic talent development exhibited through environmental support, academic expectations, and quality instruction. Participants received most of their early year instructional support in school, and both in-school and out-of-school during their college and professional years. Information about participants' *learning climate, quality of instruction, and quantity of instruction* are discussed in this section. Additionally, this section ends with a summary about the *in-school* and *out-of-school* experiences that impacted participants' academic talent development.

Learning Climate

Learning climate considers the impact academic environments (e.g., school, classroom, and other learning spaces) have on students' morale and learning (Paik, 2013). Most of the participants' early-year academic experiences took place in schools, and their in-school experiences were both *positive* and *negative*. Findings in this section show that positive instructional experiences were attributed to "supportive instructors," "high academic expectations," and "exposure to advanced or enrichment courses." On the other hand, *adverse educational experience*s were connected to in-school academic experiences with "racial prejudice" or "deficit perspectives" about Black students' academic ability. These negative experiences occurred during participants' elementary and secondary school years and later college years in Primarily White Institutions (PWIs). The learning climate tables provide

information about participants' school environments, academic expectations, and in-school and outside-of-school academic talent development.

Supportive learning environment characteristics. Table 22 identifies information related to academic learning environments. Participants were asked in what ways their elementary, secondary, undergraduate, and graduate schools provided supportive learning environments. Several participants shared that supportive instructors played a pivotal role in participants' academic development. Supportive instructors represented the highest percentage of participants' responses in both the elementary and secondary years (41.53%) and undergraduate and graduate school years (54.83%). Participants discussed how their instructors held them to high academic standards and supported them with learning and producing quality work. For example, Dorothy shared

> I went to an HBCU, [and] I had a lot of white and Black professors [and] I feel like they expected a lot from us. They [would] say that over and over [and] they would call us out if were not performing to what they expected. I remember one of our professors explaining to us the we needed to be better than average, and that is how I got into research and really thinking more broadly because I had professors that expected the most of us and stayed on top of us.

Other participants shared similar experiences with professors who were firm yet supportive and positively impacted their academic advancement.

High academic expectations (38.69%) was the second highest response category participants credited with supporting their academic talent development during their elementary and secondary years. High academic expectations were presented through rigorous academic

program offerings (e.g., GATE, magnet programs, and honors courses). For example, Kamala shared:

> Where I am from, we're tested for gifted and talented [and]… they gave us everything we needed, any and every opportunity we needed, we went on field trips outside our location so we could see the world. We had people come to our school and talk about their careers and tell us that, this is where I was, this is where I started and here's what you can do. And so it was there [school] that I saw scholarship could be done by people who looked like me and [that] in of itself was supportive and powerful enough to keep me going.

Additionally, Rebecca stated, "I was a part of a magnet program, and that magnet program was structured to put us on a college prep track to get us through certain courses, get us to calculus, and allow for opportunities for certain AP classes." High academic expectations were presented to these participants in-school through challenging coursework offerings, access to academic resources, and academic opportunities that kept them on track for meeting university admission and academic requirements.

Table 23

Learning Climate and Quality of Instruction (n=31)

Item	Theme	Elementary Secondary	Frequency	Undergraduate Graduate	Frequency	Representative Quote
In what ways did schools provide a supportive learning environment?	Supportive instructors	41.93	13	54.83	17	"I went to an undergrad where I had fantastic professors, and there was a legion of older Black professors…we got real close and they nurtured and supported us and had incredibly high expectations."

High academic expectations (e.g. advanced courses or instructional programs)	38.69	12	35.48	11	"They [schools] definitely set high expectations…I was put in the gifted program where everyone had to have something they excelled in… there was always an expectation you would be doing something that was exceptional for you."
Family inclusion	6.45	2	0	0	"My mother taught at the school for a couple of years…[she] taught the honors math classes at my school."
Offered opportunities (instructional andmentoring programs)	9.67	3	35.48	11	"I was part of the …scholarship program for high achievers in high school…they tracked us so that we would do well… once college stated you could have a tutor in you were having problems in any of your classes."
Non-supportive	12.90	4	9.67	3	"Students of color were routinely ignored in our classes."

It is important to note that the third highest percentage of participants (12.90%) shared that, at one point or another, their elementary or secondary learning environments were not supportive of their learning experience (this percentage dropped to 9.67% for undergraduate and graduate school years). Some participants shared experiences with racism during elementary and secondary school years as interrupting their academic experience. They discussed how their school fostered an academic climate promoting deficit beliefs about Black students' academic abilities. A few participants shared early schooling experiences where they were punished or humiliated in-school for high performance. Josephine, for example, shared:

> When we came to the United States in fourth grade… my sister and I our reading level was 12th grade, even though I was in fourth and she was in fifth and our math level was

> the same, and I was testing at the 11th grade in math, and my sister was testing at 12th grade level which is appropriate given where we came from, and I raised this because the principal at the school was incredibly racist, so she couldn't believe that two Black kids [were] scoring that way. So she decided that we cheated because we outscored the White kids. So she made us take the standardized exams again, we scored the same way…so she made us come to [her] office and taken the exams in front of her [and] we scored the same way, she said "I don't know how your cheating, but your cheating"…so she put us on permanent suspension… My fourth grade teacher and my sister's fifth grade teacher helped my mom pay for the first year of private school, so I only spent one year in public school.

In this case and in similar cases families and educators advocated for participants to be placed in higher level courses, or parents made the decision to move their child into a different school, or in a few cases, participants endured the experience until they were assigned a new class and teacher. For example, Erin stated:

> In fourth grade, I was in sixth grade math and…when I was going to be in fifth grade and in seventh grade math…the teacher must have been super racist because she wanted to put me in sixth grade math, I was also the only Black girl in school and my dad insisted on meeting with the principal, and they put me in seventh grade math, and my dad was a PhD in Chemical Engineering and she [the teacher] sent me home with problems that he could not do, and so every night he would do those problems and it would take him until two o'clock in the morning to do those problems she sent home with me.

Supportive family members and instructors were credited with helping students through their in-school challenges. Moreover, positive educational experiences in participants' later years may have assisted with rebuilding their morale and sustaining their academic capacity after experiencing in-school racial trauma.

Quality and Quantity of Instruction

Quality of instruction involves the curriculum and instructional, pedagogy, and teaching practices that students are exposed to in school (Paik, 2013). *Quantity of instruction* is the amount of time allotted to instructional tasks (Paik, 2015). Both quality and quantity of instruction impact students' academic talent development.

Academic expectations. Table 24 provides information about the types of academic expectations held at participants' primary and secondary schools, colleges, and universities. When asked if their schools set high expectations for students, most participants shared that their k-12 through graduate schools held *high or very high student expectations* (early years, 80.64%; later years, 96.77%). Notably, many participants and those who attended private schools were mainly placed in magnet or advanced courses, resulting in placement on college tracks. In honors or advanced courses, participants received access to information and resources that their peers who were not placed on an advanced track did not. Shirley's experience in the advanced course exemplifies this experience. She shared how:

> It was the students on the honors and the AP classes that they [teachers] were like, "we have high expectations and you are gonna go far", and yet we noticed that none of these other students were getting what we got.

Table 24

School Expectations (n=31)

Item	Theme	Elementary & Secondary (%)	Undergraduate & Graduate (%)	Representative Quote
Did your school set high expectations?	Very high or high expectations for all students	80.64	96.77	"I always can remember the importance of scholarship, the importance of working hard… a big thing in the school was also service to the community."
	The school did not set high expectations for all students	19.35	0	"I went to a private school where I was not expected to do well…I was not expected to be smart…my guidance counselor thought I would never get to college."
	Uncertain	0	3.22	"In terms of college, I don't think there were expectations."

Levels of academic expectations. During their elementary and secondary school years (80.64%) of participants stated that their schools had *very high or high academic expectations* of all students. High academic expectations were noted as access to advanced reading materials, rigorous course requirements, and challenging workloads. For example, Erica shared that:

> High expectations [were] being on time, [and] lots of readings. I can remember over the summer, a lot of my neighborhood friends were off and we would have 10 books that we would have to read and come back [to school] and have a test.

Additionally, Teresa stated, "In fourth grade I got selected to be in a gifted program and we actually wrote research papers, [so] I start[ed] learning about the research process in the fourth grade." The consensus among participants' responses was that students in advanced courses are likely to be exposed to rigorous coursework and instructors with high academic expectations.

Moreover, most participants stated that their undergraduate or graduate schools held them to *high academic expectations* (96.77%). Several participants attended advanced primary and secondary schools or were placed in advanced early schooling academic programs. A large

majority also attended prominent undergraduate and undergraduate universities (e.g., Ivy League, private and liberal arts universities, and top-ranked public universities). Most participants shared that attending a prominent university fundamentally exposes students to high academic expectations. For example, Nicole shared, “I think there were super high expectations, but I don’t really know how those were communicated other than the fact that it was just an elite school.” Angela shared a similar sentiment, she stated, “I went to [Ivy League] and so, very high expectations, it’s a pressure cooker. Students themselves also have really high expectations, a lot of nervous breakdowns, especially in the first year.”

Participants emphasized the university's high academic expectations but shared that supports were typically not offered and, in some cases, negatively impacted participants' morale.

On the other hand, participants in this category who attended Historically Black Colleges and Universities (HBCUs) stated that their universities also carried *high academic expectations* but offered *high levels of academic and social-emotional support*. For example, Tonja stated:

> [HBCU] was her most outstanding educational experience…bar none, none of the other schools could compare. The expectations they set and required us to live up to for the community or being surrounded by some of the most brilliant Black women in the world for us to represent in the curriculum and on the faculty and on the staff and in the leadership for the opportunities to understand the world through the lens of Black womanhood, for the extracurricular processes and engagement, the culture, like all of it was just outstanding, and I felt challenged the whole time.

Overall, findings showed that high academic expectations are conventional for attending an elite, prominent university. However, the differences were more in the types of support offerings and experiences participants accumulated in their university settings. Ivy leagues, for example, were reported as carrying superior academic expectations yet negatively impacting students' morale, whereas HBCUs held the exact prominent expectations and boosted students' esteem and morale.

The second largest percentage of participants (19.35%) shared that their schools *did not set high student expectations*. Participants talked about how their elementary schools focused on rule following and task completion (e.g., turning in assignments). For example, Marla shared that:

> We went to a neighborhood, Catholic school, the high expectation in elementary school was a low expectation. So the expectation was that you would pass the test, you would do your homework, you would be able to read, that was the expectation. So I was able to meet whatever that level was, it wasn't that next level that would have stretched me.

Moreover, participants discussed how instructors held high expectations for high-scoring students and not for middle or low-performing students. Tonja illustrated this point when she shares that:

> No, the schools did not set high expectations. I went to public schools and it could be hit or miss…the fact that there was a tiered approach to classes is already a problem, so they were not focused on giving every student the best they could… it was like these students are exceptional so let's pour as much into them…[so] I wouldn't say they had high expectations universally.

Participants talked about how teachers would provide challenging coursework to students in advanced courses and how exposure to rigorous work aided them in sustaining or enriching their academic talent.

Influential teachers. Table 24 provides information about participants' most influential teachers. The largest percentage of participants cited *a college professor* (64.51%) as their most influential teacher. When asked why they selected their professors and most influential, the majority stated that their instructors took a *personal interest* in them (54.83%) and offered them *academic support* (35.48%). Professors who took a personal interest recognized participants' academic talent and sometimes encouraged or offered them opportunities to showcase their talent or enrich their skills. For instance, Cynthia shared an experience with her graduate school instructor, who recognized her talent and encouraged her to "do better." Cynthia shared:

> She was an Economics professor. She involved me in her research, reviewing proposals for research, and opened my eyes to the ideas of doing research. I became her assistant and president of the Economics club. [Professor] opened up my mind to academia and doing research and maintaining a work-life balance.

Table 25

Most Influential Teacher Characteristics (n=31)

Item	Theme	Frequency	Percentage	Representative quote
Who was your most influential teacher?	College professor	20	64.51	"I took three courses with her, and she was lovely as a person phenomenal…the closest thing I had to a mentor, really smart… and always challenging me in my ideas and took my questions seriously."
	Secondary teacher	10	32.25	"A teacher when I was in seventh grade who encouraged me to take some summer course in math… and made me [take] algebra in the eighth grade."

	Preschool or elementary teacher	1	3.22	"My fifth-grade teacher… I feel like she influence me the most because she created an environment of learning that allow[ed] people to learn…and it wasn't just textbook learning."
	Took a personal interest	17	54.83	"[Professor] was very invested… in what was my home life like, what was my social life like, [and] everything from what's going on with boys… she wanted to know it all."
	Academically supportive	8	25.80	"My best teachers challenged me."
Why?	Academically challenging	11	35.48	"I remember her seeing me as someone who had some academic talent and trying to nurture that and foster that and make sure that I had enough of a challenge in school."
	Offered career support and/or opportunities	6	19.35	"I was good in [subject]... and there was a competition, and he put my name forward to participate in it… I ended up winning, and it wasn't so much about winning …but the quality of work that I did… being deserving of an extraordinary opportunity."

Participants also cited influential instructors as providing *social and emotional support*. Dorothy, for example, pointed out the social-emotional support her most influential instructor offered to her when she stated:

> He influenced me big time. When I wanted to quit, he wouldn't let me. [He] influenced me most because of my unwavering commitment to helping Black and Brown students in our department and at that university. He just had this humbleness about him, but he always saw the work that he did as a mission towards equity. He was always pushing, so not only was he doing his scholarship…he was also helping others along like holding doors open for us.

The second highest percentage shared that their *secondary teachers* (32.25%) were most influential in their academic talent development. Like their graduate and undergraduate professors, secondary teachers were also credited with taking a personal interest in students' social, emotional, or academic well-being and providing them with academic support. For

example, Ruth talked about two influential high school teachers who pushed her to take advantage of a teaching fellowship offered to her during her senior year. She stated:

> They had given me the application but I didn't fill it out, and then the deadline came and they came to my first period…and took my desk in the hallway and said "you [have] to fill it out now." If it wasn't for them, I would've never got a scholarship [for] my undergraduate. I don't know how I would have paid for that.

Moreover, influential instructors at the secondary level were also credited with pushing participants academically. For example, Ruth discussed her high school English teachers' influence on her writing development, she shared, "when [I] learned that I was going to college, she actually coached me in writing. She invited me to her home during the summer, and we would write. "Additionally, Michelle shared her most influential teacher:

> Would never give me and A on a paper. It was always like B plus. He made me want to be a better student, a better writer. He was the hardest 11th grade English teacher I've ever had in my life, harder than college. So I'm thinking I'm a B plus writer, and then I get to college and I made all As on all the papers in college, and I am thinking high school was harder than this.

Academic challenge (25.80%) was the third highest reason participants gave for selecting and instructor as most influential. For example, Ashanti shared her experience with being placed on an honors math track in seventh grade because of a push from her middle school teacher, she shared:

> When I was in seventh grade [instructor] encouraged me to take a summer course in math and it was like pre-algebra and then it made me be in algebra in eighth grade. I

didn't know at the time but one of the greatest indicators for success.. is that you take algebra before you get into high school because it puts you in a different track coming in with algebra. I would say she was probably one of the most influential people because she set me up to be on this honors track which tracked me through the rest of my life.

Influential instructors played an essential role during participants' youth and young adulthood by providing them with support and sometimes a nudge toward enrichment opportunities and academic advancement. In some cases, participants noted how important their support was in placing them on their career trajectory and ultimately achieving their professional goals. Findings represented in this section may offer insight into the types of instructor support that aids youth academic and professional talent development.

Influential courses and course characteristics. Table 26 presents information related to participants' most influential courses. Most participants shared that their most influential course was a *field-specific university class* (45.16%). Specifically, *African American studies courses* (35.48%) were the second highest class credited with being most influential primarily during participants college years. However, there are several participants in the field of African-American studies, and therefore, there is a response overlap with the university course theme.

Table 26

Influential Course Characteristics (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
What was your most influential class?	University courses (e.g., specific field or research-related course)	14	45.16	"It was an undergraduate course in the field of American studies."
	African American Studies course	11	35.48	"I learned that there's a scholarship associated with our people and with our voices and a way in which to be able to present our voices."

	Elementary or secondary course	6	19.35	“In elementary school, I took an African drumming class.”
	Widened perspectives about the field	15	48.38	“...that type, of course, was helpful because…[it] helps me to understand that it’s not just about memory but finding meaning in what you are doing and what you are reading and making it make sense.”
Why?	Engaging content	10	32.25	“I think that [the] level of creativity in assignments, and thinking about how to combine fields has been transformative for me.”
	Emphasized diversity	6	19.35	“It was one of those classes…the realization that there’s actually a lot written about women, people of color, Black folks… that was so excluded from my education up to that point, that it was almost a shock.”

For this response group, *field and content-specific courses* are likely most influential since many were interested in their field during youth. For example, Erin shared that her most influential class "was a composite class in aerospace engineering, and I fell in love with bone. I switched majors [and] became a biomedical engineer." In her initial responses, Erin shared that she had been interested in STEM since childhood. Similarly, Kara shared that a course in "research methods and statistics" influenced her decision to become a quantitative researcher. She stated that after taking this course, "I took a series of courses and research methods since statistics."

Moreover, there are several instances where participants credited African American studies as being their most influential course. In most cases, participants shared that these courses offered them insights into their personal or community experiences that they did not receive during their primary and secondary schooling. For example, Sarah shared

> It [influential courses] was those classes where I learned about myself. I was in those classes where I learned that there is scholarship associated with our people [African-American people] and our voices. Those were the classes that stuck with me… those

were the classes where I could make those connections where I was pushed, where I could make those connections, and where I had instructors and faculty that respected my intellect, but also challenged me in a respectful way.

The reasons participants gave for selecting their most influential courses connected directly to the question that followed that asked why they selected courses as the most influential. The number one reason participants gave why their selected courses influenced them most was because they *widened their perspective about their field* (48.38%). For example, Imani shared that her most influential courses were "urban education courses" and "culturally responsive courses." She stated, "Those classes were so important to me because they gave me frameworks and ways of understanding educational inequity, which is why I wanted to get my doctorate degree in the first place."

Additionally, participants' second highest reason for selecting specific courses as most influential was *content engagement*. 32.35% of participants discussed how instructors provided depth within their lectures by making meaningful connections between the content and their personal experiences or experiences that extended to the populations they would serve in their respective fields or professions. Erica stated that her most influential course was, "a survey of American socio-cultural history of the 19th century, [and] it was exhilarating how those lectures were, it was fascinating, and that's what really got me interested in the subject." Moreover, Josephine shared:

> One of the most influential classes for me what in high school, the math class was combined with coding [and] we had to solve problems, but then we had to teach somebody else how to solve the problem, and that included having to think about where people would go wrong and having if then statements, like if they make this mistake

> then have this screen show up… I think that level of creativity, and thinking about how to combine fields has been transformative for me.

Lastly, the least number of participants selected an *elementary or secondary course* (19.35%) as the most influential. However, there is an overlap between these courses and university courses since these classes were also field or content related. For example, Sabrina shared that her most influential secondary course was "English, [since] reading was helpful because that's where I was the strongest…I enjoyed reading, that made me feel like I was learning more, it boosted my self-confidence because I did well in it." Additionally, several participants chose classes emphasizing experiences related to African Americans or persons of color. Their reasoning connects the lowest cited but related theme of emphasizing diversity (19.35%). Responses in this category often cited the elementary and secondary courses that spotlighted the positive experiences with race or racial identity. For example, Ginger's high school history class was one of her most influential because her instructor emphasized the importance of carrying a positive racial self-concept. She shared:

> He [the teacher] started every class [where] we had to stand up, we had to hold hands, and we had to say, I am somebody, I may be Black, I may be brown, I may be Puerto Rican… he listed everything and it was the only time that I had a class [where] we were a collective." Kahlil shared a similar experience with her most influential elementary school course, "an African drumming class… I remember to this day, my teacher had [us] singing to be young, gifted, and black [and] that was like a mantra, we would sing that song every day.

Levels of school enjoyment and rationale. Table 27 identifies themes related to how participants felt about school, specifically school enjoyment. The results show that most participants responded "yes" when asked if they *enjoyed school* (83.87%). The remaining (16.12%) carried a *neutral attitude towards school* and responded with both yes and no when asked about their school enjoyment. No participants stated that they did not enjoy school. When asked what they enjoyed about school, most participants stated that they *loved learning* (51.61%). Participants from the majority groups (those who enjoyed school and loved learning) shared how schools provided the necessary resources and/or the space needed for them to thrive academically. Josephine shared:

> Absolutely, I loved learning and I loved it because there is a book on everything and every day people keep making more books, so you can never run out of books which means you can never run out of things to learn.

Table 27

School Enjoyment and Rationale (n=31)

Item	Theme	Frequency	Percentage	Representative Quote
Looking back at your overall school experience, did you enjoy school?	**Yes**	27	83.87	
	Loved learning	16	51.61	"I loved school, and I loved learning, and I loved it because there is a book on everything… so you can never run out of books, which means you can never run out of things to learn."
Why or why not?	Sense of belonging and community	7	22.58	"I think being very involved, especially in middle and high school [in] clubs and in different sports helped to have like a sense of belonging and community."
	High performing	2	6.45	"I don't know if I enjoyed it because I was good at it or I was good at it because I enjoyed it, but I've always enjoyed school."
	Way out of poverty	1	3.22	"I think I enjoyed it because in my mind I thought it was going to be the way to get me out of poverty."

Yes and no	5	16.12	
Compulsory	3	9.67	"School wasn't that important to me, you know, we went because it was compulsory."
Racism	1	3.22	"...for Black folks in this country… parents have to make that sacrifice of [their] kids' social-emotional needs versus the need to go to a good school and we all know good school is coded language for White kids, White parents…"
Disliked writing	1	3.22	"I would be one of those people who would love to sit in on a class… just listening and learning but not having to write papers."

