**Unit 4 Expanded Outline**

**Unit 4. Cognitive Psychology:** 10, Chapter 7



 **Introduction: 19:** The Cognitive Perspective:

 **Solving Problems:** 245-253

 **Representation of the Problem:** 248

 **Solutions:** 248-251: Production: Generating Solutions

1. Information retrieval: books/libraries, internet, social media, friends, professionals
2. Trial and Error
3. Pros and cons
4. Sub goals – shaping
5. Insight. 250
6. **Algorithms**
7. **Heuristics:** 243-245

Representative

Availability

Familiarity

 **Obstacles to Problem Solving:** 251-253: Impediments to Solutions

 Mental Set

 Functional Fixedness



 Logical Fallacies**:**

Overgeneralization

 False Cause

 Drawing Cause from Correlation

 Affirming the Consequent

 Confirmation Bias: 252-253: Inaccurate Evaluation of Solutions

**Unit 4. Logical Fallacies Exercises. Psychology 1A. Milligan, PhD**

1. **Overgeneralization**. Drawing a conclusion or generalization from too small a sample of cases, from exceptional cases, or from unrepresentative or biased data.
2. **False Cause**: This fallacy consists in assuming that a particular event, B, is

caused by another event, A, simply because B follows A in time.

This is similar to a type of operant conditioning. Which one?

1. **Affirming the Consequent**: This fallacy consists in assuming that if a particular

event, B, follows another event, A, that, whenever B occurs, it must have been preceded by A.

 **4. Drawing Cause from Correlation:** This fallacy consists in drawing the

conclusion that A causes B if variations in A are correlated with variations in B. A correlation is a relationship between two variables: as one increases, the other increases, OR, as one decreases the other increases.

1. **Confirmation Bias:** “… the tendency to notice and remember evidence that supports our beliefs and to ignore evidence that contradicts them.” (Basic Psychology by Morris and Maisto)

For each example, state the logical fallacy and exactly how the example is fallacious.

1. Example: It was concluded from a study of 100,000 college students that people who drink alcohol to overcome social inhibitions are more likely to become alcoholics than those who drink recreationally.

2. Example: The correlation between IQ and grades in school – the higher the IQ, the better the school grades – has led to the conclusion that high IQ causes good grades.

3. Example: The finding that if a child is harshly toilet trained, that child will become a compulsive personality later in life has led to the conclusion that compulsive personality is always caused by harsh toilet training.

4. Example: There have been a number of reports of depressed people becoming more suicidal and homicidal after starting to take anti-depressant medication; this finding has led to the conclusion that the anti-depressant drugs are causing the increase in suicidal/homicidal tendencies.

5. Example: There are parents who continue to use harsh punishment with their children and ignore a good deal of evidence that indicates that harsh punishment is harmful and that mild punishment like
Time Out is more beneficial to children.

6. I wore an outfit for my presentation at “The Warrior’s Journey home” which I had worn at a similar, successful presentation.

7. There is a strong relation between my dancing and my happiness – the more dancing, the more happiness. I conclude my dancing causes my happiness.

8. I conclude from this relationship between my dancing and my happiness, that dancing causes happiness in all people.

9. At the first sign of a cold, I start taking Vitamin C. Two or three days later, my cold is gone. I believe Vitamin C. cured my cold.

10.If Mari does all of her homework, she then can spend time drawing (which she loves to do) until dinner. I see her drawing before dinner and conclude that she must have finished all of her homework.

11.Field research shows that the higher the population density at an emergency, the less likely an individual is to help in that emergency. The researchers conclude that high population density causes bystander apathy and that low population density causes helping behavior.

12.If my neighbor, Sharon, finishes her housework, she will go for a walk. I see her walking and conclude that she finished her housework.

