What Your Colleagues Are Saying . . .

"As a Black man who has navigated both learning and teaching spaces, I recognize the importance of this work. Tonya Woolfolk combines research, lived experience, and practical strategies that celebrate the brilliance of Black boys in science. This book is a must-read for any educator dedicated to genuinely supporting student success."

Kristopher J. Childs
Founder, K Childs Solutions
Winter Garden, FL

"Tonya Woolfolk's book purposefully and deliberately explores the vital and consequential role of teachers in the lives of Black males in science class. Drawing upon empirical studies and her own experience as an accomplished educator, Woolfolk offers essential insights about working with Black male students in the science classroom. This book is an important read for any educator. It is a reminder that teachers consistently cultivate hope and make a difference in the classroom."

Julie A. Luft
UGA Distinguished Research Professor
Athletic Association Professor, Science Education,
University of Georgia
Athens, GA

"Grounded in her rich experience and deep commitment to ensuring all students can learn, Tonya Woolfolk shines a light on how cultivating hope, self-determination, and agency can transform science learning for Black male students. She offers practical and culturally relevant strategies that build confidence for black male students to succeed. This powerful work reminds us that when we nurture students' sense of identity and possibility, we open doors for every learner to thrive in science."

Page Keeley
Author, Speaker, and Science Education Consultant
Past President, National Science Teaching Association
Past President, National Science Education Leadership Association
Fort Myers, FL

"This book shines a light on a very important topic that is not spoken about enough. As a Black male, I resonate with a lot of the struggle discussed throughout the book, and I am so excited about the upward trajectory because of the research in this work."

Daryl Williams Jr.
CEO, Pursuit of Excellence
Charlotte, NC

"In *Hope in Focus,* Woolfolk offers insights from research and practical strategies to support Black male achievement in science and beyond. She invites the reader to analyze real classroom scenarios and explore research that will transform their teaching practices. I have no doubt that this book will instill hope in countless educators, classrooms, and Black male youth across the country."

Emily Morgan
Author, *The Next Time You See Children's Book* series,
Balance Screen Time with Green Time
Co-Author, Picture-Perfect STEM series
West Chester, OH

"Often, when identity work is discussed in education, the language of the book seems to speak to white teachers. Although this book is helpful for STEM teachers of all backgrounds, it powerfully centers Black and Indigenous students, educators, and experiences in its approach. This is a refreshing addition to the field."

Emily J. Yanisko
Senior Professorial Lecturer, American University
Columbia, MD

"This publication, *Hope in Focus: Black Males and Success in Science,* written by talented author and educator Dr. Tonya Woolfolk, demonstrates that when educators center hope as well as pathways and agency thinking within Black male science students, there is a shift from deficit mindsets (*hopelessness*) to seeing the strengths and talents they inherently embody as agents of their own learning. Dr. Woolfolk gives the reader intentional instructional strategies and reflective cultural insight into the genius of Black males in the discipline of science, which is too often unseen. The results that she garnered through this cultural empowerment model, ultimately fostering academic success with Black males in K–12 science classrooms, is replicable and should be embraced by all educators. She gives us the tools and walks us through the process! This book is a must-read for educators seeking transformative impact with all students, especially Black male students."

Sonja Hollins-Alexander
Author, *Mindframes for Belonging, Identities, and Equity; Collective Equity*; and
Online Professional Development Through Virtual Learning Communities
Atlanta, GA

"Tonya Woolfolk transforms her passion for equity into a powerful roadmap for change. Her work, combining rigorous scholarship with practical classroom strategies, provides educators with essential tools to foster hope and achievement among Black male students. This book is a must-read for anyone committed to equity, access, and belonging in STEM education."

Patricia Morgan
CEO, The Executive Learning Lab
Atlanta, GA

"Hope is more than a feel-good word. It's a powerful concept that can be transformed into a teachable and measurable skill. Using vignettes, examples, and current research, Woolfolk describes how to leverage the Hope Theory to improve the academic performance of Black male students in the science classroom. When students believe they can achieve their goals, they are more likely to reach their fullest potential in science and beyond."

