

The Shades of Racism in the Beauty Industry*

An exploration of inclusivity and tokenism within fashion and makeup

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This paper aims to investigate the history of racism in the beauty industry and how this impacts the inclusivity in the market. The complexions of models are assigned a lightness value and analyzed across 8 years. These results are compared to the foundation shade ranges across all major makeup brands across the U.S revealing a continuation of compounding racism within the industry as a whole.

```
fashion_tones <-  
  read.csv(  
    file = "https://raw.githubusercontent.com/the-pudding/data/master/vogue/faces.csv",  
    skip = 0  
  )  
  
fashion_frequency <-  
  read.csv(  
    file = "https://raw.githubusercontent.com/the-pudding/data/master/vogue/models.csv",  
    skip = 0  
  )  
  
makeup_shades <-  
  read.csv(  
    file = "https://raw.githubusercontent.com/the-pudding/data/master/makeup-shades/shades",  
    skip = 0  
  )  
  
#### Save data ####  
  
write_csv(fashion_tones, here::here("inputs/data/fashion_tones.csv"))
```

*Code and data are available at: https://github.com/hsahaf/Racism_Beauty_Industry.git.

Table 1: Models With More than 5 Appearances on Vogue

Model	Number of Covers	Lightness Value
Angelina Jolie	5	0.67
Cate Blanchett	5	0.68
Charlize Theron	6	0.68
Gisele Bundchen	9	0.67
Gwyneth Paltrow	5	0.69
Kate Hudson	5	0.67
Keira Knightley	5	0.71
Nicole Kidman	7	0.70
Penelope Cruz	5	0.62
Reese Witherspoon	5	0.63
Rihanna	5	0.62
Sarah Jessica Parker	6	0.62

```
write_csv(fashion_frequency, here::here("inputs/data/fashion_frequency.csv"))

write_csv(makeup_shades, here::here("inputs/data/makeup_shades.csv"))
```

Clean Fashion Tones Dataset:

```
cleaned_fashion_tones <-
  clean_names(fashion_tones)

cleaned_fashion_tones <-
  cleaned_fashion_tones |>
  rename(
    skintone = tone,
    lightness_value = l
  )
head(cleaned_fashion_tones)
```

```

      date      model skintone lightness_value
1 1/1/2018  Lupita Nyongo #402C2C      0.2127451
2 10/1/2015  Lupita Nyongo #58342B      0.2574230
3 3/1/2009  Michelle Obama #844930      0.3541176
4 4/1/2015  Serena Williams #875038      0.3750000
5 7/1/2014  Lupita Nyongo #85524F      0.4166667
6 10/1/2016  Lupita Nyongo #8F5347      0.4205882
```

