

Name: _____ Class: _____

Study: 'High Incomes Don't Bring You Happiness'

By Caitlin Kenney
2010

People often have conflicting ideas about whether or not money can buy happiness. Some believe that the lifestyle that money can offer is equivalent to happiness, while others fear that money can lead to greediness that can never be satisfied. In this study, psychologist Daniel Kahneman and economist Angus Deaton seek the answer to this question. As you read, take notes on the different definitions of happiness that exist and how they are affected by money.

- [1] How much money do you think it would take to make you happy? Would an extra \$10,000 a year do it or would it take a \$100,000 salary bump to improve your mood?

A new study from Princeton economist Angus Deaton and psychologist Daniel Kahneman suggests that number depends on how you define happiness. The authors draw a distinction¹ between emotional well-being, "the quality of a person's everyday experience such as joy, fascination, anxiety, sadness, anger, and affection," and life evaluation, "a person's thoughts about his or her life (on a longer time scale)."



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Their study of data from the Gallup-Healthways Well-Being Index found that while "life evaluations rise steadily with income," emotional well-being drops off at about \$75,000 a year.

Beyond \$75,000, money is important for life evaluation but does nothing for happiness, enjoyment, sadness, or stress. Both factors are important; it is good to have high emotional well-being, but it is also good to think your life is going well.

- [5] According to the most recent census² data, the median U.S. household income was \$52,000 in 2008, with about a third of households making above \$75,000.

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1. **Distinction (noun):** a difference or contrast between similar things
2. an official count or survey of the population

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: What statement best identifies the central idea of the text?
 - A. Money makes people happy above anything else.
 - B. Emotional well-being is solely dependent on wealth.
 - C. Money plays only a very minor role in people's overall happiness.
 - D. Money is able to influence people's happiness to an extent.

2. PART B: Which detail from the text best supports the answer to Part A?
 - A. "would it take a \$100,000 salary bump to improve your mood?" (Paragraph 1)
 - B. "Beyond \$75,000, money is important for life evaluation, but does nothing for happiness" (Paragraph 4)
 - C. "it is good to have high emotional well-being, but it is also good to think your life is going well." (Paragraph 4)
 - D. "the median U.S. household income was \$52,000 in 2008, with about a third of households making above \$75,000." (Paragraph 5)

3. PART A: What does paragraph 5 suggest about the "emotional well-being" of an individual with the median household income in 2008?
 - A. The average household in the U.S. would be happier with a higher income.
 - B. Only life evaluation would increase with a higher income.
 - C. Some people in the United States make too much money, which is harmful to average Americans.
 - D. Increasing the average household's income would decrease the country's overall emotional well-being.

4. PART B: Which section from the text best supports the answer to Part A?
 - A. "that number depends on how you define happiness." (Paragraph 2)
 - B. "life evaluations rise steadily with income" (Paragraph 3)
 - C. "emotional well-being drops off at about \$75,000 a year." (Paragraph 3)
 - D. "Beyond \$75,000, money is important for life evaluation" (Paragraph 4)

5. What is the main difference between “emotional well-being” and “life evaluation” as discussed in paragraph 2?

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The best way to deal with failure

By Selin Malkoc
2017

Chances are you've failed at something in your life. But that doesn't mean it has to be for nothing. In this informational text, Selin Malkoc explores the best way to deal with failures and benefit from them. As you read, take notes on the different ways people can think about their failures.

- [1] Failure is a part of life, and we make mistakes pretty much every day. How do we cope?¹ Or better yet, how should we cope?

Academics and the mainstream media tend to offer a simple solution: Don't let it get to you and think about how things could have been worse.

These self-protective thoughts usually make you feel better. You move on.

But is it possible that popular wisdom is missing a bit of the puzzle? Does setting aside the negative emotions make you any less likely to repeat the mistake? Noelle Nelson, Baba Shiv and I decided to explore possible upsides of feeling bad about failure.



"Laptop, book, pen and desk HD photo" by Estée Janssens is licensed under CC0

Feeling the pain

- [5] Even though they're unpleasant, we feel negative emotions for a reason: They likely played an important role in human evolution and survival.