Karen Ansberry
Co-Author, *The Picture-Perfect STEM* series,
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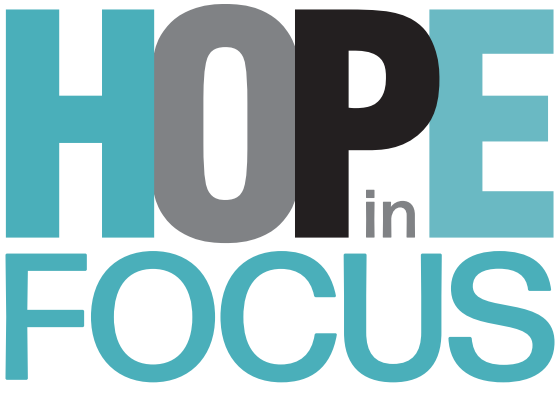
Lebanon, OH



To my daughters, Christine, Lailah, and Celeste.
Thank you for inspiring me to pursue every big dream
I can imagine, as I envision each of you doing the same.

Black Males and Success in Science

HOPE in FOCUS

TONYA WOOLFOLK

Foreword by Baruti Kafele

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FOR INFORMATION:

Corwin
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Foreword

Reflections on My Earlier Years as a Young Black Male

In 1985 as a late-blooming African American undergraduate student at Kean College of New Jersey (now Kean University), I stumbled on a book titled *The Miseducation of the Negro,* by Dr. Carter G. Woodson, which was published in 1933. This one book literally defined my professional destiny. As I was in the midst of a personal metamorphosis on social, political, historical, cultural, mental, and emotional levels, I had no idea what the future was going to look like for me as a result of my college education. I was clueless. After ten years of "nothingness"—meaning five years of high school (while attending four different high schools), dealing with my personal traumas, and consequently failing everything except physical education—followed by five years of enrollment in a local community college as a full-time student and never graduating, I entered Kean and majored in marketing on the recommendation of my mother. My heart, however, was not in this major. I was lost. I was a walking stereotype of an underachieving young Black male with a wealth of potential that I was not yet aware of.

Stumbling on *The Miseducation of the Negro* was not an isolated occurrence. On my first day on campus at Kean, I stumbled on Malcolm X. When I say stumbled, I mean literally that it was an accident. I did not see it coming. I was immediately intrigued and inspired by this man as I read his autobiography in a few short days. Up to that point, I had never read a book from cover to cover in my life, but at that time, I couldn't wait to resume reading this book every day for hours upon hours until I completed it. I subsequently read more books on Malcolm and so many other great African American leaders and the history of African Americans in general and throughout the African diaspora. This changed me. I was becoming a "new creature."

In a short while, I was completely renewed because the history I was reading introduced me to myself historically. I learned that math, science, astronomy, architecture, navigation, engineering, construction, agriculture, the arts, writing, and scholarship flowed through my veins historically. I now saw myself as someone who had something to offer to the world because for the first time in my life, at age twenty-five, I came to the realization that I stood on some mighty broad shoulders. The question, however, was "Where is all of this reading going to take me?" As far as my course studies were concerned, I went from abject failure in high school to a straight A student and graduating summa cum laude and the number one ranked Black student academically. Again, where

was I headed professionally? This is where *The Miseducation of the Negro* comes in.

When I stumbled on this book, I was well on my way to classroom success and I had a pretty solid foundation in African American history and the history of the African diaspora. Through reading *The Miseducation of the Negro*, I found my pathway and I found myself. This book allowed me to conclude that I am an educator, a classroom teacher. I knew that I wanted to be a teacher for the rest of my life and found a pathway into teaching through an alternate route to certification program first in Brooklyn, New York, and then back home in East Orange, New Jersey. I taught fifth grade and occasionally fourth and sixth grades. My purpose, my "why," was solidified before I walked into that building for the first time. Every classroom of students that I taught for the next seven years was predominantly African American, with less than 1 percent Latino population in Brooklyn and East Orange. My "why," therefore, was always that we will defy the odds and achieve at such levels that it would be assumed we were a suburban school comprising children born of wealth and privilege. For my boys however, I went a little deeper. My language was always that we will defy the stereotypes of Black males and prove that they are capable of achieving academic greatness in all subject areas. This didn't mean that I didn't have the same drive for the females in my classroom. I did, but the national data regarding achievement, discipline, and attendance always pointed to a Black male crisis, a state of emergency if you will, that they did not create nor would I ever hold them accountable for.

