

Building experiments: Experimental design

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Outline

- Typical experimental designs in psychology
 - Independent measures
 - Repeated measures
 - Longitudinal designs
 - Survey studies
- Advantages and disadvantages

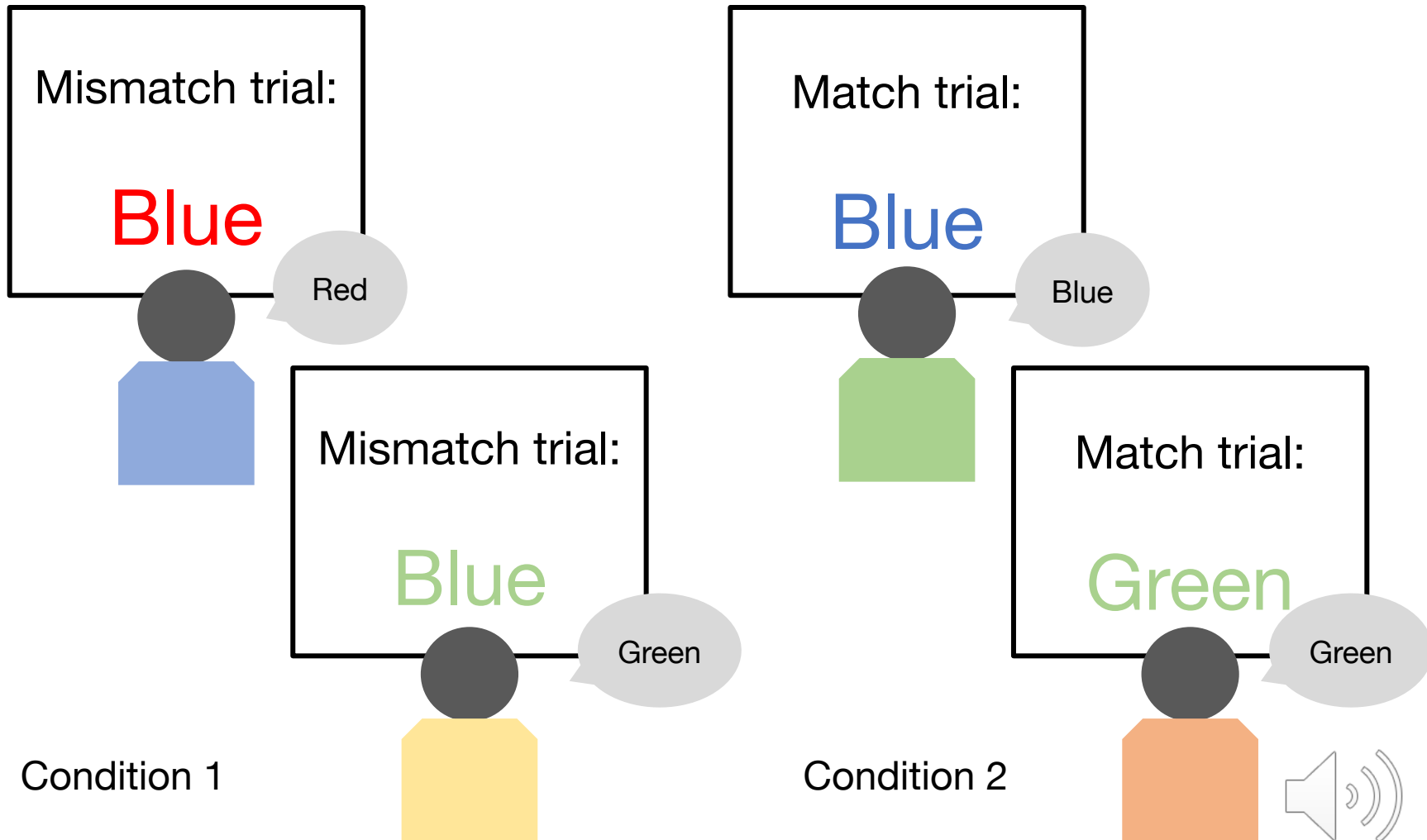


Independent measures

Participants assigned to different experimental conditions.



