



course_eval	Coef.	Robust HC3 Std. Err.	t	P> t	[95% Conf. Interval]	
beauty	.1596534	.0309534	5.16	0.000	.0988237	.2204831
intro	.0024414	.0570298	0.04	0.966	-.1096338	.1145165
onecredit	.6197589	.1127831	5.50	0.000	.3981172	.8414006
female	-.1881177	.0522655	-3.60	0.000	-.2908301	-.0854053
minority	-.1795689	.0710229	-2.53	0.012	-.3191434	-.0399945
nnenglish	-.2432153	.099561	-2.44	0.015	-.4388729	-.0475578
age	.0195252	.0241199	0.81	0.419	-.0278753	.0669257
age_sq	-.0002223	.0002513	-0.88	0.377	-.0007162	.0002716
_cons	3.677032	.5639786	6.52	0.000	2.568699	4.785364

14 . test (age age\_sq)

```
( 1) age = 0
( 2) age_sq = 0
```

F( 2, 454) = 0.59  
 Prob > F = 0.5533

15 .

```
16 . /* Add the female*Beauty interaction and test its significance */
17 . reg course_eval beauty intro onecredit female minority nnenglish fem_beauty,
> vce(hc3)
```

```
Linear regression                               Number of obs =      463
                                                F( 7, 455) =      14.37
                                                Prob > F       =      0.0000
                                                R-squared      =      0.1639
                                                Root MSE     =      .51124
```

course_eval	Coef.	Robust HC3 Std. Err.	t	P> t	[95% Conf. Interval]	
beauty	.2308198	.0482374	4.79	0.000	.136024	.3256155
intro	-.0012302	.056153	-0.02	0.983	-.1115816	.1091212
onecredit	.6565755	.1128019	5.82	0.000	.4348982	.8782529
female	-.1729451	.0498053	-3.47	0.001	-.2708221	-.0750681
minority	-.1347426	.0709168	-1.90	0.058	-.2741077	.0046224
nnenglish	-.2679069	.0960588	-2.79	0.006	-.4566808	-.079133
fem_beauty	-.1407411	.064112	-2.20	0.029	-.2667335	-.0147487
_cons	4.074949	.037502	108.66	0.000	4.00125	4.148648

18 . test fem\_beauty

```
( 1) fem_beauty = 0
```

F( 1, 455) = 4.82  
 Prob > F = 0.0287

```

19 .
20 . /* Obtain the summary statistics for beauty. Compute 2 times its standard de
> viation. */
21 . summarize beauty

```

Variable	Obs	Mean	Std. Dev.	Min	Max
beauty	463	4.75e-08	.7886477	-1.450494	1.970023

```
22 . scalar md_L = r(mean)-r(sd)
```

```
23 . scalar md_U = r(mean)+r(sd)
```

```
24 . scalar d_B = 2*r(sd)
```

```
25 . scalar list md_L md_U d_B
```

```

md_L = -.78864762
md_U = .78864771
d_B = 1.5772953

```

```
26 .
```

```
27 . /* Run the regression and compute the confidence interval using
> ** the stored coefficient standard error from the regression */
```

```
28 . reg course_eval beauty intro onecredit female minority nnenglish fem_beauty
> , vce(hc3)
```

Linear regression

```

Number of obs =      463
F( 7, 455) =      14.37
Prob > F      =      0.0000
R-squared     =      0.1639
Root MSE     =      .51124

```

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	Coef.	Std. Err.				
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```
29 . scalar lb = d_B*_b[beauty]-1.96*_se[beauty]*d_B
```

```
30 . scalar ub = d_B*_b[beauty]+1.96*_se[beauty]*d_B
```

```
31 . scalar list lb ub
```


```

lb = .21494496
ub = .51319688

```

```
32 .
```


```
33 . /* Compute the sum of the beauty and interaction coefficients and its
> ** standard error. Here, I used the lincom command. */
34 . lincom beauty+fem_beauty
```

( 1) **beauty + fem\_beauty = 0** 

course_eval	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
(1)	.0900787	.0405829	2.22	0.027	.0103254	.1698319

```
35 .
36 . /* Now use the stored results r(estimate) and r(se) to compute the CI */
37 . scalar lb2 = d_B*r(estimate)-1.96*r(se)*d_B
```

```
38 . scalar ub2 = d_B*r(estimate)+1.96*r(se)*d_B
```

```
39 . scalar list lb2 ub2
      lb2 = .01661858 
      ub2 = .26754276
```

```
40 .
end of do-file
```

```
41 . log close
      log: C:\Temp\web\class\5213\2008\HW_E8.2.smcl
      log type: smcl
      closed on: 25 Nov 2008, 10:23:03
```

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