

```

libname library 'C:\Users\Croissant\Desktop\SAS';

/*look at types of missing for raracem and cogtot
proc freq data=library.march;
table raracem r8cogtot/missing;
run;*/

/*change missing to . in cogtot*/
data temp;
  set library.march;
  Array recode(4)
  /*outcome*/
  r8cogtot
  r9cogtot
  r10cogtot
  r11cogtot;
  Do I = 1 to 4;
    If recode(i)=' ' then recode(I)=.;
    If recode(i)=.N then recode(I)=.;
    If recode(i)=.X then recode(I)=.;
    If recode(i)=.S then recode(I)=.;
    If recode(i)=.D then recode(I)=.;
    If recode(i)=.R then recode(I)=.;
    If recode(i)=.M then recode(I)=.;
  End;
  Drop I;
Run;

/*check
proc freq data=temp;
table r8cogtot/missing;
run;*/

```

```

DATA temp;

set temp;

/*delete if outcome variable missing across all 4 cognitive function
measures*/

if (r8cogtot=. and r9cogtot=. and r10cogtot=. and r11cogtot=.) then delete;

/*delete if one of the <5 cases of missing race or education*/

if raracem=.M then delete;

if raeduc in (1 2 3 4 5);

/*create hypothetical age*/

hyp_age1=r8agey_b;

if r9agey_b='.' then hyp_age2=(r8agey_b + 2);

else hyp_age2=r9agey_b;

if r10agey_b='.' then hyp_age3=(r8agey_b + 4);

else hyp_age3=r10agey_b;

if r11agey_b='.' then hyp_age4=(r8agey_b + 6);

else hyp_age4=r11agey_b;

run;


/*check hypothetical age

proc means data=temp;

var r8agey_b r9agey_b r10agey_b r11agey_b hyp_age1 hyp_age2 hyp_age3
hyp_age4;

run;*/

/*check cogtot

proc means nmiss n data=temp;

var r8cogtot r9cogtot r10cogtot r11cogtot;

run;*/

/*create missing variable*/

/*1=missing, 0=not missing*/

data temp; set temp;

if r8cogtot=. then miss1=1;

```

```

else if r8cogtot>=0 then miss1=0;

if r9cogtot=. then miss2=1;
else if r9cogtot>=0 then miss2=0;

if r10cogtot=. then miss3=1;
else if r10cogtot>=0 then miss3=0;

if r11cogtot=. then miss4=1;
else if r11cogtot>=0 then miss4=0;
run;

/*check*/
proc freq data=temp;
table miss1 miss2 miss3 miss4;
run;

proc means nmiss data=temp;
var r8cogtot r9cogtot r10cogtot r11cogtot;
run;

/*create variable dropout - REDUNDANT CODE*/
data temp; set temp;
if miss4=0 then dropout4=0;
else if miss4=1 then dropout4=1;
if miss3=0 then dropout3=0;
else if miss4=0 then dropout3=0;
else if (miss4=1 and miss3=1)then dropout3=1;
if miss2=0 then dropout2=0;
else if miss4=0 then dropout2=0;
else if miss3=0 then dropout2=0;
else if (miss4=1 and miss3=1 and miss2=1)then dropout2=1;

```

```

dropout1=0;

run;

/*
proc means nmiss data=temp;
var dropout1 dropout2 dropout3 dropout4;
run;

/**IDENTIFY PREDICTORS OF DROPOUT**/
/*label names*/
proc freq data=temp;
table raeduc raracem r8shlt r8adl;
run;

/*dropping out in 2008, outcome 2008, variables from 2006*/
proc logistic data=temp;
class raeduc(ref='3.High-school graduate')raracem(ref='1.White/Caucasian')
r8shlt(ref='3.Good') rahispan gender r8adl/param=ref;
model dropout2=
/*psychosocial predictors*/
lon6
int6
cyn6
/*age*/
r8agey_b
/*CATEGORICAL*/
/*race,ethnicity, gender, education*/
raracem
rahispan
gender
raeduc
/*SES*/
th8atotb

