Feedback — Week 11

Help

You submitted this quiz on **Wed 4 Dec 2013 2:15 PM PST**. You got a score of **7.00** out of **10.00**. You can attempt again, if you'd like.

Recent theories in the field of cognitive enhancement suggest that people's belief about whether or not cognitive abilities can be improved influences the outcome of a training program. In this week's assignment, we take a look at a dataset including two different kinds of feedback given to participants in a cognitive training program, either fixed (cognitive abilities are innate and cannot be improved) or malleable (cognitive abilities are largely driven by experiences). DVs include verbal, spatial, and intelligence measures,provided before and after training.

Question 1

Using a t-test, compare verbal scores before and after training in the fixed condition. Is the difference pre-test to post-test significant?

Your Answer		Score	Explanation
◉ Yes	✔	1.00	
○ No			
Total		1.00 / 1.00	

Question Explanation

data.f = subset(data, data$cond == "fixed") AND data.m = subset(data, data$cond == "malleable") AND data.pre = data.frame(data[1:3], data[5], data[7]) AND data.post = data.frame(data[1:2], data[4], data[6], data[8]) AND t.test(data.f$verbal.pre, data.f$verbal.post, paired = T)

Question 2

What are the degrees of freedom for the comparison between pre-test and post-test for the

spatial scores?

Your Answer		Score	Explanation
◉ 49	✔	1.00	
○ 50			
○ 94			
○ 95			
Total		1.00 / 1.00	

Question Explanation

t.test(data.f$spatial.pre, data.f$spatial.post, paired = T)

Question 3

Run a Wilcoxon test for the same comparison (pre-test to post-test on spatial scores, fixed condition). Which of the two tests gives the highest p-value for the comparison?

Your Answer		Score	Explanation
○ t-test			
◉ Wilcoxon	✔	1.00	
Total		1.00 / 1.00	

Question Explanation

wilcox.test(data.f$spatial.pre, data.f$spatial.post, paired=T)

Question 4

What is the effect size (Cohen's d) for the difference between pre-test and post-test spatial scores for the malleable condition? (round to two decimal places)

You entered:

0.45

Your Answer		Score	Explanation
0.45	✖	0.00	
Total		0.00 / 1.00	

Question Explanation

cohensD(data.f$spatial.pre, data.f$spatial.post, method="paired")

Question 5

Which of the three tasks shows the largest improvements from pre-test to post-test, in the fixed condition?

Your Answer		Score	Explanation
◉ Verbal	✔	1.00	
○ Spatial			
○ Intel			
Total		1.00 / 1.00	

Question Explanation

cohensD(data.f$verbal.pre, data.f$verbal.post, method="paired") AND
cohensD(data.f$spatial.pre, data.f$spatial.post, method="paired") AND
cohensD(data.f$intel.pre, data.f$intel.post, method="paired")

Question 6

Which of the three tasks shows the largest improvements from pre-test to post-test, in the

malleable condition?

Your Answer		Score	Explanation
◉ Verbal	✔	1.00	
○ Spatial			
○ Intel			
Total		1.00 / 1.00	

Question Explanation

cohensD(data.m$verbal.pre, data.m$verbal.post, method="paired") AND
cohensD(data.m$spatial.pre, data.m$spatial.post, method="paired") AND
cohensD(data.m$intel.pre, data.m$intel.post, method="paired")

Question 7

Conduct Mann-Whitney comparisons between all tasks at pre-test. Which task(s) differ significantly from the other two in pre-test scores?

Your Answer		Score	Explanation
◉ Verbal	✖	0.00	
○ Spatial			
○ Intel			
○ All			
Total		0.00 / 1.00	

Question Explanation

wilcox.test(data$spatial.pre, data$verbal.pre, paired=F) AND wilcox.test(data$spatial.pre, data$intel.pre, paired=F) AND wilcox.test(data$verbal.pre, data$intel.pre, paired=F)

Question 8

Which feedback condition led to the largest improvements overall?

Your Answer		Score	Explanation
◉ fixed	✖	0.00	
○ malleable			
Total		0.00 / 1.00	

Question Explanation

pre.m = data.m$verbal.pre + data.m$spatial.pre + data.m$intel.pre AND post.m = data.m$verbal.post + data.m$spatial.post + data.m$intel.post AND cohensD(pre.m, post.m, method="paired") AND pre.f = data.f$verbal.pre + data.f$spatial.pre + data.f$intel.pre AND post.f = data.f$verbal.post + data.f$spatial.post + data.f$intel.post AND cohensD(pre.f, post.f, method="paired")

Question 9

Which task is largely driving this effect?

Your Answer		Score	Explanation
◉ Verbal	✔	1.00	
○ Spatial			
○ Intel			
○ None in particular			
Total		1.00 / 1.00	

Question Explanation

cohensD(data.m$verbal.pre, data.m$verbal.post, method="paired") AND cohensD(data.m$spatial.pre, data.m$spatial.post, method="paired") AND cohensD(data.m$intel.pre, data.m$intel.post, method="paired") AND cohensD(data.f$verbal.pre, data.f$verbal.post, method="paired") AND

```
cohensD(data.f$spatial.pre, data.f$spatial.post, method="paired") AND
cohensD(data.f$intel.pre, data.f$intel.post, method="paired")
```

Question 10

Based on the present data, are you convinced that malleable feedback is beneficial to performance when engaging in a cognitive training program?

Your Answer		Score	Explanation
○ Yes			
○ No			
◉ It depends on the ability being trained	✔	1.00	
Total		1.00 / 1.00	

Question Explanation

(verbal)