13.I believe Sonoma County is the healthiest place to live. I seek out articles which show that Sonoma County has a good water supply, that the air is in good shape, that there is a great deal of organic farming. I ignore all articles that suggest that Sonoma County’s air quality could be improved, that the water in the Russian River is sometimes so polluted, one cannot swim in it and that there are other parts of the country with more available organic food.

14, In Title 1, Article Report 1, research found that the happier a nun was, the longer she lived. The conclusion is drawn that happiness causes longevity.

Dear Students, Please note. Because it is invalid to draw conclusions in the 5 above circumstances, does not mean that causal connections do not exist; BUT, those possible causal connections cannot be proven

In these examples.

 **Creativity and Problem Solving:** 253-255

 Convergent and divergent thinking

 **Intelligence:** 266-282

Multiple definitions/types of intelligence

 **Intelligence Tests:** 272-279: Assessing Intelligence

 IQ (Intelligence Quotient) =

 {Mental Age (based on test score)/actual age}times 100

 Example: Marilyn, who is 7 years old has a mental age of 14 according to an IQ test. Her IQ is 200 (better than Einstein)

 IQ test problems

 What IQ tests measure:

 Language, math, spatial abilities

 Correlated with academic achievement

SAMPLE INTELLIGENCE TEST QUESTIONS

* Which number should come next in the pattern?

37, 34, 31, 28

Answer: 25, the numbers are decreasing by 3

* Find the answer that best completes the analogy:

Book is to Reading as Fork is to:

a. drawing

b. writing

c. stirring

d. eating

Answer: d.

* Find two words, one from each group, that are the closest in meaning:

Group A

talkative, job, ecstatic

Group B

angry, wind, loquacious

a. talkative and wind

b. job and angry

c. talkative and loquacious

d. ecstatic and angry

Answer: c. Talkative and Loquacious

* Which of the following can be arranged into a 5-letter English word?

a. H R G S T

b. R I L S A

c. T O O M T

d. W Q R G S

Answer: b. rails and c. motto

* What number best completes the analogy:

8:4 as 10:

a. 3

b. 7

c.24

d.5

The answer is 5 because 4 is half of 8, and 5 is half of 10.

* [Which number should come next? 144 121 100 81 64?](https://www.proprofs.com/discuss/q/1534345/which-number-should-come-next-144-121-100-81-64-104k)

[Discuss](https://www.proprofs.com/discuss/q/1534345/which-number-should-come-next-144-121-100-81-64-104k%22%20%5Co%20%22Discuss%22%20%5Ct%20%22_blank)

* + A.

54

* + B.

43

* + C.

49

* + D.

41

* 2.

[I went to bed at eight 8 'clock in the evening and wound up my watch and set the alarm to sound at nine 9 'clock in the morning. How many hours sleep would I get before being awoken by the alarm?](https://www.proprofs.com/discuss/q/1456093/went-bed-eight-39clock-the-evening-and-wound-clock-set-alarm)

[Discuss](https://www.proprofs.com/discuss/q/1456093/went-bed-eight-39clock-the-evening-and-wound-clock-set-alarm)

* + A.

13 hours

* + B.

12 hours

* + C.

1 hour

* + D.

10 hours

* 3.

[Divide 30 by half and add ten. What do you get?](https://www.proprofs.com/discuss/q/1531509/divide-30-by-half-and-add-ten-what-do-you-get-11e7)

[Discuss](https://www.proprofs.com/discuss/q/1531509/divide-30-by-half-and-add-ten-what-do-you-get-11e7)

* + A.

70

* + B.

25

* + C.

15

* + D.

10

* 4.

[If you had only one match and entered a COLD and DARK room, where there was an oil heater, an oil lamp and a candle, which would you light first?](https://www.proprofs.com/discuss/q/1504851/only-match-entered-cold-dark-room-where-there-heater-lamp-ca)

[Discuss](https://www.proprofs.com/discuss/q/1504851/only-match-entered-cold-dark-room-where-there-heater-lamp-ca)

* + A.

Oil heater

* + B.

