Health Information National Trends Survey (HINTS) 5 Cycle 3 Data: A How-To Guide for Using the New Data in your Research

Behavioral Research Program (BRP)
Division of Cancer Control and Population Sciences

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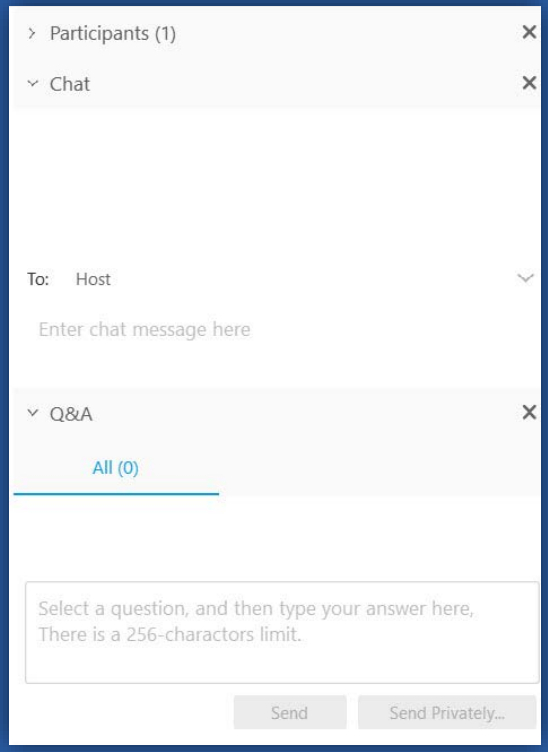
https://cancercontrol.cancer.gov/brp

To ask a question



- Submit questions using the Q&A or Chat Panel and select *All Panelists*
- You may need to activate the appropriate box using the floating navigation panel found on the center of your screen

- The webinar recording will be posted in a few weeks at **cancercontrol.cancer.gov/brpwebinars**

Webinar Overview

Richard Moser, Ph.D.
Training Director and Research Methods Coordinator
Behavioral Research Program

Ashley Murray, Ph.D.
Cancer Research Training Award Fellow
Behavioral Research Program

Health Information National Trends Survey

NATIONAL CANCER INSTITUTE
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Health Information National Trends Survey (HINTS) 5 Cycle 3 Tutorial

Richard P. Moser, Ph.D.
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Research Methods Coordinator, Behavioral Research Program
National Cancer Institute

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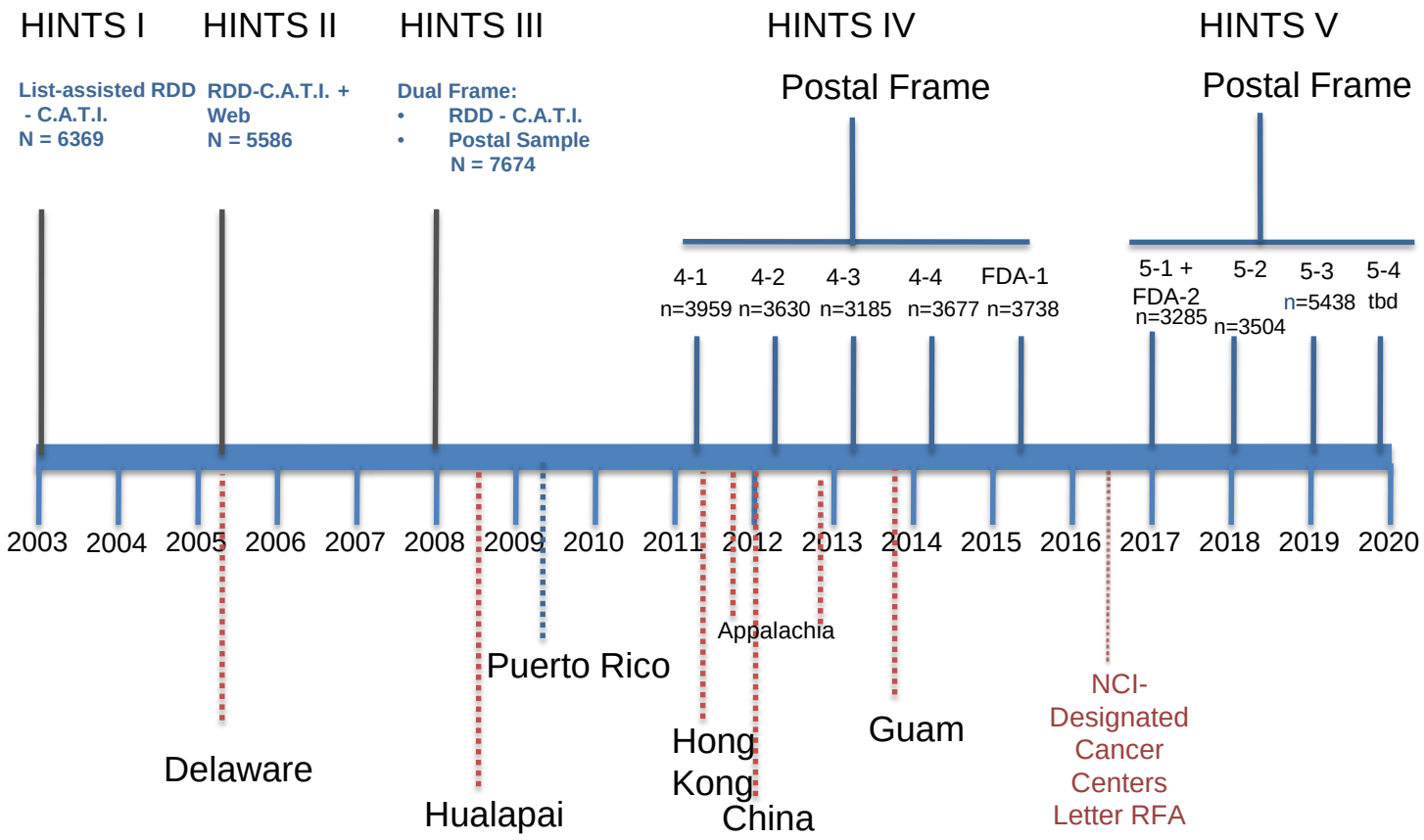
Cancer Research Training Award Fellow
Behavioral Research Program
National Cancer Institute

