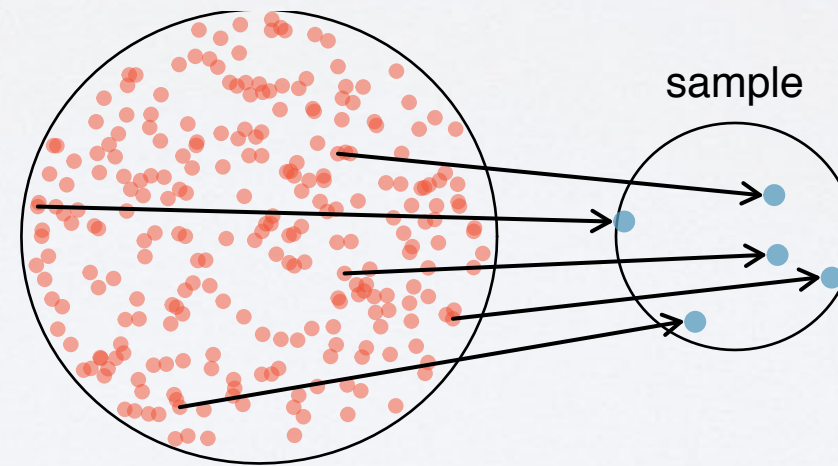
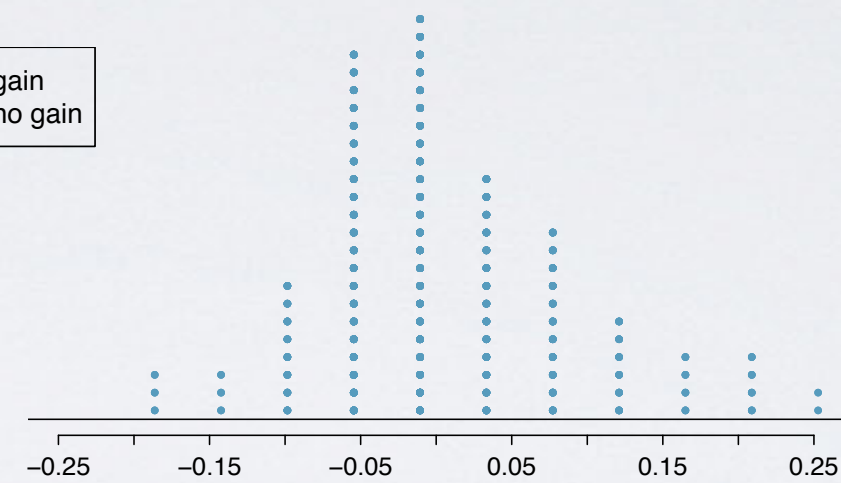
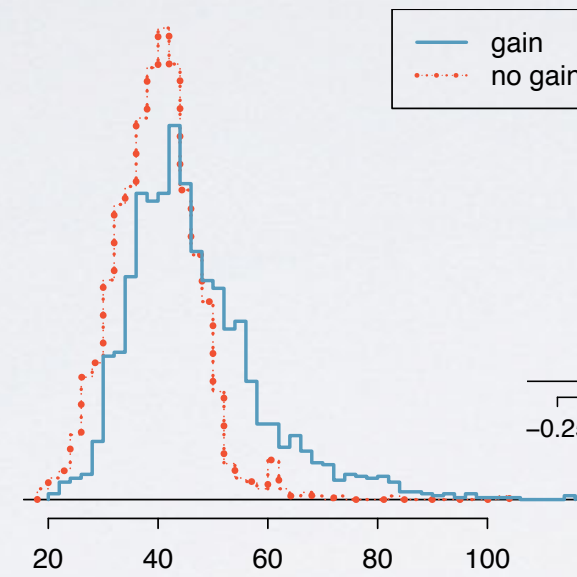
