



LIS 200

# DATA AND INFOGRAPHICS

Slides at [go.uncg.edu/r24cps](https://go.uncg.edu/r24cps)

# UNCG DATA LIBRARIANS



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*Data Services Librarian*

## OBJECTIVES

- ✗ What are data and statistics?
- ✗ What are data visualizations and infographics?
- ✗ How do we create *effective* infographics?

# DATA VS. STATISTICS

X What are data?

X What are statistics?

## TERMS TO KNOW

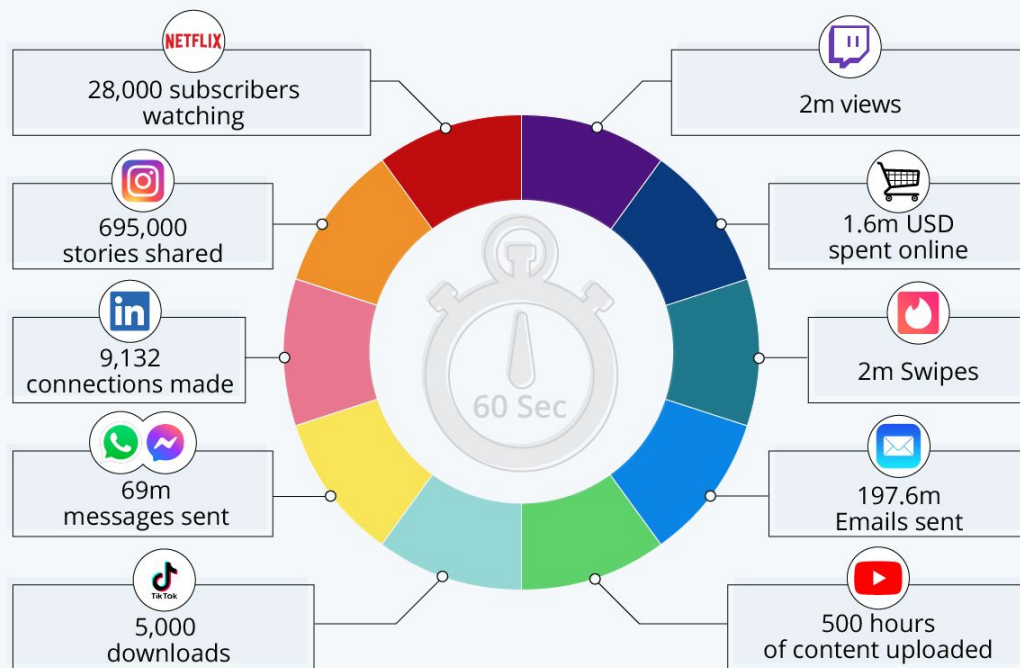
- ✗ **Data:** information, facts
- ✗ **Statistic:** information calculated from a sample of numerical data
- ✗ **Data Visualization:** visual representation of data or statistics
- ✗ **Infographic:** collection of data visualizations on a topic



WHY DO DATA MATTER?

# A Minute on the Internet in 2021

Estimated amount of data created  
on the internet in one minute



From:

<https://www.statista.com/chart/25443/estimated-amount-of-data-created-on-the-internet-in-one-minute/>