March 26, 2020

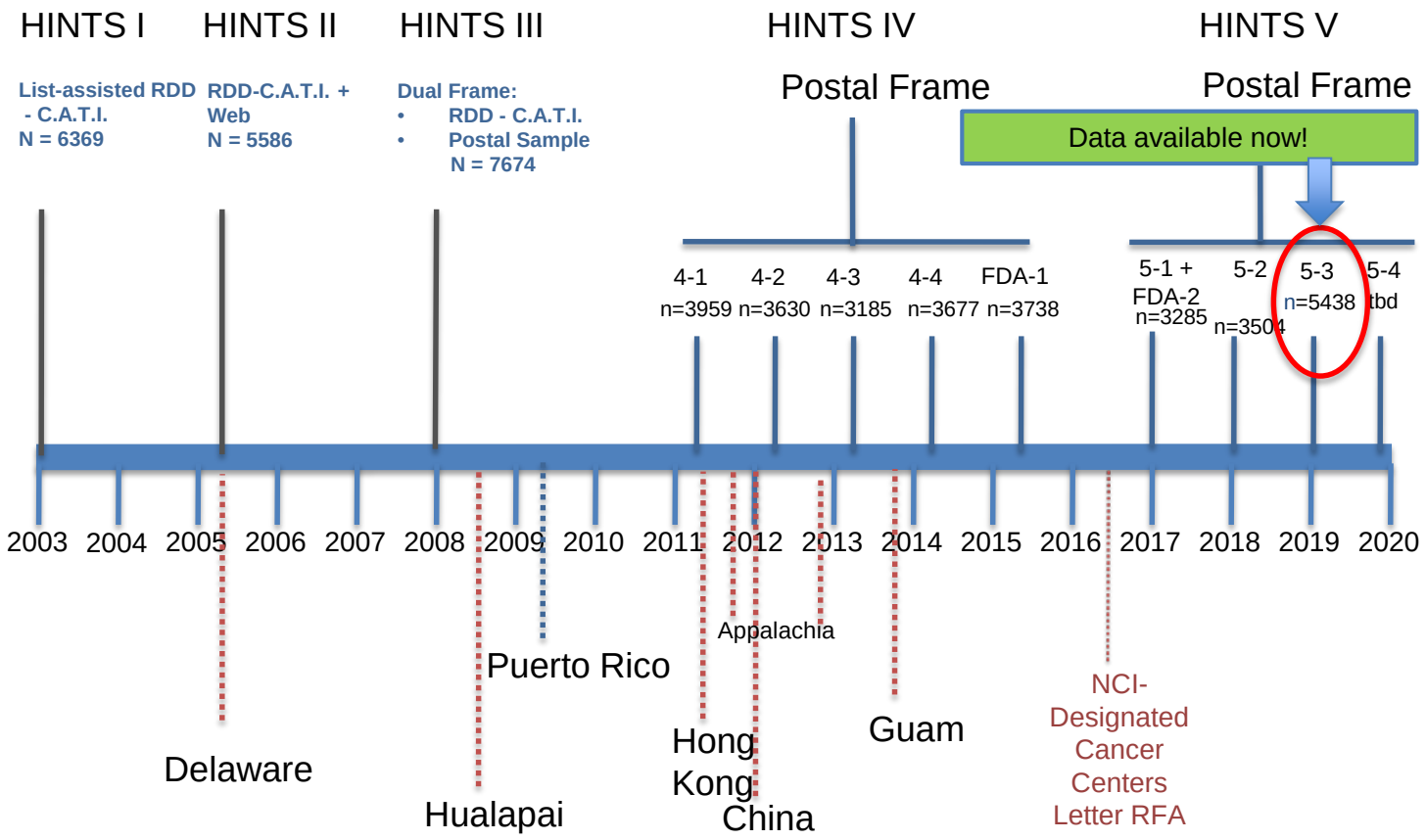
Rapidly Changing Communication Environment