Negative emotions tell us to pay attention, signaling that something's wrong — with our body, with our environment, with our relationships.

So if you avoid negative emotions, you also might be avoiding the thing that needs your attention. Could deciding to focus on the negative emotions associated with failure lead to thoughts about self-improvement — and, with time, actual improvement?

We designed a series of experiments to test this question.

In the studies, we used something called a two-stage paradigm: First participants attempted a task in which they failed; then — after series of unrelated tasks — they would have the opportunity to redeem² themselves.

1. **Cope (verb):** to deal with something difficult in a successful way
2. **Redeem (verb):** to make up for a poor performance

- [10] In one, we asked our participants to search the internet for the lowest price for a particular blender brand and model (with the possibility of winning a cash prize if they were successful). In reality, the task was rigged. At the end, the participants were simply told that the lowest price was US\$3.27 less than what they had found. We then asked half the participants to focus on their emotional response to having failed, while the other half were instructed to focus on their thoughts about how they did. Then we asked them to reflect, in writing, on how they felt.

After a few unrelated tasks, we gave the participants a chance to redeem themselves. In this seemingly unrelated task, we told participants to imagine that they were going to the birthday of a friend who wanted a book as a gift. We also told them that the book they find should be a bargain.

We found that participants who were previously instructed to focus on the negative emotions following their failure in the blender task spent nearly 25 percent more time searching for a low-priced book than those who had been instructed to focus on their thoughts.

When we examined the written responses, we also found some important differences.

Those who had focused on their failure — rather than dwelling on how they felt — tended to have defensive responses: “I didn’t care much about this anyway”; “It would have been impossible to find that price.”

- [15] In contrast, the participants who had spent time parsing³ their emotions produced thoughts oriented toward self-improvement: “If I’d only searched longer, I would have found that price”; “I gave up too quickly.”

Not all mistakes are the same

It appears that focusing on the emotions of failure can trigger different thoughts and behaviors. Perhaps when you reflect on how bad you feel after failing, it motivates you to avoid experiencing that feeling again.

But could this improvement migrate into other endeavors — for tasks unrelated to the original?

To test this question, we added a variation of the second gift scenario. Instead of telling the participants to find an affordable book (which involved a price search like the original task), we asked them to find a book that they thought their friend would like. In this case, it didn’t matter whether participants had focused on their emotions or thoughts after the first task; they spent similar times searching for the best gift. It seems as though the improvement only happens if the second task is somewhat similar to the original, failed one.

While “feeling your failure” can be a good thing, it doesn’t change the fact that this can hurt. There’s a reason people tend to instinctively rationalize or have self-protective thoughts after they’ve made a mistake.

3. **Parse** (*verb*): to analyze something to uncover a deeper meaning

[20] It would be debilitating⁴ if you were to focus on how bad you felt after each failure, big and small. So it's up to you to decide which failures to try to improve upon, and which failures to shield yourself from. Clearly, one-off events or inconsequential⁵ mistakes — taking the wrong turn in a foreign city or being late to a party with friends — don't make the best candidates (hence the saying "don't sweat the small stuff").

But if you've failed at something that you know you're going to have to confront in the future — say, a task for a new role at work — pause and feel the pain. Use it to fuel improvement. If you focus on how bad you feel, you'll probably work harder to ensure you don't make a same mistake again.

["The best way to deal with failure"](#) by Selin Malkoc, The Ohio State University, October 24, 2017. Copyright © The Conversation 2017, CC-BY-ND.

4. **Debilitate** (*verb*): to make someone weak
5. **Inconsequential** (*adjective*): not important; insignificant

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement identifies the central idea of the text?
 - A. Focusing on the negative emotions of failures can help you make better decisions in tasks related and unrelated to the original failed task.
 - B. It's important to embrace the negative emotions that come with certain failures, as this could help you do better in the future and avoid additional failures.
 - C. It's better to focus on how you can improve in the future than the negative emotions associated with a perceived failure.
 - D. People who avoid focusing on the negative emotions associated with failure report being happier overall, but tend not to learn from their mistakes.