Moreover, Ashanti shared, "I was totally into school. There's just something about learning and piecing things together that I really, really enjoyed."

Additionally, the second largest group of participants (22.58%) shared that school offered them a sense of "belonging" and "community." For some of these respondents, school is where they thrived socially and academically. For example, Kamala shared, "We didn't really have a lot, so I knew whatever I didn't have at home, I could find it at school. So even if it were material resources, friends…I used school as kind of like an escape." Also, in terms of friendships, Katrina shared, "I had great friends, throughout pre-k to 12th grade [and] that helps with my health, with experience and friends. I am still friends with [them] until this day." Whereas Marla, shared how school provided and connected space or a sense of belonging that her neighborhood did not offer. She stated that, "I really didn't belong in my neighborhood because we were kept pretty isolated, so school was like that place of belonging." Participants provided academic and socializing opportunities that impacted their academic development and morale.

Conversely, those participants with a neutral attitude towards school cited school as compulsory (9.67%) as their reasoning. As Ruth stated, "It's a means to an end, school wasn't

important to me.. we went because it was compulsory." Participants who shared a love-hate relationship towards school shared that they enjoyed learning but struggled with schooling formalities or social aspects. For example, Shirley stated, "I had a love, hate relationship with school. I loved school because it was the only place where I got access to books and dedicated time to think and write other than home. I particularly enjoyed high school because of the amount of freedom it gave me, and all the resources were there…like when I first saw the library…I was like, okay, I can live here, and yet when I was at school I felt like being anywhere else, sometimes it was just hard to be there…70% of it was just drudgery to get through."

Additionally, Bianca discussed how she "always liked learning but not having to write papers." Moreover, Angela shared, "what I loved about school is the learning…[the] social part of school is always challenging." However, participants' responses were related primarily to their primary and secondary school experiences. Based on responses given about influential courses and instructors, it may be that by the time participants reached their college years, school enjoyment increased.

Academic talent development in-school and out-of-school. Table 28 contains participants' information about the academic talent development they received in-school and out-of-school environments. Over three-quarters of participants stated that *in-school environments* (83.87%) supported their academic skill development. In school, several participants referenced experiences with skilled instructors as aiding them in developing their academic talent. Erin, for example, discussed the *academic writing support* she received in-school. She stated, "I got a lot of practice writing papers, I got practice writing my faculty

application. I went to grant writing workshops and things like that." Additionally, Kamala shared:

> My in school scholarship, what I learned in school was the formalities. I learned research methods and epistemology. So I learned how you go about putting things together, to make it acceptable for the masses, and so that's formal learning, that's in school.

Table 28

Talent Development In-School and Out-of-School (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
In what ways were your in-school experiences supportive of your talent development?	Academic skill development (e.g. academic enrichment opportunities and resources)	26	83.87	"Once I got my masters and Ph.D., it was advisors and it was all about research and working on research with them… that really helped hone those methodological and ... technical skills."
	Access to academic resources	4	12.90	"...there were some intellectual programs where people would invite scholars to talk about issues…"
	Intellectual space	5	16.12	"... in the gifted program we had access to field trips, learned [foreign language] in the fourth grade, … we even had access to a resource room…."
	Limited support	3	9.67	"Schooling from late college to graduate school has been about developing the talent that I already have."
	Not supportive	2	6.45	"I felt some discrimination.. [towards] me and my cohort."
In what ways were your out-of-school experiences supportive of your academic talent development?	Working with others	13	41.93	"Being a part of dynamic communities of artists of color and Black artists and Latinx artists … has been key being a part of these communities, organizing for social change…"
	Academic conference and	12	38.70	"...retreats and residencies have been really important to supporting my

program presentations			productivity and my scholarship."
Extracurricular club and group participation	5	16.12	"I do think being a scholar athlete was good …because it helped me [balance], exercise in a kind of a way to get your mind churning."
Parental guidance and encouragement	5	16.12	"I would say getting my start very early, living in the house with my mother, the queen of you gotta be learning something every day, every moment in a good way."
Unsure	2	6.45	"I don't have a recollection."

The third highest percentage of participants also discussed in-school opportunities to learn from *field scholars* (12.90%) as supporting their academic talent development. Participants talked about their experience learning from field scholars in school when school personnel arranged guest speaker visits. For example, Bianca described these events as "intellectual programs where people would invite scholars to talk about issues." More specifically, invited speakers would share experiences and research with students during these visits, and for some participants, these events would positively impact their academic skill development or motivation. For instance, Angela shared, "encounters with Black scholars cannot be underestimated for the impact they had on my life." She further discussed how:

> Encountering these people [Black scholars] who are doing the work for the wellbeing of their people really allowed me to imagine myself as an academic or a scholar… they say my potential and were supportive of it.. and have allowed me to articulate scholarships in the ways that I articulate it. Opportunities to learn from motivated practitioners positively influenced participants' morale and impacted their academic talent development.

Access to academic resources (16.12.5) was the second highest support participants credited with supporting their academic talent development. Participants discussed their early exposure to enrichment opportunities and educational materials supporting their academic development. For example, Teresa shared:

> I would say in the gifted program [we] had exposure to research very early. We had access to field trips, we learned German in the fourth grade. We had a German teacher come in once a week. We had exposure to a resource room with typewriters, which no other class had typewriters [and] all other kinds of resources in the resource room. We had really excellent teachers, small classes…my education was stellar.

Alternatively, a small percentage of participants shared that their in-school experiences offered limited support (9.67%) or were non-supportive (6.45%) of their academic talent development. The most cited reasons for limited or no support involved schools rewarding talent already carried by students or deficit perspective and lack of support towards African American students. For example, Shirley shared, "Grad schools do not develop talent, they reward it…because, in most of these spaces, you come with it already." Sarah talked about the exclusion of Black students for the curriculum, she stated:

> For White kids in this country, you are going to learn about yourself and you are going to feel empowered…you are going to feel like you actually have a presence in that curriculum but for Black kids in this country I think its a totally different story… and that's part of playing the game…having to teach yourself, having to have a curriculum outside of school.

For Shirley, support was offered post-secondary, where there were opportunities to take courses aligned with her academic interest.

Out-of-school academic talent development. Several participants encountered experiences outside of school that supported their academic talent development. *Working with others* (41.93%), *academic club and program participation* (38.70%), and *extracurricular program participation* (16.12%) were the top three out-of-school activities participants shared that aided them academically. For example, Bianca shared her experiences in the Africana studies program as influencing her academic talent when she stated, "The activist students are always the smartest." Within the Africana studies program, Bianca shared that:

> These people always wanted to have intellectual conversations, even if we were just hanging out. So the kinds of conversations and the issues that we addressed and discussed in many ways exposed me to so much… many different cultures and different ways of thinking, [and] different approaches to scholarship.

Academic program and conference presentations marked participants' second-highest out-of-school experiences that supported their academic talent development. 38.70% of participants shared how program participation in post-doctoral fellowship programs, community-based research partnerships, research-based summer programs and residencies, writing retreats, and workshops helped with their academic productivity. For example, Erin stated, "I went to seven workshops based on how to become faculty, I went to grant workshops, I went to have to become successful faculty [workshops], things like that." Additionally, Imani shared that the opportunity to be a research team member supported her scholarship development. She stated:

> I was on a multi-year research team where I was doing interviews and focus groups and I eventually became the leader of our research team, so I would say that, that's really how I learned how to be a scholar, [it] was doing in the doing and being on a research team.

Environmental Factors

The following sets of tables highlight key points about environmental factors. The Productive Giftedness Model (PGM) categorizes *mentors*, *peers*, *home environment*, and *extracurricular time* as environmental factors.

Mentors

Mentors play an essential role in academic talent development by providing mentees with guidance, instruction, and networking skills necessary for content knowledge and academic skill growth (Paik, 2013). Tables in this section identify key mentors and role models who impacted participants' academic development. Additionally, the last table contains information about mentee characteristics.

Mentor Characteristics. Table 29 contains information about the participants' mentors. Participants were asked to share who their mentors were how they were influenced and supported by these individuals. Several participants were unable to name a single mentors since they had many and therefore the percentage in this section totals over 100%.

Table 29

Mentor Characteristics (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
Tell me about your mentors.	Professors	20	64.51	"I've had only one Black professor my entire life… he's the reason why I went to graduate school because I didn't know graduate school existed."
Who were they?	Professor who served as an advisor	10	35.48	"I had a post-doc advisor who was also a woman… she turned out to be a really wonderful advocate and still a mentor to this day…"
	Peers/ colleagues	11	35.48	"I have peer mentors.. people who have gone through and done our PhDs together were in like similar phases of our career right now even though we are in different fields."
What is your relationship with them?	Family member	3	9.67	"My mom has been a great mentor, just what moms do, always encouraging."
How did they influence and support you?	Academic support	19	61.29	"She's the one who… [gave] information about how to proofread, what proofreading is important, and what you should be looking for…one of the things they say now is that the secret to good writing is editing, editing, editing,"
	Social-emotional support	12	38.70	"I had really great women scholars who are full professors and associate professors… when I became pregnant with my first child they walk[ed] me through… maternity leave, …how to negotiate that within my department, and how to take care of myself."
	Academic opportunities	12	38.70	"My advisor she…[gave] me many opportunities to help me grow personally and professionally, like putting me on grants letting me travel free of charge…and introducing me to people at conferences…"
	Academically challenging	3	9.67	"My Ph.D. program… advisor was someone who challenged me and also helped to hone my skills…"
Who was the most influential with your talent development?	Professor	19	61.29	"I would say the professor that I spoke about…"
	Colleague	3	9.67	"She was one of my most instrumental mentors, and still is because she gave me opportunities."
	Mother	3	9.67	"My mother without a doubt… that insistence on reading and curiosity, so if my talent is intellectual curiosity, there's no question that comes from her."
	Dean	1	3.22	"My most influential mentor…was the dean."
	Grant writing instructor	1	3.22	"She taught three years in schools and she had a pretty good understanding of the culture."

	High school teachers	1	3.22	"Two Black women in high school who really changed my life."
	Career mentor	1	3.22	"They assigned her to be my mentor when I started this position."
	Minister	1	3.22	"[He] always pushed and encouraged me to read and to question and to think critically about media and what images were our there particularly as it related to messaging about Black women in particular."
	None	1	3.22	"I think a lot of people around me were very careful not being my mentor…why would they have a foreigner, a Black woman calling to action and so forth."
Why?	Academic support	17	64.51	"They were doing research, and they pulled me in and helped me understand how to get published, how to write grants…."
	Social-emotional support	13	43.33	"We could talk about a lot of things, and she saw me as bright, capable, and creative, and she told me as much."
	Career support	2	6.45	"All of them really pushed me without pushing me into leadership capacities."
	No support	1	3.22	"I think a lot of people around me were very careful not being my mentor."

Most participants shared their *professors* were their mentors (64.51%). Professors in the role of *Advisors* (35.48%) and *peers/colleagues* (35.48%) were tied as the second persons identified by participants as mentors. Participants credited their mentors with supplying them with academic, professional, and social-emotional guidance and support that aided their talent development.

When asked how their mentors influenced and supported them, the highest percentage gave responses related to *academic and career support* (61.29%). Specifically, participants shared that their mentors offered academic support in research writing, theory, and publishing. For example, Marla stated, "there were three Black women who were more familiar with the academy, and they supported me in finding publication outlets and helping me through the process." Additionally, Katrina shared, "I came to an R [Research] one university, and it was

mentorship that I got from my colleagues that helped me sharpen my writing." Subsequently, several participants shared that along with providing academic support, their mentors supported them in navigating academia in ways that helped with work-family balance and career mobility. For example, Ashanti shared:

> I had great women scholars who are full professors and associate professors who when I became pregnant with my first child, walk[ed] me through what is a maternity leave, what does it it look like at my institution, how to negotiate that within my department and how to take care of myself.

Additionally, in terms of navigating the university, Nikki discussed career mobility support. She shared:

> I really appreciate them [professors] because they not only have lots of opportunities writing grants but they have a really good lens on the landscape of the university, they help[ed] me to figure out what does it mean to operate, get tenure…which is very helpful to have someone who has an inside knowledge because there are so many hidden things, especially for promotion and tenure, certain things like unspoken rules.

Participants were later asked about their most influential mentor, and the highest percentage of participants responded with *professors* (64.51%). Participants shared that their influential mentors were professors who served in different capacities. For example 45.16% stated their most influential mentors were professors serving as instructors, 9.67% reported their dissertation advisor or department chairs. Some participants shared that their professors encouraged them to "persist academically", and that they offered them "advice" and "opportunities." For example, Ashanti shared:

> Two Black men supported and encouraged me, they were actually the ones who suggested I pursue a PhD at the institution [they] were really good with micro affirmations and micro validations [and] as a Black women, I experienced imposter syndrome.

The second highest group of participants shared that *colleagues* (9.67%) or their *mothers* (9.67%) were most influential in their academic talent development. Professional opportunities, encouragement, collaboration, academic and emotional support, especially by mothers, were key findings. For example, Nicole stated:

> My mother, without a doubt…that insistence on reading and curiosity…she read the newspapers, and she watched PBS and all of that, so if my talent is intellectual curiosity, there is no question that, [that] comes from her.

Next, participants were asked why they named the above discussed individuals as most influential with their academic talent development, and the number one response was *academic support* (64.51%). Support with publishing, writing, and collaboration were the types of assistance participants credited their most influential mentors with offering. For example, Kahlil shared how her mentor helped her gain confidence by supporting her with writing academically. She stated, "I never considered myself a good writer, when I started to write, I would think I'm just not made our for this…[they] helped me understand that that research is like good storytelling with facts."

Secondly, 43.33% of participants shared that their most influential mentors provided them with *encouragement* or other forms of *social-emotional support* that aided their academic

development. Their mentors encouraged them to persevere through difficult academic tasks. For example, Sarah shared:

> I had a gentleman in my life who was a father figure… [who] always pushed and encouraged [me] to read and to question and to think critically about media and what images were out there particularly as it related to messaging about people and Black women in particular.

Along similar lines, Kara shared, that her most influential mentors:

> [Is] a Black professor, she is about 12 years older than I am so we could talk about a lot of things and she saw me as bright and capable and creative, and she told me as much and she would email me or write me notes about taking advantage of opportunities.

Role models. Table 30 contains information about role models or key individuals who influenced participants' academic talent development. Role models were defined as persons that participants may or may not know but who have somehow influenced their academic talent development. Several participants could not identify a single individual as a role model or key individual. Instead, they identified several individuals who impacted their academic talent development. Therefore, responses in this category total over 100%.

Table 30

Role Model Characteristics (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
Other than your mentors, who were other **role**	Prominent African American writers	10	32.25	"Zora Neal Hurston is very much a role model for the way that she mixes qualitative research as an anthropologist but also writes beautifully…her voice has

models or key individuals in your scholarship development?				always been a guiding light for me."
	Professors	10	32.25	"She [professor] became a role model for me because of her scholarship and her research, and in part her presence the way she worked and engaged with people, and the way she fought for people and what she thought was right."
	Prominent educators	8	25.80	"Otis Johnson, James Anderson, Gloria Ladson Billings all of those folks influence my scholarship and make me pay attention to what I'm putting into the world and how I'm thinking about our children in this thing we call education."
	Family	7	22.58	"My husband, he was an academic, he was a Ph.D. and we met in graduate school and he greatly influenced my scholarship and my writing style."
	Peers/colleagues	3	9.67	"In college, a sorority sister of mine who was older had done some great work… and I would look at her from afar and say, I want to be like her."
	Ancestors	2	6.45	"My ancestors, I felt like even though they were not educated the way that I was trying to become educated, I stood on their shoulders."

First, prominent *African American writers* (32.25%) and *professors* (32.25%) were tied as role models and key individuals who influenced participants' academic talent development. African American writers Zora Neal Hurston, bell hooks, and James Baldwin were frequently cited by participants. Prominent educators (e.g., Gloria Ladson Billings) were credited by 25.80% of participants as positively influencing their teaching or research work. Erin, for example, stated that her role model:

> Was a Nobel Prize winning Physicist [who] I happened to sit down next to at this program I was doing for teaching, he was telling me what he did, and he said, he turned his research skills for getting the Nobel prize into teaching and managed [his] classroom to eliminate the racial achievement gap between Black and White students.

Family members (22.58) were the third highest category participants credited with being role models. Three participants said their mothers are their most influential role models. Josephine, for example, stated:

> One of my role models has always been my mom. She has the kind of mind that reaches for everything. My mom went to graduate school and put us all through college. She went back and got her college degree, and then she got her master's degree in social work.

Other participants in this category shared that their spouse, grandmother, or other relative served as their most influential role models.

Mentee characteristics. Participants were asked what they felt were the most important mentee traits, and the majority share responses that included closely related terms or the exact terms "determination" and "self-regulation" (64.51%). For example, they responded with terms such as "persistent," "determined," "passionate," and "hardworking." Kamala, for instance, shared:

> I think for someone I am mentoring, I need them to be able to be persistent, to stick with it no matter what, if something knocks them down, then they need to be able to get back up, brush themselves off and keep going.

Table 31

Mentee Characteristics (n=31)

Item	Theme	Frequency	Percentage	Representative quote

What are the most important traits you would look for in a **mentee**?	Determination/ self-regulation	20	64.51	"Someone who knows what it's like to struggle and knows what it's like to persevere…so that they will keep going because if you're going to do what we do in this profession, you have to have self-determination."
	Sincerity/humility	8	25.80	"The hope is that if you have dignity for yourself and humankind and you know you're worthy of that, then the hope is that you will extend that to others."
	Curiosity	3	9.67	"I've connected with and work best with the ones who … seek out more information, find out about things and keep that intellectual interest going."
	Common sense	1	3.22	"Common sense because I've seen so many people crash and burn because of what they've taken to heart … this degree has made me realize that sometimes it's your job."

Along with being persistent, participants shared that showing *sincerity* and *humility* were also valued mentee characteristics. 25.80% of participants used terms such as "willingness to learn," "openness," "communicative," "authentic," and "transparent." and these terms were categorized as humility and sincerity. For example, Rebecca shared an experience of an effective mentor-mentee relationship. She stated, "A good mentor-mentee relationship [is] when you can share [or] be transparent with your mentor even if you think they're not going to be happy with your decision or you know it's going to upset them."

Lastly, a few participants spoke of *intellectual curiosity* (9.67%) as an important mentee trait. These participants emphasized the importance of inquisitiveness and curiosity as essential mentee characteristics.

Home Environment

Community and neighborhood characteristics. Table 32 identifies the geographic communities of participants during childhood and adolescence. The first section of the chart tallies participants' responses based on their childhood geographic communities, and the second section lists participants' childhood neighborhood descriptions. Nearly half of the participants grew up in east coast cities (45.16%). Most grew up in New York borough cities or New Jersey suburbs, with a few east coast participants sharing that they lived in suburban east coast locations in West Virginia, Connecticut, Maryland, or North and South Carolina.

The second largest participant group grew up in the southern (25.80%) part of the United States in Mississippi, Tennessee, and Georgia. The third group of participants tied at 9.76%. These participants grew up in the mid-western and west coast locations of Detroit, Chicago, Phoenix, and Los Angeles. Lastly, three participants were born in the international island communities (3.22%) of Martinique, Jamaica, and Dominica.

The largest number of participants reported that they grew up in suburban (64.51%) communities, and they described their communities as primarily middle-class and diverse. Of this group, five participants shared that their communities were predominantly White and middle-class, and four lived in predominantly Black, middle-class, suburban communities. The second largest percentage of participants lived in urban communities (16.12%) that they described as primarily working class. One participant described her urban community as middle class. Lastly, participants who grew up in rural and international communities tied at 9.67%. These communities were described as farming or low-income, and the international communities were island or countryside neighborhoods.

Table 32

Community and neighborhood characteristics (n=31)

Item	Theme	Frequency	Percentage (%)
Tell me about the community where you grew up. Where did you grow up? Describe these locations	East Coast	14	45.16
	South	8	25.80
	Midwest	3	9.67
	West Coast	3	9.67
	Martinique	1	3.22
	Jamaica	1	3.22
	Dominica	1	3.22
	Suburban neighborhood	20	64.51
	Urban neighborhood	5	16.12
	Rural	3	9.67
	International (island and countryside community)	3	9.67

Family characteristics. For Table 33, participants were asked several questions about their home life and their family. Participants were first asked who lived in their childhood home; the largest percentage of participants stated that they grew up with their mother, father, and siblings (if any) (45.16%). Next, the second largest percentage of participants (25.80%) reported growing up in homes with their mother, father, and extended family members (e.g., aunt, uncle, cousins, grandparents, etc.). 12.90% of participants shared that they lived with their parents, grandparents, siblings, and extended families; and, 12.90% of participants also stated that they lived with their mother, father, and grandparents during their early childhood years.

Table 33

Family Characteristics (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quotes
Who lived at home?	Traditional family	14	45.16	"I lived with my mother and father and my younger brother and sister."
	Extended family	8	25.80	"My family was my great grandmother, three of my great aunts and uncles…"
	Single mother	5	16.12	"We all lived at home with my mom." " My dad did not live with us."
	Mother & grandmother	4	12.90	"I grew up in a family cell where the grandmother was the pillar center …so the mother of my mother, and so I grew up with multiple [matrilineal] generations…"
How many siblings do you have?	3 or more	12	38.70	"I have five siblings, and I'm number five."
	2 siblings	12	38.70	"I have two younger brothers."
	1 sibling	6	19.35	"I have a slightly older sister."
	0 siblings	1	3.22	"I was an only child."
Where do you stand in birth order?	Oldest	13	41.93	
	Youngest	11	35.48	
	Middle	6	19.35	
	Only child	1	3.22	
Who was your primary caregiver(s)?	Mother	14	45.16	"My mom was my primary caretaker."
	Mother & father	12	38.70	"I lived with both my parents, mother [and] father."
	Mother & grandmother	3	9.67	"Caregivers were my mother…my father's mother, my grandmother."
	Grandmother	1	3.22	"My primary caregiver was my grandmother."

