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* SAS Analysis Examples Replication for ASDA 3rd Edition
* Berglund Winter 2025
* Chapter 11 ;
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```
libname d "P:\ASDA3\Data Sets for Analysis Examples and Stata R Code" ;
options nocenter nodate nonumber ls=119 ps=67 ;
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```
data d.cc_lwave ;
    set d.hrswide ;
    if kfinr=1 and kwgtr ne 0 ;
* prepare ln income ;
ln_inc06 = log(H8ITOT + 1);
ln_inc08 = log(H9ITOT + 1);
ln_incl0 = log(H10ITOT + 1);
ln_incl2 = log(H11ITOT + 1);
run ;
```

```
ods rtf style=minimal bodytitle file='P:\ASDA3\Replication SAS\Chapter 11\Analysis Example Replication ASDA3 SAS C11
Code and Results.rtf' ;
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```
* histogram of each income variable ;
title "Histograms of Log Income Variables" ;
proc sgplot data=d.cc_lwave ;
    histogram ln_inc06 ;
run ;
proc sgplot data=d.cc_lwave;
    histogram ln_inc08 ;
run ;
proc sgplot data=d.cc_lwave;
    histogram ln_incl0 ;
run ;
proc sgplot data=d.cc_lwave;
    histogram ln_incl2 ;
run ;
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*****;
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```
* Single Wave ;
title "11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2" ;
proc surveymeans data=d.cc_lwave ; *c11_hrs ;
    strata stratum ; cluster secu ; weight kwgtr ;
    var ln_inc08 ;
    ods output statistics = outstat ;
run ;
* use exp function to back transform log income ;
data outstat1 ;
    set outstat ;
    mean=exp(mean) ;
    lcl=exp(lowerclmean) ;
    ucl=exp(upperclmean) ;
run ;
proc print ;
run ;
```

```
title "Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008." ;
data c11_hrs_wgt_adj ;
    set d.cc_lwave ; * c11_hrs ;
    * response in 2008 indicator ;
    if ln_inc08 ne . then resp08=1 ; else resp08=0 ;
    * Modal imputation of missing covariate values. ;
    if selfrhealth_06 = . then selfrhealth_06 = 3 ;
    if marcat_06=. then marcat_06 = 2 ;
    if diabetes_06=. then diabetes_06 = 0 ;
    if arthritis_06=. then arthritis_06 = 1 ;
    if racecat = . then racecat=2 ;
    if edcat = . then edcat=2 ;
run ;
```

```
title2 "Logistic Regression with Response in 2008 as Outcome: Weight Adjustment Method for 2008" ;
proc surveylogistic data=c11_hrs_wgt_adj ;
    strata stratum ; cluster secu ; weight kwgtr ;
    class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first) / param=ref ;
    model resp08 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
    output out=outp p=phat ;
run ;
proc rank data=outp groups=10 ties=mean out=outp_deciles ;
    var phat ;
    ranks dec ;
run ;
proc sort ;
    by dec phat ;
```

```

run ;

* mean of phat by deciles ;
proc sql ;
  create table outp_deciles_1
  as select *, mean(phat) as mean_phat
  from outp_deciles
  group by dec ;

title2 "Mean of Phat by Deciles" ;
proc means n mean data=outp_deciles_1 ;
  class dec ; var mean_phat ;
run ;

* Create adjusted weight ;
* save data set for future use in other software ;
data d.adj_wgt_lwave ; *data outp_deciles_2 ;
  set outp_deciles_1 ;
  adj_kwgtr = kwgtr*(1/mean_phat) ;
run ;

title2 "Mean Income using Adjusted Weight" ;
proc surveymeans data=d.adj_wgt_lwave ; *outp_deciles_2 ;
  strata stratum ; cluster secu ; weight adj_kwgtr ;
  var ln_inc08 ;
  ods output statistics=outstat2 ;
run ;
proc print data=outstat2 ;
run ;

* use exp function to back transform log income ;
data outstat3 ;
  set outstat2 ;
  exp_mean=exp(mean) ;
  lcl=exp(lowerclmean) ;
  ucl=exp(upperclmean) ;
  *format _numeric_ 12.3 ;
run ;
proc print ;
run ;

title "Single Wave: Multiple Imputation method." ;
* Create deciles of the 2006 sampling weights. ;
proc rank data=d.cc_lwave groups=10 ties=low out=wt_deciles ;
  var kwgtr ;
  ranks kwgtr_dec ;
run ;

* use modal values for all variables except log income 2008 ;
data d.wt_deciles_1 ;
  set wt_deciles ;
  * Modal imputation of missing covariate values. ;
  if selfrhealth_06 = . then selfrhealth_06 = 3 ;
  if marcat_06=. then marcat_06 = 2 ;
  if diabetes_06=. then diabetes_06 = 0 ;
  if arthritis_06=. then arthritis_06 = 1 ;
  if racecat = . then racecat=2 ;
  if edcat = . then edcat=2 ;
run ;

title2 "Means of all Variables Included in Imputation" ;
proc means n nmiss mean min max data=d.wt_deciles_1 ;
  var ln_inc08 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
run ;

title2 "MI to impute missing data on LN_INC08" ;

proc mi data=d.wt_deciles_1 nimpute=5 out=d.outimpl seed=41279;
  class selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec ;
  var ln_inc08 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
  fcs nbiter=5 reg(ln_inc08=ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat kwgtr_dec
stratum ) ;
  run ;

* use long format data set ;
title2 "Use PROC SURVEYMEANS in Step 2 of MI process" ;
proc surveymeans data=d.outimpl ;
  strata stratum ; cluster secu ; weight kwgtr ;
  var ln_inc08 ;
  by _imputation_ ;

```

```

ods output statistics=outstats_mi ;
run ;
proc print data=outstats_mi ;
run ;

title2 "Use PROC MIANALYZE for Combining" ;
proc mianalyze data=outstats_mi ;
  modeleffects mean ;
  stderr stderr ;
  ods output parameterestimates=outest ;
run ;
proc print data=outest ;
run ;

* use exp function to back transform log income ;
data outest1 ;
  set outest ;
  exp_mean=exp(estimate) ;
  lcl=exp(lclmean) ;
  ucl=exp(uclmean) ;
  format _numeric_ 12.3 ;
run ;
title2 "Print Out of Transformed MI Results" ;
proc print ;
run ;

ods text=" Imputation Using a Selection Model Not Available in SAS SURVEY procedures" ;

*****;
* Change over 2 Waves ;
title "11.3.2 Example: Change across Two Waves. 1. Complete Case Analysis." ;
* prepare data set from wide file ;
data d.cc_2waves ;
  set d.hrswide ;
  if kfinr=1 and kwgtr ne 0 ;

  * prepare ln income ;
  ln_inc06 = log(H8ITOT + 1) ;
  ln_inc08 = log(H9ITOT + 1) ;
  ln_inc10 = log(H10ITOT + 1) ;
  ln_inc12 = log(H11ITOT + 1) ;
  incdiff_06_10=h10itot-h8itot ;

  * response in 2010 for weight adjustment ;
  resp10=0 ;
  if ln_inc10 ne . then resp10=1 ;

  * Modal imputation of missing covariate values. ;
  if selfrhealth_06 = . then selfrhealth_06 = 3 ;
  if marcat_06=. then marcat_06 = 2 ;
  if diabetes_06=. then diabetes_06 = 0 ;
  if arthritis_06=. then arthritis_06 = 1 ;
  if racecat = . then racecat=2 ;
  if edcat = . then edcat=2 ;
run ;
proc surveymeans data=d.cc_2waves ;
  strata stratum ; cluster secu ; weight kwgtr ;
  var incdiff_06_10 ;
run ;

* 2. Weight Adjustment. ;
* response in 2010 ;
title "Response in 2010" ;
proc freq data=d.cc_2waves ;
  tables resp10 / missing ;
run ;

title "Logistic Regression with Response in 2010 as Outcome: Weight Adjustment Method for 2010" ;
proc surveylogistic data=d.cc_2waves ;
  strata stratum ; cluster secu ; weight kwgtr ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first) / param=ref ;
  model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=outpl p=phat1 ;
run ;

* ranks for phat using ties=low option ;
proc rank data=outpl groups=10 ties=low out=outp_deciles ;
  var phat1 ;
  ranks dec ;
run ;

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```

proc sort ;
  by dec phat1;
run ;

* mean of phat by deciles ;
proc sql ;
  create table outp_deciles_1
  as select *, mean(phat1) as mean_phat
  from outp_deciles
  group by dec ;

* create an adjusted weight ;
data d.adj_wgt_2waves ; *outp_deciles_2 ;
  set outp_deciles_1 ;
  adj_kwgtr = kwgtr*(1/mean_phat) ;
run ;

title "Mean Income Difference using Adjusted Weight" ;
proc surveymeans data=d.adj_wgt_2waves ; *outp_deciles_2 ;
  strata stratum ; cluster secu ; weight adj_kwgtr ;
  var incdiff_06_10 ;
run ;

* 3. Multiple Imputation.
* Multiple imputation of 2010 log-income.;
* Create deciles of the 2006 sampling weights. (already done in above data step) ;

proc rank data=d.cc_2waves groups=10 ties=low out=wt_deciles ;
  var kwgtr ;
  ranks kwgtr_dec ;
run ;

* use modal values for all variables except log income 2010 ;
data wt_deciles_1 ;
  set wt_deciles ;
  * Modal imputation of missing covariate values. ;
  if selfrhealth_06 = . then selfrhealth_06 = 3 ;
  if marcat_06=. then marcat_06 = 2 ;
  if diabetes_06=. then diabetes_06 = 0 ;
  if arthritis_06=. then arthritis_06 = 1 ;
  if racecat = . then racecat=2 ;
  if edcat = . then edcat=2 ;
  incdiff_06_10=h10itot-h8itot ;
run ;

title "3. Multiple Imputation, MI of 2010 log-income" ;
proc means n nmiss mean min max data=wt_deciles_1 nolabels ;
  var ln_inc10 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec
  incdiff_06_10 ;
run ;

proc mi data=wt_deciles_1 nimpute=5 out=d.outimp2w seed=41279;
  class selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec ;
  var ln_inc10 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
  fcs nbiter=5 reg (ln_inc10=ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat kwgtr_dec
  stratum) ;
  run ;

* Obtain summary statistics for income diff 06_10 and log income 2010, from non imputed data set ;
proc means data=wt_deciles_1 ;
  var incdiff_06_10 ln_inc10 ;
run ;

* Compute bounded change scores in each imputed data set.;
data outimp2 ;
  set d.outimp2w ;
  * set upper and lower bounds for log income 2010 and difference of 2010 and 2006 ;
  if ln_inc10 > 14.92 then ln_inc10=14.92 ;
  new_chg0610=exp(ln_inc10) - exp(ln_inc06) ;
  if new_chg0610 < -12300000 then new_chg0610 = -12300000 ;
  if new_chg0610 > 2062968 then new_chg0610 = 2062968 ;
run ;

title2 "Use PROC SURVEYMEANS in Step 2 of MI process" ;
proc surveymeans data=outimp2 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  var new_chg0610 ;
  by _imputation_ ;
  ods output statistics=outstats_mi ;

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run ;
proc print data=outstats_mi ;
run ;

title2 "Use PROC MIANALYZE for Combining" ;
proc mianalyze data=outstats_mi ;
  modeleffects mean ;
  stderr stderr ;
run ;

*4. Calibration. ;
data cal ;
  set d.hrswide ;
  if kfinr=1 and kwgtr ne 0 ;
  * Modal imputation of missing covariate values. Note that gender has no missing data. ;
  if racecat =. then racecat=2 ;
  if edcat=. then edcat=2 ;
run ;

title "4. Calibration: Cross-Class distributions " ;
proc freq data=cal ;
  tables racecat*edcat*gender /list ;
run ;

* Compute sums of 2006 weights in cross-classes defined by sex, race, and education. ;
title2 "Sum of KWGTR by cross-classes" ;
proc means sum nmiss mean data=cal ;
  class racecat edcat gender ;
  var kwgtr ;
  output out=cal_pop_sizes (where=(_type_=7)) sum=popsize ;
run ;

* 32 cross classes with sums of weight kwgtr ;
proc print data=cal_pop_sizes ;
run ;

title2 "Repeat process for cases with complete data." ;
data complete ;
  set d.hrswide ; * _2006_2012_15jul2016 ;
  if kfinr=1 and kwgtr ne 0 ;
  * Modal imputation of missing covariate values. ;
  if racecat =. then racecat=2 ;
  if edcat=. then edcat=2 ;
  ln_inc10=log(h10itot + 1) ;
  if ln_inc10 ne . then resp10=1 ;
  else if ln_inc10 eq . then resp10=0 ;
  if resp10=1 ;
run ;

* Compute sums of 2006 weights among those that responded in 2010 and in cross-classes defined by sex, race, and
education. ;
proc means sum nmiss mean data=complete ;
  class racecat edcat gender ;
  var kwgtr ;
  output out=cal_resp_sizes (where=(_type_=7)) sum=sumrespwgts ;
run ;

* 32 cross classes with sums of weight kwgtr ;
proc print data=cal_resp_sizes ;
run ;

* Merge the two data sets of estimated population sizes. ;
proc sort data=cal_pop_sizes ; by racecat edcat gender ; run ;
proc sort data=cal_resp_sizes ; by racecat edcat gender ; run ;

data cal_resp_pop_sizes ;
  merge cal_pop_sizes cal_resp_sizes ;
  by racecat edcat gender ;
  * create cal_adj ;
  cal_adj=popsizes/sumrespwgts ;
run ;

data cal_1 ;
  set d.hrswide ; * _2006_2012_15jul2016 ;
  if kfinr=1 and kwgtr ne 0 ;
  * Modal imputation of missing covariate values. ;
  if racecat =. then racecat=2 ;
  if edcat=. then edcat=2 ;
  ln_inc06=log(h8itot + 1) ;
  ln_inc10=log(h10itot + 1) ;

```

```

run ;
proc sort ;
  by racecat edcat gender ;
run ;

* save as permanent file ;
data d.calibration_2waves ;
merge cal_1 (in=cal) cal_resp_pop_sizes ;
  by racecat edcat gender ;
  if cal=1 ; * maintain the larger n of 11,789 ;

* response indicator for 2010 ;
if ln_inc10 ne . then resp10=1 ; else if ln_inc10=. then resp10=0 ;

* calibrated weights for those with complete data ;
if resp10=1 then kwgtr_cal= kwgtr*cal_adj ;
incdiff_06_10=h10itot - h8itot ;
run ;

* Verify that sums of calibrated weights for cases with complete data are equal to sums of base weights for full
sample. ;
title2 "Sums of Kwgtr by race, education, gender" ;
proc means sum data=d.calibration_2waves ;
  class racecat edcat gender ;
  var kwgtr ;
run ;

title2 "Kwgtr_cal should match Kwgtr among respondents" ;
proc means sum data=d.calibration_2waves ;
  class racecat edcat gender ;
  var kwgtr_cal ;
  where resp10=1 ;
run ;

title2 "Estimate mean change using complete cases. Table 11.3" ;
proc surveymeans data=d.calibration_2waves ;
  strata stratum ; cluster secu ; weight kwgtr_cal ;
  var incdiff_06_10 ;
run ;

ods text= "11.3.2.5 : Refreshment sample adjustments not available directly since SAS uses only first level of cluster
not the same as Stata" ;

*****;
* Analysis of 3+ Waves ;
title "11.3.3 Example: Weighted Multilevel Modeling" ;
title2 ;

data hrs_2006_2012 ;
  set d.hrswide ;
  if kfinr=1 and kwgtr ne 0 ;
  ln_inc1=log(h8itot + 1) ;
  ln_inc2=log(h9itot + 1) ;
  ln_inc3=log(h10itot + 1) ;
  ln_inc4=log(h11itot + 1) ;
  wgt1 = kwgtr ;
  wgt2 = lwgtr ;
  wgt3 = mwgtr ;
  wgt4 = nwgtr ;
  basewgt = kwgtr ;
  keep hhid pn gender ln_inc1-ln_inc4 wgt1-wgt4 secu stratum basewgt ;
run ;

* reshape from wide to long data set ;
data hrs_long ;
  set hrs_2006_2012 ;
  array inc [*] ln_inc1-ln_inc4 ;
  array w [*] wgt1-wgt4 ;

  do i=1 to 4 ;
    ln_inc = inc[i] ;
    wgt = w [i] ;
    year=i ;
  output ;
  end ;
run ;

proc print data=hrs_long (obs=4) ;
run ;

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data hrs_long_1 ;
  set hrs_long ;
  if ln_inc=. then delete ;
  newid=trim(hhid)||trim(pn) ;
  level1wgt=wgt/basewgt ;
  level2wgt=basewgt ;
run ;

proc print data=hrs_long_1 (obs=8) ;
run ;

* prepare components for level1wgt_r ;
proc sql ;
  create table hrs_long_2
  as select *, sum(level1wgt) as sumw, count(ln_inc) as nj , level1wgt * (calculated nj / calculated sumw) as
  level1wgt_r, i as year
  from hrs_long_1
  group by newid ;
proc sort ;
  by newid year ;
run ;

proc print data=hrs_long_2 (obs=12) ;
run ;

data d.wgt_multilevel_3pwaves ;
  set hrs_long_2 ;
  if year=1 then yrssince06=0 ;
  else if year=2 then yrssince06=2 ;
  else if year=3 then yrssince06=4 ;
  else if year=4 then yrssince06=6 ;
  newid_num=newid*1 ;
  yrs06sq=yrssince06*yrssince06 ;
run ;

title2 " Plot data for small subsample of subjects. Figure 11.1 " ;
proc sgplot data=d.wgt_multilevel_3pwaves noautolegend ;
  where newid_num <= 10200000 ;
  series x=year y=ln_inc / group=newid ;
run ;

title2 "Plot Mean Log Income by Gender, Figure 11.2" ;
proc means data=d.wgt_multilevel_3pwaves ;
  class gender year ;
  var ln_inc ;
  output out=outmeans (where=(type=3)) mean=mean;
run ;

* use output means in PROC SGPLOT ;
proc sgplot data=outmeans ;
  series x=year y=mean / group=gender ;
run ;

data wgt_multilevel_3pwaves_unique ;
  set d.wgt_multilevel_3pwaves ;
  * create unique strata secu ;
  strata_secu=stratum*10000 + secu ;
run ;

title2 ;
*proc freq ; tables strata_secu ; run ;
proc sort ; by newid_num strata_secu ; run ;
proc print data=wgt_multilevel_3pwaves_unique (obs=8) ; run ;

* Note: this model uses PROC GLIMMIX which allows multi-level weights ;
title1 "Multilevel Mixed Model 3 levels years within people within strata_cluster" ;
proc glimmix data=wgt_multilevel_3pwaves_unique method=quad empirical=classical ;
  class gender (ref=first) stratum (ref=first) newid_num strata_secu ;
  model ln_inc=yrssince06 gender yrssince06*gender yrs06sq yrs06sq*gender stratum / dist=normal link=identity
  obsweight=level1wgt_r solution ddfm=bw;
  random int / subject=newid_num(strata_secu) weight=basewgt ; * use baseweight for level 2 ;
run ;

*2. Veiga et al. (2014) approach. is NOT available in SAS ;
ods text="Veiga et al. (2014) not available in SAS SURVEY procedures" ;
ods text="Error Covariance Modeling Not Available in SAS, See Stata program pwigls_genlin_adcv_modAV1.do for More
Information" ;

* Weighted GEE Analysis. ;
title "11.3.4 Example: Weighted GEE Analysis" ;

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data hrs_2006_2012 ;
  set d.hrswide ;
  if kfinr=1 and kwgtr ne 0 ;

  * Modal imputation of missing covariate values. ;
  if selfrhealth_06 = . then selfrhealth_06 = 3 ;
  if marcat_06=. then marcat_06 = 2 ;
  if diabetes_06=. then diabetes_06 = 0 ;
  if arthritis_06=. then arthritis_06 = 1 ;
  if racecat = . then racecat=2 ;
  if edcat = . then edcat=2 ;

  * prepare ln income ;
  ln_inc06 = log(H8ITOT + 1);
  ln_inc08 = log(H9ITOT + 1);
  ln_inc10 = log(H10ITOT + 1);
  ln_inc12 = log(H11ITOT + 1);

  * Compute response indicator for 2008.;
  if ln_inc08 ne . then resp08 = 1 ; else resp08 = 0 ;
  * Compute response indicator for 2010.;
  if ln_inc10 ne . then resp10=1 ; else resp10=0 ;
  * Compute response indicator for 2012.;
  if ln_inc12 ne . then resp12=1 ; else resp12=0 ;
run ;

title "11.3.4 Weighted GEE: Check Response in 2008, 2010, 2012" ;
proc freq ;
  tables resp08 resp10 resp12 ;
run ;

title " Response propensity model (2008)." ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp08 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p1 p=phat08 ;
run ;
proc means n nmiss mean stderr clm ;
  var phat08 ;
run ;

title " Response propensity model (2010), respondents in 2008." ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p2 (where=(domain='resp08=1') keep=hhid pn phat10_11 domain ) p=phat10_11 ;
run ;
proc means n nmiss mean stderr clm ;
  var phat10_11 ;
run ;

title " Response propensity model (2010), non respondents in 2008." ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p3 (where=(domain='resp08=0') keep=hhid pn phat10_10 domain ) p=phat10_10 ;
run ;

proc means data=p3 n nmiss mean stderr clm ;
  var phat10_10 ;
run ;

* Response propensity model (2012), 111 pattern.;
title " Response propensity model (2012), 111 Pattern (06,08,10) " ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08*resp10 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p4 (where=(domain='resp08=1 resp10=1') keep=hhid pn phat12_111 domain) p=phat12_111 ;
run ;

proc means n nmiss mean stderr clm ;
  var phat12_111 ;
run ;

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* Response propensity model (2012), 110 pattern.;
title " Response propensity model (2012), 110 Pattern (06,08,no 10) " ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08*resp10 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p5 (where=(domain='resp08=1 resp10=0') keep=hhid pn phat12_110 domain) p=phat12_110 ;
run ;

proc means n nmiss mean ;
  var phat12_110 ;
run ;

* Response propensity model (2012), 101 pattern.;
title " Response propensity model (2012), 101 Pattern (06,no 08,10) " ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08*resp10 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p6 (where=(domain='resp08=0 resp10=1') keep=hhid pn phat12_101 domain) p=phat12_101 ;
run ;

proc means n nmiss mean stderr ;
  var phat12_101 ;
run ;

* Response propensity model (2012), 100 pattern.;
title " Response propensity model (2012), 100 Pattern (06,no 08,no 10) " ;
proc surveylogistic data=hrs_2006_2012 ;
  strata stratum ; cluster secu ; weight kwgtr ;
  domain resp08*resp10 ;
  class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
  model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
  output out=p7 (where=(domain='resp08=0 resp10=0') keep=hhid pn phat12_100 domain) p=phat12_100 ;
run ;

proc means n nmiss mean stderr clm ;
  var phat12_100 ;
run ;

*merge all data sets together using hhid and pn ;
data all_cumprobs ;
  merge p1 p2 p3 p4 p5 p6 p7 ;
  by hhid pn ;
  drop domain ;

* develop cumulative probabilities ;
cumprob1=1 ;
if resp08=1 & resp10=1 & resp12=1 then cumprob4 = phat08 * phat10_11 * phat12_111 ;
if resp08=1 & resp10=1 & resp12=0 then cumprob4 = phat08 * phat10_11 * (1-phat12_111) ;

if resp08=1 & resp10=0 & resp12=1 then cumprob4 = phat08 *(1-phat10_11) * phat12_110 ;
if resp08=1 & resp10=0 & resp12=0 then cumprob4 = phat08 *(1-phat10_11)*(1-phat12_110) ;

if resp08= 0 & resp10=1 & resp12=1 then cumprob4 =(1-phat08)*phat10_10 * phat12_101 ;
if resp08= 0 & resp10=1 & resp12=0 then cumprob4 =(1-phat08)*phat10_10* (1-phat12_101) ;

if resp08= 0 & resp10=0 & resp12=1 then cumprob4 =(1-phat08)*(1-phat10_10)* phat12_100 ;
if resp08= 0 & resp10=0 & resp12=0 then cumprob4= (1-phat08)*(1-phat10_10)*(1-phat12_100) ;
cumprob_case= cumprob4 ;

ln_inc1=log(h8itot + 1) ;
ln_inc2=log(h9itot + 1) ;
ln_inc3=log(h10itot + 1) ;
ln_inc4=log(h11itot + 1) ;

run ;

* note: small differences between SAS and Stata, likely due to Stata dropping strata without observations in
subpopulation whereas SAS does not drop strata ;
title "Mean for CUMCPROB_CASE (Cumulative Probability Weight) " ;
proc means n nmiss mean std min max data=all_cumprobs ;
  var cumprob_case ;
run ;

* reshape from wide to long data set ;
data hrs_long ;
  set all_cumprobs ;

```

```

array inc [*] ln_incl-ln_inc4 ;
do i=1 to 4 ;
    ln_inc = inc[i] ;
    year=i ;
    basewgt=kwgtr ;
output ;
end ;
keep hhid pn gender marcat_06 diabetes_06 arthritis_06 racecat edcat secu stratum cumprob_case ln_inc basewgt year ;
run ;

* prepare long data set for GEE weighted model ;
data d.wgt_gee_3pwaves ; *hrs_long_1 ;
    set hrs_long ;
    casewt = basewgt * (1 / cumprob_case) ;
* Compute measure of years since 2006, and squared version. ;
if year=1 then yrssince06 = 0 ;
if year=2 then yrssince06 = 2 ;
if year=3 then yrssince06 = 4 ;
if year=4 then yrssince06 = 6 ;
yrs06sq = yrssince06*yrssince06 ;
newid=trim(hhid)||trim(pn) ;
newid_num=newid * 1 ;

run ;

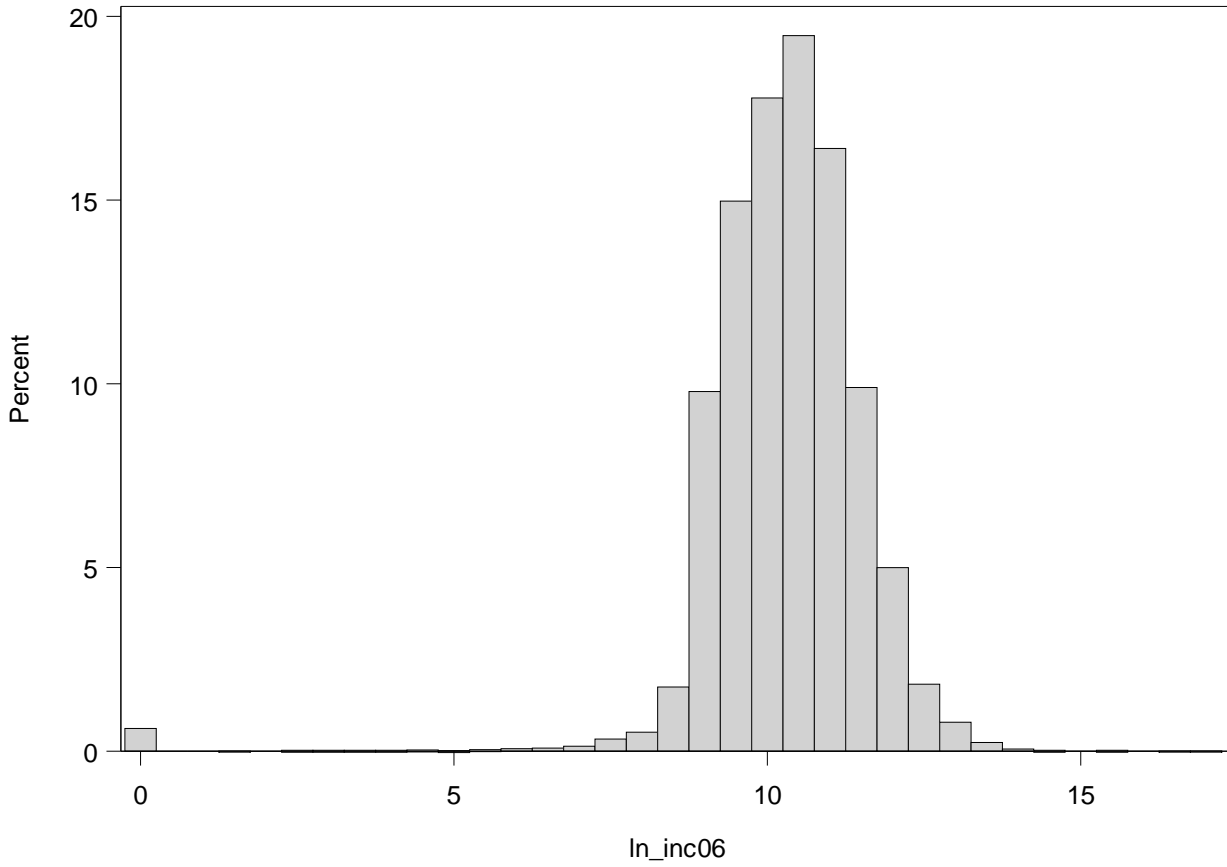
proc sort data=d.wgt_gee_3pwaves ;
    by newid_num ;
run ;

title "GEE Model with Repeated Measures Per Individual (Financial Respondent), 2006-2012" ;
proc genmod data=d.wgt_gee_3pwaves ;
    weight casewt ;
    class gender (ref=first) stratum (ref=first) newid_num year ;
    model ln_inc = yrssince06 gender yrs06sq yrssince06*gender yrs06sq*gender stratum ;
    repeated subject=newid_num / type=exch corrw ;
run ;