Independent measures



Independent measures

Participants assigned to different experimental conditions.

- Advantages
 - Simple, clear experimental designs
 - Avoids order effects
- Disadvantages
 - Potential cohort effects
 - Requires larger samples

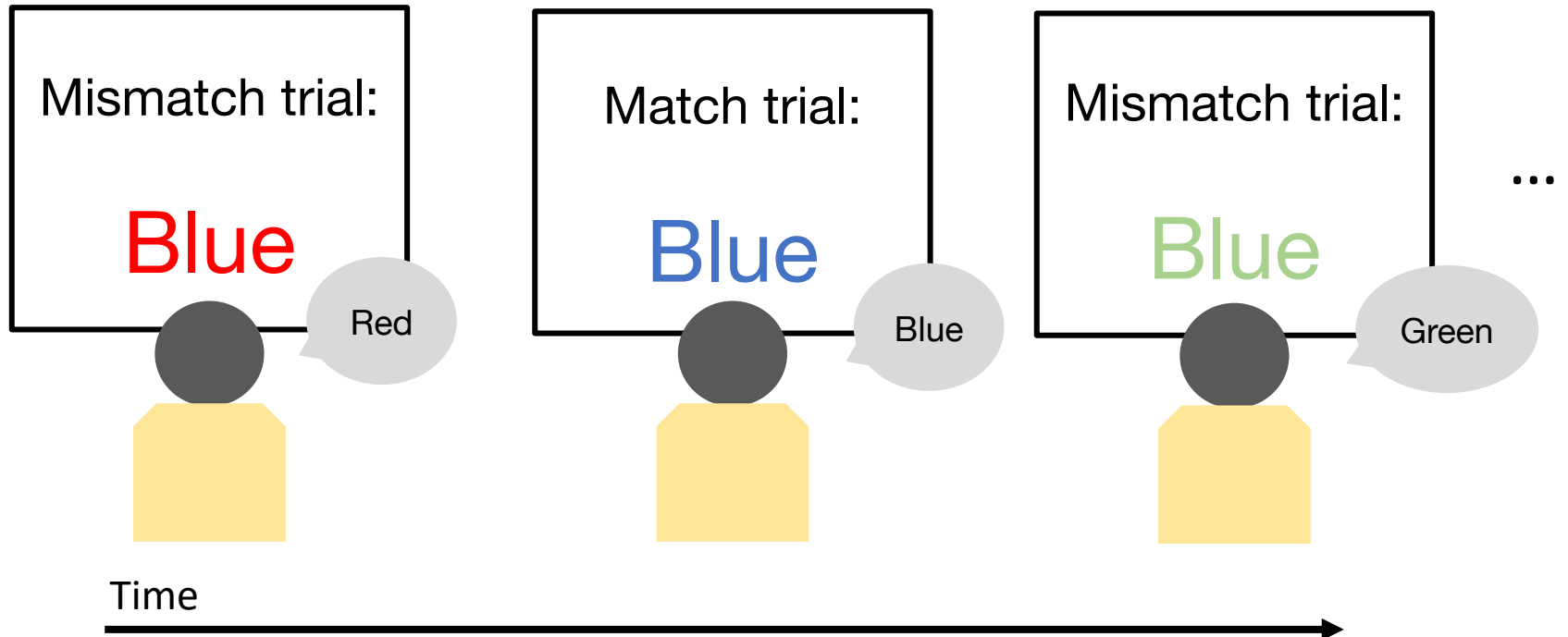


Repeated measures

Same participant measured in various experimental conditions.



Repeated measures



Repeated measures

Same participant measured in various experimental conditions.