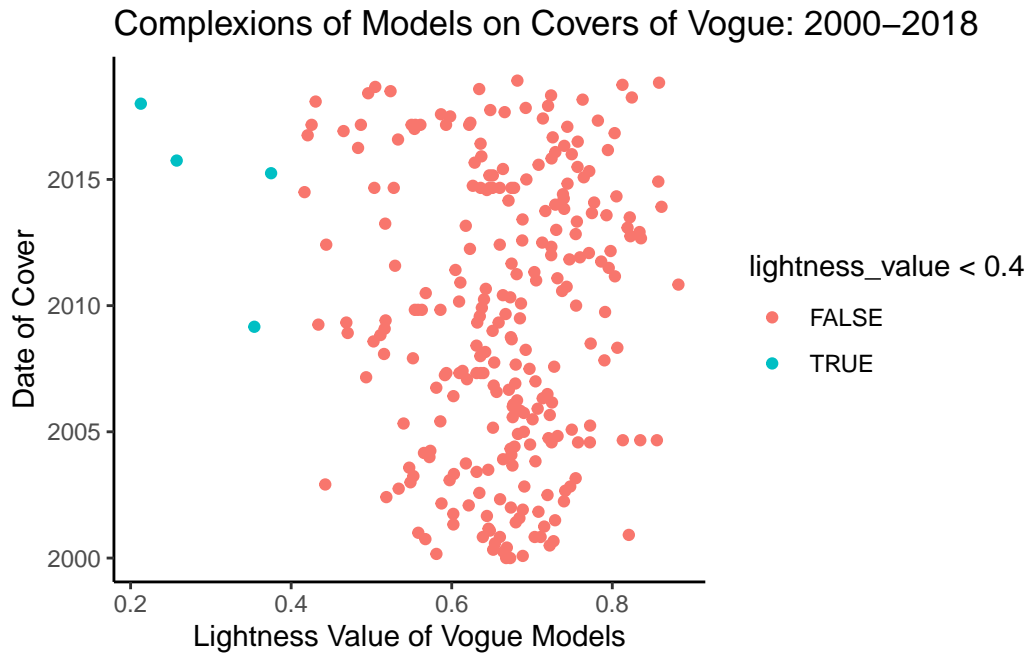


Figure 1: Complexion Values of All Models on Vogue Covers from 2000-2018

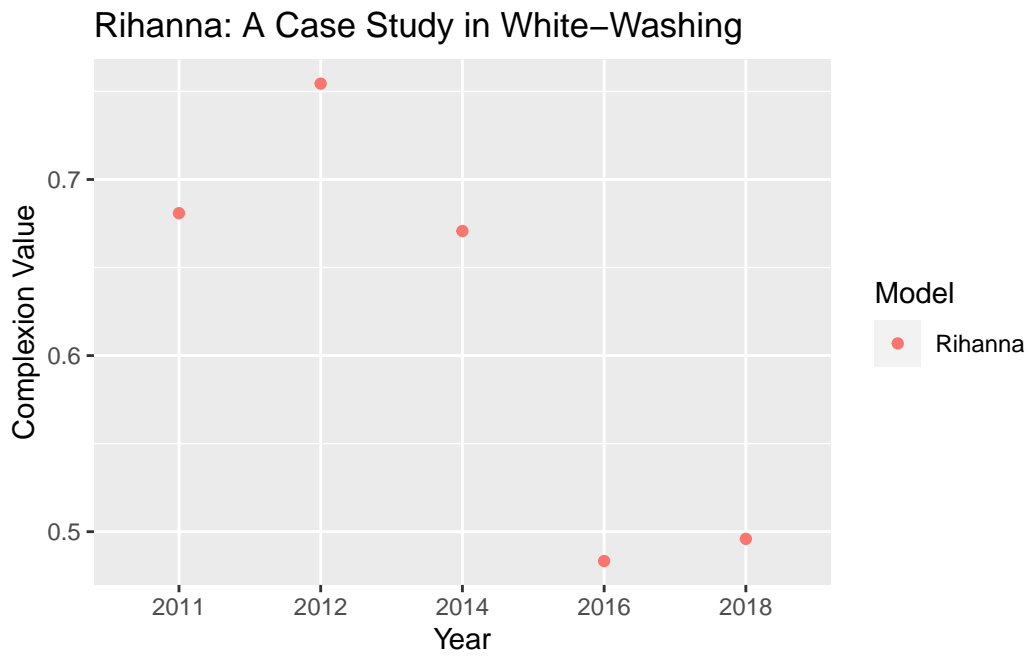


Figure 2: Rihanna's Appearances on Vogue

Appearances of Deepest Complexion Models on Vogue

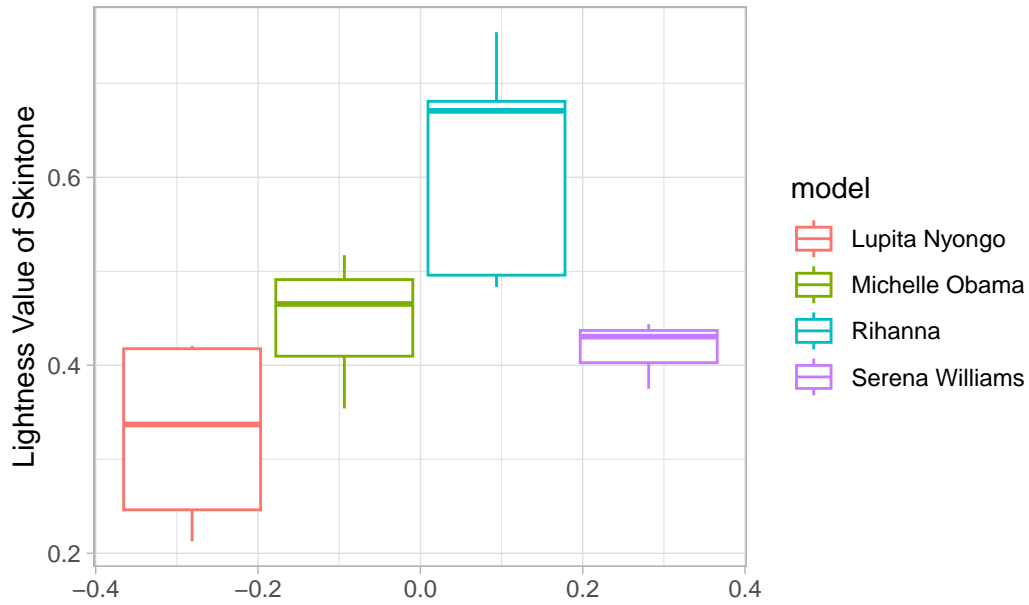


Figure 3: Top 4 Deepest Complexion Models on Vogue

Complexions of Models with Highest Number of Vogue Covers

