Outline

→ Ch 6. Experiments in the real world

→ Ch 7. Data Ethics

→ Ch 8. Measuring

→ Ch.1~4. Problem Discussion/Communication

Randomized Comparative Experiment

→ Goal: Find out relation (causality) of response and explanatory variable by eliminating/adjusting confounding effects.

→ Man-made setting by carefully sampling/experimental design (to eliminate possible confounding factors)

→ Example:

Longer studying hours --> Better grades

SKII users --> Better skin

Double-Blind Experiment

- Why do we keep our eyes open?

- Elimination of subjective bias by artificial blocking of information/knowledge.

Examples:

      Pepsi is better?

      Composition contest

      Medical treatment

Can we generalize?

➔ Well-design study/experiment?

➔ Statistically significant: The relation is too strong/rarely happened to be explained by pure chance.

➔ Hidden Bias? Subject knowledge?

Example:

➔ Online vs. Classroom

➔ Placebo effect

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