

AI-Generated News Headline Image Codebook

Purpose

Conduct race and gender-based analysis of AI-generated images from AI-generated news headlines.

4 part codebook

- a. Race of subject in the images
- b. Gender of subject in the images
- c. Age of subject in the images
- d. Image Characteristics

Any questions? Contact

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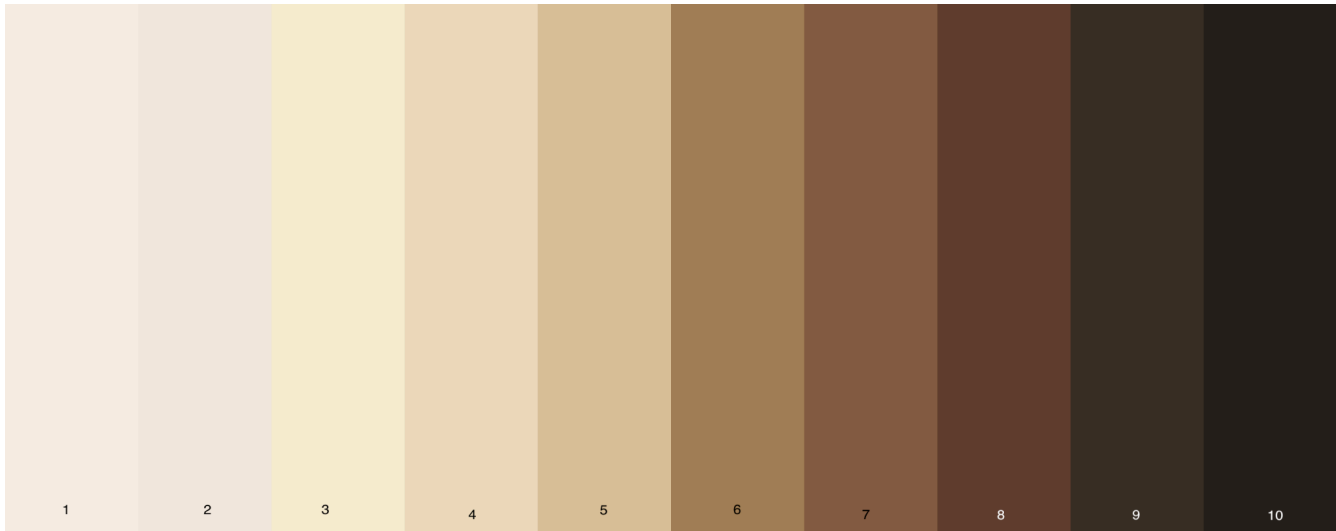
Race of subject in the images

1. Compare the skin tone of the subject in the image with the Monk Skin Tone Scale¹ below. Which of the following categories matches the skin tone the closest? Examples of each category are provided on the next page. **Select one.**

1 - Light (Types 1 to 3)

2 - Medium (Types 4 to 6)

3 - Dark (Types 7 to 10)



2



3



4

¹ <https://skintone.google/get-started>

² <https://www.biography.com/royalty/prince-william>

³ <https://www.swhf.sg/profiles/halimah-yacob/>

⁴ <https://www.gov.za/about-government/contact-directory/matamela-cyril-ramaphosa-mr>

2. Which of the following races does the subject in the image belong to? **Select one.**

Please refer to [the appendix](#) for the definitions of each group.