	Self	1	3.22	“ I would say I raised me and my brothers.”
In your family, who were you closest to?	Mother	9	29.03	“My mother because she was the one who was mainly home, so I would say my [mom] nurturing wise.”
	Sibling	8	25.80	“My sister… who’s immediately a year and a half younger than me.”
	Other relative	7	22.58	“My aunt, she was like my mother, she was the one who taught me everything I knew about how to be a human being.”
	Father	4	12.90	“I was closest to my dad early on when I was very young because we would spend more time together.”
	Could not choose	2	6.45	“I can’t say that I was close to any one person.”
	No single relative	1	3.22	“I always felt loved and supported by everybody in the family.”
Why?	Spent lots of time together	12	38.70	“I was extraordinary close to my grandma, really connected, everywhere she went, I went.”
	Supportive	11	35.48	“It was my mom…we were each other's best friend, we played games together, like we would do put golf, we would play video games together.,”
	Close in age	4	12.90	“I would say I am closest to my oldest brother and we’re… one year apart.”
	Similar interests	3	9.67	“...intellectually my oldest brother, would be the one I am closest to…he is a voracious reader as well.”
	Only had one sibling	1	3.22	“I was really close to my younger brother just because it was the two of us.”
Do you have any family members in the same profession or field?	Same field	12	38.70	“I come from a whole bunch of educators in my immediate family, I am the only one that has a Ph.D.”
	Same profession	8	25.80	“I have [a] cousin who earned her doctorate in higher education.”
	Neither	8	25.80	“I am the only academic.”
	Closely related field	2	6.45	“There’s no one who is a [profession], [but] we’re all in the helping field.”
	Same field and profession	1	3.22	“I had some distant cousins that earned doctorates…one in early childhood and one in higher education.”

If so, who?	Siblings	9	29.03	"I have two younger brothers in the same profession."
	Cousins	6	19.35	"I have one cousin, second cousin, who is a doctor, a medical doctor… we're the only ones who have gotten advanced degrees."
	Several family members	5	16.12	"I come from a whole bunch of educators in my immediate family."
	Parent(s)	2	6.45	"My parents are in education."
	Niece	1	3.22	"My niece…she's in the same field."
	No family in the same profession or field	8	25.80	"I don't have anyone in my family who has pursued the same job and careers."

Moreover, 16.12% of participants reported that they lived in single-parent homes. All five participants shared that their mother served as a single parent (16.12%). Similarly, four participants (12.90%) said they lived with their grandmother and mother. It is essential to include that in three of the five categories, grandparents or grandmothers were cited as living in the household. Nine participants (29.03%) shared that they lived with either grandparents or their grandmother during their childhood years.

Next, participants were asked about their siblings. Participants with two siblings and participants with three or more siblings tied at 38.70%, and the largest number of siblings reported was seven. 19.35% of participants reported having one sibling, and one participant (3.22%) is an only child.

Lastly, the largest percentage of participants (41.93%) shared that they are the oldest among their siblings. The second largest percentage of participants reported that they are the youngest (35.48%) of their siblings. Six participants (19.35%) are middle children, and one participant (3.22%) reported being a singleton.

Following the sibling question, participants were asked who served as their primary caregiver, and the largest percentage of participants (45.16%) credited their *mothers*. Many participants shared that their mothers managed their education, supplied them with resources such as skills supportive of their intellectual and self-care needs, and that they offered social and emotional support and advice. The second largest group of participants (38.70%) shared that their *parents (mother and father)* were their primary caregivers, and participants stated that they were provided for equally by both their parents. The third group reported their *mother and grandmother* (9.67%) as the persons who served as their primary caregivers, and *grandmothers* were cited as the primary caregiver for four participants (12.90%). Lastly, one participant (3.22%), Erin, credited *herself* as the primary caregiver since she assumed much responsibility for caring for herself and her siblings. Erin stated:

> I was upper-middle class, too poor back to middle class to upper middle class [and] the part that I remembered most was the poor part. So we were latchkey kids, and my mom, she was never home, she was always working, so it was me, so I wouldn't say that either of them raised me, I raised me and my brothers.

The third question participants were asked was which relatives they were closest to and why. The highest percentage of participants stated their *mothers* (29.03%). Most participants shared that they spent most of their time as children with their mothers, and others shared that they talked with their mothers daily and had a great relationship with their moms. For example, Nikki stated:

> It was just my mom and I, so I would answer my mother, mother, mother, for all those. We were each other's best friend, we played games together, we would do putt putt golf, [and] we would play video games together.

Secondly, 25.80% of participants shared that they were closest to their *siblings*, many because they were either close in age (12.90%) or because they carried similar interests (9.67%). For example, Althea shared, "intellectually, my oldest brother would be the one I was closest to. He is a voracious reader as well." Additionally, 22.58% of participants stated that they were closest to *other relatives*, such as an aunt, older cousin, or niece. Angela, for example, shared how she lived for a short time with her aunt. She stated, "[My] aunt was like my mother…she was the one who taught me everything I know about how to be a human being. She was like my primary caretaker and defender and the person who cared for me most. Lastly, four participants (12.90%) stated they were closest to their *fathers* growing up. They credited their closeness to "spending lots of time together," "shared interests," and "supportiveness." For instance, Erica shared, "I was closest to my father. I had a very rich imagination and he would entertain it and was excited about it."

When asked why participants selected specific persons and their closest relatives, *time spent together* (38.70%) was the number one response. For example, Shirley shared, "I was extraordinarily close to my grandma, everywhere she went, I went." The second highest reason participants shared for selecting key individuals was *supportiveness* (35.48%). The support offered was primarily social-emotional care. For example, Marla shared, "I was really close to my grandmother, I saw her as a very kind and selfless person. I admired her a lot and I kind of modeled myself after some of those qualities." The third highest percentage of participants credited *closeness in age* (12.90%), specifically with siblings, and *similar interests* (9.67%) as the fourth reason participants gave for their selection.

Lastly, participants were asked if they had any relatives in the same profession or field. Twelve participants (38.70%) stated that, *yes*, they had *relatives in the same field*, and two

participants (6.45%) shared that they had relatives in *closely related fields*. On the other hand, eight participants (25.80%) shared that they had *relatives in the same profession*, and an equal number of participants also shared that they had *no relatives in the same field or profession* (25.80%). Additionally, when asked which relatives were in the same field or profession, *siblings* (29.03%) were the top participant response. *Cousins* (19.35%) were the second highest group, and *other family members* (e.g., mother, grandmother, aunt) made up the third highest percentage (16.12%) of relatives in participants' same field or professions.

Home attributes. Table 34 contains information about participants' childhood home life. During the interview, participants were asked to describe their childhood home life, discuss duties and responsibilities, and share the values emphasized or taught in their homes.

Table 34

Home Attributes (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quotes
Tell me about your home life growing up. How would you describe your home life?	Instruction and Routines	14	45.16	"We were raised with encyclopedias… afternoons, you come home, you do your homework, you read…"
	Tense household environment	5	16.12	"Oftentimes [we] didn't have enough money to eat, didn't have lights…the phone was turned off, something was always turned off, home life… could be somewhat chaotic."
	Close family (immediate and extended)	4	12.90	"I was in a house with my mom, my grandma, my auntie, and anyone else who needed a place to stay, [be]cause grandma's house was like everybody's house."
	Religious	4	12.90	"It was happy, fun, strict, Christian."
	Happy	2	6.45	"I had a pretty happy home life."

	Strict	1	3.22	"[My] family was very strict..whoever is older than you are gets all the respect, you need to know your place as a child."
	Mixed (both joy and turbulence)	1	3.22	"I think my home life was mixed, some moments of turbulence, joy, and love of freedom."
If any, what duties or responsibilities do you have at home?	Household chores	29	93.54	"We helped with washing the clothes, dishes, cleaning, cooking, and by the time we were 10 or 11 each kid was responsible for a meal."
	Study	2	6.45	"The one thing was you study, and my mother would repeat it all the time. She did not want me to do anything because that would come in the way of studying."
What family values were taught or emphasized in your home?	Religion	21	67.74	"Church, God, religion, Christianity, was the rule of the home."
	Education	14	45.16	"My parents really did tend to emphasize the idea that my job was to make sure I got an education and to make sure I did well in school."
	Hard work/ productivity	12	38.70	"The first family value that was emphasized was hard work…I think to this day I am who I am in great part because of that value."
	Family	9	29.03	"Loyalty to the family was of the utmost importance…"
	Positive racial identity	6	19.35	"They had a lot of Black pride and they wanted us to know a lot about our race and about other things as well."

When asked to describe their home lives, most participants categorized their homes as *instructional* and *routine* (45.16%). Participants discussed "access to reading materials," "academic conversations" with caregivers, and "structured routines" when describing their homes. They also emphasized how the learning was nurtured and supported but not forced. For example, Sabrina shared, "we were raised with encyclopedias…[and] afternoons you come home, you do your homework, you read. It wasn't anything that was forced upon us, we were just raised that way."

The second highest percentage of participants (16.20%) described their home environments as *tense*. Most participants in this category experienced financial hardships resulting from divorce, separation, or single parenthood. For example, Jamie experienced living with a grandparent temporarily. She shared:

> There were quite a few times when, if things got hard, we ended up living with other people. My mother had me when she was young, [and] I lived with my grandmother… A good chunk of my experience was living with my stepdad's mother, and then we moved …we were living with my uncle and aunt, and we got a bit more stable as I got older.

Finally, participants who described their households as either *close-knit* or *religious* tied at 12.90%. Participants who described their home environments as close-knit shared that family members and close friends of their family (kinship relations) visited their homes often to share meals and engage in conversation. In most cases, extended relatives often visited their homes. However, in other cases, "relatives" were defined as close family friends such as neighbors, church members, or non-biologically related persons. For instance, Shirley shared that her family home was small but nurturing:

> We had very little space, or anything else. However, it was an incredibly nurturing environment in some ways. I had a ton of cousins, tons of play cousins, tons of people I called aunt and uncle who weren't my aunt and uncle but in other ways were.

Participants who described their households as religious spoke about attending religious services often and prioritizing faith in their homes. For example, Rebecca stated, "we definitely

grew up in a family of faith, so you [make] sure that you prioritize your faith, worship on Sundays, and that sort of spiritual development was a core component of my family as well."

Next, participants were asked to share the *childhood duties and responsibilities* they were responsible for completing in their homes. Twenty-nine participants (93.54%) shared that they were assigned household chores, with some of the most common chores being cooking and cleaning. Other responses included sibling care and yard work. Cynthia shared a combination of childhood chores. She shared, "[my] responsibilities included helping with the garden, weeding it, planting it, harvesting it. I remember having to rake leaves. I remember washing the dishes and having to do laundry and folding laundry. Oh yeah, there was lots of responsibility." Only two participants (6.45%), were not assigned chores. Both participants shared that their parents emphasized studying over all other responsibilities in the household. As stated by Harriett, "I [had] no duty. The only thing was you study and my mother, in particular, would repeat it all the time."

The final section of the table provides information about the family values taught or emphasized in participants' homes. Several participants could not respond with a single answer when asked this question; therefore, the percentage totals over 100% in this section. The top percentage of participants (67.74%) stated that *religion* was emphasized in their homes.

Participants who shared that religion was emphasized in their homes discussed experiences with family prayer, regular church attendance, and participation in church-led community service activities. Nicole, for example, shared:

> My family's Catholic, and we were very Catholic. We went to church every Sunday, and I was very involved in the church, it's a Black Catholic church and so gospel music was

> very much a part of our lives. So, all the values along with being a Christian. We served at the homeless shelter every Sunday.

Additionally, Seka stated, “[We] were a very praying family and were prayed every night, we prayed before every meal.” In several responses, participants discussed service commitments specifically in the Black community. They also spoke of a family emphasis on honoring elders and respecting family. For example, Sabrina stated, “ethics wise is to appreciate and respect others, especially your elders was key in our household.”

Education (45.16%) was the second highest value emphasized in several participants' households. The emphasis was placed on doing well in school with the added goal of college acceptance. For example, Josephine shared:

> There was never a point where I did not know I was going to college. My mom hadn't gone to college until she put us through it, but she was like, there's this thing called college for kids who are smart.

Participants also shared that reading and studying were emphasized in their households. Ruth, for example, stated, "Intelligence was valued, so being smart was something that you were expected to be … and so reading was something that we all did. We love to read." Participants also mentioned that socialized intelligence was encouraged in their households. Their families would participate in civil rights activities and discuss civil rights issues in their households. For instance, Nikki shared:

> Education is important, you need to be able to speak up for yourself and others. I come from a family of activists and we were fighting for voting rights when they grew up…so

one thing my mom stressed heavily [was]...to look out for people who may not have a voice at the table.

Parenting characteristics. For Table 35, participants were asked about their parents' personality traits and characteristics. Participants were first asked, what was your father like as a parent? One important point to consider is that nine participants (26.47%) *grew up without their fathers* in their homes. Two participants (6.45%) shared that their *fathers passed away* during their childhood, and five participants (16.12%) stated that their fathers were *not present or involved* in their upbringing. Two participants (9.67%) stated that their f*athers were not present in their homes but were involved* in their upbringing.

Table 35

Parent Characteristics (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quotes
	Emotionally supportive	16	51.61	"He always made me feel like I could do anything."
	Career professional	10	32.25	"My father had a master's degree…in teaching administration and he was a teacher for a long time."
Tell me about your parents.	Academically involved	6	19.35	"My father…was very determined that we would have a private school education because education was paramount to him."
What was your father like as a parent?	Provider	2	6.45	"My dad was the main breadwinner."
	Rigid	2	6.45	"He was very rigid [he] could be a hard taskmaster… he wanted things done a certain way, things were done a certain way [be]cause that's the way they were supposed to be done."

	Strong service ethic	1	3.22	"My father as a doctor…he worked at the county hospital because it was where Black folks went [and] that's where people needed him…real ethic of service"
	Not present in home	8	25.80	"I don't know about my father, I wasn't raised with him."
What was your mother like as a parent?	Academically supportive and involved	28	90.32	"My mom was like you're Black, you're a Black girl you have to be better than everybody else so Bs are not going to cut it - she's always had very high expectations for me."
	Socially & emotionally involved	7	22.58	"She was the one who was there every day, knew who …friends were, who the boyfriends were, knew who was interested in what and what we cared about…certainly much more nurturing of hugs and kisses, and I love you."
	Worked a lot	2	6.45	"My mom, she was never home, she was always working."
	Educators	3	9.67	"She was a professor…for many years."
	Teen mother	1	3.22	"My mother had me when she was 15."
	Task manager	1	3.22	"My mother was more technical where she made sure tuition was paid, I had my uniform, just really the logistics of raising me… there wasn't a ton of affection from her, but I know her affection lay in the things that she did for me."

Additionally, amongst those twenty-two participants who grew up with their fathers present, many shared several characteristics or traits about their fathers. For instance, 25.80% of participants shared that their fathers were "emotionally supportive" and that their fathers were "career professionals," and two participants (6.45%) shared their fathers' "working class." One participant (3.22%) shared that her father maintained a "rigid structure" in the home. These characteristics and personality traits were reported separately in the table and participants gave more than one response to describe their father increasing total percentage beyond 100%.

The highest percentage of participants shared that their fathers were "emotionally supportive" (51.61%). They spoke about how their fathers encouraged them to do well in school, played games with them, took them places, and were present for important academic or

extracurricular activities. Overall, these fathers were described as active and present with their academic and personal interests. Michelle, for example, described her father as a feminist when she stated:

> My father was my biggest mentor, because as a women that Black man made me feel like he was a feminist and that I as a woman could do anything that a man can do. He always assumed…you're my daughter, you're just as good as a son or any other person and you can do anything.

The second highest percentage of participants described their fathers as "career professionals" (32.25%). Their fathers' careers included doctors, army colonels, and school administrators. Participants shared that their fathers worked a lot and were not home often. However, when they were home, they were present and supported them academically by insisting that they attend and perform well in prominent schools. Erin, whose father is a Ph.D. in Engineering, shared that her father "was very determined that we would have a private school education because education was paramount to him." Similarly, Imani shared how her father "instill[ed] in [her] a sense of a reasonable path [and] a sensible way of managing [herself] and [her] responsibilities." She shared, "my dad taught me at a young age, I wasn't allowed to say I can't." Although their fathers were not often physically present, they were involved and took an interest in their care and well-being.

Academic involvement (19.35%) was the second highest paternal description shared by participants. Participants talked about how their fathers would purchase school supplies, help them with assignments, offer reading materials, model reading, and other academic behaviors to describe their involvement with their education. Ginger, for example, grew up watching her father read and think critically. She shared, "he wasn't able to go to college, but he was a very

educated person. So, reading the times and figuring out people [and] cultures, fascinated him. So we had to watch National Geographic." Three participants shared how their fathers taught them the value and importance of education even though they had not completed their early education. For instance, Sabrina shared:

> I think he [her father] wanted us to have a life that was different from the way he was raised. His father died when he was very young. He dropped out of school before he finished high school to take care of his siblings…once he started his own family, I think that it became vitally important to him that we were taken care of and that we learned how to prepare for our own future.

Participants were also asked what their mothers were like as a parent and many were unable to share a single characteristic or trait to describe their mothers. Therefore, responses in this section also total over 100%.

The majority of participants shared that their mothers were *academically supportive* and *involved* (90.32%) as a parent. They shared how their mothers exposed them to academics early by reading to them and with them and by supplying them with reading materials. Cynthia shared:

> My mom wanted us to read, like, [she would ask] what book are you in the middle of? And, if I liked one author, next thing you know, I'd have every book coming home from that author. She wanted me to read them all.

Travel was another prominent theme in this section. Participants discussed traveling with their mothers during their early years. Their mothers took them to musicals, plays, and other theatrical events. Some participants also shared national and international travel

experiences with their mothers. They would visit museums and other landmarks. Angela, for example, shared that her mother, "loves geology…and she would sign me up for geology trips with her and she likes paleontology. She would take me to the lectures of the museums and the anthropology museum with her. "

Participants also shared that their mothers *managed their education* and were their educational advocates. Participants discussed how their mothers were actively involved with school personnel to ensure they received a quality education. For example, Jamie stated, "My mother really believed in education… she would advocate for me to be in gifted and talented programs, and a lot of times have to go the extra mile to get that to happen." On the other hand, Katrina struggled academically at an early age, and school personnel wanted her to repeat a grade. Katrina stated:

> They wanted to hold me back in sixth grade and my mother was like no. So she got me tutoring to help me with these standardized test. I think it was my mother's advocacy that basically made me continue on the trajectory that I'm on right now.

The second highest percentage of participants described their mothers as *socially* and *emotionally* (22.58%) *involved in their lives*. They shared social experiences with outdoor play and social gatherings to illustrate their social experiences with their moms. Cynthia, for example, talked about how her mother would engage in lots of outdoor play with her when she was a child. She stated:

> We would play outside a lot, all season long, [when] it was snowing we would go ice skating, sled riding, we would make forts out of the snow and have snowball fights. In

> the summer we were going to the beach…there was prominent seasons, where we played tennis, rode bikes, and lots of outdoor time.

Participants also described their mothers as *caring*, *positive*, *playful*, and *nurturing*. These descriptive words with their actions highlighted how their mothers were emotionally supportive. For example, Dorothy's mother was an elementary teacher. She stated that her mother was "very positive…and she treated us like, you know, do your best and everything will work out… she would be a little more relaxed but still caring and still had high expectations."

Subsequently, 16.12% of participants also stated that their mothers were academically supportive and involved.

Parental involvement. For Table 36, participants were asked how involved their parents were with their academic talent development, and most stated that both parents were *actively involved* (67.74%) in their academic talent development. Both parents were credited with emphasizing high academic scores as a pathway to collage acceptance and college attendance as a pathway to future career success. For example, when asked this question, Lorraine shared:

> Both of them had very high expectations of me academically. So, straight As were the goal, sometimes I got there, sometimes I didn't. It was expected that I would go to college. There wasn't even a question. The question was which college you would go to? There was never the idea that you wouldn't, you just went to college.

Table 3

Parental Involvement (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quotes
How involved were your parents in your academic talent development?	Both parents	21	67.74	"Both of them were involved in their own way. School was number one."
	Involved mothers	30	96.77	"She loves geology, and we had this opportunity to live in east Africa so she would take me to lectures at the anthropology museum with her."
	Involved fathers	6	19.35	"My dad, he was not just present for me, but he was engaged in the things I did."
	Not involved mother	1	3.22	"My mom pretty much worked all the time and stayed to herself…so both of them I would describe as being absent."
	Not involved fathers	10	32.25	"My father really didn't have very much of an influence on any aspect of my growing up."
Did they have high expectations of you?	Both parents had high expectations	19	61.29	"Education was important to both of my parents, so college was always the conversation, doing your best in school was always a conversation."
	Both parents had high expectations but were not assertive	5	16.12	
	Mother had high expectations	6	19.35	"My mother really believed in education, and so I think education was definitely something that was stressed all the way through even though my mother did not go to college."
	Neither	1	3.22	"Both of them I would describe as being absent."
How so?	Supported social and emotional needs	25	80.64	"I always felt loved and supported by everyone in the family, including my dad."
	Pushed and supported academics	19	61.29	"My dad was very hard on me, but he had very high expectations to do the best we could because education was really important."
	Travel	6	25.80	"She took us to Broadway plays, she traveled, so my mom and I went to France, we went to England together."
	Managed education	2	6.45	"I remember my mom more than anything else because she oversaw our education."

