```
                                      ___  ____  ____  ____  ____(R)
                                     /__    /   ____/   /   ____/
                                    ___/   /   /___/   /   /___/
                                      Statistics/Data Analysis
```

1 . do "C:\Users\soyou\AppData\Local\Temp\STD03000000.tmp"

2 . import delimited C:\Users\soyou\Documents\GitHub\EduTravel\id_weight.csv, varnames(1) clear
  (3 vars, 21409 obs)
3 . drop v1

4 . save weights, replace
  file weights.dta saved

5 .
6 . import delimited C:\Users\soyou\Documents\GitHub\EduTravel\final_data_0226.csv, ///
  > numericcols(8/44) clear
  (44 vars, 107045 obs)
7 .
8 . merge m:m childid using weights

        Result   # of obs.
        ─────────────────────────────────────
        not matched   0
        matched   107,045 (_merge==3)
        ─────────────────────────────────────

9 . save final_data_0226, replace
  file final_data_0226.dta saved

10 . drop _merge

11 .
12 . set more off

13 .
14 . drop did tincth build-tellst parentid cregion

15 . drop treatedm-treatedz

16 . drop if c245pw0=="NA" | c245pw0=="0"
  (46025 observations deleted)

17 . destring c245pw0, replace force
  c245pw0 contains nonnumeric characters; **replaced** as **double**

18 . sum c245pw0

      Variable │   Obs   Mean   Std. Dev.   Min   Max
    ───────────┼──
       c245pw0 │   61020   314.9191   267.0376   1.78   3121.66

19 .
20 . rename r4mscl math

21 . rename r4rscl reading

22 . rename screen english
```

```
23 . //time: 1 if greater than round 2, 0 else
24 . //treated: if took at least one trip, 1, else 0
25 .
26 . //set all income and father/mother education/job to base round (0) value
27 . bysort childid (round): replace income = income[1] if round > 0
   (39423 real changes made)

28 . bysort childid (round): replace daded = daded[1] if round > 0
   (25276 real changes made, 804 to missing)

29 . bysort childid (round): replace dadscr = dadscr[1] if round > 0
   (30791 real changes made, 1782 to missing)

30 . bysort childid (round): replace momed = momed[1] if round > 0
   (32656 real changes made, 116 to missing)

31 . bysort childid (round): replace momscr = momscr[1] if round > 0
   (32782 real changes made, 7597 to missing)

32 .
33 . //set approach to learning, expectation for education level, and
34 . //english speaking environment to the first round value
35 . bysort childid (round): replace learn = learn[2]
   (44909 real changes made, 89 to missing)

36 . bysort childid (round): replace expect = expect[2]
   (42653 real changes made, 60 to missing)

37 . bysort childid (round): replace english = english[2]
   (25576 real changes made)

38 .
39 . bysort childid: egen timewchildren1 = mean(timewchildren)
   (10 missing values generated)

40 . bysort childid: replace timewchildren = timewchildren1 if timewchildren==.
   (36685 real changes made)

41 . //generate ses variable
42 . sort childid round

43 . factor daded dadscr income momed momscr, pcf
   (obs=31745)
```

    Factor analysis/correlation   Number of obs   =   31745
        Method: principal-component factors   Retained factors =   1
        Rotation: (unrotated)   Number of params =   5

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.59248	1.78323	0.5185	0.5185
Factor2	0.80925	0.09813	0.1618	0.6803
Factor3	0.71112	0.16584	0.1422	0.8226
Factor4	0.54528	0.20341	0.1091	0.9316
Factor5	0.34187	.	0.0684	1.0000

        LR test: independent vs. saturated: chi2(10) = 4.1e+04 Prob>chi2 = 0.0000

    Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
daded	0.8388	0.2964
dadscr	0.7340	0.4612
income	0.6205	0.6149
momed	0.7144	0.4897
momscr	0.6743	0.5453

```
44 . predict ses
   (regression scoring assumed)
```

   Scoring coefficients (method = regression)

Variable	Factor1
daded	0.32355
dadscr	0.28314
income	0.23936
momed	0.27555
momscr	0.26011