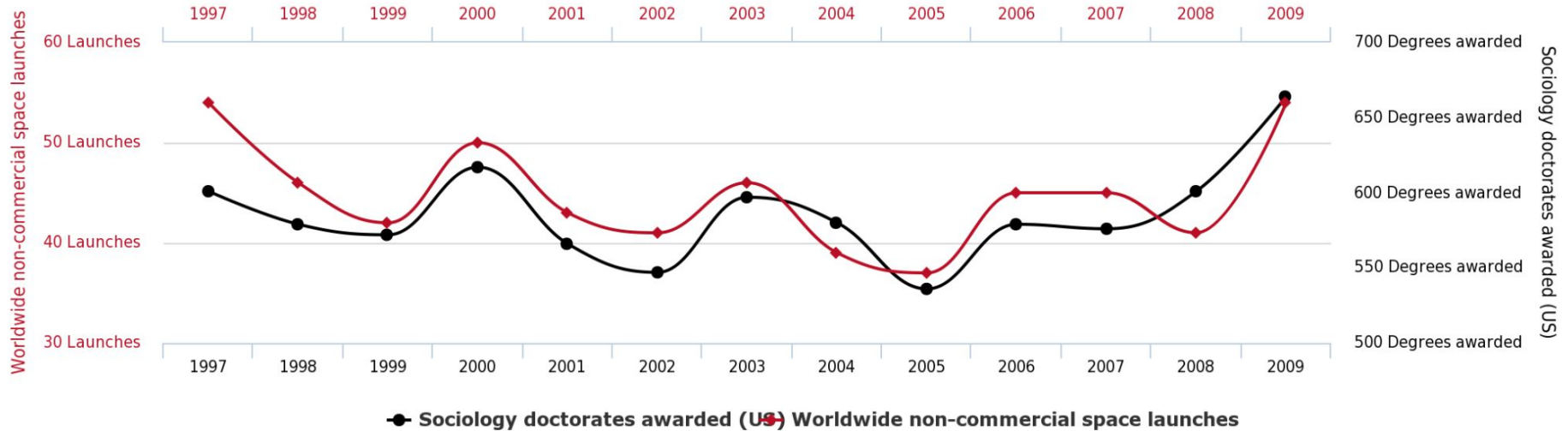
Source: Lori Lewis via AllAccess



# Worldwide non-commercial space launches

correlates with

## Sociology doctorates awarded (US)

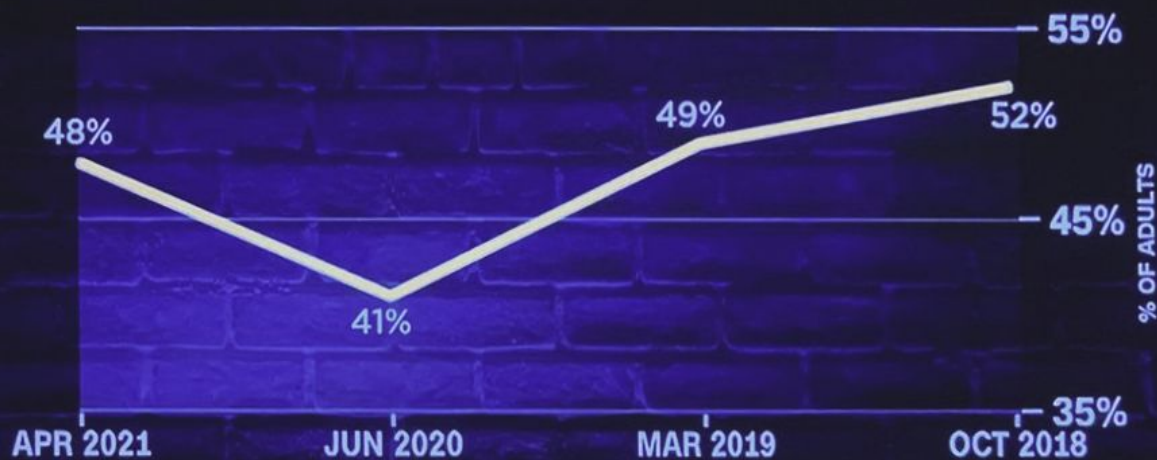


tylervigen.com



# VIOLENT CRIME IS A VERY BIG PROBLEM

## ADULTS



PEW RESEARCH CENTER  
MARGIN OF ERROR: +/- 3.0% PTS

**THE WIZARD OF ODDS**

**WHITE HOUSE PREPARES TO ADDRESS SURGE IN VIOLENT CRIME**

**LIVE**

**CNN**

6:32 PM PT

↓ LESS EAGER TO GET THE SHOT," JEFF ZIENTS SAYS ▶ BIDEN WANTED 70 CUOMO PRIME TIME

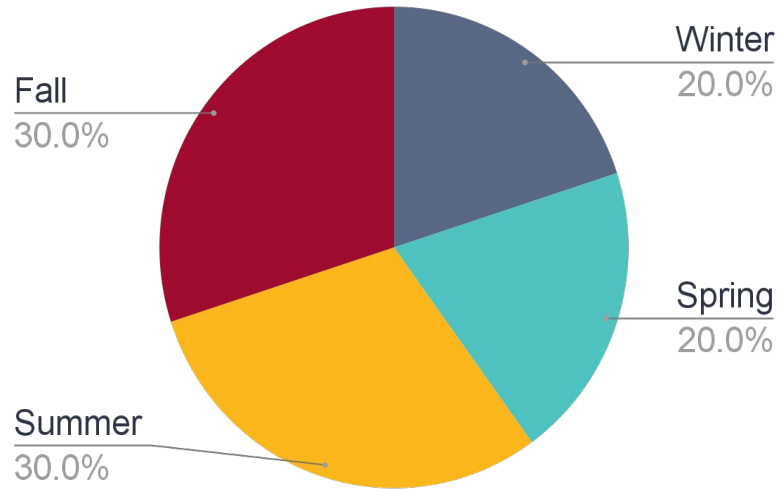
# WHAT IS YOUR FAVORITE SEASON?

Submit your answer at [go.uncg.edu/r22be8](https://go.uncg.edu/r22be8)

Season	Responses
Winter	2
Spring	2
Summer	3
Fall	3



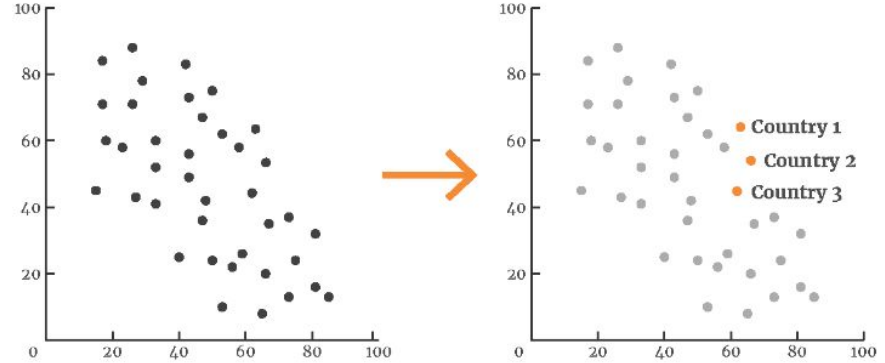