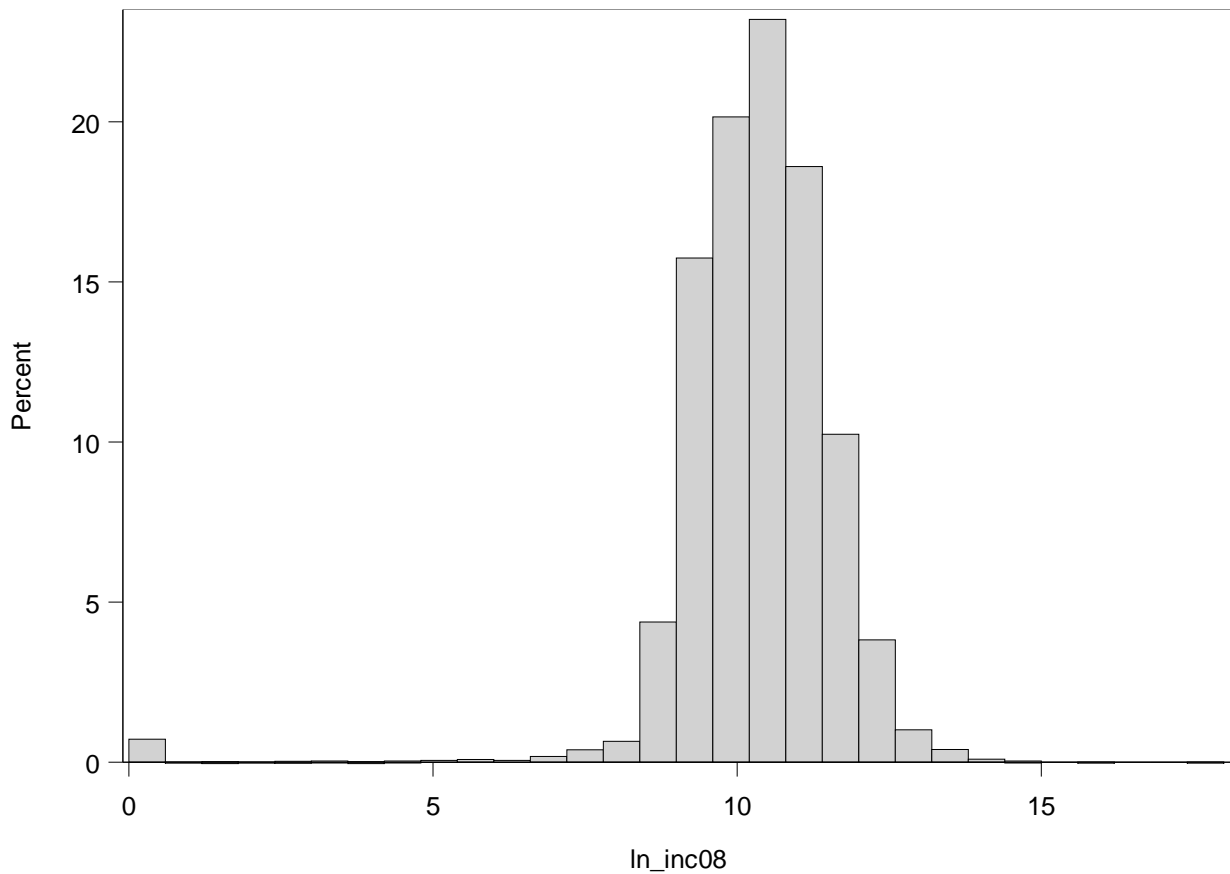
ods rtf close ;

```

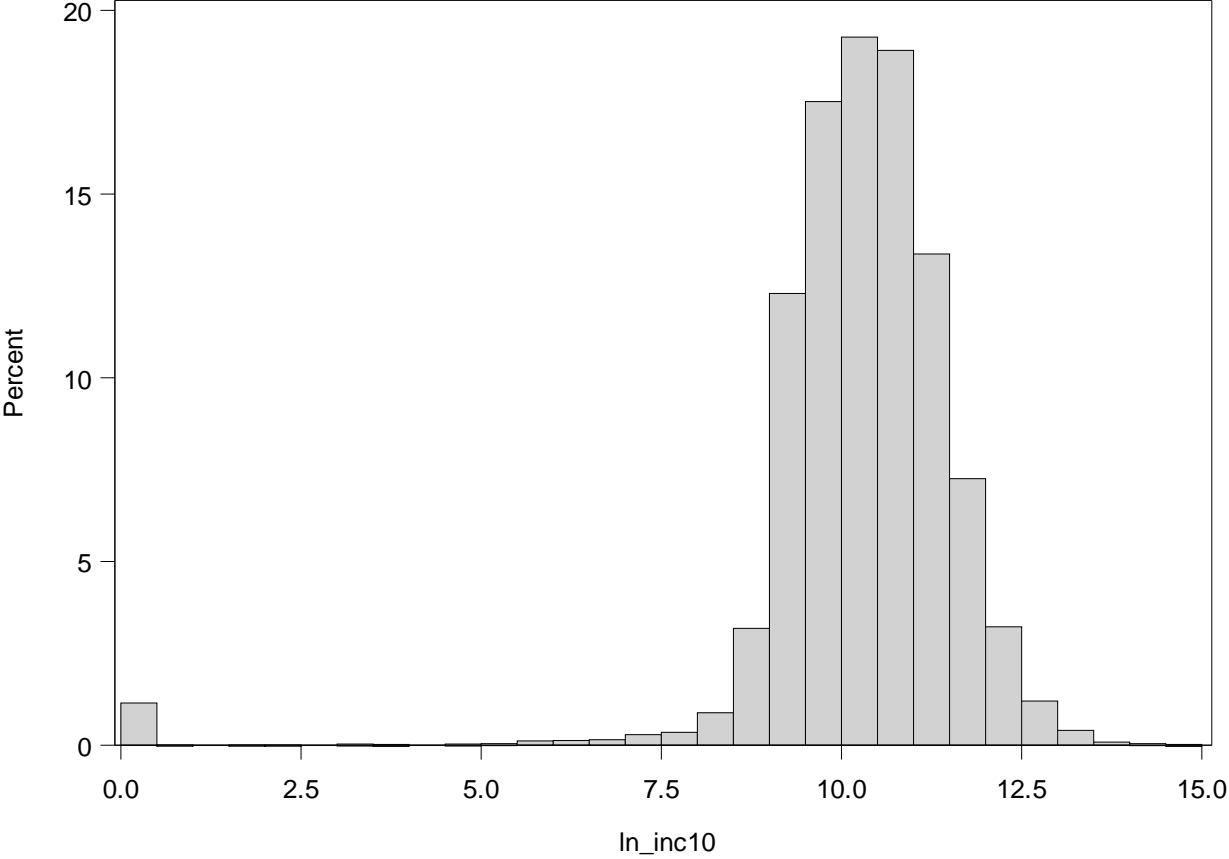
Histograms of Log Income Variables



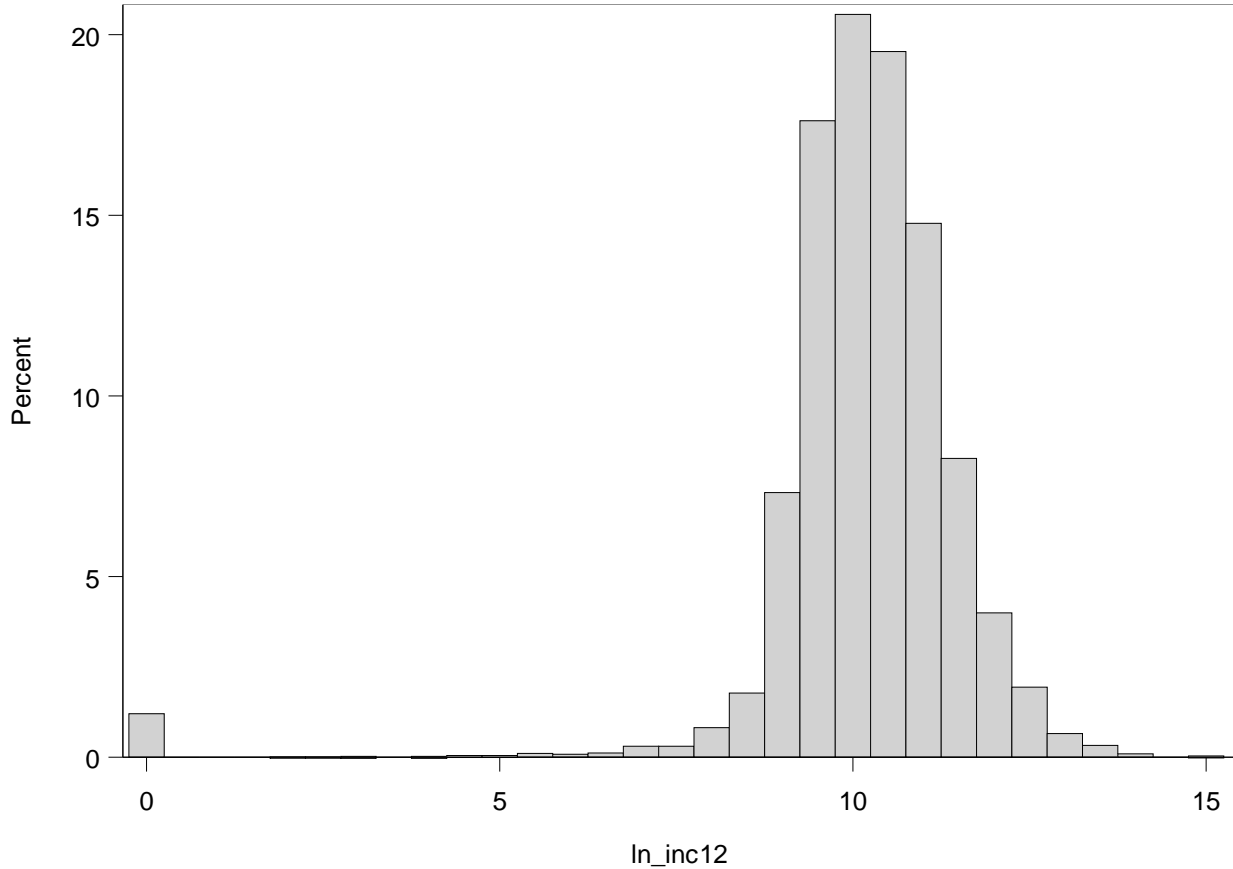
Histograms of Log Income Variables



Histograms of Log Income Variables



Histograms of Log Income Variables



11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2

The SURVEYMEANS Procedure

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 10574 | 10.440682 | 0.026296 | 10.3880051 | 10.4933582 |

11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2

| Obs | VarName | N | Mean | StdErr | LowerCLMean | UpperCLMean | lcl | ucl |
|-----|----------|-------|-------|----------|-------------|-------------|----------|----------|
| 1 | ln_inc08 | 10574 | 34224 | 0.026296 | 10.3880051 | 10.4933582 | 32467.83 | 36075.10 |

Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008.
 Logistic Regression with Response in 2008 as Outcome: Weight Adjustment Method for 2008

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.C11_HRS_WGT_ADJ | |
| Response Variable | resp08 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp08 | Total Frequency | Total Weight |
| 1 | 0 | 1215 | 4942420 |
| 2 | 1 | 10574 | 47613567 |

Probability modeled is resp08=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 32772754 | 30734556 |
| SC | 32772770 | 30734825 |
| -2 Log L | 32772752 | 30734522 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 29.10 | 11.6596 | 652.94 | <.0001 |
| Score | 19.99 | 16 | 41 | <.0001 |
| Wald | 22.66 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3723 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.04 | 1 | 56 | 0.8405 |
| selfrhealth_06 | 43.04 | 4 | 53 | <.0001 |
| age_06 | 102.51 | 1 | 56 | <.0001 |
| marcat_06 | 2.81 | 2 | 55 | 0.0691 |
| diabetes_06 | 7.90 | 1 | 56 | 0.0068 |
| arthritis_06 | 28.03 | 1 | 56 | <.0001 |
| racecat | 2.17 | 3 | 54 | 0.1025 |
| edcat | 0.44 | 3 | 54 | 0.7245 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 5.6307 | 0.5440 | 10.35 | <.0001 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| ln_inc06 | | 0.00727 | 0.0359 | 0.20 | 0.8405 |
| selfrhealth_06 | 2 | -0.1526 | 0.1534 | -0.99 | 0.3242 |
| selfrhealth_06 | 3 | -0.3367 | 0.1865 | -1.81 | 0.0764 |
| selfrhealth_06 | 4 | -0.7260 | 0.1681 | -4.32 | <.0001 |
| selfrhealth_06 | 5 | -1.4960 | 0.1871 | -8.00 | <.0001 |
| age_06 | | -0.0439 | 0.00434 | -10.12 | <.0001 |
| marcat_06 | 2 | 0.00848 | 0.0892 | 0.10 | 0.9246 |
| marcat_06 | 3 | -0.4002 | 0.1774 | -2.26 | 0.0280 |
| diabetes_06 | | -0.2035 | 0.0724 | -2.81 | 0.0068 |
| arthritis_06 | | 0.3311 | 0.0625 | 5.29 | <.0001 |
| racecat | 2 | 0.0251 | 0.1419 | 0.18 | 0.8601 |
| racecat | 3 | -0.1931 | 0.1709 | -1.13 | 0.2634 |
| racecat | 4 | -0.4276 | 0.2735 | -1.56 | 0.1236 |
| edcat | 2 | -0.0468 | 0.1016 | -0.46 | 0.6471 |
| edcat | 3 | -0.1353 | 0.1206 | -1.12 | 0.2667 |
| edcat | 4 | -0.0177 | 0.1139 | -0.16 | 0.8773 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | | |
|--|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 1.007 | 0.937 | 1.082 |
| selfrhealth_06 | 2 vs 1 | 0.858 | 0.631 | 1.167 |
| selfrhealth_06 | 3 vs 1 | 0.714 | 0.492 | 1.038 |
| selfrhealth_06 | 4 vs 1 | 0.484 | 0.346 | 0.678 |
| selfrhealth_06 | 5 vs 1 | 0.224 | 0.154 | 0.326 |
| age_06 | | 0.957 | 0.949 | 0.965 |
| marcat_06 | 2 vs 1 | 1.009 | 0.844 | 1.206 |
| marcat_06 | 3 vs 1 | 0.670 | 0.470 | 0.956 |
| diabetes_06 | | 0.816 | 0.706 | 0.943 |
| arthritis_06 | | 1.393 | 1.229 | 1.578 |
| racecat | 2 vs 1 | 1.025 | 0.772 | 1.362 |
| racecat | 3 vs 1 | 0.824 | 0.585 | 1.161 |
| racecat | 4 vs 1 | 0.652 | 0.377 | 1.128 |
| edcat | 2 vs 1 | 0.954 | 0.779 | 1.170 |
| edcat | 3 vs 1 | 0.873 | 0.686 | 1.112 |
| edcat | 4 vs 1 | 0.982 | 0.782 | 1.234 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-----------|-------|
| Percent Concordant | 67.9 | Somers' D | 0.366 |
| Percent Discordant | 31.2 | Gamma | 0.370 |
| Percent Tied | 0.9 | Tau-a | 0.068 |
| Pairs | 12847410 | c | 0.683 |

Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008.
 Mean of Phat by Deciles

The MEANS Procedure

| Analysis Variable : mean_phat | | | |
|-------------------------------|-------|------|-----------|
| Rank for Variable phat | N Obs | N | Mean |
| 0 | 1178 | 1178 | 0.7373740 |
| 1 | 1179 | 1179 | 0.8331323 |
| 2 | 1179 | 1179 | 0.8682070 |
| 3 | 1179 | 1179 | 0.8903160 |
| 4 | 1179 | 1179 | 0.9068177 |
| 5 | 1179 | 1179 | 0.9202366 |
| 6 | 1179 | 1179 | 0.9308581 |
| 7 | 1179 | 1179 | 0.9405440 |
| 8 | 1179 | 1179 | 0.9502527 |
| 9 | 1179 | 1179 | 0.9623867 |

Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008.
 Mean Income using Adjusted Weight

The SURVEYMEANS Procedure

| Data Summary | |
|------------------------|------------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 58317820.6 |

| Statistics | | | | | |
|------------|-------|-----------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 10574 | 10.413583 | 0.026611 | 10.3602742 | 10.4668920 |

Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008.
 Mean Income using Adjusted Weight

| Obs | VarName | N | Mean | StdErr | LowerCLMean | UpperCLMean |
|-----|----------|-------|-----------|----------|-------------|-------------|
| 1 | ln_inc08 | 10574 | 10.413583 | 0.026611 | 10.3602742 | 10.4668920 |

Single Wave: Weight adjustment approach for 2008 log-income. Compute response indicator for 2008.
 Mean Income using Adjusted Weight

| Obs | VarName | N | Mean | StdErr | LowerCLMean | UpperCLMean | exp_mean | lcl | ucl |
|-----|----------|-------|-----------|----------|-------------|-------------|----------|----------|----------|
| 1 | ln_inc08 | 10574 | 10.413583 | 0.026611 | 10.3602742 | 10.4668920 | 33309.01 | 31579.84 | 35132.85 |

Single Wave: Multiple Imputation method.
Means of all Variables Included in Imputation

The MEANS Procedure

| Variable | Label | N | N Miss | Mean | Minimum | Maximum |
|----------------|---|-------|--------|------------|------------|-------------|
| ln_inc08 | | 10574 | 1215 | 10.3268766 | 0 | 17.9100947 |
| ln_inc06 | | 11789 | 0 | 10.2909710 | 0 | 17.0486936 |
| selfrhealth_06 | 1=Excellent 2=Very Good 3=Good 4=Fair 5=Poor | 11789 | 0 | 2.9179744 | 1.0000000 | 5.0000000 |
| age_06 | Age in 2006 | 11789 | 0 | 69.5194673 | 52.0000000 | 104.0000000 |
| marcat_06 | Marital Status 1=Married 2=Previously Married 3=Never | 11789 | 0 | 1.5744338 | 1.0000000 | 3.0000000 |
| diabetes_06 | Married | 11789 | 0 | 0.2129103 | 0 | 1.0000000 |
| arthritis_06 | 1=Yes Diabetes 0=No Diabetes | 11789 | 0 | 0.6252439 | 0 | 1.0000000 |
| racecat | Arthritis 1=Yes 0=No | 11789 | 0 | 2.1140046 | 1.0000000 | 4.0000000 |
| edcat | Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other | 11789 | 0 | 2.3958775 | 1.0000000 | 4.0000000 |
| stratum | Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs | 11789 | 0 | 30.6344898 | 1.0000000 | 56.0000000 |
| kwgtr_dec | STRATUM ID | 11789 | 0 | 4.4854525 | 0 | 9.0000000 |
| | Rank for Variable kwgtr | | | | | |

Single Wave: Multiple Imputation method.
 MI to impute missing data on LN_INC08

The MI Procedure

| Model Information | |
|----------------------------------|----------------|
| Data Set | D.WT_DECILES_1 |
| Method | FCS |
| Number of Imputations | 5 |
| Number of Burn-in Iterations | 5 |
| Seed for random number generator | 41279 |

| FCS Model Specification | |
|-------------------------|--|
| Method | Imputed Variables |
| Regression | ln_inc08 ln_inc06 age_06 diabetes_06 arthritis_06 |
| Discriminant Function | selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec |

| Missing Data Patterns | | | | | | | | | | |
|-----------------------|----------|----------|----------------|--------|-----------|-------------|--------------|---------|-------|---------|
| Group | ln_inc08 | ln_inc06 | selfrhealth_06 | age_06 | marcat_06 | diabetes_06 | arthritis_06 | racecat | edcat | stratum |
| 1 | X | X | X | X | X | X | X | X | X | X |
| 2 | . | X | X | X | X | X | X | X | X | X |

| Missing Data Patterns | | | | | | | | |
|-----------------------|-----------|-------|---------|-------------|-----------|-----------|-------------|--------------|
| Group | kwgtr_dec | Freq | Percent | Group Means | | | | |
| | | | | ln_inc08 | ln_inc06 | age_06 | diabetes_06 | arthritis_06 |
| 1 | X | 10574 | 89.69 | 10.326877 | 10.320609 | 69.000473 | 0.206733 | 0.623038 |
| 2 | X | 1215 | 10.31 | . | 10.033033 | 74.036214 | 0.266667 | 0.644444 |

| Variance Information (5 Imputations) | | | | | | | |
|--------------------------------------|-------------|----------|----------|--------|-------------------------------|------------------------------|---------------------|
| Variable | Variance | | | DF | Relative Increase in Variance | Fraction Missing Information | Relative Efficiency |
| | Between | Within | Total | | | | |
| ln_inc08 | 0.000013853 | 0.000158 | 0.000175 | 425.48 | 0.104979 | 0.099063 | 0.980572 |

| Parameter Estimates (5 Imputations) | | | | | | | | | | |
|-------------------------------------|-----------|-----------|-----------------------|----------|--------|-----------|-----------|-----|--------------------|---------|
| Variable | Mean | Std Error | 95% Confidence Limits | | DF | Minimum | Maximum | Mu0 | t for H0: Mean=Mu0 | Pr > t |
| ln_inc08 | 10.297283 | 0.013228 | 10.27128 | 10.32328 | 425.48 | 10.293305 | 10.303288 | 0 | 778.45 | <.0001 |

Single Wave: Multiple Imputation method.
Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=1

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|----------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 11789 | 10.417042 | 0.026039 | 10.3648800 | 10.4692039 |

Single Wave: Multiple Imputation method.
Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=2

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|----------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 11789 | 10.409710 | 0.026038 | 10.3575495 | 10.4618696 |

Single Wave: Multiple Imputation method.
Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=3

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|----------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 11789 | 10.420634 | 0.025519 | 10.3695135 | 10.4717548 |

Single Wave: Multiple Imputation method.

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=4

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 11789 | 10.412223 | 0.025646 | 10.3608483 | 10.4635982 |

Single Wave: Multiple Imputation method.
Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=5

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|------------|-------|-----------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| ln_inc08 | 11789 | 10.416641 | 0.025963 | 10.3646314 | 10.4686503 |

Single Wave: Multiple Imputation method.
Use PROC SURVEYMEANS in Step 2 of MI process

| Obs | _Imputation_ | VarName | N | Mean | StdErr | LowerCLMean | UpperCLMean |
|-----|--------------|----------|-------|-----------|----------|-------------|-------------|
| 1 | 1 | ln_inc08 | 11789 | 10.417042 | 0.026039 | 10.3648800 | 10.4692039 |
| 2 | 2 | ln_inc08 | 11789 | 10.409710 | 0.026038 | 10.3575495 | 10.4618696 |
| 3 | 3 | ln_inc08 | 11789 | 10.420634 | 0.025519 | 10.3695135 | 10.4717548 |
| 4 | 4 | ln_inc08 | 11789 | 10.412223 | 0.025646 | 10.3608483 | 10.4635982 |
| 5 | 5 | ln_inc08 | 11789 | 10.416641 | 0.025963 | 10.3646314 | 10.4686503 |

Single Wave: Multiple Imputation method.
 Use PROC MIANALYZE for Combining

The MIANALYZE Procedure

| Model Information | |
|-----------------------|------------------|
| Data Set | WORK.OUTSTATS_MI |
| Number of Imputations | 5 |

| Variance Information (5 Imputations) | | | | | | | |
|--------------------------------------|-------------|----------|----------|--------|-------------------------------|------------------------------|---------------------|
| Parameter | Variance | | | DF | Relative Increase in Variance | Fraction Missing Information | Relative Efficiency |
| | Between | Within | Total | | | | |
| mean | 0.000018498 | 0.000668 | 0.000690 | 3864.8 | 0.033240 | 0.032672 | 0.993508 |

| Parameter Estimates (5 Imputations) | | | | | | | | | | |
|-------------------------------------|-----------|-----------|-----------------------|----------|--------|-----------|-----------|--------|----------------------------|---------|
| Parameter | Estimate | Std Error | 95% Confidence Limits | | DF | Minimum | Maximum | Theta0 | t for H0: Parameter=Theta0 | Pr > t |
| mean | 10.415250 | 0.026268 | 10.36375 | 10.46675 | 3864.8 | 10.409710 | 10.420634 | 0 | 396.50 | <.0001 |

Single Wave: Multiple Imputation method.
 Use PROC MIANALYZE for Combining

| Obs | NImpute | Parm | Estimate | StdErr | LCLMean | UCLMean | DF | Min | Max | Theta0 | tValue | Probt |
|-----|---------|------|-----------|----------|----------|----------|--------|-----------|-----------|--------|--------|--------|
| 1 | 5 | mean | 10.415250 | 0.026268 | 10.36375 | 10.46675 | 3864.8 | 10.409710 | 10.420634 | 0 | 396.50 | <.0001 |

Single Wave: Multiple Imputation method.
 Print Out of Transformed MI Results

| Obs | NImpute | Parm | Estimate | StdErr | LCLMean | UCLMean | DF | Min | Max | Theta0 |
|-----|---------|------|----------|--------|---------|---------|----------|--------|--------|--------|
| 1 | 5.000 | mean | 10.415 | 0.026 | 10.364 | 10.467 | 3864.808 | 10.410 | 10.421 | 0.000 |

| Obs | tValue | Probt | exp_mean | lcl | ucl |
|-----|---------|-------|-----------|-----------|-----------|
| 1 | 396.504 | 0.000 | 33364.574 | 31689.796 | 35127.862 |

Imputation Using a Selection Model Not Available in SAS SURVEY procedures

11.3.2 Example: Change across Two Waves. 1. Complete Case Analysis.

The SURVEYMEANS Procedure

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|---------------|------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| incdiff_06_10 | 9402 | -6551.401642 | 1866.134563 | -10289.718 | -2813.0849 |

Response in 2010

The FREQ Procedure

| resp10 | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|--------|-----------|---------|----------------------|--------------------|
| 0 | 2387 | 20.25 | 2387 | 20.25 |
| 1 | 9402 | 79.75 | 11789 | 100.00 |

Logistic Regression with Response in 2010 as Outcome: Weight Adjustment Method for 2010

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | D.CC_2WAVES | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 2387 | 9323578 |
| 2 | 1 | 9402 | 43232409 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 49132729 | 43706079 |
| SC | 49132745 | 43706347 |
| -2 Log L | 49132727 | 43706045 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 80.14 | 11.3432 | 635.22 | <.0001 |
| Score | 36.70 | 16 | 41 | <.0001 |
| Wald | 31.73 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.45 | 1 | 56 | 0.2339 |
| selfrhealth_06 | 66.01 | 4 | 53 | <.0001 |
| age_06 | 297.29 | 1 | 56 | <.0001 |
| marcat_06 | 3.52 | 2 | 55 | 0.0364 |
| diabetes_06 | 5.10 | 1 | 56 | 0.0278 |
| arthritis_06 | 39.11 | 1 | 56 | <.0001 |
| racecat | 0.19 | 3 | 54 | 0.9018 |
| edcat | 0.62 | 3 | 54 | 0.6046 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.0712 | 0.4177 | 14.53 | <.0001 | |
| ln_inc06 | 0.0291 | 0.0241 | 1.20 | 0.2339 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.1754 | 0.1280 | -1.37 | 0.1762 |
| selfrhealth_06 | 3 | -0.4479 | 0.1394 | -3.21 | 0.0022 |
| selfrhealth_06 | 4 | -0.8735 | 0.1234 | -7.08 | <.0001 |
| selfrhealth_06 | 5 | -1.6189 | 0.1466 | -11.04 | <.0001 |
| age_06 | | -0.0641 | 0.00372 | -17.24 | <.0001 |
| marcat_06 | 2 | -0.00117 | 0.0628 | -0.02 | 0.9851 |
| marcat_06 | 3 | -0.2803 | 0.1134 | -2.47 | 0.0165 |
| diabetes_06 | | -0.1475 | 0.0653 | -2.26 | 0.0278 |
| arthritis_06 | | 0.3111 | 0.0497 | 6.25 | <.0001 |
| racecat | 2 | -0.0506 | 0.1218 | -0.42 | 0.6795 |
| racecat | 3 | 0.0227 | 0.1298 | 0.18 | 0.8615 |
| racecat | 4 | -0.0452 | 0.2847 | -0.16 | 0.8745 |
| edcat | 2 | 0.0490 | 0.0729 | 0.67 | 0.5047 |
| edcat | 3 | 0.0786 | 0.0752 | 1.05 | 0.3003 |
| edcat | 4 | 0.0675 | 0.0813 | 0.83 | 0.4103 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.029 | 0.981 | 1.080 |
| selfrhealth_06 2 vs 1 | 0.839 | 0.649 | 1.084 |
| selfrhealth_06 3 vs 1 | 0.639 | 0.483 | 0.845 |
| selfrhealth_06 4 vs 1 | 0.418 | 0.326 | 0.535 |
| selfrhealth_06 5 vs 1 | 0.198 | 0.148 | 0.266 |
| age_06 | 0.938 | 0.931 | 0.945 |
| marcat_06 2 vs 1 | 0.999 | 0.881 | 1.133 |
| marcat_06 3 vs 1 | 0.756 | 0.602 | 0.948 |
| diabetes_06 | 0.863 | 0.757 | 0.983 |
| arthritis_06 | 1.365 | 1.235 | 1.508 |
| racecat 2 vs 1 | 0.951 | 0.745 | 1.213 |
| racecat 3 vs 1 | 1.023 | 0.789 | 1.327 |
| racecat 4 vs 1 | 0.956 | 0.540 | 1.691 |
| edcat 2 vs 1 | 1.050 | 0.907 | 1.215 |
| edcat 3 vs 1 | 1.082 | 0.931 | 1.258 |
| edcat 4 vs 1 | 1.070 | 0.909 | 1.259 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 72.7 | Somers' D | 0.457 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.9 | Gamma | 0.459 |
| Percent Tied | 0.4 | Tau-a | 0.148 |
| Pairs | 22442574 | c | 0.729 |

Mean Income Difference using Adjusted Weight

The SURVEYMEANS Procedure

| Data Summary | |
|------------------------|------------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 65949786.7 |

| Statistics | | | | | |
|---------------|------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| incdiff_06_10 | 9402 | -6119.969809 | 1702.965099 | -9531.4188 | -2708.5208 |

3. Multiple Imputation, MI of 2010 log-income

The MEANS Procedure

| Variable | N | N | Mean | Minimum | Maximum |
|----------------|-------|------|------------|--------------|-------------|
| | | Miss | | | |
| ln_inc10 | 9402 | 2387 | 10.2634346 | 0 | 14.9225145 |
| ln_inc06 | 11789 | 0 | 10.2909710 | 0 | 17.0486936 |
| selfrhealth_06 | 11789 | 0 | 2.9179744 | 1.0000000 | 5.0000000 |
| age_06 | 11789 | 0 | 69.5194673 | 52.0000000 | 104.0000000 |
| marcat_06 | 11789 | 0 | 1.5744338 | 1.0000000 | 3.0000000 |
| diabetes_06 | 11789 | 0 | 0.2129103 | 0 | 1.0000000 |
| arthritis_06 | 11789 | 0 | 0.6252439 | 0 | 1.0000000 |
| racecat | 11789 | 0 | 2.1140046 | 1.0000000 | 4.0000000 |
| edcat | 11789 | 0 | 2.3958775 | 1.0000000 | 4.0000000 |
| stratum | 11789 | 0 | 30.6344898 | 1.0000000 | 56.0000000 |
| kwgtr_dec | 11789 | 0 | 4.4854525 | 0 | 9.0000000 |
| incdiff_06_10 | 9402 | 2387 | -6124.49 | -12310617.60 | 2062968.00 |

3. Multiple Imputation, MI of 2010 log-income

The MI Procedure

| Model Information | |
|----------------------------------|-------------------|
| Data Set | WORK.WT_DECILES_1 |
| Method | FCS |
| Number of Imputations | 5 |
| Number of Burn-in Iterations | 5 |
| Seed for random number generator | 41279 |

| FCS Model Specification | |
|-------------------------|--|
| Method | Imputed Variables |
| Regression | ln_inc10 ln_inc06 age_06 diabetes_06 arthritis_06 |
| Discriminant Function | selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec |

| Missing Data Patterns | | | | | | | | | | |
|-----------------------|----------|----------|----------------|--------|-----------|-------------|--------------|---------|-------|---------|
| Group | ln_inc10 | ln_inc06 | selfrhealth_06 | age_06 | marcat_06 | diabetes_06 | arthritis_06 | racecat | edcat | stratum |
| 1 | X | X | X | X | X | X | X | X | X | X |
| 2 | . | X | X | X | X | X | X | X | X | X |

| Missing Data Patterns | | | | | | | | |
|-----------------------|-----------|------|---------|-------------|-----------|-----------|-------------|--------------|
| Group | kwgtr_dec | Freq | Percent | Group Means | | | | |
| | | | | ln_inc10 | ln_inc06 | age_06 | diabetes_06 | arthritis_06 |
| 1 | X | 9402 | 79.75 | 10.263435 | 10.360857 | 68.071581 | 0.200383 | 0.615826 |
| 2 | X | 2387 | 20.25 | . | 10.015701 | 75.222455 | 0.262254 | 0.662338 |

| Variance Information (5 Imputations) | | | | | | | |
|--------------------------------------|-------------|----------|----------|--------|-------------------------------|------------------------------|---------------------|
| Variable | Variance | | | DF | Relative Increase in Variance | Fraction Missing Information | Relative Efficiency |
| | Between | Within | Total | | | | |
| ln_inc10 | 0.000038210 | 0.000192 | 0.000237 | 106.01 | 0.239407 | 0.207805 | 0.960097 |

| Parameter Estimates (5 Imputations) | | | | | | | | | | |
|-------------------------------------|-----------|-----------|-----------------------|----------|--------|-----------|-----------|-----|--------------------|---------|
| Variable | Mean | Std Error | 95% Confidence Limits | | DF | Minimum | Maximum | Mu0 | t for H0: Mean=Mu0 | Pr > t |
| ln_inc10 | 10.196018 | 0.015407 | 10.16547 | 10.22656 | 106.01 | 10.187287 | 10.200758 | 0 | 661.78 | <.0001 |

3. Multiple Imputation, MI of 2010 log-income

The MEANS Procedure

| Variable | N | Mean | Std Dev | Minimum | Maximum |
|---------------|------|------------|-----------|--------------|------------|
| incdiff_06_10 | 9402 | -6124.49 | 168492.04 | -12310617.60 | 2062968.00 |
| ln_incl0 | 9402 | 10.2634346 | 1.4977891 | 0 | 14.9225145 |

3. Multiple Imputation, MI of 2010 log-income

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=1

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|-------------|-------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| new_chg0610 | 11789 | -3038.108713 | 3018.676269 | -9085.2439 | 3009.02651 |

3. Multiple Imputation, MI of 2010 log-income

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=2

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|-------------|-------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| new_chg0610 | 11789 | -3649.936205 | 2896.771960 | -9452.8677 | 2152.99534 |