```
45 .
46 . //generate treated variable - trip
47 . gen treated1 = 0

48 . gen treated2 = 0

49 . gen treated3 = 0

50 . bysort childid (round): replace treated1 = 1 if trip[3] > 0
   (48130 real changes made)

51 . bysort childid (round): replace treated2 = 1 if trip[5] > 0
   (47560 real changes made)

52 . bysort childid (round): replace treated3 = 1 if trip[3] > 0 & trip[5] > 0
   (39700 real changes made)

53 .
54 . //generate treated variable - museum
55 . gen tmuseum = 0

56 . gen tconcrt = 0

57 . gen tzoo = 0

58 . gen tsport = 0

59 .
60 . bysort childid (round): replace tmuseum = 1 if museum > 0 & round == 2
   (3843 real changes made)
```

```
61 . bysort childid (round): replace tconcrt = 1 if concrt > 0 & round == 2
   (4743 real changes made)

62 . bysort childid (round): replace tzoo = 1 if zoo > 0 & round == 2
   (4818 real changes made)

63 . bysort childid (round): replace tsport = 1 if sport > 0 & round == 2
   (5509 real changes made)

64 .
65 . bysort childid (round): replace tmuseum = tmuseum[3]
   (15372 real changes made)

66 . bysort childid (round): replace tconcrt = tconcrt[3]
   (18972 real changes made)

67 . bysort childid (round): replace tzoo = tzoo[3]
   (19272 real changes made)

68 . bysort childid (round): replace tsport = tsport[3]
   (22036 real changes made)

69 .
70 . egen n = group(childid)

71 . sum n
```

Variable	Obs	Mean	Std. Dev.	Min	Max
n	61020	6102.5	3523.02	1	12204

```
72 .
73 . drop if reading ==. & round !=0
   (1652 observations deleted)

74 . drop if math ==. & round !=0
   (48 observations deleted)

75 .
76 . sum n
```

Variable	Obs	Mean	Std. Dev.	Min	Max
n	59320	6050.063	3522.793	1	12204

```
77 .
78 . * DID without cov*
79 . diff reading, t(treated) p(time)
```

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **47116**

	Before	After	
Control:	**4603**	**5019**	9622
Treated:	**18451**	**19043**	37494
	23054	24062	

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	39.953			
Treated	42.458			
Diff (T-C)	**2.505**	0.451	5.56	0.000***
After				
Control	98.698			
Treated	105.832			
Diff (T-C)	**7.134**	0.434	16.43	0.000***

```
    Diff-in-Diff   │ 4.630  │ 0.626  │ 7.40   │ 0.000***
    ────────────────────────────────────────────────────
    R-square:    0.57
    * Means and Standard Errors are estimated by linear regression
    **Inference: *** p<0.01; ** p<0.05; * p<0.1
```

80 . diff math, t(treated) p(time)

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **47116**

	Before	After	
Control:	**4603**	**5019**	9622
Treated:	**18451**	**19043**	37494
	23054	24062	

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	30.494			
Treated	33.390			
Diff (T-C)	**2.896**	0.363	7.98	0.000***
After				
Control	77.332			
Treated	83.381			
Diff (T-C)	**6.049**	0.349	17.32	0.000***
Diff-in-Diff	**3.153**	0.504	6.26	0.000***