Whenever I think back on those years, I have to smile every time. Yes, I take great pride in what I accomplished with Black males as a principal, but those classroom years were special. Black boys are capable of achieving at the highest levels, but it is my firm belief that it requires special individuals to make meaningful connections with them. Clearly on the one hand, there is a need for more Black male teachers. Currently, Black men comprise anywhere from 1.3 to 1.9 percent of the entire teaching force in the United States. That means the overwhelming majority of Black males will go from preK to Grade 12 without ever having experienced a Black male teacher. That is a problem on multiple levels. Representation matters, meaning students deserve the opportunity to have a teacher who looks like them. They also deserve to have a teacher who not only looks like them but equally relates to and identifies with them, a teacher who completely understands what it is to walk in the students' shoes. In the context of this book, *Hope in Focus: Black Males and Success in Science*, yes, a teacher of any race or ethnicity can be successful teaching Black males, but when that teacher is a Black male who relates to, identifies with, understands, and brings a strong passion for science, what an amazing experience this can be for Black males in that environment.

But what about the non-Black educator? Can this individual be highly successful teaching Black males in general and Black males in science

specifically? Absolutely! However, I regularly ask teachers to ask themselves the following questions regarding their students toward increasing the probability for making solid connections with them:

- Do they feel *WELCOME by me?*
- Do they feel they *BELONG by me?*
- Do they feel they're *SOMEBODY by me?*
- Do they feel *CELEBRATED by me?*
- Do they feel *EMOTIONALLY SAFE by me?*
- Do they feel *SEEN by me?*
- Do they feel *HEARD by me?*
- Do they feel *LIKED by me?*
- Do they feel *KNOWN by me?*
- Do they feel *VALUED by me?*
- Do they feel *CARED ABOUT by me?*
- Do they feel *BELIEVED IN by me?*
- Do they feel *EXPECTED HIGHLY OF by me?*
- Do they feel *UNDERSTOOD by me?*
- Do they feel they *MATTER by me?*

Toward connecting with students in general, the answer to these questions absolutely matter. With Black males who happen to be in classrooms with teachers who do not look like them, the questions are indispensable and unavoidable. But furthermore, I regularly say to educators, when Black males say that they are not being recognized as Black males, it's almost as if they are saying to their teachers without actually saying:

- "Expose ME to my history *because I need to know who I am historically."*
- "Expose MY non-Black peers to my history *because they need to know who I am too."*
- "Engage ME *through a culturally responsive and culturally competent lens toward demonstrating awareness and understanding of who I am culturally, racially, and ethnically."*
- "Teach ME *through a culturally relevant lens because I need to be able to relate to and identify with what I am learning."*
- "Relate to ME *through a bias-free and barrier-free lens because I need to be able to learn within a learning environment of high expectations for ME."*

I cannot overstate the significance of these statements toward connecting with Black males. Is this easy work? No, it is not, but it is truly necessary work.

Black males have to understand that the sky is truly the limit for them, that they can achieve anything that they set their sights on achieving. In addition, their sights must be broadened and widened. Football, basketball, and entertainment are great goals that so many Black males (including myself when I was young) have achieved, but they must be given opportunities of learning in environments where they are exposed to everything the world has to offer, which is inclusive of science. There are so many opportunities in science. But if the exposure is not there or the interest is not there, it will never happen for Black males. They are more than capable, but the quality of the teacher in the front of that classroom absolutely matters.

—Principal Baruti Kafele
Retired Principal, Education Consultant, Author

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First and foremost I must thank God for being my ultimate guide on this journey.

Sonja Hollins-Alexander, I thank you for being the educator and mentor I personally strive to be. You helped me imagine the goal was possible and were always there to keep me moving along the path to making this dream a reality. I cannot thank you enough for not allowing me to talk myself out of this blessing. To Debbie Hardin, Executive Content Leader, thank you for believing in this project and being a pleasure to work with. You always knew when to push and encourage me to do what you knew I was capable of achieving. To the Development Editor who truly made me feel like a writer: Claire Alexander, I am grateful for your time and effort as you asked such thoughtful questions, understood my vision, and continously cheered me on during this process. I also appreciate the expertise of Nyle De Leon, Tori Mirsadjadi, and Colleen Brennan and the role each of them played in making sure this final manuscript came together. Finally, I am grateful for each of the students and educators in the classrooms I have had the honor of learning from. Each of you has made me better in every way.

I am grateful to my parents, Yolanda (Ron) Wilcox and Wayne (Brenda) Barbour, who have always pushed me towards excellence in every endeavor. I dedicated this book to my daughters, Christine, Lailah, and Celeste, but I also want to thank them for their prayers, patience, and understanding as I embarked on this endeavor. To my husband and best friend, Torris Woolfolk, words will never repay you for the support, understanding, protection, shoulder to cry on, and laughter you provided me during the pursuit of this goal. I also appreciate your family—Willie, Beverly, and Treyon—for their love and encouragement.