3. Multiple Imputation, MI of 2010 log-income
 Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=3

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|-------------|-------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| new_chg0610 | 11789 | -4769.509374 | 2990.262833 | -10759.726 | 1220.70689 |

3. Multiple Imputation, MI of 2010 log-income
 Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=4

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|-------------|-------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| new_chg0610 | 11789 | -4152.842408 | 2984.650945 | -10131.817 | 1826.13190 |

3. Multiple Imputation, MI of 2010 log-income
 Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=5

| Data Summary | |
|------------------------|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|-------------|-------|--------------|-------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| new_chg0610 | 11789 | -3153.212085 | 2883.333254 | -8929.2227 | 2622.79850 |

3. Multiple Imputation, MI of 2010 log-income
 Use PROC SURVEYMEANS in Step 2 of MI process

| Obs | _Imputation_ | VarName | N | Mean | StdErr | LowerCLMean | UpperCLMean |
|-----|--------------|-------------|-------|--------------|-------------|-------------|-------------|
| 1 | 1 | new_chg0610 | 11789 | -3038.108713 | 3018.676269 | -9085 | 3009.02651 |
| 2 | 2 | new_chg0610 | 11789 | -3649.936205 | 2896.771960 | -9453 | 2152.99534 |
| 3 | 3 | new_chg0610 | 11789 | -4769.509374 | 2990.262833 | -10760 | 1220.70689 |
| 4 | 4 | new_chg0610 | 11789 | -4152.842408 | 2984.650945 | -10132 | 1826.13190 |
| 5 | 5 | new_chg0610 | 11789 | -3153.212085 | 2883.333254 | -8929 | 2622.79850 |

3. Multiple Imputation, MI of 2010 log-income
 Use PROC MIANALYZE for Combining

The MIANALYZE Procedure

| Model Information | |
|-----------------------|------------------|
| Data Set | WORK.OUTSTATS_MI |
| Number of Imputations | 5 |

| Variance Information (5 Imputations) | | | | | | | |
|--------------------------------------|----------|---------|---------|--------|-------------------------------|------------------------------|---------------------|
| Parameter | Variance | | | DF | Relative Increase in Variance | Fraction Missing Information | Relative Efficiency |
| | Between | Within | Total | | | | |
| mean | 518651 | 8733424 | 9355804 | 903.88 | 0.071264 | 0.068582 | 0.986469 |

| Parameter Estimates (5 Imputations) | | | | | | | |
|-------------------------------------|--------------|-------------|-----------------------|----------|--------|--------------|--------------|
| Parameter | Estimate | Std Error | 95% Confidence Limits | | DF | Minimum | Maximum |
| mean | -3752.721757 | 3058.725914 | -9755.75 | 2250.309 | 903.88 | -4769.509374 | -3038.108713 |

| Parameter Estimates (5 Imputations) | | | |
|-------------------------------------|--------|----------------------------|---------|
| Parameter | Theta0 | t for H0: Parameter=Theta0 | Pr > t |
| mean | 0 | -1.23 | 0.2202 |

4. Calibration: Cross-Class distributions

The FREQ Procedure

| racecat | edcat | gender | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---------|-------|--------|-----------|---------|----------------------|--------------------|
| 1 | 1 | 1 | 243 | 2.06 | 243 | 2.06 |
| 1 | 1 | 2 | 392 | 3.33 | 635 | 5.39 |
| 1 | 2 | 1 | 83 | 0.70 | 718 | 6.09 |
| 1 | 2 | 2 | 100 | 0.85 | 818 | 6.94 |
| 1 | 3 | 1 | 68 | 0.58 | 886 | 7.52 |
| 1 | 3 | 2 | 84 | 0.71 | 970 | 8.23 |
| 1 | 4 | 1 | 36 | 0.31 | 1006 | 8.53 |
| 1 | 4 | 2 | 33 | 0.28 | 1039 | 8.81 |
| 2 | 1 | 1 | 611 | 5.18 | 1650 | 14.00 |
| 2 | 1 | 2 | 866 | 7.35 | 2516 | 21.34 |
| 2 | 2 | 1 | 1152 | 9.77 | 3668 | 31.11 |
| 2 | 2 | 2 | 1967 | 16.69 | 5635 | 47.80 |
| 2 | 3 | 1 | 840 | 7.13 | 6475 | 54.92 |
| 2 | 3 | 2 | 1032 | 8.75 | 7507 | 63.68 |
| 2 | 4 | 1 | 1362 | 11.55 | 8869 | 75.23 |
| 2 | 4 | 2 | 797 | 6.76 | 9666 | 81.99 |
| 3 | 1 | 1 | 251 | 2.13 | 9917 | 84.12 |
| 3 | 1 | 2 | 469 | 3.98 | 10386 | 88.10 |
| 3 | 2 | 1 | 174 | 1.48 | 10560 | 89.58 |
| 3 | 2 | 2 | 373 | 3.16 | 10933 | 92.74 |
| 3 | 3 | 1 | 114 | 0.97 | 11047 | 93.71 |
| 3 | 3 | 2 | 238 | 2.02 | 11285 | 95.72 |
| 3 | 4 | 1 | 86 | 0.73 | 11371 | 96.45 |
| 3 | 4 | 2 | 158 | 1.34 | 11529 | 97.79 |
| 4 | 1 | 1 | 21 | 0.18 | 11550 | 97.97 |
| 4 | 1 | 2 | 36 | 0.31 | 11586 | 98.28 |
| 4 | 2 | 1 | 19 | 0.16 | 11605 | 98.44 |
| 4 | 2 | 2 | 35 | 0.30 | 11640 | 98.74 |
| 4 | 3 | 1 | 26 | 0.22 | 11666 | 98.96 |
| 4 | 3 | 2 | 36 | 0.31 | 11702 | 99.26 |
| 4 | 4 | 1 | 53 | 0.45 | 11755 | 99.71 |
| 4 | 4 | 2 | 34 | 0.29 | 11789 | 100.00 |

4. Calibration: Cross-Class distributions
Sum of KWGTR by cross-classes

The MEANS Procedure

| Analysis Variable : kwgtr 2006 WEIGHT: RESPONDENT LEVEL | | | | | | |
|--|---|------------------------------|-------|------------|--------|---------|
| Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other | Education 1=0-11 Yrs 2=12 Yrs 3=13- 15 Yrs 4=16+ Yrs | Gender 1=Male 2=Female | N Obs | Sum | N Miss | Mean |
| 1 | 1 | 1 | 243 | 952539.00 | 0 | 3919.91 |
| | | 2 | 392 | 1297966.00 | 0 | 3311.14 |
| | 2 | 1 | 83 | 339270.00 | 0 | 4087.59 |
| | | 2 | 100 | 338442.00 | 0 | 3384.42 |
| | 3 | 1 | 68 | 306781.00 | 0 | 4511.49 |
| | | 2 | 84 | 332306.00 | 0 | 3956.02 |
| | 4 | 1 | 36 | 197080.00 | 0 | 5474.44 |
| | | 2 | 33 | 117180.00 | 0 | 3550.91 |
| 2 | 1 | 1 | 611 | 2545549.00 | 0 | 4166.20 |
| | | 2 | 866 | 3402321.00 | 0 | 3928.78 |
| | 2 | 1 | 1152 | 5676873.00 | 0 | 4927.84 |
| | | 2 | 1967 | 8598832.00 | 0 | 4371.55 |
| | 3 | 1 | 840 | 4655233.00 | 0 | 5541.94 |
| | | 2 | 1032 | 5073592.00 | 0 | 4916.27 |
| | 4 | 1 | 1362 | 7663934.00 | 0 | 5626.97 |
| | | 2 | 797 | 4143263.00 | 0 | 5198.57 |
| 3 | 1 | 1 | 251 | 726190.00 | 0 | 2893.19 |
| | | 2 | 469 | 1163709.00 | 0 | 2481.26 |
| | 2 | 1 | 174 | 614359.00 | 0 | 3530.80 |
| | | 2 | 373 | 1043799.00 | 0 | 2798.39 |
| | 3 | 1 | 114 | 452512.00 | 0 | 3969.40 |
| | | 2 | 238 | 739390.00 | 0 | 3106.68 |
| | 4 | 1 | 86 | 349839.00 | 0 | 4067.90 |
| | | 2 | 158 | 458371.00 | 0 | 2901.08 |
| 4 | 1 | 1 | 21 | 80328.00 | 0 | 3825.14 |
| | | 2 | 36 | 146168.00 | 0 | 4060.22 |
| | 2 | 1 | 19 | 88160.00 | 0 | 4640.00 |
| | | 2 | 35 | 189664.00 | 0 | 5418.97 |
| | 3 | 1 | 26 | 137638.00 | 0 | 5293.77 |
| | | 2 | 36 | 200783.00 | 0 | 5577.31 |
| | 4 | 1 | 53 | 349311.00 | 0 | 6590.77 |
| | | 2 | 34 | 174605.00 | 0 | 5135.44 |

4. Calibration: Cross-Class distributions
Sum of KWGTR by cross-classes

| Obs | racecat | edcat | gender | _TYPE_ | _FREQ_ | popsize |
|-----|---------|-------|--------|--------|--------|---------|
| 1 | 1 | 1 | 1 | 7 | 243 | 952539 |
| 2 | 1 | 1 | 2 | 7 | 392 | 1297966 |
| 3 | 1 | 2 | 1 | 7 | 83 | 339270 |
| 4 | 1 | 2 | 2 | 7 | 100 | 338442 |
| 5 | 1 | 3 | 1 | 7 | 68 | 306781 |
| 6 | 1 | 3 | 2 | 7 | 84 | 332306 |
| 7 | 1 | 4 | 1 | 7 | 36 | 197080 |
| 8 | 1 | 4 | 2 | 7 | 33 | 117180 |
| 9 | 2 | 1 | 1 | 7 | 611 | 2545549 |
| 10 | 2 | 1 | 2 | 7 | 866 | 3402321 |
| 11 | 2 | 2 | 1 | 7 | 1152 | 5676873 |
| 12 | 2 | 2 | 2 | 7 | 1967 | 8598832 |
| 13 | 2 | 3 | 1 | 7 | 840 | 4655233 |
| 14 | 2 | 3 | 2 | 7 | 1032 | 5073592 |
| 15 | 2 | 4 | 1 | 7 | 1362 | 7663934 |
| 16 | 2 | 4 | 2 | 7 | 797 | 4143263 |
| 17 | 3 | 1 | 1 | 7 | 251 | 726190 |
| 18 | 3 | 1 | 2 | 7 | 469 | 1163709 |
| 19 | 3 | 2 | 1 | 7 | 174 | 614359 |
| 20 | 3 | 2 | 2 | 7 | 373 | 1043799 |
| 21 | 3 | 3 | 1 | 7 | 114 | 452512 |
| 22 | 3 | 3 | 2 | 7 | 238 | 739390 |
| 23 | 3 | 4 | 1 | 7 | 86 | 349839 |
| 24 | 3 | 4 | 2 | 7 | 158 | 458371 |
| 25 | 4 | 1 | 1 | 7 | 21 | 80328 |
| 26 | 4 | 1 | 2 | 7 | 36 | 146168 |
| 27 | 4 | 2 | 1 | 7 | 19 | 88160 |
| 28 | 4 | 2 | 2 | 7 | 35 | 189664 |
| 29 | 4 | 3 | 1 | 7 | 26 | 137638 |
| 30 | 4 | 3 | 2 | 7 | 36 | 200783 |
| 31 | 4 | 4 | 1 | 7 | 53 | 349311 |
| 32 | 4 | 4 | 2 | 7 | 34 | 174605 |

4. Calibration: Cross-Class distributions
 Repeat process for cases with complete data.

The MEANS Procedure

| Analysis Variable : kwgtr 2006 WEIGHT: RESPONDENT LEVEL | | | | | | |
|--|---|------------------------------|----------|------------|-----------|---------|
| Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other | Education 1=0-11 Yrs 2=12 Yrs 3=13- 15 Yrs 4=16+ Yrs | Gender 1=Male 2=Female | N Obs | Sum | N Miss | Mean |
| | | | | | | |
| 1 | 1 | 1 | 183 | 715504.00 | 0 | 3909.86 |
| | | 2 | 312 | 1070258.00 | 0 | 3430.31 |
| | 2 | 1 | 67 | 278814.00 | 0 | 4161.40 |
| | | 2 | 79 | 259196.00 | 0 | 3280.96 |
| | 3 | 1 | 58 | 265283.00 | 0 | 4573.84 |
| | | 2 | 71 | 268132.00 | 0 | 3776.51 |
| | 4 | 1 | 30 | 170094.00 | 0 | 5669.80 |
| | | 2 | 29 | 104168.00 | 0 | 3592.00 |
| 2 | 1 | 1 | 424 | 1844304.00 | 0 | 4349.77 |
| | | 2 | 613 | 2433966.00 | 0 | 3970.58 |
| | 2 | 1 | 904 | 4605583.00 | 0 | 5094.67 |
| | | 2 | 1561 | 6987371.00 | 0 | 4476.21 |
| | 3 | 1 | 693 | 3941101.00 | 0 | 5687.01 |
| | | 2 | 859 | 4309926.00 | 0 | 5017.38 |
| | 4 | 1 | 1147 | 6682990.00 | 0 | 5826.50 |
| | | 2 | 671 | 3575251.00 | 0 | 5328.24 |
| 3 | 1 | 1 | 174 | 529836.00 | 0 | 3045.03 |
| | | 2 | 358 | 916106.00 | 0 | 2558.96 |
| | 2 | 1 | 141 | 527373.00 | 0 | 3740.23 |
| | | 2 | 303 | 855906.00 | 0 | 2824.77 |
| | 3 | 1 | 97 | 406108.00 | 0 | 4186.68 |
| | | 2 | 209 | 651115.00 | 0 | 3115.38 |
| | 4 | 1 | 67 | 275110.00 | 0 | 4106.12 |
| | | 2 | 139 | 414571.00 | 0 | 2982.53 |
| 4 | 1 | 1 | 16 | 68319.00 | 0 | 4269.94 |
| | | 2 | 29 | 125535.00 | 0 | 4328.79 |
| | 2 | 1 | 15 | 59569.00 | 0 | 3971.27 |
| | | 2 | 33 | 183355.00 | 0 | 5556.21 |
| | 3 | 1 | 22 | 126835.00 | 0 | 5765.23 |
| | | 2 | 31 | 166551.00 | 0 | 5372.61 |
| | 4 | 1 | 40 | 266463.00 | 0 | 6661.58 |
| | | 2 | 27 | 147716.00 | 0 | 5470.96 |

4. Calibration: Cross-Class distributions
 Repeat process for cases with complete data.

| Obs | racecat | edcat | gender | _TYPE_ | _FREQ_ | sumrespwgts |
|-----|---------|-------|--------|--------|--------|-------------|
| 1 | 1 | 1 | 1 | 7 | 183 | 715504 |
| 2 | 1 | 1 | 2 | 7 | 312 | 1070258 |
| 3 | 1 | 2 | 1 | 7 | 67 | 278814 |
| 4 | 1 | 2 | 2 | 7 | 79 | 259196 |
| 5 | 1 | 3 | 1 | 7 | 58 | 265283 |
| 6 | 1 | 3 | 2 | 7 | 71 | 268132 |
| 7 | 1 | 4 | 1 | 7 | 30 | 170094 |
| 8 | 1 | 4 | 2 | 7 | 29 | 104168 |
| 9 | 2 | 1 | 1 | 7 | 424 | 1844304 |
| 10 | 2 | 1 | 2 | 7 | 613 | 2433966 |
| 11 | 2 | 2 | 1 | 7 | 904 | 4605583 |
| 12 | 2 | 2 | 2 | 7 | 1561 | 6987371 |
| 13 | 2 | 3 | 1 | 7 | 693 | 3941101 |
| 14 | 2 | 3 | 2 | 7 | 859 | 4309926 |
| 15 | 2 | 4 | 1 | 7 | 1147 | 6682990 |
| 16 | 2 | 4 | 2 | 7 | 671 | 3575251 |
| 17 | 3 | 1 | 1 | 7 | 174 | 529836 |
| 18 | 3 | 1 | 2 | 7 | 358 | 916106 |
| 19 | 3 | 2 | 1 | 7 | 141 | 527373 |
| 20 | 3 | 2 | 2 | 7 | 303 | 855906 |
| 21 | 3 | 3 | 1 | 7 | 97 | 406108 |
| 22 | 3 | 3 | 2 | 7 | 209 | 651115 |
| 23 | 3 | 4 | 1 | 7 | 67 | 275110 |
| 24 | 3 | 4 | 2 | 7 | 139 | 414571 |
| 25 | 4 | 1 | 1 | 7 | 16 | 68319 |
| 26 | 4 | 1 | 2 | 7 | 29 | 125535 |
| 27 | 4 | 2 | 1 | 7 | 15 | 59569 |
| 28 | 4 | 2 | 2 | 7 | 33 | 183355 |
| 29 | 4 | 3 | 1 | 7 | 22 | 126835 |
| 30 | 4 | 3 | 2 | 7 | 31 | 166551 |
| 31 | 4 | 4 | 1 | 7 | 40 | 266463 |
| 32 | 4 | 4 | 2 | 7 | 27 | 147716 |

4. Calibration: Cross-Class distributions
 Sums of Kwgtr by race, education, gender

The MEANS Procedure

| Analysis Variable : kwgtr 2006 WEIGHT: RESPONDENT LEVEL | | | | |
|--|---|------------------------------|-------|------------|
| Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other | Education 1=0-11 Yrs 2=12 Yrs 3=13- 15 Yrs 4=16+ Yrs | Gender 1=Male 2=Female | N Obs | Sum |
| 1 | 1 | 1 | 243 | 952539.00 |
| | | 2 | 392 | 1297966.00 |
| | 2 | 1 | 83 | 339270.00 |
| | | 2 | 100 | 338442.00 |
| | 3 | 1 | 68 | 306781.00 |
| | | 2 | 84 | 332306.00 |
| | 4 | 1 | 36 | 197080.00 |
| | | 2 | 33 | 117180.00 |
| 2 | 1 | 1 | 611 | 2545549.00 |
| | | 2 | 866 | 3402321.00 |
| | 2 | 1 | 1152 | 5676873.00 |
| | | 2 | 1967 | 8598832.00 |
| | 3 | 1 | 840 | 4655233.00 |
| | | 2 | 1032 | 5073592.00 |
| | 4 | 1 | 1362 | 7663934.00 |
| | | 2 | 797 | 4143263.00 |
| 3 | 1 | 1 | 251 | 726190.00 |
| | | 2 | 469 | 1163709.00 |
| | 2 | 1 | 174 | 614359.00 |
| | | 2 | 373 | 1043799.00 |
| | 3 | 1 | 114 | 452512.00 |
| | | 2 | 238 | 739390.00 |
| | 4 | 1 | 86 | 349839.00 |
| | | 2 | 158 | 458371.00 |
| 4 | 1 | 1 | 21 | 80328.00 |
| | | 2 | 36 | 146168.00 |
| | 2 | 1 | 19 | 88160.00 |
| | | 2 | 35 | 189664.00 |
| | 3 | 1 | 26 | 137638.00 |
| | | 2 | 36 | 200783.00 |
| | 4 | 1 | 53 | 349311.00 |
| | | 2 | 34 | 174605.00 |

4. Calibration: Cross-Class distributions
 Kwgtr_cal should match Kwgtr among respondents

The MEANS Procedure

| Analysis Variable : kwgtr_cal | | | | | |
|--|---|------------------------------|-------|------------|------------|
| Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other | Education 1=0-11 Yrs 2=12 Yrs 3=13- 15 Yrs 4=16+ Yrs | Gender 1=Male 2=Female | N Obs | Sum | |
| 1 | 1 | 1 | 183 | 952539.00 | |
| | | 2 | 312 | 1297966.00 | |
| | 2 | 1 | 67 | 339270.00 | |
| | | 2 | 79 | 338442.00 | |
| | 3 | 1 | 58 | 306781.00 | |
| | | 2 | 71 | 332306.00 | |
| | 4 | 1 | 30 | 197080.00 | |
| | | 2 | 29 | 117180.00 | |
| 2 | 1 | 1 | 424 | 2545549.00 | |
| | | 2 | 613 | 3402321.00 | |
| | 2 | 1 | 904 | 5676873.00 | |
| | | 2 | 1561 | 8598832.00 | |
| | 3 | 1 | 693 | 4655233.00 | |
| | | 2 | 859 | 5073592.00 | |
| | 4 | 1 | 1147 | 7663934.00 | |
| | | 2 | 671 | 4143263.00 | |
| | 3 | 1 | 1 | 174 | 726190.00 |
| | | | 2 | 358 | 1163709.00 |
| 2 | | 1 | 141 | 614359.00 | |
| | | 2 | 303 | 1043799.00 | |
| 3 | | 1 | 97 | 452512.00 | |
| | | 2 | 209 | 739390.00 | |
| 4 | | 1 | 67 | 349839.00 | |
| | | 2 | 139 | 458371.00 | |
| 4 | | 1 | 1 | 16 | 80328.00 |
| | | | 2 | 29 | 146168.00 |
| | 2 | 1 | 15 | 88160.00 | |
| | | 2 | 33 | 189664.00 | |
| | 3 | 1 | 22 | 137638.00 | |
| | | 2 | 31 | 200783.00 | |
| | 4 | 1 | 40 | 349311.00 | |
| | | 2 | 27 | 174605.00 | |

4. Calibration: Cross-Class distributions
 Estimate mean change using complete cases. Table 11.3

The SURVEYMEANS Procedure

| Data Summary | |
|--|----------|
| Number of Strata | 56 |
| Number of Clusters | 112 |
| Number of Observations | 11789 |
| Number of Observations Used | 9402 |
| Number of Obs with Nonpositive Weights | 2387 |
| Sum of Weights | 52555987 |

| Statistics | | | | | |
|---------------|------|--------------|----------------------|-----------------|------------|
| Variable | N | Mean | Std Error of Mean | 95% CL for Mean | |
| incdiff_06_10 | 9402 | -6341.656953 | 1780.599423 | -9908.6262 | -2774.6877 |

11.3.2.5 : Refreshment sample adjustments not available directly since SAS uses only first level of cluster not the same as Stata

11.3.3 Example: Weighted Multilevel Modeling

| Obs | hhid | pn | gender | secu | stratum | ln_inc1 | ln_inc2 | ln_inc3 | ln_inc4 | wgt1 | wgt2 | wgt3 |
|-----|--------|-----|--------|------|---------|---------|---------|---------|---------|------|------|------|
| 1 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 |
| 2 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 |
| 3 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 |
| 4 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 |

| Obs | wgt4 | basewgt | i | ln_inc | wgt | year |
|-----|------|---------|---|---------|------|------|
| 1 | 4893 | 4093 | 1 | 10.5964 | 4093 | 1 |
| 2 | 4893 | 4093 | 2 | 10.6920 | 4287 | 2 |
| 3 | 4893 | 4093 | 3 | 11.0148 | 4806 | 3 |
| 4 | 4893 | 4093 | 4 | 10.4913 | 4893 | 4 |

11.3.3 Example: Weighted Multilevel Modeling

| Obs | hhid | pn | gender | secu | stratum | ln_inc1 | ln_inc2 | ln_inc3 | ln_inc4 | wgt1 | wgt2 | wgt3 | wgt4 |
|-----|--------|-----|--------|------|---------|---------|---------|---------|---------|------|------|------|------|
| 1 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 |
| 2 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 |
| 3 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 |
| 4 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 |
| 5 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 |
| 6 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 |
| 7 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 |
| 8 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 |

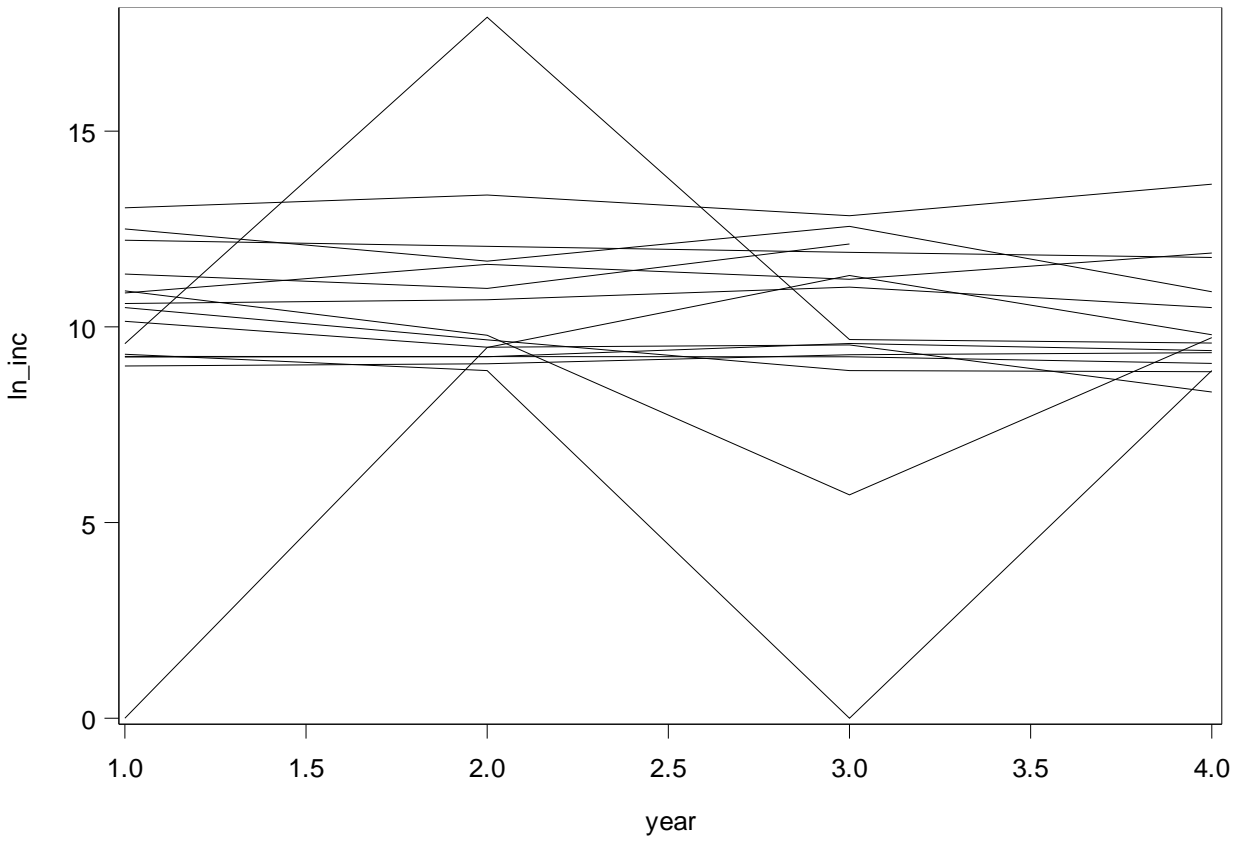
| Obs | basewgt | i | ln_inc | wgt | year | newid | level1wgt | level2wgt |
|-----|---------|---|---------|------|------|-----------|-----------|-----------|
| 1 | 4093 | 1 | 10.5964 | 4093 | 1 | 000003010 | 1.00000 | 4093 |
| 2 | 4093 | 2 | 10.6920 | 4287 | 2 | 000003010 | 1.04740 | 4093 |
| 3 | 4093 | 3 | 11.0148 | 4806 | 3 | 000003010 | 1.17420 | 4093 |
| 4 | 4093 | 4 | 10.4913 | 4893 | 4 | 000003010 | 1.19546 | 4093 |
| 5 | 7434 | 1 | 9.2291 | 7434 | 1 | 010001010 | 1.00000 | 7434 |
| 6 | 7434 | 2 | 9.2361 | 8308 | 2 | 010001010 | 1.11757 | 7434 |
| 7 | 7434 | 3 | 9.5751 | 4721 | 3 | 010001010 | 0.63506 | 7434 |
| 8 | 7434 | 4 | 9.3927 | 4710 | 4 | 010001010 | 0.63358 | 7434 |

11.3.3 Example: Weighted Multilevel Modeling

| Obs | hhid | pn | gender | secu | stratum | ln_inc1 | ln_inc2 | ln_inc3 | ln_inc4 | wgt1 | wgt2 | wgt3 | wgt4 | basewgt | i |
|-----|--------|-----|--------|------|---------|---------|---------|---------|---------|------|------|------|------|---------|---|
| 1 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 1 |
| 2 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 2 |
| 3 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 3 |
| 4 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 4 |
| 5 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 1 |
| 6 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 2 |
| 7 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 3 |
| 8 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 4 |
| 9 | 010004 | 010 | 1 | 2 | 1 | 11.3487 | 10.9819 | 12.1168 | . | 5217 | 5214 | 5642 | 0 | 5217 | 1 |
| 10 | 010004 | 010 | 1 | 2 | 1 | 11.3487 | 10.9819 | 12.1168 | . | 5217 | 5214 | 5642 | 0 | 5217 | 2 |
| 11 | 010004 | 010 | 1 | 2 | 1 | 11.3487 | 10.9819 | 12.1168 | . | 5217 | 5214 | 5642 | 0 | 5217 | 3 |
| 12 | 010013 | 010 | 1 | 2 | 1 | 9.5692 | 17.9101 | 9.6756 | 9.5858 | 5373 | 5303 | 5571 | 5795 | 5373 | 1 |

| Obs | ln_inc | wgt | year | newid | levellwgt | level2wgt | sumw | nj | levellwgt_r |
|-----|---------|------|------|-----------|-----------|-----------|---------|----|-------------|
| 1 | 10.5964 | 4093 | 1 | 000003010 | 1.00000 | 4093 | 4.41705 | 4 | 0.90558 |
| 2 | 10.6920 | 4287 | 2 | 000003010 | 1.04740 | 4093 | 4.41705 | 4 | 0.94850 |
| 3 | 11.0148 | 4806 | 3 | 000003010 | 1.17420 | 4093 | 4.41705 | 4 | 1.06333 |
| 4 | 10.4913 | 4893 | 4 | 000003010 | 1.19546 | 4093 | 4.41705 | 4 | 1.08258 |
| 5 | 9.2291 | 7434 | 1 | 010001010 | 1.00000 | 7434 | 3.38620 | 4 | 1.18127 |
| 6 | 9.2361 | 8308 | 2 | 010001010 | 1.11757 | 7434 | 3.38620 | 4 | 1.32014 |
| 7 | 9.5751 | 4721 | 3 | 010001010 | 0.63506 | 7434 | 3.38620 | 4 | 0.75017 |
| 8 | 9.3927 | 4710 | 4 | 010001010 | 0.63358 | 7434 | 3.38620 | 4 | 0.74842 |
| 9 | 11.3487 | 5217 | 1 | 010004010 | 1.00000 | 5217 | 3.08089 | 3 | 0.97374 |
| 10 | 10.9819 | 5214 | 2 | 010004010 | 0.99942 | 5217 | 3.08089 | 3 | 0.97318 |
| 11 | 12.1168 | 5642 | 3 | 010004010 | 1.08146 | 5217 | 3.08089 | 3 | 1.05307 |
| 12 | 9.5692 | 5373 | 1 | 010013010 | 1.00000 | 5373 | 4.10236 | 4 | 0.97505 |

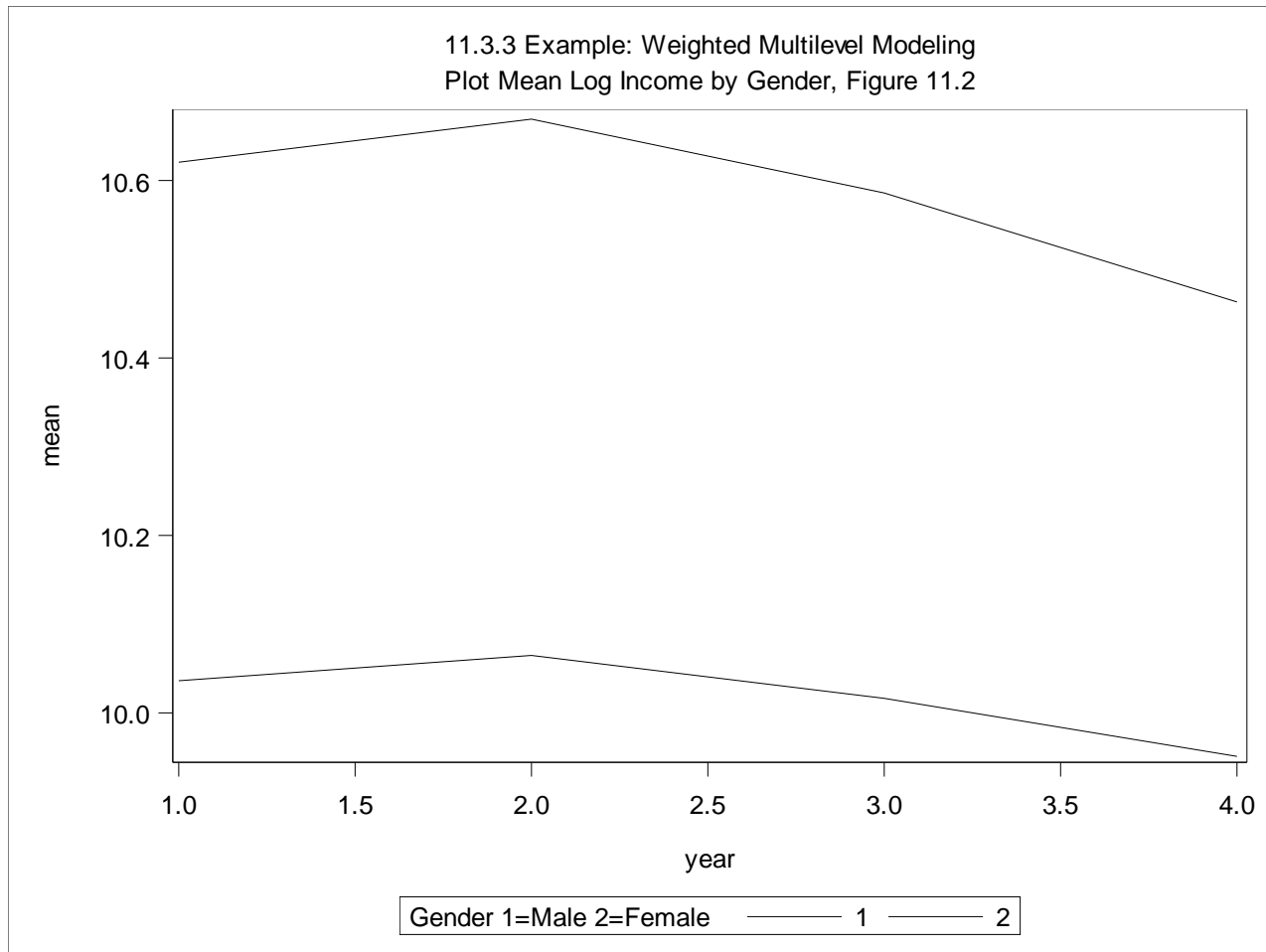
11.3.3 Example: Weighted Multilevel Modeling
Plot data for small subsample of subjects. Figure 11.1



11.3.3 Example: Weighted Multilevel Modeling
 Plot Mean Log Income by Gender, Figure 11.2

The MEANS Procedure

| Analysis Variable : ln_inc | | | | | | | |
|------------------------------|------|-------|------|------------|-----------|---------|------------|
| Gender 1=Male 2=Female | year | N Obs | N | Mean | Std Dev | Minimum | Maximum |
| 1 | 1 | 5139 | 5139 | 10.6205751 | 1.2433247 | 0 | 17.0486936 |
| | 2 | 4586 | 4586 | 10.6691170 | 1.2537393 | 0 | 17.9100947 |
| | 3 | 4078 | 4078 | 10.5859283 | 1.4186591 | 0 | 14.9225145 |
| | 4 | 3701 | 3701 | 10.4631073 | 1.5384880 | 0 | 15.1146774 |
| 2 | 1 | 6650 | 6650 | 10.0362589 | 1.3037437 | 0 | 15.4329026 |
| | 2 | 5988 | 5988 | 10.0647667 | 1.3835123 | 0 | 14.9177765 |
| | 3 | 5324 | 5324 | 10.0164156 | 1.5099156 | 0 | 14.5766570 |
| | 4 | 4859 | 4859 | 9.9509921 | 1.4515036 | 0 | 14.0302194 |



11.3.3 Example: Weighted Multilevel Modeling

| Obs | hhid | pn | gender | secu | stratum | ln_inc1 | ln_inc2 | ln_inc3 | ln_inc4 | wgt1 | wgt2 | wgt3 | wgt4 | basewgt | i | ln_inc |
|-----|--------|-----|--------|------|---------|---------|---------|---------|---------|------|------|------|------|---------|---|---------|
| 1 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 1 | 10.5964 |
| 2 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 2 | 10.6920 |
| 3 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 3 | 11.0148 |
| 4 | 000003 | 010 | 1 | 1 | 40 | 10.5964 | 10.6920 | 11.0148 | 10.4913 | 4093 | 4287 | 4806 | 4893 | 4093 | 4 | 10.4913 |
| 5 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 1 | 9.2291 |
| 6 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 2 | 9.2361 |
| 7 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 3 | 9.5751 |
| 8 | 010001 | 010 | 1 | 2 | 1 | 9.2291 | 9.2361 | 9.5751 | 9.3927 | 7434 | 8308 | 4721 | 4710 | 7434 | 4 | 9.3927 |

| Obs | wgt | year | newid | level1wgt | level2wgt | sumw | nj | level1wgt_r | yrssince06 | newid_num | yrs06sq | strata_secu |
|-----|------|------|-----------|-----------|-----------|---------|----|-------------|------------|-----------|---------|-------------|
| 1 | 4093 | 1 | 000003010 | 1.00000 | 4093 | 4.41705 | 4 | 0.90558 | 0 | 3010 | 0 | 400001 |
