

A PRIMER

RACISM'S IRREFUTABLE HARMS

How Racial Trauma Has Been Shown
to Impact the Brain for Generations

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INTRODUCTION

In 2021, the United States Centers for Disease Control and Prevention (CDC) announced racism is a “serious public health threat” because it harms the physical and mental health of people in minoritized communities.¹

Racial trauma is linked to serious mental health problems such as mood disorders (like anxiety and depression), post-traumatic stress disorder (PTSD), and substance use disorder.^{2,3} Studies show that racial discrimination may change how the brain works and looks in racially minoritized communities.²

This report aims to summarize studies on how racial trauma may effect mental health and brain structure, especially brain changes and mental health across generations, and is intended to bring more attention to this important subject.^a

^aWith 30 years of experience in neuroscience and mental health, Otsuka works with important people and groups to drive innovation. Their goal is to create solutions and resources to reduce the effects of racial trauma and improve mental health care in underserved communities.



RACIAL TRAUMA IS LINKED TO SERIOUS MENTAL HEALTH PROBLEMS SUCH AS MOOD DISORDERS (LIKE ANXIETY AND DEPRESSION), POST-TRAUMATIC STRESS DISORDER (PTSD), AND SUBSTANCE USE DISORDER.^{2,3}

HISTORICAL AND MODERN-DAY RACISM

Throughout history, many groups of people have faced unfair treatment and violence because of their race. Examples include Africans who were enslaved, Jewish people persecuted during the Holocaust, Japanese Americans who were placed in internment camps during World War II, and Indigenous peoples who lost their land. Racism has led to discrimination, lost opportunities, incarceration for generations, and even early death.⁴⁻⁷

Unfortunately, racism is still a big problem today. Racism can be seen in schools, workplaces, and even in health care.⁸ People from racially minoritized groups often receive worse medical care due to bias and stereotypes.⁹

According to the KFF (formerly Kaiser Family Foundation) 2023 Racism, Discrimination, and Health Survey, **about one in five (18%) Black adults and one in 10 Hispanic (11%), Asian (10%), and Indigenous (12%) adults reported they were personally mistreated or disrespected by a health care provider in the past three years because of their race or ethnic background compared to 3% of White adults.**¹⁰ These experiences may make people lose trust in health care providers and avoid getting the help they need, often leading to worse health outcomes.⁹



PERCENT OF ADULTS REPORTING PERSONAL MISTREATMENT BY A HEALTH CARE PROVIDER BY RACE¹⁰



THE DIRECT AND INDIRECT IMPACTS OF RACISM ON HEALTH

Racism affects health in many ways. It acts as a stressor and influences the conditions where people live, work, pray, play, and grow old, known as social determinants of health.¹² Structural racism, which is the impact of societal systems promoting racial discrimination, reinforces negative beliefs and leads to unequal resource distribution.¹¹ As a result, individuals in minoritized communities often struggle to access healthy food, safe housing, and quality medical care, leading to greater health disparities.^{3, 12}

Research shows that racial trauma may harm the body in many different ways. Experiencing racial discrimination raises the risk of chronic (long-term) diseases such as heart problems and mental health conditions like depression and anxiety. It may also affect other health problems like inflammation.¹³

Studies suggest that the stress from racism is one reason why people from minoritized communities have more health problems and higher death rates.¹⁴ The harmful effects of racism add up over time, leading to worse health as people age. Even young children, as early as seven years old, can feel and understand the harmful impacts of racial discrimination. This stress begins in childhood and can build up throughout a person's life, which may lead to a shorter life expectancy for minoritized groups.^{15,16}