```
    R-square:    0.56
    * Means and Standard Errors are estimated by linear regression
    **Inference: *** p<0.01; ** p<0.05; * p<0.1
```

81 .
82 . *DID with cov and psm*
83 . //Trip//
84 . set more off

85 . qui pscore treated1 gender white black asian hispanic expect learn ///
   > english timewchildren ses [pw=c245pw0], pscore(psm) logit blockid(psm_block) detail
   The balancing property is not satisfied
   Try a different specification of the propensity score

86 .
87 . psgraph, treated(treated1) pscore(psm)

88 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_trip.pdf", as(pdf) replace
   (file C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_trip.pdf written in PDF format)

89 .
90 . qui psmatch2 treated1, outcome(reading) pscore(psm)

91 . qui psmatch2 treated1, outcome(math) pscore(psm)

92 .
93 . qui pstest gender white black asian hispanic expect learn ///
   > english timewchildren ses, treated(treated1) both graph

94 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\matched_trip.pdf", as(pdf) replace
   (file C:\Users\soyou\Documents\GitHub\EduTravel\matched_trip.pdf written in PDF format)

95 .
96 . diff reading, t(treated1) p(time) cov(gender white black asian hispanic expect learn ///
   > english timewchildren ses) ps(psm) robust report
   DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

   DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
   Number of observations in the DIFF-IN-DIFF: **24694**
	Before	After	
Control:	**2188**	**2324**	4512
Treated:	**9990**	**10192**	20182
	12178	12516	

   Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	**-0.686**	**0.336**	**-2.042**	**0.041**
white	**3.168**	**0.559**	**5.668**	**0.000**
black	**-0.841**	**0.789**	**-1.065**	**0.287**
asian	**6.150**	**0.894**	**6.880**	**0.000**
hispanic	**2.150**	**0.799**	**2.690**	**0.007**
expect	**0.277**	**0.032**	**8.674**	**0.000**
learn	**8.249**	**0.265**	**31.104**	**0.000**
english	**4.115**	**0.701**	**5.873**	**0.000**
timewchild~n	**-1.077**	**0.046**	**-23.666**	**0.000**
ses	**5.069**	**0.188**	**27.034**	**0.000**

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	30.181			
Treated	30.030			
Diff (T-C)	**-0.151**	**0.321**	**-0.47**	**0.639**
After				
Control	91.220			
Treated	93.698			
Diff (T-C)	**2.478**	**0.761**	**3.26**	**0.001*****
Diff-in-Diff	**2.628**	**0.816**	**3.22**	**0.001*****

   R-square: **0.63**
   * Means and Standard Errors are estimated by linear regression
   **Robust Std. Errors
   **Inference: *** p<0.01; ** p<0.05; * p<0.1

97 .
98 . diff math, t(treated1) p(time) cov(gender white black asian hispanic expect learn ///
   > english timewchildren ses) ps(psm) robust report
   DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

   DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
   Number of observations in the DIFF-IN-DIFF: **24694**
	Before	After	
Control:	**2188**	**2324**	4512
Treated:	**9990**	**10192**	20182
	12178	12516	

   Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	**4.617**	**0.264**	**17.495**	**0.000**
white	**4.087**	**0.448**	**9.128**	**0.000**
black	**-2.860**	**0.621**	**-4.608**	**0.000**
asian	**3.437**	**0.750**	**4.582**	**0.000**

hispanic	1.858	0.629	2.955	0.003
expect	0.220	0.025	8.717	0.000
learn	8.096	0.210	38.629	0.000
english	3.055	0.564	5.416	0.000
timewchild~n	-0.944	0.036	-26.006	0.000
ses	3.876	0.147	26.435	0.000

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	16.967			
Treated	17.501			
Diff (T-C)	**0.534**	**0.265**	**2.02**	**0.044****
After				
Control	65.092			
Treated	67.367			
Diff (T-C)	**2.275**	**0.607**	**3.75**	**0.000*****
Diff-in-Diff	**1.742**	**0.653**	**2.67**	**0.008*****

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
 99 .
100 . set more off

101 . drop psm psm_block

102 . qui pscore treated2 gender white black asian hispanic expect learn ///
    > english timewchildren ses [pw=c245pw0], pscore(psm) logit blockid(psm_block) detail
    The balancing property is not satisfied
    Try a different specification of the propensity score

103 . //psgraph, treated(treated2) pscore(psm)
104 .
105 . qui psmatch2 treated2, outcome(reading) pscore(psm)

106 . qui psmatch2 treated2, outcome(math) pscore(psm)

107 .
108 . qui pstest gender white black asian hispanic expect learn ///
    > english timewchildren ses, treated(treated2) both graph

109 .
110 . diff reading, t(treated2) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
    DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

    DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
    Number of observations in the DIFF-IN-DIFF: 24694
              Before          After
      Control: 2144           2274            4418
      Treated: 10034          10242           20276
              12178           12516
    Report - Covariates and coefficients:
```

