

# STATISTICAL THINKING

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“Statistical thinking” is a variety of critical thinking involving **data** and **inductive reasoning** directed to **draw** reasonable and useful **conclusions** that can guide **decision-making** and **action**.

From Daniel Kaplan's  
*Lessons in Statistical Thinking*, 2024.



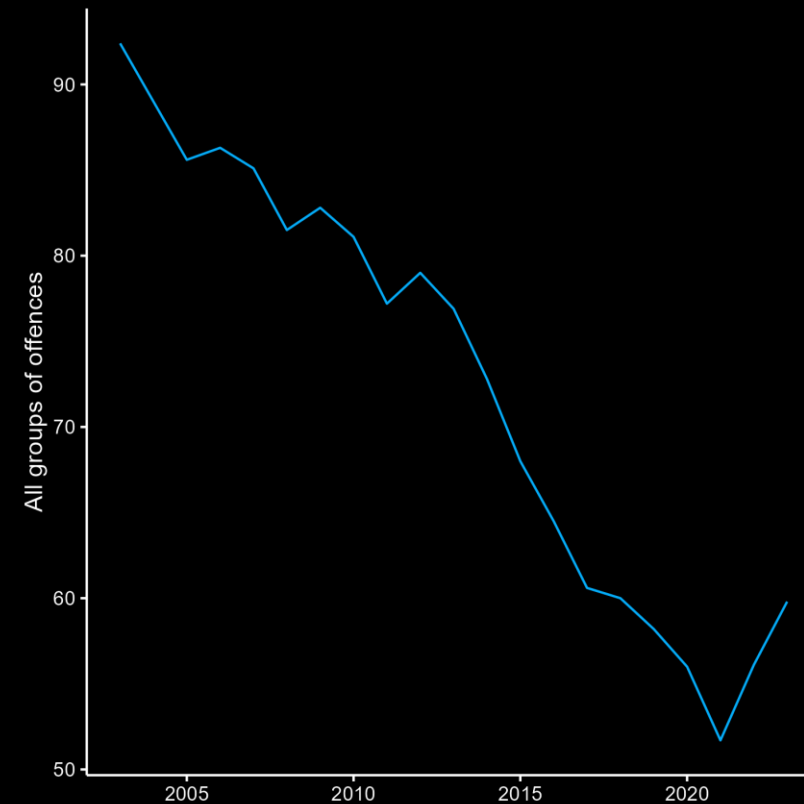
# STATISTICAL THINKING

A **systematic** way of thinking about how we **describe** the world and use **data** to make **decisions** and **predictions**, all in the context of the inherent **uncertainty** that exists in the real world

From Russel A. Poldrack's  
Statistical Thinking for the 21st Century, 2019.



# STATISTICAL THINKING VS HUMAN INTUITION



# DESCRIBE

The world is complex and we need to describe it in a simplified way.

- 73 years old
- Female
- Widow
- Retired
- Norwegian
- ....

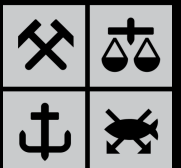


# DECIDE

Decisions based on data, usually in the face of uncertainty.



NHH  
TECH3



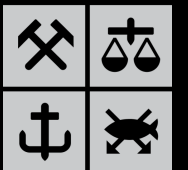


# PREDICT

Make predictions about new situations based on knowledge of previous situations.



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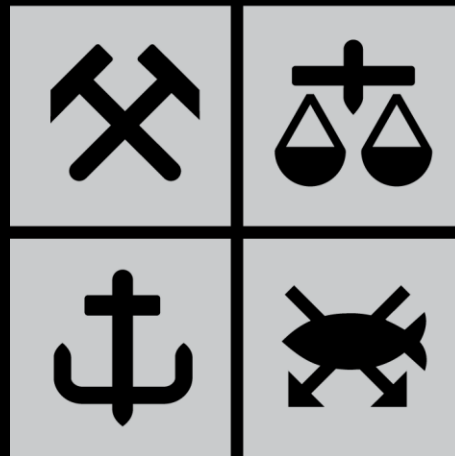


# SOME BIG IDEAS OF STATISTICS

- Learn from data
- Aggregation
- Uncertainty
- Sampling from a population



# NHH TECH3



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