Mothers played a significant role in participants' academic talent development. Of the 67.74% of involved parents, 96.77% either singularly or jointly included mothers. Mothers were credited with modeling academic behaviors, taking an active role in schooling, offering homework help, and providing consistent access to reading materials. Jamie stated that her mother “sacrificed for education,” and she shared, “my, our educational achievements are because of my mom because my mom was very clear about having books in the house [and] that we would do extremely well in school.”

Additionally, like fathers, participants' mother's levels of education did not interfere with their willingness to be involved with their education. Kahlil shared:

> My mom, who had the best, fifth grade or eighth-grade education, she always pushed us. I am still amazed how every single day after school mommy would sit down and say, "okay, take out what you have to do for homework." And, I mean mommy didn't know geometry and algebra, she had no clue, but she had a way of ensuring that our work was done.

On the other hand, 19.35% of fathers were credited with being involved (either singularly or jointly with mothers) in participants' academic talent development, whereas 32.25% of fathers were not actively involved with participants' childhood academic talent development. Involved fathers also provided access to academic reading materials, pushed for academic excellence, and exposed participants to academics inside the home. Michelle, for example, talked about the work her father would provide for her and her siblings during school breaks. She shared:

> We had like a program that my dad had about, "Okay, here's a little summer work I'm giving you. And I'm like, "summer is for fun dad." But, he always had a little program of what we're gonna learn when school was out. So, definitely lots of reading educational things to do... we had a piano, everybody had to learn to play the piano, which we hated. So yeah, a lot of programming activities, educational things that we had to do.

Parents' expectations. Participants were asked, "did their parents have high expectations of them, and how so" nineteen participants (61.29%) stated that *both parents carried high expectations*. Their expectations were most often presented as college acceptance and future career success. Dorothy's parents were college-educated, as were many other family members. She shared that her mother:

> Comes from a long line of education, educators, teachers, principals, and education was important." In her household growing up, she stated that "college was always the conversation, doing your best in school was always the conversation.

Additionally, several participants shared that although their parents had high expectations, they were careful not to push them too hard. Ashanti talked about how her parents expected high grades but pushed just enough. She stated, "We never had expectations that we got hundreds or were like A plus students, but there was an expectation that we were like B students."

Participants also shared that their parents had high expectations but took a *hands-off approach* since as children, they were motivated to do well academically and were studious, self-regulated, and high scoring. For example, Ruth shared:

> I don't think my mother ever wanted to put high expectations on me. I don't think she wanted me to feel that pressure or stress. She was always very much I could do it if I

wanted it bad enough, but she would never say, "I expect you to go far in life." My dad never did any of that either. It was just very much, "Oh, you're smart." "You can do what you wanna do, so figure it out and go do it.

When asked how their parents communicated their high expectations, several participants could not pinpoint a single way their parents communicated high expectations. Therefore, the percentage in this section is above 100%. However, when asked this question, most participants stated that their parents were *socially and emotionally supportive* (80.64%). The most common types of social and emotional support parents offered were words of support and encouragement. For example, Shirley spoke of her father's encouraging words, even though he did not live with her. She stated, "I only saw him periodically [but] he always would tell me how smart I was and that I could go anywhere, be anything I wanted to be." Similarly, Bianca summarized most participants' experiences when she shared, "I always felt loved and supported by everybody in the family."

The second highest percentage of participants (61.29%) discussed how their parents and caregivers *pushed and supported them academically*. Participants discussed how their parents and other relatives nudged and supported them academically, primarily by emphasizing reading. Angela, who had a close relationship with her aunt and mother, talked about how they provided her with access to books. Angela stated, “My aunt was like my greatest provider of books, and it was because my mom encouraged her to do that. She encouraged me to read a lot. My mom said, " Let me take you to the library.” Alongside prioritizing reading, participants also discussed the importance placed on studying and doing well in school as essential for Black students' success. For example, Katrina stated:

> I remember when I was in junior high school and I got a whole bunch of Bs and I was happy with it, but my mom was like, "you're Black, you're a Black girl. You have to be better than everybody else." So, these Bs are not going to cut it.

Furthermore, Erica's parents taught her that instructors take students who do well in school seriously. She stated,

> "For students, there was certainly a sense that one had that to retain the attention of faculty and get the sort of guidance one wanted, one had to demonstrate being exemplary and a certain kind of treatment happens. [I] got this endorsement from my parents that if you want to be taken seriously, you have to be serious, and it's especially important for a Black student."

Peers

Peer influence may directly or indirectly impact an individual's academic scholarship development (Poldin, Valeeva, Yudkevich, 2016). Additionally, peer influence may be most influential during adolescence or early adulthood years when peers become more involved in their talent development (Paik, 2015). Table 37 contains information about how participants' peers and colleagues supported their academic scholarship development during their early and later schooling years and in their current professions.

Peer and colleague school and later year influence. The top two themes participants shared were *social-emotional and academic support*. Participants were asked, "how their closest friends influenced them during their early years and how their colleagues include or support them now." Participants gave more than one answer to this question; therefore, responses in this category total over 100%.

Table 37

Peers Characteristics (n=31)

Item	Theme	Peer influence in school years (%)	Colleague influence now (%)	Examples
Think about how your closest friends influence and support you. How did your closest friends and colleagues influence and support you during your school years (pre-k through university)? How do your closest colleagues influence and support you now?	Social-Emotional support	93.54	32.22	Being good listeners, sharing common interests, modeling integrity, celebrating successes
	Academic or career support	29.03	83.87	Providing feedback, writing support, offering opportunities to publish and present at conferences, encouraging [the] pursuit of leadership positions, mentorship
	No friend/ colleague support	3.22	6.45	no close friends, works independently

Twenty-nine participants (93.54%) shared that their closest friends provided social and emotional support during their early academic years. Participants and their peers engaged in activities such as walking, visiting art museums, dinner, and a movie to manage stress. Participating in activities with peers provided opportunities to take a momentary mental break. Angela, for example, shared:

> During my school years, my closest friends and colleagues were great about easing my mind off of how stressful things were. So it was, we have prelims coming up [and] we're all really stressed. Let's go to happy hour. It's gonna be okay. Or, let's go for a walk by the river. Let's do something together and talk about anything other than school or anything other than scholarship and the work.

In addition, participants shared emotional support offered by friends in the form of encouraging words and the provision of non-judgmental, welcoming spaces. For example, Dorothy stated:

> My friends, closest friends and colleagues, people, just encouraged me. If I felt down or feel like I can't do something, people encourage me, people are just lifting me up that are my closest friends, and just grounding me in what is important, which are relationships with people…I had friends who were genuine, and I felt like that [was] who I was.

Additionally, a few participants shared how their closest friends offered them a safe space to air out experiences and challenges with equity and social justice issues. Specifically, Imani spoke of her professional friend and role model and how "[they've] grown together and have a similar understanding of the world." She shared, "She's an educator and very critically conscious, and we're both very interested in educational equity and an understanding of how systems of oppression influence us intellectually and personally."

Academic or career support was the second highest percentage (29.03%) reported by participants related to how their closest friends influenced or supported them during their early schooling years. Participants talked about their experiences with peer study groups and receiving academic advice and feedback on assignments. Furthermore, they spoke about healthy academic peer competition as examples of how their closest friends influenced them during their schooling years. Cynthia, for example, discussed the healthy competition she and her friends would engage in and how their competitiveness helped her remain encouraged and focused in school. Cynthia stated, "We competed for grades and that kept me wanting to do well. I'm grateful that I had friends that were into their books, [and] focused on wholesome

things." Moreover, Teresa discussed how her peer group supported her dissertation preparation process. Her team offered support as thought partners, readers, and advisors throughout her dissertation planning. She shared:

> When I was trying to work out certain issues with my dissertation, I invited everybody over to my house for dinner and I presented my dissertation and invited them to help me with it. So, you know, these other students whose opinions mattered to me and they helped me through my dissertation, giving me really good solid advice on it.

Interestingly, the percentages reversed when participants were asked how their colleagues influence and support them now. A greater percentage of participants (83.87%) stated that their colleagues influence and support them by providing *academic or career support,* and (32.22%) stated that they were offered *social and emotional support* from their colleagues. The most commonly cited academic and career supports offered by participants were reading one another's work and offering one another instruction and feedback about their work. Shirley, for example, stated:

> My colleagues support me best when they read my work and offer feedback. In grad school, I never would have understood what that meant, but now as a professor, I understand how much time it takes to stop what you're doing, pick up someone else's paper, read it with an eye towards making it better. That's a commitment. That's time. That is compassion. That is investment. And, that is how you show support. And, I know when someone says, I'll read your work, they care about me…that whole time they could have been doing their own research or writing and all that, and they're doing it for you. Amazing.

Additionally, participants shared *academic support* by working with thought partners who offered perspectives or helpful criticisms of their work. Ruth, for example, shared:

> If I need someone to really unpack, there are people who have a similar mind…an attorney, I'll consult with her [because] she has an analytical mind. The other person who is the cardiologist because they have minds to help me unpack things I need to unpack on a deeper level.

Lorraine spoke of similar colleagues and identified them as "chosen colleagues, the ones that you connect with." She described her experience with these colleagues as "kind of a social, but also intellectually supportive."

Participants also described academic and career support as *helping one another navigate academia*, specifically the tenure and promotion process. Other supports discussed were publication or presentation opportunities, collaboration, accountability via planned work sessions, and assistance with career advancement. Bianca summarized how her colleagues helped her successfully navigate academia when she was a junior faculty. She shared, "I became a junior faculty, [and] a lot of people at my university have been so helpful through the tenure process [with] the pitfalls that happen particularly to women of color in academia." Bianca discusses some of the specific support she was offered by colleagues when she stated that they "support me when I'm overburdened with the university service or doing a lot of quote, unquote diversity work."

32.22% of participants shared that their colleagues offered them social-emotional support through occasional phone calls, check-ins, office visits. For example, Marla's shared experience with "talk conversations" offered by colleagues when she stated:

> In terms of my colleagues, we support each other through talk conversations. We'll go to lunch…we'd meet at each other's homes, really, we're like sister colleagues. We would involve and support each other's project, have conversations about what's going on in the world. We could talk about work and not feel that someone is going to go back and say something. That's trust.

Participants also discussed colleagues who supported them by offering "encouraging words." *Influential peers* were credited with leading by example or as stated by Ashanti, "sources of inspiration and pride."

Extracurricular Time

Extracurricular time is loosely defined as how individuals spend their time outside of traditional school or work settings (Paik, 2015). Moreover, extracurricular time often takes up a significant amount of out-of-school time. Early years extracurriculars may include television watching, reading, sports and leadership activities, after-school club participation, and technology use. Traveling, socializing, and exercising represent later-year extracurricular activities professionals may engage in outside work hours.

Extracurricular time use. Table 38 categorized how participants used their extracurricular time when they were not in school or working. Participants were asked what hobbies and interests they had during their school years and what hobbies and interests they have now. Several participants were unable to choose a singular hobby or interest. Therefore, the percentage total goes beyond 100%.

Table 38

Hobbies and Interests Schooling & Current Years (n=31)

Item	Theme	School years (%)	Now (%)
Tell me about what you do when you are not in school or working. What hobbies and interests did you have during your school years (pre-k through university)? What hobbies and interests do you have now?	Sports or physical activities	54.83	38.70
	Visual or performing arts	25.80	35.48
	Reading and writing	32.25	3.22
	Leadership activities	19.35	0
	Gaming	16.12	3.22
	Socializing (time with friends and/or family)	16.12	54.83
	TV watching	3.22	35.48
	Studying	3.22	3.22
	Collecting (e.g., stamps or postcards)	3.22	3.22
	Self-care routines	0	41.93
	Traveling	0	35.48
	Outdoor/leisure activities	0	25.80

The largest percentage of participants named *sports or other physical activity* (54.83%) as their hobby or school-year interest. The top three competitive sports referenced by participants were “softball,” “tennis,” and “swimming.” Additionally, ten (32.23%) of the seventeen participants (58.83%) in this category engaged in *two or more competitive sports* during their schooling years. Cynthia, for example, stated, “In my school years, we played tennis. I was a competitive swimmer, and I was learning to compete in ice skating.”

The second and third highest, early year extracurricular activities participants engaged in were *reading and writing activities* (32.25%) and *visual or performing arts activities* (25.80%). For example, Imani stated, “reading was a big hobby and interest, especially when I moved out

to the suburbs." Eight participants (25.80%) shared their youth involvement with dance, theater, marching band, choir, and other extracurricular activities. For example, Tonja shared:

> Music and dancing and performances were my main hobbies and I like to read for fun. But, music, dance, performance, step team, cheerleading, clarinet, and all that stuff, I loved, loved, loved, that when I was a kid.

Over half of the participants shared that most of their current free time is spent *socializing* (54.83%). The top responses participants shared were time spent with their children, family members, and friends as their free time socializing activities. Six (19.35%) out of ten (32.25%) participants talked about their time with their kids. The time participants spent with their children involved homeschooling, reading, crafting, traveling, and other extracurricular activities. For example, Shirley stated:

> I love spending time with my kids, going to bookstores with them, crafting with my daughter, playing video games with my son and really just trying to stay very close to knowing who they are as people, and that means just spending a ton of time with them all the time.

Participants also used their extracurricular time for dates, dinners, movies, shows, and other social events with friends and family members.

The second highest percentage of participants shared *wellness and self-care activities* (41.93%) as their interest. Participants engaged in shopping, gardening, journaling, painting, crocheting, massage, and reading are several of the self-care hobbies and interests participants engaged in during their free time. Many participants discussed how engaging in wellness activities helped them manage the stress of work or helped them move their focus from

scholarship to relaxation. For example, Sabrina enjoys gardening and crocheting during her free time. She stated:

> I'm doing gardening…[and] I learned that vegetables and fruits are not my thing, so I'm more into plants and flowers now. That has been very helpful for me, just getting into that mind space when I need to shift from scholarship, that I know what I can do to help me to remain calm and so on.

Visual and performing arts, TV watching, and traveling tied equally at (35.48%) for participants' later-year hobby or interest. "Traveling and seeing new places" was how Angela responded when asked about her current hobbies and interests. She shared, "I see new places through films, apps, and books…I like going to art museums. I love visual arts museums. I love theater." Other participants shared their travel experiences through road trips across the U.S. and international trips. For example, Cynthia shared that she takes "trips to Ghana."

Contextual Factors

The Productive Giftedness Model (PGM) considers the impact that contextual factors (e.g., race, socioeconomic status, historical background, gender, etc.) have on academic talent development. In most cases, contextual factors cannot be altered or changed (Paik, 2013, 2015). However, context provides greater insight into understanding individual academic talent development experiences.

The following tables contain information about *opportunities* and *barriers* impacting participants' academic talent development.

Academic talent development opportunities. Table 39 contains information regarding opportunities participants had that supported their academic talent development. Several participants could not identify a single opportunity that contributed to their academic talent development; therefore, the total percentage in the table is beyond 100%.

Table 39

Opportunities & Barriers (n=31)

Item	Theme	Frequency	Percentage (%)
Describe any opportunities that helped promote your academic talent development.	Career support	11	35.48
	Financial support	10	32.25
	Academic support	8	25.80
	Scholarship community	7	22.58
	Colleague collaboration	7	22.58
	Family support	4	12.90
	Attending prestigious university	2	6.45
	Athletic competitions	1	3.22

The top three responses participants gave as opportunities that promoted their talent development were *career support* (35.48%), *financial support* (32.25%), and *academic support* (25.80%). The majority of participants talked about career opportunities that helped boost their academic resumes, such as public speaking opportunities, conference presentations, and networking events. Participants explained how the culmination of these, and other types of scholarship opportunities helped place them on the path toward becoming university professors. For example, Kamala shared:

> Opportunities that promoted my scholarship were mainly joining organizations based on my discipline, and I think meeting people at conferences and conventions was pivotal for my academic scholarship success because I was able to see and hear about opportunities. People got to know me and know my work, so they would tap me if they needed a publication, [or] if they needed a manuscript for a book that they were writing.

Additionally, *financial aid* support provided a pathway for participants to attend universities and acquire the prerequisite skills and degrees necessary to become university professors. Participants shared grants, scholarships, fellowships, and other financial aid opportunities that helped them complete their education. Josephine, for example, stated:

> In terms of opportunities, people pulling me aside and giv[ing] me reading or talking with me implicitly reinforced the idea that there are no boundaries [and] money because my family did not have money at all. There's no way in the world I could have gone to school at all, and I think that's why I make sure that I give money to institutions for scholarships.

Lastly, participants discussed their *academic opportunities* as undergraduate and graduate students. Some common responses were participation in graduate programs and workshops, research experiences, and GATE and honors course placement. Tonja, for example, talked about her experience as a GATE student and how it supported her academic talent development when shared.

> So, opportunities, I think to name a few, being tested and going into gifted and talented programs [and] being afforded opportunities to take college classes when I was in middle school, being nominated for awards really young. Those things helped put me on

the radar of people who had decision making power about who gets opportunities and who doesn't.

Additionally, Rebecca stated, "I did project next for new experiences in teaching, a two-year fellowship program where you worked on your teaching [and] research portfolio. You had a cohort you came in with and that was a great setup for success." These types of opportunities aided participants' academic talent development.

Barriers to talent development. For Table 40, participants were asked to "describe barriers that may have hindered your talent development." Several participants had experienced more than one barrier and could not pinpoint a single challenge interrupting their academic talent development. As a result, the total percentage in this section exceeds 100%.

Table 40

Barriers to academic talent development (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
Describe barriers that may have hindered your academic talent development	Racism	12	38.70	"Institutional racism is real and it's painful when you have to experience [it], it's tricky because the various wars were insidious, but they were not visible, so racism was a barrier but not one that stopped me."
	Toxic environments	10	32.25	"Facing consistent discrimination wears on you after a while, having to function within a hostile environment is really exhausting."
	Sexism	7	22.58	"It's a very White, male culture…and one of the things they said is that they could not see me as a colleague, and I remember it verbatim, and I know countless other women who have similar stories where somebody said something that they remembered verbatim and it doesn't stop."
	Étrangement (isolation, imposter syndrome &	7	22.58	"I think there were a lot of things that would have been barriers like my high school guidance counselor, instead of encouraging me to go to college, told me I should go to secretarial school."

self-doubt)			
Finances	7	22.58	"Student loan debt and I have bills that have been accumulated from grad school."
Lack of support	5	16.12	"I think other barriers are not having mentors to provide guidance and to keep you in the game, and not knowing what the game is."
Publishing	2	6.45	"One publisher dropped me from their list of books, and I had to go find a new publisher."
Childcare	1	3.22	"I think about people on the tenure track roles are doing this are men, if you have someone that takes care of domestic roles in your home, that frees you up to be sitting and thinking, and writing, to do the things you need to do for this job, childcare is expensive."

The largest percentage of participants stated encounters with *racism* (38.90%) as hindering their academic talent development. Several participants talked about how racism and discrimination are entrenched in the university system. Racism contributed to "(micro)aggressions," "high turnover" and "exit rates," "social isolation," and "professional hardships." Angela, for example, shared:

> Anthropology was incredibly racist and horrible. They were awful to their Black faculty, who all left. My first years, I was the only Black student in the whole department. I think facing constant discrimination wears on you after awhile, having to function within a hostile environment is really exhausting.

Angela went on to summarize her experience with racism in the department when she stated:

> I was hired in anthropology… but I switched to Women and Gender Studies because I knew the Anthropology department wasn't going to support my tenure, despite the fact that I had numerous publications and was on track to succeeding. Ever worst thing you could imagine happen[ed] to faculty members of color… from being called the N-word to having my office vandalized, to being given the wrong information, to hostility from my chair, to being under evaluated.

Moreover, participants discussed how experiences with racism impacted their morale and created productivity barriers that interrupted their academic talent development. Josephine, for example, stated:

> I think the biggest hindrance for me, when it showed up, was racism. I hate [how] it's just people creating blocks." She goes on to share, "I had a professor in college who said, I can't believe this, [this] can't be your writing because it's too good. And, I'm like, this is an in-class assignment. Who else? Like, I wrote it, I'm handing it to you, who else could have written it? So those types of things ended up being hindrances.

The second and third highest hindrances to participants' academic talent development were *toxic environments* (32.25%) and *sexism* (22.58%). Participants shared experiences with aggressive work environments, devaluing their work, favoritism, and other hostilities. Imani, for example, talked about the additional workloads and how the institution often devalues the work produced by or about people of color; Imani described these barriers as "toxicity of academics that causes scholars of color to question their value and what they have to contribute." Similarly, Erica discussed her challenges as a female faculty member who worked to support underserved communities. She shared:

> It can be hard as female faculty who cares about wellness. [It] doesn't necessarily feel like a burden because we care about students and we care about the community, but it is really work and it is real time and emotional energy, honestly, that isn't always valued by the institution.

Lastly, similarly to racism, sexism was identified as an academic barrier. Erica, for example, shared:

> That's a very White, male culture. You're prioritizing people [who] fit into the culture of wanting to go out and grab a beer, and one of those things they said was that they couldn't see me as a colleague.

She went on to share direct experiences with racism at top-ranked universities where she was perceived as not belonging in the institution, and another female colleague was made to feel she was not qualified to be a professor.

Approaches to overcoming barriers. Participants were also asked, "who taught you the skills to deal with these challenges? In what ways?" Again, when answering these questions, several participants could not give one answer to either question since more than one response was given to each question. Therefore, the response percentage totals over 100%.

