---

name: **<unnamed>**
log: **E:\16GBBACKUPUSB\BACKUP_USB_SEPTEMBER2014\May Baydoun_folder\HANDLS_PAPER65_HCY_COGN\OUTPUT\FIGURE3.**
log type: **smcl**
opened on: **5 Jan 2024, 09:41:15**

```
. 
. 
. ////////////////////////////////////FIGURE 4: HCY AT V1 VS. CES-D, TOTAL POPULATION//////////////////////
  >
. 
. 
. use finaldata_imputed_FINAL, clear

. 
. 
. mi extract 1

. save final_imputed_one, replace
(file final_imputed_one.dta not found)
file final_imputed_one.dta saved

. 
. 
. mixed LnTrailsAtestSec  c.timew1w3##c.w1Agecent48 c.timew1w3##Sex c.timew1w3##Race  c.timew1w3##PovStat  c.time
  > c.timew1w3##c.w1HCYcenter2p15   ///
  > if sample4jobs==1 || HNDID: timew1w3
note: timew1w3 omitted because of collinearity.
note: timew1w3 omitted because of collinearity.
note: timew1w3 omitted because of collinearity.
note: timew1w3 omitted because of collinearity.
note: timew1w3 omitted because of collinearity.

Performing EM optimization ...

Performing gradient-based optimization:
Iteration 0:  Log likelihood = -927.25065  (not concave)
Iteration 1:  Log likelihood =  -898.7852
Iteration 2:  Log likelihood = -895.97393
Iteration 3:  Log likelihood = -895.48051
Iteration 4:  Log likelihood = -895.48049

Computing standard errors ...

Mixed-effects ML regression                     Number of obs     =      2,701
Group variable: HNDID                           Number of groups  =      1,428
                                                Obs per group:
                                                              min =          1
                                                              avg =        1.9
                                                              max =          2
                                                Wald chi2(13)     =     370.20
Log likelihood = -895.48049                     Prob > chi2       =     0.0000
```

LnTrailsAtestSec	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
timew1w3	.0007784	.0040718	0.19	0.848	-.0072022	.008759
w1Agecent48	.010312	.0010671	9.66	0.000	.0082205	.0124035
c.timew1w3#c.w1Agecent48	.0007515	.0002374	3.17	0.002	.0002861	.0012168
timew1w3	0	(omitted)				
Sex						
Men	.0855047	.0202468	4.22	0.000	.0458217	.1251877
Sex#c.timew1w3						
Men	.0019723	.0044888	0.44	0.660	-.0068255	.0107702
timew1w3	0	(omitted)				
Race						
AfrAm	.1814656	.0193744	9.37	0.000	.1434925	.2194387
Race#c.timew1w3						
AfrAm	.0006818	.0043237	0.16	0.875	-.0077926	.0091562
timew1w3	0	(omitted)				
PovStat						
Below	.0926278	.0201766	4.59	0.000	.0530823	.1321732
PovStat#c.timew1w3						
Below	.0044687	.0043833	1.02	0.308	-.0041224	.0130599
timew1w3	0	(omitted)				
invmillsmms	.0003866	.0006352	0.61	0.543	-.0008584	.0016317
c.timew1w3#c.invmillsmms	-.0001492	.0001286	-1.16	0.246	-.0004012	.0001028
timew1w3	0	(omitted)				
w1HCYcenter2p15	.1009537	.0311174	3.24	0.001	.0399647	.1619426
c.timew1w3#c.w1HCYcenter2p15	-.0079233	.0070181	-1.13	0.259	-.0216785	.0058318
_cons	3.280306	.0178024	184.26	0.000	3.245414	3.315198

Random-effects parameters	Estimate	Std. err.	[95% conf.	interval]
HNDID: Independent				
var(timew1w3)	.0006512	.0002807	.0002798	.0015157
var(_cons)	.0707903	.0041782	.0630571	.0794719
var(Residual)	.0554204	.0036869	.0486455	.0631388

