Identify the predictor(s), the levels of the predictor, and the type of design (within-subjects or between-subjects).

1. A group of 100 ice-cream fanatics visit Jeni’s Splendid Ice Cream shop seven days a week, 52 weeks per year. A researcher is interested in whether these fanatics order more scoops, on average, per weekend day or per weekday. They measure scoops ordered on weekend days and weekdays, and compare the average number.
2. In a classic study by Solomon Asch, participants were presented with one of two sets of traits (set A: intelligent, industrious, impulsive, critical, stubborn, envious; set B: envious, stubborn, critical, impulsive, industrious, intelligent), and were asked to form an impression of the individual described by those traits. The impressions of the two groups were compared.
3. A researcher who studies stereotypes wanted to know whether having a young, Black, female math professor would affect students’ stereotypes about what types of people are good at math. The researcher measured stereotypes at the beginning of the semester, in a group of 30 students. Those 30 students were taught Multivariate Calculus by a young, Black, female professor. After the semester was over, stereotypes were measured again to see if they’d changed.
4. A researcher wanted to know if anxiety from electric shocks caused rats to drink more of a beverage spiked with alcohol. The researcher put all 50 rats in her sample into cages that occasionally delivered mild electric shocks. Then, the researcher put the rats into other cages that contained a bottle with sugar water spiked with 5% alcohol, and measured how much they drank. The next day, she put all 50 rats into cages that did not deliver any shock, and afterward she put them all into cages that contained a bottle with sugar water spiked with 5% alcohol. She measured how much they drank.
5. A political science researcher wanted to know whether negative campaign ads were more effective than positive campaign ads. He developed one negative and one positive ad, and randomly assigned a group of 100 participants to see one or the other. Then he measured each person’s attitudes toward the two candidates.
6. A researcher wanted to know whether people enjoyed concerts more in a small venue with no seats or a larger venue with seats, and whether their preference for type of venue depended on the type of band/artist. The researcher randomly assigned each participant to either small vs. large venue, and to either country band vs. indie-rock band. Each participant attended one concert.

**KEY**

Identify the predictor(s), and the type of design (within-subjects or between-subjects).

1. A group of 100 ice-cream fanatics visit Jeni’s Splendid Ice Cream shop seven days a week, 52 weeks per year. A researcher is interested in whether these fanatics order more scoops, on average, per weekend day or per weekday. They measure scoops ordered on weekend days and weekdays, and compare the average number.

*This study’s predictor is: type of day and it has two levels, weekday vs. weekend day.*

*The design is* ***within*** *subjects, because the same entities (the same group of fanatics) go on weekdays and weekend days (as opposed to one set of fanatics on weekdays and one set on weekend days).*

1. In a classic study by Solomon Asch, participants were presented with one of two sets of traits (set A: intelligent, industrious, impulsive, critical, stubborn, envious; set B: envious, stubborn, critical, impulsive, industrious, intelligent), and were asked to form an impression of the individual described by those traits. The impressions of the two groups were compared.

*This study’s predictor is: set of traits, and it has two levels, A vs. B*

*The design is* ***between*** *subjects, because the paragraph says that Ps were presented with one of two sets of traits, meaning each entity (participant) was exposed to one level of the manipulation*

1. A researcher who studies stereotypes wanted to know whether having a young, Black, female math professor would affect students’ stereotypes about what types of people are good at math. The researcher measured stereotypes at the beginning of the semester, in a group of 30 students. Those 30 students were taught Multivariate Calculus by a young, Black, female professor. After the semester was over, stereotypes were measured again to see if they’d changed.

*This study’s predictor is: time of the semester, and it has two levels, before vs. after*

*The design is* ***within*** *subjects, because the same students responded to the dependent variable (stereotype measure) before* and *after.*

1. A researcher wanted to know if anxiety from electric shocks caused rats to drink more of a beverage spiked with alcohol. The researcher put all 50 rats in her sample into cages that occasionally delivered mild electric shocks. Then, the researcher put the rats into other cages that contained a bottle with sugar water spiked with 5% alcohol, and measured how much they drank. The next day, she put all 50 rats into cages that did not deliver any shock, and afterward she put them all into cages that contained a bottle with sugar water spiked with 5% alcohol. She measured how much they drank.

*This study’s predictor is: whether or not shocks were given, with the levels yes/given vs. no/not given.*

*The design is* ***within*** *subjects, because the same rats were in the condition “shocks given” as were in the condition “shocks not given”.*

1. A political science researcher wanted to know whether negative campaign ads were more effective than positive campaign ads. He developed one negative and one positive ad, and randomly assigned a group of 100 participants to see one or the other. Then he measured each person’s attitudes toward the two candidates.

*This study’s predictor is: type of ad, with levels positive vs. negative.*

*The design is* ***between*** *subjects, because half of Ps saw the positive ad and half saw the negative ad, but nobody saw both ads (different entities in each group/level/condition of the IV)*

1. A researcher wanted to know whether people enjoyed concerts more in a small venue with no seats or a larger venue with seats, and whether their preference for type of venue depended on the type of band/artist. The researcher randomly assigned each participant to either small vs. large venue, and to either country band vs. indie-rock band. Each participant attended one concert.

*There are two predictors.*

*One predictor is type of venue, with two levels, small without seats vs. large with seats*

*The second predictor is type of band/artist, with two levels, country band vs. indie-rock band*

*The design is fully* ***between*** *subjects; in other words, each predictor is manipulated between subjects. The paragraph says that each participant attends one concert, meaning that there are four separate groups of Ps.*

|  |  |  |
| --- | --- | --- |
|  | *Small venue* | *Large venue* |
| *Country* | *Group 1* | *Group 3* |
| *Indie-rock* | *Group 2* | *Group 4* |