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Sandry Springs, GA

Debra K. Las
Science Teacher, Rochester Public Schools ISD #535
Rochester, MN

Karen Mesmer
Mesmer Science Education Consulting
Baraboo, WI

Karyn McConachie
Science Teacher, Utica Community Schools
Shelby Township, MI

Yolanda A. Parker
Professor, Mathematics Department
Tarrant County College District
Fort Worth, TX

Monique Pollitt
Regional Math Coordinator, Puget Sound Educational Service District
Renton, WA

Joseph Staub
Resource Specialist Teacher, Los Angeles Unified School District
Hemet, CA

About the Author

Tonya Woolfolk, PhD, is the Coordinator of Science for Grades K–5 in one of the largest school districts in Georgia. In this role, she organizes the science curriculum for 25 elementary schools while providing professional learning on various topics for over 1,000 elementary teachers and administrators. Tonya also provides professional learning to K–12 teachers and administrators in the areas of science instruction, leadership, teacher clarity, and professional learning communities. Additionally, she has designed and facilitated impactful executive leadership and organizational development programs nationally in various settings.

Tonya has previously served as a high school science teacher, department chair, and assistant principal. Tonya most recently served as the District 7 director for the Georgia Science Teachers Association. Additionally, she has been an instructor for the K–5 Science Endorsement with the Middle Georgia Regional Educational Service Agency and an adjunct professor at Mercer University. Tonya previously served as the Georgia Science Supervisors Association president and on the National Science Teaching Association's Committee on Coordination and Supervision of Science Teaching. She has also served on multiple accreditation and certification review teams with Cognia, an international school accreditation and certification organization.

Tonya has been fortunate to have had various experiences throughout her professional journey. She has been immersed in instructional and curriculum design, the facilitation of adult professional learning, and strategic planning. Tonya has had opportunities to share this work at various workshops, trainings, and state and national conferences. She has been a journal article, manuscript, rewards, and proposal reviewer for Presidential Awards for Excellence in Mathematics and Science Teaching, Educational Researcher, Routledge, National Science Teaching Association, National Science Teaching Association Press, and Sage Publications.

Tonya is a passionate educator with many exploratory experiences that began in elementary school, which nurtured her passion for

science. Consequently, she went on to receive her undergraduate degree in chemistry from Florida Agricultural and Mechanical University. After starting her career in education, Tonya obtained graduate degrees and certificates in math and science education, leadership, and curriculum and instruction from Wesleyan College, Georgia College and State University, and Valdosta State University. Her doctoral degree is in curriculum and instruction from Mercer University. Tonya is committed to improving environments so that ALL can thrive.

Image Source: iStock.com/Farjar Kun

CHAPTER 1

Introduction

Pursuing and Maintaining Hope for Black Males

This chapter begins by engaging with my experiences with Black male students as a Black female science educator for the past twenty years, which led to further inquiry into understanding the role I played in their educational outcomes. The chapter then explores the path that inquiry took me on as I endeavored to improve my own understanding about the Black male students I was encountering as an educator. I examine the research on hope and its role in Black males' academic achievement in science in an effort to explain the success I experienced as a result of changes in my pedagogy. The chapter then provides an elaboration of the results of my implementation of suggestions from the research. Finally, I provide you, the reader, with an opportunity to evaluate your own practices as you determine how you will use this book to support the academic achievement of Black males in science.

I am a science teacher. My one goal is to help all of my science students succeed in my classroom. I was therefore concerned and somewhat discouraged one day, when one of my Black male students, Thomas, put his head down on the desk during class. Thomas had also begun to show up to class tardy and refused to take notes during direct instruction.

Although he knew many of the answers to assignments, he contributed less to the group collaboration. I gave this young man detention so that I could talk with him about his behavior.

During our discussion, Thomas told me about his plans for the future, including his interest in attending college. Although he was not certain about what he wanted to study, he knew he wanted to pursue something beyond high school. We discussed how his present behavior would negatively affect his dreams. I told Thomas that he would have to engage and participate more in class in order to acquire the knowledge and grades he would need for his future endeavors. I told him I had observed that he wrote exceptionally well and that his responses in class were thoughtful and that, consequently, I had high expectations for him. In small groups and in one-on-one conversations, he showed a remarkable ability to analyze science content. Yet, because of his low test scores, his overall science grade was low.