| 2 | 4287 | 2 | 000003010 | 1.04740 | 4093 | 4.41705 | 4 | 0.94850 | 2 | 3010 | 4 | 400001 |
| 3 | 4806 | 3 | 000003010 | 1.17420 | 4093 | 4.41705 | 4 | 1.06333 | 4 | 3010 | 16 | 400001 |
| 4 | 4893 | 4 | 000003010 | 1.19546 | 4093 | 4.41705 | 4 | 1.08258 | 6 | 3010 | 36 | 400001 |
| 5 | 7434 | 1 | 010001010 | 1.00000 | 7434 | 3.38620 | 4 | 1.18127 | 0 | 10001010 | 0 | 10002 |
| 6 | 8308 | 2 | 010001010 | 1.11757 | 7434 | 3.38620 | 4 | 1.32014 | 2 | 10001010 | 4 | 10002 |
| 7 | 4721 | 3 | 010001010 | 0.63506 | 7434 | 3.38620 | 4 | 0.75017 | 4 | 10001010 | 16 | 10002 |
| 8 | 4710 | 4 | 010001010 | 0.63358 | 7434 | 3.38620 | 4 | 0.74842 | 6 | 10001010 | 36 | 10002 |

Multilevel Mixed Model 3 levels years within people within strata_cluster

The GLIMMIX Procedure

| Model Information | |
|-----------------------------|------------------------------------|
| Data Set | WORK.WGT_MULTILEVEL_3PWAVES_UNIQUE |
| Response Variable | ln_inc |
| Response Distribution | Gaussian |
| Link Function | Identity |
| Variance Function | Default |
| Variance Matrix Blocked By | newid_num(strata_se) |
| Estimation Technique | Maximum Likelihood |
| Likelihood Approximation | Gauss-Hermite Quadrature |
| Degrees of Freedom Method | Between-Within |
| Fixed Effects SE Adjustment | Sandwich - Classical |

| Class Level Information | | |
|-------------------------|--------|---|
| Class | Levels | Values |
| gender | 2 | 2 1 |
| stratum | 56 | 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 1 |
| newid_num | 11789 | not printed |
| strata_secu | 112 | 10001 10002 20001 20002 30001 30002 40001 40002 50001 50002 60001 60002 70001 70002 80001 80002 90001 90002 100001 100002 110001 110002 120001 120002 130001 130002 140001 140002 150001 150002 160001 160002 170001 170002 180001 180002 190001 190002 200001 200002 210001 210002 220001 220002 230001 230002 240001 240002 250001 250002 260001 260002 270001 270002 280001 280002 290001 290002 300001 300002 310001 310002 320001 320002 330001 330002 340001 340002 350001 350002 360001 360002 370001 370002 380001 380002 390001 390002 400001 400002 410001 410002 420001 420002 430001 430002 440001 440002 450001 450002 460001 460002 470001 470002 480001 480002 490001 490002 500001 500002 510001 510002 520001 520002 530001 530002 540001 540002 550001 550002 560001 560002 |

| | |
|-----------------------------|-------|
| Number of Observations Read | 40325 |
| Number of Observations Used | 39556 |

| Dimensions | |
|--------------------------|-------|
| G-side Cov. Parameters | 1 |
| R-side Cov. Parameters | 1 |
| Columns in X | 65 |
| Columns in Z per Subject | 1 |
| Subjects (Blocks in V) | 11789 |
| Max Obs per Subject | 4 |

| Optimization Information | |
|----------------------------|-------------------|
| Optimization Technique | Dual Quasi-Newton |
| Parameters in Optimization | 63 |
| Lower Boundaries | 2 |
| Upper Boundaries | 0 |
| Fixed Effects | Not Profiled |

| Optimization Information | |
|--------------------------|---------------|
| Starting From | GLM estimates |
| Quadrature Points | 1 |

| Iteration History | | | | | |
|-------------------|----------|-------------|--------------------|--------------|--------------|
| Iteration | Restarts | Evaluations | Objective Function | Change | Max Gradient |
| 0 | 0 | 4 | 608621836.31 | . | 25143692 |
| 1 | 0 | 11 | 608614061.99 | 7774.3206873 | 15566581 |
| 2 | 0 | 4 | 608105704.88 | 508357.10887 | 68421487 |
| 3 | 0 | 3 | 607608543.74 | 497161.14063 | 20370557 |
| 4 | 0 | 2 | 607546055.06 | 62488.672636 | 4292262 |
| 5 | 0 | 2 | 607445296.6 | 100758.45927 | 3677296 |
| 6 | 0 | 3 | 607415209.71 | 30086.892123 | 1982922 |
| 7 | 0 | 2 | 607382122.69 | 33087.023163 | 5736659 |
| 8 | 0 | 2 | 607325847.76 | 56274.931013 | 5341161 |
| 9 | 0 | 2 | 607251486.38 | 74361.375681 | 10412814 |
| 10 | 0 | 3 | 607222629.62 | 28856.756824 | 1462428 |
| 11 | 0 | 2 | 607216887.06 | 5742.5625736 | 4929413 |
| 12 | 0 | 4 | 607196064.83 | 20822.236929 | 876095.2 |
| 13 | 0 | 3 | 607187930.01 | 8134.8129265 | 173441.6 |
| 14 | 0 | 4 | 607177581.03 | 10348.986187 | 1673067 |
| 15 | 0 | 3 | 607171008.3 | 6572.7257538 | 1491957 |
| 16 | 0 | 2 | 607164325.96 | 6682.3396639 | 1105148 |
| 17 | 0 | 3 | 607163333.55 | 992.41008687 | 391404.5 |
| 18 | 0 | 2 | 607162566.7 | 766.85466671 | 285292.7 |
| 19 | 0 | 4 | 607160910.01 | 1656.6901245 | 73078.83 |
| 20 | 0 | 4 | 607155967.45 | 4942.5607566 | 424154.8 |
| 21 | 0 | 3 | 607155245.5 | 721.94849265 | 41231.57 |
| 22 | 0 | 4 | 607154494.53 | 750.96395218 | 837865.4 |
| 23 | 0 | 2 | 607153444.83 | 1049.7062607 | 186276.7 |
| 24 | 0 | 2 | 607152705.73 | 739.09342968 | 818690.3 |
| 25 | 0 | 3 | 607152367.94 | 337.79281926 | 44499.77 |
| 26 | 0 | 2 | 607152336.15 | 31.78821313 | 534934.8 |
| 27 | 0 | 4 | 607152138.88 | 197.27176988 | 19281.6 |
| 28 | 0 | 4 | 607151426.79 | 712.08890176 | 15511.24 |
| 29 | 0 | 4 | 607151118.04 | 308.74728870 | 848810.7 |
| 30 | 0 | 3 | 607151058.22 | 59.82817495 | 28636.68 |
| 31 | 0 | 4 | 607151001.05 | 57.16788340 | 1288485 |

Convergence criterion (GCONV=1E-8) satisfied.

| Fit Statistics | |
|-------------------------|----------|
| -2 Log Likelihood | 6.0715E8 |
| AIC (smaller is better) | 6.0715E8 |

| Fit Statistics | |
|--------------------------|----------|
| AICC (smaller is better) | 6.0715E8 |
| BIC (smaller is better) | 6.0715E8 |
| CAIC (smaller is better) | 6.0715E8 |
| HQIC (smaller is better) | 6.0715E8 |

| Fit Statistics for Conditional Distribution | |
|---|----------|
| -2 log L(ln_inc r. effects) | 104887.4 |
| Pearson Chi-Square | 31573.46 |
| Pearson Chi-Square / DF | 0.80 |

| Covariance Parameter Estimates | | | |
|--------------------------------|----------------------|----------|----------------|
| Cov Parm | Subject | Estimate | Standard Error |
| Intercept | newid_num(strata_se) | 0.9422 | 0.04170 |
| Residual | | 1.0915 | 0.05680 |

| Solutions for Fixed Effects | | | | | | | |
|-----------------------------|------------------------------|---------------|----------|-------------------|-------|---------|---------|
| Effect | Gender 1=Male 2=Female | STRATUM ID | Estimate | Standard Error | DF | t Value | Pr > t |
| Intercept | | | 10.2773 | 0.1279 | 11732 | 80.34 | <.0001 |
| yrssince06 | | | 0.02807 | 0.01538 | 183E6 | 1.82 | 0.0680 |
| gender | 2 | | -0.5617 | 0.03197 | 11732 | -17.57 | <.0001 |
| gender | 1 | | 0 | . | . | . | . |
| yrssince06*gender | 2 | | 0.004473 | 0.02031 | 183E6 | 0.22 | 0.8257 |
| yrssince06*gender | 1 | | 0 | . | . | . | . |
| yrs06sq | | | -0.01032 | 0.002750 | 183E6 | -3.75 | 0.0002 |
| yrs06sq*gender | 2 | | 0.001290 | 0.003531 | 183E6 | 0.37 | 0.7148 |
| yrs06sq*gender | 1 | | 0 | . | . | . | . |
| stratum | | 2 | 0.2135 | 0.1691 | 11732 | 1.26 | 0.2068 |
| stratum | | 3 | 0.3704 | 0.1678 | 11732 | 2.21 | 0.0273 |
| stratum | | 4 | 0.5222 | 0.1685 | 11732 | 3.10 | 0.0019 |
| stratum | | 5 | 0.3075 | 0.2099 | 11732 | 1.47 | 0.1429 |
| stratum | | 6 | 0.2596 | 0.1729 | 11732 | 1.50 | 0.1332 |
| stratum | | 7 | 0.7887 | 0.1463 | 11732 | 5.39 | <.0001 |
| stratum | | 8 | 0.4266 | 0.1505 | 11732 | 2.83 | 0.0046 |
| stratum | | 9 | 0.5859 | 0.1704 | 11732 | 3.44 | 0.0006 |
| stratum | | 10 | 0.8460 | 0.1716 | 11732 | 4.93 | <.0001 |
| stratum | | 11 | 0.2893 | 0.2050 | 11732 | 1.41 | 0.1582 |
| stratum | | 12 | 0.3331 | 0.1631 | 11732 | 2.04 | 0.0412 |
| stratum | | 13 | 0.6639 | 0.1951 | 11732 | 3.40 | 0.0007 |
| stratum | | 14 | 0.5317 | 0.2089 | 11732 | 2.55 | 0.0109 |
| stratum | | 15 | 0.5682 | 0.1795 | 11732 | 3.16 | 0.0016 |

Solutions for Fixed Effects

| Effect | Gender 1=Male 2=Female | STRATUM ID | Estimate | Standard Error | DF | t Value | Pr > t |
|---------|------------------------------|---------------|----------|-------------------|-------|---------|---------|
| stratum | | 16 | 0.2734 | 0.1483 | 11732 | 1.84 | 0.0653 |
| stratum | | 17 | 0.6244 | 0.1699 | 11732 | 3.67 | 0.0002 |
| stratum | | 18 | 0.8112 | 0.1623 | 11732 | 5.00 | <.0001 |
| stratum | | 19 | 0.6652 | 0.1824 | 11732 | 3.65 | 0.0003 |
| stratum | | 20 | -0.09738 | 0.2350 | 11732 | -0.41 | 0.6785 |
| stratum | | 21 | 0.4788 | 0.1698 | 11732 | 2.82 | 0.0048 |
| stratum | | 22 | 0.8597 | 0.1646 | 11732 | 5.22 | <.0001 |
| stratum | | 23 | 0.6717 | 0.1892 | 11732 | 3.55 | 0.0004 |
| stratum | | 24 | 0.4764 | 0.1685 | 11732 | 2.83 | 0.0047 |
| stratum | | 25 | 0.5779 | 0.1644 | 11732 | 3.51 | 0.0004 |
| stratum | | 26 | 0.5258 | 0.1428 | 11732 | 3.68 | 0.0002 |
| stratum | | 27 | 0.6353 | 0.1401 | 11732 | 4.53 | <.0001 |
| stratum | | 28 | 0.4467 | 0.1440 | 11732 | 3.10 | 0.0019 |
| stratum | | 29 | 0.5710 | 0.1399 | 11732 | 4.08 | <.0001 |
| stratum | | 30 | 0.5069 | 0.1515 | 11732 | 3.35 | 0.0008 |
| stratum | | 31 | 0.5013 | 0.1391 | 11732 | 3.60 | 0.0003 |
| stratum | | 32 | 0.2518 | 0.1533 | 11732 | 1.64 | 0.1004 |
| stratum | | 33 | 0.2387 | 0.1529 | 11732 | 1.56 | 0.1184 |
| stratum | | 34 | 0.02098 | 0.1690 | 11732 | 0.12 | 0.9012 |
| stratum | | 35 | 0.3953 | 0.1976 | 11732 | 2.00 | 0.0455 |
| stratum | | 36 | 0.04340 | 0.2203 | 11732 | 0.20 | 0.8438 |
| stratum | | 37 | 0.2157 | 0.1418 | 11732 | 1.52 | 0.1284 |
| stratum | | 38 | 0.4886 | 0.1527 | 11732 | 3.20 | 0.0014 |
| stratum | | 39 | 0.4486 | 0.1562 | 11732 | 2.87 | 0.0041 |
| stratum | | 40 | 0.7300 | 0.1381 | 11732 | 5.29 | <.0001 |
| stratum | | 41 | 0.5760 | 0.1452 | 11732 | 3.97 | <.0001 |
| stratum | | 42 | 0.4444 | 0.1415 | 11732 | 3.14 | 0.0017 |
| stratum | | 43 | 0.4237 | 0.1374 | 11732 | 3.08 | 0.0020 |
| stratum | | 44 | 0.4173 | 0.1470 | 11732 | 2.84 | 0.0046 |
| stratum | | 45 | 0.5438 | 0.1344 | 11732 | 4.05 | <.0001 |
| stratum | | 46 | 0.4949 | 0.1387 | 11732 | 3.57 | 0.0004 |
| stratum | | 47 | 0.2303 | 0.1410 | 11732 | 1.63 | 0.1025 |
| stratum | | 48 | 0.4293 | 0.1507 | 11732 | 2.85 | 0.0044 |
| stratum | | 49 | 0.1772 | 0.1737 | 11732 | 1.02 | 0.3079 |
| stratum | | 50 | 0.2401 | 0.1438 | 11732 | 1.67 | 0.0949 |
| stratum | | 51 | 0.3063 | 0.1499 | 11732 | 2.04 | 0.0411 |
| stratum | | 52 | -0.7263 | 0.2098 | 11732 | -3.46 | 0.0005 |
| stratum | | 53 | 0.5309 | 0.2082 | 11732 | 2.55 | 0.0108 |
| stratum | | 54 | -0.4625 | 0.5272 | 11732 | -0.88 | 0.3804 |
| stratum | | 55 | 0.09292 | 0.2444 | 11732 | 0.38 | 0.7038 |
| stratum | | 56 | 0.7311 | 0.2154 | 11732 | 3.39 | 0.0007 |

| Solutions for Fixed Effects | | | | | | | |
|-----------------------------|------------------------------|---------------|----------|-------------------|----|---------|---------|
| Effect | Gender 1=Male 2=Female | STRATUM ID | Estimate | Standard Error | DF | t Value | Pr > t |
| stratum | | 1 | 0 | . | . | . | . |

| Type III Tests of Fixed Effects | | | | |
|---------------------------------|-----------|-----------|---------|--------|
| Effect | Num DF | Den DF | F Value | Pr > F |
| yrssince06 | 1 | 183E6 | 8.85 | 0.0029 |
| gender | 1 | 11732 | 308.74 | <.0001 |
| yrssince06*gender | 1 | 183E6 | 0.05 | 0.8257 |
| yrs06sq | 1 | 183E6 | 29.94 | <.0001 |
| yrs06sq*gender | 1 | 183E6 | 0.13 | 0.7148 |
| stratum | 55 | 11732 | 5.20 | <.0001 |

Veiga et al. (2014) not available in SAS SURVEY procedures
 Error Covariance Modeling Not Available in SAS, See Stata program pwigls_genlin_adcv_modAV1.do for More Information

11.3.4 Weighted GEE: Check Response in 2008, 2010, 2012

The FREQ Procedure

| resp08 | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|--------|-----------|---------|----------------------|--------------------|
| 0 | 1215 | 10.31 | 1215 | 10.31 |
| 1 | 10574 | 89.69 | 11789 | 100.00 |

| resp10 | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|--------|-----------|---------|----------------------|--------------------|
| 0 | 2387 | 20.25 | 2387 | 20.25 |
| 1 | 9402 | 79.75 | 11789 | 100.00 |

| resp12 | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|--------|-----------|---------|----------------------|--------------------|
| 0 | 3229 | 27.39 | 3229 | 27.39 |
| 1 | 8560 | 72.61 | 11789 | 100.00 |

Response propensity model (2008).

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp08 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp08 | Total Frequency | Total Weight |
| 1 | 0 | 1215 | 4942420 |
| 2 | 1 | 10574 | 47613567 |

Probability modeled is resp08=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 32772754 | 30734556 |
| SC | 32772770 | 30734825 |
| -2 Log L | 32772752 | 30734522 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 29.10 | 11.6596 | 652.94 | <.0001 |
| Score | 19.99 | 16 | 41 | <.0001 |
| Wald | 22.66 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3723 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.04 | 1 | 56 | 0.8405 |
| selfrhealth_06 | 43.04 | 4 | 53 | <.0001 |
| age_06 | 102.51 | 1 | 56 | <.0001 |
| marcat_06 | 2.81 | 2 | 55 | 0.0691 |
| diabetes_06 | 7.90 | 1 | 56 | 0.0068 |
| arthritis_06 | 28.03 | 1 | 56 | <.0001 |
| racecat | 2.17 | 3 | 54 | 0.1025 |
| edcat | 0.44 | 3 | 54 | 0.7245 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 5.6307 | 0.5440 | 10.35 | <.0001 |
| ln_inc06 | | 0.00727 | 0.0359 | 0.20 | 0.8405 |
| selfrhealth_06 | 2 | -0.1526 | 0.1534 | -0.99 | 0.3242 |
| selfrhealth_06 | 3 | -0.3367 | 0.1865 | -1.81 | 0.0764 |
| selfrhealth_06 | 4 | -0.7260 | 0.1681 | -4.32 | <.0001 |
| selfrhealth_06 | 5 | -1.4960 | 0.1871 | -8.00 | <.0001 |
| age_06 | | -0.0439 | 0.00434 | -10.12 | <.0001 |
| marcat_06 | 2 | 0.00848 | 0.0892 | 0.10 | 0.9246 |
| marcat_06 | 3 | -0.4002 | 0.1774 | -2.26 | 0.0280 |
| diabetes_06 | | -0.2035 | 0.0724 | -2.81 | 0.0068 |
| arthritis_06 | | 0.3311 | 0.0625 | 5.29 | <.0001 |
| racecat | 2 | 0.0251 | 0.1419 | 0.18 | 0.8601 |
| racecat | 3 | -0.1931 | 0.1709 | -1.13 | 0.2634 |
| racecat | 4 | -0.4276 | 0.2735 | -1.56 | 0.1236 |
| edcat | 2 | -0.0468 | 0.1016 | -0.46 | 0.6471 |
| edcat | 3 | -0.1353 | 0.1206 | -1.12 | 0.2667 |
| edcat | 4 | -0.0177 | 0.1139 | -0.16 | 0.8773 |

NOTE: The degrees of freedom for the t tests is 56.

| Odds Ratio Estimates | | | | |
|----------------------|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 1.007 | 0.937 | 1.082 |
| selfrhealth_06 | 2 vs 1 | 0.858 | 0.631 | 1.167 |
| selfrhealth_06 | 3 vs 1 | 0.714 | 0.492 | 1.038 |
| selfrhealth_06 | 4 vs 1 | 0.484 | 0.346 | 0.678 |
| selfrhealth_06 | 5 vs 1 | 0.224 | 0.154 | 0.326 |
| age_06 | | 0.957 | 0.949 | 0.965 |
| marcat_06 | 2 vs 1 | 1.009 | 0.844 | 1.206 |
| marcat_06 | 3 vs 1 | 0.670 | 0.470 | 0.956 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| diabetes_06 | 0.816 | 0.706 | 0.943 |
| arthritis_06 | 1.393 | 1.229 | 1.578 |
| racecat 2 vs 1 | 1.025 | 0.772 | 1.362 |
| racecat 3 vs 1 | 0.824 | 0.585 | 1.161 |
| racecat 4 vs 1 | 0.652 | 0.377 | 1.128 |
| edcat 2 vs 1 | 0.954 | 0.779 | 1.170 |
| edcat 3 vs 1 | 0.873 | 0.686 | 1.112 |
| edcat 4 vs 1 | 0.982 | 0.782 | 1.234 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-----------|-------|
| Percent Concordant | 67.9 | Somers' D | 0.366 |
| Percent Discordant | 31.2 | Gamma | 0.370 |
| Percent Tied | 0.9 | Tau-a | 0.068 |
| Pairs | 12847410 | c | 0.683 |

Response propensity model (2008).

The MEANS Procedure

| Analysis Variable : phat08 Estimated Probability | | | | | |
|--|--------|-----------|-------------|-----------------------|-----------------------|
| N | N Miss | Mean | Std Error | Lower 95% CL for Mean | Upper 95% CL for Mean |
| 11789 | 0 | 0.8940258 | 0.000622060 | 0.8928065 | 0.8952451 |

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 2387 | 9323578 |
| 2 | 1 | 9402 | 43232409 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 49132729 | 43706079 |
| SC | 49132745 | 43706347 |
| -2 Log L | 49132727 | 43706045 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 80.14 | 11.3432 | 635.22 | <.0001 |
| Score | 36.70 | 16 | 41 | <.0001 |
| Wald | 31.73 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.45 | 1 | 56 | 0.2339 |
| selfrhealth_06 | 66.01 | 4 | 53 | <.0001 |
| age_06 | 297.29 | 1 | 56 | <.0001 |
| marcat_06 | 3.52 | 2 | 55 | 0.0364 |
| diabetes_06 | 5.10 | 1 | 56 | 0.0278 |
| arthritis_06 | 39.11 | 1 | 56 | <.0001 |
| racecat | 0.19 | 3 | 54 | 0.9018 |
| edcat | 0.62 | 3 | 54 | 0.6046 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.0712 | 0.4177 | 14.53 | <.0001 | |
| ln_inc06 | 0.0291 | 0.0241 | 1.20 | 0.2339 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.1754 | 0.1280 | -1.37 | 0.1762 |
| selfrhealth_06 | 3 | -0.4479 | 0.1394 | -3.21 | 0.0022 |
| selfrhealth_06 | 4 | -0.8735 | 0.1234 | -7.08 | <.0001 |
| selfrhealth_06 | 5 | -1.6189 | 0.1466 | -11.04 | <.0001 |
| age_06 | | -0.0641 | 0.00372 | -17.24 | <.0001 |
| marcat_06 | 2 | -0.00117 | 0.0628 | -0.02 | 0.9851 |
| marcat_06 | 3 | -0.2803 | 0.1134 | -2.47 | 0.0165 |
| diabetes_06 | | -0.1475 | 0.0653 | -2.26 | 0.0278 |
| arthritis_06 | | 0.3111 | 0.0497 | 6.25 | <.0001 |
| racecat | 2 | -0.0506 | 0.1218 | -0.42 | 0.6795 |
| racecat | 3 | 0.0227 | 0.1298 | 0.18 | 0.8615 |
| racecat | 4 | -0.0452 | 0.2847 | -0.16 | 0.8745 |
| edcat | 2 | 0.0490 | 0.0729 | 0.67 | 0.5047 |
| edcat | 3 | 0.0786 | 0.0752 | 1.05 | 0.3003 |
| edcat | 4 | 0.0675 | 0.0813 | 0.83 | 0.4103 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.029 | 0.981 | 1.080 |
| selfrhealth_06 2 vs 1 | 0.839 | 0.649 | 1.084 |
| selfrhealth_06 3 vs 1 | 0.639 | 0.483 | 0.845 |
| selfrhealth_06 4 vs 1 | 0.418 | 0.326 | 0.535 |
| selfrhealth_06 5 vs 1 | 0.198 | 0.148 | 0.266 |
| age_06 | 0.938 | 0.931 | 0.945 |
| marcat_06 2 vs 1 | 0.999 | 0.881 | 1.133 |
| marcat_06 3 vs 1 | 0.756 | 0.602 | 0.948 |
| diabetes_06 | 0.863 | 0.757 | 0.983 |
| arthritis_06 | 1.365 | 1.235 | 1.508 |
| racecat 2 vs 1 | 0.951 | 0.745 | 1.213 |
| racecat 3 vs 1 | 1.023 | 0.789 | 1.327 |
| racecat 4 vs 1 | 0.956 | 0.540 | 1.691 |
| edcat 2 vs 1 | 1.050 | 0.907 | 1.215 |
| edcat 3 vs 1 | 1.082 | 0.931 | 1.258 |
| edcat 4 vs 1 | 1.070 | 0.909 | 1.259 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 72.7 | Somers' D | 0.457 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.9 | Gamma | 0.459 |
| Percent Tied | 0.4 | Tau-a | 0.148 |
| Pairs | 22442574 | c | 0.729 |

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1215 |
| Number of Observations not in Domain | 10574 |
| Sum of Weights in Domain | 4942420.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4942420 |
| Sum of Weights Used | 4942420 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 1033 | 4032032.0 |
| 2 | 1 | 182 | 910388.0 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 4722000.1 | 3980465.8 |
| SC | 4722013.5 | 3980693.8 |
| -2 Log L | 4721998.1 | 3980431.8 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 11.66 | 11.2236 | 628.52 | <.0001 |
| Score | 9.66 | 16 | 41 | <.0001 |
| Wald | 8.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.4256 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.02 | 1 | 56 | 0.8971 |
| selfrhealth_06 | 6.19 | 4 | 53 | 0.0004 |
| age_06 | 65.53 | 1 | 56 | <.0001 |
| marcat_06 | 1.80 | 2 | 55 | 0.1749 |
| diabetes_06 | 0.79 | 1 | 56 | 0.3785 |
| arthritis_06 | 0.06 | 1 | 56 | 0.8070 |
| racecat | 2.15 | 3 | 54 | 0.1051 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 3.73 | 3 | 54 | 0.0165 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.8234 | 1.0685 | 3.58 | 0.0007 |
| ln_inc06 | | 0.00941 | 0.0725 | 0.13 | 0.8971 |
| selfrhealth_06 | 2 | -0.3388 | 0.4445 | -0.76 | 0.4492 |
| selfrhealth_06 | 3 | -0.9544 | 0.4015 | -2.38 | 0.0209 |
| selfrhealth_06 | 4 | -0.9182 | 0.4636 | -1.98 | 0.0526 |
| selfrhealth_06 | 5 | -1.5847 | 0.4441 | -3.57 | 0.0007 |
| age_06 | | -0.0712 | 0.00880 | -8.09 | <.0001 |
| marcat_06 | 2 | 0.1450 | 0.2113 | 0.69 | 0.4954 |
| marcat_06 | 3 | -0.8500 | 0.5704 | -1.49 | 0.1418 |
| diabetes_06 | | 0.2314 | 0.2606 | 0.89 | 0.3785 |
| arthritis_06 | | 0.0541 | 0.2205 | 0.25 | 0.8070 |
| racecat | 2 | -0.1699 | 0.4270 | -0.40 | 0.6922 |
| racecat | 3 | 0.3759 | 0.3840 | 0.98 | 0.3318 |
| racecat | 4 | 0.9791 | 0.7132 | 1.37 | 0.1753 |
| edcat | 2 | 0.2367 | 0.2881 | 0.82 | 0.4148 |
| edcat | 3 | 0.5730 | 0.2868 | 2.00 | 0.0506 |
| edcat | 4 | -0.4502 | 0.3015 | -1.49 | 0.1410 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.009 | 0.873 1.167 |
| selfrhealth_06 | 2 vs 1 | 0.713 | 0.293 1.736 |
| selfrhealth_06 | 3 vs 1 | 0.385 | 0.172 0.861 |
| selfrhealth_06 | 4 vs 1 | 0.399 | 0.158 1.011 |
| selfrhealth_06 | 5 vs 1 | 0.205 | 0.084 0.499 |
| age_06 | | 0.931 | 0.915 0.948 |
| marcat_06 | 2 vs 1 | 1.156 | 0.757 1.765 |
| marcat_06 | 3 vs 1 | 0.427 | 0.136 1.340 |
| diabetes_06 | | 1.260 | 0.748 2.124 |
| arthritis_06 | | 1.056 | 0.679 1.642 |
| racecat | 2 vs 1 | 0.844 | 0.359 1.985 |
| racecat | 3 vs 1 | 1.456 | 0.675 3.143 |
| racecat | 4 vs 1 | 2.662 | 0.638 11.110 |
| edcat | 2 vs 1 | 1.267 | 0.711 2.257 |
| edcat | 3 vs 1 | 1.774 | 0.998 3.150 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.637 | 0.348 1.166 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 77.1 | Somers' D | 0.545 |
| Percent Discordant | 22.6 | Gamma | 0.547 |
| Percent Tied | 0.4 | Tau-a | 0.139 |
| Pairs | 188006 | c | 0.772 |

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 10574 |
| Number of Observations not in Domain | 1215 |
| Sum of Weights in Domain | 47613567 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 47613567 |
| Sum of Weights Used | 47613567 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 1354 | 5291546 |
| 2 | 1 | 9220 | 42322021 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 33223064 | 30156119 |
| SC | 33223079 | 30156385 |
| -2 Log L | 33223062 | 30156085 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 41.03 | 10.8871 | 609.68 | <.0001 |
