Chapter 13 Review Questions

1. What is the main weakness of a pure between-subjects design?
2. What is the main weakness of a within-subjects design?
3. What is a mixed design?
4. Are counterbalanced designs mixed designs?
5. What is counterbalancing and why is it a good idea?
6. Suppose you conduct a counterbalanced design that manipulates two levels of the treatment. In such an experiment, what is the difference between an order effect and a sequence effect?

**Answers to Chapter 13 Review Questions**

1. What is the main weakness of a pure between-subjects design? **Requires many participants to have adequate power.**
2. What is the main weakness of a within-subjects design? **Order effects may hurt the within-subjects design’s internal validity**
3. What is a mixed design? **A design in which one or more independent variables are between-subjects factors and one or more independent variables are within-subjects factors.**
4. Are counterbalanced designs mixed designs? **Yes, counterbalanced designs mix within-subjects and between-subjects factors. For example, in a 2 X 2 counterbalanced design, the treatment variable is a within-subjects factor and counterbalanced sequence is the between-subjects factor.**
5. Why is counterbalancing a good idea? **It allows you to balance out potential order effects, determine whether there are order effects, and determine whether there are sequence effects.**
6. Suppose you conduct a counterbalanced design that manipulates two levels of the treatment. In such an experiment, what is the difference between an order effect and a sequence effect?

* **The order effect compares how each participant scored on the first trial to how that participant scored on the second trial.**
* **The sequence effect would compare participants who got Treatment A first and Treatment B last to participants who got Treatment B first and Treatment A last.**