

# Data Visualization and Data Storytelling

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Scientist*

IBM Global Industry Solutions Center, France

# HELLO!



## I am Emmanuel Génard

Emmanuel has been in various Technical pre-sales and consulting roles (Solution Architect, IT Architect, Data Scientist, ...) target at customers and Business Partners. He has been working for IBM for more than 20+ years delivering solution design, architecture design, doing business development, technology assessment and proof of concepts, education and technology influencer.

Emmanuel has 20+ years of experience with large Retail accounts and 5 years experience dealing with Government Agencies on topics such as:

- Public Safety
- Smarter Cities
- Customs and Border Management

With a strong focus on data management, advanced data analysis and data visualization, Emmanuel is a mix of data engineer and data scientist.

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@manuGenard





# Class objectives

## UPON COMPLETION YOU WILL HAVE

A good understanding of the **basic concepts** of Data Visualization

Knowledge to perform **data acquisition, preparation and analysis**

Full understanding of visual perception

Experience on selecting the most impactful **visual elements**

A good understanding of the concepts of story telling and data visualization interactivity



# Agenda

November 7th , 2019

Fundamentals and Big Ideas	08:00 – 08:30	Introduction
	08:30 – 10:00	What is Data Visualization and Why use it?
	10:00 – 10:30	Let's talk Data Science and Exploratory Visualization
	10:30 – 10:45	Coffee Break
	10:45 – 10:55	What's your own definition of Data Visualization?
	10:55 – 11:15	Nobel Prices & Laureates - Obesity vs. Education Challenge
	11:15 – 12:00	Working with Data
	Lunch break	
	13:00 – 13:20	Tools
	13:20 – 14:00	Data Lab
Design Principles and Visual Elements	14:00 – 15:15	Visual Encoding
	15:15 – 15:30	QUIZZ Part 1
	15:30 – 15:45	Coffee Break
	15:45 – 16:50	Work on a DataViz – Work on your Data
	16:50 – 17:00	Day Wrap-up & Conclusion

# Agenda

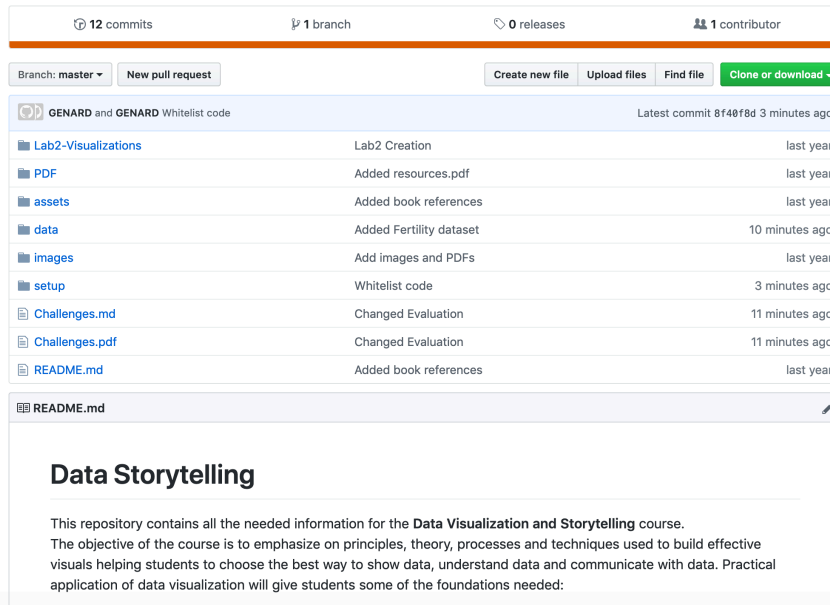
	November 13th , 2019	
Data Storytelling	09:00 – 09:10	Day one recap – Day two objectives
	09:10 – 09:30	What is Data Storytelling?
	09:30 – 10:15	Narrative Structure and Storyboarding
	10:15 – 10:30	Get your headline and Storyboard
	10:30 – 10:45	Coffee Break
	10:45 – 11:20	Interactivity – Pulling it all together
	11:20 – 12:00	Working with Data and Exploratory Visualization
Evaluation	Lunch break	
	13:00 – 14:30	Finalize your Group work
	14:30 – 14:45	Coffee Break
	14:45 – 15:00	<b>QUIZZ Part 2</b>
	15:00 – 16:50	Group work Evaluation – <b>Timed presentation</b>
	16:50 – 17:00	Wrap-up & Conclusion

