Feedback — Midterm

Help

You submitted this quiz on **Sat 2 Nov 2013 1:53 PM PDT (UTC -0700)**. You got a score of **24.00** out of **25.00**. You can attempt again, if you'd like.

Question 1

Which of the following are characteristics of experimental research?

Your Answer		Score	Explanation
Random sampling from a population			
Random assignment to treatment conditions			
Both a and b	✔	1.00	
None of the above			
Total		1.00 / 1.00	

Question 2

The distribution of household income in the United States, currently, is:

Your Answer		Score	Explanation
Uniform			
Normal			
Negatively skewed			
Positively skewed	✔	1.00	
Total		1.00 / 1.00	

Question 3

When distributions are skewed, the most accurate measure of central tendency is:

Your Answer		Score	Explanation
The mean			
The skew			
The median	✔	1.00	
The kurtosis			
Total		1.00 / 1.00	

Question 4

Given a distribution of scores, the average of the squared deviation scores is equal to:

Your Answer		Score	Explanation
The standard error			
The sum of squares			
The variance	✔	1.00	
The standard deviation			
Total		1.00 / 1.00	

Question 5

Complete the following syllogism: SS is to SD as SP is to:

Your Answer	Score	Explanation

Standard deviation		
Standard error		
Correlation	✔	1.00
Covariance		
Total		1.00 / 1.00

Question 6

Pearson's product moment correlation coefficient (r) is used when X and Y are:

Your Answer		Score	Explanation
Both categorical variables			
Both continuous variables	✔	1.00	
Both nominal variables			
Both dichotomous variables			
Total		1.00 / 1.00	

Question 7

Which of the following pairs of variables is most likely to be negatively correlated?

Your Answer		Score	Explanation
High school (Grade Point Average) GPA and college GPA			
Hours studying per week and college GPA			
Hours watching TV per week and college GPA	✔	1.00	
College GPA and IQ			

Total	1.00 / 1.00

Question 8

Systematic measurement error represents:

Your Answer		Score	Explanation
bias	✔	1.00	
chance error			
outliers			
covariance			
Total		1.00 / 1.00	

Question 9

We all know that correlation does not imply causation but correlations are useful because they can be used to assess:

Your Answer		Score	Explanation
Reliability			
Validity			
Prediction errors			
All of the above	✔	1.00	
Total		1.00 / 1.00	

Question 10

In a regression analysis, which distribution will have the largest standard deviation?

Your Answer		Score	Explanation
the predicted scores on the outcome variable, $\hat{Y}$			
the residuals			
the observed scores on the outcome variable, Y	✔	1.00	
the standardized regression coefficients			
Total		1.00 / 1.00	

Question 11

The difference between an observed score and a predicted score in a regression analysis is known as:

Your Answer		Score	Explanation
Standard error			
Chance error			
Sampling error			
Residual	✔	1.00	
Total		1.00 / 1.00	

Question 12

In a simple regression analysis with outcome variable Y, the standardized regression coefficient for X will always equal:

Your Answer		Score	Explanation
The correlation coefficient	✔	1.00	
The square root of the correlation coefficient			
The unstandardized regression coefficient			
The square root of the unstandardized regression coefficient			
Total		1.00 / 1.00	

Question 13

If the regression line in a scatterplot is horizontal then what is the regression coefficient?

Your Answer		Score	Explanation
-1			
0	✔	1.00	
1			
Undefined			
Total		1.00 / 1.00	

Question 14

In a regression analysis, if the residuals are correlated with X then what assumption has most likely been violated?

Your Answer	Score	Explanation
independence assumption		

homogeneity of variance assumption		
homoscedasticity assumption	✔	1.00
univariate normal assumptions		
Total		1.00 / 1.00

Question 15

When converting from an unstandardized to a standardized multiple regression analysis which of the following values will change?

Your Answer		Score	Explanation
regression coefficients	✔	1.00	
t values			
p values			
multiple R squared			
Total		1.00 / 1.00	

Question 16

In multiple regression what is the difference between R and R^2?

Your Answer		Score	Explanation
R is the correlation between predicted and observed scores whereas R^2 is the percent of the variance in Y that can be explained by the regression model	✔	1.00	
R is the correlation between variables X and Y whereas R^2 is the correlation between the predicted and observed scores			

R^2 is the correlation between the predicted and observed scores whereas R is the percent of the variance in Y that can be explained by the regression model		
R^2 is the percent of the variance in Y that can be explained by the regression model whereas R is the difference between the predicted and observed scores		
Total		1.00 / 1.00

Question 17

In the faculty salary example, $\hat{Y}$ = 46,910 + (1,382)X1 + (502)X2 – (3,484)X3, where X1 = years since graduation, X2 = publications, and X3 = gender (male coded as 0 and female coded as 1). According to this model, the predicted salary for a male faculty member who just graduated (years = 0), with zero publications, is:

Your Answer		Score	Explanation
$43,426			
$46,910	✔	1.00	
$49,394			
$50,394			
Total		1.00 / 1.00	

Question 18

In the faculty salary example the actual difference in average salary between men and women was NOT = $3,484. $3,484 is:

Your Answer	Score	Explanation

The predicted difference between male and female faculty who just graduated and have no publications		
The predicted difference between male and female faculty who are average in years since they graduated and have an average number of publications	✔	1.00
The predicted difference between male and female faculty who just graduated and have an average number of publications		
None of the above		
Total		1.00 / 1.00

Question 19

In multiple regression analysis, the null hypothesis assumes that the unstandardized regression coefficient, B, is zero. The standard error of the regression coefficient depends on:

Your Answer		Score	Explanation
Sample size	✖	0.00	
Sample size and the Sum of Squared Residuals			
Sample size, Sum of Squared Residuals, and the number of other predictor variables in the regression model			
Sample size, Sum of Squared Residuals, the number of other predictor variables in the regression model, and the p-value			
Total		0.00 / 1.00	

Question 20

When conducting a null hypothesis significance test, the p value represents:

Your Answer		Score	Explanation
The probability that the null hypothesis is true given the data			
The probability that the null hypothesis is false given the data			
The probability of the data given the null hypothesis is true	✔	1.00	
The probability of the data given the null hypothesis is false			
Total		1.00 / 1.00	

Question 21

Use the R output to answer the 5 questions below. The R output is from a quick analysis conducted on data collected at Columbia University and demonstrates a slight positive correlation between overall SAT score (sat) and proportion of items recalled on a working memory span task (span1). What is the unstandardized regression coefficient for working memory span in the regression equation predicting SAT?

You entered:

300.90

Your Answer		Score	Explanation
300.90	✔	1.00	
Total		1.00 / 1.00	

Question 22

R output. What is the predicted SAT score for a student who scored .50 on the working memory span task (round to a possible SAT score, for example, 2400 is a possible score, 2399.56 is not)?

You entered:

2000

Your Answer		Score	Explanation
2000	✔	1.00	
Total		1.00 / 1.00	

Question 23

R output. What percentage of variance in SAT is explained by working memory span?

You entered:

3

Your Answer		Score	Explanation
3	✔	1.00	
Total		1.00 / 1.00	

Question 24

R output. What is the absolute value of the largest prediction error (residual) in this example?

You entered:

647.42

Your Answer		Score	Explanation
647.42	✔	1.00	
Total		1.00 / 1.00	

Question 25

R output. What is the standard error of the sampling distribution of unstandardized regression coefficients?

You entered:

211.20

Your Answer		Score	Explanation
211.20	✔	1.00	
Total		1.00 / 1.00	