Rapidly Changing Communication Environment

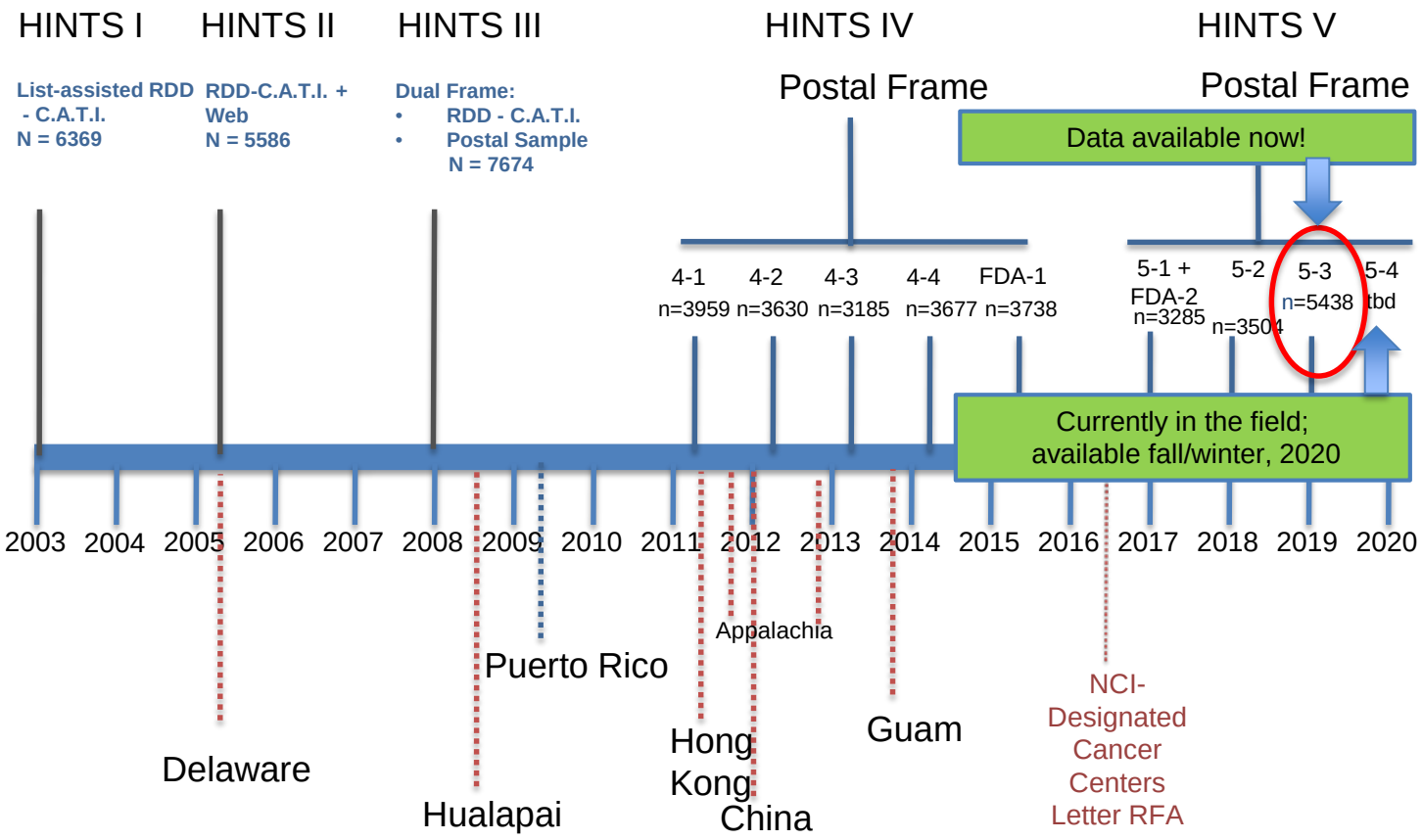
HINTS History & Timeline

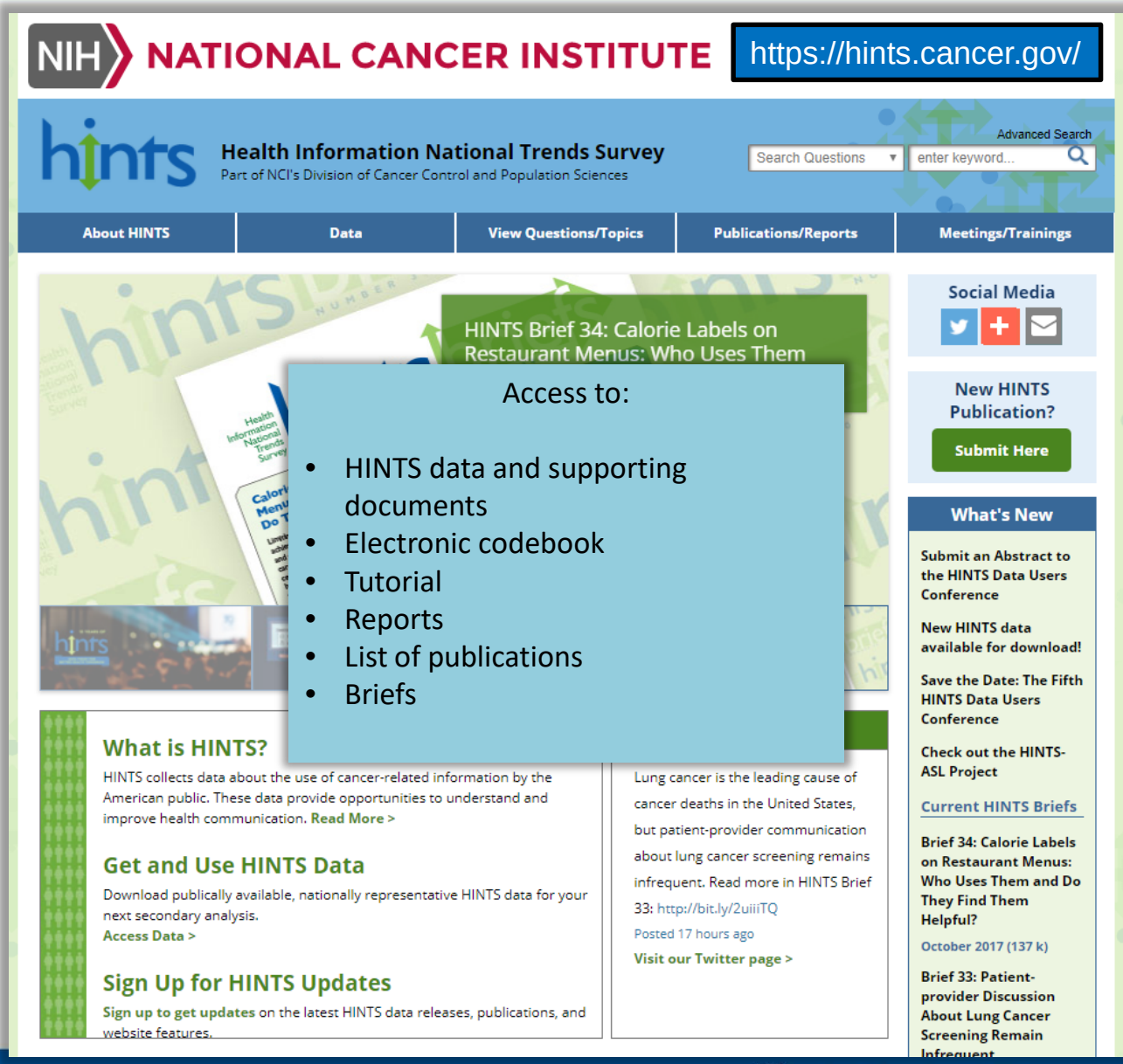


HINTS History & Timeline



HINTS History & Timeline

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Meetings/Trainings
HINTS Brief 34: Calorie Labels on Restaurant Menus: Who Uses Them
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• Electronic codebook
• Tutorial
• Reports
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New HINTS data available for download!
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Check out the HINTS-ASL Project
Current HINTS Briefs
Brief 34: Calorie Labels on Restaurant Menus: Who Uses Them and Do They Find Them Helpful?
October 2017 (137 k)
Brief 33: Patient-provider Discussion About Lung Cancer Screening Remain Infrequent
What is HINTS?
HINTS collects data about the use of cancer-related information by the American public. These data provide opportunities to understand and improve health communication. Read More >
Get and Use HINTS Data
Download publically available, nationally representative HINTS data for your next secondary analysis.
Access Data >
Sign Up for HINTS Updates
Sign up to get updates on the latest HINTS data releases, publications, and website features.
Lung cancer is the leading cause of cancer deaths in the United States, but patient-provider communication about lung cancer screening remains infrequent. Read more in HINTS Brief 33: http://bit.ly/2uiiiTQ
Posted 17 hours ago
Visit our Twitter page >

Overview of HINTS 5 Cycle 3

- Population: US Non-Institutionalized Adults (18+)