Table 41

Overcoming Barriers (n=31)

Item	Theme	Frequency	Percentage (%)	Representative Quote
	External supports			
Who taught you the skills to deal with these challenges?	Family members	17	54.83	"My parents instilling in me the sense of just do your work and your work will speak for itself, help[ed] me to survive all the gaslighting around me that was saying that I was worthless…"
	Peers and/or colleagues	11	35.48	"I'm a big fan of collaborators…when I find a good one, somebody who is gonna put in as much effort as I do, I keep them close to my heart."
	Black community members	9	29.03	"I think it is important for us to think about community, who we're in community with as we become scholars… we have to be in community with Black folks who want the same things as you."
	Internal support			

	Intense focus on work	9	29.03	"I countered that [workplace challenges] through two things, I think my personality and the other was the quality of the work, the volume, and the quality of what I did."
	Internally driven (e.g., self-determination, positive attitude, negotiation)	7	22.58	"I taught myself…nobody was like here's how you deal with, you know, it was just kind of trying to figure out what to do."
	Spiritually driven	4	12.90	"Sustaining myself spiritually through my spiritual and religious practices really helped because they remind me of what's important."
In what ways?	Advice and encouragement	12	38.70	"It's also having a really good peer group, colleagues, family, friends…whenever you have really bad episodes or stuff being too much, being able to vent and have people say the whole system sucks, you gotta have people who tell you how great you are, how special you are, so they can remind you when you can't see it."
	Academic collaboration	7	22.58	"Working with other faculty mentors…[at] my institution…because you know that there is someone who can help support and keep you writing."
	Learning from example or being an example	4	12.90	"I've tried teaching my sons that you'll experience racism but that's [the other person's] problem we don't make it your problem, something I have arrived at from my own experience."
	Providing safe spaces	4	12.90	"I think that you don't see the value of scholarship until like sister circles…where you're in a position where you could share in a safe space about what the research says on a set topic."

The themes in Table 41 were categorized into two sections -- *external supports* and *internal supports*. *External supports* were categorized as "supportive persons" or "communities," and *internal supports* were "innate skills" they drew from to persevere through challenges.

Starting with external support, the largest percentage of participants stated that *family members* (54.83%) taught them skills to handle the barriers they encountered that interrupted their academic talent development. Five participants (16.12%) specifically shared that their *mothers* provided them with skills, four participants (12.90%) credited *family members* generally, and others credited a *spouse*, *advisor*, or *other trusted individuals*.

Peer and colleagues (35.48%) were named as the second highest support group, and *Black community members* (29.03%) were the third highest response given by participants. Shirley summarized how her friends, family members, and peer groups have helped her sustain courage and strength when faced with adversity. She stated:

> Having really good peer group colleagues, friends, family wherever you've had those really bad episodes of this stuff, just too much, being able to vent, being able to have people say the whole system sucks. You gotta have people who know who you are, how special you are, how great you are. And I've had those people every step of the way. Sometimes they're my family, sometimes they're my friends, sometimes they're my level partners, but every space I've had those people.

An *intense focus on their work* (29.03%) was the internal strength participants drew upon to overcome barriers to their academic development. They discussed how they would work intensely, take pride in their work, find safe workspaces, and maintain a consistent focus on goal attainment to overcome barriers.

The second highest percentage of participants (22.58%) credited *motivation and drive* with helping them overcome academic barriers. They spoke of using adversity as a motivator to drive their achievement. For example, Kara stated, "I don't focus on them. If I thought about them and got angry I would lose focus on the work itself. I've tried to teach my sons, you'll experience racism but that's their problem…don't make it your problem." Lastly, four participants (12.90%) spoke of being s*piritually-driven*. For example, Angela shared how sustaining myself spiritually through my spiritual and religious practices really helped me because they remind me of what's important, those practices, and those communities."

When asked in what ways they were taught skills to deal with challenges, the largest percentage of participants shared that they were given *advice and encouragement* (38.70%). For example, Ashanti shared, "My parents always had these conversations about how you talk to them, what you do, what you don't do with authority figures and stuff like that." Additionally, Erin shared how her spouse provided her with support and encouragement when confronting sexism in the workplace by affirming that sexism is real and that she was experiencing it from her colleagues. Erin stated:

> I really think my husband helped me with that because he's a man and he's just used to male privilege. I would tell him certain things like when I was an assistant professor and the guy who was supposed to be my mentor told me that all my ideas were crap and I was just devastated. I called up my husband and I was like now I have to change everything and he was like, "You don't have to change anything, that guy is a [explicative]. And, then I was like, "you're right."

The second highest percentage of participants shared that *academic collaboration* (22.58%) helped them manage adversity. Collaborating with others, networking with helpful people, and support from senior faculty were some shared experiences that helped participants learn skills to manage workplace or academic hindrances. Participants stated that working with other Persons of Color or Black women has helped them deal with adversity. Angela stated:

> Knowing that other Black women and other people of color have been through this and much worse has helped me." Moreover, Cynthia shared her experience working with others in a faculty success program. She shared, "I guess it was about five years ago or so when I started taking the faculty success program and looking at those modules and

there was one on imposter syndrome and learning what that is and like, “Oh, I’m not crazy.

Closing Questions

At the interview closing, participants were asked two final questions about their future academic aspirations and advice they would give to an aspiring scholar. Participants offered more than one answer for each question, so the response percentage exceeded 100%.

Table 42

Future Aspirations (n=31)

Item	Theme	Frequency	Percentage (%)
What is next for you in your career?	Promotion	13	41.93
	Completing an academic project	12	38.70
	Continued support of students and faculty of color	7	22.58
	Networking and collaboration	6	19.35
	Retirement	3	9.67
	Child raising	1	3.22

Future career aspirations. Table 41 contains information about participants' future career goals. When asked, "what is next for you in your career," the largest percentage of participants responded with *promotion* (41.93%). Five participants (16.12%) stated receiving tenure as their primary goal, four shared promotion to full professor, and four aspired to move into an administrative role and the university. Tonja, for example, shared:

> I am working on projects that I really like. So publishing papers, doing outreach in the community, connecting, and making sure I'm mentoring my mentees in a way that helps them to be successful in whatever way that wants to find success. I'm pursuing a full professor in the next few years, those are all [on] my agenda.

Completing an academic project (38.70%) was the second highest response participants gave as the next step in their careers. Six participants shared that their primary goal is to complete a book, three participants shared writing a grant, and others specified finishing an academic or media project. Ginger highlighted her aspiration when she stated, “I’m taking on hard things because these types of articles are different. My area of research is really based on re-imagining mathematics teaching preparation by centering the lives of BIPOC.”

Support of students and faculty of color (22.58%) was the third highest response participants gave regarding the next steps for their careers. Participants spoke of engaging in recruitment, outreach, mentoring, and advocacy work for students and junior faculty of color. The goal shared by most participants was to support the next generation of aspiring scholars. For example, Ruth said:

> I could retire if I wanted to but I’m not gonna do that. I think I’m going to really focus on equity mindedness, the next generational leaders. That’s what motivated me at this

juncture in my career, to become a consultant. I'm working on career legacy, to help other women recognize their power within and not to be subjugated to the ideas of others because of their thoughts and reactions.

Aspiring scholar advice. For the final interview question, participants were asked to offer advice to an aspiring scholar. Table 43 contains the various advice offered, with the number one response being *persistence* (48.38%).

Table 43

Aspiring Scholar Advice (n=31)

Theme	Frequency	Percentage (%)	Representative Quote
Be persistent	15	48.38	"Just keep swimming, just keep doing it, it gets easier, practice makes perfect, like all of these things."
Work with others	10	32.25	"Share your work with people…find people who have their careers and do not need your scholarship to make their career."
Follow research passion	8	25.80	"Find the things that inspire you to keep going every single day…and wakes you up and tells you, you want to write and research."
Follow a routine	6	19.35	"Do some work every day…if you've got five minutes, look up a word in the dictionary, but do some work every day."
Practice self-care	4	12.90	"Take care of yourself and that means like take a day off here and there, get a massage, hang out with your family, go to church or meditate or do something where you're giving back to people."
Establish a work and family balance	2	6.45	"Take care of yourself, take care of yourself, it doesn't mean anything if you don't have family, if you don't have faith, and if you don't have fun."

Staying focused, committed, faithful, and confident about one's ability to produce scholarship and do good work were among the responses given. Participants also stated the importance of believing in oneself and remaining determined, patient, and confident as additional advice for future scholars. Ester shared:

> One thing I've learned and learned the hard way is that building your confidence is a lifetime journey and it's easy to love it in a world that takes, in a competitive world where people are oftentimes jockeying for position. Don't lose faith in yourself and don't let a negative incident throw you completely off balance. Do whatever you have to do to get back up and keep going.

Participants also shared the importance of finding mentors, following their advice, and accepting their support. For example, Erin shared:

> Get mentors who genuinely care about you but also if there are different things you want, you can have 50 mentors….not everyone will commit to the, "will you be my mentor" question but if you are like, I want to write this paper or I want to submit this abstract, and/or I want to submit this paper to this particular journal, and could you spare 15 minutes to talk? Everybody's going to say yes to 15 minutes, and so you can have a bunch of 15-minute mentors who don't even know that they're your mentor.

The second commonly shared piece of aspiring scholar advice was to *work with others* (32.25%). Participants also emphasized the importance of sharing one's work with others. Jamie, for example, shared:

> Build your network. Find those willing to support you and you may have to go beyond your own department. You might have to go beyond your own university, but you know, just have conversations with people and see how supportive they are and keep in touch with them, and don't be afraid to share your work with them once you deem them supportive.

The third response participants gave for aspiring scholars was to *follow their research passion* (25.80%). Participants expressed the importance of doing inspirational and meaningful

work. Althea, for example, stated, “find the thing that inspires you to keep going every single day…when you are inspired by your topic, your ability grows because of your reading and your writing and your thinking about those things.

Summary of Findings

The information below summarizes each PGM factor based on key qualitative and quantitative findings.

Individual Aptitude - Key Findings

Ability. Findings in this section echo research that academic success outcomes are not solely dependent on innate ability (e.g., test scores, grades, and other aptitude measures). Instead, academic success is achieved through both individual ability and effort-related attributes. Beginning with participants' ability, nearly all received A and B grades during their elementary and secondary school years. For most, these grades were achieved easily since learning new information was seen as interesting or an opportunity for them to go above and beyond their teachers' expectations. Participants typically used ability-related terms (e.g., gifted, intelligent, or smart) when asked to describe themselves as learners during their early school years.

On the other hand, most participants who received A and B grades during their college years reported that they put in considerable *effort and time* in their work; they also received an abundance of support from key individuals to achieve these high scores. These experiences may have contributed to most participants using *effort-related* terms (e.g., determined, focused, persistent, driven) to describe themselves as later year learners. These academic *abilities* and

effort-related findings support research that asserts that academic skills are not fixed but are malleable and may be mastered when individuals are provided the time, support, and resources needed to achieve skill proficiency (Matthews & Foster, 2005; Paik, 2013, 2015).

Additionally, when participants were asked about their most prized awards and recognitions, their responses fell into two categories - *esteemed academic awards* and *community service awards and recognitions*. When asked why they selected these awards, most shared that they represented acknowledgment of their work and personal growth; both responses acknowledged participants' *ability* and *effort*. For example, their awards and recognitions were a testament to their high aptitude (ability) and perseverance (effort) beginning in childhood and continuing into their later college and career years. Research further suggests that achievements may compound over time when an individual's strengths are nurtured (Ericsson et al., 2007).

Motivation. External and internal motivational factors supported and sustained participants' academic talent development (Ryan & Deci, 2000). Specifically, *validation from parents* and *other family members* helped participants sustain their academic talent. Most shared that their parents supported them financially and social-emotionally. For example, parents paid private school tuition, tutorial expenses, and other educational and extracurricular material costs to ensure they excelled academically. In addition to financial support, their parents offered social-emotional support through encouraging words, guidance, and quality structured time inside and outside the home to support their academic development further.

Moreover, participants shared that their parents emphasized the importance of *early education* and *college attendance* to attain future career and economic advancements and, in some cases, an opportunity to serve others. Most participants' parents viewed college as an extension of high school and a natural next post-secondary step following graduation. College

was viewed as a privileged opportunity to give back by serving less advantaged individuals in underserved communities. These findings are supported by research suggesting *extrinsic* and *intrinsic* factors impact motivation (Cokley, 2003; Ryan & Deci, 2000). For African Americans, however, motivation may be more extrinsic since academic opportunities were denied historically and often go unrecognized (Collins, 2022; Cokley, 2003).

Participants were primarily *extrinsically* motivated to excel academically. As previously mentioned, their parents and other key individuals invested heavily in their academic talent development, and participants did not take their parent's support for granted. They cited motivational skills (e.g., determination, drive, and focus) that helped them to persevere through rigorous tasks and assignments at high-performing schools and universities. These findings align with research stating that external validation from others, such as their parents or even teachers, may contribute to the intrinsic motivation needed for goal attainment despite setbacks and challenges (Alan, Boneva, & Ertac, 2019).

Development. Research findings show that early academic experiences and exposure may help shape academic identity formation, impacting later success outcomes (Davis, 2003; Kane, 2012). For example, nearly all participants reported having *regular access to reading materials* in their childhood homes and being *avid or advanced readers* throughout their lives. Many also shared that *influential adults*, primarily parents and teachers, encouraged them to read by supplying them with books or modeling academic reading skills and behaviors (e.g., reading or talking about advanced books). Research shows that early reading strongly predicts academic success (Dahlgren, 2008; Vagvolgyi et al., 2016). Additionally, modeling academic behaviors in the home have been found to encourage self-regulation, goal-setting, and perseverance - all skills contributing to early academic identity formation (Kane, 2012).

Along with being skilled readers, participants shared that they regularly *studied and completed homework assignments* during their elementary and secondary school years. Most also stated that their academic strengths were recognized by adults, mostly parents, who pushed for their placement in cognitively challenging *academic and accelerated programs*.

Interestingly, when asked how they would describe themselves as learners, many shared terms related to *introversion* (e.g., pensive, quiet, reserved, listener). Their personality descriptions lend themselves to characteristics often assigned to skilled readers who are often credited as having thoughtful inner dialogues as they read, think, and connect with the world (Harvey, Ward, & Pilkey, 2017).

Lastly, participants credited *early academic reading and work production* as contributing to their academic talent development during their college and professional years. By the time they reached college, they read regularly, and many had *advanced reading skills*. As professionals, participants apply their reading, service, and productivity skills to publishing books and writing top-tier journal articles, which have resulted in highly prized awards and recognitions.

School Factors – Key Findings

Learning climate. Participants shared *positive* and *negative* experiences when asked about their time in-school. Starting with their positive experiences, nearly all participants credited *quality instructors* with positively impacting their morale and academic talent development. *Quality instructors* were cited as holding participants to high academic expectations and providing them with academic and social-emotional support.

Many participants shared that their instructors provided them with mentoring, advice, and guidance and that they also took a personal interest in their academic, social, and emotional

well-being. For example, instructors offered *scholarship, academic advancement, or enrichment opportunities*. Their experiences highlight research findings that students in advanced and honors courses typically learn under favorable conditions that contribute to higher student achievement, positive student morale, and higher college attainment (Bauch, 2013; Griffin et al., 2017; Hale, 2006; Killough et al., 2018).

On the other hand, many participants reported experiencing *harsh* or *unkind* treatment in their schooling environments, primarily due to racialized deficit perspectives about African American students' academic ability. For example, some participants talked about being punished or scolded for receiving high scores or for outperforming students whom instructors perceived to be more academically skilled. In these cases, participants shared that their *educational advocates* (e.g., parents and teachers) intervened on their behalf and insisted on new or proper course or program placement. In some cases, participants transferred to new schools.

Quality of instruction. Both survey and interview results show that nearly all participants attended schools and universities with *high academic expectations*. The finding that stood out most was that *homework* and other *academically challenging assignments* contributed most to participants' academic talent development. Research supports this finding by suggesting that cognitively engaged students tend to have higher GPAs (Griffin et al., 2017).

Additionally, several participants discussed that they could identify the differences between the expectations they were held to and the quality of the instruction they received in advanced and honors courses compared to students in mainstream classes and with students who did not attend high-performing schools. They shared how their assignments were geared towards challenging them academically and how instructors expected them to meet university-

level academic demands. In contrast, their mainstream peers did not share the same quality of instruction or experience the same high expectations or academic challenging work.

In a few cases, participants' academic abilities exceeded what their schools could meet instructionally, and school personnel supported them with finding more advanced placements. Conversely, participants who reported experiencing difficulties keeping up with their instructor's instructional demands were provided tutoring and second chances to reach proficiency on tests or assignments. The assistance they received ensured they did not experience learning gaps as they progressed through school. Key findings in this section echo research that suggests learning is malleable and academic environments, assignments, and instruction may be altered to support students learning (Csikszentmihalyi, et al., 1993; Paik, 2013, 2015).

Lastly, nearly all participants attended prominent universities with reputations for holding students to *high academic expectations*. Participants credited their study groups, tutors, peers, and professors with supporting them in developing their academic talent during their college years. However, it is fair to state that participants' academic and motivational skills also helped them to persevere through school. For example, their *early advanced reading, task completion and goal setting skills* as well as *academic and service work* may have supported them in meeting college-level academic expectations.

Quantity of instruction. Key findings in this section show that participants' *early schooling and academic and service learning activities* may have placed them on their pathway toward academic and career success. Anders Ericsson's (2007) research findings suggest that superior performance in a chosen field typically takes 10,000 hours or 10 years of deliberate practice in targeted growth areas (Ericsson, 2007). In participants' cases, many reported being

avid or advanced readers and writers who spent most of their time studying and doing homework during elementary and secondary school. Additionally, many reported being engaged in *leadership and service activities* as youth. They also reported receiving *instructional guidance and support* from their parents and instructors throughout their life spans and having the most access to *prominent and skilled personnel as professionals*. This evidence shows that many spent over 10,000 hours or 10 years developing their academic talent. However, when asked how long it took to achieve mastery in their current field or profession, nearly all participants reported that they had *not yet reached mastery*. Most stated that learning in their field is ongoing and nearly impossible since there is more to be learned; however, responses may also be tied to their statuses (early or later career) in their academic journeys. *Academic talent mastery* is also a complex field to define, unlike sports or music, which may be measured, in part, more directly. Academic talent may be more challenging to assess for mastery as it is inclusive of hard and soft sciences as well as the arts.

Environmental Factors - Key Findings

Home environment. Findings are consistent with research that asserts youth who grew up in households with caring and supportive adults often experienced academic and career success regardless of their parents' socioeconomic, marital, career, or educational status (Clayton, 2017; Dornbusch et al., 1987; Redding, 1998). Participants reported a diverse range of household demographic differences. For example, some reported being raised in *middle-class, suburban communities*, whereas others were raised in *working-class, urban,* or *working-poor communities*. Interestingly, most participants experienced growing up *low-income* during their early childhood or adolescence, and their families reached middle-class status in their later

academic years. Additionally, very few participants reported growing up *affluent*, and a few reported growing up in *rural/farming* or *island communities*.

Moreover, participants' *parental education levels* ranged from some high school to doctoral degrees, and about half reported being raised in two-parent households. In contrast, others were raised in extended family households or with a single mother. Nevertheless, all participants reported receiving educational and/or social-emotional support at home through homework help, resource provisions, and guidance from parents or other relatives.

Research suggests that authoritative parenting (i.e., firm yet responsive) contributes to secure parent/child relationships that encourage positive social, emotional, and academic development (Hill et al., 2004; Jeynes, 2007; Spera, 2005). Although participants experienced *diverse family backgrounds*, many expressed experiences representative of *authoritative parenting styles* and *secured attachments*. For example, most participants shared household experiences where their parents or other adult relatives took them on educational outings, played games, or engaged in political or other complex conversations with them. They also discussed experiences with family members providing social-emotional support through kind words, guidance, and advice. These experiences have been found to promote dispositions leading to later-year youth academic and leadership achievements (Keller, 2003; Maccoby & Martin, 1983).

Lastly, it is essential to note that most participants credited *mothers* and other *female caregivers* as their primary support providers. They shared that their mothers, and sometimes grandmothers or aunts, contributed immensely to their *academic and social-emotional development*. For example, female caregivers served in multiple key roles as role models, tutors, educators, advisors, and best friends, particularly during elementary and secondary school.

Participants also shared that their mothers were essential in their later academic development as motivators and problem-solving consultants during college and as professionals.

Peers. The impact peers had on participants' academic talent development was presented in two categories: *academic/professional support* and *recreational/social-emotional support*. Peers provided academic support through study groups and healthy academic competitions. For example, during their early academic years, participants share experiences comparing grades with peers. This helped them keep one another accountable for doing well in school. This finding reflects research that suggests high-performing peers share knowledge and academic support (Hong & Lee, 2017; Poldin et al., 2016; Winston, Zimmerman, & Williams, 2003).

During their college years, peers provided *recreational outlets* and other opportunities to take mental breaks from school and work. For example, they discussed spending time with friends, visiting art museums, taking walks, or going out to dinner, movies, or parties. What was emphasized most was that these recreational activities took place outside university and work settings.

As professionals, peers and colleagues provided participants with *academic and social-emotional support* by offering career advice and guidance specifically with navigating academia and the tenure and promotion process. Additionally, colleagues offered support by reading and providing feedback on manuscript publications such as journal articles and books. Lastly, colleagues offered support by *inviting them to outings* and other *recreational activities*. Research findings suggest that influential peer relationships may help individuals by contributing to their self-confidence and aiding their academic and career outcomes (Crisp & Cruz, 2009).

Mentors. Mentors played a pivotal role in nurturing participants' academic talent development by providing them with *academic, social-emotional, and career support.* Participants shared that their mentors helped them acquire the self-confidence and the academic skills needed for college and career advancement (Allen & Ebay, 2003; Crisp & Cruz, 2009). During their college years, for example, participants cited *professors* as their mentors and their most *influential teachers*. Participants credited professors who served as their academic advisors, dissertation chairs, and dissertation committee members as academically and socially-emotionally supportive. Professors influenced and supported them by providing academically challenging work and offering academic and professional opportunities. For example, participants spoke of their professors taking a personal interest in their overall well-being by helping them choose graduate schools or careers that fit their academic and personal interests. Moreover, professors offered advice and guidance during their professional years on how to navigate and confront institutional challenges. Participants also shared that as they transitioned from students to professors, their relationships with their professors evolved. Many reported that their professor mentor relationship is presently akin to a colleague, friend, or family type of connection.

