Introduction to Psychology

Unit Zero Standards:

● Apply psychological perspectives, theories, concepts, and research findings to a scenario. ● Explain how cultural norms, expectations, and circumstances, as well as cognitive biases apply to behavior and mental processes.

● Determine the type of research design(s) used in a given study.

● Evaluate the appropriate use of research design elements in experimental methodology.

● Evaluate the appropriate use of research design elements in non-experimental methodologies. ● Evaluate whether a psychological research scenario followed appropriate ethical procedures. ● Identify psychology-related concepts in descriptions or representations of data. ● Calculate and interpret measures of central tendency, variation, and percentile rank in a given data set.

● Interpret quantitative or qualitative inferential data from a given table, graph, chart, figure, or diagram.

● Propose a defensible claim.

● Provide reasoning that is grounded in scientifically derived evidence to support, refute, or modify an established or provided claim, policy, or norm.

Module 0.1 The Scientific Attitude, Critical Thinking, & Developing Arguments

1. How is psychology a science?

2. What are the three elements of the scientific attitude?

Module 0.2 The Need for Psychological Science

3. Define critical thinking.

4. How does critical thinking challenge common sense?

5. Define and provide examples of each.

   a. Hindsight bias:

   b. Overconfidence:

   c. Illusory correlation:

Module 0.3 The Scientific Method

6. Describe how theories advance psychological science.

7. Define and/or provide examples of each of the following terms.

a. Peer reviewers:

b. Theory:

c. Hypothesis:

i. Null Hypothesis*:

d. Falsifiable:

e. Operational definitions:

f. Replication:

8. Non-experimental Methods

Method	Purpose	Examples

Case Study		
Naturalistic Observation		

Survey		

9. Explain the following challenges to research.

a. Social-desirability bias:

b. Self-report bias:

c. Sampling bias:

d. Wording effects:

10. How do you find participants?
    a. Population

    b. Sample

        i. Random sample/selection:

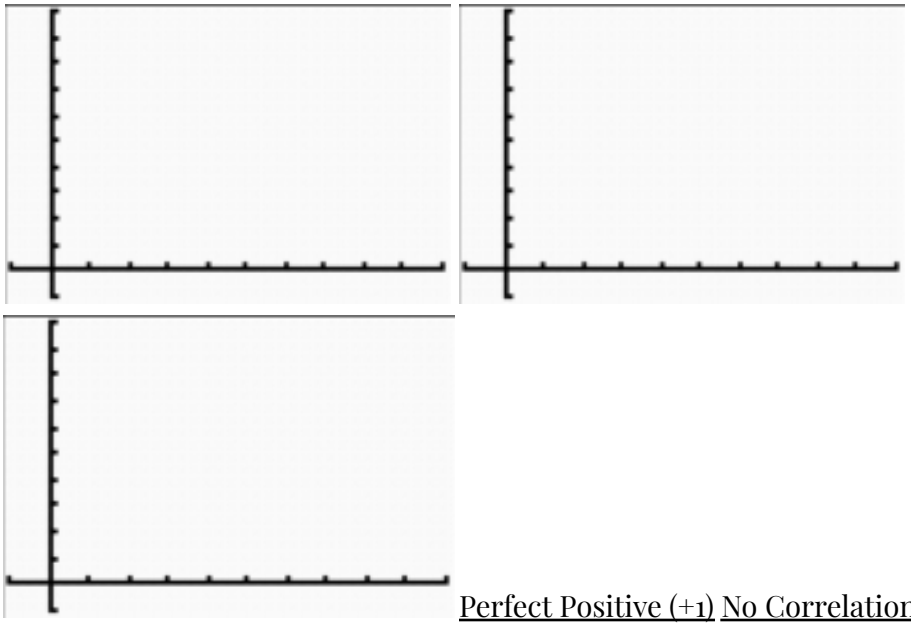
Module 0.4 Correlation & Experimentation

11. What is correlation and how is it used in psychological research?

12. Elements of Correlational Research
    a. Correlational coefficients (scale of _____ to _____, with _____ being no correlation) b. Variables:

    c. Scatterplot:

13. Draw the scatterplots and provide examples of each type of correlation.



Perfect Positive (+1) No Correlation (0) Perfect Negative (-1) Ex. Ex. Ex.

