



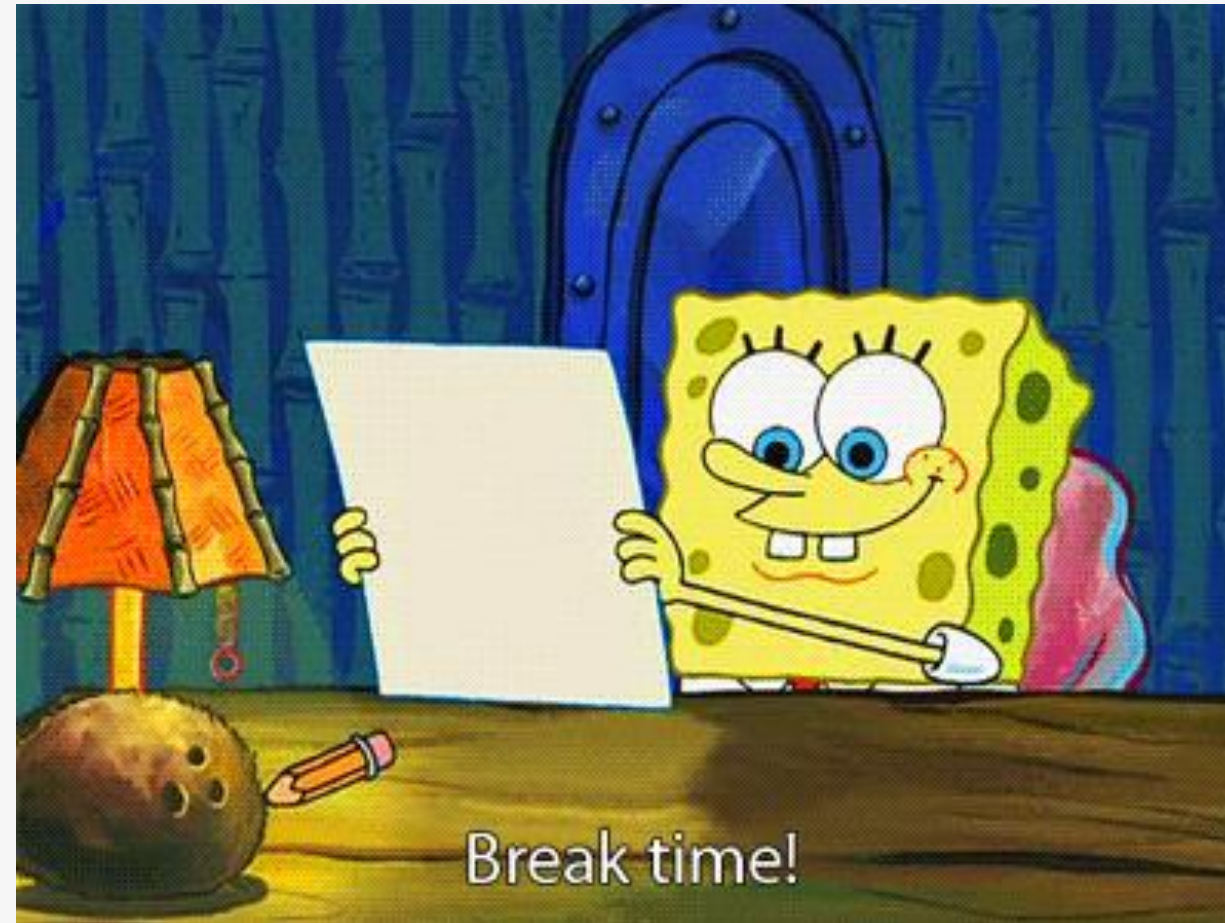
Northwestern
University

Introduction to Data Visualization & Data Storytelling

Week 4



Break
5 minutes





Recap



Let's break the rules!

Rebeca Pop (she/her)

Jan 26 at 10:30pm

[All Sections](#)

Hi everyone,

I'm starting a new discussion thread and hope that many of you will join in.

Last week, we talked about the importance of learning the data visualization rules and best practices, but also about why we should break these rules when necessary. After all, data visualization is both craft and science.

On this topic, **have you come across any graph that broke a data visualization rule but was still effective?** If so, please share the graph, along with your thoughts on why the graph is effective despite breaking a data visualization rule.

Looking forward to a fun and informative discussion!

Rebeca

Unread

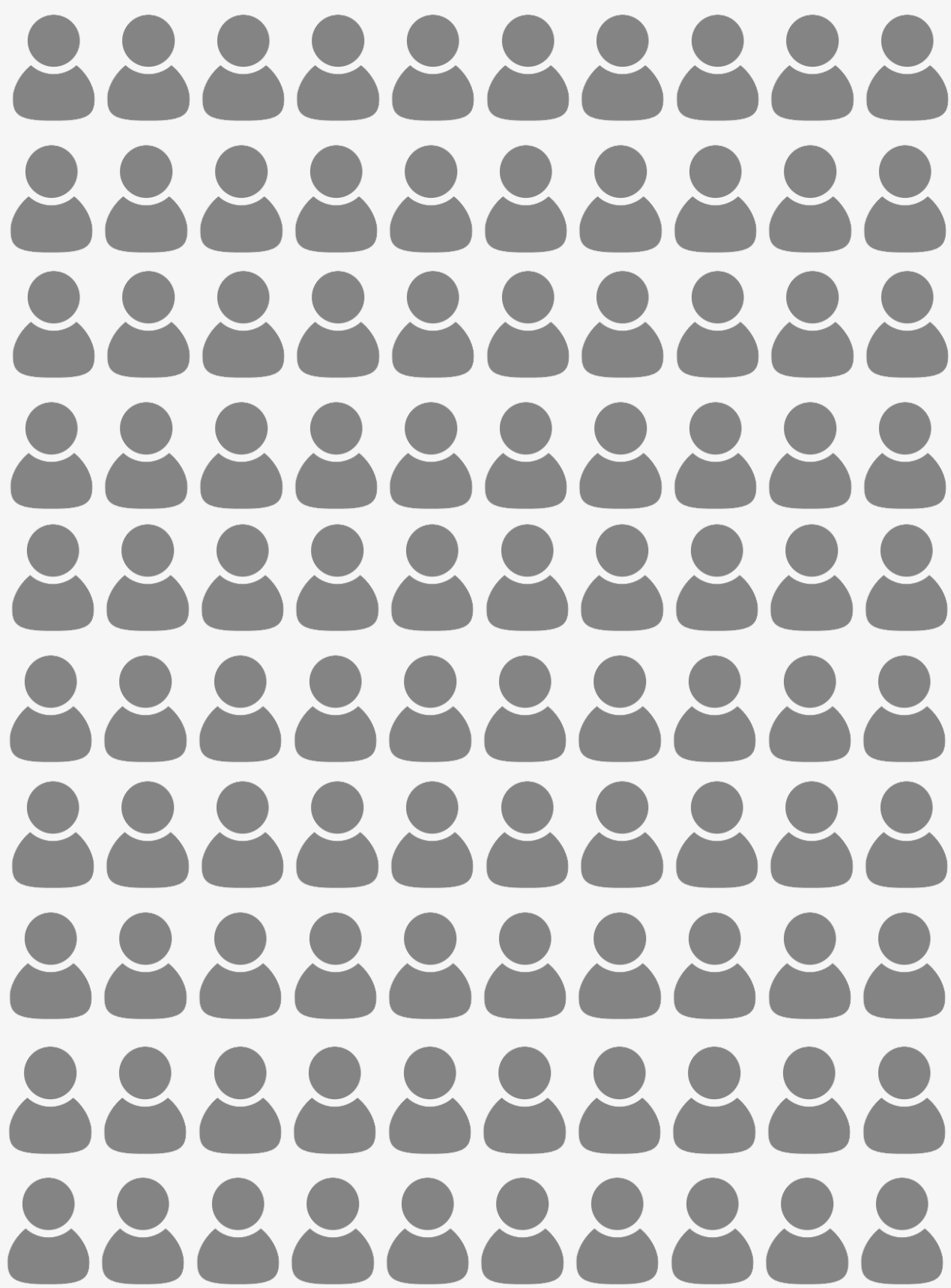


✓ Subscribed

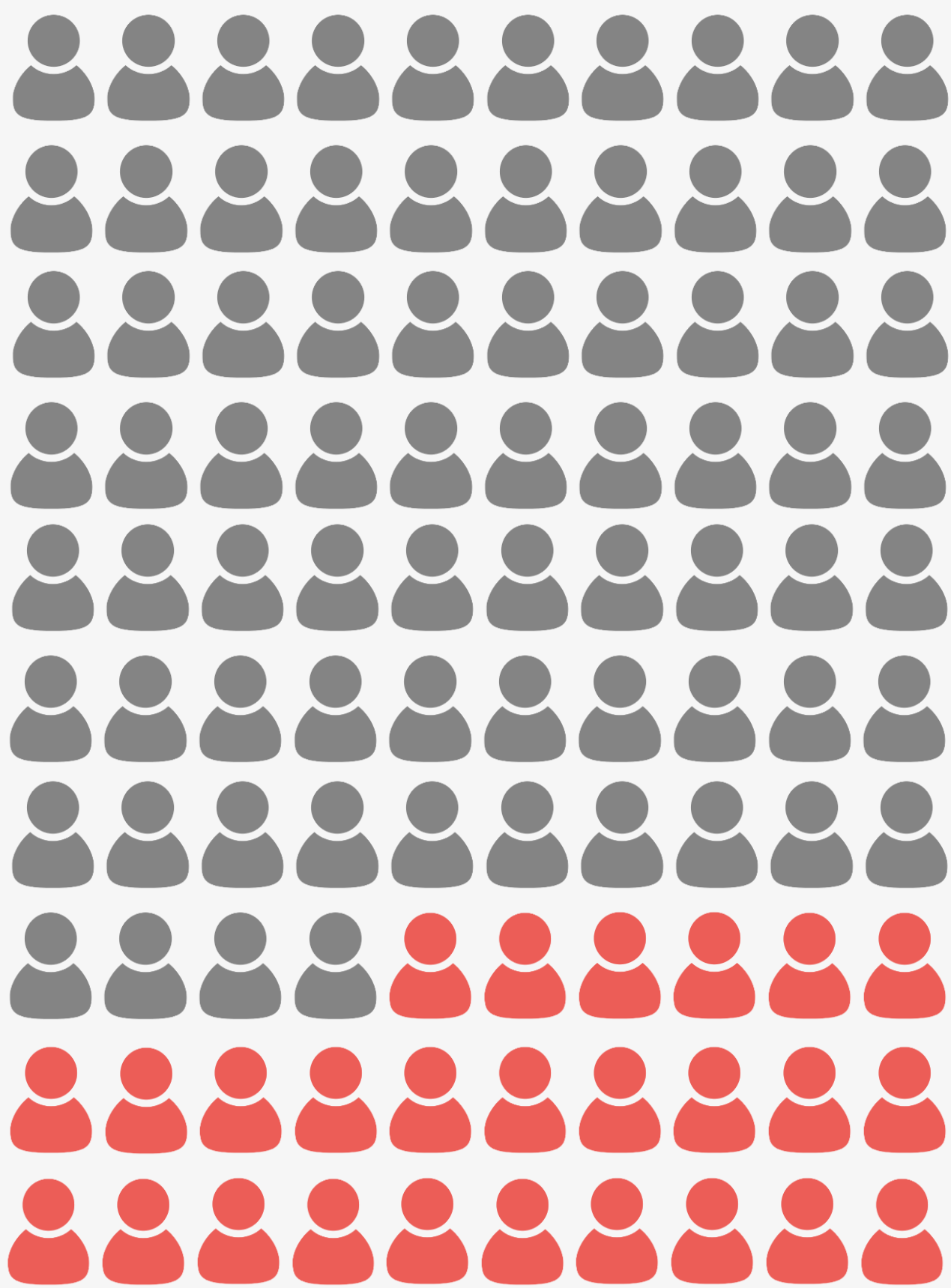
↩ Reply

Why does
accessibility matter?