# Content

All the content is being posted online

- » **Blackboard**
- » **GitHub** repository

[http://ibm.biz/EDHEC\\_DataViz](http://ibm.biz/EDHEC_DataViz)



The screenshot shows a GitHub repository interface. At the top, it displays '12 commits', '1 branch', '0 releases', and '1 contributor'. Below this, there are buttons for 'Branch: master', 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download'. The repository name is 'GENARD and GENARD Whitelist code', with the latest commit '8f40f8d' from '3 minutes ago'. A table lists the repository's contents:

File/Folder	Description	Last Modified
Lab2-Visualizations	Lab2 Creation	last year
PDF	Added resources.pdf	last year
assets	Added book references	last year
data	Added Fertility dataset	10 minutes ago
images	Add images and PDFs	last year
setup	Whitelist code	3 minutes ago
Challenges.md	Changed Evaluation	11 minutes ago
Challenges.pdf	Changed Evaluation	11 minutes ago
README.md	Added book references	last year

Below the table is the 'README.md' file content, which is titled 'Data Storytelling'. The text reads:

This repository contains all the needed information for the **Data Visualization and Storytelling** course. The objective of the course is to emphasize on principles, theory, processes and techniques used to build effective visuals helping students to choose the best way to show data, understand data and communicate with data. Practical application of data visualization will give students some of the foundations needed:



# Evaluation

You'll be evaluated throughout the course in several ways:

- » **Participation**
- » **Personal work:** quizz, challenges
- » **Group work:**

Groups of 3 to 4

Identify a topic and a 'Business Question'

Gather and prepare your data

**Sketch/Mockup** a Data Visualization

Build a story

Timed-presentation in front of audience

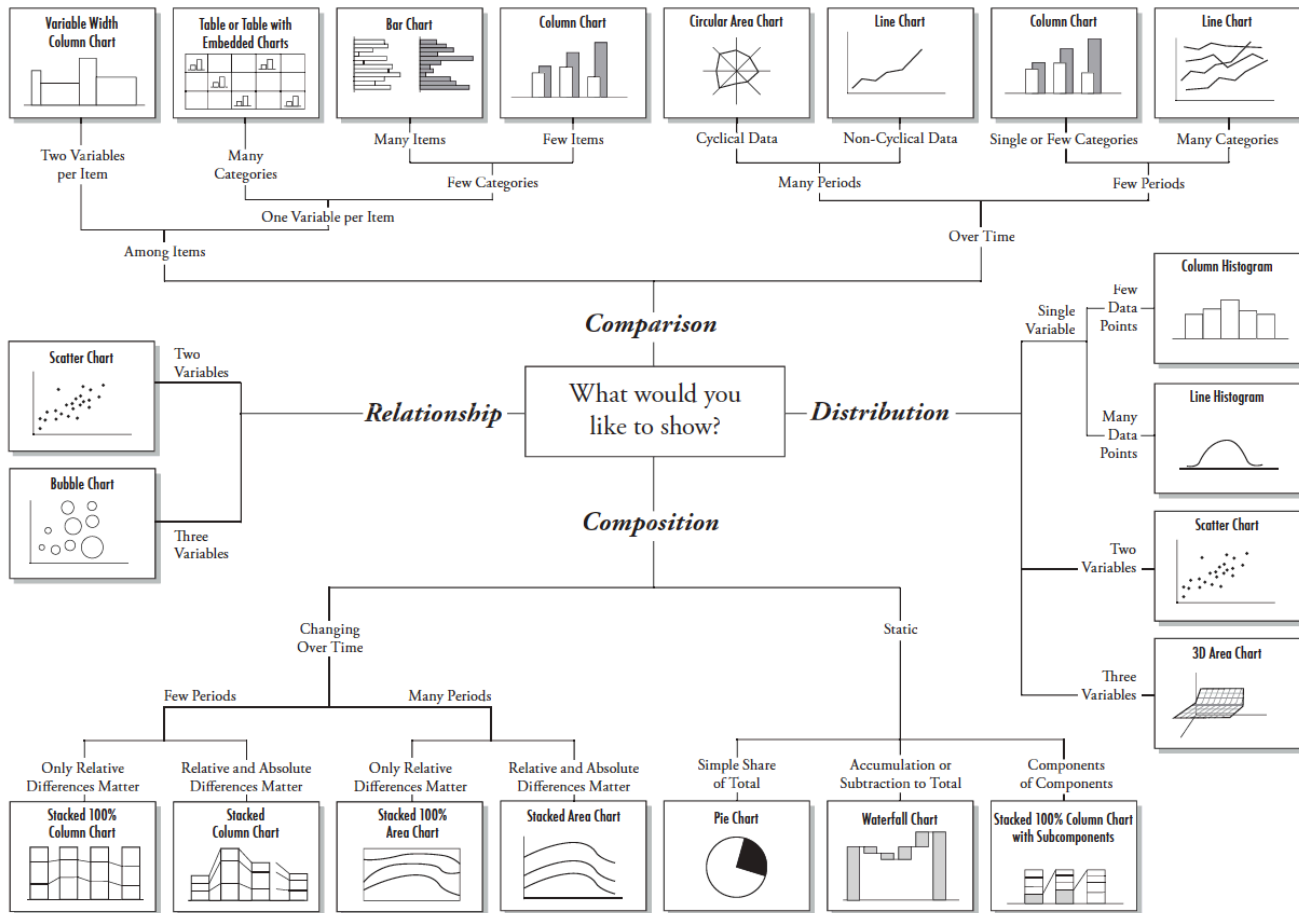
Your audience will listen to you, eventually ask questions **once timer** is elapsed.