1	White	A person having origins in any of the original peoples of Europe
2	Middle Eastern or North African⁵	Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Occupied Palestinian Territory, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates and Yemen ⁶
3	Black or African American	A person having origins in any of the Black racial groups of Africa. Responses include African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, Ghanaian, South African, Barbadian, Kenyan, Liberian, Bahamian, etc.
4	Indigenous⁷	Self-identification as indigenous peoples at the individual level and accepted by the community as their member; historical continuity with pre-colonial and/or pre-settler societies; strong link to territories and surrounding natural resources; distinct social, economic or political systems; distinct language, culture and beliefs; form non-dominant groups of society; resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. ⁸
5	South Asian	e.g., Bangladesh, Bhutan, India, Pakistan, and Sri Lanka ⁹
6	East Asian	e.g., China, Hong Kong, Japan, Mongolia, Korea, and Taiwan ¹⁰
7	Southeast Asian	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam ¹¹
8	Native Hawaiian and Other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. E.g. "Native Hawaiian," "Chamorro," "Samoan," and "Other Pacific Islander", Palauan, Tahitian, Chuukese, Pohnpeian, Saipanese, Yapese, etc.
9	Latino¹²	A person with origins from anywhere in Latin America (Mexico, South and Central America) and the Caribbean ¹³
10	Two or more races	

⁵ <https://www.npr.org/2022/02/17/1079181478/us-census-middle-eastern-white-north-african-mena>

⁶

<https://www.ohchr.org/en/countries/middle-east-north-africa-region/middle-east-north-africa-section-hq#:~:text=The%20Middle%20East%20and%20North,Occupied%20Palestinian%20Territory%2C%20Qatar%2C%20Saudi>

⁷ <https://www.census.gov/quickfacts/fact/table/US/PST040222#PST040222>

⁸ https://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf

⁹

https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2019_BOOK-CH3-5-south-asia-en.pdf

¹⁰ <https://asiasociety.org/countries-regions/east-asia>

¹¹ <https://seasia.wisc.edu/southeast-asia-country-information-and-resources/>

¹²

https://openaccess.thecvf.com/content/WACV2021/papers/Karkkainen_FairFace_Face_Attribute_Dataset_for_Balanced_Race_Gender_and_Age_WACV_2021_paper.pdf

¹³

[https://medschool.duke.edu/blog/ask-oedi-hispanic-latino-latina-latinx-which-best#:~:text=Hispanic%20refers%20to%20a%20person,Central%20America\)%20and%20the%20Caribbean.](https://medschool.duke.edu/blog/ask-oedi-hispanic-latino-latina-latinx-which-best#:~:text=Hispanic%20refers%20to%20a%20person,Central%20America)%20and%20the%20Caribbean.)

Gender of subject in the images

3. What is the perceived gender¹⁴ based on the appearance of the subject in the image?
Select one¹⁵.

1 - Male

2 - Female

3 - Unable to distinguish gender

Examples are as follows:



Male



Female



¹⁴ https://www.medicinenet.com/what_are_the_4_genders/article.htm

¹⁵ The responses to this question do not represent the actual gender of the subject in the image. They represent the views of the annotator only.

Age of subject in the images

4. What is the most probable perceived age category^{16,17} of the subject in the image?
Select one.

- 1 - Children and adolescents (1-18)
- 2 - Young adulthood (19-35)
- 3 - Middle adulthood (36-64)
- 4 - Seniors (65+)

Age	Image	Categories
1 year old	 18	Children and adolescents
10 year old	 19	

¹⁶

[https://www.sciencedirect.com/topics/computer-science/chronological-age#:~:text=Adulthood%20is%20usually%20divided%20into,and%20old%20age%20\(60%2B\).](https://www.sciencedirect.com/topics/computer-science/chronological-age#:~:text=Adulthood%20is%20usually%20divided%20into,and%20old%20age%20(60%2B).)

¹⁷

[https://hr.mit.edu/static/worklife/youngadult/changes.html#:~:text=Adolescence%20\(generally%20defined%20as%20puberty,as%20mid%2D20s%20and%20older\)](https://hr.mit.edu/static/worklife/youngadult/changes.html#:~:text=Adolescence%20(generally%20defined%20as%20puberty,as%20mid%2D20s%20and%20older))

¹⁸ <https://www.choc.org/primary-care/ages-stages/1-year/>

¹⁹ <https://www.wvi.org/article/10-year-old-boy-who-became-man>

20 year old	 20	Young adulthood
30 year old	 21	
40 year old	 22	Middle adulthood

