Oscar-nominated *Hidden Figures* is a docudrama that is more than 50 years overdue. People leaving movie theatres were overheard saying, “I had no idea.” Given the abysmal numbers of African American women who are science, technology, engineering, and mathematics (STEM) professionals (less than 1%; National Science Foundation [NSF], 2017), awareness of the possibilities portrayed in this movie might have assisted in opening doors for African American girls with aptitude for mathematics. The research that seeks to address this employment disparity examines educational experiences of African American girls and women from preschool through elementary and secondary school (Hernandez, Schultz, Estrada, Woodcock, & Chance, 2013; Martin, Green, & Dean, 2016), to college and graduate school (Alexander & Hermann, 2016; O'Brien, Blodorn, Adams, Garcia, & Hammer, 2015). Some of the research focuses on individual experiences to determine the causes of the disparities (Alexander & Hermann, 2016; Martin-Dunlop & Johnson, 2014) as well as strategies that lead to success (Charleston, George, Jackson, Berhanu, & Amechi, 2014).

The focus of the movie *Hidden Figures* is on the lives of African American women, referred to as “Colored computers,” who did the mathematical calculations at the National Aeronautics and Space Administration (NASA) Langley Research Center in Hampton, Virginia. Those calculations included solving the physics equations needed to successfully launch rockets into outer space. Highlighted in the movie was the generation of the actual equations by the lead computer, Katherine Coleman Goble Johnson (played by Taraji P. Henson), who recognized and corrected an error that would have prevented astronaut John Glenn (played by Glen Powell) from breaking orbit and successfully returning to earth.

This movie is suitable for a wide variety of audiences. At the secondary school level, this docudrama brings to life a history lesson that provides role models unlikely to be included in textbooks. The context of the movie demonstrates advances in handling of mathematics. In the late 1950s and early 1960s, numbers were calculated by hand using paper and pencils, with mechanical calculators (that looked like unwieldy typewriters on steroids) and slide rules. The movie demonstrates how all of those techniques were made obsolete by building-sized card-fed mainframe computers, which had considerably less memory and capability than today’s smart phones. A lesson of *Hidden Figures* is the importance of retraining in order to keep up with changes in one’s professional field. Supervisor Dorothy Vaughan (played by Octavia Spencer) figured out how the computer worked and trained the Colored
computers in Fortran programming. Without that retraining, they would have faced unemployment as soon as NASA started to rely on the mainframe computer.

The dialogue in *Hidden Figures* includes specific attention to sexism. In an early scene, a White policeman (played by Ron Clinton Smith) was interrupted, before he could utter a racial epithet, by Mary Jackson (played by Janelle Monáe), who stated that NASA did employ women. Colonel Jim Johnson (played by Mahershala Ali) begins a romantic journey by making it clear that he did not approve of women having responsibility. Levi Jackson (played by Aldis Hodge) initially discourages his wife, Mary, from pursuing education to become an engineer. All three men are portrayed as becoming increasingly supportive of the careers of these women. Women’s Studies classes can use this movie to discuss male “approval” of the directions of women’s lives.

Racial segregation is a primary focus, sometimes skillfully handled with visuals rather than dialogue. In the introduction of the astronauts to the engineers and mathematicians, the Colored computers were standing in a greeting group that was not only separate from the White employees, but actually beyond the entrance to the building so that it was easy for the astronauts to ignore them. Vaughan was not only denied the title and pay of the supervisor she actually was, but, in one scene, she was expected to serve as a runner. She was also denied access to the part of the “public” library that included books needed to advance her career and the careers of the women she supervised. When Jackson pursued legal access to education, she was directed to a “colored” seat at the back of the courtroom.

The historical context of the racial segregation is emphasized in scenes of peaceful anti-segregation protest (in which the computers did not appear to participate). Similar to the peaceful protests of the 21st century, unarmed protestors were confronted by heavily armed police accompanied by vicious dogs. Another focus of history is on the scarcity of televisions in homes; crowds gathered in front of stores to watch coverage of the space shots.

Intersectional racialized sexism and gendered racism are emphasized. The mathematical abilities of the Colored computers violate racial and gender stereotypes of African American women (Martin-Dunlop & Johnson, 2014; O’Brien et al., 2015). Goble struggled to do her work with very limited access to the classified material she was expected to check. When she decided to work around those limitations, her boss, Al Harrison (played by Kevin Costner), asked if she were a “Russian agent” before increasing her classification level and later allowing her to attend hitherto “male-only” briefings. Many African American women professionals experience having to repeatedly prove their capabilities (Alexander & Hermann, 2016; Charleston et al., 2014; Martin et al., 2016; Martin-Dunlop & Johnson, 2014). Goble was assigned to check the work of Paul Stafford (played by Jim Parsons), who interfered with her work by giving her limited access to files and then refusing to allow her name to appear on work on which they “collaborated” (read that: which she did and had to type, giving him full credit). Long hours and extra work were additionally burdened by segregated and under-provisioned restrooms, necessitating Goble’s running through all kinds of weather to a distant building where those were located. Goble was provided with an empty “colored” coffee pot to emphasize that she was not considered a member of the work team on which she served as the only woman and the only African American. Near the end of the movie, Vivian Mitchell (played by Kirsten Dunst), who had refused to allow Vaughan to be promoted to supervisor, for the first time addressed her as “Mrs. Vaughan” instead of “Dorothy”—another reminder of the relentless disrespect of White people toward Black
people. That minor change in behavior, in the context of the movie, was given more camera
time/attention than the more important long-delayed promotion.