THE HARMFUL EFFECTS OF RACISM ADD UP OVER TIME, OFTEN LEADING TO WORSE HEALTH OUTCOMES AS PEOPLE AGE¹³

THE IMPACT OF RACISM ON THE BRAIN

RACISM CAN ALTER NEURAL CIRCUITS AND BRAIN REGIONS INVOLVED IN THREAT PERCEPTION AND RESPONSE

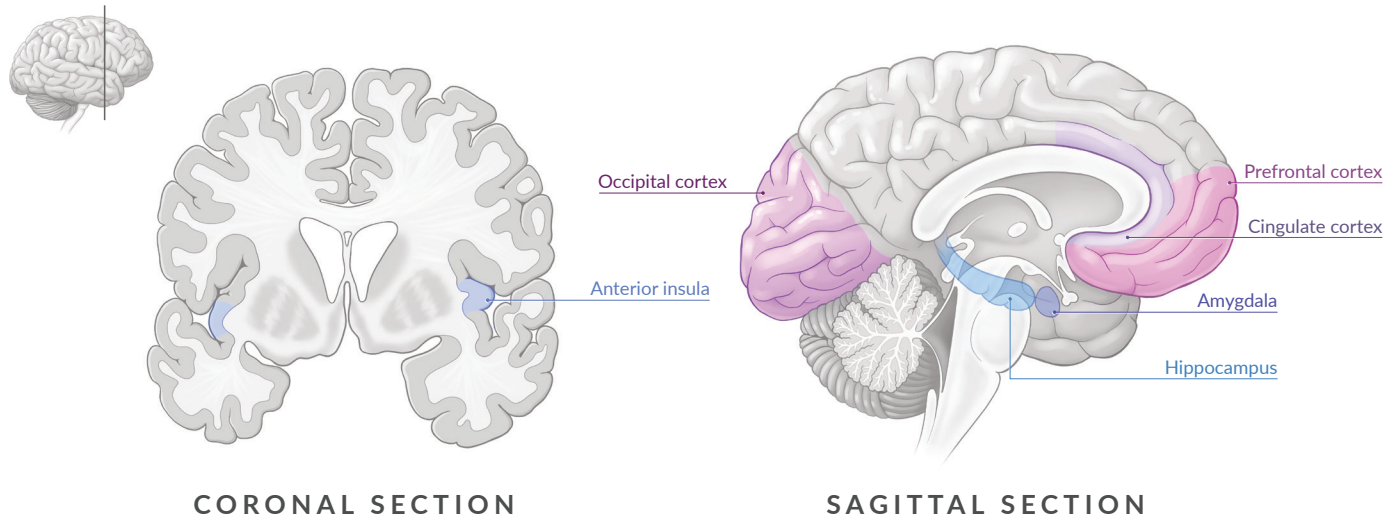


Figure 1. Neural circuits critical for threat detection and emotional processing are recurrently activated during experiences of racial discrimination, fostering a state of heightened awareness and sensitization that stretches the normal functions of these circuits. Adapted from Webb EK, et al. *Neurosci Biobehav Rev.* 2024.²

Racism affects brain health, impacting how the brain works and its structure. When people experience racial discrimination, their brains react by staying on high alert, similar to what happens in conditions like PTSD, depression, and anxiety. This ongoing stress may make the brain work harder to cope, leading to problems over time.¹⁴



RACISM CAN LEAD TO CHANGES IN BRAIN FUNCTION AND STRUCTURE²⁵

Racism may change the brain's structure by affecting areas involved in emotions and thinking, such as the amygdala and hippocampus. These changes may make it harder to manage feelings and make decisions.

The stress from racism may also damage the connections between different parts of the brain, which are important for clear thinking and memory. Over time, these changes may increase the risk of mental health problems and even lead to conditions like Alzheimer's disease, especially in Black and Hispanic populations.



RACISM IMPACTS FUTURE GENERATIONS

The effects of racism can go beyond the individual, affecting future generations. Racism may change a person's DNA, altering how their genes work, which may be passed down to their children.¹⁷

For pregnant women in minoritized communities, the ongoing stress from racial discrimination may affect their babies before birth, changing how the baby's brain develops and connects, especially in the amygdala, which is important for emotions. This stress may cause long-term health issues for both the mother and child, especially in minoritized communities facing constant racism.^{14,18-20}

