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Lab Title: Beliefs about Substance Use Disorders

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Section 1: Performance Expectation

What will the student be asked to do?

When instruction is complete, students will have *gathered* and *analyzed* data regarding beliefs about substance use disorders and will have *communicated* this via oral lab report.

Main Idea/Concept Demonstrated or Taught by Lab:

After concluding this lab, students will understand:

- controversies within the area of addiction treatment

After concluding this lab, students are able to (performance standards):

- Describe the benefits and drawbacks of viewing addiction as a "brain disease"
- Create scatterplots to represent relationships between variables
- Interpret graphical representations of quantitative data

This lab allows students to collect, organize, and interpret correlational data regarding attitudes toward substance use disorders and their treatment.

Key Terms and Psychologists Associated with Main Idea/Concept:

substance use disorder

Materials:

You will need:

- A copy of the Put Yourself on the Line handout for each student.
- Paper or tagboard on which students will create scatterplots
- Optional: Access to Google Forms & Sheets or Excel spreadsheets for students

Instructions:

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1. Begin by asking students to complete the Put Yourself on the Line form. If you wish to use their responses as part of class discussion, it may be helpful to let them know ahead of time that they may be asked to share their responses to particular statements and accompanying rationales.
2. Lead students in a "Put Yourself on the Line" style of discussion by selecting a particular item (for example, #4, "Addictions are brain diseases.") and asking students to line up according to the number they selected (1's on the left end and 7's on the right). Ask students at varying positions (low, middle, or high numbers) to explain their reasoning. This is a helpful way to help students understand the viewpoints of others and to understand the complexity of these controversial issues.
3. After discussion has taken place (it is not necessary to complete all the items, so allow student preference to guide duration), have students return to their seats. Ask students to generate hypotheses about which items might correlate *positively* with other items on the handout. Likewise, would students predict any negative correlations between items? Record the hypotheses on the board.
4. Based on student responses, select items that you will examine for correlations. Organize students to analyze the data. How you do this may depend upon your access to electronic spreadsheets and the size of your class. If using Google Sheets, you might share a spreadsheet with students and ask them to input their own responses. Or, if using paper forms only, you might divide students into pairs or small groups to examine specific questions. For example, imagine that you wish to explore the relationship between students' answers to Item #4 (Addiction as brain disease) and Items #10, #12, and #13. You might divide the class into three groups to accomplish this.
5. Have students (or groups) calculate the correlation coefficient for each relationship of interest (there are free online calculators that can be used for this purpose), and create an accompanying scatterplot showing the results.
6. Have each group share their findings with the class, presenting the correlation coefficient that was found, sharing the scatterplot, and explaining what conclusions could be drawn from the finding.

Follow-up and Discussion:

You might extend students' understanding of the issue of addiction as a "brain disease" by having them read an article on the controversy. Here is one example, but you might also opt for a more scholarly article, depending on time and students' reading abilities.

Students might be asked to consider:

- How might we improve upon this informal study?
- What limitations of correlational studies emerged during this activity?
- If you wanted to determine whether a cause and effect relationship exists between the variables we considered, *how could you do that*?
- What implications to these relationships have for clinicians? For public policy?

Additional Considerations:

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- You might extend this activity by having students gather responses to these questions via survey (online or paper format). If gathering data from other students or the general public, engage students in discussions about appropriate ethical considerations and sampling bias prior to design and implementation of the survey.

Oral Report:

Students will summarize their findings when presenting outcomes to the class. A complete oral report will include:

- The hypothesis guiding the investigation
- The variables under consideration
- The correlation coefficient and scatterplot

An interpretation of the findings

Section 2: Crosscutting Concepts

Concepts:

Students will evaluate the *patterns* that appear in student attitudes and beliefs regarding substance use disorders and related issues.

References:

1. Template adapted from:

   National Science Teacher Association. (2014). Retrieved June 26, 2017, from http://ngss.nsta.org/designing-units-and-lessons.aspx

2. Lab model adapted from:

   Laboratory Experiences and Student Learning. (2017). Retrieved July 10, 2017, from https://www.nap.edu/read/11311/chapter/6#119

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Put Yourself on the Line:

Substance Use and Addictive Disorders

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Use the scale above to rate your agreement or disagreement with each of the following statements.

1. _____Adults are overconcerned about drug use among teens.
2. _____Criminal charges are an appropriate consequence for possession and use of illegal drugs.
3. _____Incarceration is an appropriate consequence for selling or distributing illegal drugs.
4. _____Addictions are brain diseases.
5. _____Medicinal use of marijuana should be legally permitted.
6. _____People can be "addicted" to behaviors (e.g., gambling, internet use) much like they can be addicted to substances.
7. _____Eighteen-year-olds should be legally permitted to use alcohol.
8. _____"Drug maintenance therapies" (e.g., methadone clinics, use of nicotine patches) are appropriate ways to manage the risks associated with addiction.
9. _____Recreational use of marijuana should be legally permitted.
10. _____Those who test positive for drugs should not receive the benefits of social welfare programs (e.g., food stamps, welfare payments, Medicaid).

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11. _____Alcoholics should be placed "last" in waiting lists for organ transplants when their organ failures result from chronic drinking.

12. _____Drug addictions are mostly the result of the physical effects of the drug on the body (and brain).

13. _____College students with criminal convictions related to drug use should not be allowed to receive federal financial aid for tuition.