| Score | 23.48 | 16 | 41 | <.0001 |
| Wald | 27.09 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.4696 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.29 | 1 | 56 | 0.2604 |
| selfrhealth_06 | 30.68 | 4 | 53 | <.0001 |
| age_06 | 249.72 | 1 | 56 | <.0001 |
| marcat_06 | 0.05 | 2 | 55 | 0.9492 |
| diabetes_06 | 1.99 | 1 | 56 | 0.1636 |
| arthritis_06 | 13.86 | 1 | 56 | 0.0005 |
| racecat | 0.38 | 3 | 54 | 0.7696 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.25 | 3 | 54 | 0.3008 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.3297 | 0.4772 | 13.26 | <.0001 |
| ln_inc06 | | 0.0350 | 0.0308 | 1.14 | 0.2604 |
| selfrhealth_06 | 2 | -0.1428 | 0.1771 | -0.81 | 0.4233 |
| selfrhealth_06 | 3 | -0.3484 | 0.1919 | -1.82 | 0.0747 |
| selfrhealth_06 | 4 | -0.7749 | 0.1631 | -4.75 | <.0001 |
| selfrhealth_06 | 5 | -1.3370 | 0.2016 | -6.63 | <.0001 |
| age_06 | | -0.0628 | 0.00397 | -15.80 | <.0001 |
| marcat_06 | 2 | -0.0270 | 0.0831 | -0.32 | 0.7465 |
| marcat_06 | 3 | -0.0147 | 0.1431 | -0.10 | 0.9187 |
| diabetes_06 | | -0.1188 | 0.0842 | -1.41 | 0.1636 |
| arthritis_06 | | 0.2685 | 0.0721 | 3.72 | 0.0005 |
| racecat | 2 | -0.0543 | 0.1744 | -0.31 | 0.7566 |
| racecat | 3 | 0.0851 | 0.1927 | 0.44 | 0.6605 |
| racecat | 4 | -0.0208 | 0.4022 | -0.05 | 0.9590 |
| edcat | 2 | 0.0706 | 0.0935 | 0.76 | 0.4531 |
| edcat | 3 | 0.1072 | 0.0828 | 1.29 | 0.2008 |
| edcat | 4 | 0.1659 | 0.1115 | 1.49 | 0.1422 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|-----------------------|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.036 | 0.974 | 1.102 |
| selfrhealth_06 2 vs 1 | 0.867 | 0.608 | 1.236 |
| selfrhealth_06 3 vs 1 | 0.706 | 0.481 | 1.037 |
| selfrhealth_06 4 vs 1 | 0.461 | 0.332 | 0.639 |
| selfrhealth_06 5 vs 1 | 0.263 | 0.175 | 0.393 |
| age_06 | 0.939 | 0.932 | 0.947 |
| marcat_06 2 vs 1 | 0.973 | 0.824 | 1.150 |
| marcat_06 3 vs 1 | 0.985 | 0.740 | 1.313 |
| diabetes_06 | 0.888 | 0.750 | 1.051 |
| arthritis_06 | 1.308 | 1.132 | 1.511 |
| racecat 2 vs 1 | 0.947 | 0.668 | 1.343 |
| racecat 3 vs 1 | 1.089 | 0.740 | 1.602 |
| racecat 4 vs 1 | 0.979 | 0.438 | 2.192 |
| edcat 2 vs 1 | 1.073 | 0.890 | 1.294 |
| edcat 3 vs 1 | 1.113 | 0.943 | 1.314 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.180 | 0.944 1.476 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-----------|-------|
| Percent Concordant | 71.4 | Somers' D | 0.435 |
| Percent Discordant | 27.9 | Gamma | 0.438 |
| Percent Tied | 0.6 | Tau-a | 0.097 |
| Pairs | 12483880 | c | 0.717 |

Response propensity model (2010), respondents in 2008.

The MEANS Procedure

| Analysis Variable : phat10_11 Estimated Probability | | | | | |
|---|--------|-----------|-------------|-----------------------|-----------------------|
| N | N Miss | Mean | Std Error | Lower 95% CL for Mean | Upper 95% CL for Mean |
| 11789 | 0 | 0.8634120 | 0.000908432 | 0.8616314 | 0.8651927 |

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 2387 | 9323578 |
| 2 | 1 | 9402 | 43232409 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 49132729 | 43706079 |
| SC | 49132745 | 43706347 |
| -2 Log L | 49132727 | 43706045 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 80.14 | 11.3432 | 635.22 | <.0001 |
| Score | 36.70 | 16 | 41 | <.0001 |
| Wald | 31.73 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.45 | 1 | 56 | 0.2339 |
| selfrhealth_06 | 66.01 | 4 | 53 | <.0001 |
| age_06 | 297.29 | 1 | 56 | <.0001 |
| marcat_06 | 3.52 | 2 | 55 | 0.0364 |
| diabetes_06 | 5.10 | 1 | 56 | 0.0278 |
| arthritis_06 | 39.11 | 1 | 56 | <.0001 |
| racecat | 0.19 | 3 | 54 | 0.9018 |
| edcat | 0.62 | 3 | 54 | 0.6046 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.0712 | 0.4177 | 14.53 | <.0001 | |
| ln_inc06 | 0.0291 | 0.0241 | 1.20 | 0.2339 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.1754 | 0.1280 | -1.37 | 0.1762 |
| selfrhealth_06 | 3 | -0.4479 | 0.1394 | -3.21 | 0.0022 |
| selfrhealth_06 | 4 | -0.8735 | 0.1234 | -7.08 | <.0001 |
| selfrhealth_06 | 5 | -1.6189 | 0.1466 | -11.04 | <.0001 |
| age_06 | | -0.0641 | 0.00372 | -17.24 | <.0001 |
| marcat_06 | 2 | -0.00117 | 0.0628 | -0.02 | 0.9851 |
| marcat_06 | 3 | -0.2803 | 0.1134 | -2.47 | 0.0165 |
| diabetes_06 | | -0.1475 | 0.0653 | -2.26 | 0.0278 |
| arthritis_06 | | 0.3111 | 0.0497 | 6.25 | <.0001 |
| racecat | 2 | -0.0506 | 0.1218 | -0.42 | 0.6795 |
| racecat | 3 | 0.0227 | 0.1298 | 0.18 | 0.8615 |
| racecat | 4 | -0.0452 | 0.2847 | -0.16 | 0.8745 |
| edcat | 2 | 0.0490 | 0.0729 | 0.67 | 0.5047 |
| edcat | 3 | 0.0786 | 0.0752 | 1.05 | 0.3003 |
| edcat | 4 | 0.0675 | 0.0813 | 0.83 | 0.4103 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.029 | 0.981 | 1.080 |
| selfrhealth_06 2 vs 1 | 0.839 | 0.649 | 1.084 |
| selfrhealth_06 3 vs 1 | 0.639 | 0.483 | 0.845 |
| selfrhealth_06 4 vs 1 | 0.418 | 0.326 | 0.535 |
| selfrhealth_06 5 vs 1 | 0.198 | 0.148 | 0.266 |
| age_06 | 0.938 | 0.931 | 0.945 |
| marcat_06 2 vs 1 | 0.999 | 0.881 | 1.133 |
| marcat_06 3 vs 1 | 0.756 | 0.602 | 0.948 |
| diabetes_06 | 0.863 | 0.757 | 0.983 |
| arthritis_06 | 1.365 | 1.235 | 1.508 |
| racecat 2 vs 1 | 0.951 | 0.745 | 1.213 |
| racecat 3 vs 1 | 1.023 | 0.789 | 1.327 |
| racecat 4 vs 1 | 0.956 | 0.540 | 1.691 |
| edcat 2 vs 1 | 1.050 | 0.907 | 1.215 |
| edcat 3 vs 1 | 1.082 | 0.931 | 1.258 |
| edcat 4 vs 1 | 1.070 | 0.909 | 1.259 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 72.7 | Somers' D | 0.457 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.9 | Gamma | 0.459 |
| Percent Tied | 0.4 | Tau-a | 0.148 |
| Pairs | 22442574 | c | 0.729 |

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1215 |
| Number of Observations not in Domain | 10574 |
| Sum of Weights in Domain | 4942420.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4942420 |
| Sum of Weights Used | 4942420 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 1033 | 4032032.0 |
| 2 | 1 | 182 | 910388.0 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 4722000.1 | 3980465.8 |
| SC | 4722013.5 | 3980693.8 |
| -2 Log L | 4721998.1 | 3980431.8 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 11.66 | 11.2236 | 628.52 | <.0001 |
| Score | 9.66 | 16 | 41 | <.0001 |
| Wald | 8.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.4256 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.02 | 1 | 56 | 0.8971 |
| selfrhealth_06 | 6.19 | 4 | 53 | 0.0004 |
| age_06 | 65.53 | 1 | 56 | <.0001 |
| marcat_06 | 1.80 | 2 | 55 | 0.1749 |
| diabetes_06 | 0.79 | 1 | 56 | 0.3785 |
| arthritis_06 | 0.06 | 1 | 56 | 0.8070 |
| racecat | 2.15 | 3 | 54 | 0.1051 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 3.73 | 3 | 54 | 0.0165 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.8234 | 1.0685 | 3.58 | 0.0007 |
| ln_inc06 | | 0.00941 | 0.0725 | 0.13 | 0.8971 |
| selfrhealth_06 | 2 | -0.3388 | 0.4445 | -0.76 | 0.4492 |
| selfrhealth_06 | 3 | -0.9544 | 0.4015 | -2.38 | 0.0209 |
| selfrhealth_06 | 4 | -0.9182 | 0.4636 | -1.98 | 0.0526 |
| selfrhealth_06 | 5 | -1.5847 | 0.4441 | -3.57 | 0.0007 |
| age_06 | | -0.0712 | 0.00880 | -8.09 | <.0001 |
| marcat_06 | 2 | 0.1450 | 0.2113 | 0.69 | 0.4954 |
| marcat_06 | 3 | -0.8500 | 0.5704 | -1.49 | 0.1418 |
| diabetes_06 | | 0.2314 | 0.2606 | 0.89 | 0.3785 |
| arthritis_06 | | 0.0541 | 0.2205 | 0.25 | 0.8070 |
| racecat | 2 | -0.1699 | 0.4270 | -0.40 | 0.6922 |
| racecat | 3 | 0.3759 | 0.3840 | 0.98 | 0.3318 |
| racecat | 4 | 0.9791 | 0.7132 | 1.37 | 0.1753 |
| edcat | 2 | 0.2367 | 0.2881 | 0.82 | 0.4148 |
| edcat | 3 | 0.5730 | 0.2868 | 2.00 | 0.0506 |
| edcat | 4 | -0.4502 | 0.3015 | -1.49 | 0.1410 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.009 | 0.873 1.167 |
| selfrhealth_06 | 2 vs 1 | 0.713 | 0.293 1.736 |
| selfrhealth_06 | 3 vs 1 | 0.385 | 0.172 0.861 |
| selfrhealth_06 | 4 vs 1 | 0.399 | 0.158 1.011 |
| selfrhealth_06 | 5 vs 1 | 0.205 | 0.084 0.499 |
| age_06 | | 0.931 | 0.915 0.948 |
| marcat_06 | 2 vs 1 | 1.156 | 0.757 1.765 |
| marcat_06 | 3 vs 1 | 0.427 | 0.136 1.340 |
| diabetes_06 | | 1.260 | 0.748 2.124 |
| arthritis_06 | | 1.056 | 0.679 1.642 |
| racecat | 2 vs 1 | 0.844 | 0.359 1.985 |
| racecat | 3 vs 1 | 1.456 | 0.675 3.143 |
| racecat | 4 vs 1 | 2.662 | 0.638 11.110 |
| edcat | 2 vs 1 | 1.267 | 0.711 2.257 |
| edcat | 3 vs 1 | 1.774 | 0.998 3.150 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.637 | 0.348 1.166 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 77.1 | Somers' D | 0.545 |
| Percent Discordant | 22.6 | Gamma | 0.547 |
| Percent Tied | 0.4 | Tau-a | 0.139 |
| Pairs | 188006 | c | 0.772 |

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 10574 |
| Number of Observations not in Domain | 1215 |
| Sum of Weights in Domain | 47613567 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp10 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 47613567 |
| Sum of Weights Used | 47613567 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp10 | Total Frequency | Total Weight |
| 1 | 0 | 1354 | 5291546 |
| 2 | 1 | 9220 | 42322021 |

Probability modeled is resp10=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 33223064 | 30156119 |
| SC | 33223079 | 30156385 |
| -2 Log L | 33223062 | 30156085 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 41.03 | 10.8871 | 609.68 | <.0001 |
| Score | 23.48 | 16 | 41 | <.0001 |
| Wald | 27.09 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.4696 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.29 | 1 | 56 | 0.2604 |
| selfrhealth_06 | 30.68 | 4 | 53 | <.0001 |
| age_06 | 249.72 | 1 | 56 | <.0001 |
| marcat_06 | 0.05 | 2 | 55 | 0.9492 |
| diabetes_06 | 1.99 | 1 | 56 | 0.1636 |
| arthritis_06 | 13.86 | 1 | 56 | 0.0005 |
| racecat | 0.38 | 3 | 54 | 0.7696 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.25 | 3 | 54 | 0.3008 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.3297 | 0.4772 | 13.26 | <.0001 |
| ln_inc06 | | 0.0350 | 0.0308 | 1.14 | 0.2604 |
| selfrhealth_06 | 2 | -0.1428 | 0.1771 | -0.81 | 0.4233 |
| selfrhealth_06 | 3 | -0.3484 | 0.1919 | -1.82 | 0.0747 |
| selfrhealth_06 | 4 | -0.7749 | 0.1631 | -4.75 | <.0001 |
| selfrhealth_06 | 5 | -1.3370 | 0.2016 | -6.63 | <.0001 |
| age_06 | | -0.0628 | 0.00397 | -15.80 | <.0001 |
| marcat_06 | 2 | -0.0270 | 0.0831 | -0.32 | 0.7465 |
| marcat_06 | 3 | -0.0147 | 0.1431 | -0.10 | 0.9187 |
| diabetes_06 | | -0.1188 | 0.0842 | -1.41 | 0.1636 |
| arthritis_06 | | 0.2685 | 0.0721 | 3.72 | 0.0005 |
| racecat | 2 | -0.0543 | 0.1744 | -0.31 | 0.7566 |
| racecat | 3 | 0.0851 | 0.1927 | 0.44 | 0.6605 |
| racecat | 4 | -0.0208 | 0.4022 | -0.05 | 0.9590 |
| edcat | 2 | 0.0706 | 0.0935 | 0.76 | 0.4531 |
| edcat | 3 | 0.1072 | 0.0828 | 1.29 | 0.2008 |
| edcat | 4 | 0.1659 | 0.1115 | 1.49 | 0.1422 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.036 | 0.974 1.102 |
| selfrhealth_06 | 2 vs 1 | 0.867 | 0.608 1.236 |
| selfrhealth_06 | 3 vs 1 | 0.706 | 0.481 1.037 |
| selfrhealth_06 | 4 vs 1 | 0.461 | 0.332 0.639 |
| selfrhealth_06 | 5 vs 1 | 0.263 | 0.175 0.393 |
| age_06 | | 0.939 | 0.932 0.947 |
| marcat_06 | 2 vs 1 | 0.973 | 0.824 1.150 |
| marcat_06 | 3 vs 1 | 0.985 | 0.740 1.313 |
| diabetes_06 | | 0.888 | 0.750 1.051 |
| arthritis_06 | | 1.308 | 1.132 1.511 |
| racecat | 2 vs 1 | 0.947 | 0.668 1.343 |
| racecat | 3 vs 1 | 1.089 | 0.740 1.602 |
| racecat | 4 vs 1 | 0.979 | 0.438 2.192 |
| edcat | 2 vs 1 | 1.073 | 0.890 1.294 |
| edcat | 3 vs 1 | 1.113 | 0.943 1.314 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.180 | 0.944 1.476 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-----------|-------|
| Percent Concordant | 71.4 | Somers' D | 0.435 |
| Percent Discordant | 27.9 | Gamma | 0.438 |
| Percent Tied | 0.6 | Tau-a | 0.097 |
| Pairs | 12483880 | c | 0.717 |

Response propensity model (2010), non respondents in 2008.

The MEANS Procedure

| Analysis Variable : phat10_10 Estimated Probability | | | | | |
|---|--------|-----------|-----------|-----------------------|-----------------------|
| N | N Miss | Mean | Std Error | Lower 95% CL for Mean | Upper 95% CL for Mean |
| 11789 | 0 | 0.2075541 | 0.0013233 | 0.2049602 | 0.2101480 |

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 3229 | 12855026 |
| 2 | 1 | 8560 | 39700961 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 58475989 | 51716914 |
| SC | 58476004 | 51717182 |
| -2 Log L | 58475987 | 51716880 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 100.40 | 11.2501 | 630.01 | <.0001 |
| Score | 48.06 | 16 | 41 | <.0001 |
| Wald | 35.25 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.36 | 1 | 56 | 0.5494 |
| selfrhealth_06 | 51.89 | 4 | 53 | <.0001 |
| age_06 | 358.56 | 1 | 56 | <.0001 |
| marcat_06 | 4.04 | 2 | 55 | 0.0231 |
| diabetes_06 | 13.45 | 1 | 56 | 0.0005 |
| arthritis_06 | 21.69 | 1 | 56 | <.0001 |
| racecat | 1.56 | 3 | 54 | 0.2099 |
| edcat | 0.10 | 3 | 54 | 0.9605 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.1667 | 0.3939 | 15.66 | <.0001 | |
| ln_inc06 | 0.0145 | 0.0241 | 0.60 | 0.5494 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.2030 | 0.1061 | -1.91 | 0.0608 |
| selfrhealth_06 | 3 | -0.4741 | 0.1102 | -4.30 | <.0001 |
| selfrhealth_06 | 4 | -0.8706 | 0.1097 | -7.93 | <.0001 |
| selfrhealth_06 | 5 | -1.5873 | 0.1395 | -11.38 | <.0001 |
| age_06 | | -0.0660 | 0.00348 | -18.94 | <.0001 |
| marcat_06 | 2 | -0.1154 | 0.0602 | -1.92 | 0.0603 |
| marcat_06 | 3 | -0.2831 | 0.1125 | -2.52 | 0.0148 |
| diabetes_06 | | -0.1684 | 0.0459 | -3.67 | 0.0005 |
| arthritis_06 | | 0.2612 | 0.0561 | 4.66 | <.0001 |
| racecat | 2 | -0.2037 | 0.0929 | -2.19 | 0.0325 |
| racecat | 3 | -0.1793 | 0.1143 | -1.57 | 0.1225 |
| racecat | 4 | -0.1739 | 0.1903 | -0.91 | 0.3646 |
| edcat | 2 | 0.0341 | 0.0677 | 0.50 | 0.6162 |
| edcat | 3 | 0.00588 | 0.0684 | 0.09 | 0.9318 |
| edcat | 4 | 0.0122 | 0.0719 | 0.17 | 0.8656 |

NOTE: The degrees of freedom for the t tests is 56.

| Odds Ratio Estimates | | | |
|-----------------------|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.015 | 0.967 | 1.065 |
| selfrhealth_06 2 vs 1 | 0.816 | 0.660 | 1.010 |
| selfrhealth_06 3 vs 1 | 0.622 | 0.499 | 0.776 |
| selfrhealth_06 4 vs 1 | 0.419 | 0.336 | 0.522 |
| selfrhealth_06 5 vs 1 | 0.204 | 0.155 | 0.270 |
| age_06 | 0.936 | 0.930 | 0.943 |
| marcat_06 2 vs 1 | 0.891 | 0.790 | 1.005 |
| marcat_06 3 vs 1 | 0.753 | 0.601 | 0.944 |
| diabetes_06 | 0.845 | 0.771 | 0.926 |
| arthritis_06 | 1.298 | 1.160 | 1.453 |
| racecat 2 vs 1 | 0.816 | 0.677 | 0.983 |
| racecat 3 vs 1 | 0.836 | 0.665 | 1.051 |
| racecat 4 vs 1 | 0.840 | 0.574 | 1.230 |
| edcat 2 vs 1 | 1.035 | 0.904 | 1.185 |
| edcat 3 vs 1 | 1.006 | 0.877 | 1.154 |
| edcat 4 vs 1 | 1.012 | 0.876 | 1.169 |

NOTE: The degrees of freedom in computing the confidence limits is 56.

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 73.1 | Somers' D | 0.465 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.6 | Gamma | 0.467 |
| Percent Tied | 0.3 | Tau-a | 0.185 |
| Pairs | 27640240 | c | 0.733 |

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1033 |
| Number of Observations not in Domain | 10756 |
| Sum of Weights in Domain | 4032032.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4032032 |
| Sum of Weights Used | 4032032 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 983 | 3823167.0 |
| 2 | 1 | 50 | 208865.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 1643342.5 | 1256288.9 |
| SC | 1643355.7 | 1256513.5 |
| -2 Log L | 1643340.5 | 1256254.9 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.35 | 12.2143 | 684.00 | <.0001 |
| Score | 7.41 | 16 | 41 | <.0001 |
| Wald | 3.77 | 16 | 41 | 0.0003 |
| NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.27 | 1 | 56 | 0.6046 |
| selfrhealth_06 | 5.37 | 4 | 53 | 0.0010 |
| age_06 | 16.57 | 1 | 56 | 0.0001 |
| marcat_06 | 1.24 | 2 | 55 | 0.2979 |
| diabetes_06 | 0.00 | 1 | 56 | 0.9729 |
| arthritis_06 | 0.07 | 1 | 56 | 0.7940 |
| racecat | 3.02 | 3 | 54 | 0.0374 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.14 | 3 | 54 | 0.3416 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.5677 | 1.9920 | 0.79 | 0.4346 |
| ln_inc06 | | 0.0792 | 0.1522 | 0.52 | 0.6046 |
| selfrhealth_06 | 2 | 0.0332 | 0.5701 | 0.06 | 0.9538 |
| selfrhealth_06 | 3 | -1.5411 | 0.6558 | -2.35 | 0.0223 |
| selfrhealth_06 | 4 | -1.7387 | 0.7354 | -2.36 | 0.0216 |
| selfrhealth_06 | 5 | -2.1004 | 0.8660 | -2.43 | 0.0185 |
| age_06 | | -0.0550 | 0.0135 | -4.07 | 0.0001 |
| marcat_06 | 2 | -0.6456 | 0.4176 | -1.55 | 0.1278 |
| marcat_06 | 3 | -0.1815 | 0.6327 | -0.29 | 0.7753 |
| diabetes_06 | | -0.0193 | 0.5657 | -0.03 | 0.9729 |
| arthritis_06 | | 0.0868 | 0.3308 | 0.26 | 0.7940 |
| racecat | 2 | -0.8103 | 0.7599 | -1.07 | 0.2909 |
| racecat | 3 | 0.6911 | 0.7056 | 0.98 | 0.3316 |
| racecat | 4 | 0.2037 | 0.9461 | 0.22 | 0.8303 |
| edcat | 2 | -0.1429 | 0.6336 | -0.23 | 0.8223 |
| edcat | 3 | -0.2196 | 0.7437 | -0.30 | 0.7689 |
| edcat | 4 | 0.4785 | 0.6908 | 0.69 | 0.4914 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.082 | 0.798 1.468 |
| selfrhealth_06 | 2 vs 1 | 1.034 | 0.330 3.239 |
| selfrhealth_06 | 3 vs 1 | 0.214 | 0.058 0.797 |
| selfrhealth_06 | 4 vs 1 | 0.176 | 0.040 0.767 |
| selfrhealth_06 | 5 vs 1 | 0.122 | 0.022 0.694 |
| age_06 | | 0.946 | 0.921 0.972 |
| marcat_06 | 2 vs 1 | 0.524 | 0.227 1.210 |
| marcat_06 | 3 vs 1 | 0.834 | 0.235 2.962 |
| diabetes_06 | | 0.981 | 0.316 3.046 |
| arthritis_06 | | 1.091 | 0.562 2.116 |
| racecat | 2 vs 1 | 0.445 | 0.097 2.038 |
| racecat | 3 vs 1 | 1.996 | 0.486 8.204 |
| racecat | 4 vs 1 | 1.226 | 0.184 8.158 |
| edcat | 2 vs 1 | 0.867 | 0.244 3.084 |
| edcat | 3 vs 1 | 0.803 | 0.181 3.562 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.614 | 0.404 6.439 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|-------|-----------|-------|
| Percent Concordant | 80.3 | Somers' D | 0.620 |
| Percent Discordant | 18.3 | Gamma | 0.628 |
| Percent Tied | 1.4 | Tau-a | 0.057 |
| Pairs | 49150 | c | 0.810 |

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 182 |
| Number of Observations not in Domain | 11607 |
| Sum of Weights in Domain | 910388.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|--------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 910388 |
| Sum of Weights Used | 910388 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 44 | 212871.00 |
| 2 | 1 | 138 | 697517.00 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 990242.62 | 843291.77 |
| SC | 990254.34 | 843491.03 |
| -2 Log L | 990240.62 | 843257.77 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 1.77 | 11.7554 | 658.30 | 0.0506 |
| Score | 1.03 | 16 | 41 | 0.4438 |
| Wald | 2.03 | 16 | 41 | 0.0343 |
| NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.38 | 1 | 56 | 0.2447 |
| selfrhealth_06 | 1.27 | 4 | 53 | 0.2916 |
| age_06 | 0.48 | 1 | 56 | 0.4899 |
| marcat_06 | 1.71 | 2 | 55 | 0.1903 |
| diabetes_06 | 0.92 | 1 | 56 | 0.3419 |
| arthritis_06 | 1.75 | 1 | 56 | 0.1911 |
| racecat | 2.25 | 3 | 54 | 0.0933 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.51 | 3 | 54 | 0.2234 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.4105 | 1.9785 | 0.71 | 0.4789 |
| ln_inc06 | | 0.1632 | 0.1388 | 1.18 | 0.2447 |
| selfrhealth_06 | 2 | 0.8691 | 0.9398 | 0.92 | 0.3591 |
| selfrhealth_06 | 3 | 0.1614 | 0.9404 | 0.17 | 0.8643 |
| selfrhealth_06 | 4 | 0.0253 | 0.8400 | 0.03 | 0.9761 |
| selfrhealth_06 | 5 | 1.4361 | 1.1199 | 1.28 | 0.2050 |
| age_06 | | -0.0149 | 0.0215 | -0.70 | 0.4899 |
| marcat_06 | 2 | -0.7220 | 0.4689 | -1.54 | 0.1293 |
| marcat_06 | 3 | 0.3602 | 1.1034 | 0.33 | 0.7453 |
| diabetes_06 | | -0.4215 | 0.4397 | -0.96 | 0.3419 |
| arthritis_06 | | -0.6440 | 0.4867 | -1.32 | 0.1911 |
| racecat | 2 | -0.8599 | 0.7553 | -1.14 | 0.2597 |
| racecat | 3 | -0.4252 | 0.8983 | -0.47 | 0.6378 |
| racecat | 4 | -2.3458 | 0.9736 | -2.41 | 0.0193 |
| edcat | 2 | 0.6592 | 0.5223 | 1.26 | 0.2121 |
| edcat | 3 | 0.5940 | 0.5405 | 1.10 | 0.2765 |
| edcat | 4 | -0.3719 | 0.6760 | -0.55 | 0.5844 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.177 | 0.891 1.555 |
| selfrhealth_06 | 2 vs 1 | 2.385 | 0.363 15.670 |
| selfrhealth_06 | 3 vs 1 | 1.175 | 0.179 7.731 |
| selfrhealth_06 | 4 vs 1 | 1.026 | 0.191 5.518 |
| selfrhealth_06 | 5 vs 1 | 4.204 | 0.446 39.623 |
| age_06 | | 0.985 | 0.944 1.029 |
| marcat_06 | 2 vs 1 | 0.486 | 0.190 1.243 |
| marcat_06 | 3 vs 1 | 1.434 | 0.157 13.073 |
| diabetes_06 | | 0.656 | 0.272 1.583 |
| arthritis_06 | | 0.525 | 0.198 1.392 |
| racecat | 2 vs 1 | 0.423 | 0.093 1.921 |
| racecat | 3 vs 1 | 0.654 | 0.108 3.952 |
| racecat | 4 vs 1 | 0.096 | 0.014 0.673 |
| edcat | 2 vs 1 | 1.933 | 0.679 5.504 |
| edcat | 3 vs 1 | 1.811 | 0.613 5.348 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|---------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.689 | 0.178 2.671 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 67.1 | Somers' D | 0.347 |
| Percent Discordant | 32.5 | Gamma | 0.348 |
| Percent Tied | 0.4 | Tau-a | 0.128 |
| Pairs | 6072 | c | 0.673 |

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1354 |
| Number of Observations not in Domain | 10435 |
| Sum of Weights in Domain | 5291546.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 5291546 |
| Sum of Weights Used | 5291546 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 1227 | 4755792.0 |
| 2 | 1 | 127 | 535754.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 3469294.6 | 3066705.6 |
| SC | 3469308.1 | 3066934.8 |
| -2 Log L | 3469292.6 | 3066671.6 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.60 | 11.5801 | 648.49 | <.0001 |
| Score | 4.35 | 16 | 41 | <.0001 |
