

```
/*Sensitivity Analyses - exclude participants with elevated depressive symptoms*/
```

```
/*Check Cognitive Function at baseline variable*/
```

```
proc means data=library.march;  
var r8cogtot;  
run;
```

```
data temp; set library.march;  
/*eliminate cognitively impaired*/  
if r8cogtot<=8 then delete;  
run;
```

```
/*checking -
```

```
proc means data=temp;  
var r8cogtot;  
run;  
proc freq data=library.march;  
table r8cogtot;  
run;  
*/
```

```
/*Center variables*/
```

```
PROC STANDARD data=temp MEAN=0 OUT=TEMP;  
VAR  
r8cogtot  
r9cogtot  
r10cogtot  
r11cogtot  
r8agey_b  
r9agey_b
```

```
r10agey_b
r11agey_b
tr8bmi
tr9bmi
tr10bmi
tr11bmi
lon6
lon8
lon10
lon12
int6
int8
int10
int12
cyn6
cyn8
cyn10
cyn12
;
RUN;

/*Change data format - horizontal to vertical*/
data temp;
set temp;

cogtot1=r8cogtot;
cogtot2=r9cogtot;
cogtot3=r10cogtot;
cogtot4=r11cogtot;

cyn1=cyn6;
cyn2=cyn8;
```

cyn3=cyn10;

cyn4=cyn12;

lon1=lon6;

lon2=lon8;

lon3=lon10;

lon4=lon12;

age1=r8agey_b;

age2=r9agey_b;

age3=r10agey_b;

age4=r11agey_b;

bmi1=tr8bmi;

bmi2=tr9bmi;

bmi3=tr10bmi;

bmi4=tr11bmi;

int1=int6;

int2=int8;

int3=int10;

int4=int12;

lower1=h8lower;

lowmid1=h8lowmid;

upmid1=h8upmid;

upper1=h8upper;

lower2=h9lower;

lowmid2=h9lowmid;

upmid2=h9upmid;

upper2=h9upper;

lower3=h10lower;
lowmid3=h10lowmid;
upmid3=h10upmid;
upper3=h10upper;

lower4=h11lower;
lowmid4=h11lowmid;
upmid4=h11upmid;
upper4=h11upper;

eh1=r8exhealth;
eh2=r9exhealth;
eh3=r10exhealth;
eh4=r11exhealth;
vh1=r8vghealth;
vh2=r9vghealth;
vh3=r10vghealth;
vh4=r11vghealth;
fh1=r8fhealth;
fh2=r9fhealth;
fh3=r10fhealth;
fh4=r11fhealth;
ph1=r8phealth;
ph2=r9phealth;
ph3=r10phealth;
ph4=r11phealth;

ad1=R8ADL;
ad2=R9ADL;
ad3=R10ADL;
ad4=R11ADL;

```
array cogtot[4];
array cyn[4];
array lon[4];
array age[4];
array bmi[4];
array int[4];
array ad[4];

array split[4];
array widow[4];
array single[4];

array quit[4];
array smoker[4];

array teatot[4];
array atrisk[4];

array lower[4];
array lowmid[4];
array upmid[4];
array upper[4];

array eh[4];
array vh[4];
array fh[4];
array ph[4];

do time = 1 to 4;
```

```

CT=cogtot[time];
CH=cyn[time];
L=lon[time];
AGEr=age[time];
BMIr=bmi[time];
INTr=int[time];
splitr=split[time];
widowr=widow[time];
singler=single[time];
quitr=quit[time];
smokerr=smoker[time];
teatotr=teatot[time];
atriskr=atrisk[time];
low=lower[time];
lmid=lowmid[time];
umid=upmid[time];
up=upper[time];
excellent=eh[time];
verygood=vh[time];
fair=fh[time];
poor=ph[time];
activity=ad[time];

output;
end;

keep hhidpn time CT CH L AGEr BMIr INTr
splitr widowr singler quitr smokerr teatotr atriskr
black other rahispan gender nohs ged scollege college
low lmid umid up
excellent verygood fair poor
activity

```

```

;

run;

/*Change time variable*/
data temp; set temp;
time=time-1;
run;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_0.pdf';

/*Unconditional model*/
proc mixed covtest info data=temp;
class hhidpn;
model ct=time/solution ddfm=bw;
random intercept time/ SUB=HHIDPN TYPE=UN;
RUN;

ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_1.pdf';

/*Intercepts and slopes as outcomes model*/
/*Model 1 - just predictors of interest*/
PROC MIXED COVTEST INFO DATA=temp;
CLASS HHIDPN;
MODEL CT = L CH time time*L time*CH/ SOLUTION DDFM=BW cl;
RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;
RUN;

ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_2.pdf';

```

```

/*Model 2 - add demographics*/
PROC MIXED COVTEST INFO DATA=temp;

CLASS HHIDPN black other rahispan gender nohs ged scollege college low lmid
umid up;

MODEL CT =

black other rahispan

gender

nohs ged scollege college

ager

low lmid umid up

L CH time time*L time*CH/ SOLUTION DDFM=BW cl;

RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;

RUN;

ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_3.pdf';

/*Model 3 - add health behaviors*/
PROC MIXED COVTEST INFO DATA=temp;

CLASS HHIDPN black other rahispan gender nohs ged scollege college
excellent verygood fair poor

activity

low lmid umid up;

MODEL CT =

black other rahispan

gender

nohs ged scollege college

ager

excellent verygood fair poor

activity

low lmid umid up

```



```

L CH time time*L time*CH/ SOLUTION DDFM=BW cl;
RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;
RUN;

ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_4.pdf';

/*Model 4 - add social*/
PROC MIXED COVTEST INFO DATA=temp;
CLASS HHIDPN black other rahispan gender nohs ged scollege college
excellent verygood fair poor
activity
low lmid umid up
splitr widowr singler;
MODEL CT =
black other rahispan
gender
nohs ged scollege college
ager
excellent verygood fair poor
activity
splitr widowr singler
intr
low lmid umid up
L CH time time*L time*CH/ SOLUTION DDFM=BW cl;
RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;
RUN;

ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S2(no cogimp)_Model_5.pdf';

```

```

/*Model 5 - add social as predictor of cognitive decline*/
PROC MIXED COVTEST INFO DATA=temp;
CLASS HHIDPN black other rahispan
gender nohs ged scollege college
low lmid umid up
excellent verygood fair poor
activity
splitr widowr singler;
MODEL CT =
/*dem*/
black other rahispan
gender
nohs ged scollege college
ager
low lmid umid up
/*health and limitations*/
excellent verygood fair poor
activity
/*time*/
time
/*psychosocial*/
splitr widowr singler
intr
L CH time*L time*CH intr*time/ SOLUTION DDFM=BW cl;
RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;
RUN;
ods pdf close;

```