- Advantage
 - More data from fewer participants
 - Counters cohort effects
- Disadvantages
 - Potential order effects
 - Requires more complicated statistical analysis

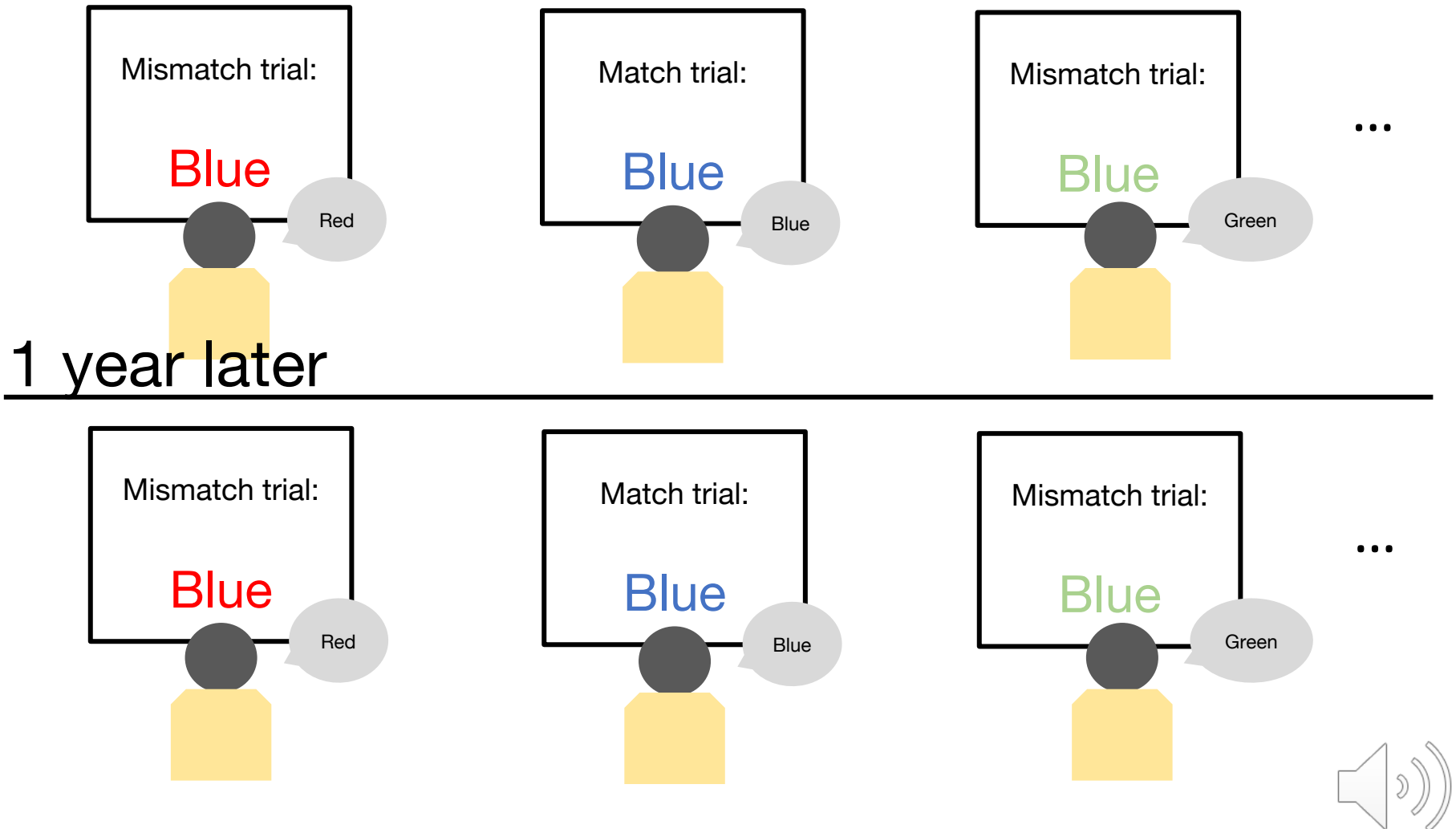


Longitudinal designs

Taking multiple measurements over longer periods of time (can be independent and/or repeated measures).



Longitudinal designs



Longitudinal designs

Taking multiple measurements over longer periods of time (can be independent and/or repeated measures).