Lastly, when participants were asked what trait they would look for in a mentee, most reported terms related to *self-determination* and *self-regulation* as vital mentee characteristics. They pointed out the importance of trial and error and the willingness to accept constructive criticism as important qualities that often lead to achieving academic success. Their response echoes research that asserts effort, time, and academic support are essential for nurturing self-confidence and mastery of skills (Bloom, 1984; Merton, 1968).

Extracurricular time. Participants shared they spent most of their extracurricular time during their youth and college years engaged in *faith-based*, *academic*, or *service-related* activities. These findings align with research that suggests youth participating in extracurricular activities will likely produce higher academic results and have increased motivation and positive beliefs about learning and school (Barber et al., 2005; Mahoney et al., 2005). For example, during their elementary and secondary school years, most participants reported spending most of their extracurricular time *engaged with family* and participating in *academic* or *service-related* activities, *leisurely reading*, and/or *studying*.

In some cases, during their youth, *engagement with family* and *service-related* activities, specifically *faith-based* activities, overlapped. For example, most participants shared that religion was emphasized in their homes and that their families attended church and regularly participated in church-related activities. Additionally, engagement with *leisurely reading* was most frequent during participants' elementary and secondary school years. *Leisurely reading*, however, fell behind *academic reading*, *studying*, and *assignment completion* during their college, particularly graduate school years.

Conversely, as professionals, participants reported being most frequently engaged in *wellness* and *self-care* activities and *spending time with family* members. Their self-care and wellness interests involved mostly solo pastimes such as going to the gym, taking walks, meditating, or gardening. These extracurriculars provided de-stress outlets and mental breaks from work. Additionally, the increased *time spent with family* often involved time with partners and children.

Contextual factors. Participants shared the most significant barriers that hindered their academic talent development were experiences with *racism* and *sexism* in schools, universities, and workspaces. Interestingly, there is a generational difference in their experiences with racism in schools. On the one hand, a subgroup of participants was born during the segregation era and experienced legal *school segregation.* These participants talked about their experiences attending predominantly Black schools, with their most significant barrier being access to quality learning resources and school facilities. This finding supports research that shows predominantly Black schools as vastly underfunded and burdened with substandard facilities (Richardson, 2008; Tackach, 1998). However, participants also stated they received a quality education in these segregated schools from well-educated African American instructors. This finding is also supported by research that suggests many skilled African American teachers are often placed in poorly funded schools and provide students with high-quality instruction despite being poorly paid (Richardson, 2008).

On the other hand, several participants who attended newly integrated, Predominantly White Institutions (PWIs) and affluent schools in the post-segregation era shared adverse experiences in school involving de facto *racist practices and behaviors*. For instance, some participants experienced overt racist behaviors from students and adults (e.g., name-calling, threats, bullying, and harassment). In contrast, others experienced microaggressions, social isolation, and deficit learning beliefs about African American students' abilities. Participants also shared recent experiences with *racism* as college professors. These behaviors were also presented through microaggressions, social isolation, and, in a few instances, harassment, bullying, and other aggressive behaviors. Their college and professional experiences align to

research that highlights the adverse social and cultural challenges often faced by African Americans in PWIs (Apungo, 2019; Holmes et al., 2001).

Participants credited *supportive persons* and their *internal drive and determination* as helping them overcome the challenges and barriers that hindered their academic talent development. During their elementary and secondary school years, their *parents* primarily served as their advocates by directly confronting school personnel about racist and discriminatory experiences. Parents, for example, insisted on advanced course placement and, in extremely adverse situations, enrolled them in new schools. Parents provided guidance and support that helped their children's self-confidence when confronted with institutional challenges. In their later years, however, participants credited professors as providing support and assistance with navigating academic and career challenges. Participants also credited themselves with possessing the *motivational skills* (e.g., perseverance, drive, and determination) needed to combat institutional challenges. They applied these strengths towards maximizing their publications and other academic tasks to combat racism to the extent that many reported outperforming their colleagues.

CHAPTER 5: CONCLUSION AND IMPLICATIONS

This study investigated how Productive Giftedness Model (PGM) factors (*Individual Aptitude, School, and Environment*) impacted the academic talent development of tenured and tenure-track African American female professors. Findings noted in interviews and surveys showed that a balance of effort and ability, supportive persons, conducive learning environments, and productive time usage positively influenced academic talent development. Supported by seminal studies, for example, mastery-based teaching methods, growth mindsets, deliberate practice, and structured learning environments do indeed nurture talent (Ericsson, 2018; Hong & Milgram, 2011; Matthews & Foster, 2005; Paik, 2013, 2015).

Most importantly, the conditions and dispositions conducive for talent development are alterable, meaning they could be modified to support growth and productivity (Paik, 2013, 2015). Individual shifts in attitudes and beliefs about learning and adjustments to how individuals use their time can impact learning outcomes. Additionally, external adjustments, for example, the types of in-school and out-of-school learning opportunities, can also shape their potential. Talent development also requires the collaborative efforts of support networks, including parents, teachers, peers, and mentors (Matthews & Foster, 2007; Hong & Milgram, 2011). Therefore, based on the PGM factors, this chapter will address practice, policy, and research implications that support talent development at various life stages.

Implications for Policy and Practice

The following section highlights the key Productive Giftedness Model (PGM) findings aligned to each factor. This section also provides implications for educational policy and practices.

Ability

Nearly all participants reported that they were early, avid readers and enjoyed school because they loved learning; therefore, knowledge and skill acquisition in elementary school came quickly and with minimal *effort*. However, for most, once they entered secondary school and college, the workload and academic expectations became more complex and rigorous, and more *effort* was required on their part to demonstrate academic proficiency. This shift in academic challenge may have contributed to participants' assertion that *effort* is more important or as influential as *ability*. Their *effort-ability* insights echo growth mindset and mastery perspectives about learning that suggest intelligence is not a fixed quality; instead, it is malleable and achievable based on individual beliefs about learning and conducive learning conditions (Dweck, 2006; Matthews & Foster, 2005).

Therefore, parents/caregivers, educators, and other vital individuals in youth's lives must recognize early their academic *ability* and *effortful* behaviors (Fredricks & Eccles, 2004; Grant & Ghee, 2015; Merton, 2006). The recognition of *ability*, for example, may be especially important for African American female students whose academic skills and contributions have largely been ignored or unrecognized (hooks, 2015, Collins, 2022).

Additionally, prominent persons in students' lives should reward their *efforts* to sustain their academic skills, content knowledge, and high-quality work production. This may be done through award and recognition ceremonies celebrating students' achievement gains and efforts at the elementary and secondary school levels. Moreover, parents/caregivers and educators should maintain growth mindsets and mastery learning processes by offering students multiple opportunities to learn skills and providing ongoing, strategic guidance and feedback to support their academic growth at each educational and professional level. Lastly, financial incentives

and professional opportunities are also needed to sustain academic talent development at the university and professional levels.

Motivation

The literature review and participants' responses indicated that *external* and *internal* motivation impact academic talent development (Cokley, 2003; Deci et al., 1991). However, *external* motivation may have influenced participants' overall academic talent development more. During their early years, for example, most participants credited an intense desire to impress their parents, who worked hard to ensure they excelled academically, as their primary motivation to excel in school. On the other hand, a few participants reported an *internal* love of learning as their motivation to excel academically. Their love of learning may have derived from their early advanced reading skills and from being highly self-regulated. Notably, during their later years, most participants shared being *extrinsically* motivated to excel academically to help others, particularly individuals from disadvantaged groups (Evans-Winters, 2018; Hine et al., 1993). This finding was followed by financial gain and career stability, as impacting their motivation to excel academically as professionals.

Educators, parents/caregivers, policymakers, and other key stakeholders are encouraged to foster student motivation by focusing on *intrinsic* and *extrinsic* sources. First, during their early academic years, parents/caregivers and instructors should incentivize, encourage, and reward students' academic planning behaviors (e.g., note-taking, revisions, scheduling practices, and making lists) as early signs of self-regulation. During their secondary years, educators should also acknowledge and credit students' academic and service roles inside and outside of school as early signs of personal growth and academic advancement.

Moreover, educators should also provide opportunities for students to opt into in-school academic and service roles. Educators should consider partnering with community organizations providing leadership and service opportunities to motivate students to develop their academic talents further. Students participating in these activities should be rewarded with academic and financial incentives (e.g., four-year college admission credit, internships, fellowships, grants, scholarships) supportive of their post-secondary college and career ambitions. These experiences provide valuable learning opportunities and may furthermore strengthen achievement motivation.

Development

Participants' academic talent development began in their early years and continued to progress throughout their college and professional years. Their home, school, professional, and extracurricular environments offered the support necessary for obtaining and sustaining their academic talents. Participants, for example, noted that their parents/caregivers and educators recognized their academic strengths and, as a result, provided resources, primarily books, to encourage them to continue developing academically. Additionally, many participants reported self-identifying as teachers as early as elementary school and carrying the academic skills and dispositions often recognized and rewarded by educators. Lastly, by their secondary school and college years, most were enrolled in advanced, honors, and enrichment courses, and many simultaneously participated in academic, service clubs, and other structured extracurriculars. Their academic skill and service contributions led to an accumulation of academic and service awards and recognitions throughout their academic, college, and career years.

Strong stakeholder relationships promote positive social and academic skill development (Hale, 2006). Therefore, parents/caregivers and teachers should continue to build strong

relationships with youth by supporting them academically and social-emotionally. This may be achieved by providing youth guidance and support with academic tasks, modeling academic behaviors, and providing academic resources and materials on various topics that meet their academic and personal interests.

Participants also reported that their most fulfilling learning experiences occurred in structured enrichment classes. Therefore, school administrators and educators should offer more enrichment courses and provide students with ongoing strategic assignment feedback to support them in mastering academic skills. Instructors should also provide students with multiple opportunities to revise and resubmit assignments to aid their academic skill development. Educators and curriculum specialists may consider enriching classroom activities by providing students opportunities to participate in academic field trips, student-led activities, or other team-building opportunities aiding academic talent development.

Learning Climate

Research findings and participant data show that conducive learning environments and supportive instructors positively impact students' morale and achievement outcomes (Ladson-Billings, 2000; Csikszentmihalyi et al., 1993). Participants reported positive and negative educational experiences during their early academic and college years. Most reported favorable learning conditions in honors, GATE, or advanced courses. In these classes, they received academic opportunities beyond traditional classrooms (e.g., engaging content, skilled instructors, guest speakers, field trips, and access to academic resources and materials). Additionally, most participants shared positive experiences with their advanced course instructors. For example, many encouraged them to attend top schools and universities and participate in accelerated academic programs, and a few participants also reported securing

college funding with instructor support. At the college level, professors offered guidance with college and career decisions and financial resources supporting their future graduate school and career trajectories. Furthermore, professors were credited with offering most participants academic and professional opportunities (e.g., teaching assistants and research assistants) where they learned skills needed to achieve their future career goals. Their positive academic and social-emotional experiences are supported by research that suggests students who learn in specialized settings (e.g., advanced and honors courses) will likely experience favorable learning conditions (Hattie, 2009; Hale, 2006; Csikszentmihalyi et al., 1993).

The challenges experienced, for some as early as elementary school and most during secondary school and college, mainly related to deficit perspectives about participants' abilities. For example, instructors doubted their aptitude to produce quality work (i.e., accused them of cheating). Others shared experiences where educators discouraged or excluded them from opportunities to apply to prominent colleges post-high school despite their high achievement records. Research supports this finding by spotlighting racial fairness and its impact on African American students' morale and achievement outcomes (Griffin et al., 2017).

To encourage and promote opportunities for youth to build and sustain their academic talent, educational leaders, teachers, and policymakers must reexamine current advance and enrichment course offerings and consider ways to increase the number of African American female students in these courses.

Additionally, students, staff, and teachers' dispositions and beliefs about African American female students' potential for achieving at high levels must be discussed and reflected upon in structured, ongoing professional development settings. These settings must emphasize equity-based, anti-racist teaching and school culture practices. This information should be

shared and published school-wide, starting with the school's mission, vision, and diversity statements. Moreover, accountability practices should be maintained to ensure the equitable treatment of African American female students in schools. These types of professional development and enrichment course opportunities may improve the quality of education offered to students in urban communities and ultimately lead to equitable learning experiences and practices in public schools.

Quality of Instruction

Research shows that students who attend prominent schools and/or are exposed to rigorous, enriching curriculum and instruction are likely to benefit academically (Ableman & Dalessandro, 2009; Hale, 2006; Subotnik & Jarvin, 2005). Nearly all participants shared that their schools and universities maintained high academic expectations of students. Most reported attending high-performing public schools; about a third attended reputable private schools. As previously mentioned, in secondary school, most reported taking advanced or honors courses; a few were in Gifted and Talented Education (GATE) or magnet programs, and most credited their academic talent development, during their early academic and college years, to the curriculum and instruction they received in advanced and enrichment courses (Bloom, 1968, 1984; Guskey, 2010). For example, most participants shared that their most influential courses were secondary or college field-related, research-related, or African American studies classes. These classes were most influential because instructors offered interesting, complex insights and content-related perspectives that challenged them academically and fit their field and career interests.

Key findings showed that nearly all participants received high-quality instruction in prominent schools and universities and enrichment courses. Therefore, educators and

policymakers must re-examine the procedures for recruiting and retaining African American female students into prominent schools and advanced courses. This is especially important since most participants shared that the type of curriculum, instruction, and academic expectations they received in advanced courses and GATE programs were not offered to students in mainstream, regular classes, or traditional public schools. This finding is echoed in mainstream research that asserts students enrolled in specialized courses will likely develop their academic talents (Csikszentmihalyi et al., 1993; Paik, 2013; Paik et al., 2019).

Moreover, parents/caregivers and community stakeholders must find ways to supplement schools' instructional and extracurricular programs to provide students with opportunities to develop their academic talents. Most traditional public schools, for example, may lack the funding, personnel, or resources needed to support high-achieving students academically. Therefore, school-community partnerships with colleges, universities, or other educational agencies are needed to supplement high achieving students academically. Lastly, funding is essential to supporting students' academic talent development. Many participants shared needing financial support to attend the prominent schools, universities, and programs that supported their academic talent development. Therefore, community stakeholders and policymakers must emphasize providing financial support (e.g., grants, fellowships, scholarships) to families, students, and professionals to alleviate the financial burden accompanying developing and sustaining academic talent.

Quantity of Instruction

Anders Ericcsons' (2007) research insists that 10,000 hours or 10 years of deliberate practice in one's field leads to skill mastery and expertise (Ericcson, 2007). Even though most participants indicated becoming interested in their field during early childhood and began

working professionally as young adults, several stated that they had not yet mastered their field or profession. This may be due to the challenge of pinpointing the start of their academic talent development because of the multifaceted nature of their work (e.g., teaching, service, field knowledge, publication). However, when asked about teaching styles and publications, many participants shared that they had a creative style with teaching and confidence in their writing and publishing abilities.

Their confidence in writing and their teaching abilities echoes Ericcsons' (2007) expertise research and also research suggesting that genre-specific writing typically takes 10 to 10.6 years of practice before reaching the level needed for publication (Kellogg, 2018; Ericcson, 2007). Participants, for example, reported spending considerable time outside of their school day during their early academic and college years reading, studying, and completing assignments. They additionally reported identifying as teachers as early as elementary school and "playing school" often as kids. Therefore, it is fair to say that their early reading, writing, and teaching practice contributed to their later academic writing expertise. Moreover, throughout their academic years, most participants also received ongoing academic support with writing from family members, teachers, and professors that may have contributed to their academic talent development.

Parents/caregivers, educators, and policymakers must consider offering more time and opportunities for students to read and engage with literature starting early in their academic years. Additionally, more in-class instructional time should be allocated for academic intervention and enrichment support. During this time, instructors may provide students with strategic feedback on assignments and offer students more time to apply feedback to assignment revisions. This may be especially important during their elementary and secondary school years.

Research shows that strategic feedback and more time for skill application may contribute to students' academic skill mastery (Matthews & Foster, 2005; Bloom, 1968).

Home Environment

Research shows that parents' and caregivers' beliefs and support of their children's education are more impactful toward future success outcomes than socioeconomic status, education level, and other demographic factors (Dornbusch et al., 1987; Redding, 1998). For instance, many participants reported coming from diverse demographic backgrounds. Most grew up working class or working poor during childhood, some grew up in two-parent households, and others lived with a single mother or extended family; some reported their parent's highest educational level as high school, while others reported parents with advanced degrees.

Despite their demographic status, however, nearly all participants shared that their parents/caregivers modeled authoritative parenting styles. They credited their parents/caregivers with holding them to high academic expectations as youth without being severe or pushy about their academic performance. Their parents/caregivers, for example, emphasized the importance of education to achieve future economic and career opportunities. Most parents/caregivers also provided academically supportive home learning environments to maintain academic development. However, they also encouraged participants to take time for social activities and overall well-being. Most shared that their parents/caregivers recognized their academic talent early on and maintained that they do their best in school without high pressure or emphasis on receiving top academic scores.

Parents/caregivers and other key individuals should continue to communicate to youth (directly and indirectly) the importance of education through counseling, guidance, ongoing

instructional support, and conducive learning environments. Specifically, family members should provide academic resources and other instructional support at home that resemble the structure and support received in school. Additionally, school leaders must partner with students' families and community members and share resources, instructional practices, and academic expectations communicated to students in schools and classrooms. This may occur through structured Back to School Night or parent-center activities. Schools may also consider hiring or recruiting volunteer or parent/caregiver representatives to support school, home, and community efforts to sustain academic talent development. Community partners may consider offering supplemental instructional materials, tutorial and enrichment support, and funding to parents/caregivers serving in schools to alleviate the financial hardships associated with developing structured home and school learning environments.

Mentors

Mentorship opportunities have positively impacted academic talent development across individual life spans (Crisp & Cruz, 2009; Paik, 2015, 2013; Paik et al., 2020). The benefits of quality mentorship and attributes of key role models are noted in research findings and participants' experiences. First, participants credited their instructors, peers, and family members as key mentors who aided them academically, financially, and social-emotionally. For example, instructors, mostly college professors, were several participants' most influential mentors during their secondary, college, and career years. Interestingly, most of the participants' mentorship pairing with professors occurred informally. They reported either being approached by a professor or approaching a professor, during college, for support with assignments. Through these initial meetings, participants formed, in many cases, life-long professional friendships with their professor mentors. This finding is confirmed by research that shows

informal mentorship pairings often yield increased college, career, and professional satisfaction (Jacobi, 1991).

To begin with, professor mentors were credited with supporting participants academically by pushing them to produce higher quality course work. Participants also shared being inspired by their African American and/or female professor mentors to pursue a career as a college professor. Several reported being inspired by seeing an intelligent and influential person of a similar background serve in a prominent position. Lastly, mothers and other female caregivers were noted by most participants as being their earliest role models. Female caregivers, for example, provided positive examples of perseverance, determination, and thoughtfulness throughout participants' lives.

Parents, caregivers, and educational stakeholders should offer mentorship opportunities to students at each academic and professional stage. Additionally, recruiting and retaining diverse individuals to serve as mentors based on age, gender, ethnicity, and other background attributes may contribute to highly effective mentorship pairings. Additionally, mentorship training opportunities should be offered to all individuals invested in students' lives. Training sessions, for example, should cover various mentorship types and characteristics and present the success outcomes attributed to various types of mentorships (Crisp & Cruz, 2009). For example, parents and students may receive information about mentoring and opportunities to serve as mentors or mentees in schools and extracurricular spaces. Furthermore, instructors may receive mentorship training in professional development settings and be offered opportunities to serve as mentors for students. Additionally, new instructors in various academic roles (e.g., administrators, teachers, professors, counselors) should be provided opportunities to be mentored by individuals more experienced in the field.

Peers

Peers aid one another's talent development by providing academic, moral, and social-emotional support (Stinebrickner et al., 2001). During their early academic and college years, most participants credited their peers with providing opportunities for healthy competition and study group participation. As professionals, many shared that their peer colleagues assisted by offering feedback on professional tasks (e.g., grant writing and publications) and guidance in navigating workplace challenges and opportunities. Moreover, peers positively influenced participants social-emotionally by offering encouragement and moral support. Friends and colleagues, for example, offered safe spaces for participants to discuss school and workplace challenges. They also invited them to socialize in settings outside of work and school, providing further opportunities for mental breaks from academic tasks and professional assignments.

Educators and policymakers should consider creative ways to integrate and fund in-school peer collaboration activities. Educators should consider offering regular instructional opportunities requiring students to work with peers on class assignments, projects, and other academic tasks. Additionally, instructors may consider teaching students feedback protocols for critiquing one another’s assignments. Instructional program specialists and counselors may also consider introducing peer-led study sessions and study hall periods before, during, and after the school day to support students' time-management skills and academic skill development. Moreover, school leadership personnel may also consider bell schedules and/or class schedule adjustments that allow students additional in-school time to work with peers on academic intervention and enrichment tasks during their elementary and secondary school years. Additionally, educators and policymakers should consider funding opportunities for students and professionals to engage in retreats and social gatherings outside of school and academic

settings to heighten and maintain their academic development at early academic, college, and professional levels.

Extracurricular time

Throughout their early academic, college, and professional years participants spent most of their extracurricular time engaged in academic, service-related, or physical fitness/wellness activities. During elementary school, they spent considerable time leisurely reading, engaging in visual or performing arts, and playing sports. Moreover, they spent productive childhood time engaged in community and faith-based service clubs with family members. Most spent time studying and participating in community service activities during college. As professionals, most maintained their physical, mental, and spiritual well-being through self-care practices, traveling, leisurely television watching, and spending time with friends and family members.