# WHAT IS YOUR FAVORITE SEASON?



# CORE PRINCIPLES OF DATA VISUALIZATION

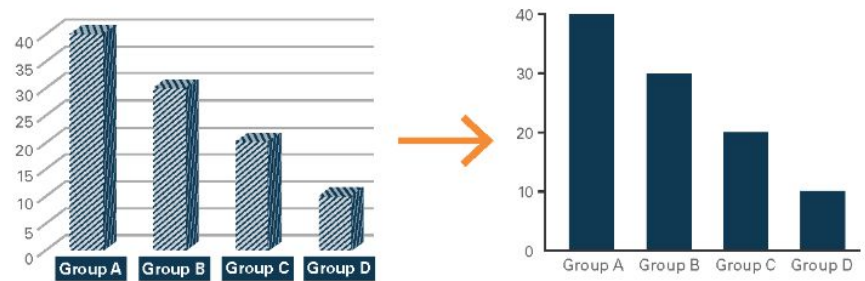
## Show the data

People read graphs in a research report, article, or blog to understand the story being told. The data is the most important part of the graph and should be presented in the clearest way possible. But that does not mean that all of the data must be shown — indeed, many graphs show too much.



## Reduce the clutter

Chart clutter, those unnecessary or distracting visual elements, will tend to reduce effectiveness. Clutter comes in the form of dark or heavy gridlines; unnecessary tick marks, labels, or text; unnecessary icons or pictures; ornamental shading and gradients; and unnecessary dimensions. Too often graphs use textured or filled gradients.