2. PART B: Which detail from the text best supports the answer to Part A?
 - A. "Academics and the mainstream media tend to offer a simple solution: Don't let it get to you and think about how things could have been worse." (Paragraph 2)
 - B. "Those who had focused on their failure — rather than dwelling on how they felt — tended to have defensive responses: 'I didn't care much about this anyway'" (Paragraph 14)
 - C. "Perhaps when you reflect on how bad you feel after failing, it motivates you to avoid experiencing that feeling again." (Paragraph 16)
 - D. "Clearly, one-off events or inconsequential mistakes — taking the wrong turn in a foreign city or being late to a party with friends — don't make the best candidates (hence the saying 'don't sweat the small stuff')." (Paragraph 20)

3. How does the introduction of the text contribute to our understanding of failure (Paragraphs 1-4)?
 - A. They explore why people often don't learn from the mistakes that they make.
 - B. They discuss the benefits of remaining positive in the face of failure.
 - C. They explore how people are typically encouraged to deal with failure.
 - D. They emphasize how normal it is to experience failure at some point in your life.

4. What is the relationship between how a person thinks about negative emotions and their actions?
 - A. Focusing on negative emotions can encourage someone to do what's necessary to avoid feeling that way again.
 - B. Acknowledging negative emotions can make someone more upset and act more impulsively.
 - C. Avoiding negative emotions makes people feel better about themselves and helps them make better decisions.
 - D. Thinking about negative emotions or experiences as an opportunity for growth helps people perform better in tasks.

5. The author discusses different tasks participants were asked to do after failing at something. How does this contribute to our understanding of the effects of focusing on failure?

Name: _____ Class: _____

Female WWII Pilots: The Original Fly Girls

By Susan Stamberg
2010

The following article is a production of National Public Radio (NPR), written by Susan Stamberg. During WWII, a shortage of male pilots in the United States led to the formation of a group called WASP — the Women Airforce Service Pilots. Stamberg reports on this relatively little-known group, and its struggle for national and military recognition. As you read, take notes on the challenges these women faced as pilots and after their time in the program.

- [1] In 1942, the United States was faced with a severe¹ shortage of pilots, and leaders gambled on an experimental program to help fill the void: train women to fly military aircraft so male pilots could be released for combat duty overseas.

The group of female pilots was called the Women Airforce Service Pilots — WASP for short. In 1944, during the graduation ceremony for the last WASP training class, the commanding general of the U.S. Army Air Forces, Henry “Hap” Arnold, said that when the program started, he wasn’t sure “whether a slip of a girl could fight the controls of a B-17 in heavy weather.”

“Now in 1944, it is on the record that women can fly as well as men,” Arnold said.

A few more than 1,100 young women, all civilian² volunteers, flew almost every type of military aircraft — including the B-26 and B-29 bombers³ — as part of the WASP program. They ferried new planes long distances from factories to military bases and departure points across the country. They tested newly overhauled planes. And they towed targets to give ground and air gunners training shooting — with live ammunition. The WASP expected to become part of the military during their service. Instead, the program was canceled after just two years.

- [5] They weren’t granted military status until the 1970s. And now, 65 years after their service, they will receive the highest civilian honor given by the U.S. Congress. Last July, President Obama signed a bill awarding the WASP the Congressional Gold Medal. The ceremony will take place on Wednesday on Capitol Hill.



*“Group of Women Airforce Service Pilots and B-17 Flying Fortress”
by U.S. Air Force is in the public domain.*

1. **Severe (adjective):** very great or intense; harsh or strict
2. describing someone not in the military or police force
3. A bomber is a combat aircraft designed to attack ground and sea targets by dropping air-to-ground weaponry, firing torpedoes or deploying air-launched cruise missiles.

Women with Moxie

Margaret Phelan Taylor grew up on a farm in Iowa. She was 19, had just completed two years of college and was ready for adventure in 1943 when a *Life* magazine cover story on the female pilots caught her eye. Her brother was training to be a pilot with the Army. Why not her? She asked her father to lend her money for a pilot's license — \$500, a huge amount then.

"I told him I had to do it," Taylor says. "And so he let me have the money. I don't think I ever did pay it back to him either."

But there was a problem. She was half an inch shorter than the 5-foot-2-inch requirement.

