First Name:_____   Last Name:_____

Student ID #: _____

PSC 041   Research Methods in Psychology   SS1 2022
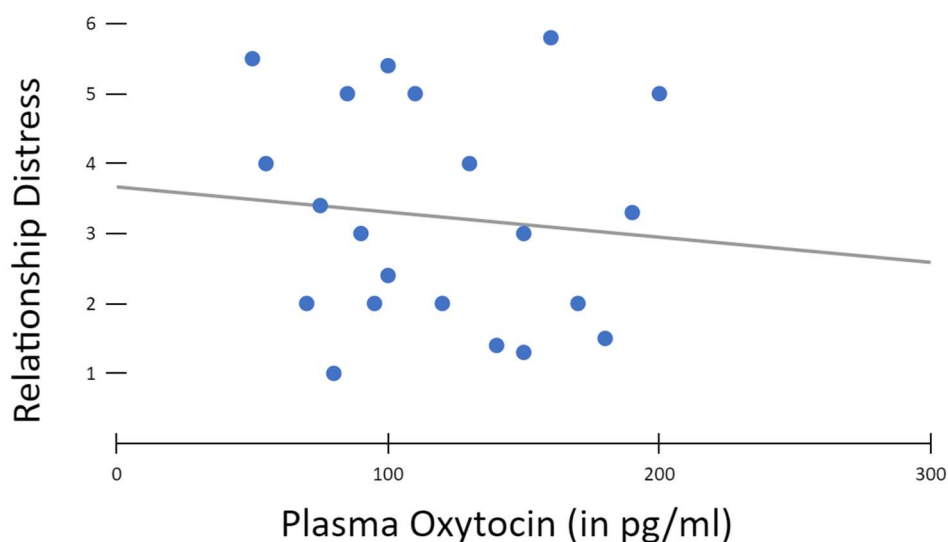**Unit 2 Exam Version B**
Research Summary
Please answer the following questions in the space provided. Only write on the lines.

Adapted From: Taylor, S. E., Saphire-Bernstein, S., & Seeman, T. E. (2010). Are plasma oxytocin in women and plasma vasopressin in men biomarkers of distressed pair-bond relationships?. Psychological Science, 21(1), 3-7.

Hormones in our blood may be physiological markers of distress in romantic relationships. If we experience a sudden shock, we can feel the immediate effect of these hormones. But, what about longer lasting distress, like from chronically worrying about a romantic relationship? There are also positive hormones which may limit the effect of shock or stress. Does the presence of positive hormones, such as oxytocin, relate to less relationship distress. Thirty-two young men who reported being in committed relationships (mean age = 21.60 years, range = 18–34) participated in a study that examined the association between relationship distress and oxytocin (a hormone). Relationship distress was measured by answers to a questionnaire. Specifically, participants rated their romantic partner on the items: "How often do they make too many demands on you?", "How often do they criticize you?", "How often do they let you down when you are counting on them?", and "How often do they really show that they care about you?" (reverse-coded). Responses to each item were on 6-point scales from Never to Always. Responses were averaged to create an index of Relationship Distress with a 1 indicating the lowest possible distress and a 6 indicating the highest possible distress. Within a week of completing this questionnaire, participants had blood drawn at the University of California, Los Angeles, Clinical Research Center. An assay detects the concentration of oxytocin in the blood in picograms (pg) per milliliter (ml). Results demonstrated that vasopressin concentration was positively associated with reports of relationship distress, $r = -.16$, $p = .051$.

Predictor Variable

Considering the predictor / independent variable, Oxytocin Concertration

10 pts | 1. How did the researchers operationally define the predictor / independent variable? Describe it using your own words. *Be sure to include the levels or values and indicate how the codes will be interpreted.*

_____

_____

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5 pts | 2. The predictor / independent variable is (fill in the box)
- ☐ **Categorical**
- ☐ **Continuous**

5 pts | 3. How was the predictor / independent variable measured? (fill in the box)
- ☐ **Observation**
- ☐ **Self-Report**
- ☐ **Physiological**
- ☐ **It was manipulated** (under the experimenter's control)

5 pts | 4. Is this a causal or associative claim? (fill in the box)
- ☐ **Causal**
- ☐ **Associative**

20 pts | 5.   Evaluate the **construct validity** of the predictor / independent variable. ProTips: Give an overall evaluation. Think about the face validity, the procedure, and the method-match to inform your decision. Use specific vocabulary. Be sure to only discuss this one variable.

_____

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Outcome Variable

Considering the outcome / dependent variable, Relationship Distress

10 pts 6. How did the researchers operationally define the outcome / dependent variable? Describe it using your own words. *Be sure to include the levels or values and indicate how the codes will be interpreted.*

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5 pts 7. The outcome / dependent variable is (fill in the box)
- ☐ **Categorical**
- ☐ **Continuous**

5 pts 8. How was the outcome / dependent variable measured? (fill in the box)
- ☐ **Observation**
- ☐ **Self-Report**
- ☐ **Physiological**
- ☐ **It was manipulated** (under the experimenter's control)

20 pts 9. Evaluate the **construct validity** of the outcome / dependent variable.
ProTips: Give an overall evaluation. Think about the face validity, the procedure, and the method-match to inform your decision. Use specific vocabulary. Be sure to only discuss this one variable.
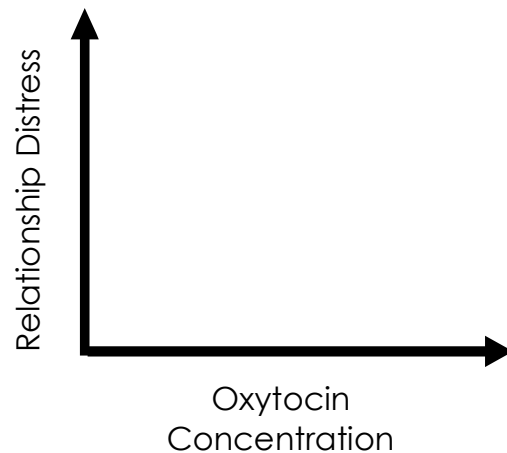
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10 pts | 10. Is it possible that there was social-desirability threat in this research? Why or why not?