## Bonus

Implement your Data Visualization in a Tool of your choice (Tableau Software)



# Day One - Recap



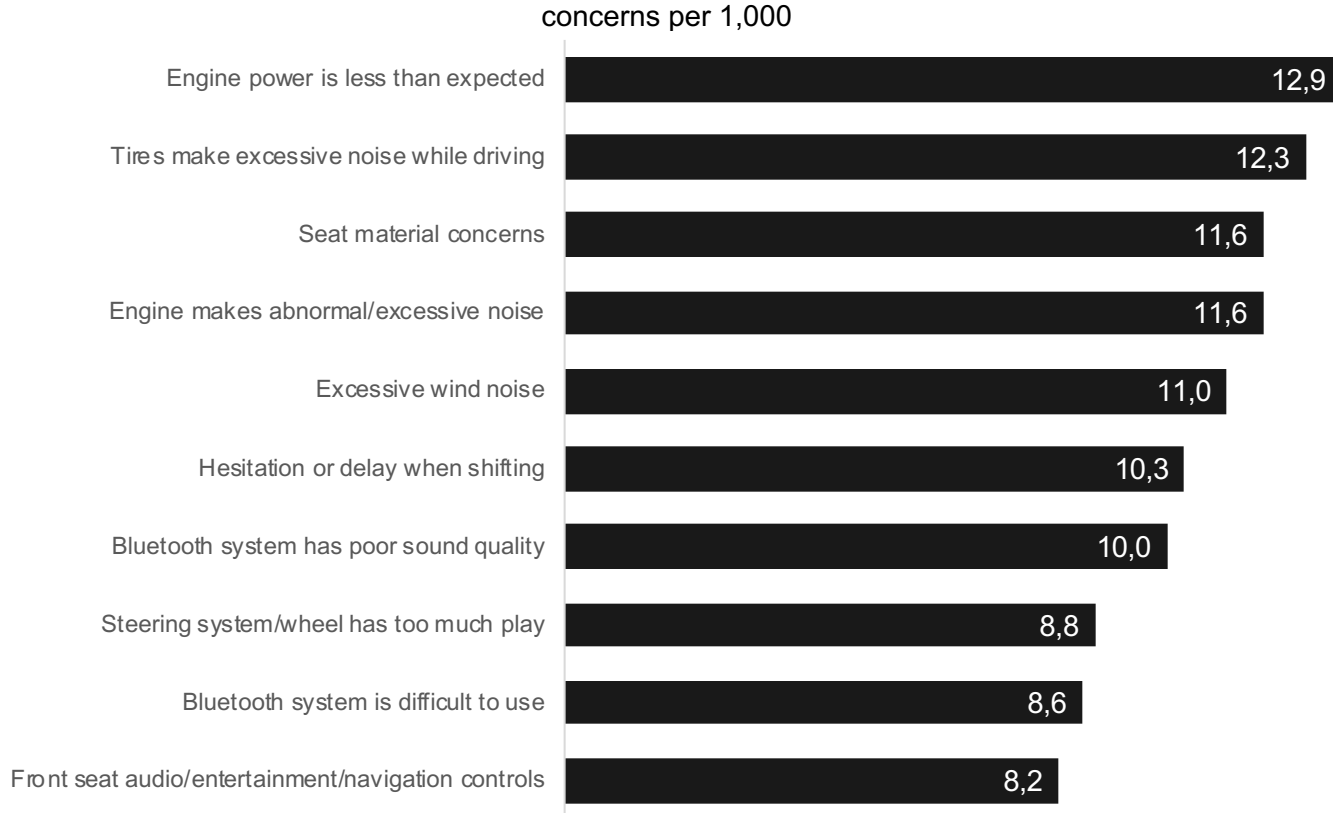
A chart suggestion – A thought starter



# Day One - Recap

Preattentive attributes  
in graphs

## Top 10 design concerns

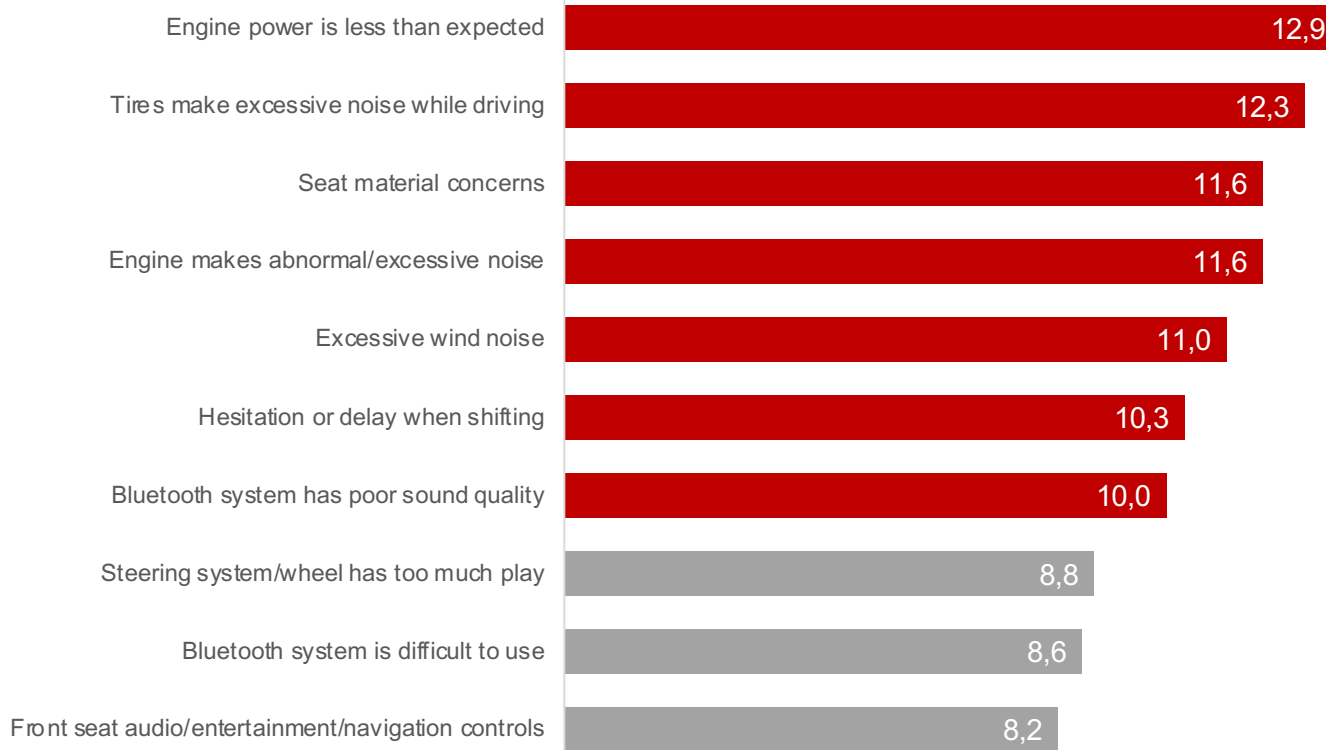