What was happening with Thomas? Why was his performance in science suffering? How does this connect to hope? I looked for answers to these questions in education research literature and found few answers. As an educator who came into the profession as an alternatively prepared teacher, I especially felt lost in my inability to answer these questions. This made me all the more determined to seek answers. I chose to focus on Black males for a few reasons. The first reason was due to the importance of standardized testing and the way students are demographically identified in racial/ethnic groups for most standardized tests as Black or African American. The second reason was that when I looked at my data as compared to other educators, I noticed the performance of my students who identified as Black males was noticeably higher than the science performance data of Black males in other teachers' classrooms. As a result, I wanted to find ways to better understand why this was the case in an effort to share that insight with others so that they could apply it in their classrooms. The third reason was that I realized through numerous conversations and experiences that this desire to find ways to further support the academic growth of Black males was widespread. However, relative to Black males' science performance, the research literature has insufficiently addressed issues such as the contributions of science teachers and other adults, students' own personal contributions, and both outside persuasions and self-determination.

Given this silence in the literature, I chose to study ways to practically address these issues. I found that the actual performance in science for Black males was contrary to the tenets normally used to define hope. Normally, *hope* is defined as "desire accompanied by expectation of or belief in fulfillment" (Merriam-Webster, n.d.). Black males' perceptions of hope differ that dictionary definition. The distinct features of Black males' perceptions of hope, and a larger picture relative to their science performance, began to come into focus through my research.

I found that the actual performance in science for Black males was contrary to the tenets normally used to define hope.

Four themes emerged from the data that describe how Black males are able to plan cognitive strategies, or *pathways thinking*, to learning and how Black males' hope embodies goal-directed determination, or *agency thinking*. Relative to pathways thinking, two of these themes were *contributions of science teachers and other adults* and *personal contributions* (Woolfolk, 2012). In other words, Black males' science performance was improved through both the strategic thinking contributions of science teachers and other adults and through Black males' own strategic thinking contributions. Relative to agency thinking, the other two themes were *outside persuasions* and *self-determination* (Woolfolk, 2012). In other words, Black males' science performance was also improved by influences other than themselves and goal-directed persuasions as well as their own self-determination to reach their goals.

How do you personally define hope? To what do you attribute that hope? Take a moment now and jot down what initially comes to mind when you think about your answer to these two questions. Hope has been defined by researchers in several ways. It may be defined as "a sense of determination toward reaching one's goals (agency) and the ability to generate successful plans to reach one's goals (pathways)" (Adelabu, 2008, p. 348). Hope has also been explained as "a process of becoming and a reality of being that connects the future to an imagined possibility in the present" (Renner & Brown, 2006, p. 102). Hope may be viewed as a human trait, which guides individuals to look beyond their situation and into the future, while acknowledging their boundaries and inability to fully control future events (Post, 2006). Post contends that hope is powerful, for it motivates one to act, to produce, and to perform. Students and teachers are constantly moving along a continuum, which oscillates between hope and despair (Post, 2006).

Many researchers view hope as an outlook toward the future (Adelabu, 2008; Banks et al., 2008; Biesta, 2006; Birmingham, 2009; Chang & Banks, 2007; Curry et al., 1997; Jackson et al., 2003; Pekrun et al., 2002; Post, 2006; Renner & Brown, 2006; Snyder, 1994). However, Whitley (2010) proposes that various thinkers do not view hope as being directed toward the future, but toward the past and the present. Whitley's view makes sense in the context of Black male performance, given that Black males are being asked to perform on assessments in the present.

Hope and optimism are often merged, but they are not synonymous. When we consider hope as an influence based on optimism and the expectation of positive outcomes, it shows a small positive impact on achievement (Hattie, 2023). In some cases, Black males are being asked to be (present), whereas in others, more emphasis is placed on becoming, which entails the future (Whitley, 2010). As educators, I believe we should maintain an outlook toward the future, but pay close attention to

what is presently before us. The immediate needs of Black males should be met now to allow them to see and meet their future. If our students are not engaged and looking forward to learning today, how can they be optimistic about the future? Teachers should explore and determine where their Black male students are academically in the present and use that information to determine their instructional plans to move everyone forward.

Teachers should explore and determine where their Black male students are academically in the present and use that information to determine their instructional plans to move everyone forward.