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10 pts | 11. How could the researchers establish reliability of the outcome variable?
ProTip: You can describe test-retest, alternate forms, split-half, or interrater.

_____

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_____

Hypotheses
  ProTip: include specific variable names and be sure to
   use a correct verb (causal or associative)

5 pts | 12. Sketch the null hypothesis:

Relationship Distress

Oxytocin
Concentration

5 pts | 13. Write a specific directional research hypothesis for this research.

_____

_____

Summarize the findings

5 pts

14. What sort of relationship did the research reveal?
☐ **No relationship**
☐ **Strong negative linear relationship**
☐ **Moderate negative linear relationship**
☐ **Weak negative linear relationship**
☐ **Strong positive linear relationship**
☐ **Moderate positive linear relationship**
☐ **Weak positive linear relationship**

5 pts

15. The *p* value is _____ . Therefore, there ___ a statistically significant relationship between the variables. (fill in the box)

☐ **greater than 0.05; is**   ☐ **greater than 0.5; is**
☐ **greater than 0.05; is not**   ☐ **greater than 0.5; is not**
☐ **less than 0.05; is**   ☐ **less than 0.5; is**
☐ **less than 0.05; is not**   ☐ **less than 0.5; is not**

5 pts

16. Does this interpretation follow from this study: "increased relationship distress caused decreased Oxytocin concentration" Why or why not?
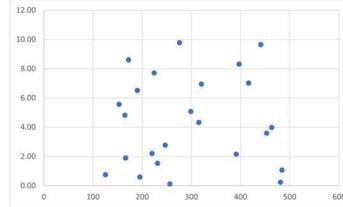
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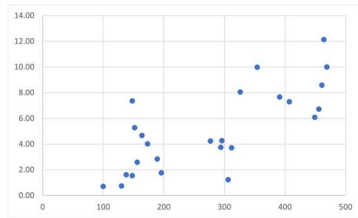**Multiple choice/ fill in the blank / short answer**.
Select the single best answer. Indicate your choice by filling in the box to the left of your selection. Write or draw other answers in the space provided.
2 points each.

Question 1-3 identify the correlation coefficient for the graph:
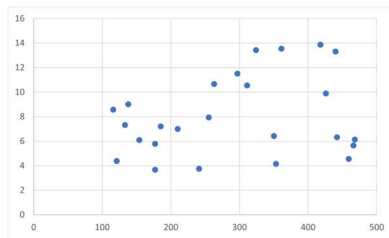
1. ☐ r = .53.
   ☐ r = -.05
   ☐ r = -.70

2. ☐ r = .13
   ☐ r = -.70
   ☐ r = .57

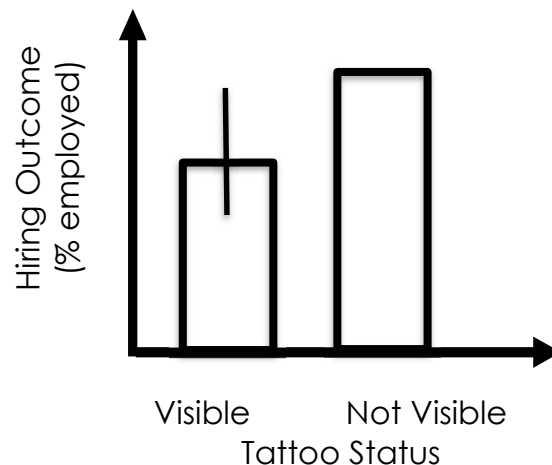3. ☐ r = .90
   ☐ r = .13
   ☐ r = -.27

4. Which of the following tells us the direction of a correlation?
   ☐ the sign of the r-value
   ☐ the absolute value of the r-value

5. The finding that "the fewer classes a person takes, the less money they spend on textbooks" illustrates _____relationship.
   ☐ a positive linear
   ☐ a negative linear
   ☐ a curvilinear
   ☐ no relationship

6. A researcher administered a survey and is concerned that some participants may have hurried to answer the questions and answered them all negatively without taking the time to read the questions and consider the appropriate response for each one. To deal with this concern when designing future surveys, the researcher should _____.
   ☐ plan to measure split-half reliability
   ☐ add reverse-worded questions
   ☐ plan to administer the survey again and measure the test-retest reliability

7. Which of the following statements is not an example of circular reasoning:
   - ☐ "Time was measured accurately because the two conditions took different lengths of time"
   - ☐ "Time was measured accurately because we used a stop watch"

8. You are developing a new test of Working Memory (how much information you can keep in mind and work with at a time). You take the currently accepted test and score a 12 (average) on a scale of 6-18.
   You then take your new test three times. Here are the results:
   Trial one: 6
   Trial two: 18
   Trial three: 12

   Your new Working Memory test is:
   - ☐ Valid but not reliable
   - ☐ Reliable but not valid
   - ☐ Neither valid nor reliable
   - ☐ Both valid and reliable

9. Draw the remaining error bar on this graph such that the graph supports this claim: Having visible tattoos is not related to getting a job

10. Which of the following types of data would be best gathered through self-report measures?
    - ☐ Physiological states
    - ☐ Knowledge or abilities
    - ☐ Behaviors
    - ☐ Feelings, beliefs, or opinions