"I just stood on my tiptoes," she says. When she arrived at Avenger Field in Sweetwater, Texas, where most of the WASP were trained, "Well, there were a lot of other short ones just like me, and we laughed about how we got in."

- [10] Short, tall, slim, wide, they all came in knowing how to fly. The military trained male pilots from scratch, but not the female civilian volunteers.

"They didn't want to bring in a bunch of girls who didn't know how to fly an airplane," says Katherine Sharp Landdeck, associate professor of history at Texas Woman's University, who's writing a book about the WASP, tentatively⁴ called *Against Prevailing Winds: The Women Airforce Service Pilots and American Society*. "So you have women who are getting out of high school and taking every dime they had to learn how to fly so they could be a WASP."

A Dangerous Job

Once when Taylor was ferrying an aircraft cross-country, somewhere between Arizona and California, she saw smoke in the cockpit. Taylor was trained to bail out if anything went wrong. "But the parachutes were way too big. They weren't fitted to us," she says. "The force of that air and that speed and everything, why that just rips stuff off you. You'd slip right out."

So her plane was smoking and Taylor faced a defining moment.

"I thought, 'You know what? I'm not going until I see flame. When I see actual fire, why, then I'll jump.'"

- [15] Was she scared? "No. I was never scared. My husband used to say, 'It's pretty hard to scare you.'"

The plane's problem turned out to be a burned-out instrument.

But 38 female pilots did lose their lives serving their country. One was 26-year-old Mabel Rawlinson from Kalamazoo, Mich.

"I've always known of her as the family hero," says Rawlinson's niece, Pam Pohly, who never knew her aunt. "The one we lost too soon, the one that everyone loved and wished were still around."

4. **Tentative** (*adjective*): without confidence or certainty

Rawlinson was stationed at Camp Davis in North Carolina. She was coming back from a night training exercise with her male instructor when the plane crashed. Marion Hanrahan, also a WASP at Camp Davis, wrote an eyewitness account:

I knew Mabel very well. We were both scheduled to check out on night flight in the A-24. My time preceded⁵ hers, but she offered to go first because I hadn't had dinner yet. We were in the dining room and heard the siren that indicated a crash. We ran out onto the field. We saw the front of her plane engulfed in fire, and we could hear Mabel screaming. It was a nightmare.

- [20] It's believed that Rawlinson's hatch malfunctioned, and she couldn't get out. The other pilot was thrown from the plane and suffered serious injuries. Because Rawlinson was a civilian, the military was not required to pay for her funeral or pay for her remains to be sent home. So — and this is a common story — her fellow pilots pitched in.

"They collected enough money to ship her remains home by train," says Pohly. "And a couple of her fellow WASP accompanied her casket."

And, because Rawlinson wasn't considered military, the American flag could not be draped over her coffin. Her family did it anyway.

The Program Is Pulled

The head of the WASP program was Jacqueline Cochran, a pioneering aviator. (After the war, she became the first woman to break the sound barrier.)⁶ Cochran's goal was to train thousands of women to fly for the Army, not just a few dozen integrated⁷ into the men's program. She wanted a separate women's organization and believed militarization would follow if the program was a success. And it was. The women's safety records were comparable and sometimes even better than their male counterparts doing the same jobs.

But in 1944, historian Landdeck says, the program came under threat. "It was a very controversial time for women flying aircraft. There was a debate about whether they were needed any longer," Landdeck says.

- [25] By the summer of 1944, the war seemed to be ending. Flight training programs were closing down, which meant that male civilian instructors were losing their jobs. Fearing the draft⁸ and being put into the ground Army, they lobbied for the women's jobs.

"It was unacceptable to have women replacing men. They could release men for duty — that was patriotic — but they couldn't replace men," Landdeck says.

5. **Precede (verb):** to come before

6. "Breaking the sound barrier" refers to the point at which a vehicle or aircraft goes beyond the speed at which sound travels.

7. **Integrate (verb):** to make part of a larger unit or group

8. "The draft" refers to military conscription, in which people are made to enlist into military service instead of volunteer.

And so, Arnold announced the program would disband by December 1944, but those who were still in training could finish. The Lost Last Class, as it was dubbed, graduated, but served only 2 ½ weeks before being sent home on Dec. 20, along with all the other WASP.