In the same way, we can ask to what extent it is possible for hope to exist for Black males in science classrooms, as it relates to science performance. This is an essential question when their resilience and strength are often ignored (Wint et al., 2022). However, in some cases, asking Black males to have optimism is not realistic. Pursuing and maintaining hope may already be a huge task for these students. Black males may either internally determine that they are hopeless or may have experiences that deter their perseverance. Conversely, Black males may have experiences that enhance their goal pursuits and have internal hopefulness. Those experiences may include personal failure or success, or be based on encounters with their science teacher, other adults, or peers. Much of this research is based on the internal thoughts and feelings that Black male students reported during interactions and experiences in the science classroom. Researchers often collected both quantitative and qualitative data to gain insight from Black males about their true perspectives and emotions. Therefore, deeper understandings often occurred by interviewing them to gather those rich contextual details.

In this book, I reflect on the insights gained from my experiences with Black males. Instead of concentrating on hopelessness or deficits, I chose to center on ways to cultivate hope in Black male students by building on their strengths. This does not mean I did not have behaviors and situations that presented challenges; I just chose to keep what proved to be beneficial for students the focus of this book.

Based on the conversation I had with Thomas, I would need to go beyond my normal science instruction planning. I took action. As you may recall, I started by bringing his attention to all of the great qualities he possessed as a student. After that, we set academic goals together. We then discussed how Thomas could reach those goals in my classroom, starting with being on time to class and sitting in the front of the classroom. Although during our conversation he still refused to take notes and informed me that he was "too cool" to acquiesce to this one request, we moved forward. This showed Thomas that I was willing to incorporate what I learned about him in my response, in an effort to increase his hopefulness. I contributed to our plan by making this young man my personal assistant and classroom manager. This new role required him to be on time to class to first write his journal entry for the day and then check the journals of his peers to give them the coveted completion stamp for that day.

From then on, Thomas kept his head off the desk, moved to the front of the class, and admonished other students to pay attention as well. He began to show significant improvement on his test scores and I realized that although he was not physically writing down notes in class, he was definitely paying attention. This was apparent in his return to insightful participation in classroom discussions and his contributions during collaboration with his peers. He was much more confident in himself as a student. Because he had influence on his peers outside of the classroom, many other students mimicked his behavior. On numerous occasions, I witnessed Thomas's peers asking him for help without hesitation. Not only were they aware of his level of understanding, but they were also comfortable with tapping into that knowledge. They respected him. Later, when Thomas and I evaluated the effects of his renewed efforts, we recognized his grade had increased approximately 30 percentage points.

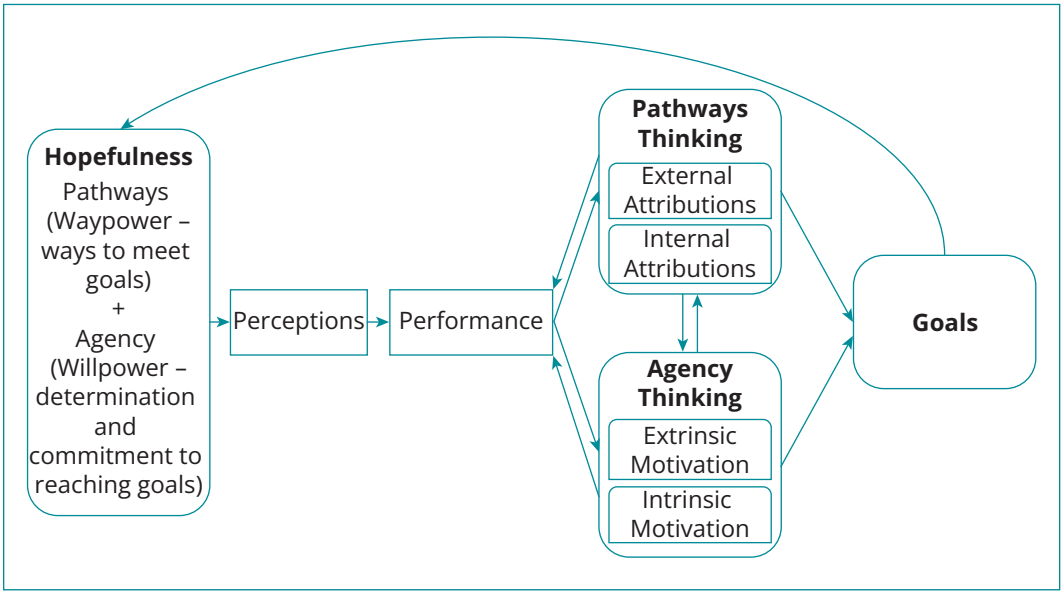
It is my belief that Black males are fully capable of achieving success in their science classes, with the necessary components in place to support them. This book shows how teachers can intentionally and strategically give them that support. I use the Hope Theory as the theoretical framework to examine the relationships between hope, Black males' perceptions of their actions, their teachers' actions, and their science academic performance. This multi-perspectival knowledge is gathered from different dimensions of hope. According to the research conducted by Snyder et al. (2003), the Hope Theory is based on the idea that "hope reflects individuals' perceptions regarding their capacities to (a) clearly conceptualize goals, (b) develop the specific strategies to reach those goals (pathways thinking) and (c) initiate and sustain the motivation for using those strategies (agency thinking)" (pp. 122–123). Pathways thinking is the way or the perception of the available strategies to achieve goals (Snyder et al., 1991). Agency thinking is essentially the will of the person—their belief in their ability to achieve goals (Snyder et al., 1991). Both pathways and agency thinking are necessary for successful goal pursuit (Snyder et al., 2003). The Hope Theory allows the educator to guide the development and maintenance of students' hope.