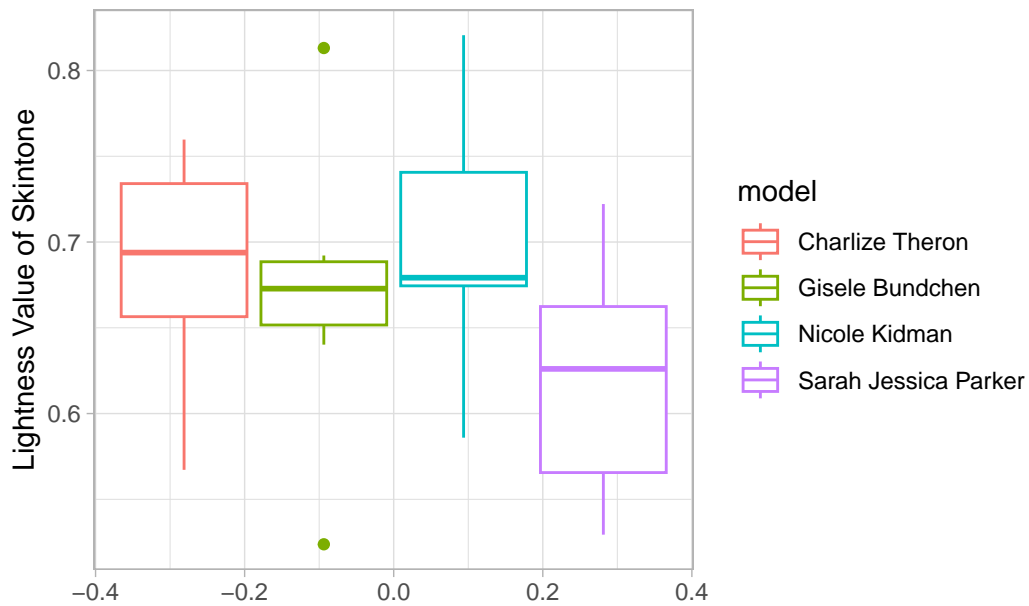


Figure 4: Models with Highest Number of Appearances

Table 2: US Makeup Brands: Foundation Shade Range

Makeup Brand	Number of Foundation Shades
Beauty Bakerie	30
Black Opal	12
Black Up	18
Bobbi Brown	30
Covergirl + Olay	12
Estée Lauder	42
Fenty	40
Iman	8
L'Oréal	22
Lancôme	40
Laws of Nature	17
MAC	42
Make Up For Ever	40
Maybelline	40
Revlon	22
bareMinerals	29