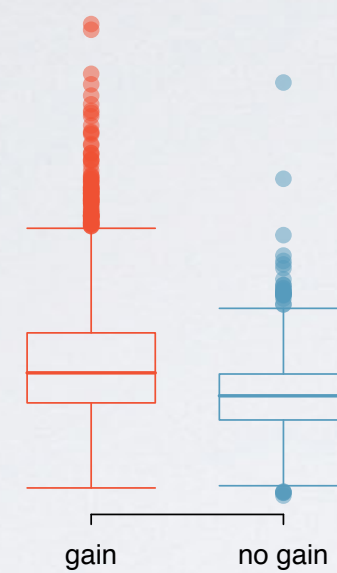
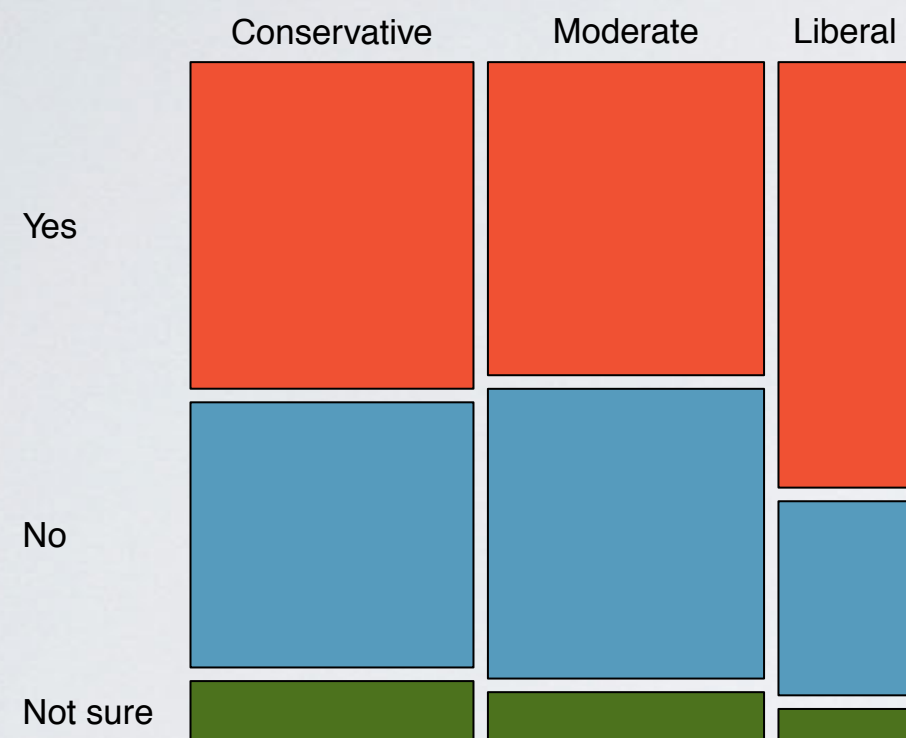
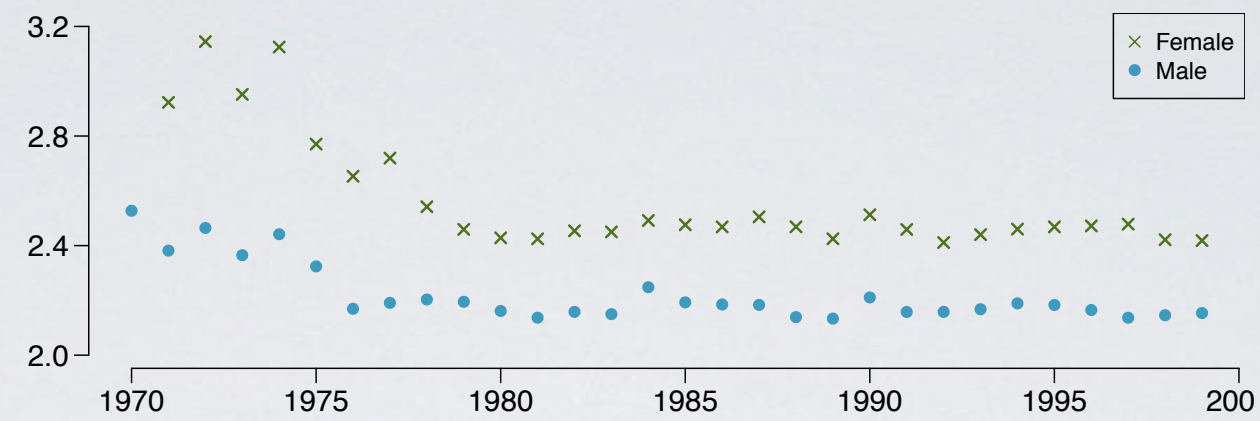