Lillian Yonally served her country for more than a year as a WASP. When she was dismissed from her base in California, there was no ceremony. “Not a darn thing. It was told to us that we would be leaving the base. And we hopped airplanes to get back home.” Home for Yonally was across the country in Massachusetts.

That was a familiar story, but Landdeck says there were some bases that did throw parties or had full reviews for their departing WASP.

Riling The WASP’s Nest

[30] The women went on with their lives.

A few of them got piloting jobs after the war, but not with any of the major airlines. And some of them stayed in the air as airline stewardesses. In those days, no major commercial airline would hire these experienced women as pilots. Like many World War II veterans, most WASP never talked about their experiences.

And according to Taylor, they never expected anything either.

“We were children of the Depression.⁹ It was root hog or die. You had to take care of yourself. Nobody owed us anything,” she says.

The WASP kept in touch for a while. They even formed a reunion group after the war. But that didn’t last long. Then, in the 1960s, they began to find each other again. They had reunions. They started talking about pushing for military status. And then something happened in 1976 that riled the whole WASP’s nest.

[35] “The Air Force comes out and says that they are going to admit women to their flying program,” Landdeck says. An Air Force statement says “it’s the first time that the Air Force has allowed women to fly their aircraft.”

Thirty years later, that comment still upsets former WASP Yonally.

“It was impossible for anybody to say that. That wasn’t true. We were the first ones,” Yonally says.

The fact that the WASP were forgotten by their own Air Force united the women. They lobbied Congress to be militarized. And they persuaded Sen. Barry Goldwater to help. He ferried planes during the war, just as the WASP did. And then, in 1977, the WASP were finally granted military status.

9. The Great Depression (1929-39) was the longest-lasting economic downturn in the 20th century in the Western world.

Over the years it has been reported that the WASP records were sealed, stamped classified and unavailable to historians who wrote histories about WWII. According to archivists at the National Archives, military records containing reports about the WASP were treated no differently from other records from the war, which generally meant the WASP records weren't open to researchers for 30 years. But unlike other stories from the war, the WASP story was rarely told or reported until the 1970s.

[40] "It's hard to understand that they would be forgotten and difficult to believe that they would be left out of those histories. But even they forgot themselves for a while," Landdeck says.

In 1992, to preserve their history, the WASP designated Texas Woman's University in Denton as their official archives.

Yonally is proud to be honored with the Congressional Gold Medal, 65 years after her service, but she's sad that fewer than 300 of her 1,100 fellow WASP are alive to receive it.

"I'm sorry that so many girls have passed on. It's nice the families will receive it, but it doesn't make up for the gals who knew what they did and weren't honored that way," Yonally says.

Taylor is also excited about the medal. She served her country out of loyalty, she says. That was certainly part of it. But the other reason? "I did it for the fun. I was a young girl and everybody had left and it was wartime. You didn't want to get stuck in a hole in Iowa; you wanted to see what was going on."

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Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. Summarize the central ideas of the text in no more than two sentences.

2. Which statement best explains why women were needed as pilots during WWII?
- A. There was a shortage of male pilots in the United States, so women were trained to fill those positions.
 - B. Women replaced the shortage of male pilots, allowing the male pilots to enter combat.
 - C. The burden of WWII finally convinced the U.S. to accept female pilots into the military.
 - D. A larger production of planes needed a greater increase of trained pilots to fly them, so women were called to fill these roles.
3. PART A: What does the phrase “root, hog, or die” mean as used in paragraph 33?
- A. It is a term expressing self-reliance.
 - B. It is a term expressing persistence.
 - C. It is a term expressing eventual failure.
 - D. It is a term expressing surprise.
4. PART B: Which of the following phrases best supports the answer to Part A?
- A. "never expected anything"
 - B. "children of the Depression"
 - C. "you had to take care of yourself"
 - D. "nobody owed us"
5. Which of the following statements best summarizes the purpose of this article?
- A. To notify readers about an upcoming event that will honor the WASP women
 - B. To spread awareness about a forgotten or little known part of women's history
 - C. To explore double standards or discrimination against women in the military
 - D. To encourage today's military leaders to enlist more women in the air force