# Day One - Recap

Preattentive attributes  
in graphs

## Top 10 design concerns

**7 of the top 10 design concerns have 10 or more concerns per 1,000**  
concerns per 1,000

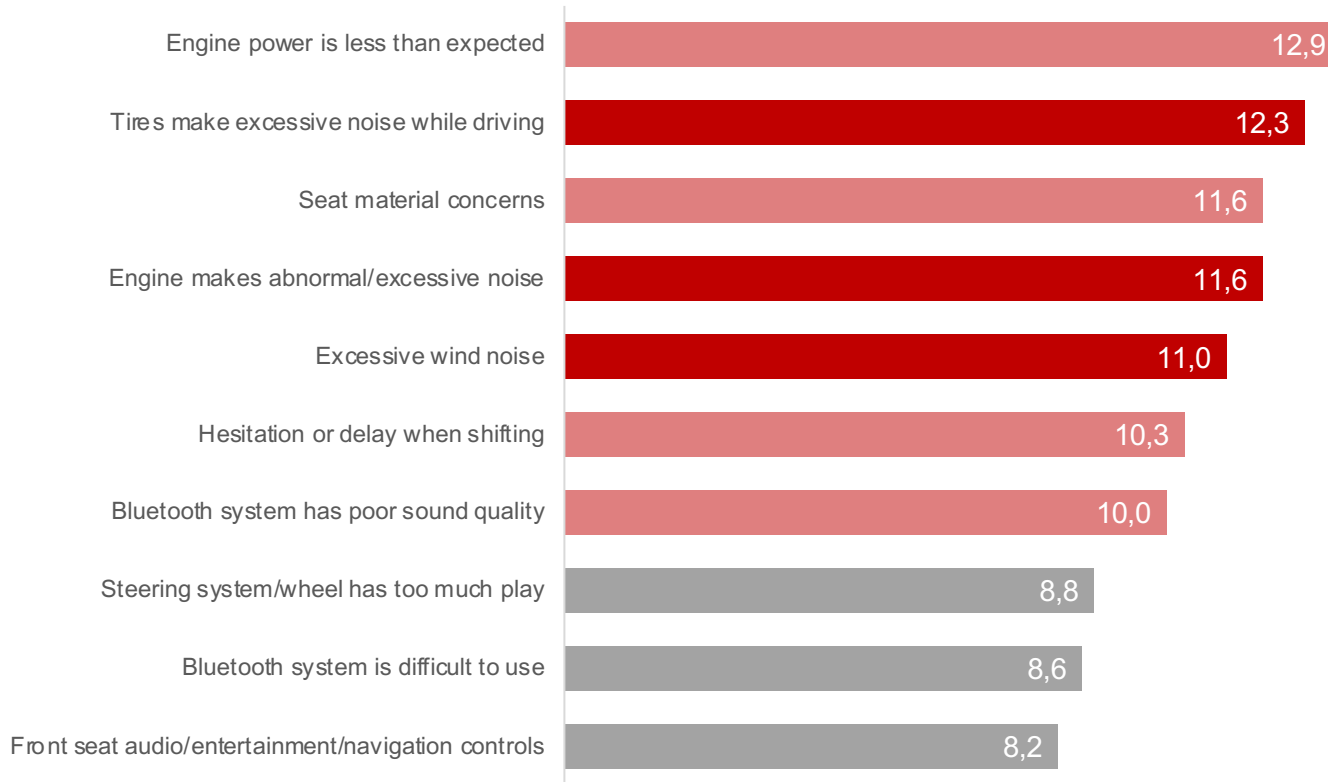


# Day One - Recap

## Preattentive attributes in graphs

### Top 10 design concerns

Of the top design concerns, three are noise-related concerns per 1,000



Comments indicate that **noisy tire issues** are most apparent **in the rain**.

Complaints about **engine noise** commonly cited **after the car had not been driven for a while**.

Excessive **wind noise** is noted primarily in **freeway driving at high speeds**.

