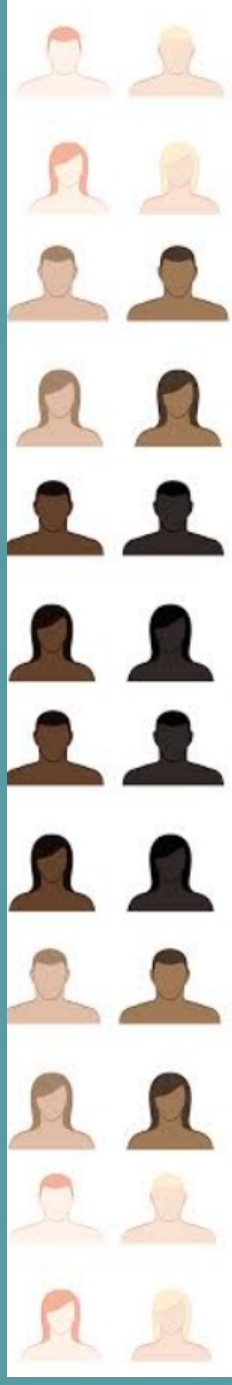
YOUR SKIN, BEHIND THE SCENES

UNDERSTANDING THE SCIENCE OF SKIN COLOR

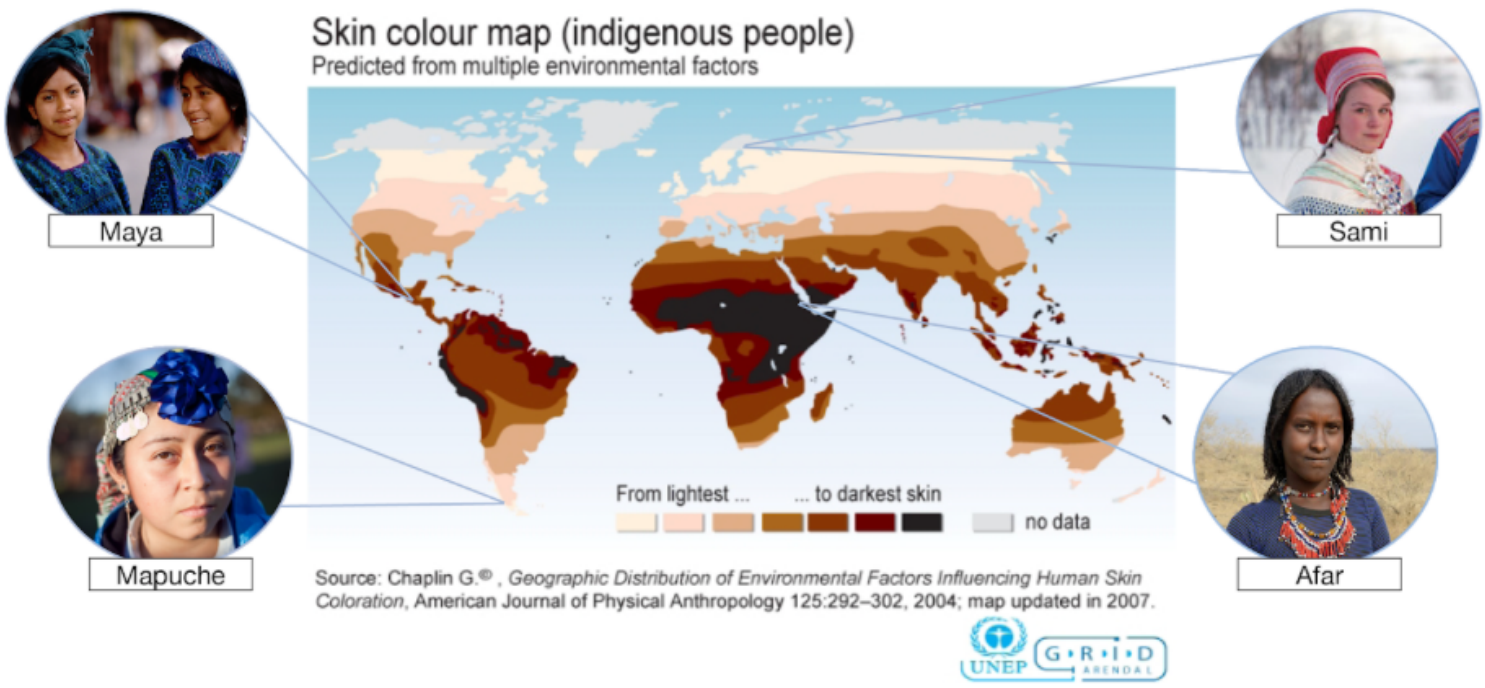


Variation in sun exposure around the world leads to varying production of melanin, a skin pigment that affects your skin color. Populations that live in areas farther from the equator tend to have different skin colors than those living closer to the equator.

Darker skin, which absorbs Vitamin D less efficiently than lighter skin, is observed closer to the equator where sun exposure is frequent and intense. The greater amount of melanin in darker pigmentation allows for better protection from DNA damage and harmful UV radiation.

SELECTION ACTS DIFFERENTLY AT DIFFERENT LATITUDES

Lighter skin has become more common and it is thought to be related to an increase in diets with less Vitamin D-rich foods; this nutritional shift began with the introduction of agriculture. Light skin color produces more Vitamin D than darker skin tones, and thus provides an advantage that was evolutionarily selected for in populations living in areas with less sun. Much of the current knowledge and research about skin pigmentation variation has been focused on European populations, so our understanding of global skin color variation has been relatively limited.



Title: Your Skin, Behind the Scenes

Subtitle: Understanding the science of skin color

Left box with arrow: Variation in sun exposure around the world leads to varying production of melanin, a skin pigment that affects your skin color. Populations that live in areas farther from the equator tend to have different skin colors than those living closer to the equator.

Right box with arrow: Darker skin, which absorbs Vitamin D less efficiently than lighter skin, is observed closer to the equator where sun exposure is frequent and intense. The greater amount of melanin in darker pigmentation allows for better protection from DNA damage and harmful UV radiation.

Sub Header: Selection acts differently at different latitudes

Last paragraph: Lighter skin has become more common and it is thought to be related to an increase in diets with less Vitamin D-rich foods; this nutritional shift began with the introduction of agriculture. Light skin color produces more Vitamin D than darker skin tones, and thus provides an advantage that was evolutionarily selected for in populations living in areas with less sun. Much of the current knowledge and research about skin pigmentation variation has been focused on European populations, so our understanding of global skin color variation has been relatively limited.

Right Image: Two columns of cartoon people, both male and female, with varying skin tones.

Bottom Image: A map of the world shaded in skin tones according to latitude, titled “Skin colour map (indigenous people)” and subtitled “Predicted from multiple environmental factors”. To the right and left of the map are pictures of people of different skin tones with lines connecting them to different areas of the map. Underneath the pictures are the words “Maya”, “Mapuche”, “Sami”, and “Afar”. The map’s key at the bottom shows skin tones with the text “from lightest...to darkest skin”

Citations: Images in skin color map: Afar: © Gerhard Huber/CC-BY-NC-4.0-Edu, Mapuche: Alvaro Arriagada/CC BY 2.0, Maya: Reinhard Jahn, Mannheim/CC BY-SA 2.0 DE, Sami: Erika Larsen/National Geographic; Skin Color Map: Emmanuelle Bournay, GRID-Arendal; People icons: Images/iStockphoto; UV Light Map/ESA