BRAIN WHITE MATTER TRACTS MAY BE VULNERABLE TO RACISM-RELATED STRESS

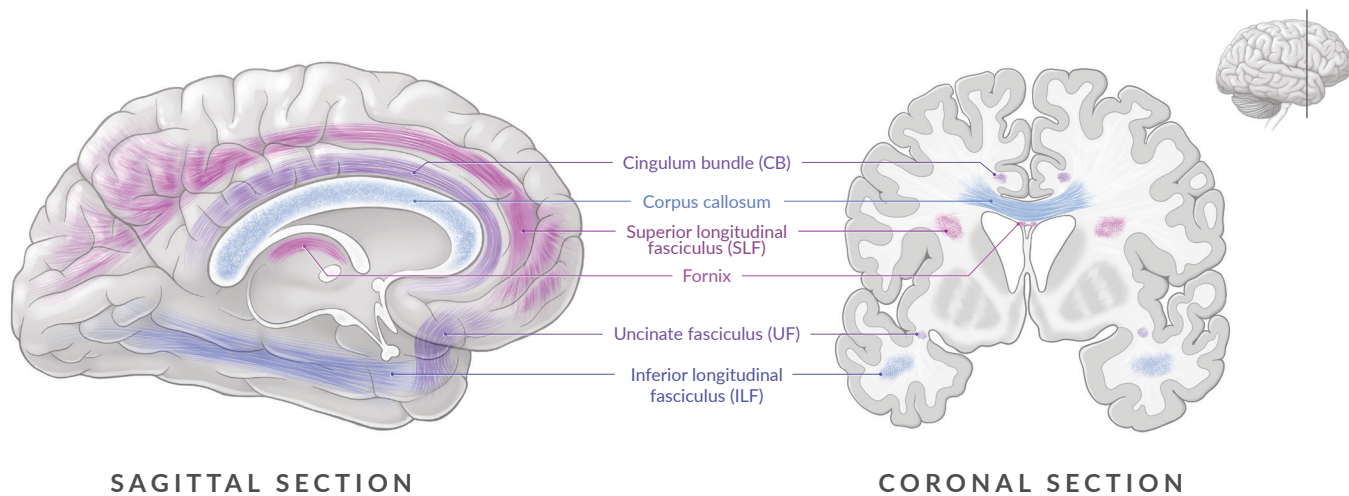


Figure 2. Parts of the brain that help with thinking and feeling might be affected by stress from experiencing racism. The picture shows these parts in two different views of the brain: from the side and from the front. These parts include the uncinate fasciculus, cingulum bundle, superior longitudinal fasciculus, inferior longitudinal fasciculus, and fornix.^{21,23}



RACISM AFFECTS SOCIAL AND EMOTIONAL RESPONSES

Feeling excluded because of race may change how the brain responds to social threats and emotions. Over time, these changes may make it more difficult to handle new stress and may cause both mental and physical challenges.²⁴

For example, experiencing racial discrimination has been linked to changes in brain areas like the cingulate cortex, making it harder to focus and learn new things.²⁴ Studies have shown that stress from racism may lead to reduced integrity of white matter in the brain, which is essential for communication between different brain areas. These challenges are similar to problems seen in trauma-related conditions like PTSD, depression, and anxiety.^{2,13}



RACISM INCREASES THE RISK OF BRAIN-RELATED CONDITIONS

Racial discrimination may also lead to damage to brain structures, increasing the risk for disorders like Alzheimer's disease (AD), which affects Black and Hispanic populations more than others.^{25,26}

EXPERIENCING RACIAL DISCRIMINATION HAS BEEN LINKED TO CHANGES IN BRAIN AREAS LIKE THE CINGULATE CORTEX, MAKING IT HARDER TO FOCUS AND LEARN NEW THINGS²⁴

DEFINING TRANSGENERATIONAL TRAUMA AND ITS EFFECT ON BRAIN HEALTH

Experiencing racism is not just a personal issue; it's a series of traumatic events that may cause long-lasting stress. This stress from racism affects the people who experience it and may affect their future generations. This is called "transgenerational trauma." It means that the trauma from racism may be passed down in different ways from parents to children.¹⁴

The ongoing impact of discrimination may be more harmful to mental health than single events. This may help explain why mental health differences related to race continue over time. The stress and trauma from racism build up and affect families across generations, highlighting the need for understanding and addressing these long-lasting effects on brain health.¹⁴

RACISM MAY FUNCTION AS A PRENATAL STRESSOR WITH LONG-TERM IMPLICATIONS FOR MATERNAL, FETAL, AND CHILDHOOD HEALTH.

