Week 7 Discussion

Internal validity vs external validity

According to Yegdis et al, internal validity is defined as, “the amount of confidence the researcher has that only exposure to the independent variable produced changes in the dependent variable and that there are no other factors that accounted for these changes” (Yegdis et al., 2017). The researcher has conducted many tests to rule out other factors that make their research a cause-and-effect relationship. An example of this is researching if dieting is the best way to lose weight for humans. The researcher has used a control variable and random samples to account for any confounding variables that may affect the research. The researcher has ruled out any other factors and is confident that dieting is the best way to lose weight. (Yegdis et al., 2017)

According to Yegdis et al., external validity is defined as, “the extent to which findings are believed to apply beyond cases that were actually studied to their population” (Yegdis et al., 2017). External validity shows how well research results can be applied to another population. For example, if research has been conducted only with male participants, you cannot assume that similar results will happen for females. The more specific the research sample is the less likely results will apply to others. (Yegdis et al., 2017)

Internal validity is a way to show how strong your research is. Internal validity focuses on how your research was conducted. Variables are compared and contrasted to give the research credibility. External validity focuses on the results of the research. External validity explains how well the results can be applied to the real world. External validity explains how universal research results are.

Two Internal validity threats

The first threat to internal validity I chose is testing effects. If a pretest is used to measure the dependent variable, it can change the measurements of the variable. Pretests influence the results of the post-test. If the same test was given at the beginning and end of research results would change in the posttest due to being familiar with it in the pre-test. (Yegdis et al., 2017)

The second threat to internal validity I chose is history. Significant events such as the COVID-19 pandemic can disrupt research studies. So many rules and regulations have to be followed during a pandemic and that can affect research being conducted. Events like this can have a major effect on the dependent variable. Researching during the pandemic will have its internal validity questioned. (Yegdis et al., 2017)

Solomon four-group design

I believe that the Solomon four-group design controls all threats to internal validity. The Solomon four-group design uses two experimental groups that go through a pretest and posttest. This is to see any changes between the pretest and posttest. Two more groups, consisting of control groups are also involved. These control groups do not take the pretest. The control groups only take the post-tests to observe if the pretest makes any changes to the dependent variable. It seems like a lot but it is 4 tests with 4 groups. Even though the groups are not randomly assigned this is to see if there are factors that affect variables or results. The Solomon four-group design does a good job of covering all threats to internal validity. I say this because of the control