

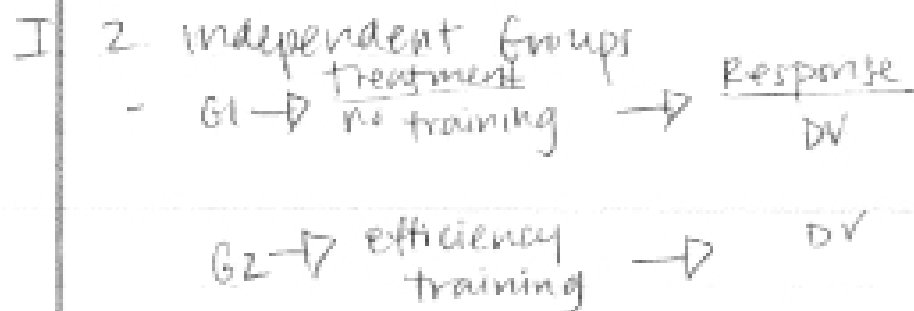
PSY 250 (3/15/2017)

Outline:

Experimental Design

- 2 independent groups design (continued)
- Multiple independent groups design
↳ examples

NO CLASS 3/17

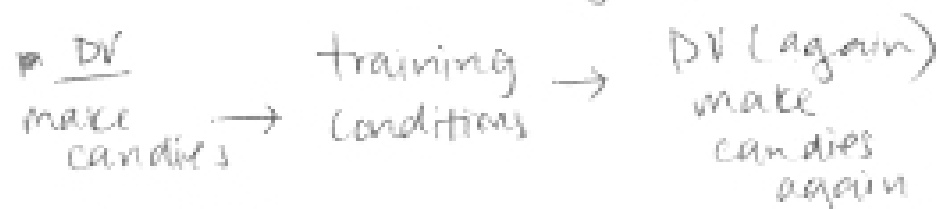


- * Can't have 1 group, 1 level in variable in experiment!
- Pros: ~~relative~~ relatively easy to carry out (not many conditions), don't need large sample size, can do easy data analysis (just use t-test to test between 2 means)

no training	training	} means # of candies made per hour
97	114	

↳ look for main effect of training = effect of 1 IV of training (p value < .05 = significant difference.)

- Cons: - only investigate 1 IV at a time (to look at other variables, limited e.g. workspace AND training's effect requires more complex design.
- limited info of IV on DV: 2 levels only, e.g. no train, some train, full training can't be possible
- Post-test only design: only look @ DV only after introducing IV, - but can include variation by including pre-test (measure IV before introducing IV again)



• Benefits: ensure group equivalency = previously used random assignment but sometimes it doesn't work if you have very small groups. Outliers can affect small groups.

Pre-test = do groups start out equally?

- Check mortality reasons: drop-outs due to death or not interested in study. (Ex: smoking cessation study: w/o pre-test + mortality, we don't know why they drop out. Those who smoke heavily ~~drop~~ drop out, so all participants left will be lighter smokers so ~~it~~ looks like smoking cessation program reduced smoking.)

• Drawbacks:

- Sensitization: announces to Ss to what you're studying. Can affect your responses after pre-test. Eg. aware of # candies ^(pre-test) made \rightarrow low ~~or~~ candy maker will change behavior to increase output (not due to training)
- time-consuming:
- Generalization problem: population isn't pre-tested, so does sample results generalize it.
- * include ^{pre-test} of drawbacks of not having pre-test ~~not~~ out-weighs having it.

II Multiple Independent groups

- more ^{than} 2 groups, can be pre-test \rightarrow post-test, ^{or} post-test only.

	Treatment (IV)	Response (DV)
G1	no training \rightarrow	Employee output
G2	efficiency training program \rightarrow	" "
G3	collaboration training \rightarrow	" "

- only 1 IV, but > 2 levels

- Diff in output btwn groups, can say caused by training program? Yes, as long as extraneous variables controlled.

Must be another level of IV. Can't include workplace IV. Not the same!

- ↳ Example 1: Lee, Frederick & Ariely (2006) on beer preferences
- RQ: how does knowledge affect gustatory experiences (taste)?
Specifically knowledge of offensive ingredient in drink?
 - Focused on timing of disclosure of negative ingredient, via:
 - 1) never tell
 - 2) before consumption
 - 3) after consumption.
 - Method: did in bars, participants sampled 2 beers
 - 1) Regular beer
 - 2) MIT brew: beer + balsamic vinegar (offensive ingredient)
 - IV: presentation of info about ingredient (vinegar) = 3 levels
 - DV: beer preference for regular beer OR MIT brew.

3 conditions:

Blind (not told of vinegar)	Before (told before drinking)	After (sample → told → give preference)
	(over 50%) more	

- Findings: blind condition preferred MIT brew, before had ~~less~~ less than 50%, after in turn blind & before conditions
- Conclusions: expectations affect real-time experience itself (taste). Telling them afterwards didn't change experience.
- Implications: if you want to like food, eat first then ask later. Parents w/ picky kids → don't tell kids what's in food e.g. Crab cake = sea hamburger

↳ Example 2: gratitude & relationship value (Lambert et al., 2010)

- RQ: ^{How} expressing gratitude/appreciation affect one's view of a relationship?
- prediction: Gratitude increases communal strength (degree to which you feel responsible for partner's welfare)
- Method using 4 levels:
 - 1) Expression of gratitude: email/write note/tell friend you appreciate something he/she does.
 - 2) Thoughts: think about things you appreciated of friend
 - 3) Think positive memories of friend