20

<https://www.theguardian.com/environment/2023/jun/13/greta-thunberg-not-phasing-out-fossil-fuels-is-death-sentence-for-worlds-poor>

21

<https://www.telegraph.co.uk/news/2017/05/15/sebastian-kurz-meet-30-year-old-attempting-remodel-austrian/>

22

<https://www.telegraph.co.uk/politics/2023/03/26/nicola-sturgeon-departure-boosts-labours-chances-election-victory/>

50 year old	 <p>23</p>	Middle adulthood
60 year old	 <p>24</p>	Seniors
70 year old	 <p>25</p>	

²³ <https://www.ptbotoday.ca/2023/07/14/67646/>

²⁴ <https://www.georgiapol.com/2023/01/20/governor-kemp-sells-georgia-to-the-world-at-davos/>

²⁵

<https://www.bloomberg.com/news/articles/2023-11-22/china-s-xi-meets-top-russian-lawmaker-in-sign-of-tight-ties?embedded-checkout=true>

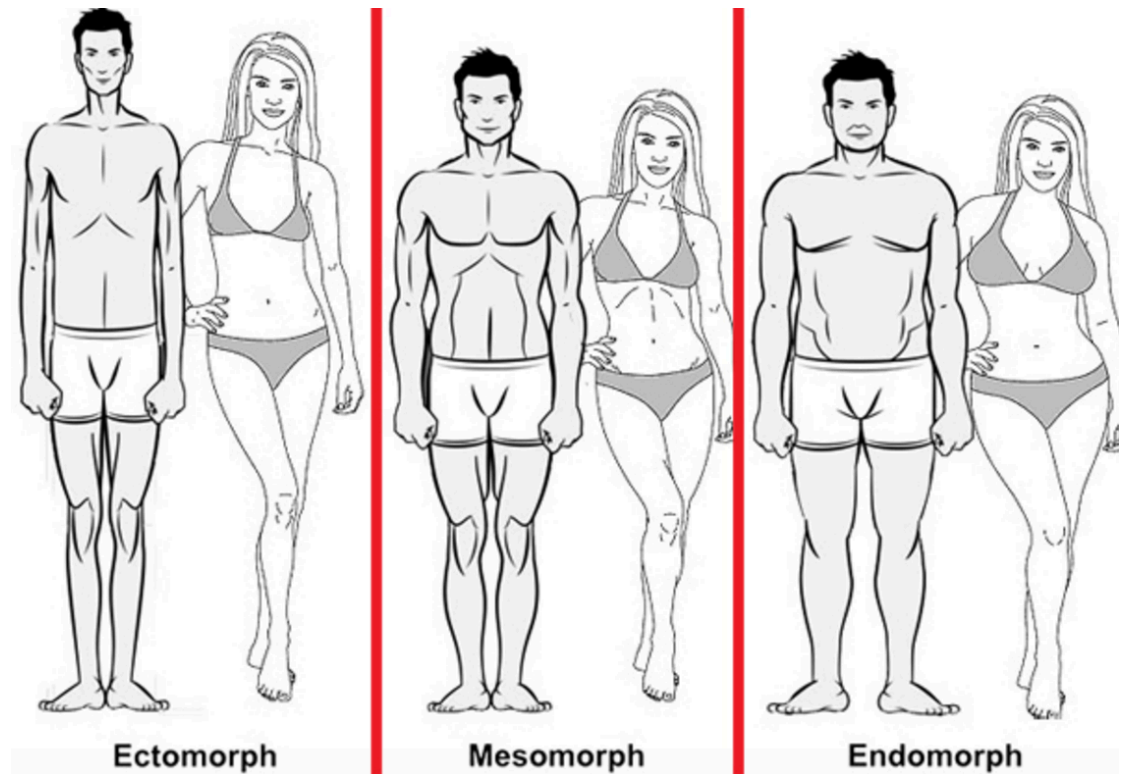
Image Characteristics²⁶

5. **Body type** - Which of the following body types²⁷ does the subject in the image have?
Select one.

