

## What Makes a Visualization Complex?

Exploring Design Features Related to Visual Complexity

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Overly complex visualizations overwhelm their audiences. However, the extent to which design choices impact people's perceptions of visual complexity (the "amount of detail or intricacy" in an image<sup>2</sup>) has not been systematically examined. We ask:

What design features contribute to perceptions of visual complexity?

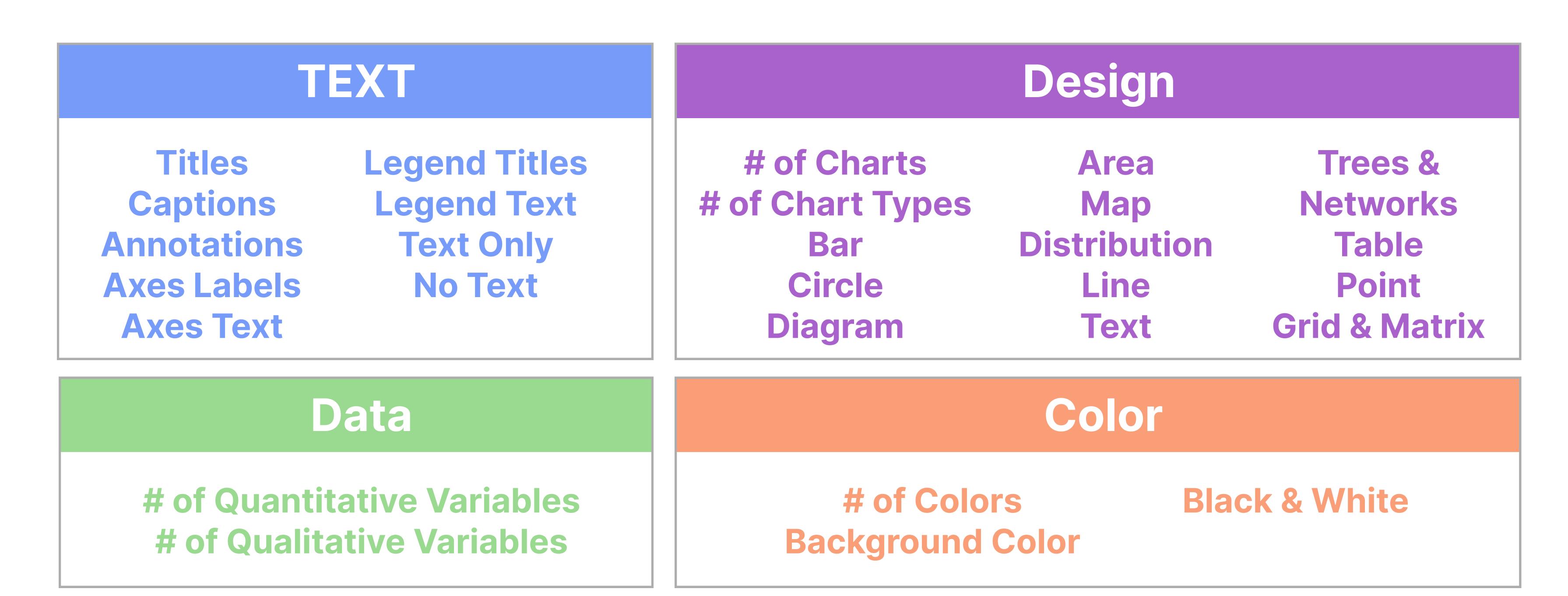
1 RELABEL THE MASSVIS DATASET

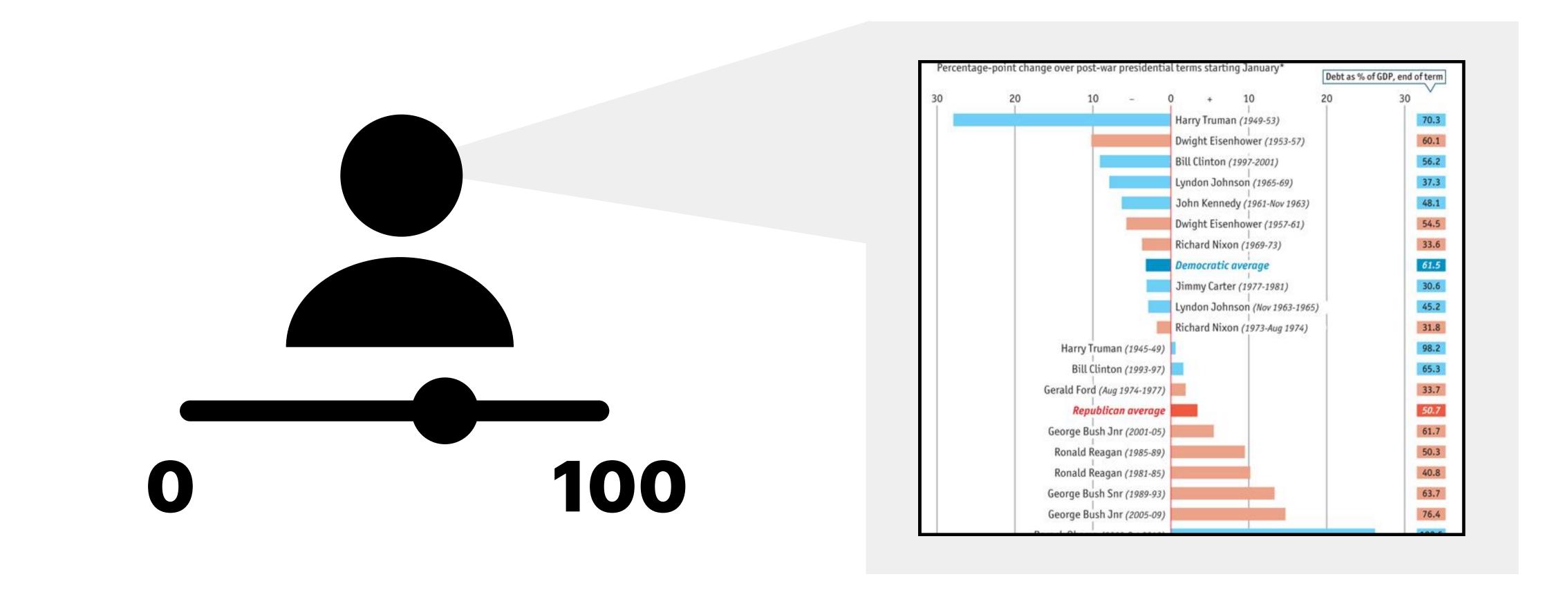
MASSVIS Dataset<sup>1</sup> (5800+ Visualizations)

**Design Features** (Text, Color, Data, Design)

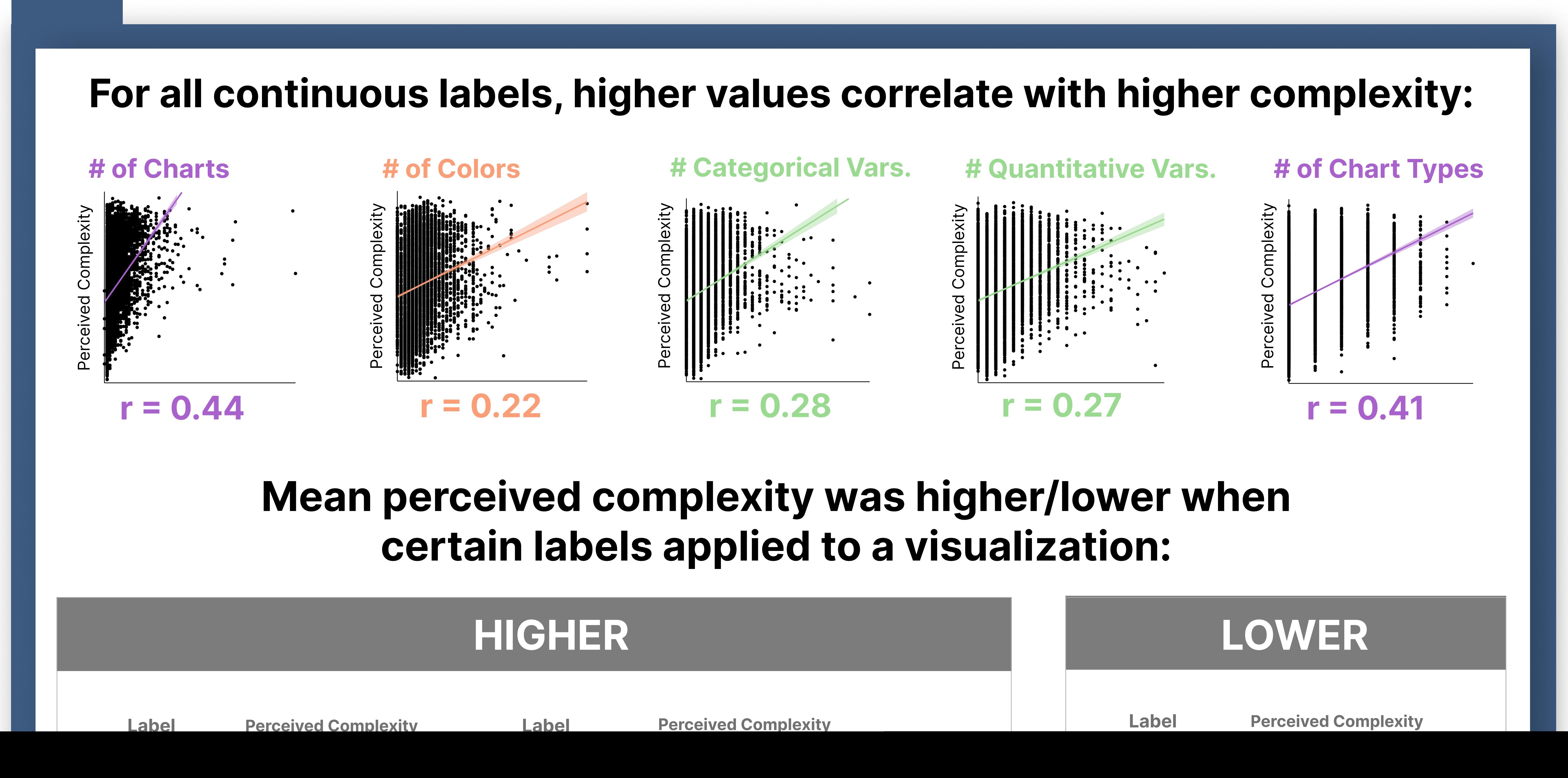
Visual Complexity Ratings (1-100 Slider Response)







## 2 ASSOCIATIONS WITH COMPLEXITY



## 5 FINDINGS

The more visual elements a visualization contains, the greater its perceived complexity.

Other findings are a **mix** of intuitive/less intuitive. For example:

- Intuitive: Visualizations with **annotations** are rated as more complex.
- Less intuitive: Black and white visualizations are rated as more complex on average, but the **number of colors** is positively correlated with complexity.

## References