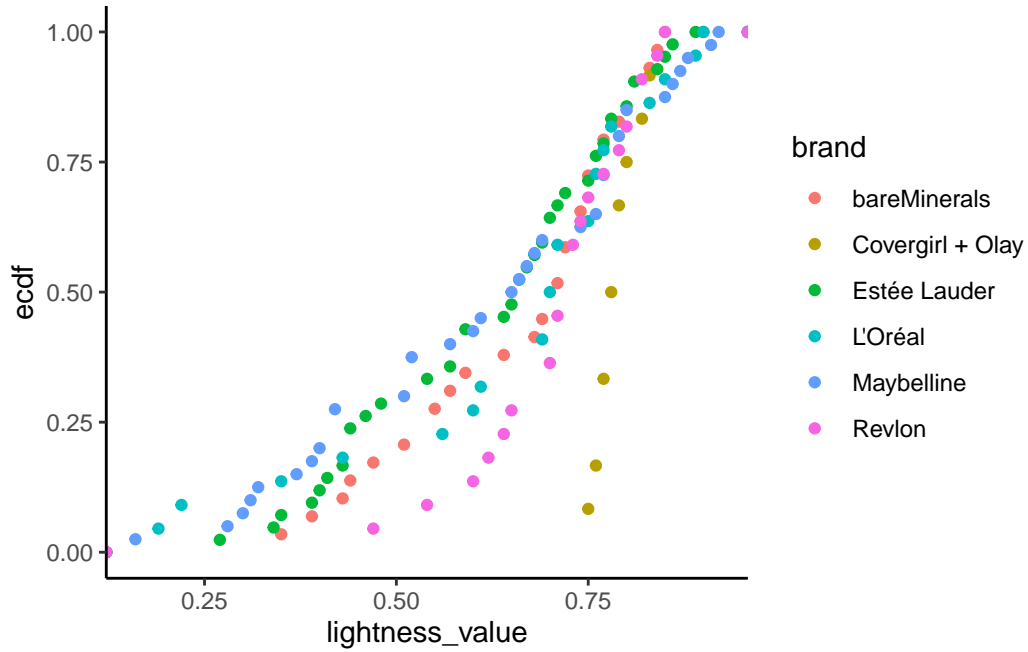


Figure 5: The Shade Distribution of Best-Selling Foundations in the U.S

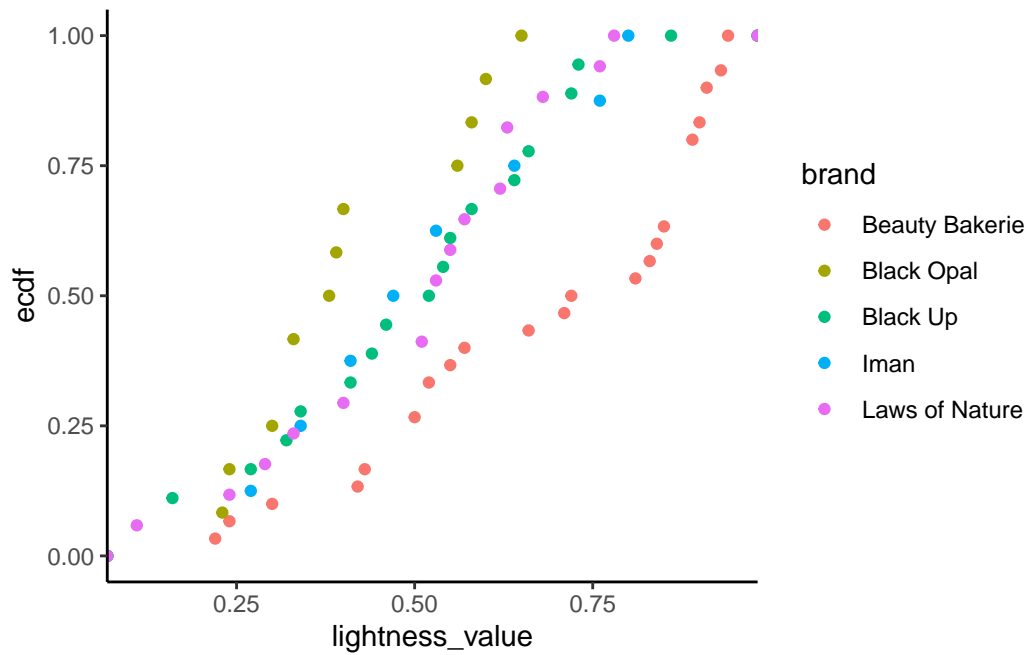


Figure 6: The Shade Distribution of BiPOC-owned Makeup Brands

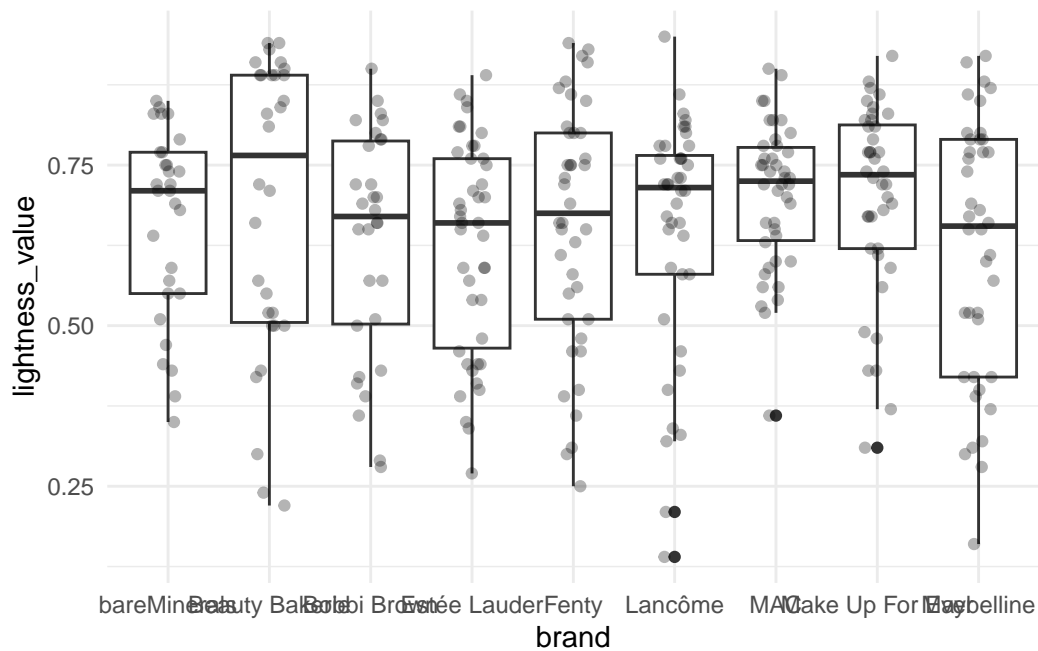


Figure 7: The Shade Distribution of Largest Shade Ranges Offered in the U.S

1 Introduction

You can and should cross-reference sections and sub-sections. For instance, Section 2 and Section 4.1.

2 Data

2.1 Data Management

All analysis on the data sets were done using R (R Core Team 2020). The data was read in, cleaned, and manipulated using `dplyr` (Wickham et al. 2023), `tidyverse` (Wickham et al. 2019), and `janitor` (Firke 2023). The graphs and tables in this paper were coded using the following packages: `ggplot2` (Wickham 2016), `kableExtra` (Zhu 2021), `knitr` (Xie 2023), `readr` (Wickham, Hester, and Bryan 2023), and `RColorBrewer` (Neuwirth 2022).

2.2 Source and Sampling

In order to conduct an analysis on the various parts of the beauty industry, three separate data sets were used. The Pudding is a digital publication that makes its data sets open to the public *The Pudding Repository* (2023). A closer look is taken at Vogue using the first two data sets used for the article *Colorism in High Fashion* (Handa, Thomas, and Diehm 2019). All covers of Vogue from the year 2000 to 2018 are analyzed and categorized in these data sets. The female models on each cover are identified, and then their skin tones are filtered out of the cover, and an average color value is assigned based on the all skin tone pixels. These color values are then drained of any hue or saturation and therefore assigned a lightness value based on how light or deep the complexion of the model is, which allows for the comparison of all models on the covers of Vogue over the span of 8 years. The first data set contains the name of the model, date of their appearance on Vogue, the hex code of their skin tone, and their lightness value once the hue and saturation has been removed. This includes multiple appearances of the same model. The second data set contains the names of the models, the hex code of their skin tone, the number of covers they have made appearances in, and their average lightness value across these appearances.

