

Data Visualization: Interactions that speed discovery

Xan Gregg, JMP Development



Scope

Data Visualization

Graphical representation of data that leverages our visual perception system for better understanding.

Not: tables of text

Interaction


User action that causes a near-immediate change to the data representation.

Not: data transformation, animation, programming

References

- Interactive Data Visualization: Foundations, Techniques, and Applications
 - 2010, 2015 book
 - Matthew O. Ward, Georges Grinstein, Daniel Keim
- Interactive dynamics for visual analysis
 - 2012 paper, Communications of the ACM
 - Jeffrey Heer, Ben Shneiderman
- Methods of interactive data visualization
 - 2019 blog post/JSM presentation
 - Xan Gregg

BLS American Time Use Survey



U.S. BUREAU OF LABOR STATISTICS

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American Time Use Survey

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ATUS Methods ▾

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The **American Time Use Survey (ATUS)** measures the amount of time people spend doing various activities, such as paid work, childcare, volunteering, and socializing.

CHARTS

Percent of employed people who worked at home and at their workplace on days worked, 2023 annual averages

Percent who worked at workplace

Percent who worked at home

Total	73%
Part-time workers	73%
Multiple jobholders	73%
High school graduates, no college	73%
Bachelor's degree or higher	73%

NEWS RELEASES

35% of employed people do some or all of their work at home on days they work in 2023

06/27/2024

In 2023, 35 percent of employed people did some or all of their work at home on days they worked, and 73 percent of employed people did some or all of their work at their workplace.

[HTML](#) | [PDF](#) | [RSS](#) | [Charts](#)

In 2021-22, 14% of the U.S. population, or 37.1 million people, provide unpaid eldercare

09/21/2023

Operations and Methods

Reconfiguring	variables, chart type, ordering
Filtering	local filtering, selection filtering
Selection/Connection	linked row selection
Navigation	axis zoom, pan, stretch, projection
Encoding	visual properties, color mapping
Elaborating	hover details, drilldown

Operations and Methods

Reconfiguring	variables, chart type, ordering
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Navigation	axis zoom, pan, stretch, projection
Encoding	visual properties, color mapping
Elaborating	hover details, drilldown
	summary statistics, model parameters

Operations and Methods

Reconfiguring	variables, chart type, ordering
Filtering	local filtering, selection filtering
Selection/Connection	linked row selection
Navigation	axis zoom, pan, stretch, projection
Encoding	visual properties, color mapping
Elaborating	hover details, drilldown
Statistical tuning	summary statistics, model parameters

Operations and Methods

Reconfiguring	variables, chart type, ordering
Filtering	local filtering, selection filtering
Selection/Connection	linked row selection
Navigation	axis zoom, pan, stretch, projection
Encoding	visual properties, color mapping
Elaborating	hover details, drilldown
Statistical tuning	summary statistics, model parameters
Grand tour	column switching, model profiling