# Day One - Recap

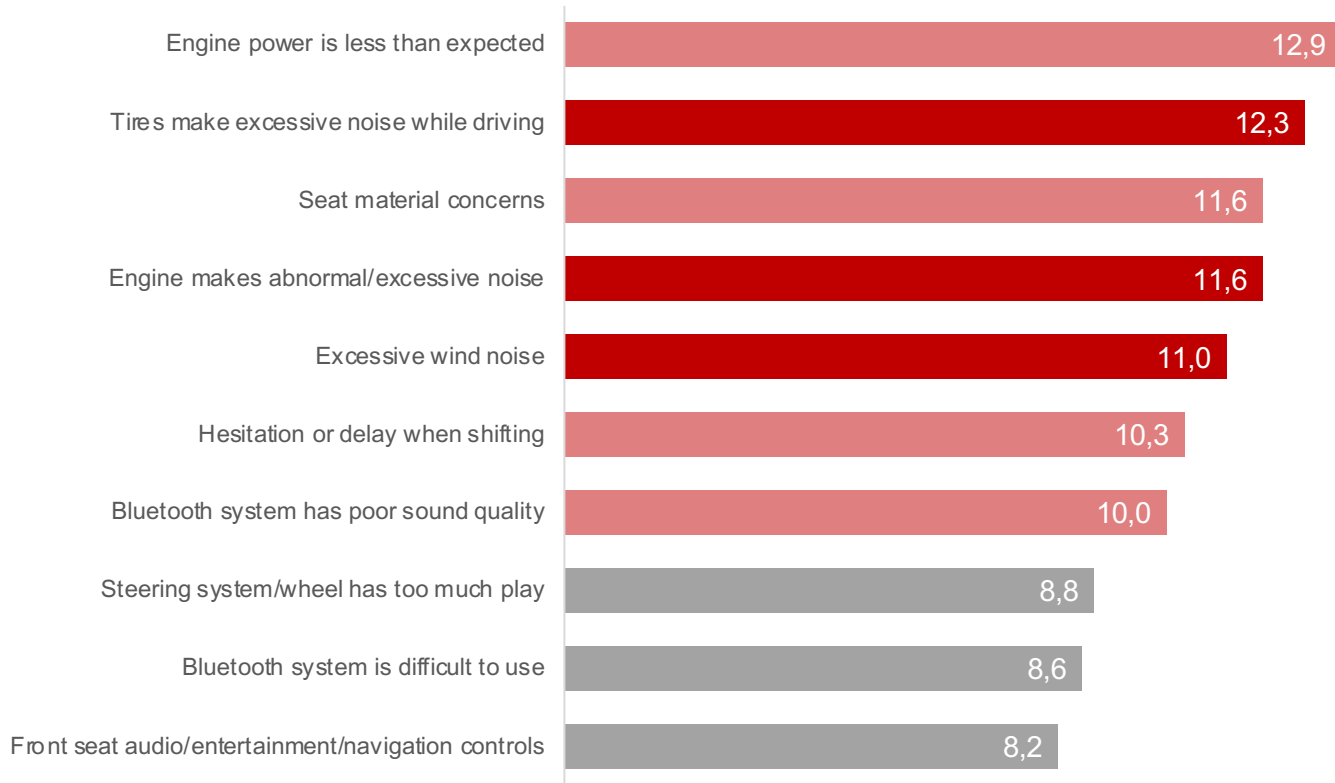


Preattentive attributes  
in graphs

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