

## QUIZ 22

Some students are in social fraternities. Some students are not. You want to know whether membership in a social fraternity influences whether people own a wooden paddle. What statistical test do you run?

You want to predict whether your favorite sports team will win. You have a bunch of predictor variables. What statistical test do you run?

You have all the same predictors, but now you want to predict how many points the basketball team will score. What statistical test do you run?

Athletes have an in-season and an off-season. Let's say it's a sport in which fall semester is on and spring semester is off. You want to know if their fall and spring semester GPAs differ. What statistical test would you run?

You take a gluten intolerance test. You test positive. What statistic tells you how much to trust that positive finding?

You want to compare fingernail length between men and women. What statistical test do you run?

Here's a statistical output about hospital patients in a fall risk study:

Correlations										
		gender	age	# of previous falls	# of return visits	acetaminophen	aspirin	naproxen	ibuprofen	hydrocodone
gender	Pearson Correlation	1	-.024	-.053	.001	-.042	.034	.024	.008	-.025
	Sig. (2-tailed)		.546	.186	.980	.300	.396	.557	.843	.529
	N	617	617	617	611	617	617	617	617	617
age	Pearson Correlation	-.024	1	.173**	.136**	.018	.035	-.087*	-.022	.051
	Sig. (2-tailed)	.546		.000	.001	.657	.375	.028	.584	.196
	N	617	633	617	611	633	633	633	633	633
# of previous falls	Pearson Correlation	-.053	.173**	1	.701**	.032	-.061	-.015	-.013	.019
	Sig. (2-tailed)	.186	.000		.000	.427	.131	.719	.741	.637
	N	617	617	617	611	617	617	617	617	617
# of return visits	Pearson Correlation	.001	.136**	.701**	1	.028	-.044	-.034	-.039	.049
	Sig. (2-tailed)	.980	.001	.000		.497	.277	.399	.331	.222
	N	611	611	611	611	611	611	611	611	611
acetaminophen	Pearson Correlation	-.042	.018	.032	.028	1	.082*	-.023	.102*	-.020
	Sig. (2-tailed)	.300	.657	.427	.497		.040	.557	.011	.611
	N	617	633	617	611	633	633	633	633	633
aspirin	Pearson Correlation	.034	.035	-.061	-.044	.082*	1	.031	-.017	-.025
	Sig. (2-tailed)	.396	.375	.131	.277	.040		.437	.661	.535
	N	617	633	617	611	633	633	633	633	633

What statistical test was run? And explain one finding or relationship shown in this output.

Here's a statistical output about patients with cancer engaging in exercise:

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	179.950 <sup>a</sup>	.041	.055

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

What information can be extracted from this output?

Classification Table <sup>a</sup>					
Observed		Predicted Completion_of_program		Percentage Correct	
		Did not complete the program	Did complete the program		
Step 1 Completion_of_program	Did not complete the program	79	6	92.9	
	Did complete the program	49	5	9.3	
Overall Percentage				60.4	

a. The cut value is .500

Variables in the Equation								
Step 1 <sup>a</sup>	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
Age	.009	.017	.255	1	.614	1.009	.975	1.044
Smoking_Status	-.789	.832	.900	1	.343	.454	.089	2.318
Breast_Cancer	.795	.378	4.425	1	.035	2.213	1.056	4.641
Constant	-1.370	1.157	1.402	1	.236	.254		

a. Variable(s) entered on step 1: Age, Smoking\_Status, Breast\_Cancer.