It is my belief that Black males are fully capable of achieving success in their science classes, with the necessary components in place to support them.

The Hope Schematic (Figure 1.1) illustrates the relationship between hopefulness and the attainment of goals, showing the attributes described previously and how they relate to one another. This Hope Schematic has been adapted from the Hope Schematic based on the Hope Theory presented by Snyder (2002) to demonstrate the detailed components found necessary for Black males to reach science academic goals. This adapted schematic identifies the inclusion of perceptions and performance as they influence pathways and agency thinking. It also shows the requirement for external and internal attributions to make up the pathways thinking aspect of hopefulness. There is also the additional need for both intrinsic and extrinsic motivations to comprise

the essential agency thinking. Each of these components are necessary as they influence one another in the feedback cycle of hopefulness and goal attainment for Black males.

Figure 1.1 Hope Schematic.



Source: Adapted from Snyder (2002).

What can the limited research tell us about why Black male students are struggling to perform in science? Many areas have been studied as possible causes of Black students' low academic performance. Goldsmith (2004) suggested that Black students' performance could be increased by improving Black students' optimism. McIntosh et al. (2021) found that religion/spirituality played a positive role in improving hope in Blacks/African Americans. Students' hope and teacher behaviors correlate with academic performance (Curry et al., 1997; Snyder, Feldman, et al., 2002; Snyder, Shorey, et al., 2002). Furthermore, the stereotype threat has been examined as impairing Black students' test performance (Steele & Aronson, 1995). When teachers' behaviors were examined, their attitudes toward Black students, their expectations of Black students, their cultural understanding of Black students, and their teacher-student interactions all played significant roles in their teacher effectiveness and in their Black students' performance (Harmon, 2002). Although limited, the aforementioned research shows us that there are a number of factors we must investigate to further understand Black males' performance in science. When we examine the commonalities between these factors and hope, we begin to get a clearer picture of a way forward.

Hope may also be defined as the visualization and expectation of outcomes that are favorable for Black people (Sanders, 1996). The Brazilian philosopher Paulo Freire (1994) described hope as a necessary component of the struggle on the path to victory. Hope may also be defined as an

empowering force in the fight against injustice (hooks, 2003). These differing views of hope are necessary to develop a common understanding of the definition of hope and the power that it holds across cultures.

What is your experience of hope in your Black male students' lives? When you consider hope in your life, and in the lives of your students, have you examined ways to foster or grow that hope? It is important that we recognize that hope can be changed and strengthened. Some of our most successful students have demonstrated that they have both the pathways and agency thinking necessary to reach educational goals. As educators, we can play a role in strengthening the hope of our Black male students. We want our Black male students to achieve success in our classrooms. By strengthening their hope, we provide those Black males with the tools and strategies necessary to activate their full capabilities.

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Teachers have the ability to provide classroom environments that allow for the intersection of the hopes of the teacher, the hopes of the student, and the hope of the class as a whole (Post, 2006). However, if the intersection of hope does not match up to reality, frustration prevails, and students' academics suffer. Post (2006) referred to a problem that is too complicated, necessitating the cooperation from different people to develop a common hope, and the premise of this book is that science teachers and students should develop a common hope that connects to a common goal: increasing Black male students' academic science performance. I will admit that when I first began to make a shift in my pedagogy to provide this hopeful environment, the outcomes were not always what I set as my goal. However, I stayed consistent in my efforts and continued to learn from each attempt. The amount of growth that eventually came to fruition was undeniably a result of the development of this common goal of achievement for my students.