One difficulty with the movie, but a topic that will clearly engage Black Studies (and
hopefully Women's Studies) students, is the portrayal of White men as heroes or rescuers.
Although Harrison opened doors of opportunity for Goble Johnson throughout the movie,
several other White males, albeit in very minor roles, were also portrayed as heroic. The
policeman in the opening scene provided an escort so that the women would not be late for
work due to car trouble. A judge (not otherwise named, yet portrayed as a trailblazer,
played by Frank Hoyt Taylor) made a ground-breaking decision to allow Mary Jackson to
attend extension classes for engineering. John Glenn broke rank with the other astronauts
to speak directly with the Colored computers and, in a highlight of the movie, refused to fly
until the mainframe computer calculations had been checked for accuracy by Goble Johnson.
In a scene clearly designed to justify inclusion of Costner, the Colored women’s bathroom
sign was destroyed in a show of physical force; that scene is a fictional insertion that
detracts from the documentary.

There are multiple references to riding in the back of the bus, elevating that relatively minor
symptom of segregation to a level of importance that grabs the attention of audiences, for
many of whom that exemplifies the Jim Crow era. In theatres with predominantly White
audiences, mention of the back of the bus led to audience-wide giggles. That distraction
overshadows the more important institutional issues of separate and unequal access to
education, employment, and living situations, while completely ignoring overt racist acts
such as lynching or other killing, rape, and other physical abuse meted out by White people
on Black people with impunity.

Class issues were also addressed through the attention to dress code. Women were
expected to dress with skirts below the knee and jewelry was limited to pearl necklaces.
That dress code differentiated the professional computers from people in service jobs, who
would be expected to wear uniforms, a legacy from the era of legal slavery during which
specific cloth and styles of clothing were made to be worn by enslaved Africans and African
Americans (Brown University Steering Committee on Slavery and Justice, 2006; Shaw,
2012). There was, however, a clear indication that skin color overrode dress; when Goble
entered the office for the mathematicians (all White males), one White man immediately
placed a wastebasket on top of the materials she was carrying, as he complained that the
trash had not been removed the previous evening. After Goble Johnson’s wedding, she was
presented with a pearl necklace by a White woman; the salaries of the Colored computers
did not support purchase of such jewelry.

In an effort to indicate that marginalization was not limited to African American women,
Jackson had a brief conversation in a wind tunnel with Karl Zielinski (played by Olek Krupa),
who indicated that he was a Polish refugee and identified a job survival strategy that
involved doing one’s work while keeping one’s head down. That self-effacing approach was
described in slave narratives and is seen in people deferring to others, especially in
hierarchical cross-cultural social interactions (Harding, Hughes, & Way, 2017); it is a critical
part of “the talk” that African American parents give their children in efforts to minimize the
chances of their being abused by police (Whitaker & Snell, 2016).

A romantic storyline ran through the movie as the initially intolerant Jim Johnson wooed
widowed Katherine Goble. As the movie progressed, he built relationships with her mother
and daughters, leading to a church wedding. Church was emphasized as a critical part of the women’s lives; the church was portrayed as progressive.

This reviewer saw *Hidden Figures* twice. The second time was specifically to prepare for this review. However, the first viewing was with a friend who is a musical genius and had experienced childhood as a prodigy. Throughout the movie, my friend and I, two African American women who came of age in the 1960s, discussed experiences in common with and different from the women in the docudrama. This reviewer, who was an outstanding mathematician through high school (successfully completed Iowa Tests of Basic Skills at 12th grade level when in 5th grade, achieved 800 on Scholastic Aptitude Test Math II, and member of high school math team), was not only never acknowledged as a prodigy of any sort, but was deliberately prevented from advancing to college preparatory math classes in junior high school. During my senior year of high school, I took calculus and trigonometry at the same time in order to meet college admission requirements. I must admit to pangs of jealousy as I watched young Katherine Coleman (played by Lidya Jewett) invited and admitted to college as an early teenaged math prodigy. Book and movie club members might find seeing this movie together as an opportunity to learn more about each other and discover ways in which their lives were shaped by educators who steered them toward or away from specific career opportunities.

I strongly recommend *Hidden Figures* as an educational requirement at the middle school, high school, and college levels. In addition, I believe it is important for graduate students, especially those preparing for STEM professions. Psychologists in therapeutic practice will do themselves, their clients, and their students good service by seeing the movie and engaging in in-depth discussion about the many implications of the movie. Anyone watching must remember that, although segregation is now illegal in the United States, the reality of the tiny percentages of African American women in mathematics and engineering (NSF, 2017), and the lack of an Oscar for this movie, reflect ongoing segregation and serious educational and employment disparities.

**References**


participation of underrepresented students in STEM. *Journal of Educational Psychology, 105*, 89–107. [http://dx.doi.org/10.1037/a0029691](http://dx.doi.org/10.1037/a0029691)  