- Conducted January to April 2019

- Total N = 5,438

Content

Web Pilot

- Test multi-mode survey
- Goal: Improve data quality
  - Increase response rates
  - Increase coverage
  - Reduce undesirable respondent behavior
    - Non-completion
    - Speeding
    - Straight lining
- Assess cost effectiveness

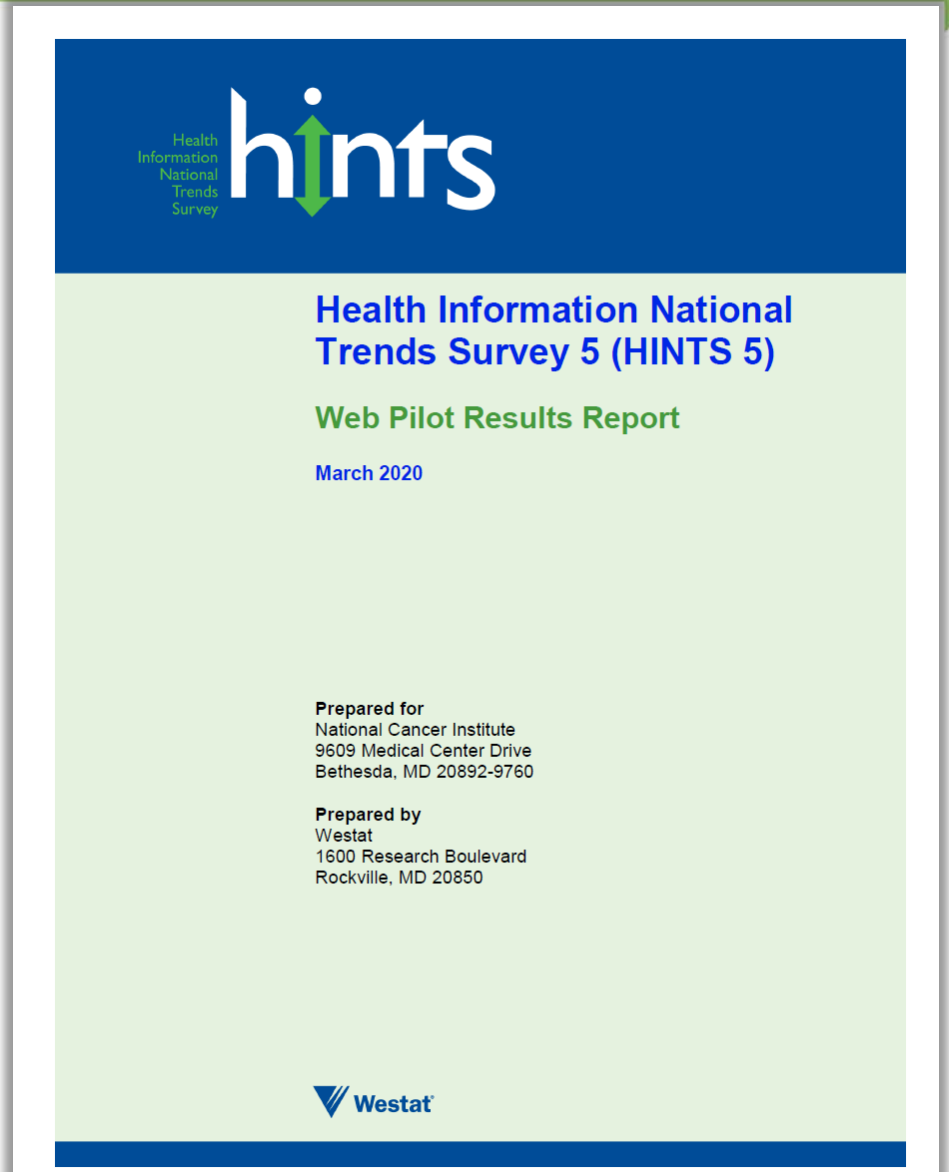
- Random assignment into 3 groups
  - Paper only
  - Web option
  - Web bonus
  - All get $2 incentive in mail
- Web groups could answer on internet or return by mail
- Prompting vs. no prompting (web)
- Considered as independent samples from same population
  - Weights available for each

Web Pilot: Results

Group	Sample Size	Response Rate *
Paper Only	3,372	30.2%
Web Option	986	29.6%
Web Bonus	1,080	31.5%
Total Sample	5,438	30.3%

*Not statistically different

See For More Information



Health Information National Trends Survey

hints

Health Information National Trends Survey 5 (HINTS 5)

Web Pilot Results Report

March 2020

Prepared for
National Cancer Institute
9609 Medical Center Drive
Bethesda, MD 20892-9760

Prepared by
Westat
1600 Research Boulevard
Rockville, MD 20850

Westat

Health Information National Trends Survey

hints

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Conducting Analyses

Statistics Overview

- HINTS can be analyzed using a variety of programs
- When you are interested in conducting inferential statistics (i.e. anything that involves calculating a p-value or confidence interval), it is important to consider which program you use
- A program should be able to:
  - Compute the correct variance estimates when analyzing survey data that employ a complex sampling method (e.g. HINTS)
  - Analyze data using jackknife replicate weights OR Taylor Linearization

Statistics Overview

- Code and results for SAS, SPSS, and STATA are provided in the Overview of the HINTS 5 Cycle 3 Survey and Data Analysis Recommendations Document
  - Descriptive analyses, Chi Square, Logistic Regression, & Linear Regression using both Jackknife replicates and Taylor Linearization in SAS and STATA (SPSS can only use Taylor Linearization; code & results provided)
  - SPSS analyses use Complex Samples module (add-on to Base SPSS)
  - We suggest using a program that can integrate Jackknife replicate weights when possible
- Tutorial will highlight both SAS and SPSS