## Integrate the text and the graph

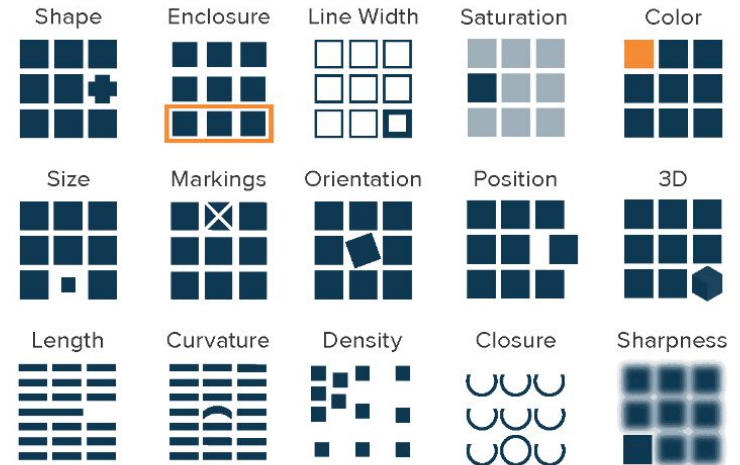
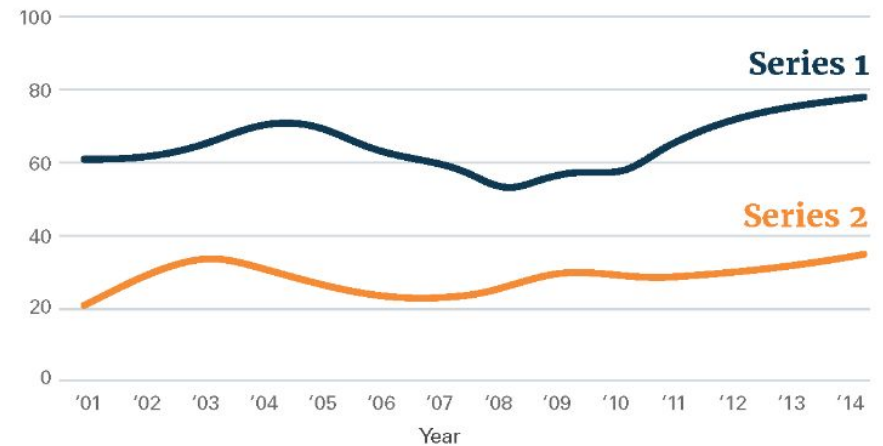
Standard research reports often suffer from the **slideshow effect**, in which the writer narrates the text elements that appear in the graph. A better model is one in which visualizations are constructed to complement the text and at the same time to contain enough information to stand alone. As a simple example, legends that define or explain a line, bar, or point are often placed far from the content of the graph—off to the right or below the graph. Integrated legends—right below the title, directly on the chart, or at the end of a line—are more accessible.