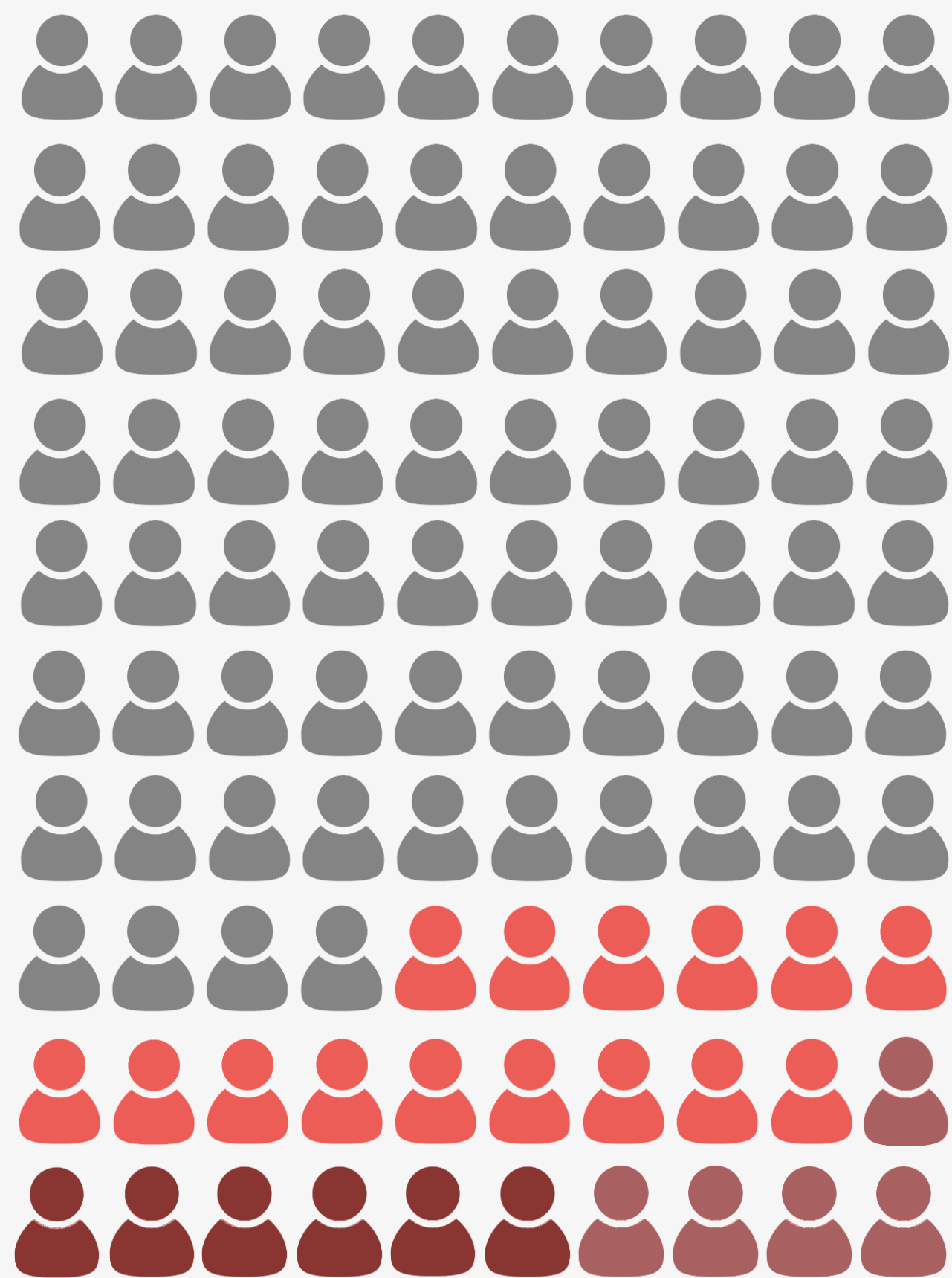


100 people



→ 26

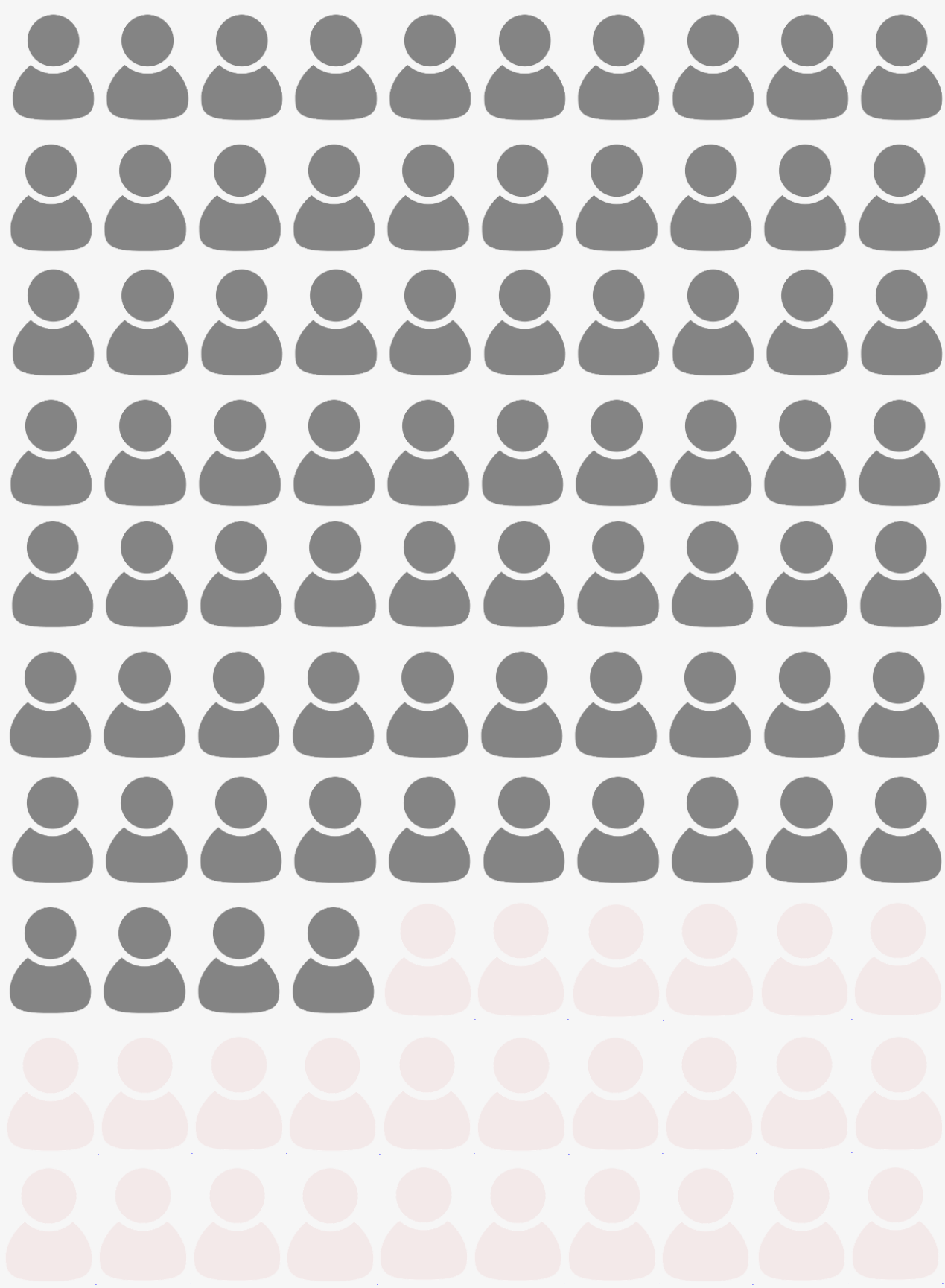
have a disability



15 have mobility/cognition problems

6 have vision problems

5 have hearing problems



~~20~~ people



1 in 12 men



1 in 200 women

...are color blind!