Discussion Questions

Directions: *Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.*

1. What is the historical relationship between women and the military, at least in the United States? Consider reasons why women weren't allowed to serve and/or the circumstances which allowed them to contribute or fight in conflicts. Cite evidence from this text, your own experience, and other literature, art, or history in your answer.
2. Is it more acceptable for women to serve in the military today? Why or why not?
3. Why do you think was it acceptable for women to serve for men as pilots, but not to replace them?
4. How do we define the roles of men and women? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.
5. In the context of this article, what makes a hero? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.
6. In the context of this article, how are communities formed? What brought the female pilots together and what kept them together? How did their community help them receive recognition? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

Name: _____ Class: _____

The Women of Hidden Figures

By Jessica McBirney
2017

Beginning in 1955, the United States and the Soviet Union began competing in the Space Race, a race to determine who would achieve superiority in spaceflight. The following text describes some of the people who made significant contributions to this race and who were, until recently, hidden from popular history. As you read, take notes on the challenges that each woman faced due to prejudice based on her race and gender.

[1] When the movie *Hidden Figures* hit theaters in December 2016, few Americans had ever heard of Katherine Johnson, Dorothy Vaughan, Mary Jackson, or any of the women who worked as “computers” behind the scenes of the Space Race in the 1960s. These women and their peers at NASA are a key part of American history. African American women did much of the difficult number-crunching for our most famous space missions, including John Glenn’s first orbit of the Earth.



"Hidden Figures Award Ceremony (NHQ201612010029)" by NASA HQ PHOTO is licensed under CC BY-NC-ND 2.0.

The film *Hidden Figures* was based on the 2016 book, *Hidden Figures: The American Dream and the Untold Story of the Black Women Who Helped Win the Space Race* by Margo Lee Shetterly. The film and book tell the stories of three African American women who accomplished incredible things in the fields of science and mathematics, and who made great contributions to the fight for gender and racial equality.

Katherine Johnson

Katherine Johnson, born in 1918, always loved numbers. She says she “counted everything,” from steps to silverware. She grew up in West Virginia, where she advanced to high school by the age of 10.

Getting a high school education was not easy for an African American student in the 1930s. The county where she lived did not offer public schooling for African American students beyond eighth grade, so she and her parents moved to a different city — Institute, West Virginia — so she could continue her education. She was clearly a gifted student, and she was exceptionally good at math. She graduated from high school at 14 and sped on to graduate from college at age 18.

- [5] Johnson decided to spend the next several years caring for her children at home and working as a teacher. By 1953, her children were older, and she went to work at the National Advisory Committee for Aeronautics, or NACA (which eventually came to be known as NASA in 1958). Around this time, NACA began hiring both white and black women to be “computers” — not the handy machines we have today, but skilled mathematicians who performed all the tedious¹ calculations necessary for safe space flight.

Johnson stood out as an impressive computer. Engineers at NACA used her notes and equations in lectures they gave to trainees. She completed trajectory calculations for the Freedom 7 mission² in 1961 to ensure the rocket would head in exactly the right direction.

In 1962, John Glenn, the first American to orbit the Earth, specifically requested that Johnson do all the calculations for his famous orbital mission. The government had recently begun using automated computers (more like the computers we have today) to perform these calculations, but Glenn preferred that Johnson complete them herself.

Later in her career, Johnson helped with Space Shuttle missions and authored or co-authored 26 research reports. She received the Presidential Medal of Freedom in 2015.

Dorothy Vaughan

In 1943, at the height of World War II, Dorothy Vaughan left her job as a math teacher in Virginia to take a temporary job in the government. She wanted to serve her country, so she worked as a computer for NACA.

- [10] A recently-signed law outlawed racial discrimination in hiring, but African American computers still had to sit in a separate office and use a separate bathroom from their white counterparts. Additionally, all the supervisors were still white.

Vaughan played the role of unofficial supervisor to her office of African American computers, managing her peers and answering questions, but she did not get paid any more to reflect her work. She addressed this problem with her superiors, and she became NACA’s first black supervisor in 1949.