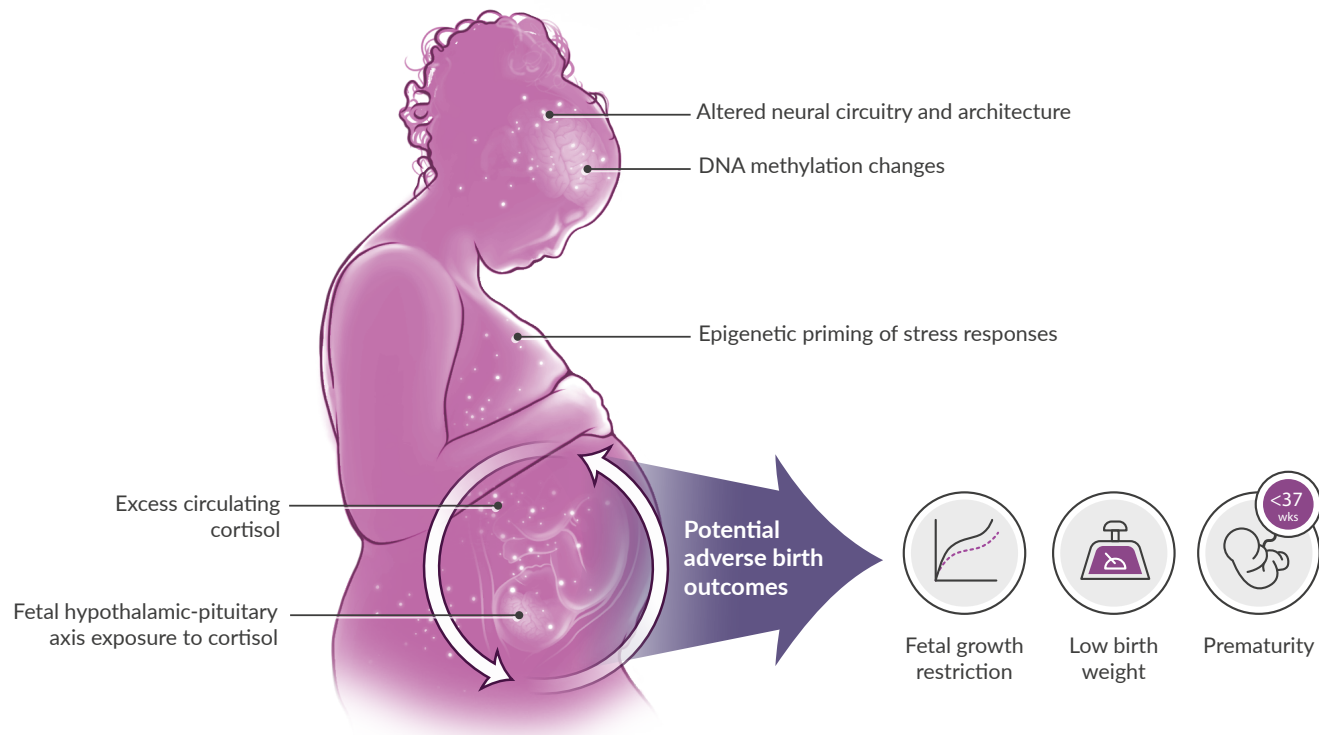
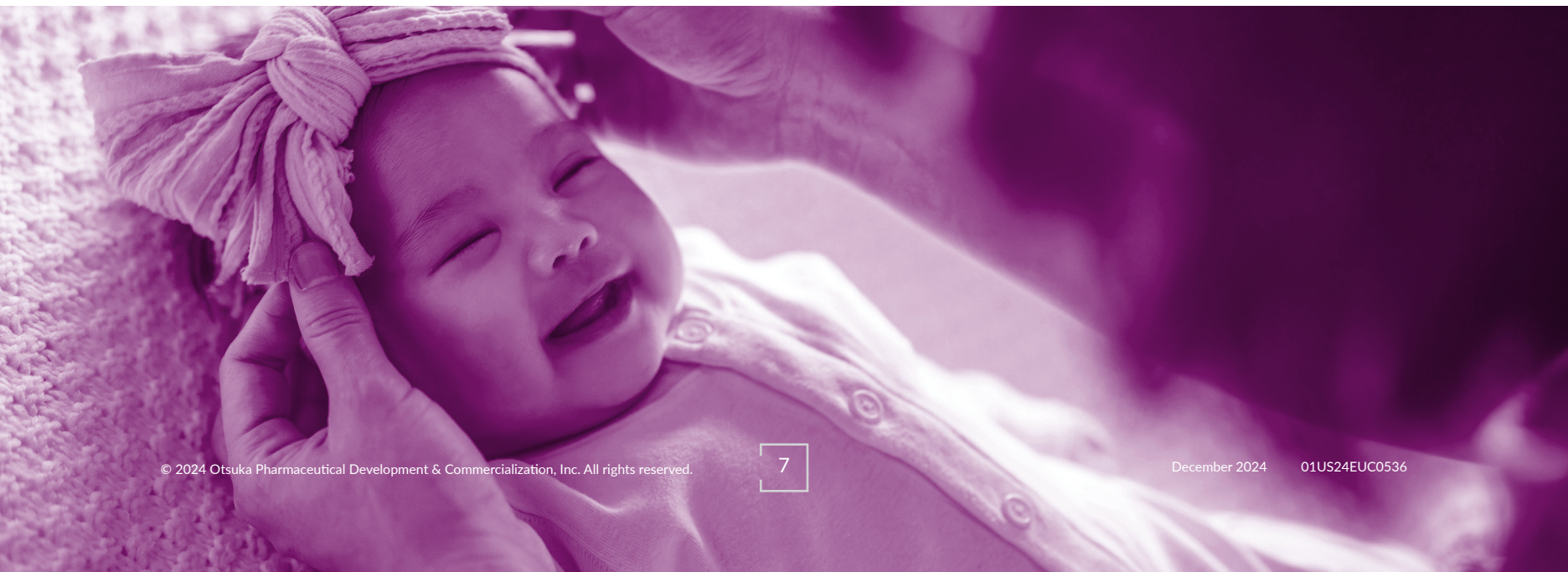