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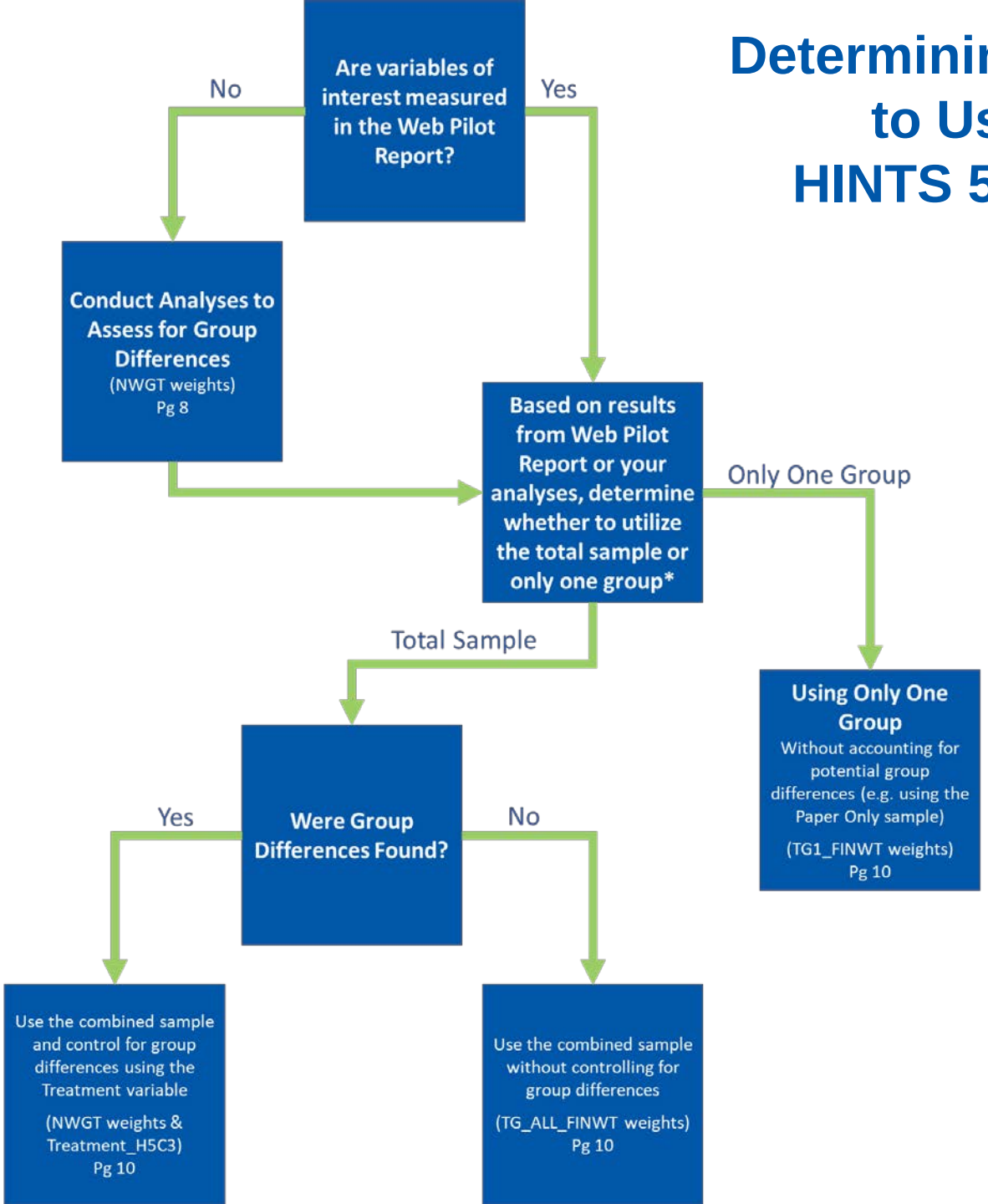
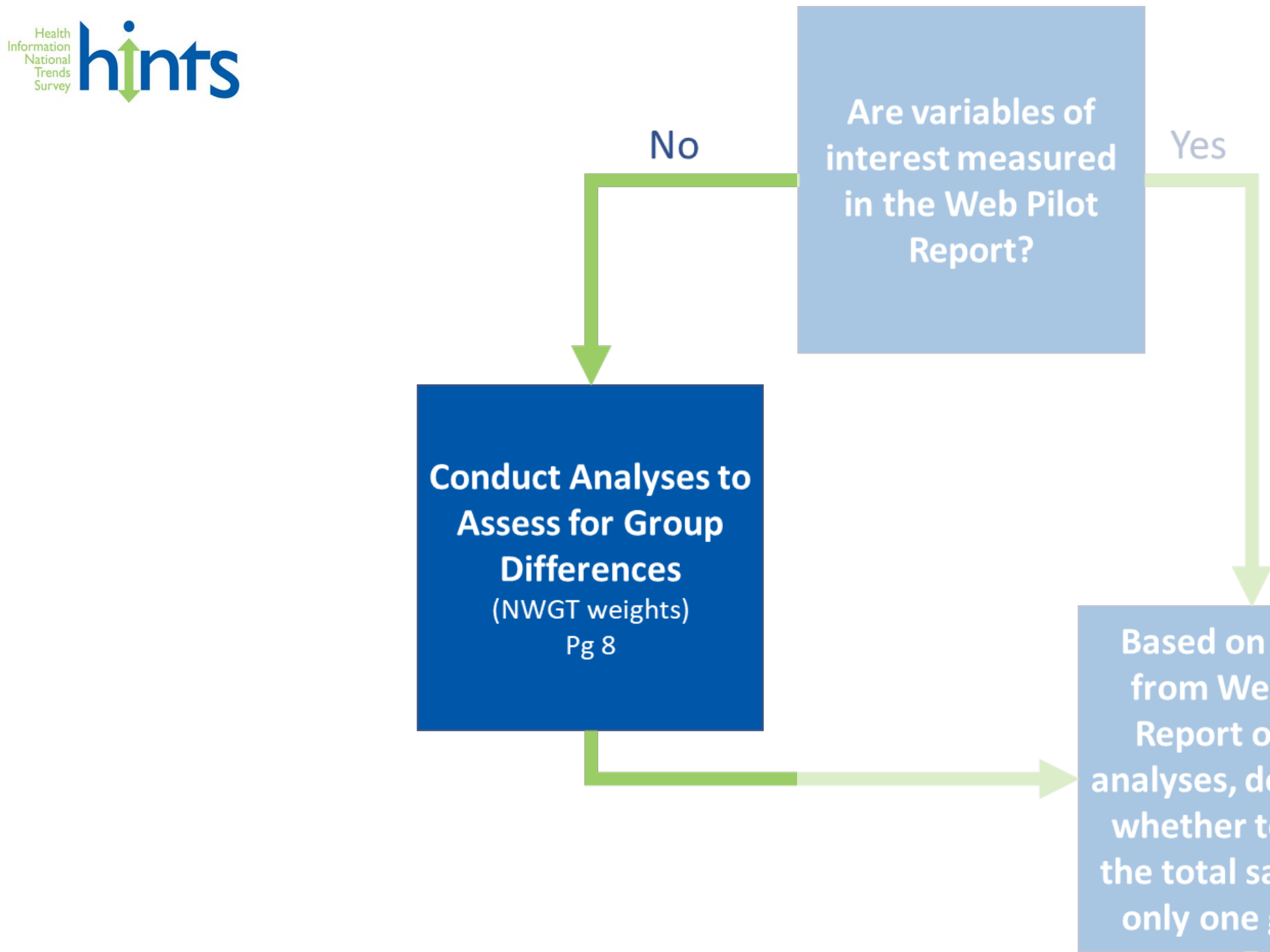
Determining and Using Weights for Analyses

