

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

Student ID #: \_\_\_\_\_

PSC 041

Research Methods in Psychology

WQ 2023

## Unit 2 Exam Version B

### Research Summary

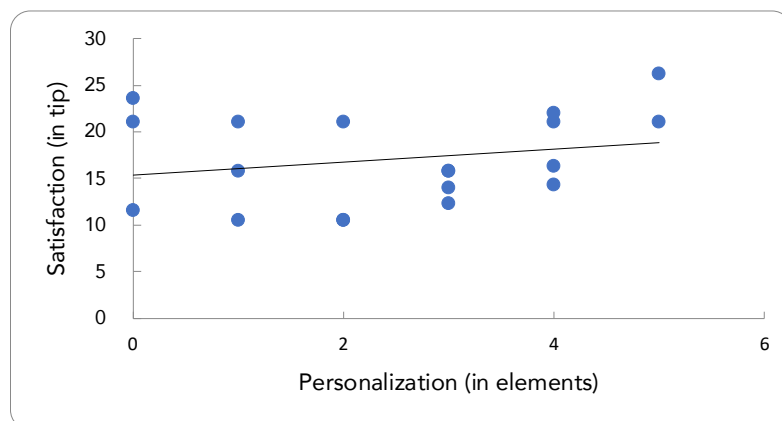
**Please answer the following questions in the space provided. Only write on the lines.**

**Adapted from:** Strohmets, D. & Rind, B. (1999). Effect on restaurant tipping of a helpful message written on the back of customers' checks. *Journal of Applied Psychology*, 29, 139-144.

In the US, where restaurant servers rely on tipping as a main source of income, can giving a customer a simple "thank you" really pay off? Researchers wanted to find out if servers making a personal connection could influence a customer's satisfaction. To study this, they went to an upscale buffet restaurant where servers catered to the needs of the customers except for serving them food. Since it was buffet style, it was a set price per person and each customer chose their own food.

For three weeks, the researchers obtained copies of all the receipts. They obtained the receipts directly from the manager and made copies without alerting any of the servers or customers. To measure personalized messages from servers to customers, researchers looked at each receipt and read any message that the server had written. Research assistants coded the messages for number of elements of personalization. Elements of personalization included things like the server using their first name (e.g., "please come again, Sherri"), the server drawing smiley faces, or the server mentioning specific details about the meal (e.g., "I hope you enjoyed the salmon"). The more elements of personalization that the server had written on a receipt, the more personalization he, she, or they had created.

The researchers used the amount of money left as a tip as an indicator of customer satisfaction. They calculated the tip from the total meal cost and total amount paid. They subtracted the meal cost from the total amount paid and then calculated the percentage of the tip from each receipt. The results showed that the more personalized the receipt message, the higher the tip percentage,  $r(79) = 0.23$ ,  $p = 0.04$ .



## Predictor Variable

Considering the predictor / independent variable, Personalization

- 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, Satisfaction

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. Construct Validity: This variable is not vulnerable to a Hawthorne effect (reactivity). Describe why it is not vulnerable to this effect. Describe how a researcher could make it vulnerable to this effect.

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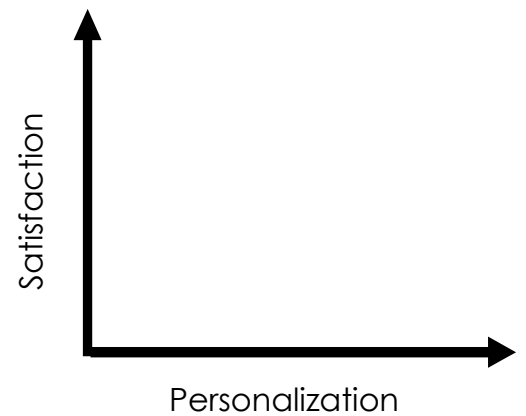
## Reliability and Validity

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

### Hypotheses

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

10 pts 11. Sketch the null hypothesis:



10 pts 12. Write a specific directional research hypothesis for this research.

### Summarize the findings

5 pts

13. 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

14. The  $p$  value is \_\_\_\_\_. Therefore, there \_\_\_\_ a statistically significant relationship between the variables. (fill in the box)

- |   |  |
|---|--|
| <input type="checkbox"/> <b>greater than 0.05; is</b>     | <input type="checkbox"/> <b>greater than 0.5; is</b>     |
| <input type="checkbox"/> <b>greater than 0.05; is not</b> | <input type="checkbox"/> <b>greater than 0.5; is not</b> |
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| <input type="checkbox"/> <b>less than 0.05; is not</b>    | <input type="checkbox"/> <b>less than 0.5; is not</b>    |

5 pts

15. Does this interpretation follow from this study: "increased personalization caused an increase in customer satisfaction" Why or why not?

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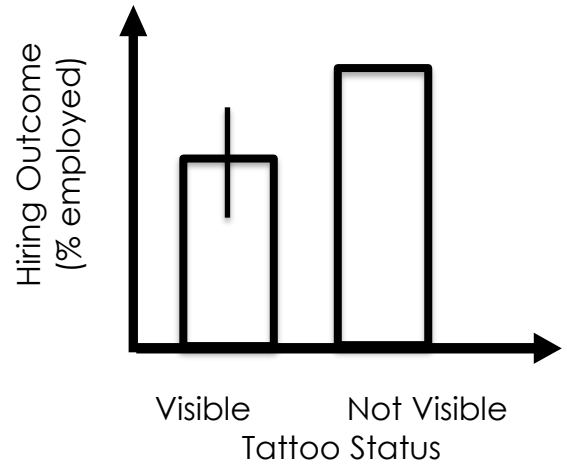
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**Multiple choice/ fill in the blank / short answer.**

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.

16. Draw the remaining error bar on this graph such that the graph supports this claim: Having visible tattoos is related to getting a job



17. A correlation coefficient ( $r$ ) greater than .1 means that \_\_\_\_\_.

- ☐ as the value of one variable goes up, the other goes down
- ☐ as the value of one variable goes up, the other also goes up

18. Which of the following tells us the direction of a correlation coefficient?

- ☐ the sign of the  $r$ -value
- ☐ the absolute value of the  $r$ -value

19. Which of the following values indicates a moderate correlation coefficient?

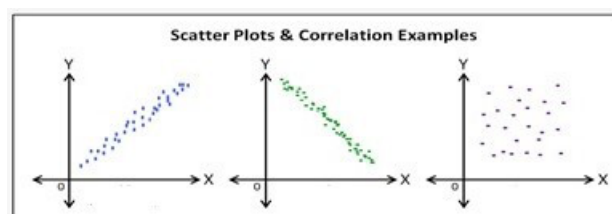
- ☐ +/- 1.00 to 1.50
- ☐ +/- .50 to 1.00
- ☐ +/- .30 to .50
- ☐ +/- .10 to .30
- ☐ 0

20. Which of the graphs below show a strong positive correlation coefficient?

☐ A

☐ B

☐ C



21. 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
22. 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"
23. 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
24. 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
25. 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
  - ☐ hide the goal of the survey from participants