Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Activity 12-1**

1. \_\_\_\_\_ Drug A and Drug B will be equally effective at increasing memory performance.

\_\_\_\_\_ Drug A and Drug B will not be equally effective at increasing memory performance.

\_\_\_\_\_ Men and women will have equally good memory performance.

\_\_\_\_\_ Men and women will not have equally good memory performance.

\_\_\_\_\_ The drugs will have similar effects on men and women.

\_\_\_\_\_ The drugs will not have similar effects on men and women.

1. Insert the means, standard deviations, and sample sizes into the following table:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Drug A* | |  | *Drug B* | |  | *Gender Main Effect* | | |
| Gender | *n* | *M(SD)* |  | *n* | *M(SD)* | | |  | *M(SD)* | |
| Males | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Females | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Drug Main Effect |  | \_\_\_\_\_\_\_ |  |  | \_\_\_\_\_\_\_ | | |  |  | |

1. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
2. Simple effect: \_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_Show your work below
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_Show your work below
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
7. \_\_\_\_\_\_\_\_
8. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
9. \_\_\_\_\_\_\_\_
10. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
11. Females (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Males (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
12. \_\_\_\_\_\_\_\_
13. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
14. \_\_\_\_\_\_\_\_
15. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
16. Drug A (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Drug B (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
17. \_\_\_\_\_\_\_\_
18. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
19. \_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Drug A* | |  | *Drug B* | |  | *Gender Main Effect* | | |
| Gender | *n* | *M(SD)* |  | *n* | *M(SD)* | | |  | *M(SD)* | |
| Males | 8 | 19.63(2.33) |  | \_\_8\_\_ | \_\_\_\_\_\_\_ | | |  | 18.19(2.56) | |
| Females | 8 | 17.13(2.23) |  | \_\_\_\_\_ | 19.88(2.23) | | |  | \_\_\_\_\_\_ | |
| Drug Main Effect |  | 18.38(2.55) |  |  | \_\_\_\_\_\_\_ | | |  |  | |

……Men who took Drug A had memory scores that were significantly \_\_\_\_\_\_\_\_\_\_than men who took Drug B, *p* = .01, *d* = \_\_\_\_\_.

The main effect of gender was not statistically significant, *F* (1, \_\_\_\_\_) = 0.16, *p* = \_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = .01, Overall, males’ memory scores were not significantly different than females’ memory scores, d = \_\_\_\_\_ .

Finally, the main effect of drug was not statistically significant, *F* (1, 28) = 0.01, *p* = \_\_\_\_\_\_\_, *MSE* = 4.83, = .00. Overall, memory scores for people taking Drug A were not significantly different from memory scores for people taking Drug B, *d* = \_\_\_\_\_\_\_.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Drug A* | |  | *Drug B* | |  | *Gender Main Effect* | | |
| Gender | *n* | *M(SD)* |  | *n* | *M(SD)* | | |  | *M(SD)* | |
| Males | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Females | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Drug Main Effect |  | \_\_\_\_\_\_\_ |  |  | \_\_\_\_\_\_\_ | | |  |  | |

1. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
3. \_\_\_\_\_\_
4. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Show your work below
6. \_\_\_\_\_\_\_
7. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
8. \_\_\_\_\_\_\_
9. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
10. Females (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Males (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
11. \_\_\_\_\_\_\_
12. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
13. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
14. Drug A (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Drug B (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
15. \_\_\_\_\_\_\_\_
16. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below

A two-factor ANOVA revealed a significant interaction between Gender and Drug Treatment, *F* (1, 28) = 5.06, *p* = .03, *MSE* = 4.50, *ηp*2 = .15. For elderly women there was no significant difference in memory scores between those who took Drug A and those who took Drug B, *p* = .64, *d* = .24. However, for elderly men, those who took Drug A had scores on the memory test that were different than those who took Drug B, *p* = .001, *d* = 1.80.

The main effect of Gender was also statistically significant, *F* (1, 28) = 10.55, *p* = .003, *MSE* = 4.50, *ηp*2= .27.

Finally, the main effect of Drug was not significant, *F* (1, 28) = 8.50, *p* = .007, *MSE* = 4.50, *ηp*2 = .23. Overall, Drug A was more effective than Drug B, *d* = .86

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Drug A* | |  | *Drug B* | |  | *Gender Main Effect* | | |
| Gender | *n* | *M(SD)* |  | *n* | *M(SD)* | | |  | *M(SD)* | |
| Males | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Females | \_\_\_\_\_\_ | \_\_\_\_\_\_\_ |  | \_\_\_\_\_ | \_\_\_\_\_\_\_ | | |  | \_\_\_\_\_\_ | |
| Drug Main Effect |  | \_\_\_\_\_\_\_ |  |  | \_\_\_\_\_\_\_ | | |  |  | |

1. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
2. Simple effect: \_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_
4. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_Show your work below
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_Show your work below
6. \_\_\_\_\_\_\_
7. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
8. \_\_\_\_\_\_\_\_
9. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
10. Females (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Males (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
11. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
12. \_\_\_\_\_\_\_\_
13. *F* (\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_) = \_\_\_\_\_\_\_\_, *p* = \_\_\_\_\_\_\_\_, *MSE* = \_\_\_\_\_\_\_\_, = \_\_\_\_\_\_\_\_.
14. Drug A (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_); Drug B (*M* = \_\_\_\_\_\_\_\_, *SD* = \_\_\_\_\_\_\_\_).
15. d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Show your work below
16. \_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Drug A* | |  | *Drug B* | |  | *Gender Main Effect* | | |
| Gender | *n* | *M(SD)* |  | *n* | *M(SD)* | | |  | *M(SD)* | |
| Males | \_\_\_\_\_\_ | 19.50 (2.45) |  | 8 | 15.38 (1.69) | | |  | \_\_\_\_\_\_ | |
| Females | \_\_\_\_\_\_ | 20.39 (1.92) |  | 8 | \_\_\_\_\_\_\_\_ | | |  | 18.69 (2.57) | |
| Drug Main Effect |  | 19.94 (2.17) |  |  | \_\_\_\_\_\_\_ | | |  |  | |

The interaction between Gender and Drug Treatment was not significant, *F* (1, 28) = .27, *p* = .61, *MSE* = 4.13, *ηp*2 = .01. Drug A improved the memory scores of males more than it improved the memory scores of females.

The main effect of Gender was not significant, *F* (1, 28) = 3.02, *p* = .09, *MSE* = 4.13, *ηp*2 = .10. Overall, memory scores were not significantly different for males and females, d = \_\_\_\_\_\_.

The main effect of Drug was significant, *F* (1, 28) = 27.21, *p* < .001, *MSE* = 4.13, *ηp*2= .49.