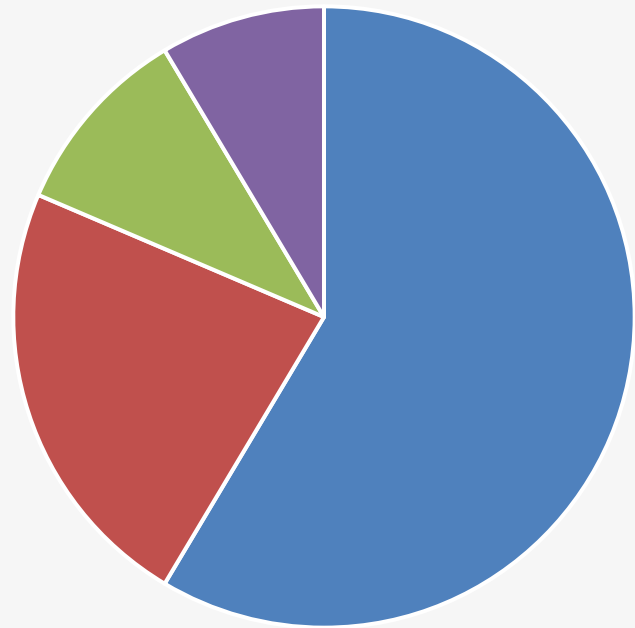
Common mistakes



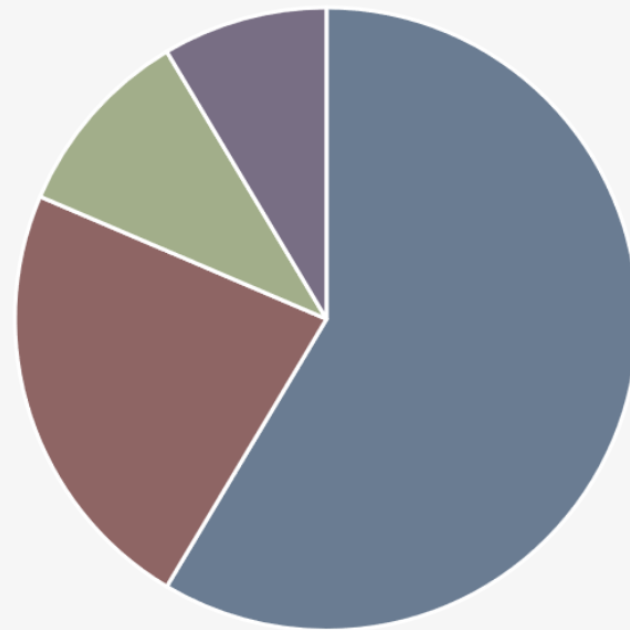
#1. CONSIDER COLOR BLINDNESS



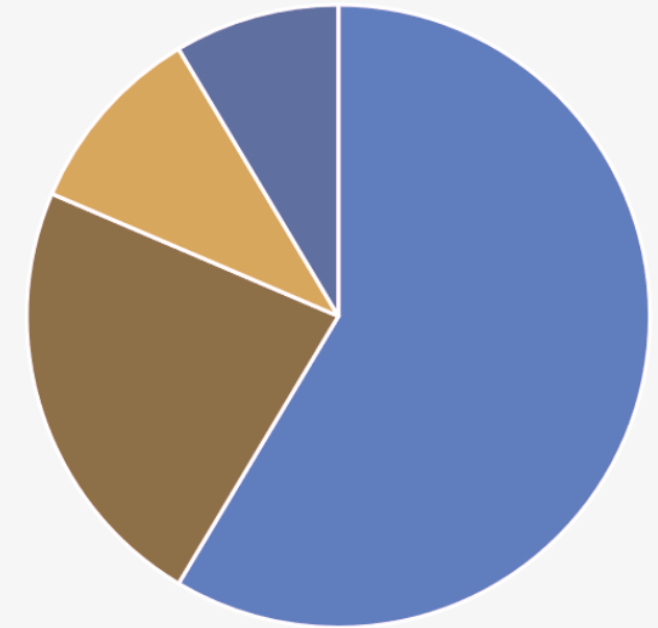
Normal vision



Blue cone monochromacy



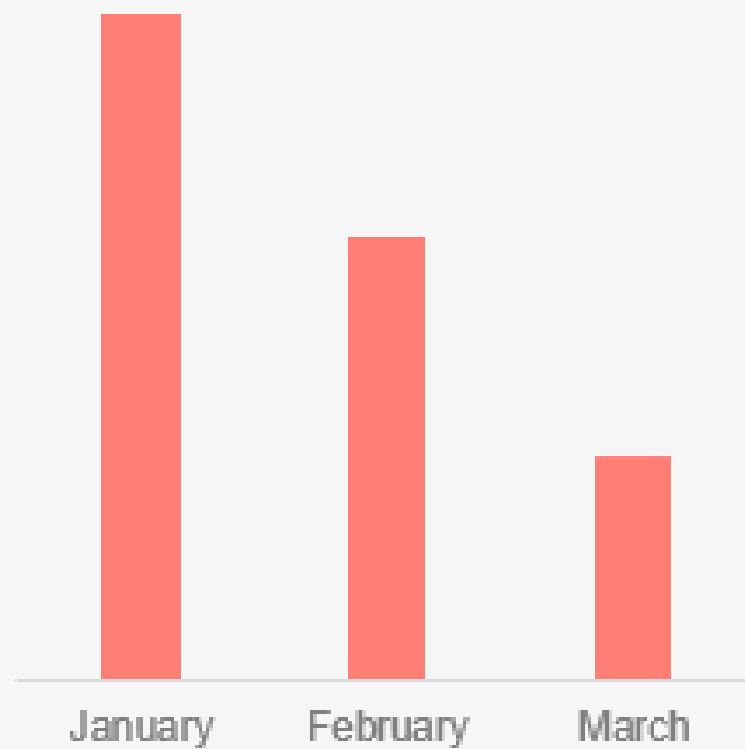
Green-blind/deuteranopia



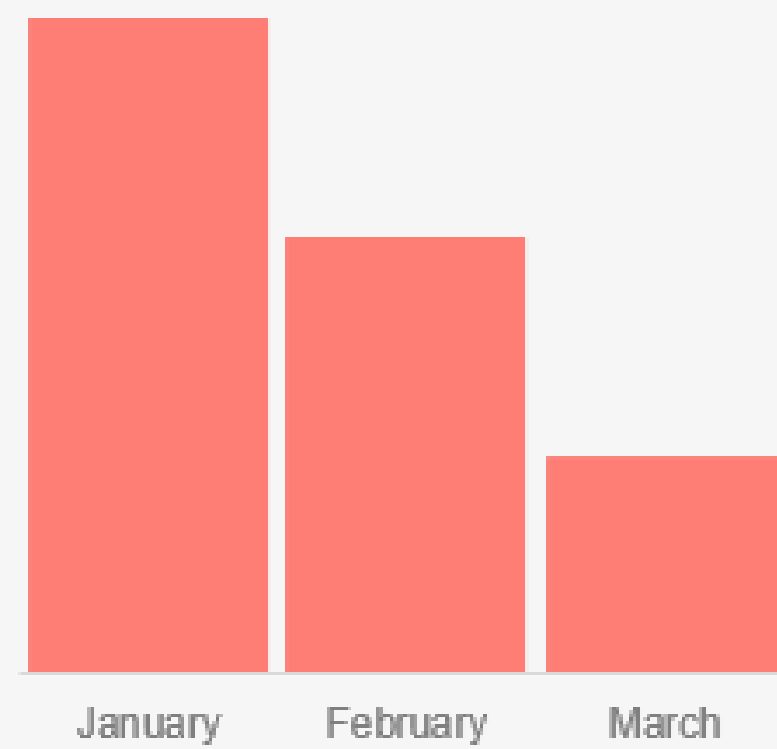
#2. USE WHITE SPACE WISELY



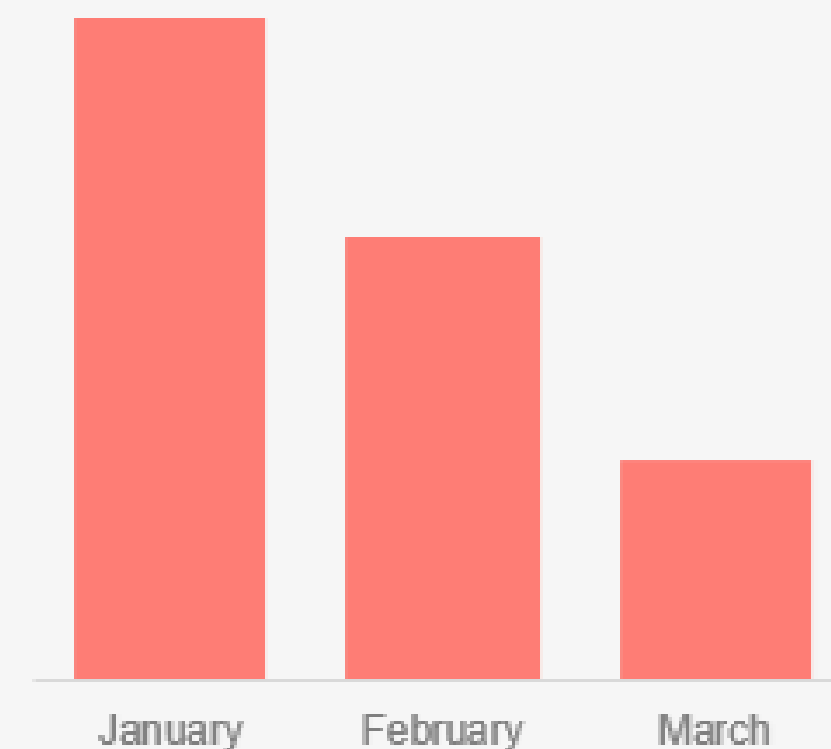
Version 1 👎



Version 2 👎




Version 3 👍





EDUCATION IS KEY TO A FLOURISHING SOCIETY



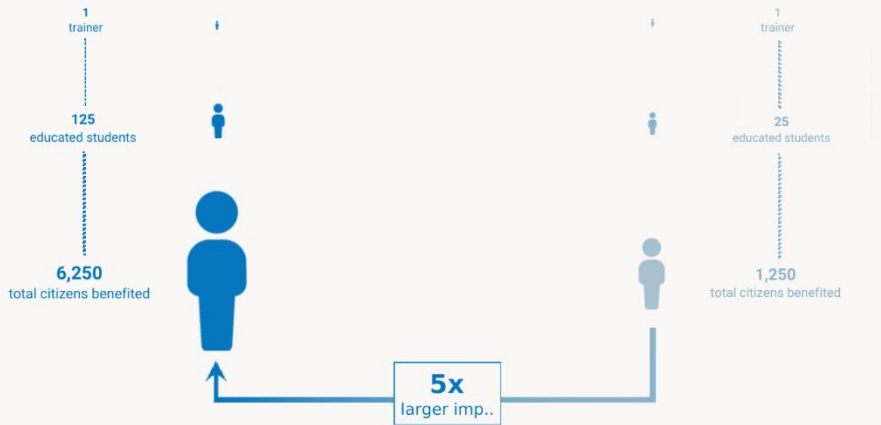
 **THE POWER OF ONE:** Through the “train-the-trainer” model that AWB uses, each project builds local capacity and expertise, creating sustainable programs that are multiplied and persist long after the volunteers return home.

Impact of 1 AWB “Train the Trainer” model

1 trainer works with 5 local faculty.
Each local faculty teaches 25 students.
Each student then impacts on avg. 50 citizens.

Impact of 1 Regular Visiting Instructor

1 trainer teaches 25 students.
Each student then impacts on avg. 50 citizens.



 **DIVERSITY OF IMPACT:** In 2018 and 2019, AWB worked on **32 projects** across **16 countries**. Each project and each country has its own unique story.

Hover over each country to [learn more](#).



-> DONATE! Help us educate, inspire..

There are many things developing nations need to foster sustainable health and prosperity; **education** is often the forgotten ingredient. **Academics Without Borders (AWB)** works to change that by helping developing nation universities build the programs, capacity and plans they need to educate the next generation of professionals and leaders.

Data: Academics Without Borders, 2018-2019
Photo: Unsplash
Icons: The Noun Project
Design: Rebecca Pop

Source: *personal visualization*



BRAND

Electricity has a limit

Use of high voltage bulbs require more electricity. Let us join together to save power so that our children wont live in dark.

Join the initiative



BRAND

Electricity has a limit

Use of high voltage bulbs require more electricity. Let us join together to save power so that our children wont live in dark.

Join the initiative

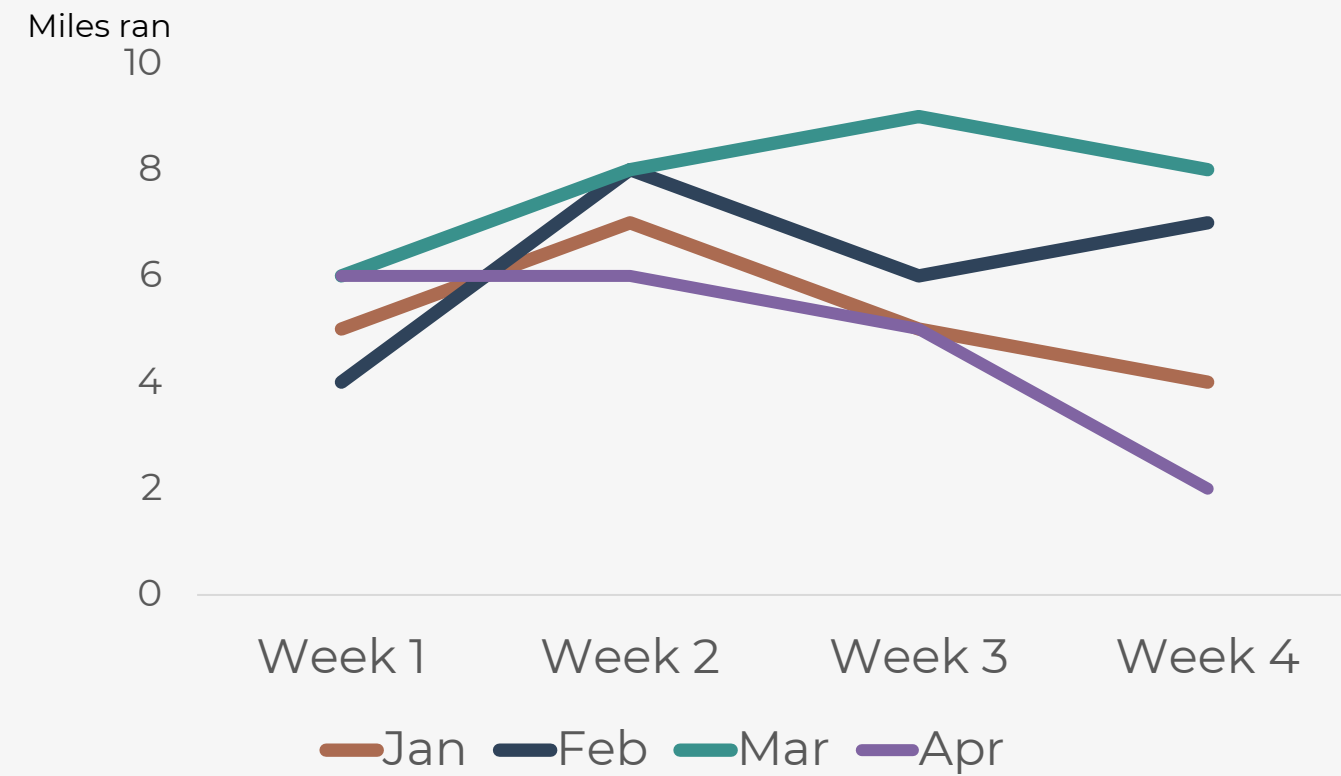


#3. LABEL DATA DIRECTLY



Default Excel legend 🙄

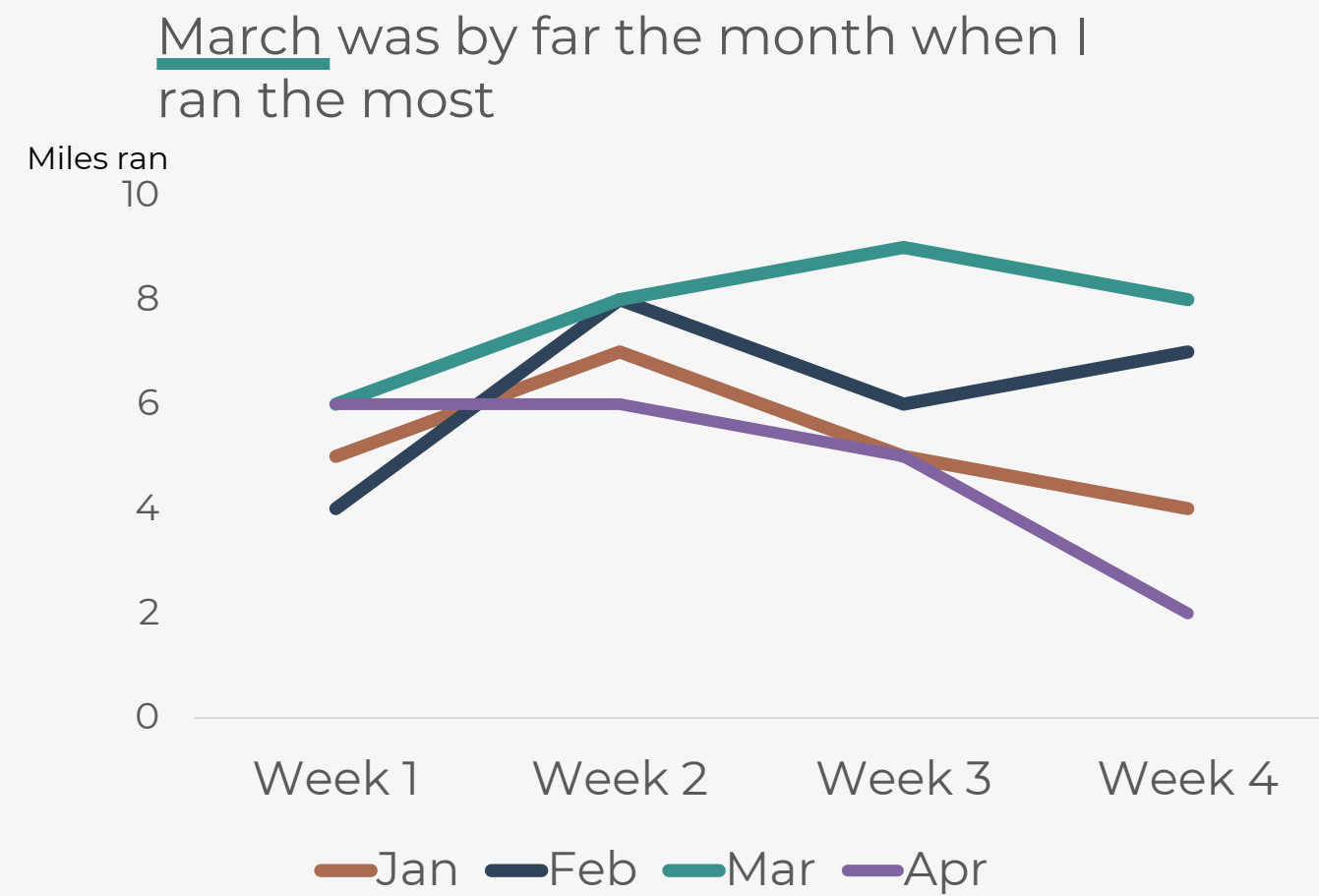
March was by far the month when I ran the most