- Advantage
 - A useful way to study the effect of development
- Disadvantages
 - Problem of participants dropping out of study
 - Cultural changes over time



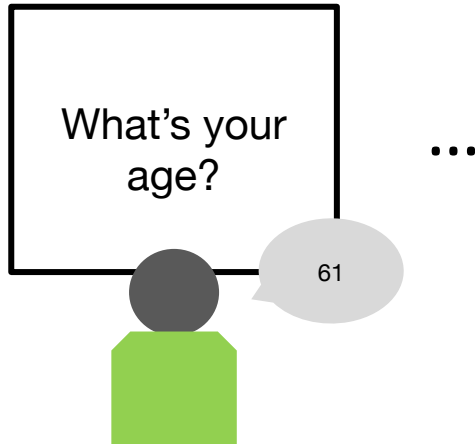
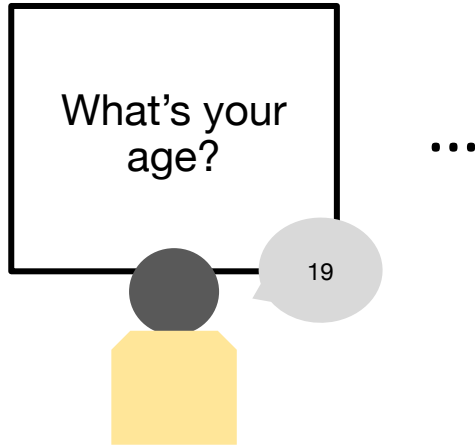
Survey studies

Measurement of preferences, opinions, and behaviours using self-report questionnaires.

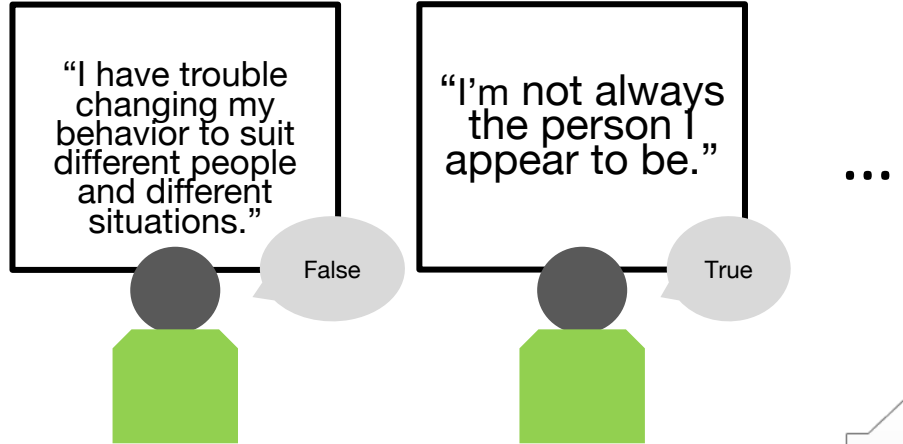
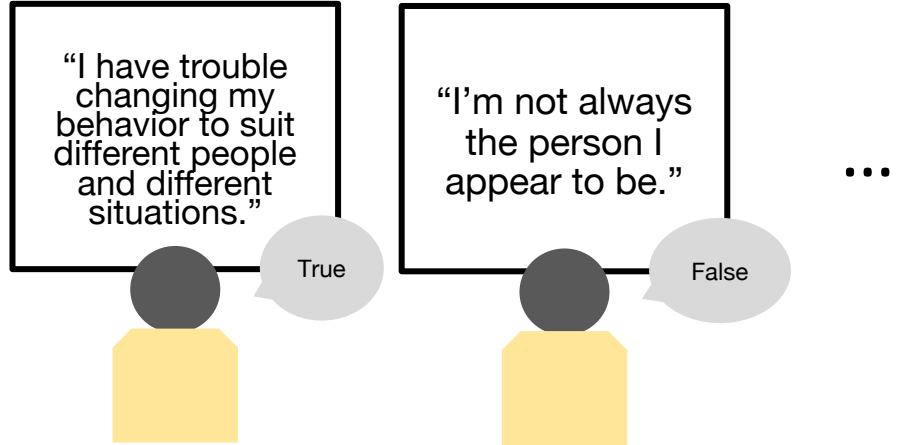