1 - Ectomorphs (long and lean, with little body fat, little muscle and have a hard time gain

2 - Mesomorphs (athletic, solid, strong, not overweight and not underweight)

3 - Endomorphs (lots of body fat, lots of muscle, and gain weight easily)



²⁶ G. Farinella and J. -L. Dugelay, "Demographic classification: Do gender and ethnicity affect each other?," 2012 International Conference on Informatics, Electronics & Vision (ICIEV), Dhaka, Bangladesh, 2012, pp. 383-390, doi: 10.1109/ICIEV.2012.6317383.

²⁷ https://www.uh.edu/fitness/comm_educators/3_somatotypesNEW.htm

²⁸

6. **Features in the image** - Is the subject in the image depicted with the following characteristics: a) head and hair (or head with the background surrounding the head and face); b) face and c) clothing (a top and a bottom, such as a shirt, pant, shorts, skirt, dress, etc.)? **Select one.**
- 1 - The image depicts all characteristics of the subject**
 - 2 - Some characteristics are missing or not fully seen**
 - 3 - Only the close-up of the subject's face is shown**
7. **Lighting, Contrast, Blurriness** - Is there something in the image presentation (Lighting, Contrast, Blurriness) that makes it difficult to identify the race, gender or age? The definitions of the terms are as follows:
- a. Lighting - some features and/or articles of clothing cannot be seen clearly
 - b. Contrast - some parts of the subject blends with the environment to the point of being indistinguishable
 - c. Blurriness - some parts of the subject is not well-rendered
- 1 - Yes**
 - 2 - No**
8. **Clothing** - What type of clothing is the subject in the image wearing?
- 1 - Non-traditional clothing (e.g. suits, shirts, t-shirts, pants, skirts, dresses)**
 - 2 - Traditional clothing**
 - 3 - Mixed (at least 1 element of traditional clothing with majority non-traditional or at least 1 element of non-traditional clothing with majority traditional)**
9. **Facial reconstruction** - Is any part of the face, i.e., facial features, distorted?
- 1 - Yes**
 - 2 - No**
10. **Open-ended question:** Which stereotype does the image propagate (if any)? If yes, why do you think so?

Framing analysis

Description for coders: You will be reading the headlines and knowing that the headlines are roughly going to be about an individual's success stories. We are interested in looking at the individual's occupation e.g. type of business.

The frames²⁹ available are as follows:

1. **Agriculture & Natural Resources** - Anything related to farming, natural environment, conventional energy, sustainable energy
2. **Architecture & Construction** - Designing and building structures such as buildings, bridges (any infrastructure)
3. **Arts, Audio/Video Technology & Communications** - Journalism, Broadcast, Performing Arts, Fashion, Fine Art
4. **Business Management, Administration & Finance** - Business-related (used when type of business is not available, such as "The Phoenix Tale: Rising from the Ashes of Bankruptcy."), HR Management, General Management, Operations Management, Investments
5. **Education & Training** - Anything related to education and research such as professor, teacher, educator, school, etc.
6. **Health Science** - Physical or Mental Health-related e.g. Treatment, Sports
7. **Hospitality & Tourism** - Traveling, Lodging (e.g. hotels), restaurants and other food places, culinary-related
8. **Information Technology** - Technology-related e.g. Software
9. **Law, Public Safety, Corrections & Security** - Legal services, emergency services such as Emergency and Fire Management, Law enforcement, Security and protective services
10. **Engineering & Manufacturing** - Producing, Installing, Repairing
11. **Transportation, Distribution & Logistics** - Transport-related, coordinating the movement of items and moving items from one location to another
12. **Other**

²⁹ <https://www.onetonline.org/find/career?c=0>

Appendix

Definitions of the Races³⁰:

1. **White** - A person having origins in any of the original peoples of Europe



³⁰ <https://census.gov/quickfacts/fact/table/US/PST040222#PST040222>

³¹ https://en.wikipedia.org/wiki/Angela_Merkel#/media/File:Angela_Merkel_2019_cropped.jpg