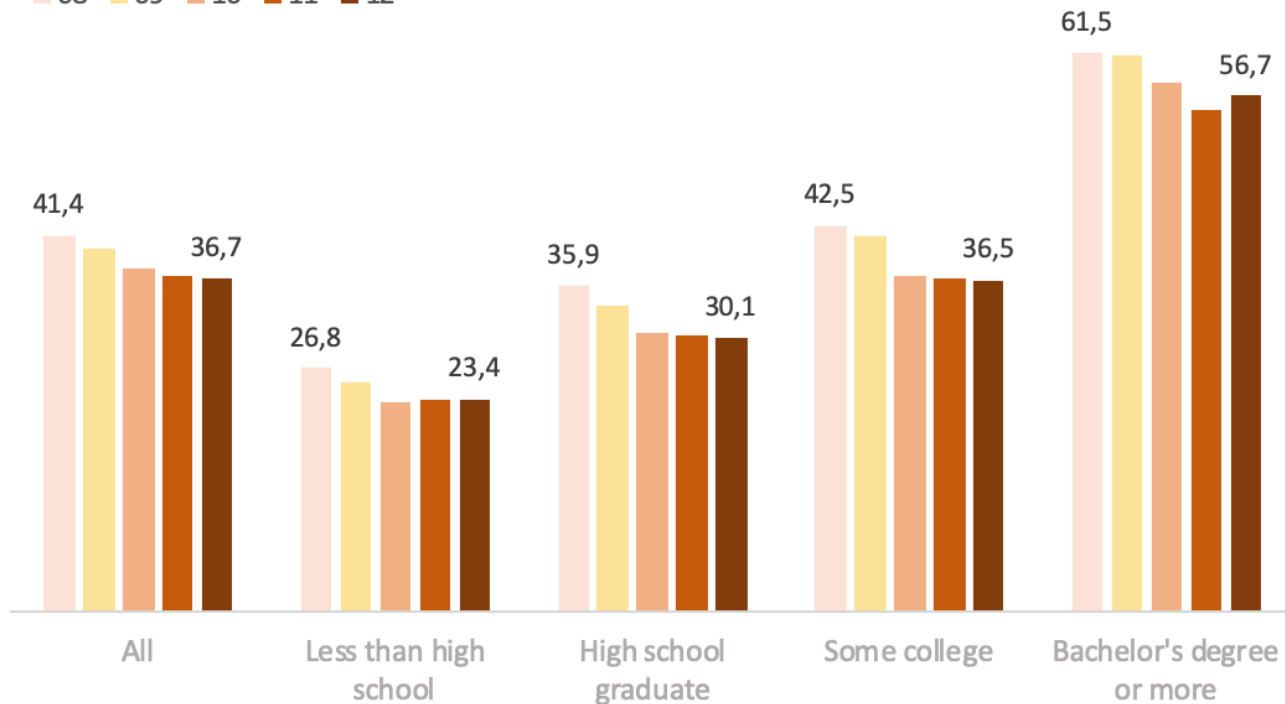
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# New Marriage Rate by Education