Survey studies

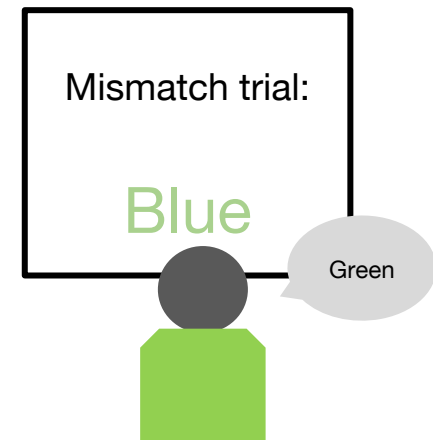
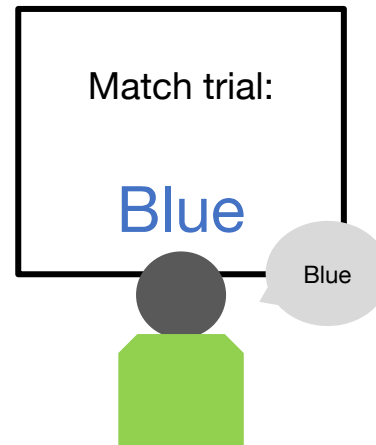
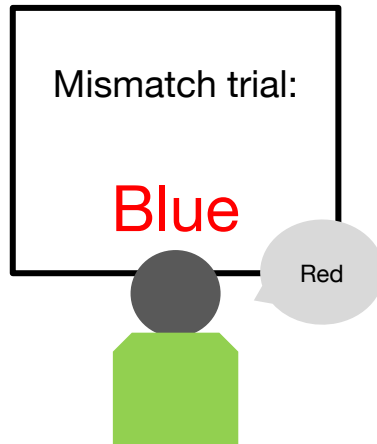
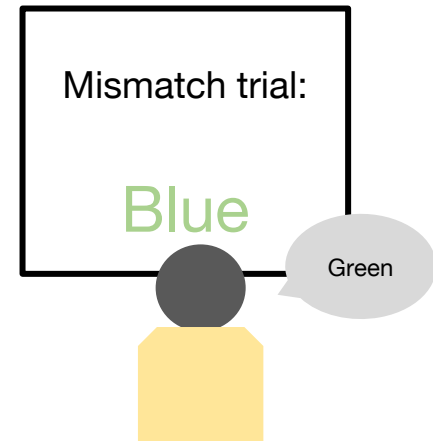
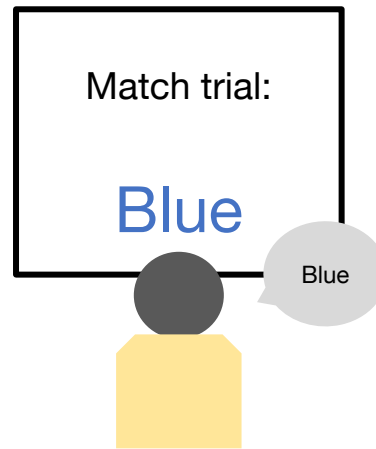
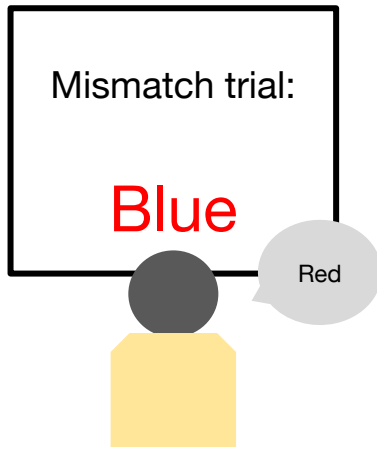
Demographic info, e.g., age



Other questionnaires, e.g., self-monitoring



Survey studies



Survey studies

Measurement of preferences, opinions, and behaviours using self-report questionnaires.

- Advantage
 - May elucidate causes of individual differences
- Disadvantages
 - No experimental control
 - Validity concerns



Summary

- Typical designs
- Advantages and disadvantages

