

Econ 174, Section 101/103

Week 12

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Today

- General questions?
 - Miscellaneous stata tips
 - Centering interaction terms
 - Midterm review
-
- Next week
 - PSET due April 5

Misc stata tips

- local variables
- global variables
- for loops
 - “help foreach”
- Logit + predict
- Twoway, kdensity

Centering interaction terms

```
reg raven treatment grade5 treat_grade5, robust
```

Linear regression

Number of obs = 1690
 F(3, 67) = 17.15
 Prob > F = 0.0000
 R-squared = 0.0278
 Root MSE = 5.6099

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
raven						
treatment	.9495713	.444051	2.14	0.036	.0632418	1.835901
grade5	2.282205	.366876	6.22	0.000	1.549918	3.014493
treat_grade5	-.973888	.5515614	-1.77	0.082	-2.074809	.1270332
_cons	17.77477	.292348	60.80	0.000	17.19125	18.3583

- What does the constant term measure?
- What are the average test scores for 6th graders in the treatment group?
- Did the program have a bigger effect on 5th graders (compared to 6th graders)?
- What is average test score for 5th graders? $.5 * \text{treatment } 5^{\text{th}} \text{ graders} + .5 * \text{control } 5^{\text{th}} \text{ graders}$

Centering interaction terms

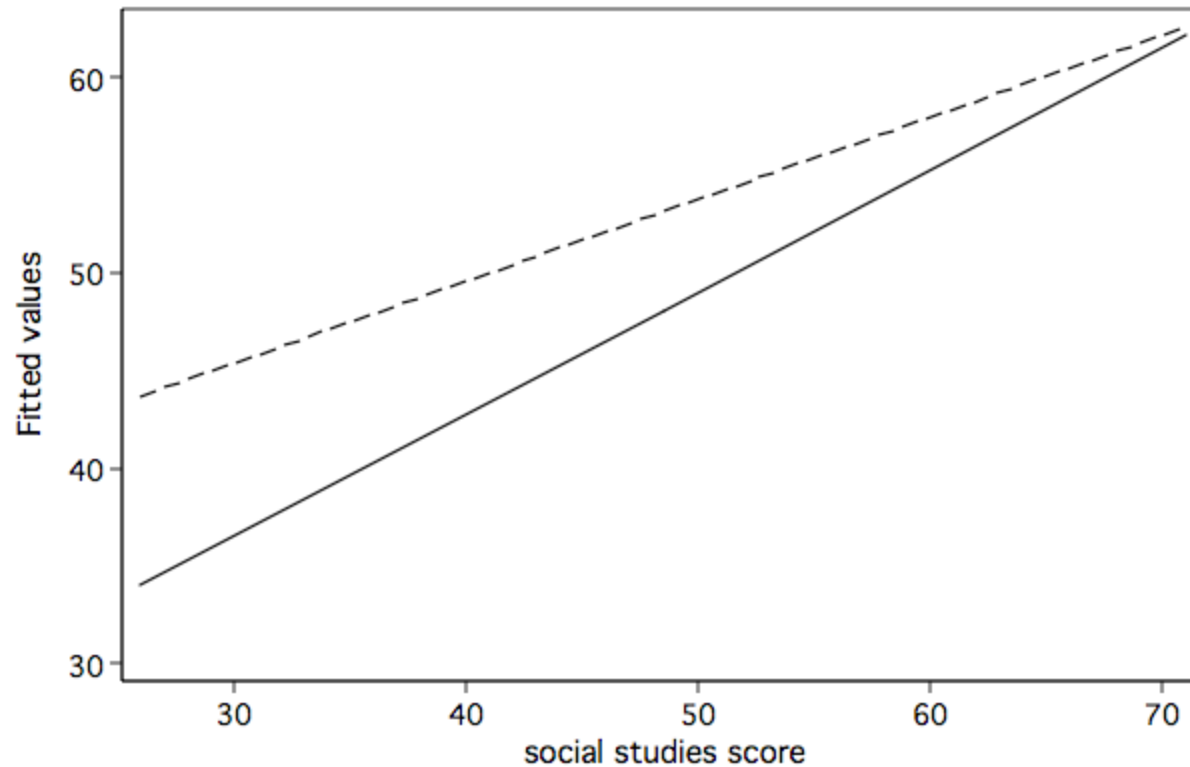
```
use http://www.ats.ucla.edu/stat/stata/notes/hsb2, clear
generate femXsoc=female*socst
regress write female socst femXsoc
```

Source	SS	df	MS	Number of obs =	200
Model	7685.43528	3	2561.81176	F(3, 196) =	49.26
Residual	10193.4397	196	52.0073455	Prob > F =	0.0000
Total	17878.875	199	89.843593	R-squared =	0.4299
				Adj R-squared =	0.4211
				Root MSE =	7.2116

write	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
female	15.00001	5.09795	2.94	0.004	4.946132	25.05389
socst	.6247968	.0670709	9.32	0.000	.4925236	.7570701
femXsoc	-.2047288	.0953726	-2.15	0.033	-.3928171	-.0166405
_cons	17.7619	3.554993	5.00	0.000	10.75095	24.77284