*Number of newly married adults per 1,000 marriage eligible adults*

08 09 10 11 12

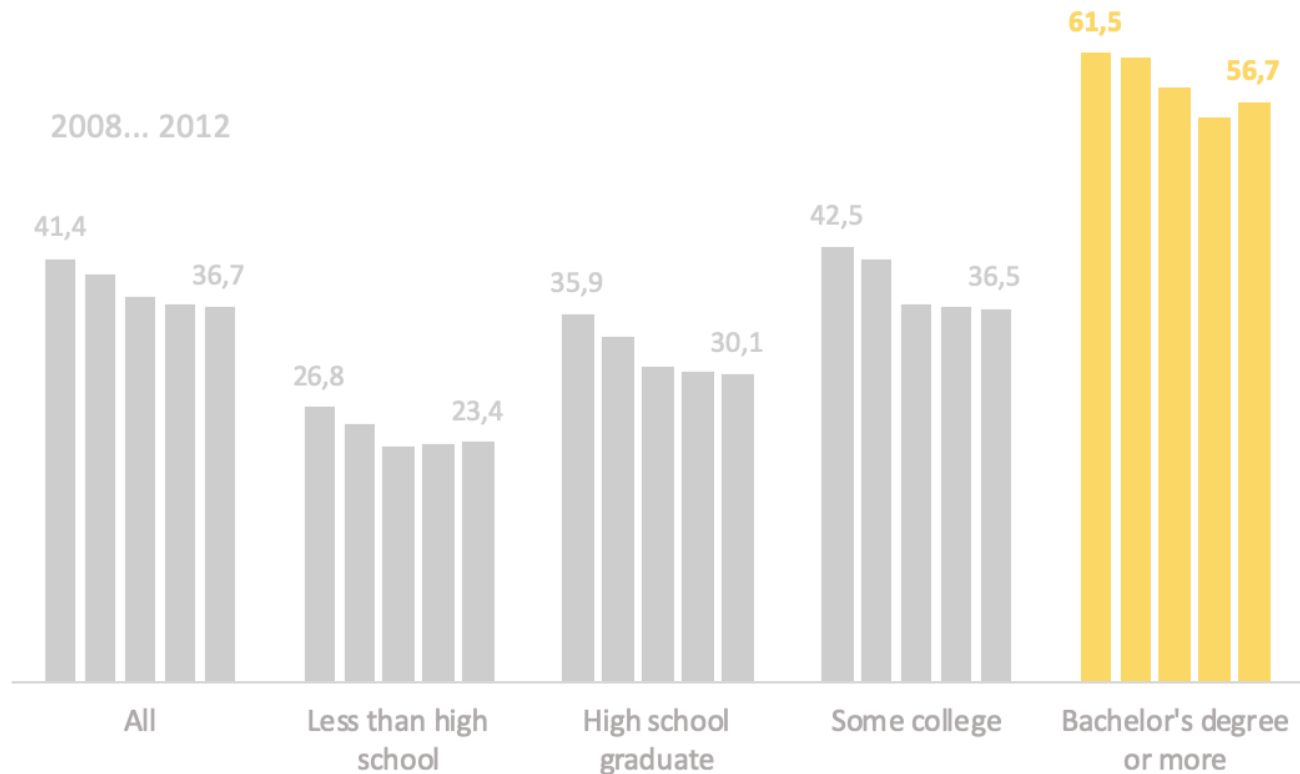


Note: Marriage eligible includes the newly married plus those widowed, divorced, or never married at interview.

Source: U.S. Census

# New Marriage Rate by Education

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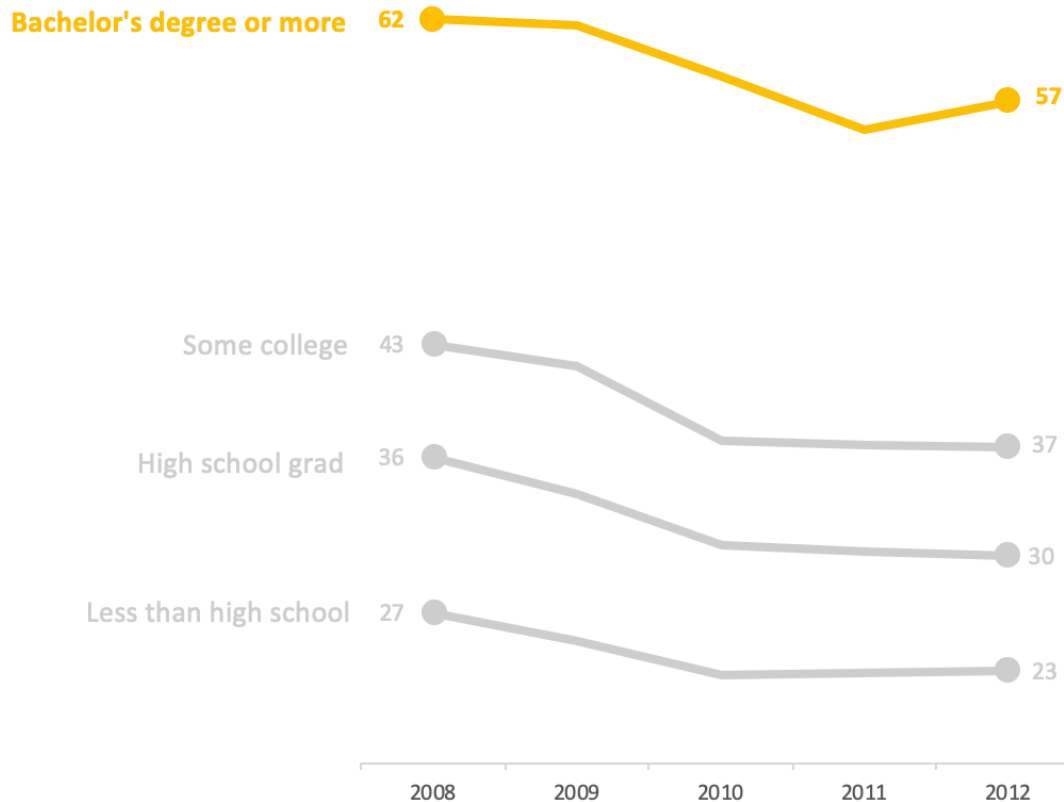


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# THANKS!

## Any questions?

You can find me at

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