Candle

* + C.

Oil lamp

* + D.

Match

* 5.

[Take 2 apples from 3 apples. What do you have?](https://www.proprofs.com/discuss/q/1311461/take-2-apples-from-3-what-do-you-have-104cg)

[Discuss](https://www.proprofs.com/discuss/q/1311461/take-2-apples-from-3-what-do-you-have-104cg)

* + A.

1 apple

* + B.

2 apples

* + C.

3 apples

* + D.

None

1. [HAND is to Glove as HEAD is to:](https://www.proprofs.com/discuss/q/581666/hand-is-to-glove-as-head-10sd)

[Discuss](https://www.proprofs.com/discuss/q/581666/hand-is-to-glove-as-head-10sd)

* + A.

Hair

* + B.

Nap

C.

Cap

* + D.

Scalp

* 7.

[A boy is four years old, and his sister is three times as old as he is. When the boy is 12 years old, how old will his sister be?](https://www.proprofs.com/discuss/q/1512133/boy-years-old-and-his-sister-three-times-when-the-how-will)

[Discuss](https://www.proprofs.com/discuss/q/1512133/boy-years-old-and-his-sister-three-times-when-the-how-will)

* + A.

19

* + B.

20

* + C.

21

* + D.

Impossible to determine

* 8.

[A farmer had 17 sheep. All but 8 died. How many sheep were left alive?](https://www.proprofs.com/discuss/q/1501071/farmer-had-17-sheep-all-but-died-how-many-alive-were-left)

[Discuss](https://www.proprofs.com/discuss/q/1501071/farmer-had-17-sheep-all-but-died-how-many-alive-were-left)

* + A.

7

* + B.

8

* + C.

12

* + D.

9

* 9.



[What number is one half of one-quarter of one-tenth of 800?](https://www.proprofs.com/discuss/q/1343578/what-number-is-one-half-of-quarter-tenth-800-195wt)

[Discuss](https://www.proprofs.com/discuss/q/1343578/what-number-is-one-half-of-quarter-tenth-800-195wt)

* + A.

20

* + B.

10

* + C.

15

* + D.

12

* 10.

Inept is the opposite of:

* + A.

Competent

* + B.

Skillful

* + C.

Exert

* + D.

Expert

* 11.

[Which one of the five choices makes the best comparison? LIVED is to DEVIL as 6323 is to:](https://www.proprofs.com/discuss/q/1353381/which-one-the-five-choices-makes-best-comparison-lived-devil)

[Discuss](https://www.proprofs.com/discuss/q/1353381/which-one-the-five-choices-makes-best-comparison-lived-devil)

* + A.

3623

* + B.

3263

* + C.

3236

* + D.

3632

* 12.



[John likes 400 but not 300; he likes 100 but not 99; he likes 2500 but not 2400. Which does he like?](https://www.proprofs.com/discuss/q/1512385/john-likes-400-but-not-300-he-100-99-2500-2400-which-does-li)

[Discuss](https://www.proprofs.com/discuss/q/1512385/john-likes-400-but-not-300-he-100-99-2500-2400-which-does-li)

* + A.

800

* + B.

1800

* + C.

900

* + D.

200

* 13.

[NASA received three messages in a strange language from a distant planet. The scientists studied the messages and found that "Necor Buldon Slock" means "Danger Rocket Explosion" and "Edwan Mynor Necor" means "Danger Spaceship Fire" and "Buldon Gimilzor Gondor" means "Bad Gas Explosion." What does "Slock" mean?](https://www.proprofs.com/discuss/q/1459492/received-messages-strange-language-distant-planet-scientists)

[Discuss](https://www.proprofs.com/discuss/q/1459492/received-messages-strange-language-distant-planet-scientists)

* + A.

Explosion

* + B.

Danger

* + C.

Gas

* + D.

Rocket

 **Heredity, Environment and Intelligence:** 280-282