SAS and SPSS

Health Information National Trends Survey hints

Determining Weights to Use for HINTS 5 Cycle 3




Are variables of interest measured in the Web Pilot Report?
No
Yes
Conduct Analyses to Assess for Group Differences
(NWGT weights)
Pg 8
Based on
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Conducting Analyses to Assess for Group Differences in SAS

- It is strongly recommended that analysts first assess for possible group differences within their target variables.

Assessing for Group Differences with *Binary Outcomes* (with SEEKCANCERINFO as example):

```
data DATAFILENAME;
      set DATAFILENAME;
      *Set negative values to missing;
      if SeekCancerInfo < 0 then SeekCancerInfo=.;
run;
proc surveylogistic data=DATAFILENAME varmethod=jackknife;
      weight nwgt0;
      repweights nwgt1-nwgt150 /df=147 jkcoefs=.98;
      class TREATMENT_H5C3;
      model SeekCancerInfo = TREATMENT_H5C3;
run;
```

Assessing for Group Differences with *Continuous Data* (with GENERALHEALTH as example):

```
data DATAFILE;
      set DATAFILE;
      *Set negative values to missing;
      if GeneralHealth < 0 then GeneralHealth=.;
run;
proc surveyreg data=DATAFILENAME varmethod=jackknife;
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      repweights nwgt1-nwgt150 /df=147 jkcoefs=.98;
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```

Set negative values to missing

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Variance Estimation Method

Final and Replicate Sample Weights

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Variance Estimation Method

Final and Replicate Sample Weights

Replicate Weight DDF

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Variance Estimation Method

Final and Replicate Sample Weights

Replicate Weight DDF

Grouping Variable

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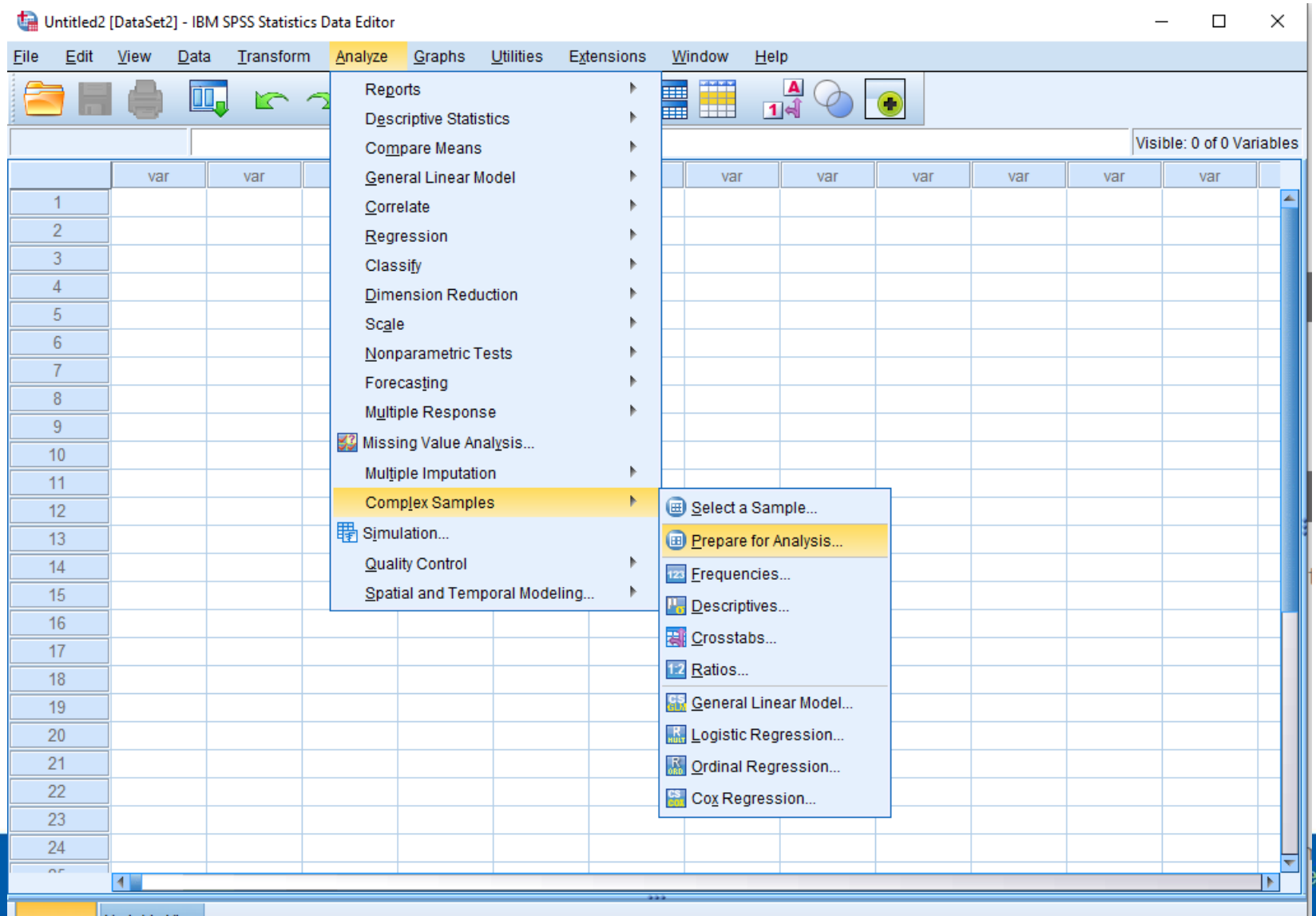
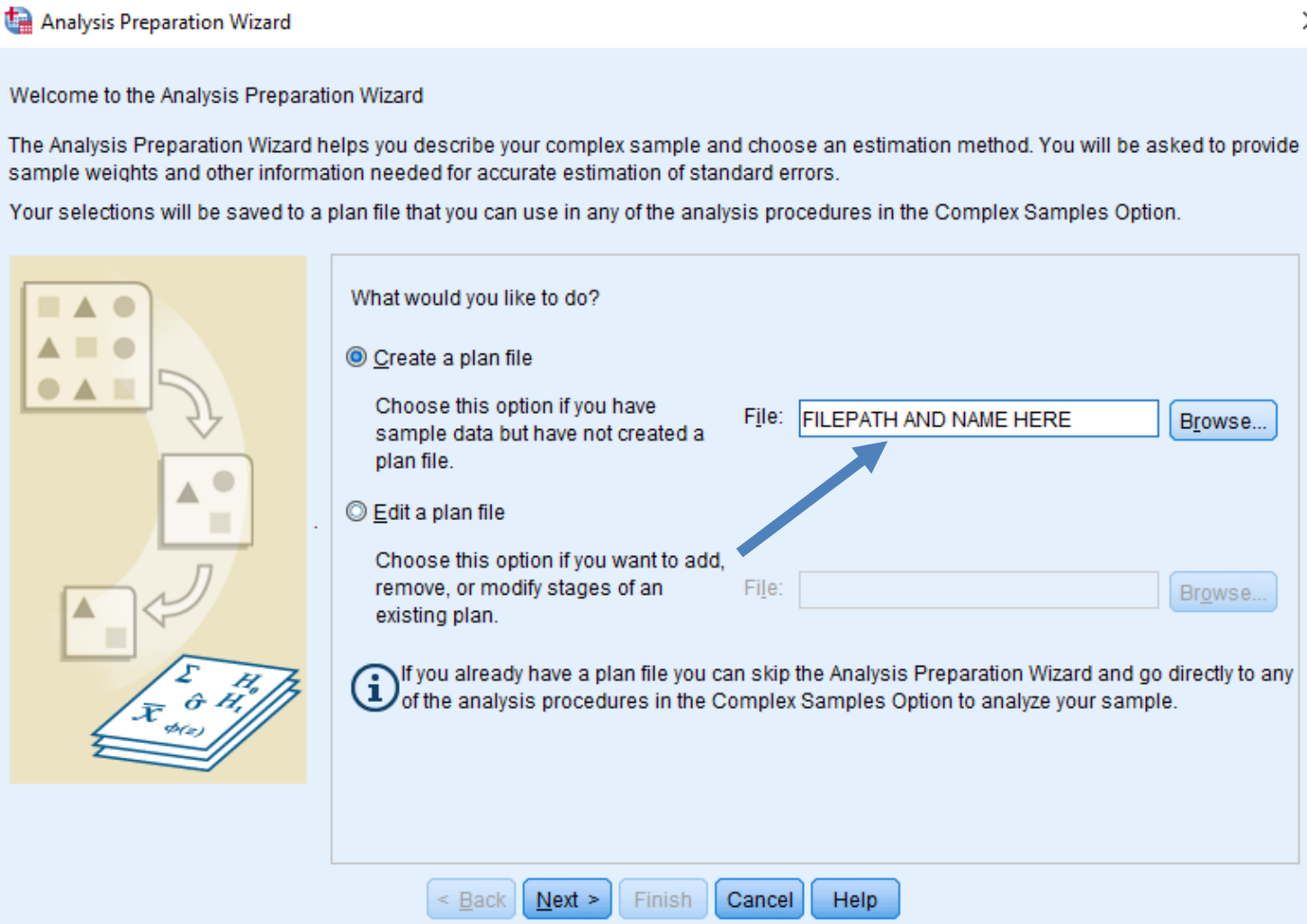
      model GeneralHealth = TREATMENT_H5C3 /solution;
run;
```