```

```

/*marital status*/
widow1 single1 split1
/*self-reported health*/
R8SHLT
/*activity*/
r8adl;
run;

/*dropping out in 2010, outcome 2010, variables from 2008*/
proc logistic data=temp;
class raeduc(ref='3.High-school graduate')raracem(ref='1.White/Caucasian')
r9shlt(ref='3.Good')rahispan gender r9adl/param=ref;
model dropout3=
/*psychosocial predictors*/
lon8
int8
cyn8
/*age*/
r9agey_b
/*CATEGORICAL*/
/*race,ethnicity, gender, education*/
raracem
rahispan
gender
raeduc
/*SES*/
th9atotb
/*marital status*/
widow2 single2 split2
/*self-reported health*/
R9SHLT
/*activity*/

```

```

r9adl;

run;

/*dropping out in 2012, outcome 2012, variables from 2010*/
proc logistic data=temp;
class raeduc(ref='3.High-school graduate')raracem(ref='1.White/Caucasian')
r10shlt(ref='3.Good')rahispan gender r10adl /param=ref;
model dropout4=
/*psychosocial predictors*/
lon10
int10
cyn10
/*age*/
r10agey_b
/*CATEGORICAL*/
/*race,ethnicity, gender, education*/
raracem
rahispan
gender
raeduc
/*SES*/
th10atotb
/*marital status*/
widow3 single3 split3
/*self-reported health*/
R10SHLT
/*activity*/
r10adl;
run;

/*identified: loneliness, integration, age, race, gender, education, SES,
marital status, self-reported health, activities of daily living*/
/*check missingness of identified variables*/

```

```

proc means nmiss data=temp;
var
/*psychosocial predictors*/
lon6
int6
lon8
int8
lon10
int10
/*SES*/
th8atotb
th9atotb
th10atotb
/*marital status*/
r8mstat r9mstat r10mstat
/*self-reported health*/
R8SHLT
R9SHLT
R10SHLT
/*activity*/
r8adl
r9adl
r10adl;
run;

/*change missing to . before recoding*/
data temp;
  set temp;
  Array recode(16)
th8atotb
th9atotb
th10atotb

```

```

th1latotb
/*marital status*/
r8mstat
r9mstat
r10mstat
r11mstat
/*self-reported health*/
R8SHLT
R9SHLT
R10SHLT
R11SHLT
/*activity*/
r8adl
r9adl
r10adl
r11adl
;
Do I = 1 to 16;
  If recode(i)=' ' then recode(I)=.;
  If recode(i)=.N then recode(I)=.;
  If recode(i)=.X then recode(I)=.;
  If recode(i)=.S then recode(I)=.;
  If recode(i)=.D then recode(I)=.;
  If recode(i)=.R then recode(I)=.;
  If recode(i)=.M then recode(I)=.;
End;
Drop I;
Run;

/*Delete cases where values are missing across all predictors*/
data temp; set temp;
if (lon6=. and lon8=. and lon10=. and lon12=.) then delete;

```

```

if (int6=. and int8=. and int10=. and int12=.) then delete;
if (R8SHLT=. and R9SHLT=. and R10SHLT=. and R11SHLT=.) then delete;
if (r8adl=. and r9adl=. and r10adl=. and r11adl=.) then delete;
run;

/*Center*/
PROC STANDARD data=temp MEAN=0 OUT=TEMP;
VAR
r8cogtot
r9cogtot
r10cogtot
r11cogtot
r8agey_b
r9agey_b
r10agey_b
r11agey_b
lon6
lon8
lon10
lon12
int6
int8
int10
int12
cyn6
cyn8
cyn10
cyn12
;
RUN;

```

```

/**DATASETS DIVERGE - ONE WITH IMPUTATIONS (FOR WEIGHTS) ONE WITHOUT (FOR
ANALYSES)**/

/*create projected: loneliness, integration, SES, marital status, self-
reported health, activities of daily living*/

data projected; set temp;
count_l=n(of lon6, lon8, lon10, lon12);
if lon6=. then lon6=mean (of lon8, lon10, lon12);
if lon8=. then lon8=lon6;
if lon10=. then lon10=lon8;
if lon12=. then lon12=lon10;

if int6=. then int6=mean (of int8, int10, int12);
if int8=. then int8=int6;
if int10=. then int10=int8;
if int12=. then int12=int10;

if th8atotb=. then th8atotb=median (of th9atotb, th10atotb, th11atotb);
if th9atotb=. then th9atotb=th8atotb;
if th10atotb=. then th10atotb=th9atotb;
if th11atotb=. then th11atotb=th10atotb;

/*r8mstat only missing 2 cases, will be discarded*/
if r9mstat=. then r9mstat=r8mstat;
if r10mstat=. then r10mstat=r9mstat;
if r11mstat=. then r11mstat=r10mstat;

/*self-reported health*/
if R8SHLT=. then R8SHLT=min (of R9SHLT, R10SHLT, R11SHLT);
if R9SHLT=. then R9SHLT=R8SHLT;
if R10SHLT=. then R10SHLT=R9SHLT;
if R11SHLT=. then R11SHLT=R10SHLT;