LR test vs. linear model: chi2(**2**) = **407.29** Prob > chi2 = **0.0000**

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

```
14 .
15 . margins, at(c.timew1w3=(0(1)8) c.w1HCYcenter2p15=(-1(1)1))

Predictive margins                                      Number of obs = 2,701

Expression: Linear prediction, fixed portion, predict()
1._at:  timew1w3        =  0
        w1HCYcenter2p15 = -1
2._at:  timew1w3        =  0
        w1HCYcenter2p15 =  0
3._at:  timew1w3        =  0
        w1HCYcenter2p15 =  1
4._at:  timew1w3        =  1
        w1HCYcenter2p15 = -1
5._at:  timew1w3        =  1
        w1HCYcenter2p15 =  0
6._at:  timew1w3        =  1
        w1HCYcenter2p15 =  1
7._at:  timew1w3        =  2
        w1HCYcenter2p15 = -1
8._at:  timew1w3        =  2
        w1HCYcenter2p15 =  0
9._at:  timew1w3        =  2
        w1HCYcenter2p15 =  1
10._at: timew1w3        =  3
        w1HCYcenter2p15 = -1
11._at: timew1w3        =  3
        w1HCYcenter2p15 =  0
12._at: timew1w3        =  3
        w1HCYcenter2p15 =  1
13._at: timew1w3        =  4
        w1HCYcenter2p15 = -1
14._at: timew1w3        =  4
        w1HCYcenter2p15 =  0
15._at: timew1w3        =  4
        w1HCYcenter2p15 =  1
16._at: timew1w3        =  5
        w1HCYcenter2p15 = -1
17._at: timew1w3        =  5
        w1HCYcenter2p15 =  0
18._at: timew1w3        =  5
        w1HCYcenter2p15 =  1
19._at: timew1w3        =  6
        w1HCYcenter2p15 = -1
20._at: timew1w3        =  6
        w1HCYcenter2p15 =  0
21._at: timew1w3        =  6
        w1HCYcenter2p15 =  1
22._at: timew1w3        =  7
        w1HCYcenter2p15 = -1
23._at: timew1w3        =  7
        w1HCYcenter2p15 =  0
24._at: timew1w3        =  7
        w1HCYcenter2p15 =  1
25._at: timew1w3        =  8
        w1HCYcenter2p15 = -1
26._at: timew1w3        =  8
        w1HCYcenter2p15 =  0
27._at: timew1w3        =  8
        w1HCYcenter2p15 =  1
```

	Delta-method Margin	std. err.	z	P>|z|	[95% conf.	interval]
_at						
1	3.348847	.0324736	103.13	0.000	3.2852	3.412495
2	3.449801	.0095261	362.14	0.000	3.43113	3.468472
3	3.550755	.032612	108.88	0.000	3.486836	3.614673
4	3.360338	.0299796	112.09	0.000	3.301579	3.419097
5	3.453369	.0087982	392.51	0.000	3.436125	3.470613
6	3.546399	.0301263	117.72	0.000	3.487353	3.605446
7	3.371829	.0291576	115.64	0.000	3.314681	3.428977
8	3.456936	.0085467	404.48	0.000	3.440185	3.473687
9	3.542043	.0293167	120.82	0.000	3.484584	3.599503
10	3.38332	.0301447	112.24	0.000	3.324238	3.442403
11	3.460504	.0088125	392.68	0.000	3.443232	3.477776
12	3.537688	.0303176	116.69	0.000	3.478266	3.597109
13	3.394811	.032778	103.57	0.000	3.330568	3.459055
14	3.464072	.0095527	362.63	0.000	3.445349	3.482795
15	3.533332	.0329646	107.19	0.000	3.468723	3.597941
16	3.406302	.0367047	92.80	0.000	3.334362	3.478242
17	3.467639	.0106688	325.03	0.000	3.446729	3.48855
18	3.528976	.0369051	95.62	0.000	3.456644	3.601309
19	3.417793	.0415599	82.24	0.000	3.336337	3.499249
20	3.471207	.012057	287.90	0.000	3.447576	3.494838
21	3.524621	.0417747	84.37	0.000	3.442744	3.606498
22	3.429284	.0470571	72.87	0.000	3.337054	3.521514
23	3.474775	.0136343	254.85	0.000	3.448052	3.501497
24	3.520265	.0472872	74.44	0.000	3.427584	3.612946
25	3.440775	.0529968	64.92	0.000	3.336903	3.544647
26	3.478342	.0153427	226.71	0.000	3.448271	3.508413
27	3.515909	.0532434	66.03	0.000	3.411554	3.620264

```
16 .
17 .
18 . marginsplot, recast(line) recastci(rarea) ciopt(color(gs10) alwidth(none) fintensity(90)) ci1opt(color(gs15) al
   > pattern(solid)) plot1opts(lc(gs0) lpattern(dot)) plot2opts(lc(gs0) lpattern(dash)) legend(order(1 "w1HCYcenter2

   Variables that uniquely identify margins: timew1w3 w1HCYcenter2p15

19 .
20 . graph save "FIGURE4.gph",replace
   (file FIGURE4.gph not found)
   file FIGURE4.gph saved

21 .
22 .
23 . su w1HCYcenter2p15 if HNDwave==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
w1HCYcent~15	1,460	-.0006306	.3278358	-1.09221	2.573753

```
24 .
25 . capture log close
```