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.668	0.336	-1.989	0.047
white	3.183	0.558	5.701	0.000
black	-0.821	0.789	-1.040	0.298
asian	6.144	0.895	6.864	0.000
hispanic	2.159	0.799	2.703	0.007
expect	0.279	0.032	8.734	0.000

learn	8.241	0.265	31.042	0.000
english	4.129	0.702	5.883	0.000
timewchild~n	-1.078	0.046	-23.609	0.000
ses	5.088	0.187	27.225	0.000

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	30.107			
Treated	30.006			
Diff (T-C)	**-0.100**	**0.332**	**-0.30**	**0.763**
After				
Control	91.385			
Treated	93.609			
Diff (T-C)	**2.224**	**0.779**	**2.85**	**0.004*****
Diff-in-Diff	**2.324**	**0.837**	**2.78**	**0.005*****

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

111 .
112 . diff math, t(treated2) p(time) cov(gender white black asian hispanic expect learn ///
> english timewchildren ses) ps(psm) robust report
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**2144**	**2274**	4418
Treated:	**10034**	**10242**	20276
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	4.643	0.264	17.590	0.000
white	4.100	0.447	9.168	0.000
black	-2.835	0.621	-4.568	0.000
asian	3.446	0.751	4.587	0.000
hispanic	1.869	0.628	2.977	0.003
expect	0.222	0.025	8.800	0.000
learn	8.076	0.210	38.498	0.000
english	3.039	0.564	5.384	0.000
timewchild~n	-0.947	0.036	-26.091	0.000
ses	3.883	0.146	26.550	0.000

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	16.978			
Treated	17.620			
Diff (T-C)	**0.642**	**0.268**	**2.40**	**0.017****
After				
Control	64.913			
Treated	67.514			
Diff (T-C)	**2.601**	**0.619**	**4.20**	**0.000*****
Diff-in-Diff	**1.959**	**0.667**	**2.94**	**0.003*****

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors

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```
113 .
114 . set more off

115 . drop psm psm_block

116 . qui pscore treated3 gender white black asian hispanic expect learn ///
    > english timewchildren ses [pw=c245pw0], pscore(psm) logit blockid(psm_block) detail
    The balancing property is not satisfied
    Try a different specification of the propensity score

117 . //psgraph, treated(treated3) pscore(psm)
118 .
119 . qui psmatch2 treated3, outcome(reading) pscore(psm)

120 . qui psmatch2 treated3, outcome(math) pscore(psm)

121 .
122 . qui pstest gender white black asian hispanic expect learn ///
    > english timewchildren ses, treated(treated3) both graph

123 .
124 . diff reading, t(treated3) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```

DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**3572**	**3778**	7350
Treated:	**8606**	**8738**	17344
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.676	0.336	-2.014	0.044
white	3.149	0.559	5.636	0.000
black	-0.834	0.789	-1.056	0.291
asian	6.185	0.895	6.913	0.000
hispanic	2.133	0.799	2.669	0.008
expect	0.277	0.032	8.674	0.000
learn	8.224	0.265	30.977	0.000
english	4.071	0.701	5.805	0.000
timewchild~n	-1.083	0.046	-23.665	0.000
ses	5.045	0.188	26.795	0.000

Outcome var.	reading	S. Err.	|t|	P>|t|
Before				
Control	30.429			
Treated	30.265			
Diff (T-C)	**-0.164**	**0.285**	**-0.58**	**0.565**
After				
Control	91.772			
Treated	94.224			
Diff (T-C)	**2.452**	**0.655**	**3.74**	**0.000*****
Diff-in-Diff	**2.616**	**0.699**	**3.74**	**0.000*****

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
125 .
126 . diff math, t(treated3) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```

DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS

Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**3572**	**3778**	7350
Treated:	**8606**	**8738**	17344
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	4.630	0.264	17.545	0.000
white	4.059	0.448	9.069	0.000
black	-2.851	0.621	-4.594	0.000
asian	3.491	0.750	4.654	0.000
hispanic	1.834	0.628	2.919	0.004
expect	0.219	0.025	8.706	0.000
learn	8.061	0.210	38.428	0.000
english	2.995	0.564	5.309	0.000
timewchild~n	-0.953	0.036	-26.177	0.000
ses	3.836	0.147	26.072	0.000

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	17.398			
Treated	17.961			
Diff (T-C)	**0.563**	0.231	2.43	0.015**
After				
Control	65.599			
Treated	68.063			
Diff (T-C)	**2.464**	0.519	4.75	0.000***
Diff-in-Diff	**1.901**	0.557	3.41	0.001***

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
127 .
128 . //Museum//
129 . drop psm psm_block

130 . set more off

131 . qui pscore tmuseum gender white black asian hispanic expect learn ///
    > english timewchildren ses [pw=c245pw0], pscore(psm) blockid(psm_block) logit detail
```

The balancing property is not satisfied
Try a different specification of the propensity score

```
132 . //bysort childid (round): replace psm = psm[3]
133 . //psgraph, treated(tmuseum) pscore(psm)
134 . //graph export "C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_museum.pdf", as(pdf) replace
135 .
136 . qui psmatch2 tmuseum, outcome(reading) pscore(psm)

137 . qui psmatch2 tmuseum, outcome(math) pscore(psm)

138 . qui pstest gender white black asian hispanic expect learn ///
    > english timewchildren ses, treated(tmuseum) both graph

139 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\matched_museum.pdf", as(pdf) replace
    (file C:\Users\soyou\Documents\GitHub\EduTravel\matched_museum.pdf written in PDF format)

140 .
141 . diff reading, t(tmuseum) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```

DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**8261**	**8529**	16790
Treated:	**3917**	**3987**	7904
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.679	0.336	-2.023	0.043
white	3.258	0.559	5.828	0.000
black	-0.760	0.790	-0.963	0.336
asian	6.131	0.893	6.863	0.000
hispanic	2.186	0.799	2.736	0.006
expect	0.270	0.032	8.447	0.000
learn	8.276	0.265	31.223	0.000
english	4.206	0.700	6.006	0.000
timewchild~n	-1.098	0.046	-24.083	0.000
ses	4.972	0.188	26.510	0.000

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	30.114			
Treated	30.931			
Diff (T-C)	**0.816**	0.292	2.79	0.005***
After				
Control	92.490			
Treated	95.759			
Diff (T-C)	**3.268**	0.652	5.01	0.000***
Diff-in-Diff	**2.452**	0.706	3.47	0.001***

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
142 . diff math, t(tmuseum) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**8261**	**8529**	16790
Treated:	**3917**	**3987**	7904
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	**4.623**	**0.264**	**17.518**	**0.000**
white	**4.165**	**0.448**	**9.297**	**0.000**
black	**-2.798**	**0.620**	**-4.510**	**0.000**
asian	**3.386**	**0.750**	**4.515**	**0.000**
hispanic	**1.893**	**0.628**	**3.012**	**0.003**
expect	**0.216**	**0.025**	**8.550**	**0.000**
learn	**8.128**	**0.209**	**38.805**	**0.000**
english	**3.150**	**0.564**	**5.586**	**0.000**
timewchild~n	**-0.952**	**0.036**	**-26.176**	**0.000**
ses	**3.839**	**0.147**	**26.084**	**0.000**

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	17.162			
Treated	17.882			
Diff (T-C)	**0.720**	**0.231**	**3.12**	**0.002***
After				
Control	66.226			
Treated	68.426			
Diff (T-C)	**2.200**	**0.510**	**4.31**	**0.000***
Diff-in-Diff	**1.480**	**0.552**	**2.68**	**0.007***

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
143 . drop psm psm_block

144 .
145 . //Concert//
146 . qui pscore tconcrt gender white black asian hispanic expect learn ///
    > english timewchildren ses [pw=c245pw0], pscore(psm) blockid(psm_block)
```
The balancing property is not satisfied
Try a different specification of the propensity score