Educators and policymakers should consider embedding extracurricular clubs and activities into students' program schedules. These activities may be offered through enrichment classes, clubs, or community service-related activities available through community partnerships. Elementary and secondary teachers, for example, may consider offering extracurricular activities such as library book presentations, book sales, and college and career days to enhance students' learning experiences (Csikszentmihalyi et al., 1993). At the secondary school level, school leaders might consider building partnerships with local libraries, care centers, colleges, stadiums, or other extracurricular settings to offer secondary students more extracurricular service and leadership-related opportunities. Additionally, academic program specialists should note service and leadership skill development on students' academic transcripts as college readiness indicators.

Contextual Factors

Contextual factors (e.g., historical context, age, race, gender, socioeconomic status) are embedded within each factor in the Productive Giftedness Model (PGM). Contextual factors are largely unalterable yet contribute to a broad understanding of the advantages and disadvantages experienced with academic talent development. For example, in school and the workplace, most participants experienced institutional racism through social isolation, lack of professional support, and micro-aggressive behaviors from colleagues. Additionally, they discussed gender-based barriers that negatively impacted them in their professional settings. For example, one participant shared that she was assumed not to have the aptitude for achieving high scores in mathematics by predominantly men in her field, and another participant shared how employee networking opportunities typically occurred after work hours in social settings and typically excluded female employees who had children to care for after work. As a result, male employees advanced faster and earned higher salaries than many of their female colleagues.

Participants credited supportive persons (e.g., family members, peers, and colleagues) with providing them guidance and moral support to confront gender and race-based institutional challenges (Baldi & McBrier, 1997; Hughes et al., 2006; Edwards et al., 2011; Jin Jez, 2012; Grant & Ghee, 2015). These individuals offered moral support by first validating that participants' experiences were real and a result of institutional racism and sexism and next offered guidance and support on how to navigate institutional barriers.

Academic stakeholders and policymakers must consider contextualized challenges, race and gender, and how they advantage or disadvantage individuals in academic settings. Educators and policymakers should consider providing professional training and mentorship opportunities to support students (particularly girls and women) and African American female

faculty members entering predominately White academic and career settings. Additionally, climate and cultural surveys and reporting systems should be implemented and tracked as accountability tools to record and respond to racism, sexism, and other sociocultural challenges students and staff face in academic and professional settings.

Implications for Research

Few studies examine African American female professors' life-span academic talent development from a comprehensive lens. Therefore, the key findings presented in this study carry future research implications. Firstly, the sample selected was limited to African American women in most research institutions in the United States. Later research may consider studying the academic talent of international Black women or women of color and compare data related to their experiences. Next, all participants identified as female. Future researchers may consider studying Black male, non-binary, or transgender professors. Lastly, this study was limited to the experiences of African American professors. Subsequent research may consider studying non-Black persons of color to obtain further insights into other groups' academic talent development experiences.

Findings from this study may also be used to enhance research methods and design issues. For example, the sample size for this study was small (n=31). A large, quantitative participant sample will help amplify study results by providing more information about the similarities and differences aligned to each PGM factor. Large, quantitative sample sizes may also benefit future studies of the academic talent development experiences of persons from different nationalities, racial, and ethnic groups. Also, results from this study were limited to participants' recollections of their academic talent development experiences. Future studies may

consider interview data from other influential persons (e.g., friends, parents, mentors, and instructors) to exemplify study results.

Lastly, findings from this offer a starting point for building and sustaining the academic talent development of youth since by offering a life span perspective. Educators and policymakers may use study implications to guide collaborative stakeholder efforts among key stakeholders (e.g., parents, teachers, administration, and community partners). Additionally, findings from this study identify key alterable factors that may be changed to allow for more opportunities for individuals to develop their academic talents by changing the environmental and individual conditions and dispositions to support academic growth, learning, and successful outcomes. The study also noted critical contextual factors that allow educators, policymakers, and others to identify, challenge, and proactively create safeguards to prevent systemic, institutional barriers to individuals' academic talent development and career advancement.

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Appendix A

Recruitment Letter/Email

Hello,
My name is Kenya Marshall-Harper, and I am a doctoral student in the School of Educational Studies at Claremont Graduate University. I would like to invite you to consider participating in a dissertation study investigating the talent development of tenured African American female faculty in the academy. The study's purpose is to examine the factors that contributed to the personal and professional success of African American female faculty. This study's findings will inform parents, teachers, schools, and other educational advocates on how to support the talent development of current and aspiring African American females in academia.

I am seeking to recruit voluntary participants meeting the following criteria:

- U.S. born or naturalized citizen.
- Identify as biologically female.
- Currently holds a Ph.D.
- Identify as Black, African American, or a person having origins in any of the Black racial groups of Africa (United States Census Bureau, 2020)
- Currently, be a full-time, tenured professor at a 4-year accredited research niversity in the U.S.

Participation in this study involves:

- reviewing and signing an electronic consent form
- completing an online survey that will take between 20 to 30 minutes to finish
- involvement in a one-on-one interview with the researcher to be arranged either in-person, by phone, or video conferencing; the interview will take approximately 60-90 minutes to complete; and, with your consent, the interview will be audio or video-recorded
- and the opportunity to review the summary and results of your interview responses and provide comments as needed.

Upholding your confidentiality is essential. Should you agree to participate, a detailed explanation of how your responses and identity will be protected will be furnished to you in the consent form.

Study participation will require a significant amount of your time. As an expression of gratitude, your name will be entered into a raffle to receive a $100 Amazon e-gift card from Amazon.com following your successful completion of the online survey and interview.
If you are agreeable to participation in the study or if you have eligibility questions, please contact me by email at kenya.marshall-harper@cgu.edu

Sincerely,
Kenya Marshall-Harper

Appendix B

List of Faculty Organizations

The researcher will contact each organization listed below. The organizations serve the following professional groups:

- African American Faculty
- African American Female Faculty
- Faculty of Color
- Female Faculty
- Female Faculty of Color

Name of Association/Organization	Population Focus
Research on Women and Education (RWE) – An American Educational Research Association (AERA) Special Interest Group (SIG).	Female educators who investigate educational issues regarding women and girls
Caribbean and African Studies in Education (CASE) An American Educational Research Association (AERA) Special Interest Group (SIG).	National and international Black educators and professionals in Higher Education
Black Education Research Collective (BERC) at Teachers College Columbia University	African American educators and administrators in Higher Education
Committee on Women in the Academic Profession with the American Association of University Professors	Female faculty members who address issues involving equity in pay, discrimination, affirmative action, and the status of female faculty in rank and tenure
The Women's Place hosted by Ohio State University	Female faculty members who work together to provide opportunities for women's professional growth and institutional leadership

Appendix C

Online Consent Form

Agreement to Participate in "African American Women in the Academy: Meaningful Pathways to Productive Careers"

STUDY TALENT DEVELOPMENT. We are asking that you participate in a research study led by Kenya R. Marshall-Harper, a Ph.D. student in the School of Educational Studies at Claremont Graduate University. Kenya is supervised by Professor Susan J. Paik.

PURPOSE. The study's goal is to identify the key factors that impact the development of successful African American female faculty. Specifically, this study seeks to understand the individual, school, and environmental factors that contribute to their productive giftedness (i.e., academic achievement) from the early to later years of development.

ELIGIBILITY. The following criterion must be met for study participation:

- Identify as biologically female
- Must currently hold a PhD
- Identify as Black, African American, or as a person having origins in any of the Black racial groups on the African continent, and must also be a U.S. citizen (either natural-born or naturalized)
- Currently, be a full-time, tenured professor at a 4-year accredited research University in the U.S.

PARTICIPATION. Initially, you will be asked to agree to participate by completing this consent form. You will later be asked to complete an online survey regarding your education, childhood experiences, demographic background, and work experiences. The survey takes about 20 to 30 minutes to complete. Following survey completion, you will be scheduled for an in-person interview, at your convenience, either by phone or video. Interview questions will ask about your childhood and later experiences related to your talent development. The interview will take about 60-90 minutes to complete.

RISKS OF PARTICIPATION. The study risks are minimal and include possible discomfort in answering questions about your life experiences during the interview process. Answering personal questions may cause you some unease. For this reason, you may, at any time during the online survey or interview, skip any question that makes you uncomfortable, or you may opt to stop participation in the study.

BENEFITS OF PARTICIPATION. This study is intended to benefit the field of education by informing educational stakeholders (e.g., parents, educators, college and university leaders, and researchers) on how to support the academic talent development and achievements of future generations of African American female scholars. Benefits for the researcher include doctoral dissertation completion and future publication and presentation opportunities.

COMPENSATION. For taking part in both the online survey and interview, you will be entered into a raffle for the opportunity to receive a $100 Amazon e-gift card. The e-gift card will be sent to the email address provided in the online survey.

VOLUNTARY PARTICIPATION. Your participation is voluntary. You may stop answering questions or withdraw from the study without penalty or ramifications at any time. Moreover, your choice of whether or not to participate in the study will bear no effect on your current or future relationships with individuals at Claremont Graduate University.

CONFIDENTIALITY. Your individual privacy is protected in all areas (i.e., papers, books, talks, posts, or stories) of this study. The data may be reviewed with other researchers, but your identity will not be revealed. To protect the confidentiality of your responses, you will either be assigned or asked to choose a pseudonym. Audio/video recordings and transcriptions will be labeled with the assigned pseudonym. Interview recordings will remain unaltered. Transcripts and any written records developed from the interview sessions will follow participant names accordingly. All audio or video recordings of the interviews, transcripts, and all additional written documents will be kept safely secured and password protected.

FURTHER INFORMATION. You may contact Kenya Marshall-Harper by email at kenya.marshall-harper@cgu.edu with questions, or other inquiries about this study. Also, Dr. Susan J. Paik, faculty advisor of the study, may also be reached by email at susan.paik@cgu.edu.

This project has been approved by the CGU Institutional Review Board. You may contact the CGU Institutional Review Board with any questions or issues at (909) 607-9406 or at irb@cgu.edu.

Lastly, you may retain a copy of this consent form for your records.

CONSENT. Clicking the "I consent to participate" indicates that you meet the study eligibility criteria and that you are providing your electronic signature. Your electronic signature also means that you understand the information on this letter, and you voluntarily agree to participate in the study. Lastly, your electronic signature is also an indication of your agreement to continue with the survey. If you are in disagreement, click "I decline to participate" to leave the survey now.

- I consent to participate
- I decline to participate.

Appendix D

Author permission was granted to use the following:

PGM Interview Protocol (Sample Items)

Source: Paik, S. J. (forthcoming). Productive Giftedness Model Manual and Instruments. In S. J. Paik, *Nurturing Productive Giftedness*. Cambridge, UK: Cambridge University Press.

Note: Permission must be requested for any usage of this measurement tool.

For inquiries,
please email susan.paik@cgu.edu or productive.giftedness@gmail.com.

PRODUCTIVE GIFTEDNESS MODEL (PGM) – INTERVIEW PROTOCOL (Sample Items)

Please take your time to reflect on each question. Some questions will ask you to think about your past experiences.

Talent Identification, Preparation, & Mastery

P1.4_D-QT_Talent-ID-mastery	Tell me about how you mastered your talent skills. a. How many years did it take to feel like you had a good command of your work? b. At what point did you start to become creative or develop your own style ?

Talent Development

P1.5_D-QI_Talent-development	Tell me about how you developed your talent over the years. a. As far back as you can remember, how did you develop your talent in your early years (preK-12th grade, 0-18 years old)? b. How did you develop your talent in your later years (after high school, college & beyond)? c. How do you develop your now?

Mentoring Relationships

P2.1_ME_Mentor-relationship	Tell me about your mentors a. Who are they? b. How did they influence and support you? .

Home Life

P3.3_H_Home-life	Tell me about your home life growing up. How would you describe your home life a. If any, what duties or responsibilities did you have at home? b. What family values were emphasized or taught in your home?

Formal Schooling Experiences

P4.1_QI_Early-schooling	Tell me about your education in preK- 12th grade, a. In what ways did the schools provide a supportive learning environment? b. Did your schools set high expectations for the students? c. How so?

Motivation

P6.1_MO-A_Drive	Tell me what drives you. a. What motivated you to excel throughout your school years (preK-12th grade & beyond)? b. What motivates you to excel in your profession now?

Appendix E

Author permission was granted to use the following:

PGM Demographic Survey (Sample Items)
Source: Paik, S. J. (forthcoming). Productive Giftedness Model Manual and Instruments. In S. J. Paik, *Nurturing Productive Giftedness*. Cambridge, UK: Cambridge University Press.

Note: Permission must be requested for any usage of this measurement tool.

For inquiries,
please email susan.paik@cgu.edu or productive.giftedness@gmail.com.

PRODUCTIVE GIFTEDNESS MODEL (PGM) – DEMOGRAPHIC SURVEY (Sample Items)

SECTION D1: EDUCATIONAL BACKGROUND (PRE-KINDERGARTEN)

D1.1_ ED_QT Did you attend preschool (starting as early as age 2 to 5)?
- Yes
- No

SECTION D2: EDUCATIONAL BACKGROUND AND ABILITY (ELEMENTARY)

The following questions pertain to the school you attended for most of your elementary school years (kindergarten - 6th grade).

D2.1_ ED_QI-A What type of elementary school (kindergarten - 6th grade) did you attend or ***mostly*** attend?
- Public
- Private
- Magnet (public)
- Charter (public)
- Other (e.g., homeschool, etc.)

D2.2_ED_QT What type of calendar year was used in your elementary school (kindergarten - 6th grade)?
- Year-round (12 months)
- Traditional (9 months)
- Other (please specify) _____

D2.3_ED_A What kinds of grades (or equivalent) did you ***mostly*** receive in your elementary school years (kindergarten - 6th grade)?
- A
- B

- C
- D or lower
- My school did not give grades

SECTION D8: CHILDHOOD FAMILY BACKGROUND

The following questions pertain to your family characteristics <u>during childhood</u>.

D8.2_FB_H-CF What was your **f<u>ather's</u>** highest level of education attained?

- Doctoral degree (e.g., Ph.D., Ed.D)
- Professional degree (e.g., M.D., J.D., DDS)
- Master's degree (e.g., M.A., M.S., MBA, MFA)
- Bachelor's degree (e.g., B.A., BFA, BAS)
- Associate degree (e.g., A.A., A.S., AAS)
- Trade/technical/vocational training
- Some college credit, no degree
- High school graduate, diploma or equivalent
- Some schooling completed
- No schooling completed
- Not applicable/ unknown

*D8.3_FB_H-CF_* What was your **<u>mother's</u>** highest level of education attained?

- Doctoral degree (e.g., Ph.D., Ed.D)
- Professional degree (e.g., M.D., J.D., DDS)
- Master's degree (e.g., M.A., M.S., MBA, MFA)
- Bachelor's degree (e.g., B.A., BFA, BAS)
- Associate degree (e.g., A.A., A.S., AAS)
- Trade/technical/vocational training
- Some college credit, no degree
- High school graduate, diploma or equivalent
- Some schooling completed
- No schooling completed
- Not applicable/ unknown

*D8.5_FB_H-CF_*Growing up, how would you ***mostly*** describe your family's religious affiliation or tradition?

- Buddhist
- Christian (e.g., Catholic, Mormon, Orthodox Protestant)
- Hindu
- Jewish
- Muslim
- Other
- None

D8.6_FB_H-CF If applicable, while growing up, how would you ***mostly*** describe your family's religious involvement?

- Practicing
- Nominal
- Non-practicing

SECTION D9: PARTICIPANT INFORMATION

*D9.4_PI_CF_*Choose one or more races that best describe you:

- American Indian or Alaska Native
- Asian

- Black or African American
- Hispanic, Latino, or Spanish
- Native Hawaiian or Pacific Islander
- White
- Other (please specify) _____

*D9.5_PI_CF_*What is your gender?

- Male
- Female
- Other/Non-binary

*D9.6_PI_CF_*What is your religious affiliation?

- uddhist
- Christian (e.g., Catholic, Mormon, Orthodox, Protestant)
- Hindu
- Jewish
- Muslim
- Other
- None

*D9.7_PI_QT-QI_*What is the highest level of education you attained?

- Doctoral degree (e.g., Ph.D., Ed.D)
- Professional degree (e.g., M.D., J.D., DDS)
- Master's degree (e.g., M.A., M.S., MBA, MFA)
- Bachelor's degree (e.g., B.A., BFA, BAS)
- Associate degree (e.g., A.A., A.S., AAS)
- Trade/technical/vocational training
- Some college credit, no degree
- High school graduate, diploma or equivalent
- Some schooling completed
- No schooling completed

END OF DEMOGRAPHIC SURVEY – THANK YOU!

Appendix F

Author permission was granted to use the following:

PGM Factor Survey
Source: Paik, S. J. (forthcoming). Productive Giftedness Model Manual and Instruments. In S. J. Paik, *Nurturing Productive Giftedness*. Cambridge, UK: Cambridge University Press.

Note: Permission must be requested for any usage of this measurement tool.

For inquiries,
please email susan.paik@cgu.edu or productive.giftedness@gmail.com.

PRODUCTIVE GIFTEDNESS MODEL (PGM) – FACTOR SURVEY (Sample Items)

SECTION S1: OPPORTUNITIES, SUPPORT, & RESOURCES

The following questions pertain to your home environment during childhood.

S1.2_H-CF Growing up, how often did these happen for you?

	Never	Rarely	Sometimes	Often	Very Often
Access to opportunities related to talent area	●	●	●	●	●
Access to influential people related to talent area	●	●	●	●	●
Access to resources related to talent area	●	●	●	●	●

SECTION S2: EXTRACURRICULAR TIME & QUANTITY OF INSTRUCTION (ELEMENTARY)

The following questions pertain to your elementary school years (kindergarten to 6th grade).

S2.2_ET ***On average***, how much time did you spend in each of these activities ***per week*** during your elementary school years (kindergarten to 6th grade)? Please check the appropriate option for each activity.

	None	0 to 1 hours	2 to 3 hours	4 to 5 hours	More than 5 hours

Academic clubs/ activities	●	●	●	●	●
Community service clubs/ activities	●	●	●	●	●
Faith-based clubs/ activities	●	●	●	●	●
Hobby & special interest clubs/ activities	●	●	●	●	●
Honor societies/ activities	●	●	●	●	●
Sports & fitness clubs/ activities	●	●	●	●	●
Student leadership clubs/ activities	●	●	●	●	●
Visual & performing arts clubs/ activities	●	●	●	●	●

To the best of your recollection, please answer the following questions regarding the time you spent developing your talent in your elementary school years (kindergarten to sixth grade).

S2.5_QT-ET ***On average***, how many hours did you spend developing your skills or talent ***per day*** (i.e.., for academic professions – reading, writing, studying; for creative professions – drawing, painting, music practice; for athletics professions – working out, drills, practice; other)?

▼ None, 0 to 1, 2 to 3, 4 to 5, More than 5

S2.6_QT-ET ***On average***, how many hours did you spend in talent-related training or instruction ***per week*** (i.e., activities, program, workshops, conferences, or other training related to your talent skills)?

▼ None, 1 to 5, 6 to 10, 11 to 15, More than 15

S2.7_QT-ET ***On average***, how many times ***per year*** did you participate in competitions, performances, presentations, or other events related to your expertise?

▼ None, 1 to 5, 6 to 10, 11 to 15, More than 15

END OF SURVEY – THANK YOU!

