













final

7. You are interested in what determines the number of doctor visits a person has. You have collected data on the number of times a person has visited the doctor (timedrs), the number of physical health problems for that person (phyheal), and the stress level of each person (stress, based on Life Change Units). You get the following results by running a regression.

regress timedrs phyheal stress

Source	SS	df	MS			
Model	12167.7865	2	6083.89323	Number of obs =	465	
Residual	43451.663	462	94.0512186	F( 2, 462) =	*****	
Total	55619.4495	464	119.869503	Prob > F =	*****	
				R-squared =	*****	
				Adj R-squared =	0.2154	
				Root MSE =	9.698	

  

timedrs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
phyheal	1.779611	.1979785	*****	*****	1.390561	2.168661
stress	.0135436	.003482	*****	*****	.006701	.0203861
_cons	-3.713056	1.117638	-3.32	0.001	-5.909339	-1.516772

- a) what is the estimated number of doctors visits for a person with 2 health problems and a stress number of 900?
- b) Interpret the coefficient on the stress variable. What does this mean about stress and the number of physical health problems on the number of hospital visits?
- c) State the null and alternative hypothesis to test whether or not stress affects the number of hospital visits a person has, find the observed and critical value at a .01 significance level.



final

h) I now add a variable that measures the mental health of a person, to see if that has any affect on the number of hospital visits and get the following results

regress timedrs phyheal stress menheal

Source	SS	df	MS	Number of obs =	465
Model	12168.3154	3	4056.10512	F( 3, 461) =	43.03
Residual	43451.1341	461	94.254087	Prob > F =	0.0000
				R-squared =	0.2188
				Adj R-squared =	0.2137
Total	55619.4495	464	119.869503	Root MSE =	9.7085

timedrs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
phyheal	1.786948	.2210735	8.08	0.000	1.352511	2.221385
stress	.0136145	.0036121	3.77	0.000	.0065162	.0207128
menheal	-.0096656	.1290286	-0.07	0.940	-.2632227	.2438915
_cons	-3.704848	1.124195	-3.30	0.001	-5.914029	-1.495666

Does adding the number of mental health problems into the regression help in the overall goodness of fit?