## Preattentive Processing

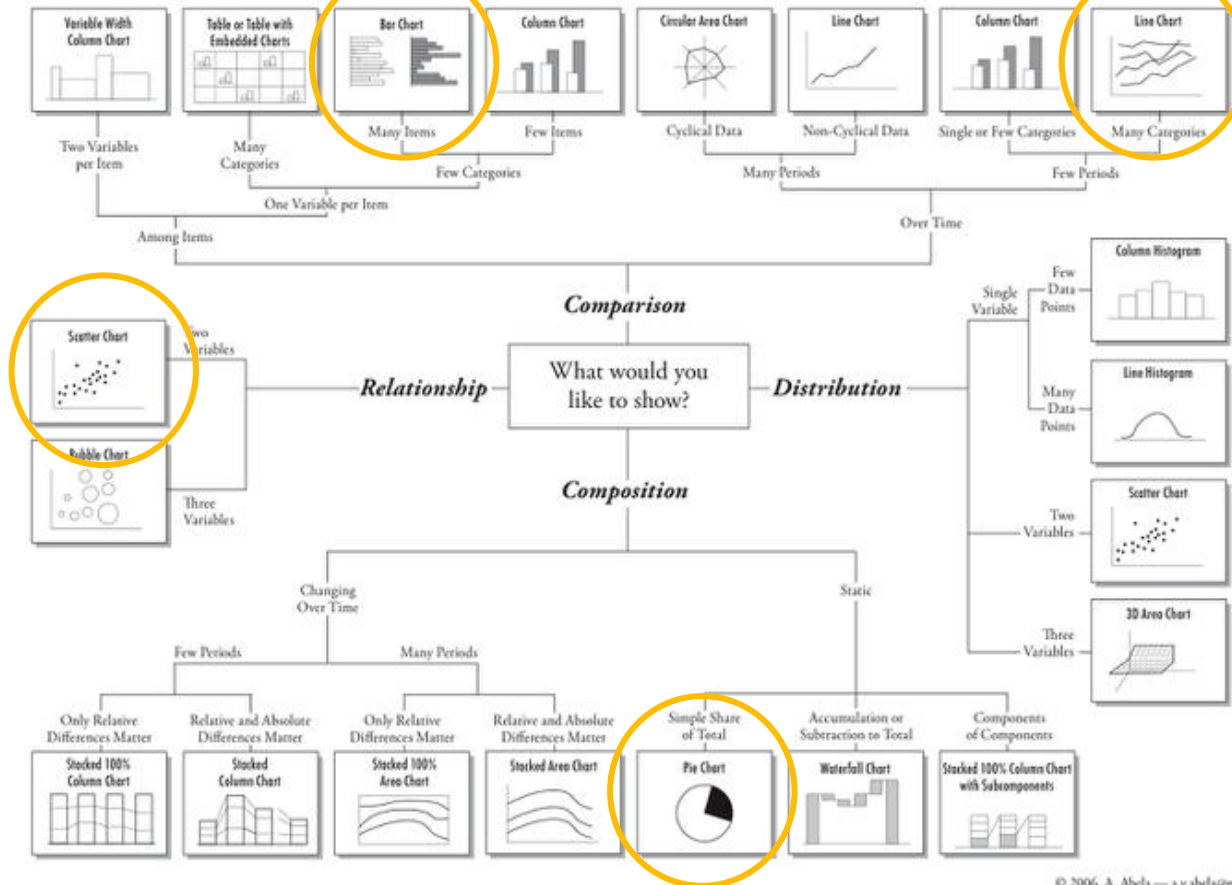
Effective data visualization taps into the brain's **preattentive visual processing**. Because our eyes detect a limited set of visual characteristics (such as shape and contrast), we combine various characteristics of an object and unconsciously perceive them as comprising an image. Preattentive processing refers to the cognitive operations that can be performed prior to focusing attention on any particular region of an image. In other words, it's the stuff you notice right away.

## Chart Title Here

(Y axis label here)



# Chart Suggestions—A Thought-Starter



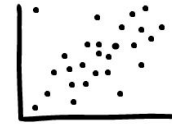
## WHICH CHART DO I USE?