```

```

/*activity*/
if r8adl=. then r8adl=min (of r9adl, r10adl, r11adl);
if r9adl=. then r9adl=r8adl;
if r10adl=. then r10adl=r9adl;
if r11adl=. then r11adl=r10adl;
run;

```

```

/*check projected*/
proc means mean n nmiss min max data=temp;
var
/*psychosocial predictors*/
lon6 lon8 lon10 lon12
int6 int8 int10 int12
/*SES*/
th8atotb th9atotb th10atotb th11atotb
/*marital status*/
r8mstat r9mstat r10mstat r11mstat
/*self-reported health*/
R8SHLT R9SHLT R10SHLT R11SHLT
/*activity*/
r8adl r9adl r10adl r11adl;
run;
proc means mean n nmiss min max data=projected;
var
/*psychosocial predictors*/
lon6 lon8 lon10 lon12
int6 int8 int10 int12
/*SES*/
th8atotb th9atotb th10atotb th11atotb
/*marital status*/
r8mstat r9mstat r10mstat r11mstat
/*self-reported health*/

```

```

R8SHLT R9SHLT R10SHLT R11SHLT

/*activity*/
r8adl r9adl r10adl r11adl;
run;

/*second check*/
proc freq data=projected;
table count_1;
run;


/*re-dummy code marital status in projected dataset*/
data projected; set projected;
if r8mstat in (4 5 6) then split1=1;
else if r8mstat in (1 2 3 7 8) then split1=0;
else split1=.;

if r8mstat in (7) then widow1=1;
else if r8mstat in (1 2 3 4 5 6 8) then widow1=0;
else widow1=.;

if r8mstat in (8) then single1=1;
else if r8mstat in (1 2 3 4 5 6 7) then single1=0;
else single1=.;

/*2008*/
if r9mstat in (4 5 6) then split2=1;
else if r9mstat in (1 2 3 7 8) then split2=0;
else split2=.;

if r9mstat in (7) then widow2=1;
else if r9mstat in (1 2 3 4 5 6 8) then widow2=0;
else widow2=.;

```

```

if r9mstat in (8) then single2=1;
else if r9mstat in (1 2 3 4 5 6 7) then single2=0;
else single2=.;

/*2010*/
if r10mstat in (4 5 6) then split3=1;
else if r10mstat in (1 2 3 7 8) then split3=0;
else split3=.;

if r10mstat in (7) then widow3=1;
else if r10mstat in (1 2 3 4 5 6 8) then widow3=0;
else widow3=.;

if r10mstat in (8) then single3=1;
else if r10mstat in (1 2 3 4 5 6 7) then single3=0;
else single3=.;

/*2012*/
if r11mstat in (4 5 6) then split4=1;
else if r11mstat in (1 2 3 7 8) then split4=0;
else split4=.;

if r11mstat in (7) then widow4=1;
else if r11mstat in (1 2 3 4 5 6 8) then widow4=0;
else widow4=.;

if r11mstat in (8) then single4=1;
else if r11mstat in (1 2 3 4 5 6 7) then single4=0;
else single4=.;
run;

```

```

/**CHANGE DATA FORMAT FOR BOTH DATASETS**/

/*first dataset to create weights*/

data temp_w;
set projected;

/*outcome*/

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


/*psychosocial*/

lon1=lon6;
lon2=lon8;
lon3=lon10;
lon4=lon12;


int1=int6;
int2=int8;
int3=int10;
int4=int12;


cyn1=cyn6;
cyn2=cyn8;
cyn3=cyn10;
cyn4=cyn12;


/*marriage*/

mstat1=r8mstat;
mstat2=r9mstat;
mstat3=r10mstat;
mstat4=r11mstat;