Uncentered

```
twoway (lfit write socst if ~female)(lfit write socst if  
female), legend(off)
```



summarize socst

Variable	Obs	Mean	Std. Dev.	Min	Max
socst	200	52.405	10.73579	26	71

global mean = r(mean)

generate mean = socst-\$mean

generate femXmean=female*mean

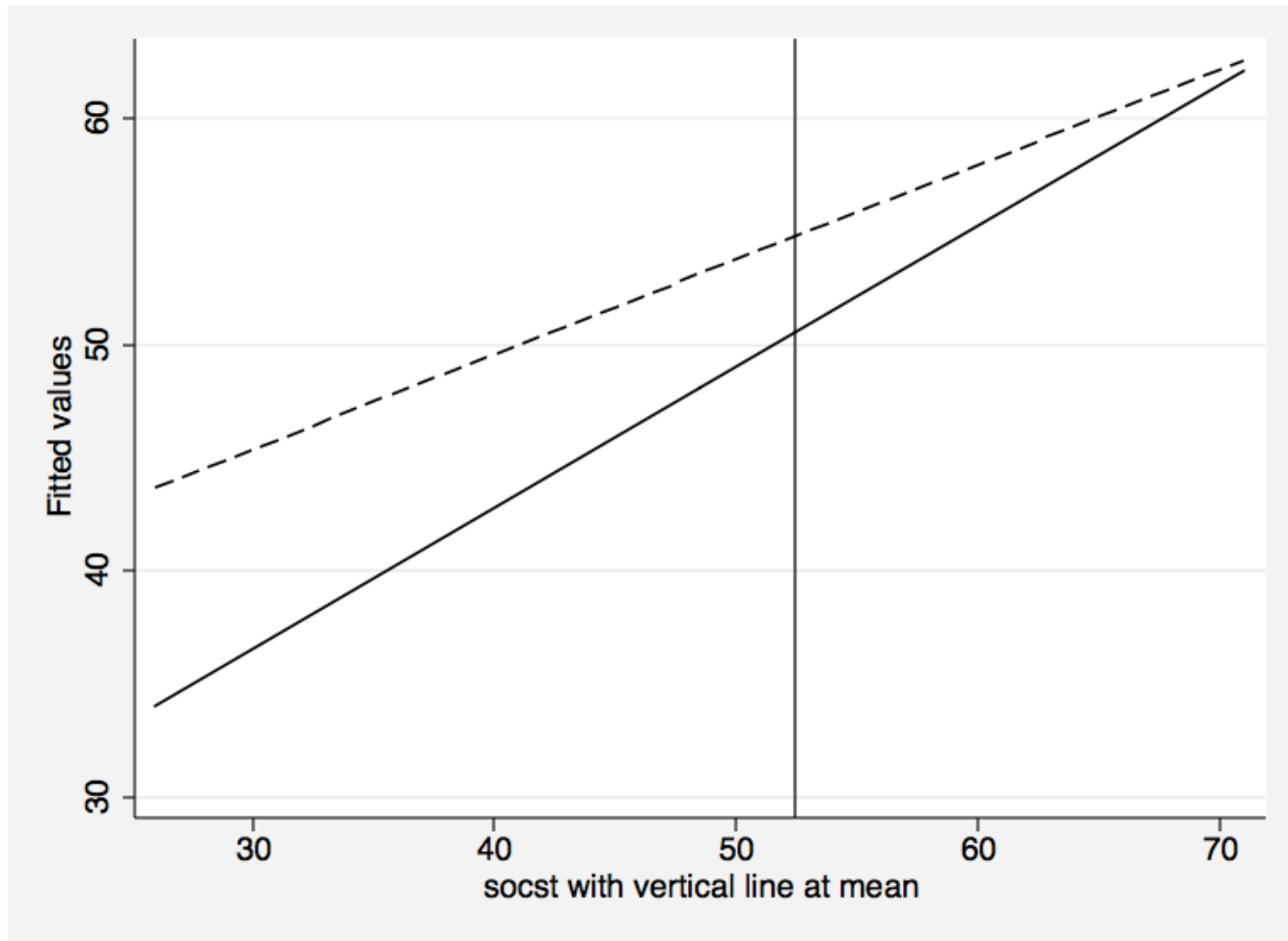
regress write female mean femXmean

Source	SS	df	MS	Number of obs =	200
Model	7685.43527	3	2561.81176	F(3, 196) =	49.26
Residual	10193.4397	196	52.0073456	Prob > F =	0.0000
				R-squared =	0.4299
				Adj R-squared =	0.4211
Total	17878.875	199	89.843593	Root MSE =	7.2116

write	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
female	4.271196	1.025448	4.17	0.000	2.248868	6.293523
mean	.6247968	.0670709	9.32	0.000	.4925236	.7570701
femXmean	-.2047288	.0953726	-2.15	0.033	-.3928171	-.0166405
_cons	50.50437	.7571024	66.71	0.000	49.01126	51.99749

Centered

```
twoway (lfit write socst if ~female)(lfit write  
socst if female), legend(off)
```



Midterm results

- Mean: 75.9
- SD: 12
- Median: 76
- Mode: 68