| Wald | 4.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.34 | 1 | 56 | 0.5613 |
| selfrhealth_06 | 1.87 | 4 | 53 | 0.1291 |
| age_06 | 22.89 | 1 | 56 | <.0001 |
| marcat_06 | 6.85 | 2 | 55 | 0.0022 |
| diabetes_06 | 3.64 | 1 | 56 | 0.0615 |
| arthritis_06 | 2.04 | 1 | 56 | 0.1584 |
| racecat | 2.22 | 3 | 54 | 0.0966 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.03 | 3 | 54 | 0.9926 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.0384 | 1.1037 | 2.75 | 0.0079 |
| ln_inc06 | | -0.0428 | 0.0733 | -0.58 | 0.5613 |
| selfrhealth_06 | 2 | 0.1799 | 0.5173 | 0.35 | 0.7294 |
| selfrhealth_06 | 3 | -0.2172 | 0.5130 | -0.42 | 0.6737 |
| selfrhealth_06 | 4 | -0.3029 | 0.6171 | -0.49 | 0.6255 |
| selfrhealth_06 | 5 | -1.2973 | 0.7174 | -1.81 | 0.0759 |
| age_06 | | -0.0519 | 0.0108 | -4.78 | <.0001 |
| marcat_06 | 2 | -0.7657 | 0.2714 | -2.82 | 0.0066 |
| marcat_06 | 3 | -2.2658 | 0.7551 | -3.00 | 0.0040 |
| diabetes_06 | | -0.5591 | 0.2930 | -1.91 | 0.0615 |
| arthritis_06 | | 0.4431 | 0.3099 | 1.43 | 0.1584 |
| racecat | 2 | -0.7649 | 0.3304 | -2.32 | 0.0243 |
| racecat | 3 | -0.7076 | 0.3911 | -1.81 | 0.0758 |
| racecat | 4 | -1.1450 | 0.7126 | -1.61 | 0.1137 |
| edcat | 2 | 0.0303 | 0.2476 | 0.12 | 0.9030 |
| edcat | 3 | -0.00705 | 0.3073 | -0.02 | 0.9818 |
| edcat | 4 | -0.0918 | 0.3669 | -0.25 | 0.8033 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | | |
|----------------------|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 0.958 | 0.827 | 1.110 |
| selfrhealth_06 | 2 vs 1 | 1.197 | 0.425 | 3.374 |
| selfrhealth_06 | 3 vs 1 | 0.805 | 0.288 | 2.249 |
| selfrhealth_06 | 4 vs 1 | 0.739 | 0.215 | 2.543 |
| selfrhealth_06 | 5 vs 1 | 0.273 | 0.065 | 1.150 |
| age_06 | | 0.949 | 0.929 | 0.970 |
| marcat_06 | 2 vs 1 | 0.465 | 0.270 | 0.801 |
| marcat_06 | 3 vs 1 | 0.104 | 0.023 | 0.471 |
| diabetes_06 | | 0.572 | 0.318 | 1.028 |
| arthritis_06 | | 1.558 | 0.837 | 2.898 |
| racecat | 2 vs 1 | 0.465 | 0.240 | 0.902 |
| racecat | 3 vs 1 | 0.493 | 0.225 | 1.079 |
| racecat | 4 vs 1 | 0.318 | 0.076 | 1.326 |
| edcat | 2 vs 1 | 1.031 | 0.628 | 1.693 |
| edcat | 3 vs 1 | 0.993 | 0.537 | 1.838 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.912 | 0.437 1.902 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 73.7 | Somers' D | 0.481 |
| Percent Discordant | 25.6 | Gamma | 0.485 |
| Percent Tied | 0.8 | Tau-a | 0.082 |
| Pairs | 155829 | c | 0.740 |

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 9220 |
| Number of Observations not in Domain | 2569 |
| Sum of Weights in Domain | 42322021 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 42322021 |
| Sum of Weights Used | 42322021 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 975 | 4063196 |
| 2 | 1 | 8245 | 38258825 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 26766061 | 25386275 |
| SC | 26766076 | 25386539 |
| -2 Log L | 26766059 | 25386241 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 18.87 | 11.8470 | 663.43 | <.0001 |
| Score | 9.63 | 16 | 41 | <.0001 |
| Wald | 8.65 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.17 | 1 | 56 | 0.2831 |
| selfrhealth_06 | 6.71 | 4 | 53 | 0.0002 |
| age_06 | 100.13 | 1 | 56 | <.0001 |
| marcat_06 | 1.50 | 2 | 55 | 0.2330 |
| diabetes_06 | 0.88 | 1 | 56 | 0.3520 |
| arthritis_06 | 1.03 | 1 | 56 | 0.3142 |
| racecat | 2.39 | 3 | 54 | 0.0789 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.19 | 3 | 54 | 0.9027 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.9422 | 0.6019 | 11.53 | <.0001 |
| ln_inc06 | | -0.0421 | 0.0389 | -1.08 | 0.2831 |
| selfrhealth_06 | 2 | -0.2737 | 0.1716 | -1.59 | 0.1164 |
| selfrhealth_06 | 3 | -0.3708 | 0.1744 | -2.13 | 0.0379 |
| selfrhealth_06 | 4 | -0.6410 | 0.1847 | -3.47 | 0.0010 |
| selfrhealth_06 | 5 | -1.0594 | 0.2212 | -4.79 | <.0001 |
| age_06 | | -0.0526 | 0.00526 | -10.01 | <.0001 |
| marcat_06 | 2 | -0.1396 | 0.0810 | -1.72 | 0.0904 |
| marcat_06 | 3 | -0.0775 | 0.2756 | -0.28 | 0.7797 |
| diabetes_06 | | -0.0916 | 0.0976 | -0.94 | 0.3520 |
| arthritis_06 | | 0.1036 | 0.1020 | 1.02 | 0.3142 |
| racecat | 2 | -0.2481 | 0.1391 | -1.78 | 0.0800 |
| racecat | 3 | -0.3814 | 0.1415 | -2.70 | 0.0093 |
| racecat | 4 | 0.0263 | 0.2234 | 0.12 | 0.9066 |
| edcat | 2 | -0.0197 | 0.1025 | -0.19 | 0.8486 |
| edcat | 3 | -0.0856 | 0.1171 | -0.73 | 0.4678 |
| edcat | 4 | -0.0319 | 0.1259 | -0.25 | 0.8006 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|-----------------------|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 0.959 | 0.887 | 1.036 |
| selfrhealth_06 2 vs 1 | 0.761 | 0.539 | 1.073 |
| selfrhealth_06 3 vs 1 | 0.690 | 0.487 | 0.979 |
| selfrhealth_06 4 vs 1 | 0.527 | 0.364 | 0.763 |
| selfrhealth_06 5 vs 1 | 0.347 | 0.223 | 0.540 |
| age_06 | 0.949 | 0.939 | 0.959 |
| marcat_06 2 vs 1 | 0.870 | 0.739 | 1.023 |
| marcat_06 3 vs 1 | 0.925 | 0.533 | 1.607 |
| diabetes_06 | 0.912 | 0.750 | 1.110 |
| arthritis_06 | 1.109 | 0.904 | 1.361 |
| racecat 2 vs 1 | 0.780 | 0.590 | 1.031 |
| racecat 3 vs 1 | 0.683 | 0.514 | 0.907 |
| racecat 4 vs 1 | 1.027 | 0.656 | 1.606 |
| edcat 2 vs 1 | 0.981 | 0.799 | 1.204 |
| edcat 3 vs 1 | 0.918 | 0.726 | 1.161 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.969 | 0.753 1.246 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|---------|-----------|-------|
| Percent Concordant | 66.8 | Somers' D | 0.346 |
| Percent Discordant | 32.2 | Gamma | 0.349 |
| Percent Tied | 0.9 | Tau-a | 0.065 |
| Pairs | 8038875 | c | 0.673 |

Response propensity model (2012), 111 Pattern (06,08,10)

The MEANS Procedure

| Analysis Variable : phat12_111 Estimated Probability | | | | | |
|--|--------|-----------|-------------|-----------------------|-----------------------|
| N | N Miss | Mean | Std Error | Lower 95% CL for Mean | Upper 95% CL for Mean |
| 11789 | 0 | 0.8779838 | 0.000660110 | 0.8766899 | 0.8792778 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 3229 | 12855026 |
| 2 | 1 | 8560 | 39700961 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 58475989 | 51716914 |
| SC | 58476004 | 51717182 |
| -2 Log L | 58475987 | 51716880 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 100.40 | 11.2501 | 630.01 | <.0001 |
| Score | 48.06 | 16 | 41 | <.0001 |
| Wald | 35.25 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.36 | 1 | 56 | 0.5494 |
| selfrhealth_06 | 51.89 | 4 | 53 | <.0001 |
| age_06 | 358.56 | 1 | 56 | <.0001 |
| marcat_06 | 4.04 | 2 | 55 | 0.0231 |
| diabetes_06 | 13.45 | 1 | 56 | 0.0005 |
| arthritis_06 | 21.69 | 1 | 56 | <.0001 |
| racecat | 1.56 | 3 | 54 | 0.2099 |
| edcat | 0.10 | 3 | 54 | 0.9605 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.1667 | 0.3939 | 15.66 | <.0001 | |
| ln_inc06 | 0.0145 | 0.0241 | 0.60 | 0.5494 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.2030 | 0.1061 | -1.91 | 0.0608 |
| selfrhealth_06 | 3 | -0.4741 | 0.1102 | -4.30 | <.0001 |
| selfrhealth_06 | 4 | -0.8706 | 0.1097 | -7.93 | <.0001 |
| selfrhealth_06 | 5 | -1.5873 | 0.1395 | -11.38 | <.0001 |
| age_06 | | -0.0660 | 0.00348 | -18.94 | <.0001 |
| marcat_06 | 2 | -0.1154 | 0.0602 | -1.92 | 0.0603 |
| marcat_06 | 3 | -0.2831 | 0.1125 | -2.52 | 0.0148 |
| diabetes_06 | | -0.1684 | 0.0459 | -3.67 | 0.0005 |
| arthritis_06 | | 0.2612 | 0.0561 | 4.66 | <.0001 |
| racecat | 2 | -0.2037 | 0.0929 | -2.19 | 0.0325 |
| racecat | 3 | -0.1793 | 0.1143 | -1.57 | 0.1225 |
| racecat | 4 | -0.1739 | 0.1903 | -0.91 | 0.3646 |
| edcat | 2 | 0.0341 | 0.0677 | 0.50 | 0.6162 |
| edcat | 3 | 0.00588 | 0.0684 | 0.09 | 0.9318 |
| edcat | 4 | 0.0122 | 0.0719 | 0.17 | 0.8656 |

NOTE: The degrees of freedom for the t tests is 56.

| Odds Ratio Estimates | | | |
|-----------------------|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.015 | 0.967 | 1.065 |
| selfrhealth_06 2 vs 1 | 0.816 | 0.660 | 1.010 |
| selfrhealth_06 3 vs 1 | 0.622 | 0.499 | 0.776 |
| selfrhealth_06 4 vs 1 | 0.419 | 0.336 | 0.522 |
| selfrhealth_06 5 vs 1 | 0.204 | 0.155 | 0.270 |
| age_06 | 0.936 | 0.930 | 0.943 |
| marcat_06 2 vs 1 | 0.891 | 0.790 | 1.005 |
| marcat_06 3 vs 1 | 0.753 | 0.601 | 0.944 |
| diabetes_06 | 0.845 | 0.771 | 0.926 |
| arthritis_06 | 1.298 | 1.160 | 1.453 |
| racecat 2 vs 1 | 0.816 | 0.677 | 0.983 |
| racecat 3 vs 1 | 0.836 | 0.665 | 1.051 |
| racecat 4 vs 1 | 0.840 | 0.574 | 1.230 |
| edcat 2 vs 1 | 1.035 | 0.904 | 1.185 |
| edcat 3 vs 1 | 1.006 | 0.877 | 1.154 |
| edcat 4 vs 1 | 1.012 | 0.876 | 1.169 |

NOTE: The degrees of freedom in computing the confidence limits is 56.

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 73.1 | Somers' D | 0.465 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.6 | Gamma | 0.467 |
| Percent Tied | 0.3 | Tau-a | 0.185 |
| Pairs | 27640240 | c | 0.733 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1033 |
| Number of Observations not in Domain | 10756 |
| Sum of Weights in Domain | 4032032.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4032032 |
| Sum of Weights Used | 4032032 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 983 | 3823167.0 |
| 2 | 1 | 50 | 208865.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 1643342.5 | 1256288.9 |
| SC | 1643355.7 | 1256513.5 |
| -2 Log L | 1643340.5 | 1256254.9 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.35 | 12.2143 | 684.00 | <.0001 |
| Score | 7.41 | 16 | 41 | <.0001 |
| Wald | 3.77 | 16 | 41 | 0.0003 |
| NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.27 | 1 | 56 | 0.6046 |
| selfrhealth_06 | 5.37 | 4 | 53 | 0.0010 |
| age_06 | 16.57 | 1 | 56 | 0.0001 |
| marcat_06 | 1.24 | 2 | 55 | 0.2979 |
| diabetes_06 | 0.00 | 1 | 56 | 0.9729 |
| arthritis_06 | 0.07 | 1 | 56 | 0.7940 |
| racecat | 3.02 | 3 | 54 | 0.0374 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.14 | 3 | 54 | 0.3416 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.5677 | 1.9920 | 0.79 | 0.4346 |
| ln_inc06 | | 0.0792 | 0.1522 | 0.52 | 0.6046 |
| selfrhealth_06 | 2 | 0.0332 | 0.5701 | 0.06 | 0.9538 |
| selfrhealth_06 | 3 | -1.5411 | 0.6558 | -2.35 | 0.0223 |
| selfrhealth_06 | 4 | -1.7387 | 0.7354 | -2.36 | 0.0216 |
| selfrhealth_06 | 5 | -2.1004 | 0.8660 | -2.43 | 0.0185 |
| age_06 | | -0.0550 | 0.0135 | -4.07 | 0.0001 |
| marcat_06 | 2 | -0.6456 | 0.4176 | -1.55 | 0.1278 |
| marcat_06 | 3 | -0.1815 | 0.6327 | -0.29 | 0.7753 |
| diabetes_06 | | -0.0193 | 0.5657 | -0.03 | 0.9729 |
| arthritis_06 | | 0.0868 | 0.3308 | 0.26 | 0.7940 |
| racecat | 2 | -0.8103 | 0.7599 | -1.07 | 0.2909 |
| racecat | 3 | 0.6911 | 0.7056 | 0.98 | 0.3316 |
| racecat | 4 | 0.2037 | 0.9461 | 0.22 | 0.8303 |
| edcat | 2 | -0.1429 | 0.6336 | -0.23 | 0.8223 |
| edcat | 3 | -0.2196 | 0.7437 | -0.30 | 0.7689 |
| edcat | 4 | 0.4785 | 0.6908 | 0.69 | 0.4914 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.082 | 0.798 1.468 |
| selfrhealth_06 | 2 vs 1 | 1.034 | 0.330 3.239 |
| selfrhealth_06 | 3 vs 1 | 0.214 | 0.058 0.797 |
| selfrhealth_06 | 4 vs 1 | 0.176 | 0.040 0.767 |
| selfrhealth_06 | 5 vs 1 | 0.122 | 0.022 0.694 |
| age_06 | | 0.946 | 0.921 0.972 |
| marcat_06 | 2 vs 1 | 0.524 | 0.227 1.210 |
| marcat_06 | 3 vs 1 | 0.834 | 0.235 2.962 |
| diabetes_06 | | 0.981 | 0.316 3.046 |
| arthritis_06 | | 1.091 | 0.562 2.116 |
| racecat | 2 vs 1 | 0.445 | 0.097 2.038 |
| racecat | 3 vs 1 | 1.996 | 0.486 8.204 |
| racecat | 4 vs 1 | 1.226 | 0.184 8.158 |
| edcat | 2 vs 1 | 0.867 | 0.244 3.084 |
| edcat | 3 vs 1 | 0.803 | 0.181 3.562 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.614 | 0.404 6.439 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|-------|-----------|-------|
| Percent Concordant | 80.3 | Somers' D | 0.620 |
| Percent Discordant | 18.3 | Gamma | 0.628 |
| Percent Tied | 1.4 | Tau-a | 0.057 |
| Pairs | 49150 | c | 0.810 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 182 |
| Number of Observations not in Domain | 11607 |
| Sum of Weights in Domain | 910388.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|--------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 910388 |
| Sum of Weights Used | 910388 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 44 | 212871.00 |
| 2 | 1 | 138 | 697517.00 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 990242.62 | 843291.77 |
| SC | 990254.34 | 843491.03 |
| -2 Log L | 990240.62 | 843257.77 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 1.77 | 11.7554 | 658.30 | 0.0506 |
| Score | 1.03 | 16 | 41 | 0.4438 |
| Wald | 2.03 | 16 | 41 | 0.0343 |
| NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.38 | 1 | 56 | 0.2447 |
| selfrhealth_06 | 1.27 | 4 | 53 | 0.2916 |
| age_06 | 0.48 | 1 | 56 | 0.4899 |
| marcat_06 | 1.71 | 2 | 55 | 0.1903 |
| diabetes_06 | 0.92 | 1 | 56 | 0.3419 |
| arthritis_06 | 1.75 | 1 | 56 | 0.1911 |
| racecat | 2.25 | 3 | 54 | 0.0933 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.51 | 3 | 54 | 0.2234 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.4105 | 1.9785 | 0.71 | 0.4789 |
| ln_inc06 | | 0.1632 | 0.1388 | 1.18 | 0.2447 |
| selfrhealth_06 | 2 | 0.8691 | 0.9398 | 0.92 | 0.3591 |
| selfrhealth_06 | 3 | 0.1614 | 0.9404 | 0.17 | 0.8643 |
| selfrhealth_06 | 4 | 0.0253 | 0.8400 | 0.03 | 0.9761 |
| selfrhealth_06 | 5 | 1.4361 | 1.1199 | 1.28 | 0.2050 |
| age_06 | | -0.0149 | 0.0215 | -0.70 | 0.4899 |
| marcat_06 | 2 | -0.7220 | 0.4689 | -1.54 | 0.1293 |
| marcat_06 | 3 | 0.3602 | 1.1034 | 0.33 | 0.7453 |
| diabetes_06 | | -0.4215 | 0.4397 | -0.96 | 0.3419 |
| arthritis_06 | | -0.6440 | 0.4867 | -1.32 | 0.1911 |
| racecat | 2 | -0.8599 | 0.7553 | -1.14 | 0.2597 |
| racecat | 3 | -0.4252 | 0.8983 | -0.47 | 0.6378 |
| racecat | 4 | -2.3458 | 0.9736 | -2.41 | 0.0193 |
| edcat | 2 | 0.6592 | 0.5223 | 1.26 | 0.2121 |
| edcat | 3 | 0.5940 | 0.5405 | 1.10 | 0.2765 |
| edcat | 4 | -0.3719 | 0.6760 | -0.55 | 0.5844 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.177 | 0.891 1.555 |
| selfrhealth_06 | 2 vs 1 | 2.385 | 0.363 15.670 |
| selfrhealth_06 | 3 vs 1 | 1.175 | 0.179 7.731 |
| selfrhealth_06 | 4 vs 1 | 1.026 | 0.191 5.518 |
| selfrhealth_06 | 5 vs 1 | 4.204 | 0.446 39.623 |
| age_06 | | 0.985 | 0.944 1.029 |
| marcat_06 | 2 vs 1 | 0.486 | 0.190 1.243 |
| marcat_06 | 3 vs 1 | 1.434 | 0.157 13.073 |
| diabetes_06 | | 0.656 | 0.272 1.583 |
| arthritis_06 | | 0.525 | 0.198 1.392 |
| racecat | 2 vs 1 | 0.423 | 0.093 1.921 |
| racecat | 3 vs 1 | 0.654 | 0.108 3.952 |
| racecat | 4 vs 1 | 0.096 | 0.014 0.673 |
| edcat | 2 vs 1 | 1.933 | 0.679 5.504 |
| edcat | 3 vs 1 | 1.811 | 0.613 5.348 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|---------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.689 | 0.178 2.671 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 67.1 | Somers' D | 0.347 |
| Percent Discordant | 32.5 | Gamma | 0.348 |
| Percent Tied | 0.4 | Tau-a | 0.128 |
| Pairs | 6072 | c | 0.673 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1354 |
| Number of Observations not in Domain | 10435 |
| Sum of Weights in Domain | 5291546.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 5291546 |
| Sum of Weights Used | 5291546 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 1227 | 4755792.0 |
| 2 | 1 | 127 | 535754.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 3469294.6 | 3066705.6 |
| SC | 3469308.1 | 3066934.8 |
| -2 Log L | 3469292.6 | 3066671.6 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.60 | 11.5801 | 648.49 | <.0001 |
| Score | 4.35 | 16 | 41 | <.0001 |
| Wald | 4.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.34 | 1 | 56 | 0.5613 |
| selfrhealth_06 | 1.87 | 4 | 53 | 0.1291 |
| age_06 | 22.89 | 1 | 56 | <.0001 |
| marcat_06 | 6.85 | 2 | 55 | 0.0022 |
| diabetes_06 | 3.64 | 1 | 56 | 0.0615 |
| arthritis_06 | 2.04 | 1 | 56 | 0.1584 |
| racecat | 2.22 | 3 | 54 | 0.0966 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.03 | 3 | 54 | 0.9926 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.0384 | 1.1037 | 2.75 | 0.0079 |
| ln_inc06 | | -0.0428 | 0.0733 | -0.58 | 0.5613 |
| selfrhealth_06 | 2 | 0.1799 | 0.5173 | 0.35 | 0.7294 |
| selfrhealth_06 | 3 | -0.2172 | 0.5130 | -0.42 | 0.6737 |
| selfrhealth_06 | 4 | -0.3029 | 0.6171 | -0.49 | 0.6255 |
| selfrhealth_06 | 5 | -1.2973 | 0.7174 | -1.81 | 0.0759 |
| age_06 | | -0.0519 | 0.0108 | -4.78 | <.0001 |
| marcat_06 | 2 | -0.7657 | 0.2714 | -2.82 | 0.0066 |
| marcat_06 | 3 | -2.2658 | 0.7551 | -3.00 | 0.0040 |
| diabetes_06 | | -0.5591 | 0.2930 | -1.91 | 0.0615 |
| arthritis_06 | | 0.4431 | 0.3099 | 1.43 | 0.1584 |
| racecat | 2 | -0.7649 | 0.3304 | -2.32 | 0.0243 |
| racecat | 3 | -0.7076 | 0.3911 | -1.81 | 0.0758 |
| racecat | 4 | -1.1450 | 0.7126 | -1.61 | 0.1137 |
| edcat | 2 | 0.0303 | 0.2476 | 0.12 | 0.9030 |
| edcat | 3 | -0.00705 | 0.3073 | -0.02 | 0.9818 |
| edcat | 4 | -0.0918 | 0.3669 | -0.25 | 0.8033 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | | |
|----------------------|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 0.958 | 0.827 | 1.110 |
| selfrhealth_06 | 2 vs 1 | 1.197 | 0.425 | 3.374 |
| selfrhealth_06 | 3 vs 1 | 0.805 | 0.288 | 2.249 |
| selfrhealth_06 | 4 vs 1 | 0.739 | 0.215 | 2.543 |
| selfrhealth_06 | 5 vs 1 | 0.273 | 0.065 | 1.150 |
| age_06 | | 0.949 | 0.929 | 0.970 |
| marcat_06 | 2 vs 1 | 0.465 | 0.270 | 0.801 |
| marcat_06 | 3 vs 1 | 0.104 | 0.023 | 0.471 |
| diabetes_06 | | 0.572 | 0.318 | 1.028 |
| arthritis_06 | | 1.558 | 0.837 | 2.898 |
| racecat | 2 vs 1 | 0.465 | 0.240 | 0.902 |
| racecat | 3 vs 1 | 0.493 | 0.225 | 1.079 |
| racecat | 4 vs 1 | 0.318 | 0.076 | 1.326 |
| edcat | 2 vs 1 | 1.031 | 0.628 | 1.693 |
| edcat | 3 vs 1 | 0.993 | 0.537 | 1.838 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.912 | 0.437 1.902 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 73.7 | Somers' D | 0.481 |
| Percent Discordant | 25.6 | Gamma | 0.485 |
| Percent Tied | 0.8 | Tau-a | 0.082 |
| Pairs | 155829 | c | 0.740 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 9220 |
| Number of Observations not in Domain | 2569 |
| Sum of Weights in Domain | 42322021 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 42322021 |
| Sum of Weights Used | 42322021 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 975 | 4063196 |
| 2 | 1 | 8245 | 38258825 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 26766061 | 25386275 |
| SC | 26766076 | 25386539 |
| -2 Log L | 26766059 | 25386241 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 18.87 | 11.8470 | 663.43 | <.0001 |
| Score | 9.63 | 16 | 41 | <.0001 |
| Wald | 8.65 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.17 | 1 | 56 | 0.2831 |
| selfrhealth_06 | 6.71 | 4 | 53 | 0.0002 |
| age_06 | 100.13 | 1 | 56 | <.0001 |
| marcat_06 | 1.50 | 2 | 55 | 0.2330 |
| diabetes_06 | 0.88 | 1 | 56 | 0.3520 |
| arthritis_06 | 1.03 | 1 | 56 | 0.3142 |
| racecat | 2.39 | 3 | 54 | 0.0789 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.19 | 3 | 54 | 0.9027 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.9422 | 0.6019 | 11.53 | <.0001 |
| ln_inc06 | | -0.0421 | 0.0389 | -1.08 | 0.2831 |
| selfrhealth_06 | 2 | -0.2737 | 0.1716 | -1.59 | 0.1164 |
| selfrhealth_06 | 3 | -0.3708 | 0.1744 | -2.13 | 0.0379 |
| selfrhealth_06 | 4 | -0.6410 | 0.1847 | -3.47 | 0.0010 |
| selfrhealth_06 | 5 | -1.0594 | 0.2212 | -4.79 | <.0001 |
| age_06 | | -0.0526 | 0.00526 | -10.01 | <.0001 |
| marcat_06 | 2 | -0.1396 | 0.0810 | -1.72 | 0.0904 |
| marcat_06 | 3 | -0.0775 | 0.2756 | -0.28 | 0.7797 |
| diabetes_06 | | -0.0916 | 0.0976 | -0.94 | 0.3520 |
| arthritis_06 | | 0.1036 | 0.1020 | 1.02 | 0.3142 |
| racecat | 2 | -0.2481 | 0.1391 | -1.78 | 0.0800 |
| racecat | 3 | -0.3814 | 0.1415 | -2.70 | 0.0093 |
| racecat | 4 | 0.0263 | 0.2234 | 0.12 | 0.9066 |
| edcat | 2 | -0.0197 | 0.1025 | -0.19 | 0.8486 |
| edcat | 3 | -0.0856 | 0.1171 | -0.73 | 0.4678 |
| edcat | 4 | -0.0319 | 0.1259 | -0.25 | 0.8006 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 0.959 | 0.887 1.036 |
| selfrhealth_06 | 2 vs 1 | 0.761 | 0.539 1.073 |
| selfrhealth_06 | 3 vs 1 | 0.690 | 0.487 0.979 |
| selfrhealth_06 | 4 vs 1 | 0.527 | 0.364 0.763 |
| selfrhealth_06 | 5 vs 1 | 0.347 | 0.223 0.540 |
| age_06 | | 0.949 | 0.939 0.959 |
| marcat_06 | 2 vs 1 | 0.870 | 0.739 1.023 |
| marcat_06 | 3 vs 1 | 0.925 | 0.533 1.607 |
| diabetes_06 | | 0.912 | 0.750 1.110 |
| arthritis_06 | | 1.109 | 0.904 1.361 |
| racecat | 2 vs 1 | 0.780 | 0.590 1.031 |
| racecat | 3 vs 1 | 0.683 | 0.514 0.907 |
| racecat | 4 vs 1 | 1.027 | 0.656 1.606 |
| edcat | 2 vs 1 | 0.981 | 0.799 1.204 |
| edcat | 3 vs 1 | 0.918 | 0.726 1.161 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.969 | 0.753 1.246 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|---------|-----------|-------|
| Percent Concordant | 66.8 | Somers' D | 0.346 |
| Percent Discordant | 32.2 | Gamma | 0.349 |
| Percent Tied | 0.9 | Tau-a | 0.065 |
| Pairs | 8038875 | c | 0.673 |

Response propensity model (2012), 110 Pattern (06,08,no 10)

The MEANS Procedure

| Analysis Variable : phat12_110 Estimated Probability | | |
|--|--------|-----------|
| N | N Miss | Mean |
| 11789 | 0 | 0.1252751 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 3229 | 12855026 |
| 2 | 1 | 8560 | 39700961 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 58475989 | 51716914 |
| SC | 58476004 | 51717182 |
| -2 Log L | 58475987 | 51716880 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 100.40 | 11.2501 | 630.01 | <.0001 |
| Score | 48.06 | 16 | 41 | <.0001 |
| Wald | 35.25 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.36 | 1 | 56 | 0.5494 |
| selfrhealth_06 | 51.89 | 4 | 53 | <.0001 |
| age_06 | 358.56 | 1 | 56 | <.0001 |
| marcat_06 | 4.04 | 2 | 55 | 0.0231 |
| diabetes_06 | 13.45 | 1 | 56 | 0.0005 |
| arthritis_06 | 21.69 | 1 | 56 | <.0001 |
| racecat | 1.56 | 3 | 54 | 0.2099 |