```
147 . //bysort childid (round): replace psm = psm[3]
148 . //psgraph, treated(tconcrt) pscore(psm)
```

```
149 . //graph export "C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_concert.pdf", as(pdf) replace
150 .
151 . psmatch2 tconcrt, outcome(reading) pscore(psm)
```

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
reading	Unmatched	76.4629631	74.8789351	1.584028	.546712998	2.90
	ATT	76.4629631	70.9555784	5.50738471	.935989391	5.88

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	14,630	14,630
Treated	10,064	10,064
Total	24,694	24,694

```
152 . psmatch2 tconcrt, outcome(math) pscore(psm)
```

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
math	Unmatched	60.3855067	58.865851	1.51965577	.433202913	3.51
	ATT	60.3855067	55.3977662	4.98774051	.740327607	6.74

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	14,630	14,630
Treated	10,064	10,064
Total	24,694	24,694

```
153 . qui pstest gender white black asian hispanic expect learn ///
    > english timewchildren ses, treated(tconcrt) both graph

154 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\matched_concert.pdf", as(pdf) replace
    (file C:\Users\soyou\Documents\GitHub\EduTravel\matched_concert.pdf written in PDF format)

155 .
156 . diff reading, t(tconcrt) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**7185**	**7445**	14630
Treated:	**4993**	**5071**	10064
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.637	0.336	-1.893	0.058
white	3.160	0.559	5.657	0.000
black	-0.887	0.789	-1.124	0.261
asian	6.083	0.894	6.803	0.000

hispanic	2.150	0.799	2.692	0.007
expect	0.277	0.032	8.681	0.000
learn	8.262	0.265	31.153	0.000
english	4.216	0.701	6.013	0.000
timewchild~n	-1.078	0.046	-23.679	0.000
ses	5.099	0.187	27.338	0.000

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	29.890			
Treated	29.963			
Diff (T-C)	**0.073**	**0.264**	**0.28**	**0.782**
After				
Control	92.444			
Treated	94.069			
Diff (T-C)	**1.626**	**0.613**	**2.65**	**0.008***
Diff-in-Diff	**1.553**	**0.662**	**2.35**	**0.019**

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

157 .
158 . diff math, t(tconcrt) p(time) cov(gender white black asian hispanic expect learn ///
 > english timewchildren ses) ps(psm) robust report
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**7185**	**7445**	14630
Treated:	**4993**	**5071**	10064
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	4.687	0.265	17.706	0.000
white	4.069	0.447	9.094	0.000
black	-2.930	0.621	-4.720	0.000
asian	3.358	0.750	4.479	0.000
hispanic	1.854	0.627	2.956	0.003
expect	0.220	0.025	8.713	0.000
learn	8.109	0.210	38.687	0.000
english	3.168	0.564	5.618	0.000
timewchild~n	-0.947	0.036	-26.111	0.000
ses	3.901	0.146	26.762	0.000

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	17.010			
Treated	17.771			
Diff (T-C)	**0.762**	**0.213**	**3.57**	**0.000***
After				
Control	66.175			
Treated	67.867			
Diff (T-C)	**1.692**	**0.481**	**3.52**	**0.000***
Diff-in-Diff	**0.930**	**0.522**	**1.78**	**0.075***

R-square: **0.63**

```
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1
```

159 . drop psm psm_block

160 .
161 . //Zoo//
162 . qui pscore tzoo gender white black asian hispanic expect learn ///
> english timewchildren ses [pw=c245pw0], pscore(psm) blockid(psm_block) detail
The balancing property is not satisfied
Try a different specification of the propensity score

163 . //psgraph, treated(tzoo) pscore(psm)
164 . //graph export "C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_zoo.pdf", as(pdf) replace
165 .
166 . psmatch2 tzoo, outcome(reading) pscore(psm)

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
reading	Unmatched	76.2475203	75.0622982	1.18522207	.550828851	2.15
	ATT	76.2475203	69.4448661	6.80265421	.942624983	7.22

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	15,064	15,064
Treated	9,630	9,630
Total	24,694	24,694

167 . psmatch2 tzoo, outcome(math) pscore(psm)

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
math	Unmatched	59.5921381	59.4168116	.175326516	.43653827	0.40
	ATT	59.5921381	54.5887248	5.00341329	.750488929	6.67

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	15,064	15,064
Treated	9,630	9,630
Total	24,694	24,694

```
168 . qui pstest gender white black asian hispanic expect learn ///
    > english timewchildren ses, treated(tzoo) both graph

169 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\matched_zoo.pdf", as(pdf) replace
    (file C:\Users\soyou\Documents\GitHub\EduTravel\matched_zoo.pdf written in PDF format)

170 .
171 . diff reading, t(tzoo) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**7431**	**7633**	15064
Treated:	**4747**	**4883**	9630
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.664	0.336	-1.978	0.048
white	3.256	0.559	5.824	0.000
black	-0.817	0.789	-1.035	0.301
asian	6.057	0.895	6.770	0.000
hispanic	2.134	0.800	2.669	0.008
expect	0.275	0.032	8.614	0.000
learn	8.283	0.265	31.241	0.000
english	4.210	0.701	6.005	0.000
timewchild~n	-1.081	0.046	-23.756	0.000
ses	5.104	0.186	27.475	0.000

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				
Control	29.690			
Treated	30.246			
Diff (T-C)	**0.555**	0.264	2.11	0.035**
After				
Control	92.474			
Treated	94.046			
Diff (T-C)	**1.571**	0.616	2.55	0.011**
Diff-in-Diff	**1.016**	0.667	1.52	0.128

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
172 .
173 . diff math, t(tzoo) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
```
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**7431**	**7633**	15064
Treated:	**4747**	**4883**	9630
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	**4.625**	**0.264**	**17.512**	**0.000**
white	**4.141**	**0.448**	**9.245**	**0.000**
black	**-2.842**	**0.620**	**-4.581**	**0.000**
asian	**3.343**	**0.751**	**4.452**	**0.000**
hispanic	**1.869**	**0.628**	**2.973**	**0.003**
expect	**0.221**	**0.025**	**8.762**	**0.000**
learn	**8.130**	**0.210**	**38.783**	**0.000**
english	**3.156**	**0.564**	**5.592**	**0.000**
timewchild~n	**-0.933**	**0.036**	**-25.712**	**0.000**
ses	**3.948**	**0.146**	**27.135**	**0.000**

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	16.834			
Treated	17.039			
Diff (T-C)	**0.205**	**0.212**	**0.97**	**0.333**
After				
Control	66.293			
Treated	66.757			
Diff (T-C)	**0.464**	**0.483**	**0.96**	**0.337**
Diff-in-Diff	**0.259**	**0.524**	**0.49**	**0.621**

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

```
174 . drop psm psm_block

175 .
176 . //Sport//
177 . qui pscore tsport gender white black asian hispanic expect learn ///
    > english timewchildren ses [pw=c245pw0], pscore(psm) blockid(psm_block) detail
    The balancing property is not satisfied
    Try a different specification of the propensity score

178 . //psgraph, treated(tsport) pscore(psm)
179 . //graph export "C:\Users\soyou\Documents\GitHub\EduTravel\ps_score_sport.pdf", as(pdf) replace
180 .
181 . psmatch2 tsport, outcome(reading) pscore(psm)
```

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
reading	Unmatched	75.5134398	75.5352277	-.02178797	.537442172	-0.04
	ATT	75.5134398	71.811249	3.70219079	.92877412	3.99

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	12,539	12,539
Treated	12,155	12,155
Total	24,694	24,694

182 . psmatch2 tsport, outcome(math) pscore(psm)

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
math	Unmatched	60.321596	58.6743871	1.64720893	.425761623	3.87
	ATT	60.321596	55.7088646	4.6127314	.739157913	6.24

Note: S.E. does not take into account that the propensity score is estimated.