Source: istock.com/mediaphotos

Social dynamics relative to connections between children and important people in their lives may nurture hope in the form of reciprocal relationships (Yohani, 2008). This idea about reciprocal relationships is important when exploring the relationships between Black male students and teachers. Teachers are certainly important people in all students' lives, and they may positively influence the optimism of Black male students, which is relative to hope in terms of future aspirations (Goldsmith, 2004).

Let's think back to Thomas from the beginning of this chapter. Our one meeting and his change in seating did not magically change his academic behavior in my class. Thomas initially did not want to change, but I chose to be persistent. We worked collaboratively, with regular check-ins about his progress and continuous feedback between the two of us. He began moving in the right direction after much discussion, trust building, goal planning, strategizing, and shifts in my pedagogy. I took the time to identify and implement ways to meet his needs. It began with that initial conversation about the goals he wanted to pursue. But I also visited the cafeteria during lunch to observe students like Thomas with their friends and watch interactions. I happily inserted myself into discussions at the lunch table while asking for some help peeling my orange just to play it cool. I still remember the day I was on a college campus to attend a meeting and just happened to see Thomas in the parking lot. I was immensely proud of how much he had accomplished! I can't help but to wonder if Thomas was able to build on the confidence he developed to continue to set higher goals for himself. Although Black males may exhibit hopefulness that should lead to reaching the academic goals we desire, I have found that sometimes they are not setting the goal high enough to show proficient achievement. With all of these dynamics in play, this book investigates Black males' perceptions of hope as it relates to Black males' performance in a science course.

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This book is set up in three parts: Contributors to Black Males' Cognitive Strategies (Pathways Thinking), Contributors to Black Males' Goal-Directed Determination (Agency Thinking), and Implications of Black Males' Perceptions of Hope and Academic Performance on Student Success. The book examines the role that teachers' instructional strategies play in cultivating hope for Black males in science and their academic performance. It explores the ways that teacher perceptions of, attitudes toward, expectations of, and cultural understandings about Black males affect their actions. It goes on to examine the self-perceptions Black male students have about their academic ability, prior experiences, and personal beliefs as they relate to hope. Both intrinsic and extrinsic motivations are examined as influences on the goal-directed determination of Black males. Hope is also investigated as it relates to Black males' academic performance in science. With the aforementioned perspectives

studied, this book provides insight and discusses practical implications for the ways hope significantly affects Black male student science performance.

Each of the insights and implications provided in this book came from my experiences in K–12 classrooms across the United States. You will find that I had the opportunity to glean from the perspectives as a teacher, administrator, professional learning facilitator, and thought partner. In each situation, I reflected on the interactions of the Black males with others and how they played a role in educational outcomes. Each story and vignette in this book is based on a true experience with changes intentionally made to identifiable characteristics, names, and settings to protect student privacy.

When writing this book, I decided to design each chapter as I would one of my personal lesson plans. In true science teacher form, I used the 5E instructional model developed by Rodger Bybee (2015). The 5E instructional model supports hands-on science inquiry instruction across the following five phases: Engage, Explore, Explain, Elaborate, and Evaluate. Each chapter begins with a vignette that allows a peek into the classroom and Black male students' experiences, thoughts, and conversations. This vignette lets you listen to the voice of the Black male and, I hope, sparks your curiosity as you **engage** in his experience. Once you have a chance to listen to the Black male featured, you will then **explore** what we can learn as educators from his particular experience. During this exploration, you will be asked probing, open-ended questions to consider as you think about what you would do to meet that student's needs. I encourage you to take the time to write down your responses to these questions. Once you have considered your responses, I **explain** and **elaborate** by sharing what the literature says the Black male may be experiencing and what I did as an educator to help students with similar needs, based on the research. Lastly, there is an opportunity in each chapter for you to **evaluate** your instructional practices and plan for the implementation of specific strategies to support Black males in the classroom. With each of the components necessary to put the hope of Black males in focus, we as educators are equipped to make meaningful change in our classrooms. It is my hope that you set goals for yourself, as an educator, to be intentional about thinking deeply and planning ways to help our Black male students reach their fullest potential in science education.