| edcat | 0.10 | 3 | 54 | 0.9605 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.1667 | 0.3939 | 15.66 | <.0001 | |
| ln_inc06 | 0.0145 | 0.0241 | 0.60 | 0.5494 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.2030 | 0.1061 | -1.91 | 0.0608 |
| selfrhealth_06 | 3 | -0.4741 | 0.1102 | -4.30 | <.0001 |
| selfrhealth_06 | 4 | -0.8706 | 0.1097 | -7.93 | <.0001 |
| selfrhealth_06 | 5 | -1.5873 | 0.1395 | -11.38 | <.0001 |
| age_06 | | -0.0660 | 0.00348 | -18.94 | <.0001 |
| marcat_06 | 2 | -0.1154 | 0.0602 | -1.92 | 0.0603 |
| marcat_06 | 3 | -0.2831 | 0.1125 | -2.52 | 0.0148 |
| diabetes_06 | | -0.1684 | 0.0459 | -3.67 | 0.0005 |
| arthritis_06 | | 0.2612 | 0.0561 | 4.66 | <.0001 |
| racecat | 2 | -0.2037 | 0.0929 | -2.19 | 0.0325 |
| racecat | 3 | -0.1793 | 0.1143 | -1.57 | 0.1225 |
| racecat | 4 | -0.1739 | 0.1903 | -0.91 | 0.3646 |
| edcat | 2 | 0.0341 | 0.0677 | 0.50 | 0.6162 |
| edcat | 3 | 0.00588 | 0.0684 | 0.09 | 0.9318 |
| edcat | 4 | 0.0122 | 0.0719 | 0.17 | 0.8656 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.015 | 0.967 | 1.065 |
| selfrhealth_06 2 vs 1 | 0.816 | 0.660 | 1.010 |
| selfrhealth_06 3 vs 1 | 0.622 | 0.499 | 0.776 |
| selfrhealth_06 4 vs 1 | 0.419 | 0.336 | 0.522 |
| selfrhealth_06 5 vs 1 | 0.204 | 0.155 | 0.270 |
| age_06 | 0.936 | 0.930 | 0.943 |
| marcat_06 2 vs 1 | 0.891 | 0.790 | 1.005 |
| marcat_06 3 vs 1 | 0.753 | 0.601 | 0.944 |
| diabetes_06 | 0.845 | 0.771 | 0.926 |
| arthritis_06 | 1.298 | 1.160 | 1.453 |
| racecat 2 vs 1 | 0.816 | 0.677 | 0.983 |
| racecat 3 vs 1 | 0.836 | 0.665 | 1.051 |
| racecat 4 vs 1 | 0.840 | 0.574 | 1.230 |
| edcat 2 vs 1 | 1.035 | 0.904 | 1.185 |
| edcat 3 vs 1 | 1.006 | 0.877 | 1.154 |
| edcat 4 vs 1 | 1.012 | 0.876 | 1.169 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 73.1 | Somers' D | 0.465 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.6 | Gamma | 0.467 |
| Percent Tied | 0.3 | Tau-a | 0.185 |
| Pairs | 27640240 | c | 0.733 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1033 |
| Number of Observations not in Domain | 10756 |
| Sum of Weights in Domain | 4032032.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4032032 |
| Sum of Weights Used | 4032032 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 983 | 3823167.0 |
| 2 | 1 | 50 | 208865.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 1643342.5 | 1256288.9 |
| SC | 1643355.7 | 1256513.5 |
| -2 Log L | 1643340.5 | 1256254.9 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.35 | 12.2143 | 684.00 | <.0001 |
| Score | 7.41 | 16 | 41 | <.0001 |
| Wald | 3.77 | 16 | 41 | 0.0003 |
| NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.27 | 1 | 56 | 0.6046 |
| selfrhealth_06 | 5.37 | 4 | 53 | 0.0010 |
| age_06 | 16.57 | 1 | 56 | 0.0001 |
| marcat_06 | 1.24 | 2 | 55 | 0.2979 |
| diabetes_06 | 0.00 | 1 | 56 | 0.9729 |
| arthritis_06 | 0.07 | 1 | 56 | 0.7940 |
| racecat | 3.02 | 3 | 54 | 0.0374 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.14 | 3 | 54 | 0.3416 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.5677 | 1.9920 | 0.79 | 0.4346 |
| ln_inc06 | | 0.0792 | 0.1522 | 0.52 | 0.6046 |
| selfrhealth_06 | 2 | 0.0332 | 0.5701 | 0.06 | 0.9538 |
| selfrhealth_06 | 3 | -1.5411 | 0.6558 | -2.35 | 0.0223 |
| selfrhealth_06 | 4 | -1.7387 | 0.7354 | -2.36 | 0.0216 |
| selfrhealth_06 | 5 | -2.1004 | 0.8660 | -2.43 | 0.0185 |
| age_06 | | -0.0550 | 0.0135 | -4.07 | 0.0001 |
| marcat_06 | 2 | -0.6456 | 0.4176 | -1.55 | 0.1278 |
| marcat_06 | 3 | -0.1815 | 0.6327 | -0.29 | 0.7753 |
| diabetes_06 | | -0.0193 | 0.5657 | -0.03 | 0.9729 |
| arthritis_06 | | 0.0868 | 0.3308 | 0.26 | 0.7940 |
| racecat | 2 | -0.8103 | 0.7599 | -1.07 | 0.2909 |
| racecat | 3 | 0.6911 | 0.7056 | 0.98 | 0.3316 |
| racecat | 4 | 0.2037 | 0.9461 | 0.22 | 0.8303 |
| edcat | 2 | -0.1429 | 0.6336 | -0.23 | 0.8223 |
| edcat | 3 | -0.2196 | 0.7437 | -0.30 | 0.7689 |
| edcat | 4 | 0.4785 | 0.6908 | 0.69 | 0.4914 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.082 | 0.798 1.468 |
| selfrhealth_06 | 2 vs 1 | 1.034 | 0.330 3.239 |
| selfrhealth_06 | 3 vs 1 | 0.214 | 0.058 0.797 |
| selfrhealth_06 | 4 vs 1 | 0.176 | 0.040 0.767 |
| selfrhealth_06 | 5 vs 1 | 0.122 | 0.022 0.694 |
| age_06 | | 0.946 | 0.921 0.972 |
| marcat_06 | 2 vs 1 | 0.524 | 0.227 1.210 |
| marcat_06 | 3 vs 1 | 0.834 | 0.235 2.962 |
| diabetes_06 | | 0.981 | 0.316 3.046 |
| arthritis_06 | | 1.091 | 0.562 2.116 |
| racecat | 2 vs 1 | 0.445 | 0.097 2.038 |
| racecat | 3 vs 1 | 1.996 | 0.486 8.204 |
| racecat | 4 vs 1 | 1.226 | 0.184 8.158 |
| edcat | 2 vs 1 | 0.867 | 0.244 3.084 |
| edcat | 3 vs 1 | 0.803 | 0.181 3.562 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.614 | 0.404 6.439 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|-------|-----------|-------|
| Percent Concordant | 80.3 | Somers' D | 0.620 |
| Percent Discordant | 18.3 | Gamma | 0.628 |
| Percent Tied | 1.4 | Tau-a | 0.057 |
| Pairs | 49150 | c | 0.810 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 182 |
| Number of Observations not in Domain | 11607 |
| Sum of Weights in Domain | 910388.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|--------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 910388 |
| Sum of Weights Used | 910388 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 44 | 212871.00 |
| 2 | 1 | 138 | 697517.00 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 990242.62 | 843291.77 |
| SC | 990254.34 | 843491.03 |
| -2 Log L | 990240.62 | 843257.77 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 1.77 | 11.7554 | 658.30 | 0.0506 |
| Score | 1.03 | 16 | 41 | 0.4438 |
| Wald | 2.03 | 16 | 41 | 0.0343 |
| NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.38 | 1 | 56 | 0.2447 |
| selfrhealth_06 | 1.27 | 4 | 53 | 0.2916 |
| age_06 | 0.48 | 1 | 56 | 0.4899 |
| marcat_06 | 1.71 | 2 | 55 | 0.1903 |
| diabetes_06 | 0.92 | 1 | 56 | 0.3419 |
| arthritis_06 | 1.75 | 1 | 56 | 0.1911 |
| racecat | 2.25 | 3 | 54 | 0.0933 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.51 | 3 | 54 | 0.2234 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.4105 | 1.9785 | 0.71 | 0.4789 |
| ln_inc06 | | 0.1632 | 0.1388 | 1.18 | 0.2447 |
| selfrhealth_06 | 2 | 0.8691 | 0.9398 | 0.92 | 0.3591 |
| selfrhealth_06 | 3 | 0.1614 | 0.9404 | 0.17 | 0.8643 |
| selfrhealth_06 | 4 | 0.0253 | 0.8400 | 0.03 | 0.9761 |
| selfrhealth_06 | 5 | 1.4361 | 1.1199 | 1.28 | 0.2050 |
| age_06 | | -0.0149 | 0.0215 | -0.70 | 0.4899 |
| marcat_06 | 2 | -0.7220 | 0.4689 | -1.54 | 0.1293 |
| marcat_06 | 3 | 0.3602 | 1.1034 | 0.33 | 0.7453 |
| diabetes_06 | | -0.4215 | 0.4397 | -0.96 | 0.3419 |
| arthritis_06 | | -0.6440 | 0.4867 | -1.32 | 0.1911 |
| racecat | 2 | -0.8599 | 0.7553 | -1.14 | 0.2597 |
| racecat | 3 | -0.4252 | 0.8983 | -0.47 | 0.6378 |
| racecat | 4 | -2.3458 | 0.9736 | -2.41 | 0.0193 |
| edcat | 2 | 0.6592 | 0.5223 | 1.26 | 0.2121 |
| edcat | 3 | 0.5940 | 0.5405 | 1.10 | 0.2765 |
| edcat | 4 | -0.3719 | 0.6760 | -0.55 | 0.5844 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.177 | 0.891 1.555 |
| selfrhealth_06 | 2 vs 1 | 2.385 | 0.363 15.670 |
| selfrhealth_06 | 3 vs 1 | 1.175 | 0.179 7.731 |
| selfrhealth_06 | 4 vs 1 | 1.026 | 0.191 5.518 |
| selfrhealth_06 | 5 vs 1 | 4.204 | 0.446 39.623 |
| age_06 | | 0.985 | 0.944 1.029 |
| marcat_06 | 2 vs 1 | 0.486 | 0.190 1.243 |
| marcat_06 | 3 vs 1 | 1.434 | 0.157 13.073 |
| diabetes_06 | | 0.656 | 0.272 1.583 |
| arthritis_06 | | 0.525 | 0.198 1.392 |
| racecat | 2 vs 1 | 0.423 | 0.093 1.921 |
| racecat | 3 vs 1 | 0.654 | 0.108 3.952 |
| racecat | 4 vs 1 | 0.096 | 0.014 0.673 |
| edcat | 2 vs 1 | 1.933 | 0.679 5.504 |
| edcat | 3 vs 1 | 1.811 | 0.613 5.348 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|---------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.689 | 0.178 2.671 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 67.1 | Somers' D | 0.347 |
| Percent Discordant | 32.5 | Gamma | 0.348 |
| Percent Tied | 0.4 | Tau-a | 0.128 |
| Pairs | 6072 | c | 0.673 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1354 |
| Number of Observations not in Domain | 10435 |
| Sum of Weights in Domain | 5291546.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 5291546 |
| Sum of Weights Used | 5291546 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 1227 | 4755792.0 |
| 2 | 1 | 127 | 535754.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 3469294.6 | 3066705.6 |
| SC | 3469308.1 | 3066934.8 |
| -2 Log L | 3469292.6 | 3066671.6 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.60 | 11.5801 | 648.49 | <.0001 |
| Score | 4.35 | 16 | 41 | <.0001 |
| Wald | 4.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.34 | 1 | 56 | 0.5613 |
| selfrhealth_06 | 1.87 | 4 | 53 | 0.1291 |
| age_06 | 22.89 | 1 | 56 | <.0001 |
| marcat_06 | 6.85 | 2 | 55 | 0.0022 |
| diabetes_06 | 3.64 | 1 | 56 | 0.0615 |
| arthritis_06 | 2.04 | 1 | 56 | 0.1584 |
| racecat | 2.22 | 3 | 54 | 0.0966 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.03 | 3 | 54 | 0.9926 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.0384 | 1.1037 | 2.75 | 0.0079 |
| ln_inc06 | | -0.0428 | 0.0733 | -0.58 | 0.5613 |
| selfrhealth_06 | 2 | 0.1799 | 0.5173 | 0.35 | 0.7294 |
| selfrhealth_06 | 3 | -0.2172 | 0.5130 | -0.42 | 0.6737 |
| selfrhealth_06 | 4 | -0.3029 | 0.6171 | -0.49 | 0.6255 |
| selfrhealth_06 | 5 | -1.2973 | 0.7174 | -1.81 | 0.0759 |
| age_06 | | -0.0519 | 0.0108 | -4.78 | <.0001 |
| marcat_06 | 2 | -0.7657 | 0.2714 | -2.82 | 0.0066 |
| marcat_06 | 3 | -2.2658 | 0.7551 | -3.00 | 0.0040 |
| diabetes_06 | | -0.5591 | 0.2930 | -1.91 | 0.0615 |
| arthritis_06 | | 0.4431 | 0.3099 | 1.43 | 0.1584 |
| racecat | 2 | -0.7649 | 0.3304 | -2.32 | 0.0243 |
| racecat | 3 | -0.7076 | 0.3911 | -1.81 | 0.0758 |
| racecat | 4 | -1.1450 | 0.7126 | -1.61 | 0.1137 |
| edcat | 2 | 0.0303 | 0.2476 | 0.12 | 0.9030 |
| edcat | 3 | -0.00705 | 0.3073 | -0.02 | 0.9818 |
| edcat | 4 | -0.0918 | 0.3669 | -0.25 | 0.8033 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | | |
|----------------------|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 0.958 | 0.827 | 1.110 |
| selfrhealth_06 | 2 vs 1 | 1.197 | 0.425 | 3.374 |
| selfrhealth_06 | 3 vs 1 | 0.805 | 0.288 | 2.249 |
| selfrhealth_06 | 4 vs 1 | 0.739 | 0.215 | 2.543 |
| selfrhealth_06 | 5 vs 1 | 0.273 | 0.065 | 1.150 |
| age_06 | | 0.949 | 0.929 | 0.970 |
| marcat_06 | 2 vs 1 | 0.465 | 0.270 | 0.801 |
| marcat_06 | 3 vs 1 | 0.104 | 0.023 | 0.471 |
| diabetes_06 | | 0.572 | 0.318 | 1.028 |
| arthritis_06 | | 1.558 | 0.837 | 2.898 |
| racecat | 2 vs 1 | 0.465 | 0.240 | 0.902 |
| racecat | 3 vs 1 | 0.493 | 0.225 | 1.079 |
| racecat | 4 vs 1 | 0.318 | 0.076 | 1.326 |
| edcat | 2 vs 1 | 1.031 | 0.628 | 1.693 |
| edcat | 3 vs 1 | 0.993 | 0.537 | 1.838 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.912 | 0.437 1.902 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 73.7 | Somers' D | 0.481 |
| Percent Discordant | 25.6 | Gamma | 0.485 |
| Percent Tied | 0.8 | Tau-a | 0.082 |
| Pairs | 155829 | c | 0.740 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 9220 |
| Number of Observations not in Domain | 2569 |
| Sum of Weights in Domain | 42322021 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 42322021 |
| Sum of Weights Used | 42322021 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 975 | 4063196 |
| 2 | 1 | 8245 | 38258825 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 26766061 | 25386275 |
| SC | 26766076 | 25386539 |
| -2 Log L | 26766059 | 25386241 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 18.87 | 11.8470 | 663.43 | <.0001 |
| Score | 9.63 | 16 | 41 | <.0001 |
| Wald | 8.65 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.17 | 1 | 56 | 0.2831 |
| selfrhealth_06 | 6.71 | 4 | 53 | 0.0002 |
| age_06 | 100.13 | 1 | 56 | <.0001 |
| marcat_06 | 1.50 | 2 | 55 | 0.2330 |
| diabetes_06 | 0.88 | 1 | 56 | 0.3520 |
| arthritis_06 | 1.03 | 1 | 56 | 0.3142 |
| racecat | 2.39 | 3 | 54 | 0.0789 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.19 | 3 | 54 | 0.9027 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.9422 | 0.6019 | 11.53 | <.0001 |
| ln_inc06 | | -0.0421 | 0.0389 | -1.08 | 0.2831 |
| selfrhealth_06 | 2 | -0.2737 | 0.1716 | -1.59 | 0.1164 |
| selfrhealth_06 | 3 | -0.3708 | 0.1744 | -2.13 | 0.0379 |
| selfrhealth_06 | 4 | -0.6410 | 0.1847 | -3.47 | 0.0010 |
| selfrhealth_06 | 5 | -1.0594 | 0.2212 | -4.79 | <.0001 |
| age_06 | | -0.0526 | 0.00526 | -10.01 | <.0001 |
| marcat_06 | 2 | -0.1396 | 0.0810 | -1.72 | 0.0904 |
| marcat_06 | 3 | -0.0775 | 0.2756 | -0.28 | 0.7797 |
| diabetes_06 | | -0.0916 | 0.0976 | -0.94 | 0.3520 |
| arthritis_06 | | 0.1036 | 0.1020 | 1.02 | 0.3142 |
| racecat | 2 | -0.2481 | 0.1391 | -1.78 | 0.0800 |
| racecat | 3 | -0.3814 | 0.1415 | -2.70 | 0.0093 |
| racecat | 4 | 0.0263 | 0.2234 | 0.12 | 0.9066 |
| edcat | 2 | -0.0197 | 0.1025 | -0.19 | 0.8486 |
| edcat | 3 | -0.0856 | 0.1171 | -0.73 | 0.4678 |
| edcat | 4 | -0.0319 | 0.1259 | -0.25 | 0.8006 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 0.959 | 0.887 1.036 |
| selfrhealth_06 | 2 vs 1 | 0.761 | 0.539 1.073 |
| selfrhealth_06 | 3 vs 1 | 0.690 | 0.487 0.979 |
| selfrhealth_06 | 4 vs 1 | 0.527 | 0.364 0.763 |
| selfrhealth_06 | 5 vs 1 | 0.347 | 0.223 0.540 |
| age_06 | | 0.949 | 0.939 0.959 |
| marcat_06 | 2 vs 1 | 0.870 | 0.739 1.023 |
| marcat_06 | 3 vs 1 | 0.925 | 0.533 1.607 |
| diabetes_06 | | 0.912 | 0.750 1.110 |
| arthritis_06 | | 1.109 | 0.904 1.361 |
| racecat | 2 vs 1 | 0.780 | 0.590 1.031 |
| racecat | 3 vs 1 | 0.683 | 0.514 0.907 |
| racecat | 4 vs 1 | 1.027 | 0.656 1.606 |
| edcat | 2 vs 1 | 0.981 | 0.799 1.204 |
| edcat | 3 vs 1 | 0.918 | 0.726 1.161 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.969 | 0.753 1.246 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|---------|-----------|-------|
| Percent Concordant | 66.8 | Somers' D | 0.346 |
| Percent Discordant | 32.2 | Gamma | 0.349 |
| Percent Tied | 0.9 | Tau-a | 0.065 |
| Pairs | 8038875 | c | 0.673 |

Response propensity model (2012), 101 Pattern (06,no 08,10)

The MEANS Procedure

| Analysis Variable : phat12_101 Estimated Probability | | | |
|---|-----------|-----------|-----------|
| N | N Miss | Mean | Std Error |
| 11789 | 0 | 0.7265938 | 0.0015379 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 52555987 |
| Sum of Weights Used | 52555987 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 3229 | 12855026 |
| 2 | 1 | 8560 | 39700961 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|--|
| Class | Value | Design Variables | | | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 58475989 | 51716914 |
| SC | 58476004 | 51717182 |
| -2 Log L | 58475987 | 51716880 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 100.40 | 11.2501 | 630.01 | <.0001 |
| Score | 48.06 | 16 | 41 | <.0001 |
| Wald | 35.25 | 16 | 41 | <.0001 |

NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.36 | 1 | 56 | 0.5494 |
| selfrhealth_06 | 51.89 | 4 | 53 | <.0001 |
| age_06 | 358.56 | 1 | 56 | <.0001 |
| marcat_06 | 4.04 | 2 | 55 | 0.0231 |
| diabetes_06 | 13.45 | 1 | 56 | 0.0005 |
| arthritis_06 | 21.69 | 1 | 56 | <.0001 |
| racecat | 1.56 | 3 | 54 | 0.2099 |
| edcat | 0.10 | 3 | 54 | 0.9605 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|----------|----------------|---------|---------|--|
| Parameter | Estimate | Standard Error | t Value | Pr > t | |
| Intercept | 6.1667 | 0.3939 | 15.66 | <.0001 | |
| ln_inc06 | 0.0145 | 0.0241 | 0.60 | 0.5494 | |

| Analysis of Maximum Likelihood Estimates | | | | | |
|--|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| selfrhealth_06 | 2 | -0.2030 | 0.1061 | -1.91 | 0.0608 |
| selfrhealth_06 | 3 | -0.4741 | 0.1102 | -4.30 | <.0001 |
| selfrhealth_06 | 4 | -0.8706 | 0.1097 | -7.93 | <.0001 |
| selfrhealth_06 | 5 | -1.5873 | 0.1395 | -11.38 | <.0001 |
| age_06 | | -0.0660 | 0.00348 | -18.94 | <.0001 |
| marcat_06 | 2 | -0.1154 | 0.0602 | -1.92 | 0.0603 |
| marcat_06 | 3 | -0.2831 | 0.1125 | -2.52 | 0.0148 |
| diabetes_06 | | -0.1684 | 0.0459 | -3.67 | 0.0005 |
| arthritis_06 | | 0.2612 | 0.0561 | 4.66 | <.0001 |
| racecat | 2 | -0.2037 | 0.0929 | -2.19 | 0.0325 |
| racecat | 3 | -0.1793 | 0.1143 | -1.57 | 0.1225 |
| racecat | 4 | -0.1739 | 0.1903 | -0.91 | 0.3646 |
| edcat | 2 | 0.0341 | 0.0677 | 0.50 | 0.6162 |
| edcat | 3 | 0.00588 | 0.0684 | 0.09 | 0.9318 |
| edcat | 4 | 0.0122 | 0.0719 | 0.17 | 0.8656 |

NOTE: The degrees of freedom for the t tests is 56.

| Odds Ratio Estimates | | | |
|-----------------------|----------------|-----------------------|-------|
| Effect | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | 1.015 | 0.967 | 1.065 |
| selfrhealth_06 2 vs 1 | 0.816 | 0.660 | 1.010 |
| selfrhealth_06 3 vs 1 | 0.622 | 0.499 | 0.776 |
| selfrhealth_06 4 vs 1 | 0.419 | 0.336 | 0.522 |
| selfrhealth_06 5 vs 1 | 0.204 | 0.155 | 0.270 |
| age_06 | 0.936 | 0.930 | 0.943 |
| marcat_06 2 vs 1 | 0.891 | 0.790 | 1.005 |
| marcat_06 3 vs 1 | 0.753 | 0.601 | 0.944 |
| diabetes_06 | 0.845 | 0.771 | 0.926 |
| arthritis_06 | 1.298 | 1.160 | 1.453 |
| racecat 2 vs 1 | 0.816 | 0.677 | 0.983 |
| racecat 3 vs 1 | 0.836 | 0.665 | 1.051 |
| racecat 4 vs 1 | 0.840 | 0.574 | 1.230 |
| edcat 2 vs 1 | 1.035 | 0.904 | 1.185 |
| edcat 3 vs 1 | 1.006 | 0.877 | 1.154 |
| edcat 4 vs 1 | 1.012 | 0.876 | 1.169 |

NOTE: The degrees of freedom in computing the confidence limits is 56.

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 73.1 | Somers' D | 0.465 |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|----------|-------|-------|
| Percent Discordant | 26.6 | Gamma | 0.467 |
| Percent Tied | 0.3 | Tau-a | 0.185 |
| Pairs | 27640240 | c | 0.733 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1033 |
| Number of Observations not in Domain | 10756 |
| Sum of Weights in Domain | 4032032.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 4032032 |
| Sum of Weights Used | 4032032 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 983 | 3823167.0 |
| 2 | 1 | 50 | 208865.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 1643342.5 | 1256288.9 |
| SC | 1643355.7 | 1256513.5 |
| -2 Log L | 1643340.5 | 1256254.9 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.35 | 12.2143 | 684.00 | <.0001 |
| Score | 7.41 | 16 | 41 | <.0001 |
| Wald | 3.77 | 16 | 41 | 0.0003 |
| NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.27 | 1 | 56 | 0.6046 |
| selfrhealth_06 | 5.37 | 4 | 53 | 0.0010 |
| age_06 | 16.57 | 1 | 56 | 0.0001 |
| marcat_06 | 1.24 | 2 | 55 | 0.2979 |
| diabetes_06 | 0.00 | 1 | 56 | 0.9729 |
| arthritis_06 | 0.07 | 1 | 56 | 0.7940 |
| racecat | 3.02 | 3 | 54 | 0.0374 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.14 | 3 | 54 | 0.3416 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.5677 | 1.9920 | 0.79 | 0.4346 |
| ln_inc06 | | 0.0792 | 0.1522 | 0.52 | 0.6046 |
| selfrhealth_06 | 2 | 0.0332 | 0.5701 | 0.06 | 0.9538 |
| selfrhealth_06 | 3 | -1.5411 | 0.6558 | -2.35 | 0.0223 |
| selfrhealth_06 | 4 | -1.7387 | 0.7354 | -2.36 | 0.0216 |
| selfrhealth_06 | 5 | -2.1004 | 0.8660 | -2.43 | 0.0185 |
| age_06 | | -0.0550 | 0.0135 | -4.07 | 0.0001 |
| marcat_06 | 2 | -0.6456 | 0.4176 | -1.55 | 0.1278 |
| marcat_06 | 3 | -0.1815 | 0.6327 | -0.29 | 0.7753 |
| diabetes_06 | | -0.0193 | 0.5657 | -0.03 | 0.9729 |
| arthritis_06 | | 0.0868 | 0.3308 | 0.26 | 0.7940 |
| racecat | 2 | -0.8103 | 0.7599 | -1.07 | 0.2909 |
| racecat | 3 | 0.6911 | 0.7056 | 0.98 | 0.3316 |
| racecat | 4 | 0.2037 | 0.9461 | 0.22 | 0.8303 |
| edcat | 2 | -0.1429 | 0.6336 | -0.23 | 0.8223 |
| edcat | 3 | -0.2196 | 0.7437 | -0.30 | 0.7689 |
| edcat | 4 | 0.4785 | 0.6908 | 0.69 | 0.4914 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.082 | 0.798 1.468 |
| selfrhealth_06 | 2 vs 1 | 1.034 | 0.330 3.239 |
| selfrhealth_06 | 3 vs 1 | 0.214 | 0.058 0.797 |
| selfrhealth_06 | 4 vs 1 | 0.176 | 0.040 0.767 |
| selfrhealth_06 | 5 vs 1 | 0.122 | 0.022 0.694 |
| age_06 | | 0.946 | 0.921 0.972 |
| marcat_06 | 2 vs 1 | 0.524 | 0.227 1.210 |
| marcat_06 | 3 vs 1 | 0.834 | 0.235 2.962 |
| diabetes_06 | | 0.981 | 0.316 3.046 |
| arthritis_06 | | 1.091 | 0.562 2.116 |
| racecat | 2 vs 1 | 0.445 | 0.097 2.038 |
| racecat | 3 vs 1 | 1.996 | 0.486 8.204 |
| racecat | 4 vs 1 | 1.226 | 0.184 8.158 |
| edcat | 2 vs 1 | 0.867 | 0.244 3.084 |
| edcat | 3 vs 1 | 0.803 | 0.181 3.562 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 1.614 | 0.404 6.439 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|-------|-----------|-------|
| Percent Concordant | 80.3 | Somers' D | 0.620 |
| Percent Discordant | 18.3 | Gamma | 0.628 |
| Percent Tied | 1.4 | Tau-a | 0.057 |
| Pairs | 49150 | c | 0.810 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 182 |
| Number of Observations not in Domain | 11607 |
| Sum of Weights in Domain | 910388.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|--------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 910388 |
| Sum of Weights Used | 910388 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 44 | 212871.00 |
| 2 | 1 | 138 | 697517.00 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 990242.62 | 843291.77 |
| SC | 990254.34 | 843491.03 |
| -2 Log L | 990240.62 | 843257.77 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 1.77 | 11.7554 | 658.30 | 0.0506 |
| Score | 1.03 | 16 | 41 | 0.4438 |
| Wald | 2.03 | 16 | 41 | 0.0343 |
| NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.38 | 1 | 56 | 0.2447 |
| selfrhealth_06 | 1.27 | 4 | 53 | 0.2916 |
| age_06 | 0.48 | 1 | 56 | 0.4899 |
| marcat_06 | 1.71 | 2 | 55 | 0.1903 |
| diabetes_06 | 0.92 | 1 | 56 | 0.3419 |
| arthritis_06 | 1.75 | 1 | 56 | 0.1911 |