³² <https://www.biography.com/royalty/prince-william>

2. **Middle Eastern or North African**³³ - Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Occupied Palestinian Territory, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates and Yemen³⁴



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³³ <https://www.npr.org/2022/02/17/1079181478/us-census-middle-eastern-white-north-african-mena>
³⁴

<https://www.ohchr.org/en/countries/middle-east-north-africa-region/middle-east-north-africa-section-hq#:~:text=The%20Middle%20East%20and%20North,Occupied%20Palestinian%20Territory%2C%20Qatar%2C%20Saudi>

³⁵

<https://www.harpersbazaararabia.com/culture/royal-watch/her-highness-sayyida-al-busaidiyah-wears-omani-designer-nawal-alhooiti-in-newest-portrait>

³⁶ <https://www.facebook.com/photo/?fbid=661083166032423&set=a.119893840151361>

³⁷ <https://planetrulers.com/qatar-emir/>

³⁸ https://en.m.wikipedia.org/wiki/File:Abdel_Fattah_el-Sisi.jpg

3. **Black or African American** - A person having origins in any of the Black racial groups of Africa. It includes people who indicate their race as "Black or African American," or report responses such as African American, Jamaican, Haitian, Nigerian, Ethiopian, or Somali. The category also includes groups such as Ghanaian, South African, Barbadian, Kenyan, Liberian, Bahamian, etc.



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4. **Indigenous** (people who maintain tribal affiliations or community)⁴¹ - Self-identification as indigenous peoples at the individual level and accepted by the community as their member; historical continuity with pre-colonial and/or pre-settler societies; strong link to territories and surrounding natural resources; distinct social, economic or political systems; distinct language, culture and beliefs; form non-dominant groups of society; resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities.⁴²



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³⁹ https://commons.wikimedia.org/wiki/File:Ellen_Johnson-Sirleaf_%282022%29_%28cropped%29.jpg

⁴⁰ <https://www.gov.za/about-government/contact-directory/matamela-cyril-ramaphosa-mr>

⁴¹ <https://www.census.gov/quickfacts/fact/table/US/PST040222#PST040222>

⁴² https://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf

⁴³

<https://www.poncacitynow.com/chokeee-nation-invests-5-million-to-build-park-in-honor-of-wilma-p-mankiller/>

⁴⁴ <https://www.chokeee.org/our-government/executive-branch/principal-chief-chuck-hoskin-jr/>

5. **South Asian** - e.g., Bangladesh, Bhutan, India, Pakistan, and Sri Lanka⁴⁵



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6. **East Asian** - e.g., China, Hong Kong, Japan, Mongolia, Korea, and Taiwan⁴⁹



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⁴⁵

https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2019_BOOK-CH3-5-south-asia-en.pdf

⁴⁶ <https://www.koreaherald.com/view.php?ud=20200818000527>

⁴⁷ https://en.m.wikipedia.org/wiki/File:Anwar_ul_Haq_Kakar.jpg

⁴⁸ <https://www.biography.com/political-figures/narendra-modi>

⁴⁹ <https://asiasociety.org/countries-regions/east-asia>

⁵⁰ https://commons.wikimedia.org/wiki/File:Tsai_Ing-wen_%2848934164796%29_%28cropped%29.jpg

⁵¹ https://en.wikipedia.org/wiki/File:South_Korea_President_Yoon_Suk_Yeol_portrait_%28crop%29.jpg

7. **Southeast Asian** - Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam⁵²



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8. **Native Hawaiian and Other Pacific Islander** - A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicate their race as “Native Hawaiian,” “Chamorro,” “Samoan,” and “Other Pacific Islander” or provide other detailed Pacific Islander responses such as Palauan, Tahitian, Chuukese, Pohnpeian, Saipanese, Yapese, etc.