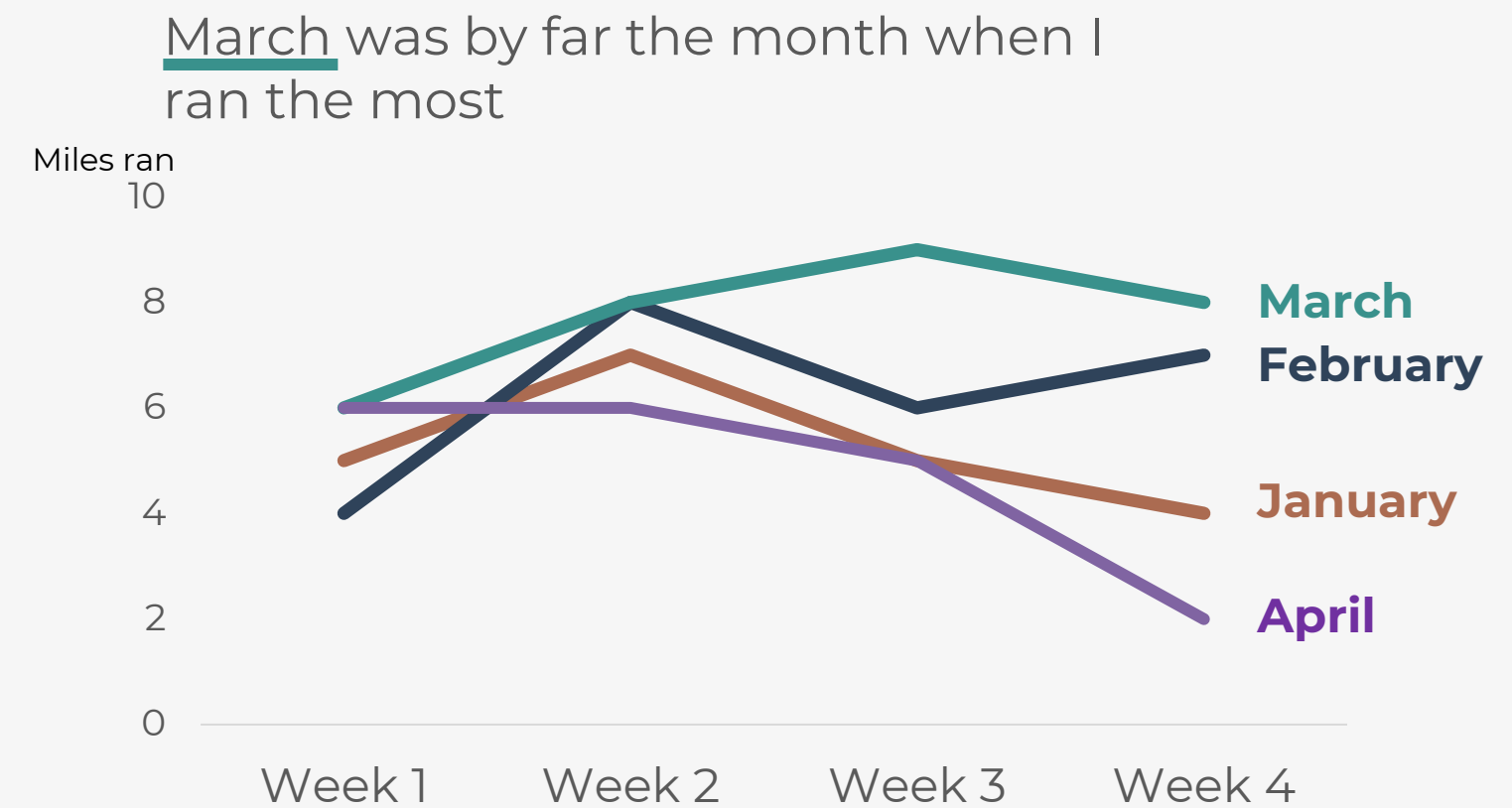
#3. LABEL DATA DIRECTLY



Default Excel legend 🙄



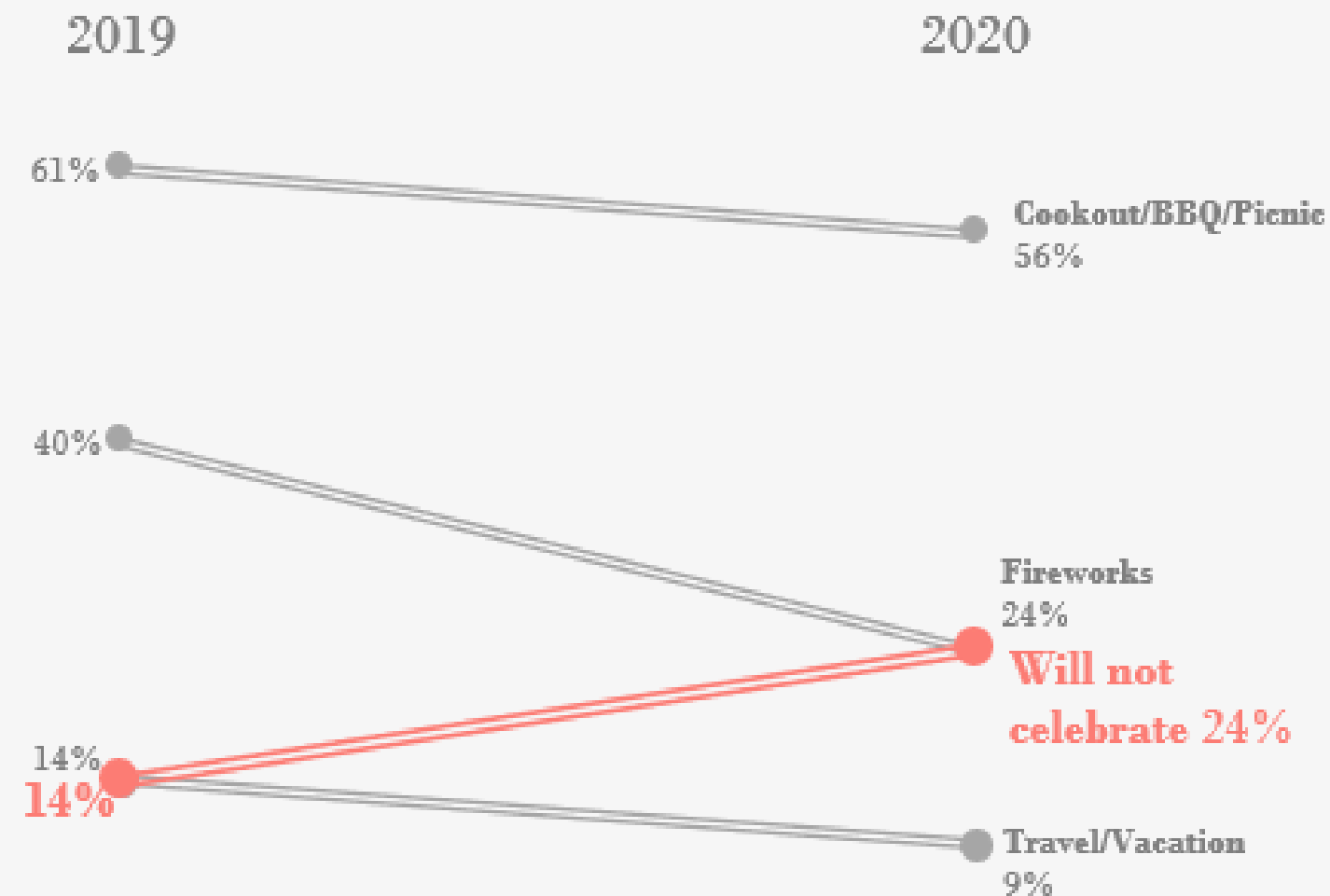
Data labeled directly 👍



#4. USE ALT TEXT



In 2020, 1 in 4 Americans will not celebrate Independence Day



Source: NRF and Prosper Insights & Analytics Survey

Alt Text

How would you describe this object and its context to someone who is blind?

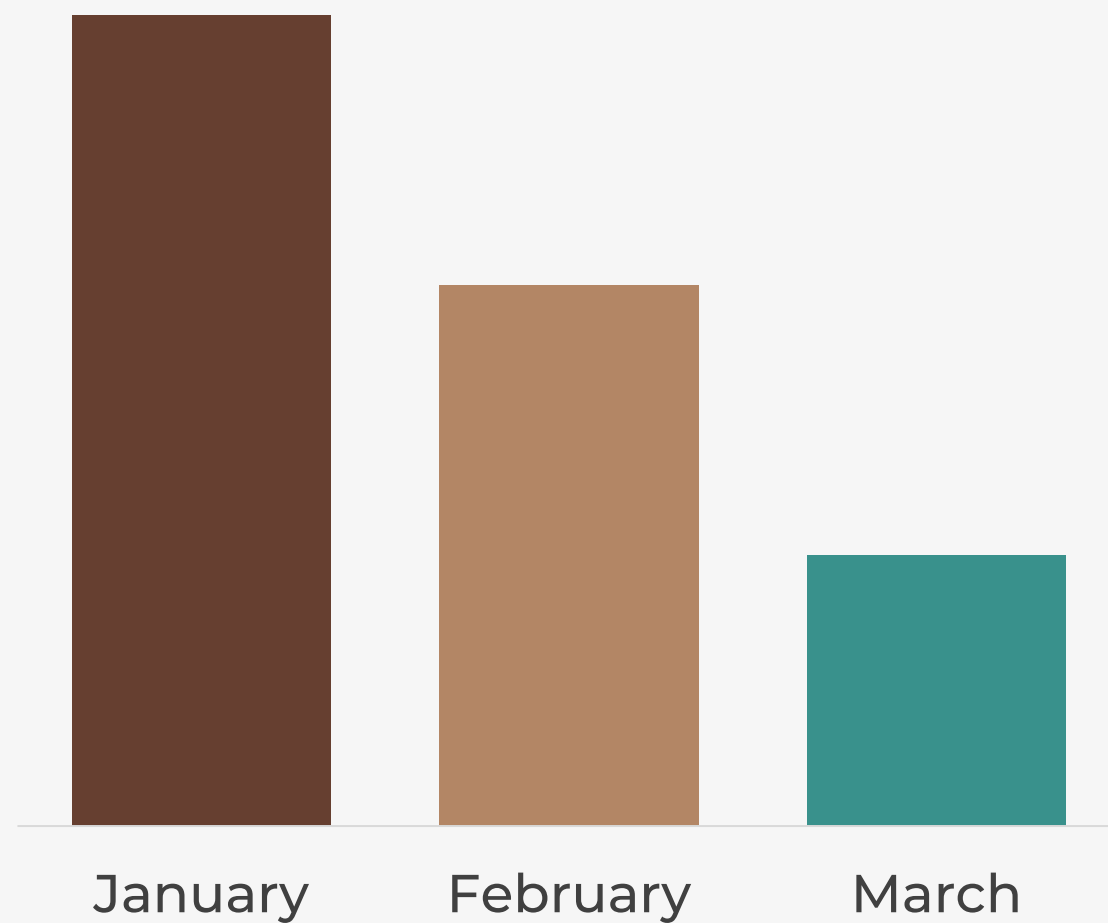
(1-2 sentences recommended)

The chart shows how Americans plan to celebrate Independence Day in 2019 versus 2020. 1 in 4 Americans don't plan to celebrate Independence Day in 2020, compared to only 14% in 2019.