| racecat | 2.25 | 3 | 54 | 0.0933 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 1.51 | 3 | 54 | 0.2234 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 1.4105 | 1.9785 | 0.71 | 0.4789 |
| ln_inc06 | | 0.1632 | 0.1388 | 1.18 | 0.2447 |
| selfrhealth_06 | 2 | 0.8691 | 0.9398 | 0.92 | 0.3591 |
| selfrhealth_06 | 3 | 0.1614 | 0.9404 | 0.17 | 0.8643 |
| selfrhealth_06 | 4 | 0.0253 | 0.8400 | 0.03 | 0.9761 |
| selfrhealth_06 | 5 | 1.4361 | 1.1199 | 1.28 | 0.2050 |
| age_06 | | -0.0149 | 0.0215 | -0.70 | 0.4899 |
| marcat_06 | 2 | -0.7220 | 0.4689 | -1.54 | 0.1293 |
| marcat_06 | 3 | 0.3602 | 1.1034 | 0.33 | 0.7453 |
| diabetes_06 | | -0.4215 | 0.4397 | -0.96 | 0.3419 |
| arthritis_06 | | -0.6440 | 0.4867 | -1.32 | 0.1911 |
| racecat | 2 | -0.8599 | 0.7553 | -1.14 | 0.2597 |
| racecat | 3 | -0.4252 | 0.8983 | -0.47 | 0.6378 |
| racecat | 4 | -2.3458 | 0.9736 | -2.41 | 0.0193 |
| edcat | 2 | 0.6592 | 0.5223 | 1.26 | 0.2121 |
| edcat | 3 | 0.5940 | 0.5405 | 1.10 | 0.2765 |
| edcat | 4 | -0.3719 | 0.6760 | -0.55 | 0.5844 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 1.177 | 0.891 1.555 |
| selfrhealth_06 | 2 vs 1 | 2.385 | 0.363 15.670 |
| selfrhealth_06 | 3 vs 1 | 1.175 | 0.179 7.731 |
| selfrhealth_06 | 4 vs 1 | 1.026 | 0.191 5.518 |
| selfrhealth_06 | 5 vs 1 | 4.204 | 0.446 39.623 |
| age_06 | | 0.985 | 0.944 1.029 |
| marcat_06 | 2 vs 1 | 0.486 | 0.190 1.243 |
| marcat_06 | 3 vs 1 | 1.434 | 0.157 13.073 |
| diabetes_06 | | 0.656 | 0.272 1.583 |
| arthritis_06 | | 0.525 | 0.198 1.392 |
| racecat | 2 vs 1 | 0.423 | 0.093 1.921 |
| racecat | 3 vs 1 | 0.654 | 0.108 3.952 |
| racecat | 4 vs 1 | 0.096 | 0.014 0.673 |
| edcat | 2 vs 1 | 1.933 | 0.679 5.504 |
| edcat | 3 vs 1 | 1.811 | 0.613 5.348 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|---------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.689 | 0.178 2.671 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|------|-----------|-------|
| Percent Concordant | 67.1 | Somers' D | 0.347 |
| Percent Discordant | 32.5 | Gamma | 0.348 |
| Percent Tied | 0.4 | Tau-a | 0.128 |
| Pairs | 6072 | c | 0.673 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

| Domain Summary | |
|--------------------------------------|-----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 1354 |
| Number of Observations not in Domain | 10435 |
| Sum of Weights in Domain | 5291546.0 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|---------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 5291546 |
| Sum of Weights Used | 5291546 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 1227 | 4755792.0 |
| 2 | 1 | 127 | 535754.0 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 3469294.6 | 3066705.6 |
| SC | 3469308.1 | 3066934.8 |
| -2 Log L | 3469292.6 | 3066671.6 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|--|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 6.60 | 11.5801 | 648.49 | <.0001 |
| Score | 4.35 | 16 | 41 | <.0001 |
| Wald | 4.96 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 0.34 | 1 | 56 | 0.5613 |
| selfrhealth_06 | 1.87 | 4 | 53 | 0.1291 |
| age_06 | 22.89 | 1 | 56 | <.0001 |
| marcat_06 | 6.85 | 2 | 55 | 0.0022 |
| diabetes_06 | 3.64 | 1 | 56 | 0.0615 |
| arthritis_06 | 2.04 | 1 | 56 | 0.1584 |
| racecat | 2.22 | 3 | 54 | 0.0966 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.03 | 3 | 54 | 0.9926 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 3.0384 | 1.1037 | 2.75 | 0.0079 |
| ln_inc06 | | -0.0428 | 0.0733 | -0.58 | 0.5613 |
| selfrhealth_06 | 2 | 0.1799 | 0.5173 | 0.35 | 0.7294 |
| selfrhealth_06 | 3 | -0.2172 | 0.5130 | -0.42 | 0.6737 |
| selfrhealth_06 | 4 | -0.3029 | 0.6171 | -0.49 | 0.6255 |
| selfrhealth_06 | 5 | -1.2973 | 0.7174 | -1.81 | 0.0759 |
| age_06 | | -0.0519 | 0.0108 | -4.78 | <.0001 |
| marcat_06 | 2 | -0.7657 | 0.2714 | -2.82 | 0.0066 |
| marcat_06 | 3 | -2.2658 | 0.7551 | -3.00 | 0.0040 |
| diabetes_06 | | -0.5591 | 0.2930 | -1.91 | 0.0615 |
| arthritis_06 | | 0.4431 | 0.3099 | 1.43 | 0.1584 |
| racecat | 2 | -0.7649 | 0.3304 | -2.32 | 0.0243 |
| racecat | 3 | -0.7076 | 0.3911 | -1.81 | 0.0758 |
| racecat | 4 | -1.1450 | 0.7126 | -1.61 | 0.1137 |
| edcat | 2 | 0.0303 | 0.2476 | 0.12 | 0.9030 |
| edcat | 3 | -0.00705 | 0.3073 | -0.02 | 0.9818 |
| edcat | 4 | -0.0918 | 0.3669 | -0.25 | 0.8033 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | | |
|----------------------|--------|----------------|-----------------------|-------|
| Effect | | Point Estimate | 95% Confidence Limits | |
| ln_inc06 | | 0.958 | 0.827 | 1.110 |
| selfrhealth_06 | 2 vs 1 | 1.197 | 0.425 | 3.374 |
| selfrhealth_06 | 3 vs 1 | 0.805 | 0.288 | 2.249 |
| selfrhealth_06 | 4 vs 1 | 0.739 | 0.215 | 2.543 |
| selfrhealth_06 | 5 vs 1 | 0.273 | 0.065 | 1.150 |
| age_06 | | 0.949 | 0.929 | 0.970 |
| marcat_06 | 2 vs 1 | 0.465 | 0.270 | 0.801 |
| marcat_06 | 3 vs 1 | 0.104 | 0.023 | 0.471 |
| diabetes_06 | | 0.572 | 0.318 | 1.028 |
| arthritis_06 | | 1.558 | 0.837 | 2.898 |
| racecat | 2 vs 1 | 0.465 | 0.240 | 0.902 |
| racecat | 3 vs 1 | 0.493 | 0.225 | 1.079 |
| racecat | 4 vs 1 | 0.318 | 0.076 | 1.326 |
| edcat | 2 vs 1 | 1.031 | 0.628 | 1.693 |
| edcat | 3 vs 1 | 0.993 | 0.537 | 1.838 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.912 | 0.437 1.902 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|--------|-----------|-------|
| Percent Concordant | 73.7 | Somers' D | 0.481 |
| Percent Discordant | 25.6 | Gamma | 0.485 |
| Percent Tied | 0.8 | Tau-a | 0.082 |
| Pairs | 155829 | c | 0.740 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

| Domain Summary | |
|--------------------------------------|----------|
| Number of Observations | 11789 |
| Number of Observations in Domain | 9220 |
| Number of Observations not in Domain | 2569 |
| Sum of Weights in Domain | 42322021 |

| Model Information | | |
|---------------------------|-------------------------|---------------------------------|
| Data Set | WORK.HRS_2006_2012 | |
| Response Variable | resp12 | |
| Number of Response Levels | 2 | |
| Stratum Variable | stratum | STRATUM ID |
| Number of Strata | 56 | |
| Cluster Variable | secu | SAMPLING ERROR COMPUTATION UNIT |
| Number of Clusters | 112 | |
| Weight Variable | kwgtr | 2006 WEIGHT: RESPONDENT LEVEL |
| Model | Binary Logit | |
| Optimization Technique | Fisher's Scoring | |
| Variance Adjustment | Degrees of Freedom (DF) | |

| Variance Estimation | |
|---------------------|-------------------------|
| Method | Taylor Series |
| Variance Adjustment | Degrees of Freedom (DF) |

| | |
|-----------------------------|----------|
| Number of Observations Read | 11789 |
| Number of Observations Used | 11789 |
| Sum of Weights Read | 42322021 |
| Sum of Weights Used | 42322021 |

| Response Profile | | | |
|------------------|--------|-----------------|--------------|
| Ordered Value | resp12 | Total Frequency | Total Weight |
| 1 | 0 | 975 | 4063196 |
| 2 | 1 | 8245 | 38258825 |

Probability modeled is resp12=1.

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| selfrhealth_06 | 1 | 0 | 0 | 0 | 0 |
| | 2 | 1 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 0 | 0 |

| Class Level Information | | | | | |
|-------------------------|-------|------------------|---|---|---|
| Class | Value | Design Variables | | | |
| | 4 | 0 | 0 | 1 | 0 |
| | 5 | 0 | 0 | 0 | 1 |
| marcat_06 | 1 | 0 | 0 | | |
| | 2 | 1 | 0 | | |
| | 3 | 0 | 1 | | |
| racecat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |
| edcat | 1 | 0 | 0 | 0 | |
| | 2 | 1 | 0 | 0 | |
| | 3 | 0 | 1 | 0 | |
| | 4 | 0 | 0 | 1 | |

| Model Convergence Status |
|---|
| Convergence criterion (GCONV=1E-8) satisfied. |

| Model Fit Statistics | | |
|----------------------|----------------|--------------------------|
| Criterion | Intercept Only | Intercept and Covariates |
| AIC | 26766061 | 25386275 |
| SC | 26766076 | 25386539 |
| -2 Log L | 26766059 | 25386241 |

| Testing Global Null Hypothesis: BETA=0 | | | | |
|---|---------|---------|--------|--------|
| Test | F Value | Num DF | Den DF | Pr > F |
| Likelihood Ratio | 18.87 | 11.8470 | 663.43 | <.0001 |
| Score | 9.63 | 16 | 41 | <.0001 |
| Wald | 8.65 | 16 | 41 | <.0001 |
| NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test. | | | | |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| ln_inc06 | 1.17 | 1 | 56 | 0.2831 |
| selfrhealth_06 | 6.71 | 4 | 53 | 0.0002 |
| age_06 | 100.13 | 1 | 56 | <.0001 |
| marcat_06 | 1.50 | 2 | 55 | 0.2330 |
| diabetes_06 | 0.88 | 1 | 56 | 0.3520 |
| arthritis_06 | 1.03 | 1 | 56 | 0.3142 |
| racecat | 2.39 | 3 | 54 | 0.0789 |

| Type 3 Analysis of Effects | | | | |
|----------------------------|---------|--------|--------|--------|
| Effect | F Value | Num DF | Den DF | Pr > F |
| edcat | 0.19 | 3 | 54 | 0.9027 |

| Analysis of Maximum Likelihood Estimates | | | | | |
|---|---|----------|----------------|---------|---------|
| Parameter | | Estimate | Standard Error | t Value | Pr > t |
| Intercept | | 6.9422 | 0.6019 | 11.53 | <.0001 |
| ln_inc06 | | -0.0421 | 0.0389 | -1.08 | 0.2831 |
| selfrhealth_06 | 2 | -0.2737 | 0.1716 | -1.59 | 0.1164 |
| selfrhealth_06 | 3 | -0.3708 | 0.1744 | -2.13 | 0.0379 |
| selfrhealth_06 | 4 | -0.6410 | 0.1847 | -3.47 | 0.0010 |
| selfrhealth_06 | 5 | -1.0594 | 0.2212 | -4.79 | <.0001 |
| age_06 | | -0.0526 | 0.00526 | -10.01 | <.0001 |
| marcat_06 | 2 | -0.1396 | 0.0810 | -1.72 | 0.0904 |
| marcat_06 | 3 | -0.0775 | 0.2756 | -0.28 | 0.7797 |
| diabetes_06 | | -0.0916 | 0.0976 | -0.94 | 0.3520 |
| arthritis_06 | | 0.1036 | 0.1020 | 1.02 | 0.3142 |
| racecat | 2 | -0.2481 | 0.1391 | -1.78 | 0.0800 |
| racecat | 3 | -0.3814 | 0.1415 | -2.70 | 0.0093 |
| racecat | 4 | 0.0263 | 0.2234 | 0.12 | 0.9066 |
| edcat | 2 | -0.0197 | 0.1025 | -0.19 | 0.8486 |
| edcat | 3 | -0.0856 | 0.1171 | -0.73 | 0.4678 |
| edcat | 4 | -0.0319 | 0.1259 | -0.25 | 0.8006 |
| NOTE: The degrees of freedom for the t tests is 56. | | | | | |

| Odds Ratio Estimates | | | |
|----------------------|--------|----------------|-----------------------|
| Effect | | Point Estimate | 95% Confidence Limits |
| ln_inc06 | | 0.959 | 0.887 1.036 |
| selfrhealth_06 | 2 vs 1 | 0.761 | 0.539 1.073 |
| selfrhealth_06 | 3 vs 1 | 0.690 | 0.487 0.979 |
| selfrhealth_06 | 4 vs 1 | 0.527 | 0.364 0.763 |
| selfrhealth_06 | 5 vs 1 | 0.347 | 0.223 0.540 |
| age_06 | | 0.949 | 0.939 0.959 |
| marcat_06 | 2 vs 1 | 0.870 | 0.739 1.023 |
| marcat_06 | 3 vs 1 | 0.925 | 0.533 1.607 |
| diabetes_06 | | 0.912 | 0.750 1.110 |
| arthritis_06 | | 1.109 | 0.904 1.361 |
| racecat | 2 vs 1 | 0.780 | 0.590 1.031 |
| racecat | 3 vs 1 | 0.683 | 0.514 0.907 |
| racecat | 4 vs 1 | 1.027 | 0.656 1.606 |
| edcat | 2 vs 1 | 0.981 | 0.799 1.204 |
| edcat | 3 vs 1 | 0.918 | 0.726 1.161 |

| Odds Ratio Estimates | | | |
|--|----------------|-----------------------|-------------|
| Effect | Point Estimate | 95% Confidence Limits | |
| edcat | 4 vs 1 | 0.969 | 0.753 1.246 |
| NOTE: The degrees of freedom in computing the confidence limits is 56. | | | |

| Association of Predicted Probabilities and Observed Responses | | | |
|---|---------|-----------|-------|
| Percent Concordant | 66.8 | Somers' D | 0.346 |
| Percent Discordant | 32.2 | Gamma | 0.349 |
| Percent Tied | 0.9 | Tau-a | 0.065 |
| Pairs | 8038875 | c | 0.673 |

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The MEANS Procedure

| Analysis Variable : phat12_100 Estimated Probability | | | | | |
|--|--------|-----------|-------------|-----------------------|-----------------------|
| N | N Miss | Mean | Std Error | Lower 95% CL for Mean | Upper 95% CL for Mean |
| 11789 | 0 | 0.0737554 | 0.000848665 | 0.0720919 | 0.0754190 |

Mean for CUMCPROB_CASE (Cumulative Probability Weight)

The MEANS Procedure

| Analysis Variable : cumprob_case | | | | | |
|----------------------------------|--------|-----------|-----------|-------------|-----------|
| N | N Miss | Mean | Std Dev | Minimum | Maximum |
| 11789 | 0 | 0.5484638 | 0.3025298 | 0.000639373 | 0.9265652 |

GEE Model with Repeated Measures Per Individual (Financial Respondent), 2006-2012

The GENMOD Procedure

| Model Information | |
|-----------------------|-------------------|
| Data Set | D.WGT_GEE_3PWAVES |
| Distribution | Normal |
| Link Function | Identity |
| Dependent Variable | ln_inc |
| Scale Weight Variable | casewt |

| | |
|-----------------------------|----------|
| Number of Observations Read | 47156 |
| Number of Observations Used | 40325 |
| Sum of Weights | 1.0981E9 |
| Missing Values | 6831 |

| Class Level Information | | |
|-------------------------|--------|---|
| Class | Levels | Values |
| gender | 2 | 2 1 |
| stratum | 56 | 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 1 |
| newid_num | 11789 | 3010 10001010 10004010 10013010 10013040 10038010 10050010 10059030 10063010 10075020 10083020 10097040 10109030 10147010 10196010 10206010 10210010 10225010 10281010 10299010 10372010 10394010 10395010 10397010 10404010 10433010 10451010 10453010 ... |
| year | 4 | 1 2 3 4 |

| Parameter Information | | | |
|-----------------------|-------------------|--------|---------|
| Parameter | Effect | gender | stratum |
| Prm1 | Intercept | | |
| Prm2 | yrssince06 | | |
| Prm3 | gender | 2 | |
| Prm4 | gender | 1 | |
| Prm5 | yrs06sq | | |
| Prm6 | yrssince06*gender | 2 | |
| Prm7 | yrssince06*gender | 1 | |
| Prm8 | yrs06sq*gender | 2 | |
| Prm9 | yrs06sq*gender | 1 | |
| Prm10 | stratum | | 2 |
| Prm11 | stratum | | 3 |
| Prm12 | stratum | | 4 |
| Prm13 | stratum | | 5 |
| Prm14 | stratum | | 6 |
| Prm15 | stratum | | 7 |
| Prm16 | stratum | | 8 |
| Prm17 | stratum | | 9 |
| Prm18 | stratum | | 10 |
| Prm19 | stratum | | 11 |

| Parameter Information | | | |
|-----------------------|---------|--------|---------|
| Parameter | Effect | gender | stratum |
| Prm20 | stratum | | 12 |
| Prm21 | stratum | | 13 |
| Prm22 | stratum | | 14 |
| Prm23 | stratum | | 15 |
| Prm24 | stratum | | 16 |
| Prm25 | stratum | | 17 |
| Prm26 | stratum | | 18 |
| Prm27 | stratum | | 19 |
| Prm28 | stratum | | 20 |
| Prm29 | stratum | | 21 |
| Prm30 | stratum | | 22 |
| Prm31 | stratum | | 23 |
| Prm32 | stratum | | 24 |
| Prm33 | stratum | | 25 |
| Prm34 | stratum | | 26 |
| Prm35 | stratum | | 27 |
| Prm36 | stratum | | 28 |
| Prm37 | stratum | | 29 |
| Prm38 | stratum | | 30 |
| Prm39 | stratum | | 31 |
| Prm40 | stratum | | 32 |
| Prm41 | stratum | | 33 |
| Prm42 | stratum | | 34 |
| Prm43 | stratum | | 35 |
| Prm44 | stratum | | 36 |
| Prm45 | stratum | | 37 |
| Prm46 | stratum | | 38 |
| Prm47 | stratum | | 39 |
| Prm48 | stratum | | 40 |
| Prm49 | stratum | | 41 |
| Prm50 | stratum | | 42 |
| Prm51 | stratum | | 43 |
| Prm52 | stratum | | 44 |
| Prm53 | stratum | | 45 |
| Prm54 | stratum | | 46 |
| Prm55 | stratum | | 47 |
| Prm56 | stratum | | 48 |
| Prm57 | stratum | | 49 |
| Prm58 | stratum | | 50 |
| Prm59 | stratum | | 51 |
| Prm60 | stratum | | 52 |
| Prm61 | stratum | | 53 |

| Parameter Information | | | |
|-----------------------|---------|--------|---------|
| Parameter | Effect | gender | stratum |
| Prm62 | stratum | | 54 |
| Prm63 | stratum | | 55 |
| Prm64 | stratum | | 56 |
| Prm65 | stratum | | 1 |

Algorithm converged.

| GEE Model Information | |
|------------------------------|--------------------------|
| Correlation Structure | Exchangeable |
| Subject Effect | newid_num (11789 levels) |
| Number of Clusters | 11789 |
| Clusters With Missing Values | 3544 |
| Correlation Matrix Dimension | 4 |
| Maximum Cluster Size | 4 |
| Minimum Cluster Size | 1 |

Algorithm converged.

| Working Correlation Matrix | | | | |
|----------------------------|--------|--------|--------|--------|
| | Col1 | Col2 | Col3 | Col4 |
| Row1 | 1.0000 | 0.2880 | 0.2880 | 0.2880 |
| Row2 | 0.2880 | 1.0000 | 0.2880 | 0.2880 |
| Row3 | 0.2880 | 0.2880 | 1.0000 | 0.2880 |
| Row4 | 0.2880 | 0.2880 | 0.2880 | 1.0000 |

| Exchangeable Working Correlation | |
|----------------------------------|--------------|
| Correlation | 0.2879509812 |

| GEE Fit Criteria | |
|------------------|------------|
| QIC | 44712.6705 |
| QICu | 40386.0000 |

| Analysis Of GEE Parameter Estimates | | | | | | | |
|-------------------------------------|---|----------|----------------|-----------------------|---------|-------|---------|
| Empirical Standard Error Estimates | | | | | | | |
| Parameter | | Estimate | Standard Error | 95% Confidence Limits | | Z | Pr > Z |
| Intercept | | 9.8188 | 0.4376 | 8.9611 | 10.6764 | 22.44 | <.0001 |
| yrssince06 | | -0.0868 | 0.0476 | -0.1801 | 0.0066 | -1.82 | 0.0685 |
| gender | 2 | -0.6351 | 0.1026 | -0.8363 | -0.4340 | -6.19 | <.0001 |
| gender | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | . | . |

Analysis Of GEE Parameter Estimates

Empirical Standard Error Estimates

| Parameter | | Estimate | Standard Error | 95% Confidence Limits | | Z | Pr > Z |
|-------------------|----|----------|----------------|-----------------------|--------|-------|---------|
| yrs06sq | | 0.0058 | 0.0083 | -0.0105 | 0.0220 | 0.70 | 0.4844 |
| yrssince06*gender | 2 | 0.0993 | 0.0779 | -0.0534 | 0.2520 | 1.27 | 0.2026 |
| yrssince06*gender | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | . | . |
| yrs06sq*gender | 2 | -0.0112 | 0.0127 | -0.0361 | 0.0138 | -0.88 | 0.3800 |
| yrs06sq*gender | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | . | . |
| stratum | 2 | 0.2427 | 0.4943 | -0.7261 | 1.2114 | 0.49 | 0.6234 |
| stratum | 3 | 0.7418 | 0.4870 | -0.2126 | 1.6963 | 1.52 | 0.1276 |
| stratum | 4 | -0.2777 | 1.1753 | -2.5812 | 2.0259 | -0.24 | 0.8132 |
| stratum | 5 | 0.7001 | 1.6461 | -2.5261 | 3.9264 | 0.43 | 0.6706 |
| stratum | 6 | 0.8896 | 0.6169 | -0.3195 | 2.0988 | 1.44 | 0.1493 |
| stratum | 7 | 1.4687 | 0.5121 | 0.4650 | 2.4723 | 2.87 | 0.0041 |
| stratum | 8 | 0.9225 | 0.4785 | -0.0153 | 1.8603 | 1.93 | 0.0539 |
| stratum | 9 | 0.7111 | 0.5196 | -0.3073 | 1.7296 | 1.37 | 0.1711 |
| stratum | 10 | 1.4763 | 0.4581 | 0.5784 | 2.3742 | 3.22 | 0.0013 |
| stratum | 11 | 0.2359 | 0.7802 | -1.2932 | 1.7650 | 0.30 | 0.7623 |
| stratum | 12 | 1.1851 | 0.5437 | 0.1195 | 2.2507 | 2.18 | 0.0293 |
| stratum | 13 | 1.0377 | 0.5211 | 0.0162 | 2.0591 | 1.99 | 0.0465 |
| stratum | 14 | 0.9825 | 0.4701 | 0.0610 | 1.9039 | 2.09 | 0.0366 |
| stratum | 15 | 0.8009 | 0.5083 | -0.1954 | 1.7972 | 1.58 | 0.1151 |
| stratum | 16 | 0.8322 | 0.4533 | -0.0563 | 1.7207 | 1.84 | 0.0664 |
| stratum | 17 | 1.2766 | 0.4817 | 0.3325 | 2.2207 | 2.65 | 0.0080 |
| stratum | 18 | 1.3928 | 0.4915 | 0.4295 | 2.3561 | 2.83 | 0.0046 |
| stratum | 19 | 1.0644 | 0.6607 | -0.2307 | 2.3594 | 1.61 | 0.1072 |
| stratum | 20 | 1.0715 | 0.7330 | -0.3651 | 2.5081 | 1.46 | 0.1438 |
| stratum | 21 | 1.1674 | 0.4514 | 0.2825 | 2.0522 | 2.59 | 0.0097 |
| stratum | 22 | 1.1159 | 0.4895 | 0.1564 | 2.0753 | 2.28 | 0.0226 |
| stratum | 23 | 0.5561 | 0.5119 | -0.4472 | 1.5595 | 1.09 | 0.2773 |
| stratum | 24 | 0.9593 | 0.5252 | -0.0701 | 1.9887 | 1.83 | 0.0678 |
| stratum | 25 | 0.9158 | 0.4529 | 0.0282 | 1.8034 | 2.02 | 0.0432 |
| stratum | 26 | 1.2421 | 0.5337 | 0.1961 | 2.2881 | 2.33 | 0.0199 |
| stratum | 27 | 1.2184 | 0.4638 | 0.3094 | 2.1275 | 2.63 | 0.0086 |
| stratum | 28 | 0.9968 | 0.4627 | 0.0900 | 1.9036 | 2.15 | 0.0312 |
| stratum | 29 | 1.2409 | 0.4700 | 0.3198 | 2.1620 | 2.64 | 0.0083 |
| stratum | 30 | 0.9706 | 0.4739 | 0.0418 | 1.8994 | 2.05 | 0.0405 |
| stratum | 31 | 1.1358 | 0.4622 | 0.2299 | 2.0416 | 2.46 | 0.0140 |
| stratum | 32 | 1.0034 | 0.6157 | -0.2034 | 2.2102 | 1.63 | 0.1032 |
| stratum | 33 | 0.9324 | 0.5666 | -0.1781 | 2.0428 | 1.65 | 0.0998 |
| stratum | 34 | 0.3852 | 0.4540 | -0.5046 | 1.2750 | 0.85 | 0.3961 |
| stratum | 35 | 1.1234 | 0.5142 | 0.1156 | 2.1311 | 2.18 | 0.0289 |
| stratum | 36 | 0.7465 | 0.6137 | -0.4563 | 1.9493 | 1.22 | 0.2238 |
| stratum | 37 | 0.7196 | 0.4518 | -0.1659 | 1.6051 | 1.59 | 0.1112 |

| Analysis Of GEE Parameter Estimates | | | | | | | |
|-------------------------------------|----|----------|----------------|-----------------------|--------|------|---------|
| Empirical Standard Error Estimates | | | | | | | |
| Parameter | | Estimate | Standard Error | 95% Confidence Limits | | Z | Pr > Z |
| stratum | 38 | 1.3483 | 0.5322 | 0.3051 | 2.3914 | 2.53 | 0.0113 |
| stratum | 39 | 0.9578 | 0.4571 | 0.0619 | 1.8536 | 2.10 | 0.0361 |
| stratum | 40 | 1.4129 | 0.4549 | 0.5213 | 2.3045 | 3.11 | 0.0019 |
| stratum | 41 | 1.3107 | 0.5071 | 0.3168 | 2.3046 | 2.58 | 0.0097 |
| stratum | 42 | 0.6658 | 0.4648 | -0.2453 | 1.5769 | 1.43 | 0.1521 |
| stratum | 43 | 1.0395 | 0.4763 | 0.1060 | 1.9730 | 2.18 | 0.0291 |
| stratum | 44 | 1.1563 | 0.4623 | 0.2501 | 2.0624 | 2.50 | 0.0124 |
| stratum | 45 | 1.3681 | 0.4568 | 0.4727 | 2.2635 | 2.99 | 0.0027 |
| stratum | 46 | 1.0715 | 0.4735 | 0.1435 | 1.9994 | 2.26 | 0.0236 |
| stratum | 47 | 0.6761 | 0.4517 | -0.2093 | 1.5615 | 1.50 | 0.1345 |
| stratum | 48 | 0.9332 | 0.4566 | 0.0382 | 1.8281 | 2.04 | 0.0410 |
| stratum | 49 | 0.3539 | 0.6153 | -0.8519 | 1.5598 | 0.58 | 0.5651 |
| stratum | 50 | 0.8027 | 0.4552 | -0.0895 | 1.6949 | 1.76 | 0.0778 |
| stratum | 51 | 0.9628 | 0.4820 | 0.0181 | 1.9076 | 2.00 | 0.0458 |
| stratum | 52 | 0.0666 | 0.5013 | -0.9160 | 1.0491 | 0.13 | 0.8944 |
| stratum | 53 | 0.9686 | 0.4794 | 0.0290 | 1.9082 | 2.02 | 0.0433 |
| stratum | 54 | 0.2857 | 0.6156 | -0.9209 | 1.4924 | 0.46 | 0.6426 |
| stratum | 55 | 0.3075 | 0.5162 | -0.7041 | 1.3192 | 0.60 | 0.5513 |
| stratum | 56 | 1.3300 | 0.4733 | 0.4023 | 2.2577 | 2.81 | 0.0050 |
| stratum | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | . | . |