



Copyright 1985-2017 StataCorp LLC
 StataCorp
 4905 Lakeway Drive
 College Station, Texas 77845 USA
 800-STATA-PC <http://www.stata.com>
 979-696-4600 stata@stata.com
 979-696-4601 (fax)

Single-user Stata perpetual license:
 Serial number: 401506361484
 Licensed to: Anna
 UT

Notes:

1. Unicode is supported; see [help unicode advice](#).
2. Maximum number of variables is set to 5000; see [help set_maxvar](#).

1 . log using "C:\Users\af9683\Documents\Projects\Powell\TEMPLE\TEMPLE_JREE_RepetedMeasureAnalysis.s

name: <unnamed>
 log: C:\Users\af9683\Documents\Projects\Powell\TEMPLE\TEMPLE_JREE_RepetedMeasureAnalysis.s
 log type: smcl
 opened on: 3 Feb 2025, 09:14:47

2 . import excel "C:\Users\af9683\Documents\Projects\Powell\TEMPLE\TEMPLE.xlsx", sheet("TEMPLE") fir

3 . mixed TEAM FALLTEMPLE##TIME || SCHOOLID:||TEACHERID:||STUDID:, var noconst residuals(unstr, t(TI

Obtaining starting values by EM:

Performing gradient-based optimization:

Iteration 0: log restricted-likelihood = **-5117.2343** (not concave)
 Iteration 1: log restricted-likelihood = **-4758.1903**
 Iteration 2: log restricted-likelihood = **-4653.6183**
 Iteration 3: log restricted-likelihood = **-4644.6652**
 Iteration 4: log restricted-likelihood = **-4644.498**
 Iteration 5: log restricted-likelihood = **-4644.4978**

Computing standard errors:

Mixed-effects REML regression Number of obs = **1,817**

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
SCHOOLID	7	42	259.6	551
TEACHERID	53	3	34.3	61
STUDID	662	1	2.7	3

Log restricted-likelihood = **-4644.4978** Wald chi2(5) = **1177.44**
 Prob > chi2 = **0.0000**

TEAM	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1.FALLTEMPLE	-.1096167	.5961636	-0.18	0.854	-1.278076	1.058842
TIME						
1	2.815591	.2286283	12.32	0.000	2.367488	3.263694
2	3.876377	.2427055	15.97	0.000	3.400683	4.352071
FALLTEMPLE#TIME						
1 1	.8247769	.2727072	3.02	0.002	.2902806	1.359273
1 2	.8178926	.2907599	2.81	0.005	.2480137	1.387771
_cons	14.85963	.9164142	16.21	0.000	13.0635	16.65577

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
SCHOOLID: Identity var(_cons)	3.665242	2.550253	.9372203	14.33387
TEACHERID: Identity var(_cons)	2.367835	.7070418	1.318804	4.251307
STUDID: (empty)				
Residual: Unstructured				
var(e0)	17.4241	1.013819	15.54617	19.52889
var(e1)	15.64559	.9230893	13.93705	17.56357
var(e2)	15.43062	.9410839	13.6921	17.38988
cov(e0,e1)	11.79741	.8372923	10.15635	13.43848
cov(e0,e2)	11.17791	.8298758	9.551379	12.80443
cov(e1,e2)	12.17889	.8316159	10.54896	13.80883

LR test vs. linear model: chi2(7) = **1457.02** Prob > chi2 = **0.0000**

Note: LR test is conservative and provided only for reference.

4 . margins FALLTEMPLE#TIME

Adjusted predictions Number of obs = **1,817**

Expression : **Linear prediction, fixed portion, predict()**

	Delta-method				[95% Conf. Interval]	
	Margin	Std. Err.	z	P> z		
FALLTEMPLE#TIME						
0 0	14.85963	.9164142	16.21	0.000	13.0635	16.65577
0 1	17.67523	.9152086	19.31	0.000	15.88145	19.469
0 2	18.73601	.915518	20.46	0.000	16.94163	20.53039
1 0	14.75002	.8312929	17.74	0.000	13.12071	16.37932
1 1	18.39039	.8297814	22.16	0.000	16.76404	20.01673
1 2	19.44429	.8307751	23.40	0.000	17.816	21.07258

```
5 . mixed TEMA FALLTEMPLE##TIME || SCHOOLID:||TEACHERID:||STUDID:, var noconst residuals(unstr, t(TI
```

Obtaining starting values by EM:

Performing gradient-based optimization:

```
Iteration 0: log restricted-likelihood = -1783.6463 (not concave)
Iteration 1: log restricted-likelihood = -1638.6395
Iteration 2: log restricted-likelihood = -1615.9986
Iteration 3: log restricted-likelihood = -1591.8453
Iteration 4: log restricted-likelihood = -1590.3069
Iteration 5: log restricted-likelihood = -1590.2829
Iteration 6: log restricted-likelihood = -1590.2828
```

Computing standard errors:

Mixed-effects REML regression Number of obs = 554

Group Variable	No. of Groups	Observations per Group Minimum Average Maximum
SCHOOLID	6	10 92.3 212
TEACHERID	51	3 10.9 12
STUDID	199	1 2.8 3

Log restricted-likelihood = -1590.2828 Wald chi2(5) = 493.27
Prob > chi2 = 0.0000

TEMA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1.FALLTEMPLE	.8071314	.9143419	0.88	0.377	-.9849459	2.599209
TIME						
1	2.760817	.4950279	5.58	0.000	1.79058	3.731054
2	6.046721	.5874917	10.29	0.000	4.895258	7.198183
FALLTEMPLE#TIME						
1 1	2.045233	.6072914	3.37	0.001	.8549632	3.235502
1 2	2.007875	.7177156	2.80	0.005	.6011787	3.414572
_cons	7.762773	1.419978	5.47	0.000	4.979667	10.54588

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
SCHOOLID: Identity var(_cons)	7.959253	6.13712	1.756057	36.07498
TEACHERID: Identity var(_cons)	1.469052	2.23722	.0742577	29.06246
STUDID: (empty)				
Residual: Unstructured				
var(e0)	30.71635	3.647444	24.33845	38.76559
var(e1)	40.18204	4.537112	32.20472	50.1354
var(e2)	48.74214	5.672828	38.80055	61.23098
cov(e0,e1)	28.08707	3.688623	20.8575	35.31664
cov(e0,e2)	29.5796	4.119852	21.50483	37.65436
cov(e1,e2)	37.99849	4.76302	28.66314	47.33384

LR test vs. linear model: chi2(7) = 535.80 Prob > chi2 = 0.0000

Note: LR test is conservative and provided only for reference.

6 . margins FALLTEMPLE#TIME

Adjusted predictions Number of obs = 554

Expression : Linear prediction, fixed portion, predict()

	Delta-method		z	P> z	[95% Conf. Interval]	
	Margin	Std. Err.				
FALLTEMPLE#TIME						
0 0	7.762773	1.419978	5.47	0.000	4.979667	10.54588
0 1	10.52359	1.478252	7.12	0.000	7.62627	13.42091
0 2	13.80949	1.525937	9.05	0.000	10.81871	16.80027
1 0	8.569904	1.326233	6.46	0.000	5.970536	11.16927
1 1	13.37595	1.35765	9.85	0.000	10.71501	16.0369
1 2	16.6245	1.382715	12.02	0.000	13.91443	19.33457

7 . mixed PALM FALLTEMPLE##TIME || SCHOOLID:||TEACHERID:||STUDID:, var noconst residuals(unstr, t(TI

Obtaining starting values by EM:

Performing gradient-based optimization:

Iteration 0: log restricted-likelihood = -4707.8234 (not concave)
 Iteration 1: log restricted-likelihood = -4265.9956
 Iteration 2: log restricted-likelihood = -4200.2611
 Iteration 3: log restricted-likelihood = -4178.2834
 Iteration 4: log restricted-likelihood = -4177.7267
 Iteration 5: log restricted-likelihood = -4177.725
 Iteration 6: log restricted-likelihood = -4177.725

Computing standard errors:

Mixed-effects REML regression Number of obs = 1,817

Group Variable	No. of Groups	Observations per Group		
		Minimum	Average	Maximum
SCHOOLID	7	42	259.6	551
TEACHERID	53	3	34.3	61
STUDID	662	1	2.7	3

Log restricted-likelihood = -4177.725 Wald chi2(5) = 797.24
 Prob > chi2 = 0.0000

PALM	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
1.FALLTEMPLE	-.1678561	.526748	-0.32	0.750	-1.200263	.8645511
TIME						
1	1.57246	.1729322	9.09	0.000	1.23352	1.911401
2	2.645612	.184889	14.31	0.000	2.283236	3.007988
FALLTEMPLE#TIME						
1 1	.319481	.2062672	1.55	0.121	-.0847954	.7237573
1 2	.3180952	.2214619	1.44	0.151	-.1159621	.7521525
_cons	8.511089	.788224	10.80	0.000	6.966199	10.05598

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
SCHOOLID: Identity var(_cons)	2.633022	1.870476	.6542871	10.59597
TEACHERID: Identity var(_cons)	2.072718	.5791942	1.198624	3.584243
STUDID: (empty)				
Residual: Unstructured				
var(e0)	11.03359	.6374669	9.852323	12.35649
var(e1)	9.940505	.5890039	8.850591	11.16464
var(e2)	9.588453	.5773344	8.521116	10.78948
cov(e0,e1)	7.77981	.5373459	6.726631	8.832988
cov(e0,e2)	7.263415	.5232532	6.237858	8.288973
cov(e1,e2)	7.893441	.5270086	6.860523	8.926359

LR test vs. linear model: $\chi^2(7) = 1656.40$ Prob > $\chi^2 = 0.0000$

Note: LR test is conservative and provided only for reference.

8 . margins FALLTEMPLE#TIME

Adjusted predictions Number of obs = 1,817

Expression : **Linear prediction, fixed portion, predict()**

	Delta-method		z	P> z	[95% Conf. Interval]	
	Margin	Std. Err.				
FALLTEMPLE#TIME						
0 0	8.511089	.788224	10.80	0.000	6.966199	10.05598
0 1	10.08355	.7872541	12.81	0.000	8.54056	11.62654
0 2	11.1567	.786776	14.18	0.000	9.614648	12.69875
1 0	8.343233	.7122443	11.71	0.000	6.94726	9.739206
1 1	10.23517	.7111219	14.39	0.000	8.841401	11.62895
1 2	11.30694	.7114542	15.89	0.000	9.912516	12.70136

9 . log close

name: **<unnamed>**

log: **C:\Users\af9683\Documents\Projects\Powell\TEMPLE\TEMPLE_JREE_RepetedMeasureAnalysis.s**

log type: **smcl**

closed on: **3 Feb 2025, 09:18:32**

10 .