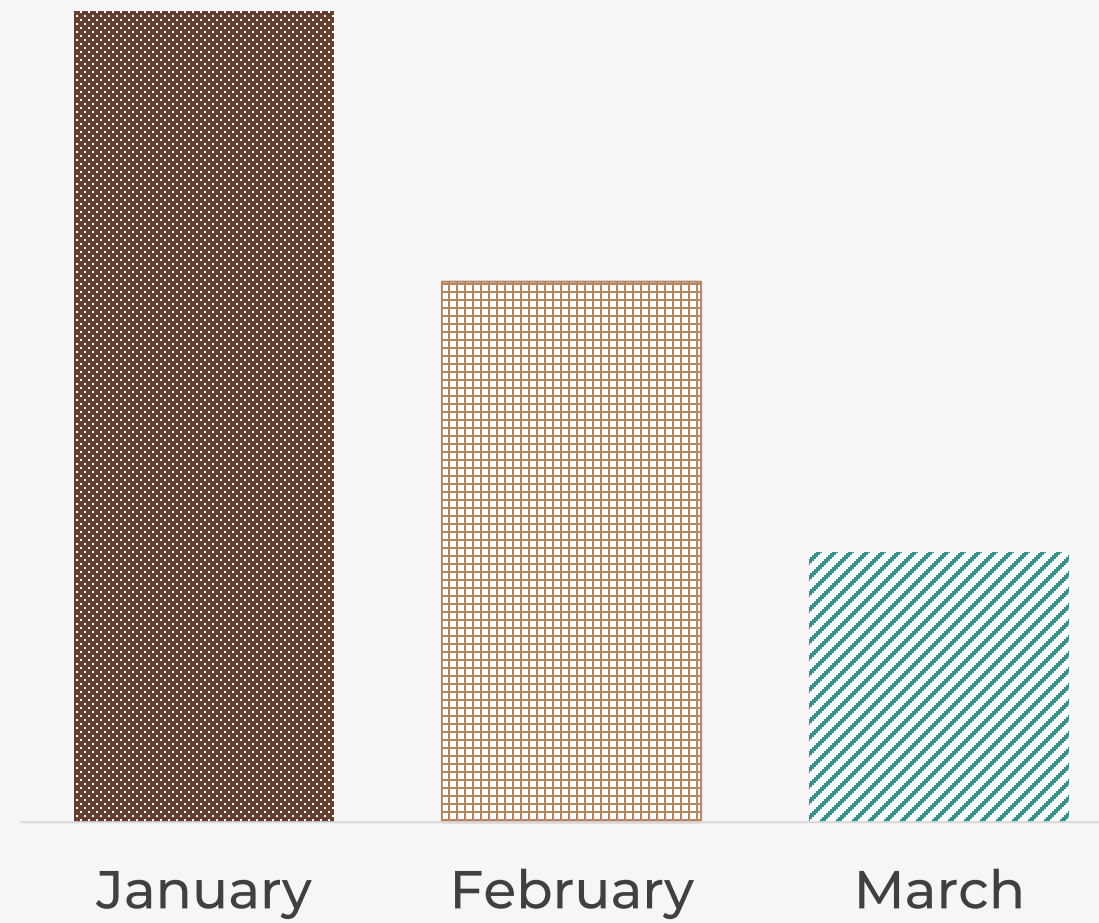
#5. USE COLOR + PATTERNS



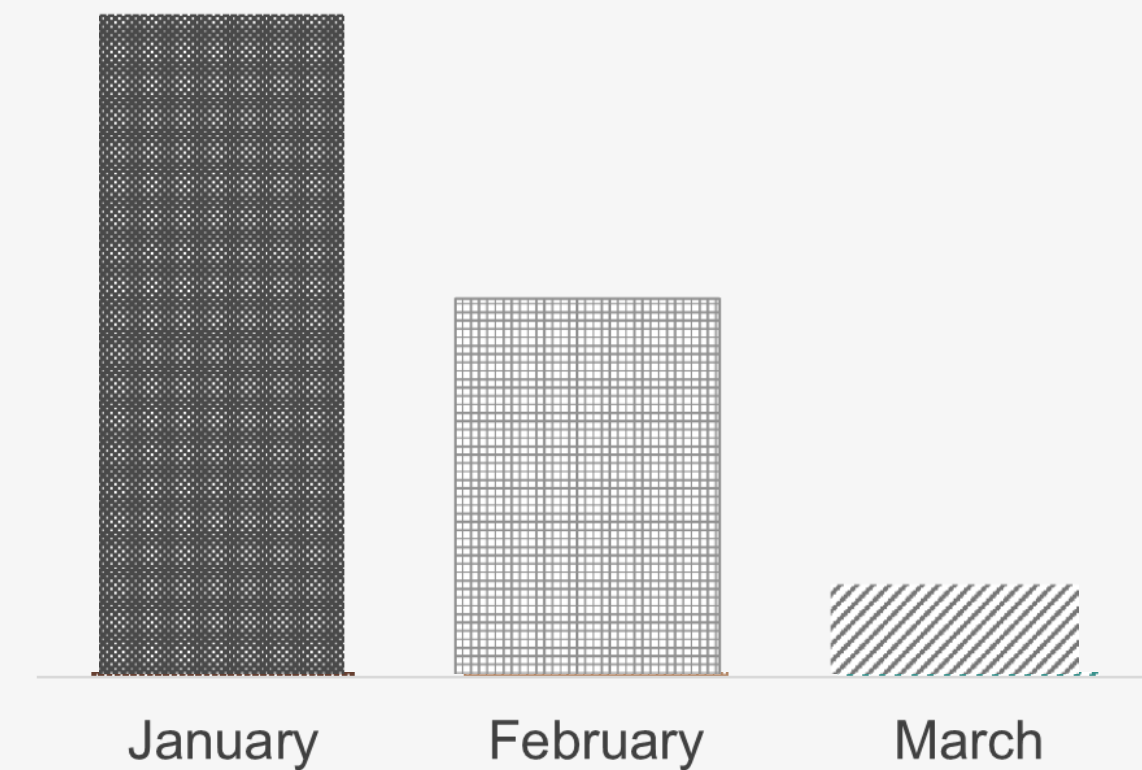
Color only



Pattern + color



Monochromacy



A FEW OTHER TIPS



Use
icons

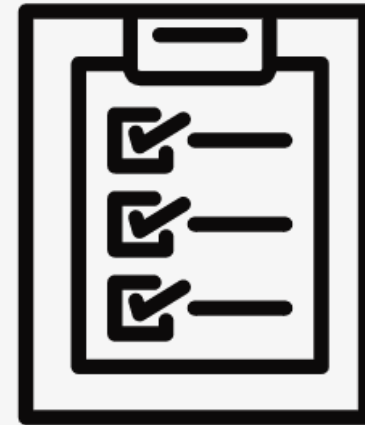


Use **accessible**
typography (font size
and **font type**)



Use **enough**
contrast between
background and
text/charts

Tools that
you can use



TOOLS



[How to add ALT Text](#)



[Color-blindness simulator](#)



[Pick sequential, diverging, qualitative colors](#)



[Add patterns in Excel](#)



[Add patterns in Tableau](#)

The Noun Project

Free Icon and Symbols



[Icons](#)



Exercise





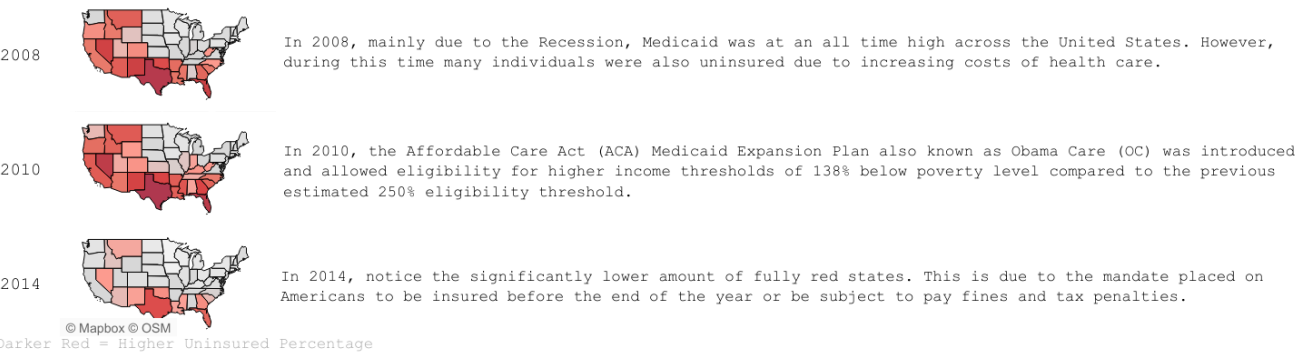
Who was Helped the Most by the Affordable Care Act?

Interactive Dashboard

Who was Helped the Most by the Affordable Care A..

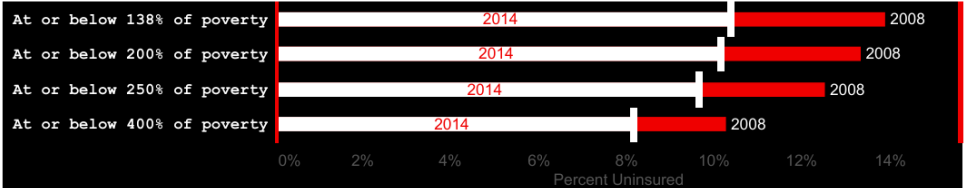
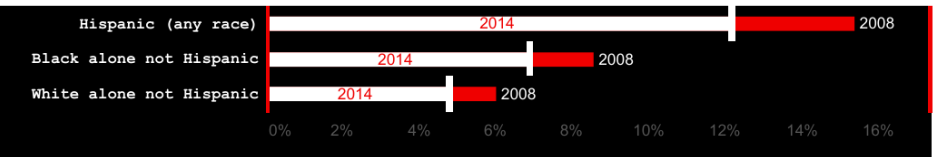
Introduction:

In 2008, the soaring costs of health care, the collapsing economy, and the lack of wage growth led to an all time high of uninsured families/persons. The Affordable Care Act was passed by Congress and then signed into law by President Obama on March 23, 2010. On June 28, 2012 the Supreme Court rendered the final decision to uphold the health care law. The goal was to give more Americans access to affordable, quality health insurance and to reduce the growth in U.S. health care spending. Continue reading..



Ethnicity

Since 2008, Hispanics and Blacks had the highest uninsured rates than any other race. By 2014, Hispanics had the largest decrease nearly double than any other race, but still had the largest percentage of uninsured population at..

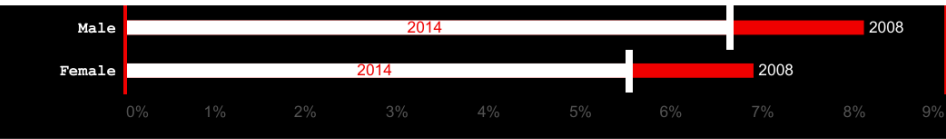
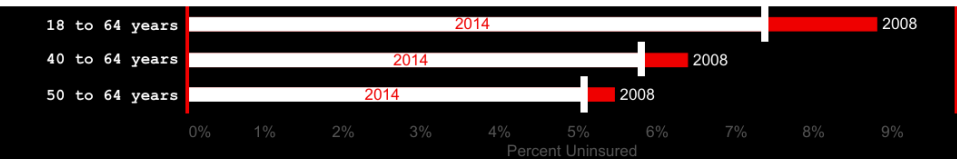


Income Poverty

2008's, pre-Obama Care yielded restrictions on who and what level of income was eligible for Medicaid but after the 2010 expansion and the 2014 mandate you can assess that each poverty level has decreased by at least 2%.

Age

Although, "age ain't nothing but a number" apparently when it comes to the Affordable Care Act it's definitely "a thing". Despite having more uninsured people across all age groups, let's celebrate the younger generation's significant decrease ..



Gender

There was a slight difference between genders of about 1% with females having the advantage of more insured participants and both genders having a 2% decrease of uninsured people throughout the years.

Conclusion:

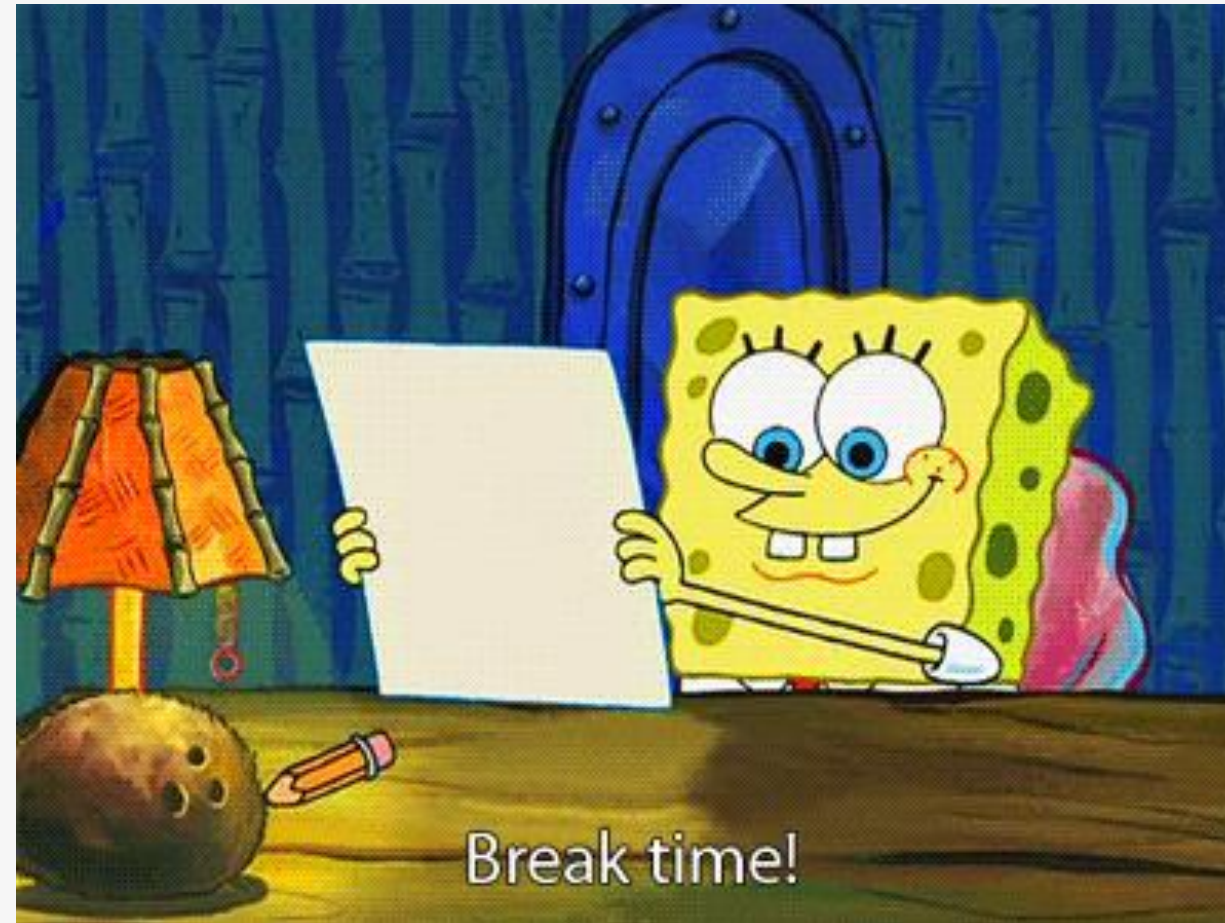
In the data across all years since 2008, significant decreases occur in the number of uninsured people in all demographics. We know the 2010 Affordable Care Act expansion played a major role, as well as the 2014 uninsured mandate. Lets keep in mind some southern states have a higher uninsured rate than some northern states. Could this number be skewed based upon the states who chose to reject the proposed ACA expansion? Analyze further details in all categories including Counties with the interactive dashboard shown on th..

Sources: www.hhs.gov and www.census.gov

- Review the Tableau dashboard “Who was Helped the Most by the Affordable Care Act.”
- Select one of the two tabs and discuss what changes you’d recommend in terms of **data visualization accessibility** (typography, white space, data labeling, icons, and colors).

Break

10 minutes



Color in Data Visualization



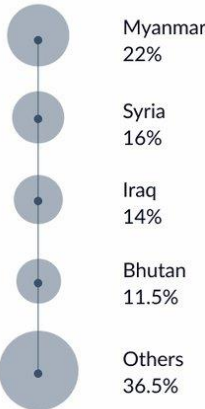
RESETTLED

The journey of refugees who found a new home thanks to the UNHCR Resettlement Program.

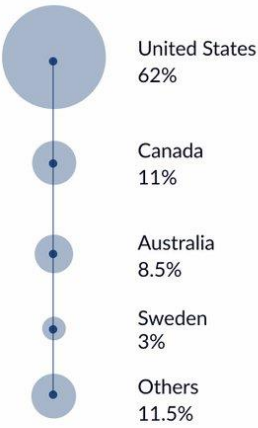
“I have travelled twice before in my life, but the last two times we travelled we were escaping. This time I am going to live a new life.” Nine-year-old Mahmoud fled the conflict in Syria to Egypt. Traumatized by the ordeal, he was later resettled with his family to Sweden.

Mahmoud is determined to make the most of his new life. So are many other refugees who benefited from the UNHCR Resettlement Program. This visualisation illustrates the journey of 968,425 humans who found a new home in the past 7.5 years.

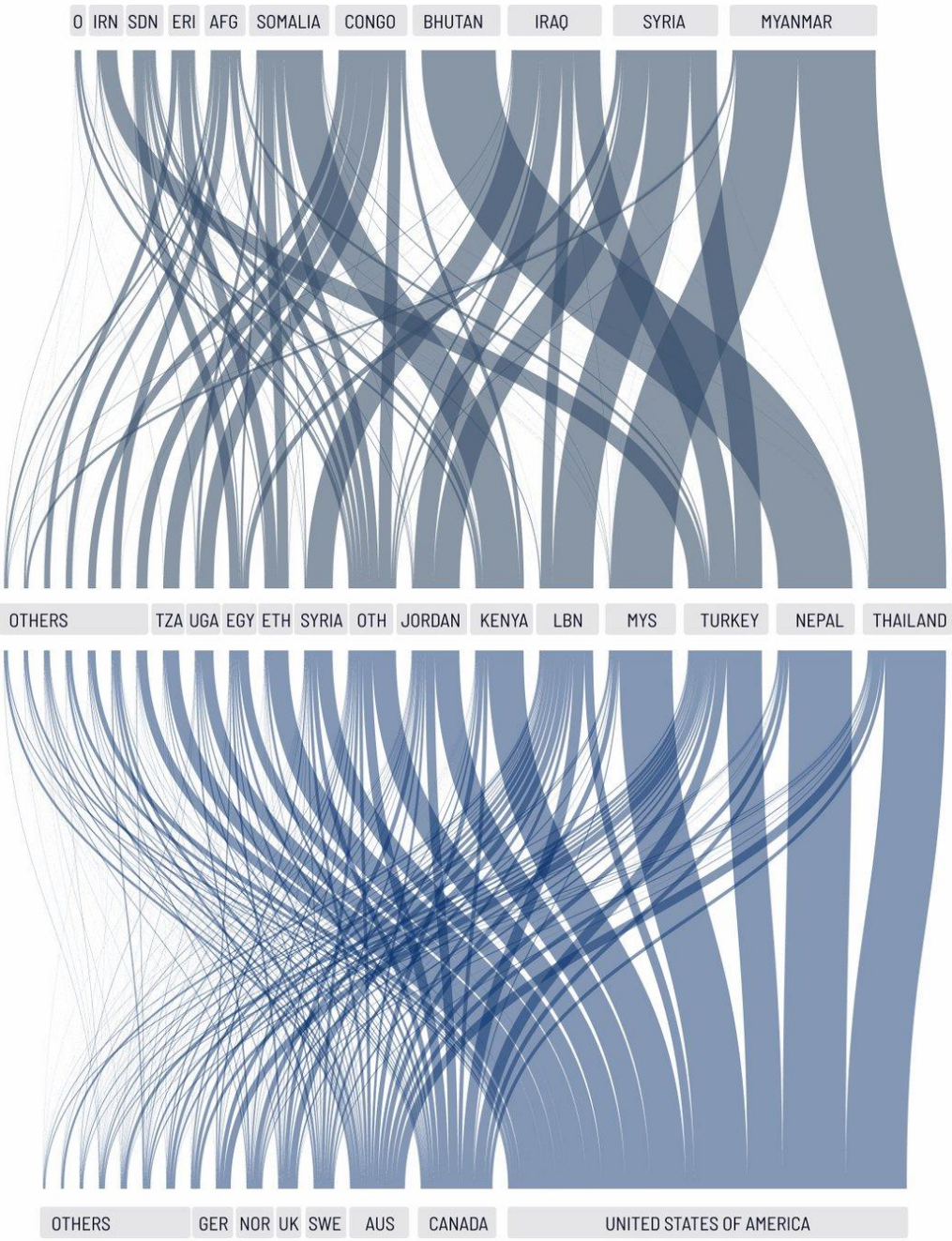
COUNTRY OF ORIGIN



COUNTRY OF ASYLUM



COUNTRY OF RESETTLEMENT



There were 20.4 million refugees of concern to UNHCR around the world at the end of 2018, but less than one per cent of refugees are resettled each year.

This visualisation covers individuals who departed from asylum to resettlement countries between January 2003 and April 2020.

Data source: UNHCR

Designed by Evelina Judeikyte for #vizforsocialgood



RESETTLED

Each year, the UNHCR resettles around 100,000 refugees and asylum seekers. This infographic shows the countries of origin, country of asylum, and country of resettlement for these refugees.

Refugees are people who have fled their country of origin because of persecution, conflict, or violence. They are often resettled in a third country where they can live safely and rebuild their lives.

The infographic shows the countries of origin, country of asylum, and country of resettlement for these refugees. The countries of origin are listed on the left, the countries of asylum are listed in the middle, and the countries of resettlement are listed on the right.

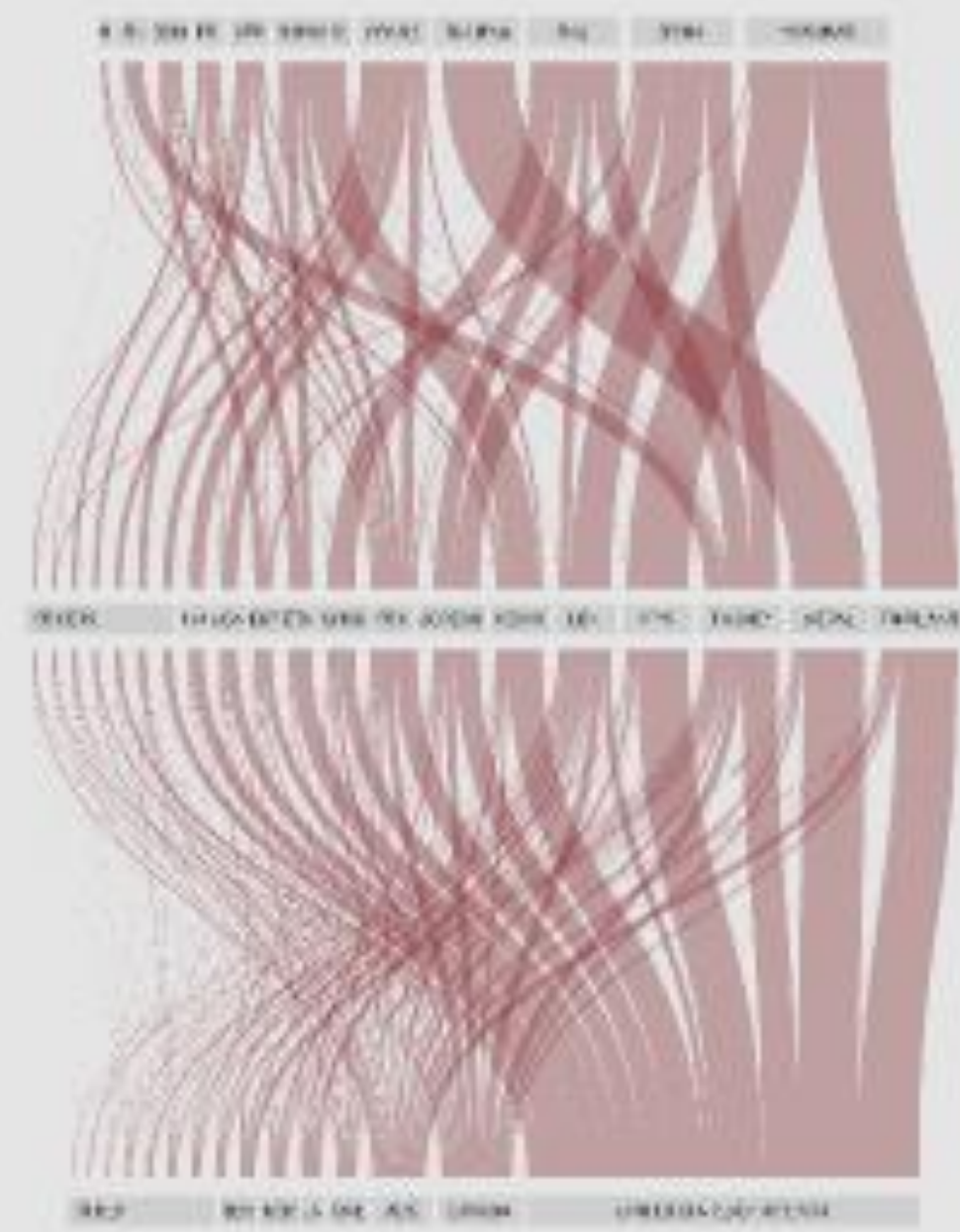
COUNTRY OF ORIGIN



COUNTRY OF ASYLUM



COUNTRY OF RESETTLEMENT





RESETTLED

Mapping the pathways of refugees resettled across the U.S. through resettlement agencies.

Resettlement is an important part of the refugee process, providing a safe haven for those fleeing persecution, conflict, or natural disasters. The U.S. resettles refugees through a network of resettlement agencies, which are authorized by the U.S. Department of Homeland Security to provide a range of services, including housing, employment, and language training.

Resettlement is a complex process, involving a range of factors, including the country of origin, the country of asylum, and the country of resettlement. The process is also influenced by the availability of resettlement places, the skills and qualifications of the refugees, and the needs of the host community.