14. Does correlation indicate causation? Explain your answer.

15. Identify the problems with correlation.
    a. Illusory correlation

    b. Regression towards the mean

16. Why are experimental methods used?

17. Elements of an Experiment
    a. Independent variable:

b. Dependent variable:

c. Experimental group:

d. Control group:

e. Random assignment:

f. Single blind study:

g. Double blind study:

h. Placebo:

18. Challenges to Experimental Methods:

a. Placebo effect:

b. Confounding variables:

c. Experimental bias:

d. Validity:

Module 0.5 Research Design & Ethics in Psychology

19. Comparing Methods

Method	Purpose	How? Manipulation?	Weakness
Non Experimental			
Correlational			
Experimental			

20. Explain the difference between qualitative and quantitative research.

21. What are the ethical guidelines of psychological research?

i. Voluntary Participation/Informed Consent:

ii. Confidentiality:

iii. Debriefing:

iv.

v.

22. Why is it important to ensure scientific integrity?

23. How do psychologists' values influence their research and the application of their findings?

Module 0.6 Statistical Reasoning in Everyday Life

24. What are descriptive statistics?

25. How can the findings be displayed? Draw examples.

26. How do we describe data?

a. Mean:

b. Median:

c. Mode:

d. Percentile rank:

e. Range:

f. Standard deviation:

27. Draw and explain the difference between normal and skewed distribution (negative & positive).

28. What are inferential statistics?

29. When is it appropriate to apply findings to a population?

a.

b.

c.

i. Meta-analysis:

30. What does it mean for results to be statistically significant?

31. What is effect size?

Module Zero Practice Questions

1. A researcher interested in investigating the attitudes or opinions of a large sample of people is most likely to use which research method?
    a. Survey
    b. Experiment
    c. Case study
    d. Naturalistic observation
    e. Correlation
2. A majority of respondents in a national survey agreed that "classroom prayer should not be allowed in public schools", while only 33% of respondents in a similar survey agreed that "classroom prayer in public schools should be banned". These divergent findings best illustrate the importance of…
    a. Operational definitions
    b. The hindsight bias
    c. Wording effects
    d. Random assignment
    e. Overconfidence
3. When we see certain outcomes as obvious based on what has occurred, we may be experiencing…
    a. Overconfidence
    b. Humility
    c. Empiricism
    d. Critical thinking
    e. Hindsight bias
4. An experiment was designed to study the potential impact of alcohol consumption on emotional stability. A specification of the procedures used to measure emotional stability illustrates…
    a. The independent variable
    b. An operational definition
    c. The dependent variable
    d. Random assignment
    e. The double-blind procedure
5. Amelia is very interested in the development of the serial killer and cannibal, Albert Fish. In order to get an in-depth look at his life, Amelia would most likely use which research method?
    a. An experiment
    b. A survey
    c. A case study
    d. Naturalistic observation
    e. Double-blind procedure
6. Which of the following is an example of negative correlation?
    a. The more absences you have, the lower your average
    b. The less tardies you have, the lower chance you have of getting suspended
    c. The more candy you eat, the more you weigh
    d. The less colleges you apply to, the less likely you are to get in
    e. The more money you have, the more things you can buy
7. Which process would best enable a researcher to assess the credibility of published findings?
    a. Replication
    b. The case study
    c. Random sampling
    d. Standard deviation
    e. Naturalistic observation
8. Which of the following correlation coefficients is the weakest?
    a. -0.99

b. -0.12
c. +0.25
d. -0.50
e. +1.00

9. Following the scientific discovery that the amygdala is significantly larger in violent individuals than in those who are nonviolent, a new headline announced: “Enlarged Brain Structure Triggers Violent Acts”. The headline writer should most clearly be warned of the dangers of…
    a. Discerning order in random events b. Confusing correlation with causation c. Perceiving illusory correlations
    d. Explaining events in hindsight
    e. Generalizing from unrepresentative samples

10. Thinking that she had outperformed most of her classmates, Glenda was surprised to receive just an average grade on her psychology test. Glenda’s experience best illustrates…
    a. Negative correlation
    b. Illusory correlation
    c. The placebo effect
    d. Overconfidence
    e. The hindsight bias