# unit 1

## introduction to data



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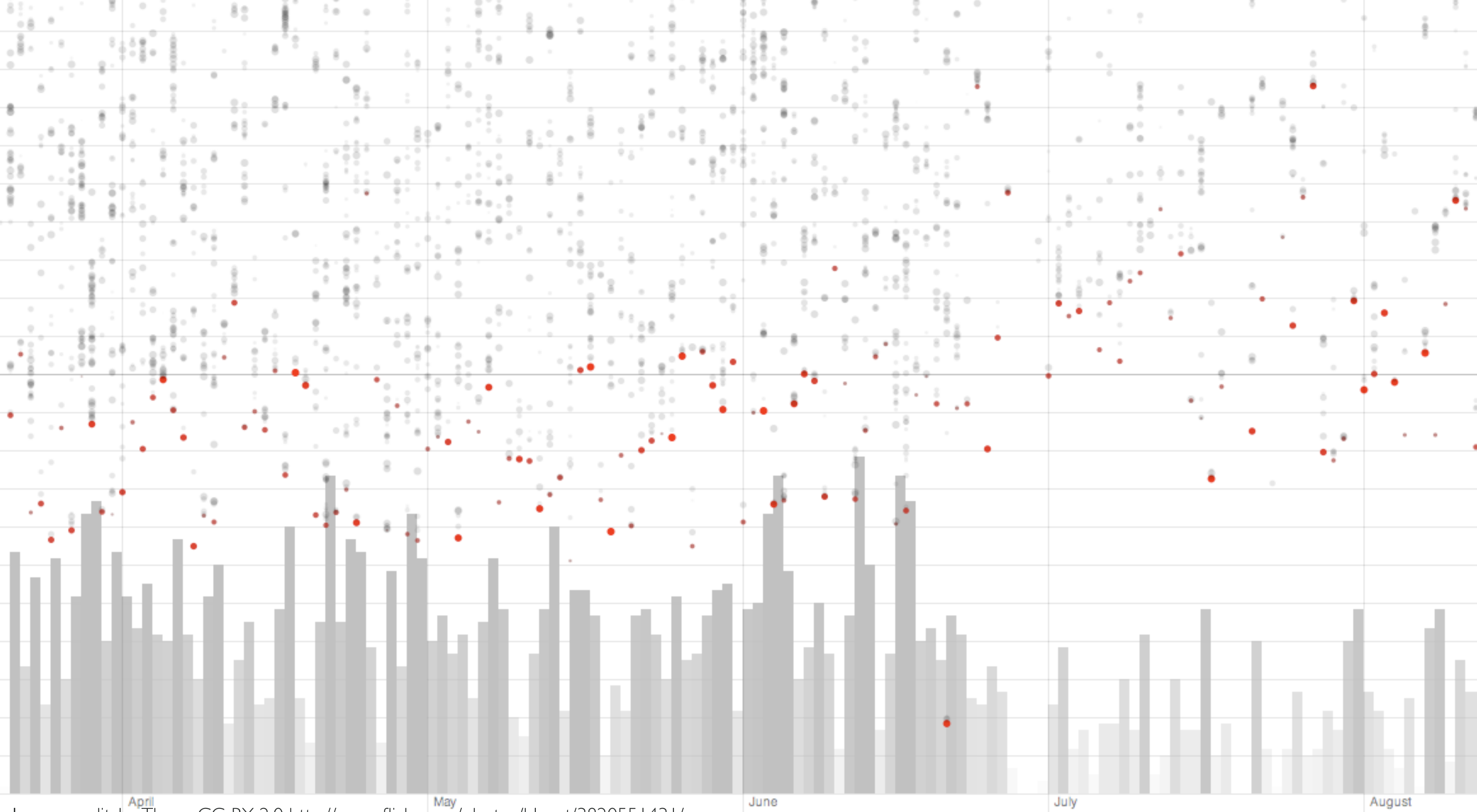
early  
smoking  
research

anecdotal  
evidence

*“My uncle smokes  
three packs a day  
and he’s in perfectly  
good health”*

*“smoking is a complex  
human behavior, by its  
nature difficult to study,  
confounded by human  
variability”*

Source: Brandt, The Cigarette Century (2009)





populations  
and  
samples

research  
question

population

sample

generalize  
to

**Are consumers  
of certain  
alcohol brands  
more likely to  
end up in the  
emergency  
room with  
injuries?**

**Everyone**

**ER patients  
at the Johns  
Hopkins  
Hospital  
in Baltimore  
in the US**

**Residents  
of  
Baltimore**

Source: Jernigan, David H.,  
et al. "Alcohol brand use  
and injury in the  
emergency department: A  
pilot study." Substance  
use & misuse (2013).

population

sample

design

scope

exploratory  
data  
analysis

inference