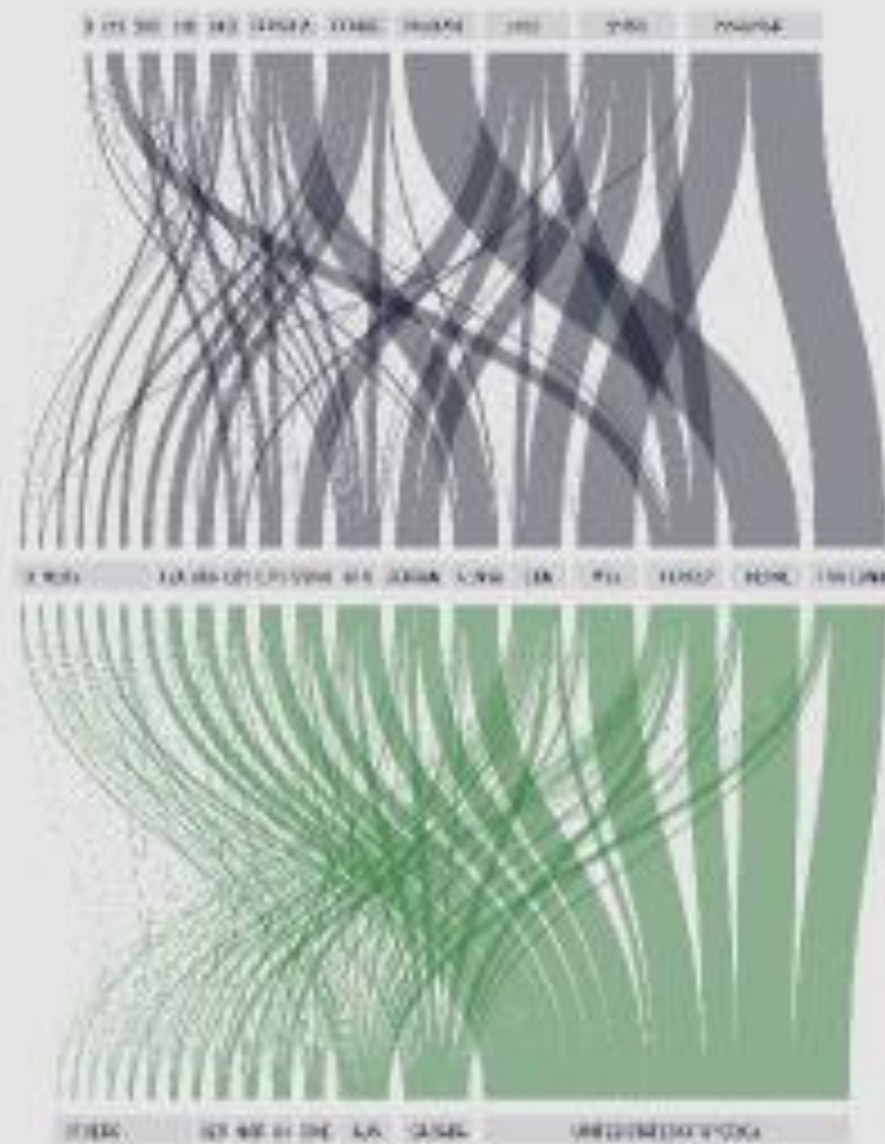
COUNTRY OF ORIGIN



COUNTRY OF ASYLUM



COUNTRY OF RESETTLEMENT



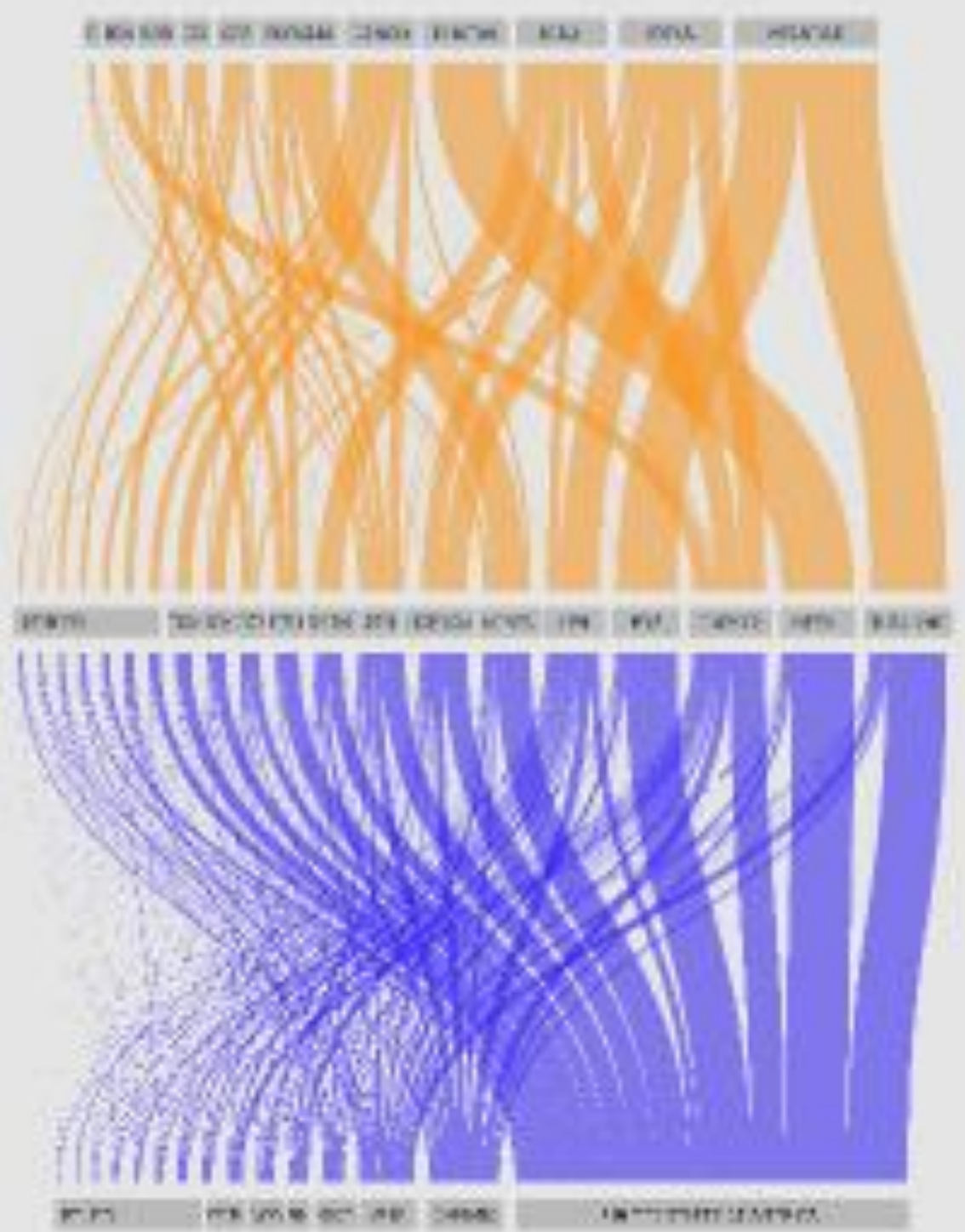


RESETTLED

For Marka Samuelsen, former Soviet Jewish émigré, the road to a new home began in 1952 and May 1994. She moved from Moscow to the US, where she lived for 40 years, before settling in the US.

Population of the country, by year of resettlement. The chart shows the number of people who resettled in the US in 1952 and May 1994. The chart shows the number of people who resettled in the US in 1952 and May 1994. The chart shows the number of people who resettled in the US in 1952 and May 1994.

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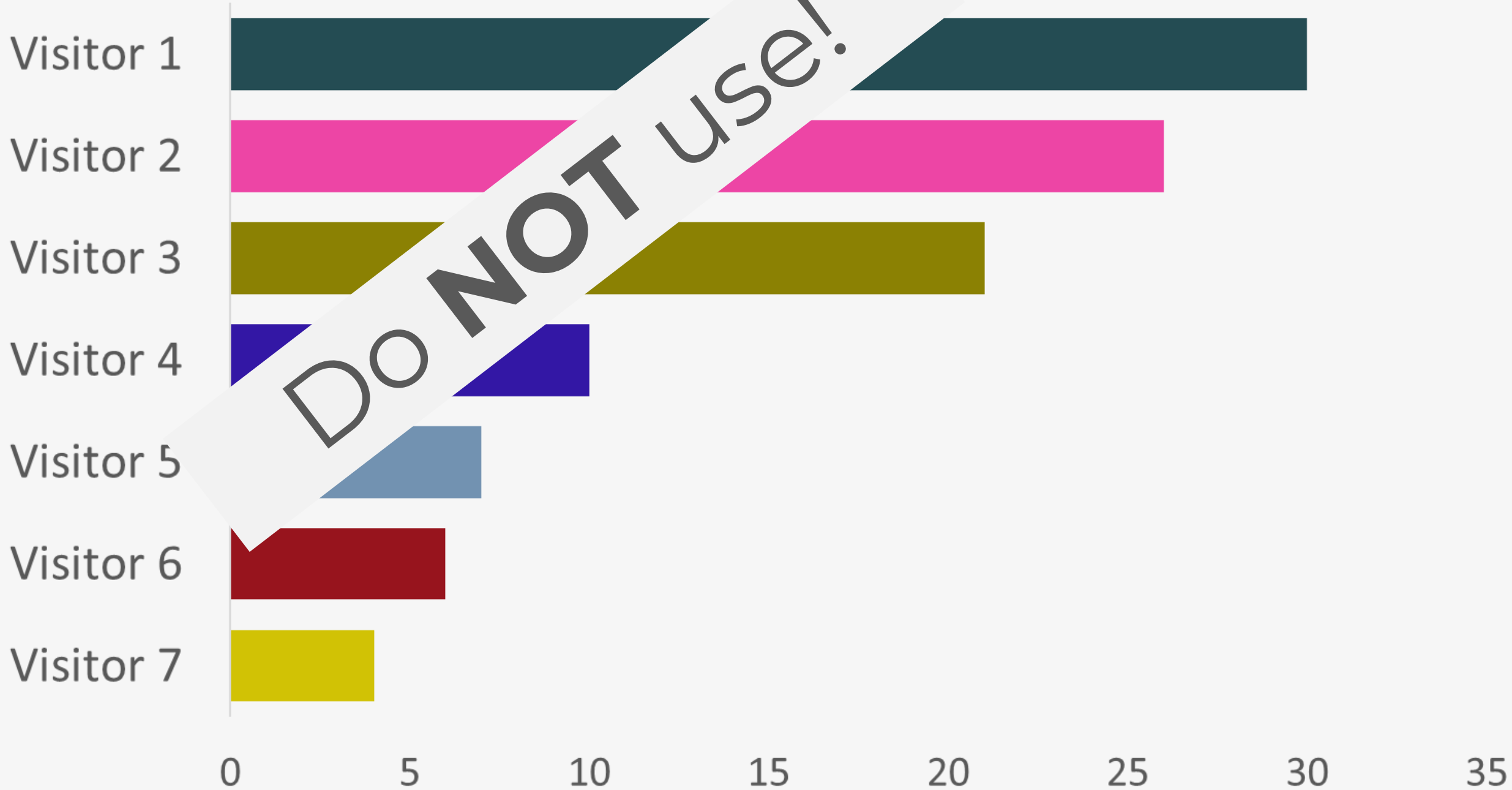


