**Lab 2: Working with Correlational Designs and Data**

Have you wondered what makes some people want to join some groups, like fraternities and sororities, while other people avoid these affiliations?

For some students, these Greek organizations epitomize the excitement of college life, while other students view them as cultlike groups that promote conformity and eliminate individuality. Some might think that those who “go Greek” are self-assured individuals who know who they are, whereas others might believe that joining a fraternity or sorority indicates a sense of personal weakness or insecurity.

You could probably make compelling arguments for both possibilities, which is a clear sign of a good research question! To determine which answer is best, we could debate both sides of the issue using our own thoughts and experiences. But we know better than that by now. Instead, we will use the scientific method to ask the research question:

**1. RESEARCH QUESTION: Is there an association between students’ sense of self and their interest in joining a fraternity or sorority?**

**2. Making that RQ into an Empirical question: How do we operationalize the constructs of “desire to join a Greek Organization and Self-Concept?**

* First, we look in the literature for measures that could work. (Presumably, we already conducted a thorough literature search to know what’s been done related to our topic).
* We find a measure of “self-concept clarity.” The researchers explored the idea that those with greater self-concept clarity have greater accuracy in self-knowledge. Researchers demonstrated that the Self-Concept Clarity Scale (SCC Scale) is a reliable and valid self-report measure of self-concept clarity.
* We don’t find anything related to desire to join a Greek organization, so we create one. We will learn later in the term about how to create good survey items.

**For now, let’s look at examples of not so good items, and better ones:**

Original Item: Belonging to a Greek organization increases my chances of being successful.

Better Items:

* Belonging to a Greek organization increases my chances of being academically successful.
* I am more likely to be socially successful by belonging to a fraternity or sorority.
* Being a member of a Greek organization will help me become successful after graduation.

*Why are these better?*

And another example:

Original Item: Joining a fraternity or sorority will help me meet my academic goals and meet others with similar goals.

Better Items:

* Joining a fraternity or sorority will help me meet my academic goals.
* Belonging to a fraternity or sorority will help me meet other students with similar goals to mine.

**3. HYPOTHESIS**

Given that we can think of reasons for different patterns of association between our two variables, we will stick with a **nondirectional hypothesis** and simply predict that self-concept clarity relates to interest in joining a Greek organization.

**Calculating the Participant’s Score**

As we discussed earlier, we are using scales to measure our two key variables because they provide us with more precision than if we used single-item questions for each variable. When we use a Likert scale, we determine our variable’s measurement by summing the responses to all of the individual items on the scale (or by creating a mean). For our scale, we want higher total scores to indicate that the participant has a more positive attitude toward joining a Greek organization. But we must be careful because we worded some of the items in the opposite direction (e.g., “Fraternities and sororities are a waste of time.”). Participants who are very interested in “going Greek” will tend to disagree with the opposite direction items, meaning that they will choose response alternatives associated with lower numerical values, not higher ones. Suppose we have a participant with such a positive attitude about joining a Greek organization that he or she strongly agrees with the items worded in the positive direction (i.e., higher agreement indicates positive attitude) and strongly disagrees with those worded in the opposite direction (i.e., higher agreement indicates a negative attitude). If we simply sum the responses, they will essentially cancel each other out, resulting in the inaccurate conclusion that the person is ambivalent about joining a fraternity or sorority.

To prevent this from happening, we use a technique called **reverse-coding** before we sum participants’ responses on the scale. To accomplish this, we assign the following numerical values to our positive direction items:

1 = Strongly disagree

2 = Disagree

3 = Neither agree nor disagree

4 = Agree

5 = Strongly agree

**Reverse-coding.** a scoring strategy where more negative response alternatives are assigned higher numerical values and more positive response alternatives are assigned lower numerical values; used to minimize the potential for an acquiescent response set.

However, for the items worded in the opposite direction, we re-assign the numerical values this way:

5 = Strongly disagree

4 = Disagree

3 = Neither agree nor disagree

2 = Agree

1 = Strongly agree

As you can see, we assign the higher numerical values to the low end of the response alternatives for items worded in the opposite direction. By doing this reverse-coding, when we sum the participants’ responses, we can be certain that higher scores represent a more positive attitude toward joining a fraternity or sorority. Now we know that higher scores indicate what we hoped (i.e., a more positive attitude toward joining a Greek organization).

Ok, so now you understand the general idea. Your task today is to analyze the data set I’ve provided. You will have to (a) reverse code some questions) and create a new variable that sums BOTH the Self-Concept Clarity scale and the Desire to join Greek organizations scale. The steps are:

1. Identity which variables need to be reverse coded and conduct that in Jamovi.

2. BEFORE we create the sum, we want some evidence that each item actually measures the construct reliably. That is, if we have 12 items all intended to measure SCC, then participants ought to answer each item in a similar way. For example, those with high self-concept clarity ought to answer each item on the high end of the scale, and so on. To do this we conduct what is known as an “internal reliability or consistency analysis.” The most common one used in called Cronbach’s alpha. So, now we will do that. IF this alpha is about .70 or higher, that’s a good sign that the measure has good internal reliability, which means we can then create the combined (“composite”) variable.

3. Now, create the two combined variables

4. Conduct a correlational analysis on these two variables.

5. Write a sentence describing the result.

**This is the Self-Concept Clarity Scale**

Graphical user interface, application, Word

Description automatically generated

**This is the Desire to Join Greek Organizations scale**

Graphical user interface, application, Word

Description automatically generated