**Identifying Important Research Method Concepts in Psychological Studies**

**Hypotheses, Research Strategies, Methods, Variables, and Validity**

For each study described below:

1. Identify the hypothesis or hypotheses.
2. Identify the research strategy being utilized (i.e., descriptive, correlational, quasi-experimental, experimental).
3. Identify the method used to collect the data (e.g., naturalistic observation, observational, case study, archival, content analysis, survey).
4. Identify the variable(s) of interest (e.g., independent, predictor, dependent).
5. Identify factors that increase or decrease of the internal validity of the study.
6. Identify factors that increase or decrease of the external validity of the study.
7. Bushman and Anderson (2009) investigated whether or not violent media caused people to be slower to react in helping situations. College students were randomly assigned to play a violent video game or a non-violent video game for 20 minutes. Afterwards, participants completed a questionnaire that assessed their attitudes about how fun, interesting, and violent the video game was. While they were completing the questionnaire, a fight occurred outside of their room. Unbeknownst to participants, the voices they heard fighting were recorded and the loud noises were made by the researchers. The fake fight ends with the aggressor slamming the door and the victim groaning in pain. The moment the aggressor supposedly exits researchers began timing how long it took for participants to help the victim.
   1. Violent media causes people to react slower in helping situations. Participants who played a violent video game will take longer to help the victim than participants who played a non-violent video game.
   2. This is an experimental study.
   3. Survey and observational methods were used to collect the data.
   4. The independent variable is the type of video game and there are two levels (violent versus non-violent). The dependent variable is helping behavior and it operationally defined by how long it takes participants to help. The manipulation check (i.e., the variable that is used to examine whether or not the independent variable was administered correctly) was questionnaire assessing participants’ beliefs about how violent the video game was. Ideally, Bushman and Anderson would want the video games rated equally in terms of fun and interest, but rated differently in terms of violence.
   5. Internal validity 🡪 higher, because random assignment is used, there is a manipulation check, the fight is recorded (i.e., consistent across conditions)
   6. External validity 🡪 college students as participants (that may lower external validity), used a realistic helping situation (that may increase external validity)
8. Gudjonsson (1999) was interested in understanding the process whereby people may come to make confessions to serious crimes they have not committed. Henry Lucas, a serial false confessor, was charged with a murder he confessed to but did not commit. Gudjonsson interested Henry and then gave Henry a battery of tests including an intelligence test, a suggestibility scale, a compliance scale, a socialization scale, and a personality inventory.
   1. No specific hypothesis was stated.
   2. This study would be classified as nonexperimental, more specifically as descriptive research.
   3. The case study method appears to be used. Additionally, Henry was given standardized test (i.e., personality scales).
   4. The variables of interest include intelligence, suggestibility, compliance, socialization, and personality.
   5. Internal validity 🡪 there is no manipulation of variables and little control over variables (this lowers internal validity)
   6. External validity 🡪 there is only one participant in the study making it difficult to say if his behavior is representative of other serial false confessors (this lowers external validity)
9. Dabbs and his colleagues (1995) examined whether or not there were links between rates of testosterone and misbehavior in male prison inmates. Researchers collected saliva samples from 692 male inmates to measure levels of testosterone. They also examined data on the type of crime for which each inmate was serving time (e.g., robbery, assault, drug offenses), and whether the inmate had received a disciplinary report for violating prison rules during his incarceration.
   1. Testosterone and misbehavior in male prison inmates will be positively correlated. More specifically, male inmates with higher levels of testosterone will be serving time for more violent crimes than male inmates with lower levels as testosterone. In addition, as levels of testosterone increase, the number of disciplinary reports made will also increase.
   2. This research nonexperimental, more specifically correlational.
   3. Physiological measures were taken and there may be an archival component to the study (i.e., examining prison records).
   4. Variables of interest include testosterone levels and misbehavior (i.e., type of crime and disciplinary report). Type of crime and disciplinary reports are how the researchers are operationalizing misbehavior. Testosterone may be predictor variable and misbehavior may be the outcome or criterion variable.
   5. Internal validity 🡪 there is no manipulation of variables (this lowers internal validity)