**Line charts** show changes over time

**Bar graphs** compare categories of data

**Scatter plots** show how categories are (or aren't) related

**Pie charts** show parts of a whole



Help selecting a chart:  
<https://datavizcatalogue.com/index.html>

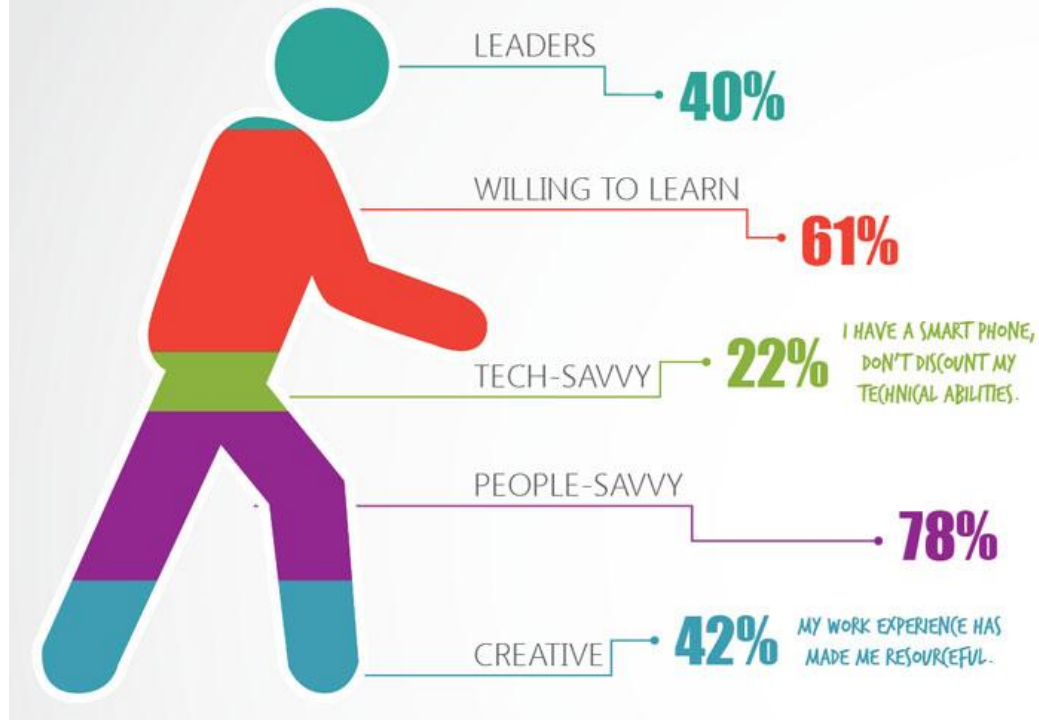


## MORE DATA VIZ RESOURCES

- ✗ [How to Transform Text into Images that Tell a Story](#) (infograph-specific, from Piktochart)
- ✗ [Data visualization](#) (guidance from selecting charts to style from Material Design)
- ✗ [Learn Data Viz](#) (From UNC Chapel Hill)



## HOW **BABY BOOMERS** DESCRIBE THEMSELVES



## TOOLS TO DO THE THING

- X [Canva](#)
- X [Piktochart](#)
- X [Easel.ly](#)
- ~~X [Infogram](#)~~
- ~~X [Datawrapper](#)~~
- ~~X [Google Sheets](#)~~

## ICONS & IMAGES

[The Noun Project](#)

[Flaticon](#)

[Unsplash](#)

## SOCIAL MEDIA PLATFORMS



Facebook  
60%



Instagram  
20%



Twitter  
80%



Google +  
10%

## RESPONSES



Like

Share

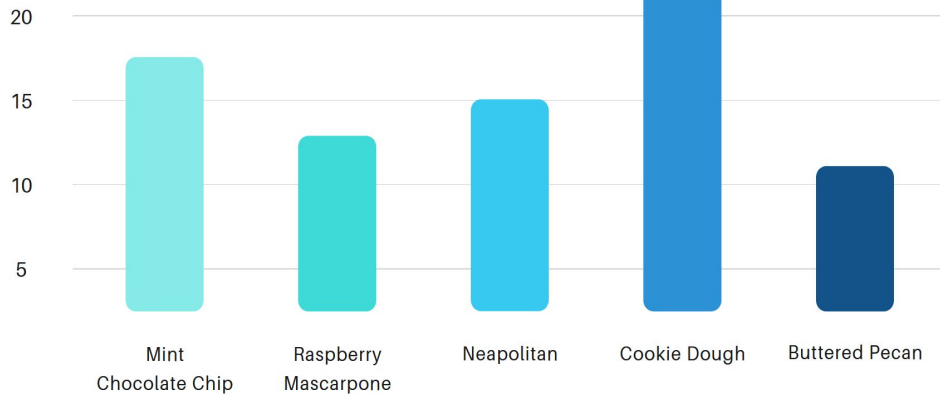
Did  
Nothing

PIKTOCHART

CANVA

What's your flavor?

The Scoop Group Ice Cream Survey



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Questions?