The data set behind The Pudding article, *Beauty Brawl* is the third data set used in this paper (Li, Thomas, and Manian 2018). It contains data about the foundation shade ranges through lightness values of multiple beauty brands around the world. For the sake of this paper, we are focusing on beauty retailers based in the US, especially since Vogue is also based in the United States.

3 Results

Figure 1 is a graph of the lightness value of every model that has been on the cover of Vogue from 2000 to 2018. Lightness value is measured on a scale from 0 to 1, 1 being extremely pale in skin tone, and 0 being extremely deep. There is a general trend present almost immediately, in that across the entire 8 year period, Vogue has consistently had lighter skinned individuals with a lightness value of 0.5 to 0.8 on their covers. It has only been after around 2009 that we see a model on Vogue with a complexion deeper than 0.4.

Table 1 is a table of all the models on Vogue who have had more than 4 appearances on the covers of Vogue between 2000 and 2018. In all of the names on this list, Rihanna is the only black woman, and her average lightness value across these five appearances has been fairly midtoned, at a lightness value of 0.62.

Figure 2 takes a closer look at Vogue's presentation of Rihanna's skintone on her five appearances. Vogue has been publicly accused of whitewashing Rihanna's complexion on some of her covers, and it is apparent that only after 2016 does her lightness value drop below 0.4 (Barmak 2011). While lighting and editing can account for some fluctuations in the lightness value, but it does not explain the extent of the contrast between her first three appearances and her most recent two.

Figure 3 takes a closer look at the fluctuations in lightness values in the appearances on the models with the deepest complexions on Vogue. Rihanna has had the highest number of appearances at 5 total covers from 2000 to 2018, followed by Lupita Nyong'o, at 4. Amongst these models, Lupita Nyong'o has the deepest complexion and her appearances on Vogue are the most recent, her last two being in 2015 and in 2018. The fluctuation is apparent in her appearances as well, in that it is only in her most recent cover that her lightness value is shown to be deeper than 0.3.

Figure 4 shows the fluctuation in the lightness values of the top four models with the greatest number of covers on Vogue. All four of these models are white, and all of them have made appearances in 6 or more covers. Vogue's preferences for tanned white women is clear in that in the span of 8 years, the lightness value rarely drops below 0.6.

Table 2 is a table of all of the major beauty brands that are based in the United States, and the number of shades in their main foundation line.

Figure 5 takes a closer look at the inclusivity of the bestselling foundation lines across some of the largest beauty brands across the United States of America. It is clear that there are a greater number of shades available for people with lighter skin tones, with a lightness value of 0.6 or lighter, across all of the major brands. However, for people with a complexion that is a hair deeper than a medium skin tone, the number of shades become sparse, and the distribution spreads out as the lightness value becomes deeper than 0.5.

Figure 6 looks at the shade distributions of the retailers with owners that are black, indigenous, or other people of color. The distribution is much more even, and all of these beauty brands

provide options for people that are on both sides of the spectrum, complexions with lightness values deeper than 0.3, as well as complexions with lightness values paler than 0.8.

Figure 7 looks at the distribution across the beauty brands based in the United States with a foundation line with more than 25 shades. The contrast between the number of shades provided for people with light to medium complexions (0.6-1) and the lack thereof in terms of the number of shades for people with deeper complexions (0-0.35) is apparent.

4 Discussion

4.1 First discussion point

If my paper were 10 pages, then should be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

4.2 Second discussion point

4.3 Third discussion point

4.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

Appendix

A Additional details

References

- Barmak, Sarah. 2011. *Viral: Rihanna's Vogue Photo "Whitewashed," Critics Charge*. https://www.thestar.com/news/insight/2011/10/07/viral_rihannas_vogue_photo_whitewashed_critics_charge.html.
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