   6. External validity 🡪 if prisoners are only from one prison (this lowers external validity), many prisoners (this increases external validity), more than one measure of misbehavior used (this increases external validity)
10. Aronson and Mills (1959) explored the link between effort and dissonance reduction. College students volunteered to join a group that would be meeting to discuss various aspects of sex. Only women participated in this study. Participants were randomly assigned to one of three conditions (i.e., no initiation, mild initiation, or severe initiation). The no initiation condition was considered the control condition. Those women in the initiation conditions were asked to read romantic (i.e., mild initiation) or pornographic (i.e., severe initiation) passages to a male experimenter. Afterwards they were told that the group discussion about sex had already begun. Thus, to avoid disrupting the group, researchers asked participants to listen to the discussion via an intercom in the next room. Although participants thought they were listening to a live discussion, in reality, it was taped. Researchers purposely made the discussion very boring. Afterwards, participants rated how much they liked the discussion. Consistent with the researchers’ predictions, participants who exerted little or no effort to get into the group did not enjoy the discussion as much as participants who exerted effort.
    1. People will like things better when they have to work for them. Participants who exert effort will like the discussion more than participants who exert little or no effort.
    2. This is an experimental study.
    3. The method for collecting the data is not entirely clear. Participants self-reported their liking of the discussion.
    4. The independent variable is initiation condition. It has three levels (i.e., no initiation, mild initiation, or severe initiation). The dependent variable is participants’ ratings of how much they liked the discussion.
    5. Internal validity 🡪 they controlled for gender, they also used random assignment, and they used a recorded discussion (these increase the internal validity). However, do we know that severe condition was really more effortful or that the mild condition was really less effortful? Because no manipulation check was used, this decreases internal validity
    6. External validity 🡪 college students and only women participated in the study (this lowers external validity)
11. Dunn, Dunn, and Bayduza (2007) investigated popularity and loneliness in elementary school children. They believed that as children’s popularity decreased the children’s loneliness would increase. Children responded to a questionnaire assessing loneliness in school. To assess popularity, children were given two lists that included the names of their classmates. They were asked to imagine that they would be going on a class trip and that they would have to spend the entire trip with three classmates. Using the first list, children were instructed to “circle the names of three people you would most like to have in your group.” Using the second list, children were instructed to “circle the names of three people you would least like to have in your group” From these lists researchers were able to identify the most/least popular children and crate a map of class popularity.
    1. Popularity will be negatively correlated with loneliness.
    2. This is a non-experimental study. Specifically, it is correlational research.
    3. Data were collected via sociometry in which surveys are utilized.
    4. Variables of interest are popularity and loneliness. Just guessing here, but popularity is probably the predictor variable and loneliness is the criterion or outcome variable. However, we can’t say for sure because of the correlational nature of the data. It is also possible that loneliness predicts how popular children are. This is the directionality problem. Or it is possible that there is some other third variable that the researchers didn’t measure that is responsible for changes in both variables. This is the third-variable problem.
    5. Internal validity 🡪 no manipulation or random assignment used (this decreases internal validity)
    6. External validity 🡪 collected data from children in context of the classroom (this increases the external validity)
12. Dal Cin and her colleagues (2008) sought to determine the extent of adolescents’ exposure to alcohol-related content in popular movies. Researchers selected 534 movies from 1998 to 2003 to review. Researchers coded “i) whether beer, wine or liquor was used during the film, ii) whether any characters were intoxicated by alcohol, iii) the duration of alcohol use, and iv) any alcohol brands which appeared and the type of appearance.”
    1. No specific hypothesis is mentioned; however, it is likely that adolescents are frequently exposed to movies with alcohol-related content.
    2. This non-experimental, descriptive research.
    3. Data were collected via a content analysis. Here we would be very interested in the inter-rater reliability of coders.
    4. Variables are i through iv.
    5. Internal validity 🡪 just measuring variables (decreases internal validity)
    6. External validity 🡪 used several movies over a 5-year period (increases external validity)