psmatch2: Treatment assignment	psmatch2: Common support On suppor	Total
Untreated	12,539	12,539
Treated	12,155	12,155
Total	24,694	24,694

183 . qui pstest gender white black asian hispanic expect learn ///
> english timewchildren ses, treated(tsport) both graph

184 . graph export "C:\Users\soyou\Documents\GitHub\EduTravel\matched_sport.pdf", as(pdf) replace
(file C:\Users\soyou\Documents\GitHub\EduTravel\matched_sport.pdf written in PDF format)

185 .
186 . diff reading, t(tsport) p(time) cov(gender white black asian hispanic expect learn ///
> english timewchildren ses) ps(psm) robust report
DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
Number of observations in the DIFF-IN-DIFF: **24694**

	Before	After	
Control:	**6152**	**6387**	12539
Treated:	**6026**	**6129**	12155
	12178	12516	

Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	-0.653	0.336	-1.944	0.052
white	3.210	0.559	5.746	0.000
black	-0.821	0.789	-1.041	0.298
asian	5.982	0.897	6.666	0.000
hispanic	2.163	0.799	2.706	0.007
expect	0.279	0.032	8.742	0.000
learn	8.293	0.265	31.254	0.000
english	4.255	0.702	6.065	0.000
timewchild~n	-1.059	0.045	-23.302	0.000
ses	5.163	0.187	27.680	0.000

Outcome var.	**reading**	S. Err.	|t|	P>|t|
Before				

```
      Control        | 29.778   |          |          |
      Treated        | 28.846   |          |          |
      Diff (T-C)     | -0.932   | 0.257    | -3.63    | 0.000***
After                |          |          |          |
      Control        | 92.636   |          |          |
      Treated        | 92.417   |          |          |
      Diff (T-C)     | -0.220   | 0.601    | 0.37     | 0.715

Diff-in-Diff         | 0.712    | 0.648    | 1.10     | 0.272
```

R-square: **0.63**
* Means and Standard Errors are estimated by linear regression
**Robust Std. Errors
**Inference: *** p<0.01; ** p<0.05; * p<0.1

187 .
188 . diff math, t(tsport) p(time) cov(gender white black asian hispanic expect learn ///
    > english timewchildren ses) ps(psm) robust report
    DIFFERENCE-IN-DIFFERENCES WITH COVARIATES

    DIFFERENCE-IN-DIFFERENCES ESTIMATION RESULTS
    Number of observations in the DIFF-IN-DIFF: **24694**
             Before   After
      Control: **6152**   **6387**   12539
      Treated: **6026**   **6129**   12155
             12178   12516
    Report - Covariates and coefficients:

Variable(s)	Coeff.	Std. Err.	t	P>|t|
gender	**4.575**	**0.264**	**17.312**	**0.000**
white	**4.107**	**0.448**	**9.165**	**0.000**
black	**-2.851**	**0.621**	**-4.593**	**0.000**
asian	**3.507**	**0.752**	**4.660**	**0.000**
hispanic	**1.884**	**0.629**	**2.996**	**0.003**
expect	**0.222**	**0.025**	**8.828**	**0.000**
learn	**8.102**	**0.210**	**38.651**	**0.000**
english	**3.084**	**0.565**	**5.460**	**0.000**
timewchild~n	**-0.936**	**0.036**	**-25.872**	**0.000**
ses	**3.924**	**0.146**	**26.898**	**0.000**

Outcome var.	**math**	S. Err.	|t|	P>|t|
Before				
Control	17.021			
Treated	17.314			
Diff (T-C)	**0.293**	**0.207**	**1.42**	**0.156**
After				
Control	66.044			
Treated	67.417			
Diff (T-C)	**1.373**	**0.472**	**2.91**	**0.004*****
Diff-in-Diff	**1.079**	**0.511**	**2.11**	**0.035****

    R-square: **0.63**
    * Means and Standard Errors are estimated by linear regression
    **Robust Std. Errors
    **Inference: *** p<0.01; ** p<0.05; * p<0.1

189 .
    end of do-file

190 .