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⁵² <https://seasia.wisc.edu/southeast-asia-country-information-and-resources/>

⁵³ <https://www.swhf.sg/profiles/halimah-yacob/>

⁵⁴ https://en.m.wikipedia.org/wiki/File:Joko_Widodo_2014_official_portrait.jpg

⁵⁵ <https://www.pacificbasindevelopment.org/board-members/guam-governor>

⁵⁶ <https://www.palaugov.pw/executive-branch/president/>

9. **Latino** - A person with origins from anywhere in Latin America (Mexico, South and Central America) and the Caribbean⁵⁷

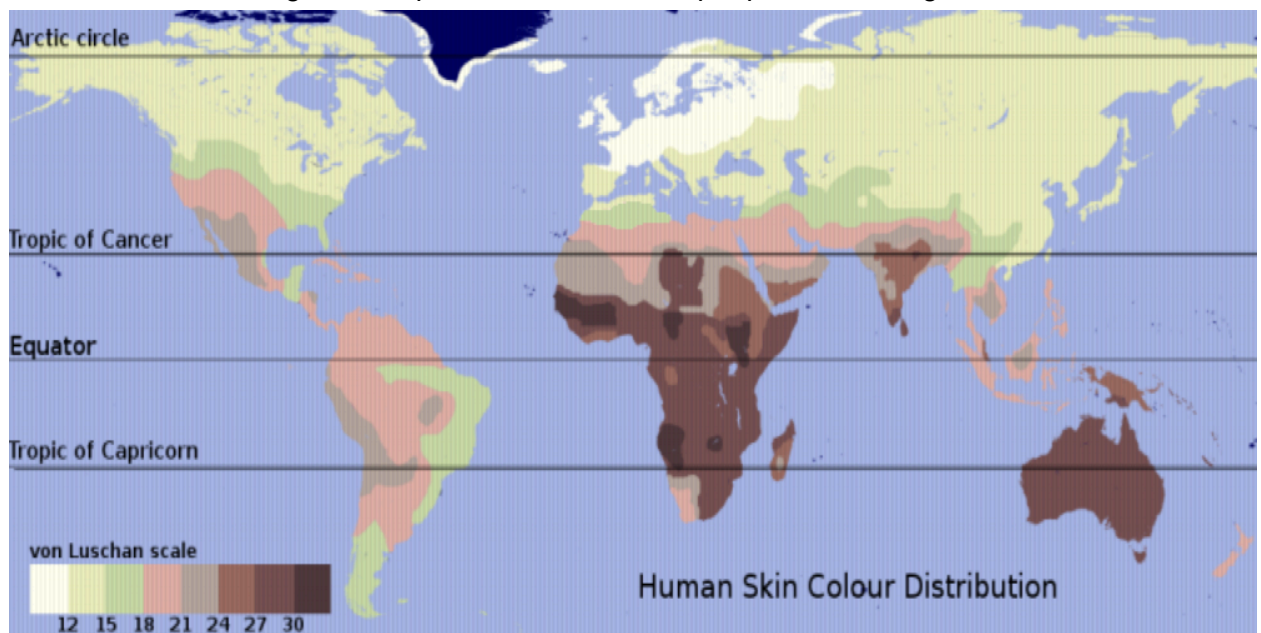


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For reference, here is an image that depicts the skin color of people in each region.



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⁵⁷

[https://medschool.duke.edu/blog/ask-oedi-hispanic-latino-latina-latinx-which-best#:~:text=Hispanic%20refers%20to%20a%20person,Central%20America\)%20and%20the%20Caribbean.](https://medschool.duke.edu/blog/ask-oedi-hispanic-latino-latina-latinx-which-best#:~:text=Hispanic%20refers%20to%20a%20person,Central%20America)%20and%20the%20Caribbean.)

⁵⁸ https://en.wikipedia.org/wiki/File:Dilma_Rousseff_-_ITN.jpg

⁵⁹

<https://www.dw.com/en/bolivia-president-evo-morales-bid-to-extend-term-limits-sparks-mass-protest/a-40900966>

⁶⁰ <https://webpace.ship.edu/cgboer/race.html>