

Help with Essay #15

Please note! These are examples to help you understand the concepts. You don't need to detail all of these in your answer!

Talk about the general principles in the audio! (Consider the external validity elements of the earlier study and figure out what cell means, marginal means or semi-marginal means best match those – that's your best replication test. Look across the rest of the design cell to consider what generalizations you can test, whether they are further aggregating or splitting!) And include maybe one example...

The key is to match what parts of the current study “are the same” as the previous study you are trying to replicate.

Also, There are two basic kinds of Generalizability (and lots of variations):

- The one we always think of → if an effect generalizes across values of another variable (Example #1 below)
- The one we forget → does a main effect generalize to all of the related simple effect (Example #2 below)

5 years old		
	Gun	Puzzle
Boys		
Girls		

10 years old		
	Gun	Puzzle
Boys		
Girls		

Example #1: Earlier IV was → **Gun vs Puzzle**

Earlier study used just girls

Earlier study used just 5 year olds

Replication check? We would compare CELL means **GUN** vs **PUZZLE** for 5 year old girls

We would be relatively secure in our sample. Our 5 year old girls are likely to match theirs.

Generalizability check? Do we get same effect at all three other Gun vs Puzzle comparisons?

- ⇒ Gun vs Puzzle for 5 year old boys
- ⇒ Gun vs Puzzle for 10 year old boys
- ⇒ Gun vs Puzzle for 10 year old girls

Generalizability of “a simple effect” is mostly about whether we get the same pattern for “**all other** corresponding simple effects”

5 years old		
	Gun	Puzzle
Boys		
Girls		

10 years old		
	Gun	Puzzle
Boys		
Girls		

Example: Earlier IV was → **Gun vs Puzzle**

Earlier study used boys & girls
 Earlier study used different ages

Replication Check: We would compare MARGINAL means aggregated from **GUN** vs **PUZZLE**

We would worry some whether our sample of just 5 & 10 year olds was representing the same population as their sample that used “different ages”.

Generalizability check? Do we get same effect at all four of the specific Gun vs Puzzle comparisons?

- ⇒ Gun vs Puzzle for 5 year old boys
- ⇒ Gun vs Puzzle for 5 year old girls
- ⇒ Gun vs Puzzle for 10 year old boys
- ⇒ Gun vs Puzzle for 10 year old girls

Generalizability of “main effects” is mostly about whether we get the same pattern for “**all of the** corresponding simple effects”

5 years old		
	Gun	Puzzle
Boys		
Girls		

10 years old		
	Gun	Puzzle
Boys		
Girls		

Earlier IV was → **Gun vs Puzzle**

Earlier study used just boys

Earlier study used different ages

Replication Check: We would compare SEMI-MARGINAL means aggregated from **GUN** vs **PUZZLE**

We would worry some whether our sample of just 5 & 10 year old boys was representing the same population as their “boys of different ages”.

Generalizability check? Gonna need (at least) 2 here!

#1 Do we get same effect when we aggregate semi-marginal means comparing Gun & Puzzle when we aggregate from girls? **Gun vs. Puzzle**

#2 We could also ask if we get the same pattern for all four of the Gun vs Puzzle comparisons

- ⇒ Gun vs Puzzle for 5 year old boys
- ⇒ Gun vs Puzzle for 5 year old girls
- ⇒ Gun vs Puzzle for 10 year old boys
- ⇒ Gun vs Puzzle for 10 year old girls

5 years old		
	Gun	Puzzle
Boys		
Girls		

10 years old		
	Gun	Puzzle
Boys		
Girls		

Generalizability of “effects tested using semi-marginal means” is often about BOTH:

- ⇒ whether we get the same pattern for “**all other** corresponding semi-marginal effects” (Eg#1)
- ⇒ whether we get the same pattern for “**all of the** corresponding simple effects” (Eg#2)