```

```

/*age*/
age1=r8agey_b;
age2=r9agey_b;
age3=r10agey_b;
age4=r11agey_b;

/*SES*/
money1=th8atotb;
money2=th9atotb;
money3=th10atotb;
money4=th11atotb;

/*SES*/
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;

```

```

/*health*/
h1=R8SHLT;
h2=R9SHLT;
h3=R10SHLT;
h4=R11SHLT;

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;

/*activity*/
ad1=R8ADL;
ad2=R9ADL;
ad3=R10ADL;
ad4=R11ADL;

array cogtot[4];

```

```
array lon[4];
array int[4];
array cyn[4];

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

array age[4];
array hyp_age[4];

array money[4];

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

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

array ad[4];

array dropout[4];
array miss[4];

do time = 1 to 4;
```

```
CT=cogtot[time];
L=lon[time];
INTr=int[time];
CH=cyn[time];

AGEr=age[time];
ha=hyp_age[time];

ptr=part[time];
ms=mstat[time];
splitr=split[time];
widowr=widow[time];
sing=single[time];

ses=money[time];
low=lower[time];
lmid=lowmid[time];
umid=upmid[time];
up=upper[time];

health=h[time];
excellent=eh[time];
verygood=vh[time];
fair=fh[time];
poor=ph[time];

activity=ad[time];

mizing=miss[time];
drp=dropout[time];
```

```

output;
end;

keep hhidpn time
CT
L INTr CH
ptr ms splitr widowr sing
ager ha
raracem black other
rahispan
gender
raeduc nohs ged scollege college
ses low lmid umid up
health excellent verygood fair poor
activity
mizing drp
;
run;

/*second dataset to run analyses*/
data temp_a;
set temp;
/*outcome*/
cogtot1=r8cogtot;
cogtot2=r9cogtot;
cogtot3=r10cogtot;
cogtot4=r11cogtot;

/*psychosocial*/
lon1=lon6;
lon2=lon8;
lon3=lon10;

```

```
lon4=lon12;
```

```
int1=int6;
```

```
int2=int8;
```

```
int3=int10;
```

```
int4=int12;
```

```
cyn1=cyn6;
```

```
cyn2=cyn8;
```

```
cyn3=cyn10;
```

```
cyn4=cyn12;
```

```
/*marriage*/
```

```
mstat1=r8mstat;
```

```
mstat2=r9mstat;
```

```
mstat3=r10mstat;
```

```
mstat4=r11mstat;
```

```
/*age*/
```

```
age1=r8agey_b;
```

```
age2=r9agey_b;
```

```
age3=r10agey_b;
```

```
age4=r11agey_b;
```

```
/*SES*/
```

```
money1=th8atotb;
```

```
money2=th9atotb;
```

```
money3=th10atotb;
```

```
money4=th11atotb;
```

```
/*SES*/
```

```
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;

/*health*/
h1=R8SHLT;
h2=R9SHLT;
h3=R10SHLT;
h4=R11SHLT;

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;

/*activity*/
ad1=R8ADL;
ad2=R9ADL;
ad3=R10ADL;
ad4=R11ADL;

array cogtot[4];

array lon[4];
array int[4];
array cyn[4];

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

array age[4];
array hyp_age[4];

array money[4];
```

```

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

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

array ad[4];

array dropout[4];
array miss[4];

do time = 1 to 4;

CT=cogtot[time];
L=lon[time];
INTr=int[time];
CH=cyn[time];

AGEr=age[time];
ha=hyp_age[time];

ptr=part[time];
ms=mstat[time];
splitr=split[time];
widowr=widow[time];
sing=single[time];

```

```

ses=money[time];
low=lower[time];
lmid=lowmid[time];
umid=upmid[time];
up=upper[time];

health=h[time];
excellent=eh[time];
verygood=vh[time];
fair=fh[time];
poor=ph[time];

activity=ad[time];

mizing=miss[time];
drp=dropout[time];

output;
end;

keep hhidpn time
CT
L INTr CH
ptr ms splitr widowr sing
ager ha
raracem black other
rahispan
gender
raeduc nohs ged scollege college
ses low lmid umid up
health excellent verygood fair poor