Figure 3. Racism may cause stress before a baby is born, which could affect the health of both the person who is pregnant and the baby. This stress can lead to changes in the body that might result in the baby being born too early or too small. ^{14,19,20}



CALLS TO ACTION

Racism may lead to racial trauma and negative effects on brain health, especially in historically underserved communities. However, there are practical steps we can take that may reduce these harmful effects.



FOR EVERY PERSON

Everyone can reflect on where their beliefs come from and confront internalized biases. Challenging existing beliefs about race and racism requires an openness to learning, commitment to understanding the lived experiences of others, and willingness to make mistakes throughout the process.²⁷



FOR HEALTH CARE SYSTEMS

Health systems can improve cultural understanding by incorporating strategies, programs, and policies that increase diversity and community engagement. This may help advance mental health equity for underserved communities.⁸



FOR PEOPLE WHO HAVE EXPERIENCED RACISM

Self-care is crucial. Here are some actions to consider:^{28,29}

- **Gather resources:**
Using tools like books and other resources may help to deal with daily and past experiences of racism, challenge negative thoughts, and manage stress.
- **Practice self-care and self-awareness:**
Learn to recognize signs of racial trauma, such as anxiety, depression, and anger. Being aware of how these experiences affect you is important.
- **Seek therapy or counseling:**
Consider working with a mental health professional who understands racial trauma and your unique experiences.



FOR SOCIETY AS A WHOLE

Society can ensure that communities affected by racial trauma have equal access to mental health support. Practicing self-reflection is important to prevent biased views of historically underserved minoritized communities.³⁰

**THERE ARE
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CONCLUSION

Racism and racial trauma may change the brain and make people more sensitive to stress. This ongoing stress puts a heavy load on the brain, leading to long-term mental health challenges like depression, PTSD, and anxiety.

Experiencing racism may have lasting effects by altering a person's DNA and affecting how their genes work. These changes may cause stress and mental health problems that may be passed down to future generations.

While more institutions are recognizing the impact of racism on health, we need more research to understand how racial trauma affects mental and physical health. Many current studies may not fully capture the diverse experiences of different racial and ethnic groups. Additionally, further research is needed to gather long-term data on the effects of racial trauma.

Understanding how racial trauma may lead to mental and physical health problems may help us recognize the long-lasting effects on communities facing racial discrimination. To learn more about this connection, more studies on how racial discrimination affects the body need to be performed.

Lastly, additional research is necessary to identify effective ways to possibly help those dealing with racial trauma. Comprehensive and culturally sensitive research is essential to create targeted support for affected individuals.



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