Appendix G

Additional Data

Table H1

Educational Resources and Opportunities at Home.	Count	%
Books (excluding school books)	30	15.79%
Newspapers and magazines	28	14.74%
Computer or tablet	10	5.26%
Smartphone	0	0.00%
Other electronic devices	4	2.11%
Internet access	6	3.16%
Study desk/table	18	9.47%
Own room	20	10.53%
Tutoring	8	4.21%
Art supplies and construction materials	17	8.95%
Musical instruments	23	12.11%
Strategy or board games	23	12.11%
Other	3	1.58%
Total	190	100%

Table H2

Access to opportunities, support, and resources (Growing up)	*Frequency*	*Never*	*Frequency*	*Rarely*	*Frequency*	*Sometimes*	*Frequency*	*Often*	*Frequency*	*Very Often*	*Total*
Access to opportunities related to talent area (e.g., internships, specialized training, summer programs, out-of-school enrichment programs)	*6*	*19.35%*	*5*	*16.13%*	*10*	*32.26%*	*4*	*12.90%*	*6*	*19.35%*	*31*

Access to influential people related to talent area (e.g., eminent adults, master teachers, instructors, coaches, leaders)	*8*	*25.81%*	*5*	*16.13%*	*7*	*22.58%*	*6*	*19.35%*	*5*	*16.13%*	*31*
Access to resources related to talent area (e.g., specialty magazines and books, art supplies, computer software, musical instruments, other helpful resources)	*1*	*3.23%*	*5*	*16.13%*	*9*	*29.03%*	*5*	*16.13%*	*11*	*35.48%*	*31*

Access to opportunities, support, and resources (Now)	***Never***		***Rarely***		***Sometimes***		***Often***		***Very Often***		***Total***
Access to opportunities related to talent area (e.g., internships, specialized training, summer programs, out-of-school enrichment programs)	*0*	*0.00%*	*3*	*10.00%*	*4*	*13.33%*	*4*	*13.33%*	*19*	*63.33%*	*30*
Access to influential people related to talent area (e.g., eminent adults, master teachers, instructors, coaches, leaders)	*0*	*0.00%*	*0*	*0.00%*	*5*	*16.13%*	*6*	*19.35%*	*20*	*64.52%*	*31*
Access to resources related to talent area (e.g., specialty magazines and books, art supplies, computer software, musical instruments, other helpful resources)	*0*	*0.00%*	*0*	*0.00%*	*2*	*6.45%*	*4*	*12.90%*	*25*	*80.65%*	*31*

Table H3

Elementary Years: Extracurricular Time Use (N=31)

Daily activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Homework or studying	*1*	*3.23%*	*13*	*41.94%*	*15*	*48.39%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Reading (leisure)	*1*	*3.23%*	*12*	*38.71%*	*10*	*32.26%*	*4*	*12.90%*	*4*	*12.90%*	*31*
Spending time with friends	*3*	*9.68%*	*16*	*51.61%*	*8*	*25.81%*	*2*	*6.45%*	*2*	*6.45%*	*31*
Spending time with family	*0*	*0.00%*	*5*	*16.13%*	*10*	*32.26%*	*9*	*29.03%*	*7*	*22.58%*	*31*
Watching TV (educational)	*7*	*22.58%*	*15*	*48.39%*	*7*	*22.58%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Watching TV (leisure)	*2*	*6.45%*	*13*	*41.94%*	*15*	*48.39%*	*1*	*3.23%*	*0*	*0.00%*	*31*
Technology (educational)	*20*	*64.52%*	*6*	*19.35%*	*4*	*12.90%*	*1*	*3.23%*	*0*	*0.00%*	*31*

Technology (leisure)	*22*	*70.97 %*	*5*	*16.13%*	*4*	*12.90%*	*0*	*0.00%*	*0*	*0.00%*	*31*

Weekly activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Academic clubs/activities	*8*	*25.81 %*	*10*	*32.26%*	*8*	*25.81%*	*3*	*9.68%*	*2*	*6.45%*	*31*
Community service clubs/activities	*13*	*41.94 %*	*8*	*25.81%*	*8*	*25.81%*	*2*	*6.45%*	*0*	*0.00%*	*31*
Faith-based clubs/activities	*8*	*25.81 %*	*5*	*16.13%*	*10*	*32.26%*	*5*	*16.13%*	*3*	*9.68%*	*31*
Hobby & special interest clubs/activities	*12*	*38.71 %*	*10*	*32.26%*	*7*	*22.58%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Honor societies / activities	*24*	*77.42 %*	*6*	*19.35%*	*0*	*0.00%*	*1*	*3.23%*	*0*	*0.00%*	*31*
Sports & fitness clubs/activities	*10*	*32.26 %*	*8*	*25.81%*	*8*	*25.81%*	*2*	*6.45%*	*3*	*9.68%*	*31*
Student leadership clubs/activities	*14*	*45.16 %*	*10*	*32.26%*	*6*	*19.35%*	*1*	*3.23%*	*0*	*0.00%*	*31*
Visual & performing arts clubs/activities	*15*	*48.39 %*	*6*	*19.35%*	*5*	*16.13%*	*3*	*9.68%*	*2*	*6.45%*	*31*

Yearly activities	***None***		***1 to 5 hours***		***6 to 10 hours***		***11 to 15 hours***		***More than 15 hours***		***Total***
On average, how many times per year did you participate in competitions, presentations, or other events that demonstrated or acknowledged your leadership?	*12*	*38.71 %*	*15*	*48.39%*	*3*	*9.68%*	*0*	*0.00%*	*1*	*3.32%*	*31*

Table H4

Secondary Years: Extracurricular Time Use (N=31)

Daily activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Homework or studying	*0*	*0.00%*	*2*	*6.45%*	*15*	*48.39%*	*10*	*32.26%*	*4*	*12.90%*	*31*
Reading (leisure)	*2*	*6.45%*	*12*	*38.71%*	*10*	*32.26%*	*4*	*12.90%*	*3*	*9.68%*	*31*
Spending time with friends	*2*	*6.45%*	*15*	*48.39%*	*11*	*35.48%*	*3*	*9.68%*	*0*	*0.00%*	*31*
Spending time with family	*0*	*0.00%*	*10*	*32.26%*	*11*	*32.28%*	*7*	*22.58%*	*3*	*9.68%*	*31*
Watching TV (educational)	*9*	*29.03 %*	*17*	*54.84%*	*4*	*12.90%*	*0*	*0.00%*	*1*	*3.23%*	*31*
Watching TV (leisure)	*3*	*9.68%*	*12*	*38.71%*	*14*	*45.16%*	*2*	*6.45%*	*0*	*0.00%*	*31*
Technology (educational)	*20*	*64.52 %*	*7*	*22.58%*	*1*	*3.23%*	*3*	*9.68%*	*0*	*0.00%*	*31*
Technology (leisure)	*20*	*64.52 %*	*9*	*29.03%*	*1*	*3.23%*	*1*	*3.23%*	*0*	*0.00%*	*31*

Weekly activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Academic clubs/activities	*3*	*9.68%*	*12*	*38.71%*	*8*	*25.81%*	*5*	*16.13%*	*3*	*9.68%*	*31*
Community service clubs/activities	*4*	*12.90 %*	*15*	*48.39%*	*8*	*25.81%*	*4*	*12.90%*	*0*	*0.00%*	*31*
Faith-based clubs/activities	*10*	*32.26 %*	*7*	*22.58%*	*6*	*19.35%*	*3*	*9.68%*	*5*	*16.13%*	*31*
Hobby & special interest clubs/activities	*11*	*35.48 %*	*8*	*25.81%*	*8*	*25.81%*	*4*	*12.90%*	*0*	*0.00%*	*31*
Honor societies/ activities	*13*	*41.94 %*	*13*	*41.94%*	*2*	*6.45%*	*2*	*6.45%*	*1*	*3.23%*	*31*
Sports & fitness clubs/activities	*6*	*19.35 %*	*8*	*25.81%*	*10*	*32.26%*	*1*	*3.23%*	*6*	*19.35%*	*31*
Student leadership clubs/activities	*8*	*25.81 %*	*9*	*29.03%*	*9*	*29.03%*	*5*	*16.13%*	*0*	*0.00%*	*31*
Visual & performing arts clubs/activities	*11*	*35.48 %*	*6*	*19.35%*	*10*	*32.26%*	*1*	*3.23%*	*3*	*9.68%*	*31*

Table H5

Yearly activities	***None***		***1 to 5 hours***		***6 to 10 hours***		***11 to 15 hours***		***More than 15 hours***		***Total***
On average, how many times per year did you participate in competitions, presentations, or other events that demonstrated or acknowledged your leadership?	*8*	*25.81 %*	*16*	*51.61%*	*5*	*16.13%*	*1*	*3.23%*	*1*	*3.23%*	*31*

Table H6

Undergraduate Years: Extracurricular Time Use (N=31)

Daily activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Studying	*0*	*0.00%*	*3*	*9.68%*	*17*	*54.84%*	*3*	*9.68%*	*8*	*25.81%*	*31*
Reading (leisure)	*4*	*12.90 %*	*14*	*45.16%*	*10*	*32.26%*	*2*	*6.45%*	*1*	*3.23%*	*31*
Spending time with friends	*1*	*3.23%*	*8*	*25.81%*	*9*	*29.03%*	*8*	*25.81%*	*5*	*16.13%*	*31*
Spending time with family	*19*	*61.29 %*	*7*	*22.58%*	*5*	*16.13%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Watching TV (educational/work-related)	*20*	*64.52 %*	*6*	*19.35%*	*5*	*16.13%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Watching TV (leisure)	*7*	*22.58 %*	*8*	*25.81%*	*15*	*48.39%*	*0*	*0.00%*	*1*	*3.23%*	*31*
Technology (educational/work-related)	*9*	*29.03 %*	*8*	*25.81%*	*5*	*16.13%*	*6*	*19.35%*	*3*	*9.68%*	*31*

Technology (leisure)	*16*	*51.61 %*	*9*	*29.03%*	*4*	*12.90%*	*1*	*3.23%*	*1*	*3.23%*	*31*

Weekly activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Academic clubs/activities	*12*	*38.71 %*	*5*	*16.13%*	*5*	*16.13%*	*6*	*19.35%*	*3*	*9.68%*	*31*
Community service clubs/activities	*8*	*25.81 %*	*9*	*29.03%*	*9*	*29.03%*	*3*	*9.68%*	*2*	*6.45%*	*31*
Faith-based clubs/activities	*17*	*54.84 %*	*9*	*29.03%*	*5*	*16.13%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Hobby & special interest clubs/activities	*12*	*38.71 %*	*13*	*41.94%*	*4*	*12.90%*	*2*	*6.45%*	*0*	*0.00%*	*31*
Honor societies/activities	*20*	*64.52 %*	*8*	*25.81%*	*3*	*9.68%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Sports & fitness clubs/activities	*16*	*51.61 %*	*7*	*22.58%*	*3*	*9.68%*	*3*	*9.68%*	*2*	*6.45%*	*31*
Student leadership clubs/activities	*12*	*38.71 %*	*9*	*29.03%*	*7*	*22.58%*	*1*	*3.23%*	*2*	*6.45%*	*31*
Visual & performing arts clubs/activities	*20*	*64.52 %*	*4*	*12.90%*	*7*	*22.58%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Vocational & professional associations/activities	*22*	*70.97 %*	*4*	*12.90%*	*3*	*9.68%*	*0*	*0.00%*	*2*	*6.45%*	*31*

Yearly activities	***None***		***1 to 5 hours***		***6 to 10 hours***		***11 to 15 hours***		***More than 15 hours***		***Total***
On average, how many times per year did you participate in competitions, presentations, or other events that demonstrated or acknowledged your leadership?	*8*	*25.81%*	*19*	*61.29%*	*3*	*9.68%*	*1*	*3.23%*	*0*	*0.00%*	*31*

Table H7

Graduate Years: Extracurricular Time Use (N=31)

Daily activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Studying	*0*	*0.00%*	*1*	*3.23%*	*5*	*16.13%*	*11*	*35.48%*	*14*	*45.16%*	*31*
Reading (leisure)	*11*	*35.48 %*	*14*	*45.16%*	*2*	*6.45%*	*3*	*9.68%*	*1*	*3.23%*	*31*
Spending time with friends	*3*	*9.68%*	*14*	*45.16%*	*12*	*38.71%*	*2*	*6.45%*	*0*	*0.00%*	*31*
Spending time with family	*17*	*54.84 %*	*8*	*25.81%*	*4*	*12.90%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Watching TV (educational/work-related)	*13*	*41.94 %*	*12*	*38.71%*	*5*	*16.13%*	*1*	*3.23%*	*0*	*0.00%*	*31*
Watching TV (leisure)	*6*	*19.35 %*	*11*	*35.48%*	*13*	*41.94%*	*0*	*0.00%*	*1*	*3.23%*	*31*

Technology (educational/work-related)	*4*	*12.90 %*	*3*	*9.68%*	*9*	*29.03%*	*8*	*25.81%*	*7*	*22.58%*	*31*
Technology (leisure)	*8*	*25.81 %*	*14*	*45.16%*	*8*	*25.81%*	*0*	*0.00%*	*1*	*3.23%*	*31*

Weekly activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Academic clubs/activities	*17*	*54.84 %*	*4*	*12.90%*	*4*	*12.90%*	*0*	*0.00%*	*6*	*19.35%*	*31*
Community service clubs/activities	*14*	*45.16 %*	*11*	*35.48%*	*4*	*12.90%*	*0*	*0.00%*	*2*	*6.45%*	*31*
Faith-based clubs/activities	*21*	*67.74 %*	*4*	*12.90%*	*4*	*12.90%*	*2*	*6.45%*	*0*	*0.00%*	*31*
Hobby & special interest clubs/activities	*23*	*74.19 %*	*6*	*19.35%*	*2*	*6.45%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Honor societies/activities	*28*	*90.32 %*	*3*	*9.68%*	*0*	*0.00%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Sports & fitness clubs/activities	*17*	*54.84 %*	*8*	*25.81%*	*2*	*6.45%*	*1*	*3.23%*	*3*	*9.68%*	*31*
Student leadership clubs/activities	*20*	*64.52 %*	*4*	*12.90%*	*7*	*22.58%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Visual & performing arts clubs/activities	*24*	*77.42 %*	*4*	*12.90%*	*2*	*6.45%*	*0*	*0.00%*	*1*	*3.23%*	*31*
Vocational & professional associations/activities	*17*	*54.84 %*	*8*	*25.81%*	*5*	*16.31%*	*1*	*3.23%*	*0*	*0.00%*	*31*

Yearly activities	***None***		***1 to 5 hours***		***6 to 10 hours***		***11 to 15 hours***		***More than 15 hours***		***Total***
On average, how many times per year did you participate in competitions, presentations, or other events that demonstrated or acknowledged your leadership?	*3*	*9.68%*	*17*	*54.84%*	*5*	*16.13%*	*2*	*6.45%*	*4*	*12.90%*	*31*

Table H8

Professional Years: Extracurricular Time Use (N=31)

Daily activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Studying	*3*	*9.68%*	*8*	*25.81%*	*12*	*38.71%*	*4*	*12.90%*	*4*	*12.90%*	*31*
Reading (leisure)	*6*	*19.35 %*	*16*	*51.61%*	*6*	*19.35%*	*2*	*6.45%*	*1*	*3.23%*	*31*
Spending time with friends	*6*	*19.35 %*	*20*	*64.52%*	*5*	*16.13%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Spending time with family	*3*	*9.68%*	*5*	*16.13%*	*10*	*32.26%*	*9*	*29.03%*	*4*	*12.90%*	*31*
Watching TV (educational)	*14*	*45.16 %*	*12*	*38.71%*	*4*	*12.90%*	*1*	*3.23%*	*0*	*0.00%*	*31*

Watching TV (leisure)	*6*	*19.35 %*	*9*	*29.03%*	*14*	*45.16%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Technology (educational)	*3*	*9.68%*	*8*	*25.81%*	*9*	*29.03%*	*4*	*12.90%*	*7*	*22.58%*	*31*
Technology (leisure)	*5*	*16.13 %*	*11*	*35.48%*	*9*	*29.03%*	*4*	*12.90%*	*2*	*6.45%*	*31*

Weekly activities	***None***		***0 to 1 hours***		***2 to 3 hours***		***4 to 5 hours***		***More than 5 hours***		***Total***
Community service clubs/activities	*9*	*29.03 %*	*17*	*54.84%*	*3*	*9.68%*	*1*	*3.23%*	*1*	*3.23%*	*31*
Faith-based clubs/activities	*17*	*54.84 %*	*7*	*22.58%*	*6*	*19.35%*	*0*	*0.00%*	*1*	*3.23%*	*31*
Hobby & special interest clubs/activities	*17*	*54.84 %*	*10*	*32.26%*	*4*	*12.90%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Political & civic clubs/activities	*15*	*48.39 %*	*10*	*32.26%*	*6*	*19.35%*	*0*	*0.00%*	*0*	*0.00%*	*31*
Sports & fitness clubs/activities	*11*	*35.48 %*	*8*	*25.81%*	*4*	*12.90%*	*3*	*9.68%*	*5*	*16.13%*	*31*
Visual & performing arts clubs/activities	*24*	*77.42 %*	*5*	*16.13%*	*1*	*3.23%*	*0*	*0.00%*	*1*	*3.23%*	*31*
Vocational & professional associations/activities	*13*	*41.94 %*	*5*	*16.13%*	*8*	*25.81%*	*1*	*3.23%*	*4*	*12.90%*	*31*

Yearly activities	***None***		***1 to 5 hours***		***6 to 10 hours***		***11 to 15 hours***		***More than 15 hours***		***Total***
On average, how many times per year did you participate in competitions, presentations, or other events that demonstrated or acknowledged your leadership?	*3*	*9.68%*	*12*	*38.71%*	*5*	*16.13%*	*3*	*9.68%*	*8*	*25.81%*	*31*

Table H9

Hours Spent Sleeping, Working, and Developing Leadership – Elementary & Secondary

Variable	***Elementary***		***Secondary***	
How many hours did you spend sleeping per day?	***Frequency***	***%***	***Frequency***	***%***
6 hours	*4*	*12.90 %*	*12*	*38.71 %*
7 hours	*4*	*12.90 %*	*7*	*22.58 %*
8 hours	*16*	*51.61 %*	*10*	*32.26 %*
9 hours	*6*	*19.35 %*	*2*	*6.45%*

10 hours	*1*	*3.23%*	*0*	*0.00%*

How many hours did you spend working in a paid job per week?	***Frequency***	***%***	***Frequency***	***%***
None	*24*	*77.42 %*	*7*	*22.58 %*
1 to 2 hours	*1*	*3.23%*	*2*	*6.45%*
3 to 4 hours	*1*	*3.23%*	*7*	*22.58 %*
5 to 6 hours	*2*	*6.45%*	*6*	*19.35 %*
More than 6 hours	*3*	*9.68%*	*9*	*29.03 %*

How many hours did you spend working in a non-paid job per week?	***Frequency***	***%***	***Frequency***	***%***
None	*23*	*74.19 %*	*19*	*61.29 %*
1 to 2 hours	*5*	*16.13 %*	*5*	*16.13 %*
3 to 4 hours	*2*	*6.45%*	*4*	*12.90 %*
5 to 6 hours	*0*	*0.00%*	*0*	*0.00%*
More than 6 hours	*1*	*3.23%*	*3*	*9.68%*

How many hours did you spend developing your skills or talent per day?	***Frequency***	***%***	***Frequency***	***%***
None	*4*	*12.90 %*	*4*	*12.90 %*
0 to 1 hour	*8*	*25.81 %*	*8*	*25.81 %*
2 to 3 hours	*11*	*35.48 %*	*12*	*38.71 %*
4 to 5 hours	*3*	*9.68%*	*5*	*16.13 %*
More than 5 hours	*5*	*16.13 %*	*2*	*6.45%*

How many hours did you spend in talent-related training or instruction per week?	***Frequency***	***%***	***Frequency***	***%***
None	*17*	*54.84 %*	*13*	*41.94 %*
1 to 5 hours	*11*	*35.48 %*	*13*	*41.94 %*
6 to 10 hours	*3*	*9.68%*	*5*	*16.13 %*
11 to 15 hours	*0*	*0.00%*	*0*	*0.00%*
More than 15 hours	*0*	*0.00%*	*0*	*0.00%*

How many times per year did you participate in competitions, presentations or other events that demonstrated or acknowledged your leadership?	*Frequency*	*%*	*Frequency*	*%*
None	*12*	*38.71%*	*8*	*25.81%*
1 to 5	*15*	*48.39%*	*16*	*51.61%*
6 to 10	*3*	*9.68%*	*5*	*16.13%*
11 to 15	*0*	*0.00%*	*1*	*3.23%*
More than 15	*1*	*3.23%*	*1*	*3.23%*

Table H10

Variable	*Undergraduate*		*Graduate*		*Professional*	
How many hours did you spend sleeping per day?	*Frequency*	*%*	*Frequency*	*%*	*Frequency*	*%*
4 hours	*3*	*9.68%*	*3*	*9.68%*	*2*	*6.45%*
5 hours	*5*	*16.13 %*	*11*	*35.48 %*	*5*	*16.13 %*
6 hours	*13*	*41.94 %*	*10*	*32.26 %*	*11*	*35.48 %*
7 hours	*8*	*25.81 %*	*4*	*12.90 %*	*9*	*29.03 %*
8 hours	*2*	*6.45%*	*3*	*9.68%*	*4*	*12.90 %*
How many hours did you spend working in a paid job per week?	*Frequency*	*%*	*Frequency*	*%*	*Frequency*	*%*
None	*3*	*9.68%*	*5*	*16.13 %*	*0*	*0.00%*
1 to 20 hours	*21*	*67.74 %*	*13*	*41.94 %*	*1*	*3.23%*
21 to 40 hours	*6*	*19.35 %*	*9*	*29.03 %*	*7*	*22.58 %*

41 to 60 hours	*1*	*3.23%*	*4*	*12.90 %*	*12*	*38.71 %*
More than 60 hours	*0*	*0.00%*	*0*	*0.00%*	*11*	*35.48 %*

How many hours did you spend developing your skills or talent per day?	***Frequency***	***%***	***Frequency***	***%***	***Frequency***	***%***
None	*0*	*0.00%*	*0*	*0.00%*	*1*	*3.23%*
0 to 1 hour	*5*	*16.13 %*	*4*	*12.90 %*	*7*	*22.58 %*
2 to 3 hours	*15*	*48.39 %*	*11*	*35.48 %*	*11*	*35.48 %*
4 to 5 hours	*6*	*19.35 %*	*7*	*22.58 %*	*3*	*9.68%*
More than 5 hours	*5*	*16.13 %*	*9*	*29.03 %*	*9*	*29.03 %*

How many hours did you spend in talent-related training or instruction per week?	***Frequency***	***%***	***Frequency***	***%***	***Frequency***	***%***
None	*6*	*19.35 %*	*4*	*12.90 %*	*3*	*9.68%*
1 to 5 hours	*18*	*58.06 %*	*18*	*58.06 %*	*19*	*61.29 %*
6 to 10 hours	*5*	*16.13 %*	*6*	*19.35 %*	*4*	*12.90 %*
11 to 15 hours	*0*	*0.00%*	*1*	*3.23%*	*1*	*3.23%*
More than 15 hours	*2*	*6.45%*	*2*	*6.45%*	*4*	*12.90 %*

How many times per year did you participate in competitions, presentations or other events that demonstrated or acknowledged your leadership?	***Frequency***	***%***	***Frequency***	***%***	***Frequency***	***%***
None	*8*	*25.81 %*	*3*	*9.68%*	*3*	*9.68%*

1 to 5	*19*	*61.29 %*	*17*	*54.84 %*	*12*	*38.71 %*
6 to 10	*3*	*9.68%*	*5*	*16.13 %*	*5*	*16.13 %*
11 to 15	*1*	*3.23%*	*2*	*6.45%*	*3*	*9.68%*
More than 15	*0*	*0.00%*	*4*	*12.90 %*	*8*	*25.81 %*