```

```

activity
mizing drp
;
run;

/*CHANGE TIME ON BOTH*/
/*Shifting time points so that the first time point is 0*/
/*weights dataset*/
data temp_w; set temp_w;
time=time-1;
run;
/*analyses dataset*/
data temp_a; set temp_a;
time=time-1;
run;

/**Using Equation (7) from eAppendix 2 to estimate stabilized weights for
loss to follow up, sw;*/

/**Part 1a: Estimating conditional probabilities for numerator using pooled
logistic regression;*/

*Modeling the log odds that drp=0 and outputting corresponding probabilities
as n_drop into n_data dataset;
proc logistic data=temp_w;
model drp=time;
output out=n_data (keep=hhidpn time n_drop) p=n_drop;
run;

/**Part 1b: Estimating conditional probabilities for denominator using pooled
logistic regression;*/

*Modeling the log odds that drp=0 and outputting corresponding probabilities
as d_drop into d_data dataset;

/*identified: loneliness, integration, age, race, gender, education, SES,
marital status, self-reported health, activities of daily living*/
proc logistic data=temp_w;

```

```

class raracem(ref='1.White/Caucasian') gender raeduc(ref='3.High-school
graduate') ses(ref='3') health(ref='3')/param=ref;

model drp=time L INTr ha raracem gender raeduc ses splitr widowr sing health
activity;

output out=d_data (keep=hhidpn time d_drop) p=d_drop;

run;

/**Part 1c: Calculating cumulative probabilities for stabilized weights
(sw);**/

*Sorting records in analyses dataset and all generated datasets (n_data and
d_data) by hhidpn and time;

proc sort data=temp_a; by hhidpn time; run;
proc sort data=n_data; by hhidpn time; run;
proc sort data=d_data; by hhidpn time; run;

/*looking at weights*/

data look;

merge temp_a n_data d_data;

run;

*Merging UNCDATA with generated datasets (n_data and d_data) by ID and VISIT
and calculating sw;

data merged;

merge temp_a n_data d_data;

by hhidpn time;

retain num_drop den_drop;

if first.hhidpn then do; num_drop=1; den_drop=1; end;

num_drop=num_drop*n_drop;

den_drop=den_drop*d_drop;

sw=num_drop/den_drop;

run;

*Assessing distribution of sw;

proc means data=merged n min mean max std p1 p25 p50 p75 p99;

```

```

var sw;

run;

proc sort; by hhidpn; run;


ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S4(full weight)_Model_0.pdf';

/*Unconditional model*/

proc mixed covtest info data=merged;

class hhidpn;

model ct=time/solution ddfm=bw;

random intercept time/ SUB=HHIDPN TYPE=UN;

weight sw;

RUN;


ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S4(full weight)_Model_1.pdf';


/*Intercepts and slopes as outcomes model*/

/*Model 1 - just predictors of interest*/

PROC MIXED COVTEST INFO DATA=merged;

CLASS HHIDPN;

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

RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;

weight sw;

RUN;


ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S4(full weight)_Model_2.pdf';


/*Model 2 - add demographics*/

PROC MIXED COVTEST INFO DATA=merged;

```

```
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;
```

```
weight sw;
```

```
RUN;
```

```
ods pdf close;
```

```
ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take  
2\Revision\Materials\Results Files\S4(full weight)_Model_3.pdf';
```

```
/*Model 3 - add health behaviors*/
```

```
PROC MIXED COVTEST INFO DATA=merged;
```

```
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;
```

```

weight sw;

RUN;


ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S4(full weight)_Model_4.pdf';


/*Model 4 - add social*/
PROC MIXED COVTEST INFO DATA=merged;
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 sing
intr
low lmid umid up
L CH time time*L time*CH/ SOLUTION DDFM=BW cl;
RANDOM INTERCEPT TIME / SUB=HHIDPN TYPE=UN;
weight sw;

RUN;


ods pdf close;

ods pdf file='C:\Users\Croissant\Desktop\Thesis Pub\Take
2\Revision\Materials\Results Files\S4(full weight)_Model_5.pdf';

```

```

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

```