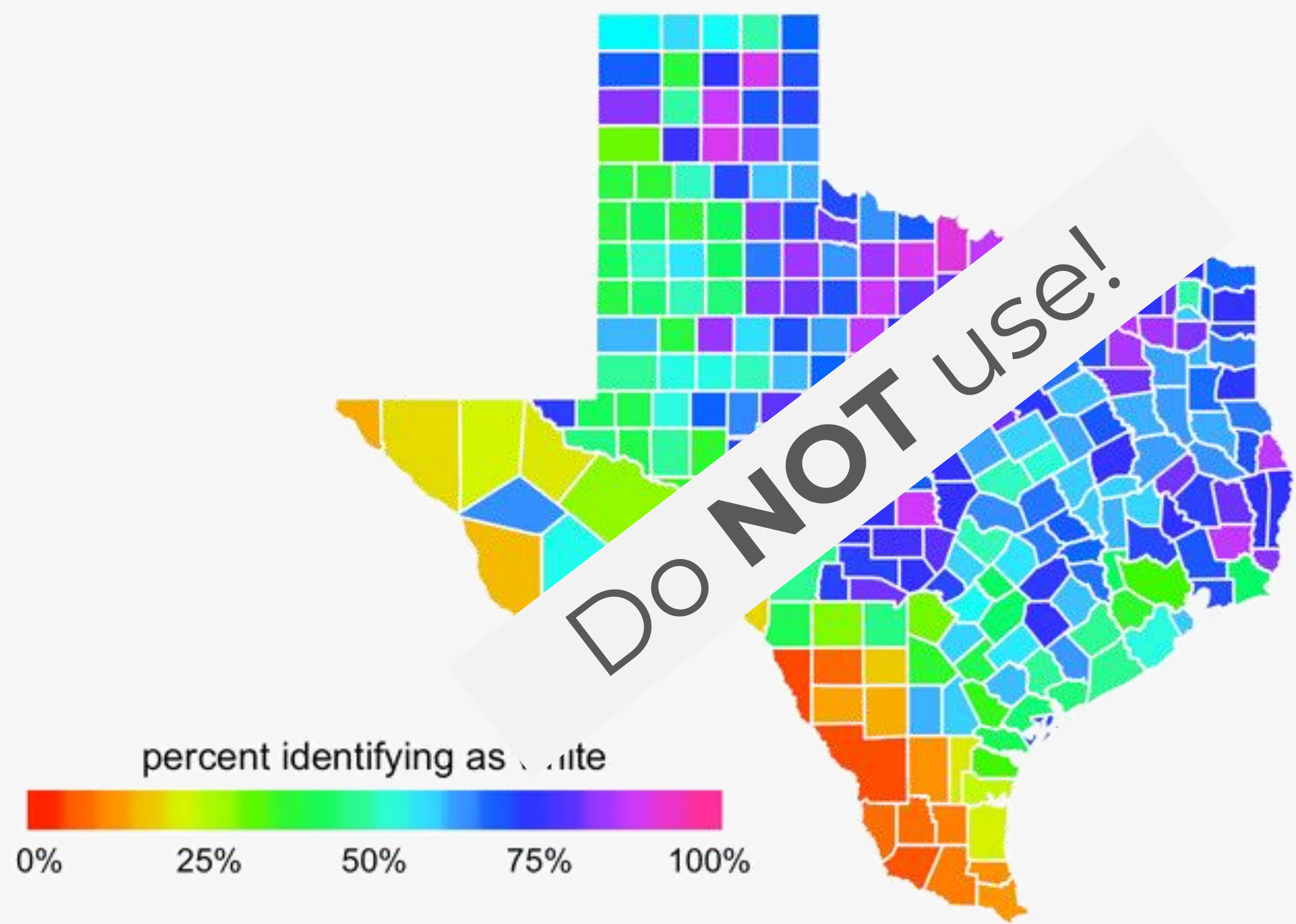


Reading

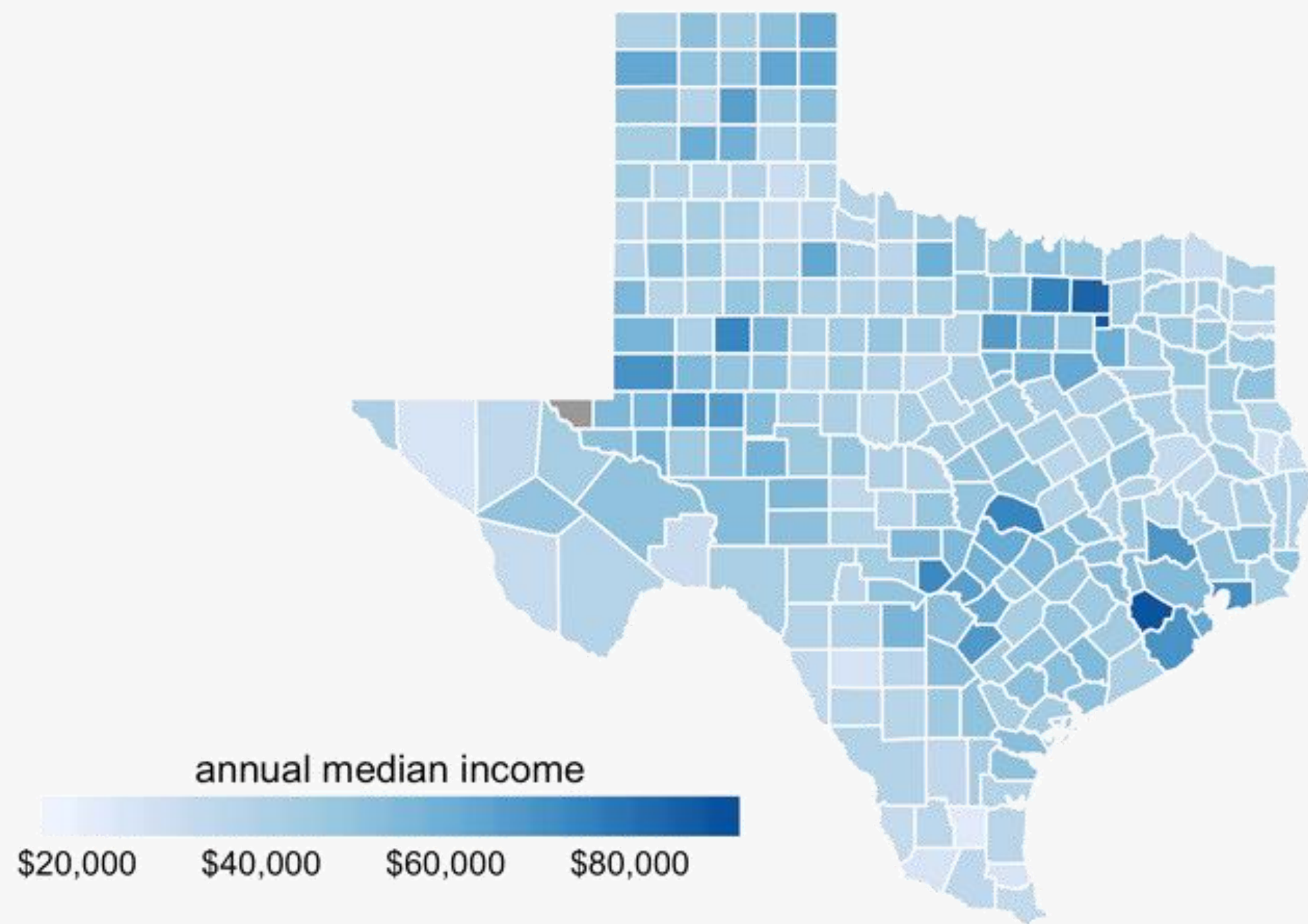


Number of Websites Visits





Source: <http://serialmentor.com/dataviz/color-basics.html>

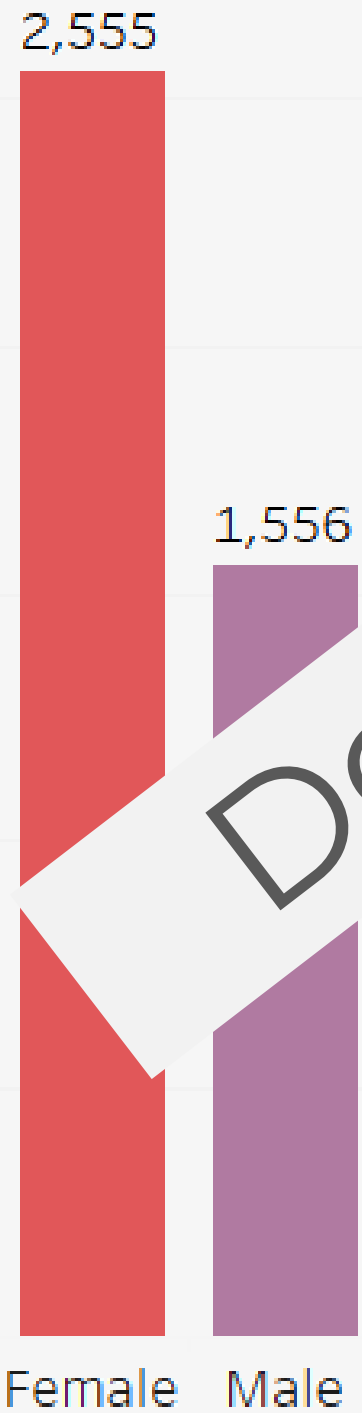


Source: : <http://serialmentor.com/dataviz/color-basics.html>

1. *Use color sparingly*



Females are more active than men on Twitter.



Do NOT use!

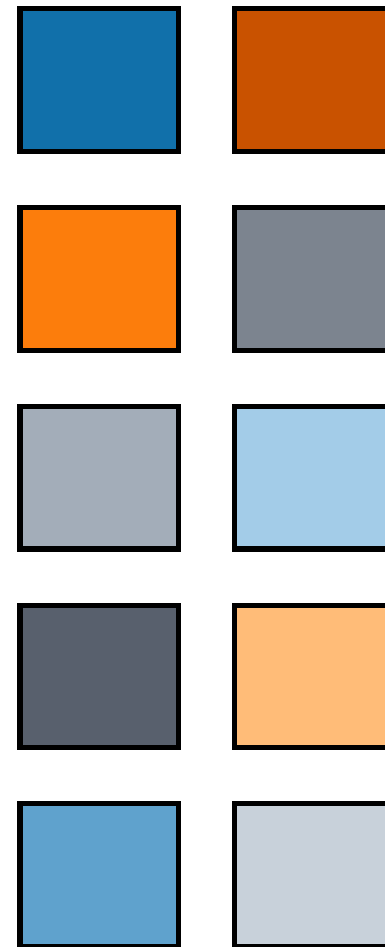
1. Use color sparingly
2. Use color consistently



Select Color Palette:



Color Blind



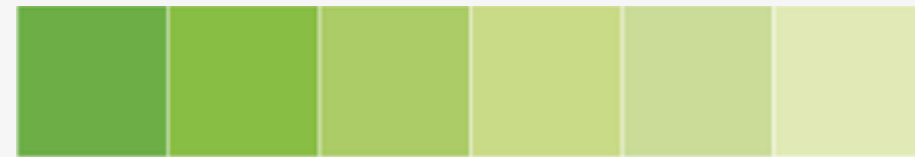
1. Use color sparingly
2. Use color consistently
3. Consider color-blindness



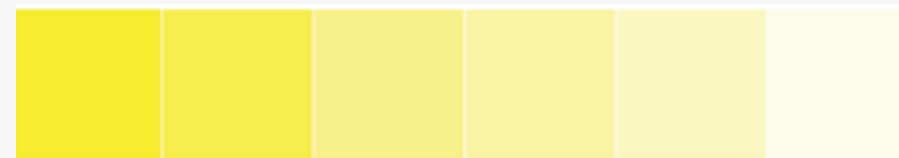
Security, integrity, peace



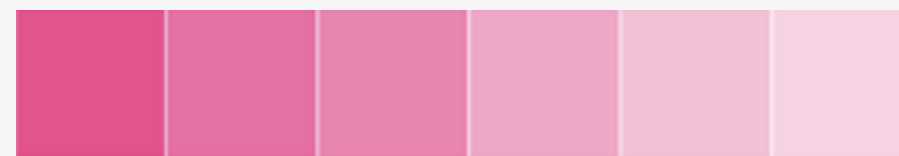
Fresh, positive



Energy, caution



Romance, beauty, love



1. Use color sparingly
2. Use color consistently
3. Consider color-blindness
4. Know the meaning of colors



Source : <https://www.marion.com/how-choosing-branding-color-schemes-palettes/>

1. Use color sparingly
2. Use color consistently
3. Consider color-blindness
4. Know the meaning of colors
5. Consider brand-specific colors

TOOLS

[Palettable](#)
[Colormind](#)
[ColorSpace](#)





Exercise





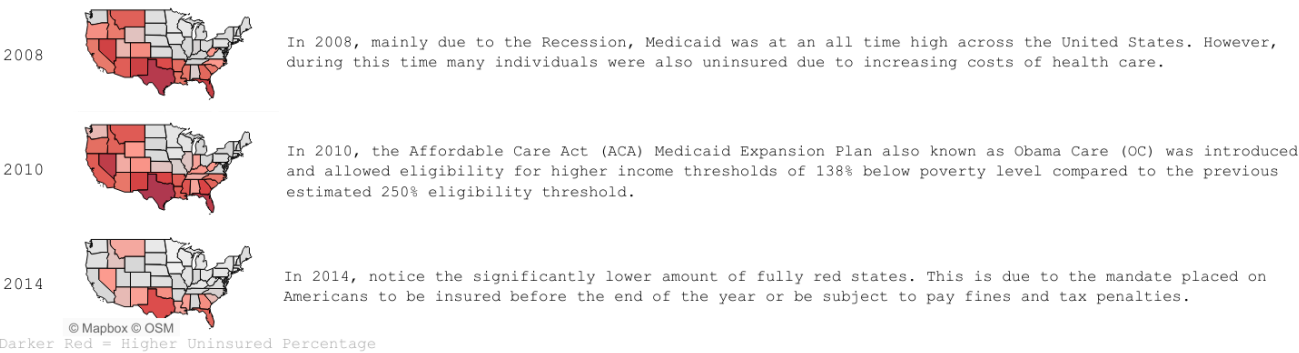
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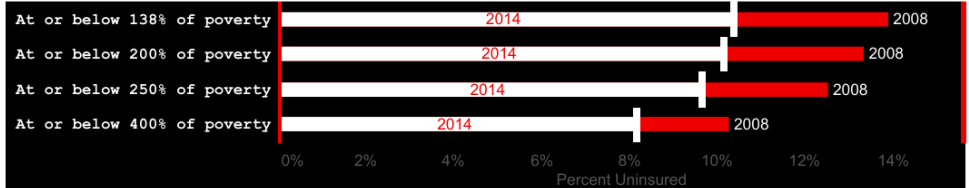
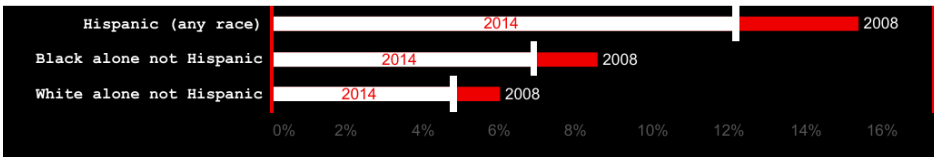
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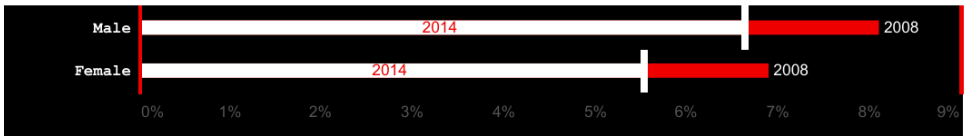
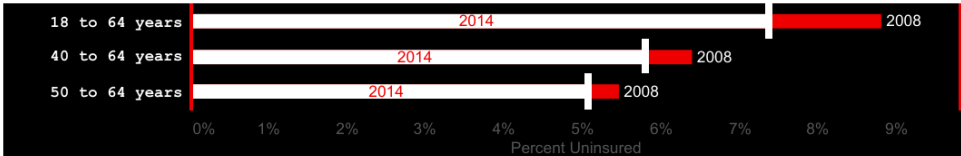


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Sources: www.hhs.gov and www.census.gov

- Make the recommended changes to improve the dashboard from an accessibility standpoint.

WHAT DID
YOU LEARN?