NACA engineers came to value her group of computers and often requested them specifically for difficult projects. They also trusted Vaughan’s judgment and asked for her recommendations on whom they should hire.

As a supervisor, Vaughan had the opportunity to learn how to use NACA’s first computing machines. She quickly mastered the programming language that made them work properly, and many looked to her for guidance as they learned how to use the new machines as well.

Mary Jackson

Mary Jackson was one of the computers who worked directly under supervisor Dorothy Vaughan. She joined NACA in 1951, after several career changes and earning a degree in Math and Physical Sciences.

1. **Tedious** (*adjective*): long and tiresome
2. the first United States human spaceflight

- [15] After two years as a computer, she received an offer to work directly with one of NACA's engineers, who designed super-high-speed wind tunnels. Female engineers were almost unheard of at the time — not to mention black female engineers!

But she faced a problem; to become a full-fledged engineer, she had to complete several graduate-level courses. At the time, these classes were only held in a segregated³ high school in the evenings. Jackson had to go through the city government to get special permission to attend these classes so she could serve as a NACA engineer.

She earned her degree and became an engineer in 1958. She worked in this role for almost two decades, co-authoring reports and conducting scientific research. By 1979, Jackson had reached the highest level of the engineering department, but she grew frustrated that she was not promoted beyond that to a managerial position. Instead of continuing her career as a scientist, Jackson switched careers yet again, this time to serve NASA as the Federal Women's Program Manager. In this role she worked hard to make sure the government hired and promoted women and minorities.

Each of these three women played a unique role in promoting the equality of African American women in the workplace. Katherine Johnson showed her superiors how detailed and reliable a female mathematician can be. Dorothy Vaughan proved to the administrators at NACA that she, too, could lead large groups with skill. And Mary Jackson fought discrimination to earn advanced engineering degrees that few women and African Americans before her had received. These women — and the entire group of African American mathematicians at NACA — had a remarkable impact on the push for equality.

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3. to separate or divide people along racial lines

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement expresses the central idea of the text?
 - A. Johnson, Jackson, and Vaughan challenged prejudice at NACA to accomplish what African American women had never been allowed or expected to do before.
 - B. While all NACA “computers” helped advance women and African American rights, Johnson was responsible for grabbing the nation’s attention.
 - C. The public wasn’t aware of African American women’s role in NACA until recently because the organization kept their involvement a secret.
 - D. Johnson, Jackson, and Vaughan would have gone on to accomplish great things at NACA if it weren’t for the discrimination they faced because of their gender and race.

2. PART B: Which detail from the text best supports the answer to Part A?
 - A. “few Americans had ever heard of Katherine Johnson, Dorothy Vaughan, Mary Jackson, or any of the women who worked as ‘computers’ behind the scenes of the space race in the 1960s.” (Paragraph 1)
 - B. “In 1962, John Glenn, the first American to orbit the Earth, specifically requested that Johnson do all the calculations for his famous orbital mission.” (Paragraph 7)
 - C. “By 1979, Jackson had reached the highest level of the engineering department, but she grew frustrated that she was not promoted beyond that to a managerial position.” (Paragraph 17)
 - D. “Each of these three women played a unique role in promoting the equality of African American women in the workplace.” (Paragraph 18)

3. How do paragraphs 10-11 contribute to the development of ideas in the text?
 - A. They show how NASA was not prejudiced against employees based on race.
 - B. They prove that racial discrimination persisted, despite recent changes in the law.
 - C. They reveal why segregation was allowed to persist among NACA “computers.”
 - D. They emphasize how difficult it was for women to be promoted in NACA.

4. Which statement best describes the relationship between the women’s stories and their popularity today?
 - A. The three women described in the text have become famous because of the book they wrote about their experiences.
 - B. NASA recently revealed their importance in John Glenn’s 1962 space orbit.
 - C. A 2016 book and film made Johnson, Vaughan, Jackson, and their legacies well known.
 - D. Vaughan’s, Jackson’s, and Johnson’s contributions are still being debated, and NASA does not believe their contributions were significant.

5. How do Jackson's and Johnson's experiences pursuing an education contribute to readers' understanding of the effects of discrimination?