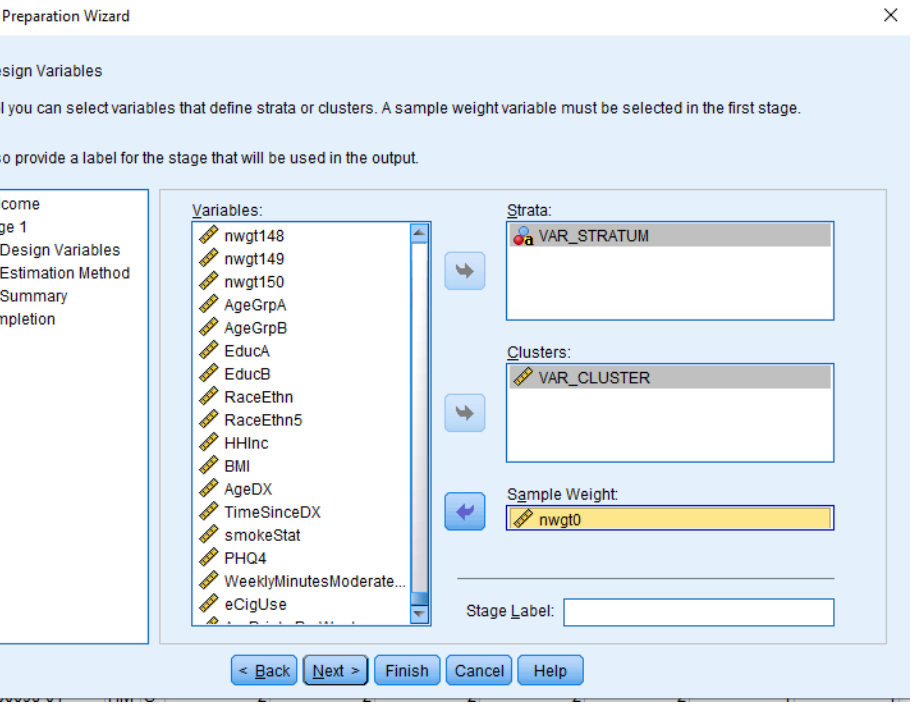
SPSS Complex Samples



SPSS Complex Samples

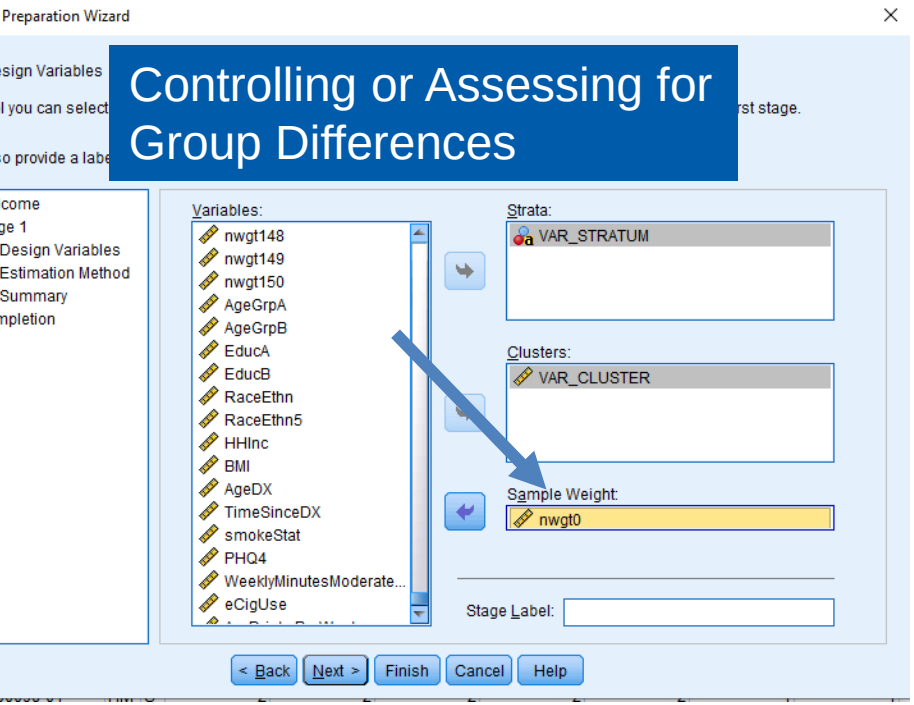


SPSS Complex Samples

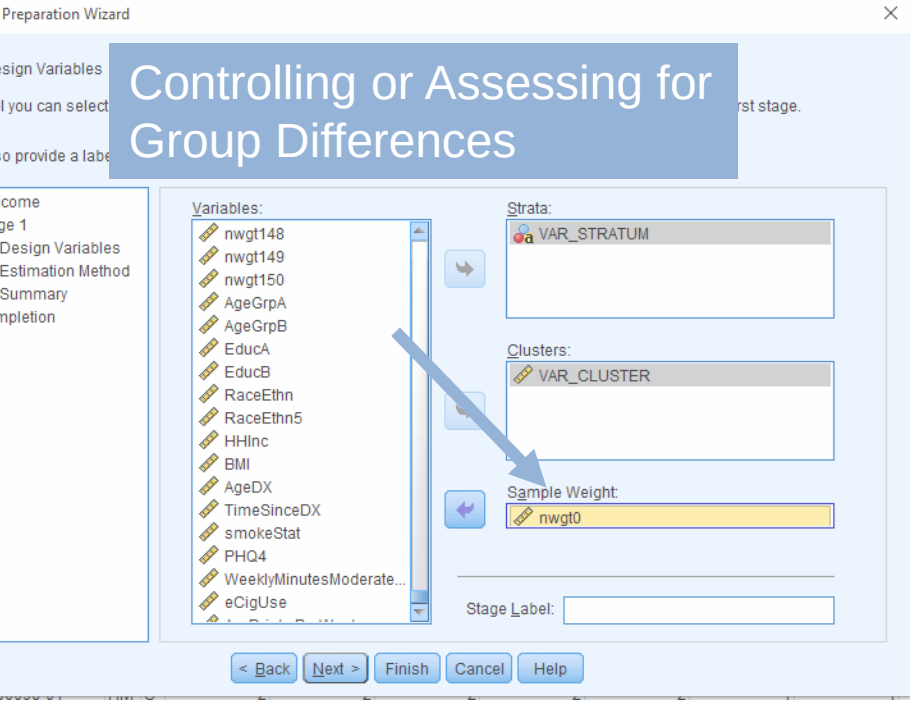


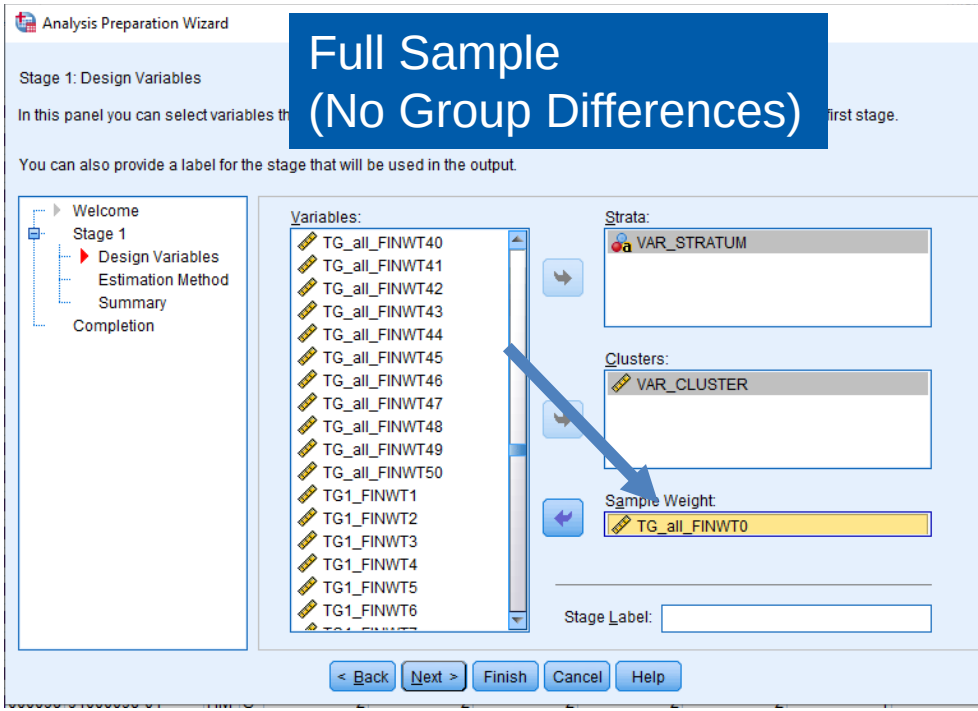
SPSS Complex Samples

Controlling or Assessing for Group Differences



SPSS Complex Samples





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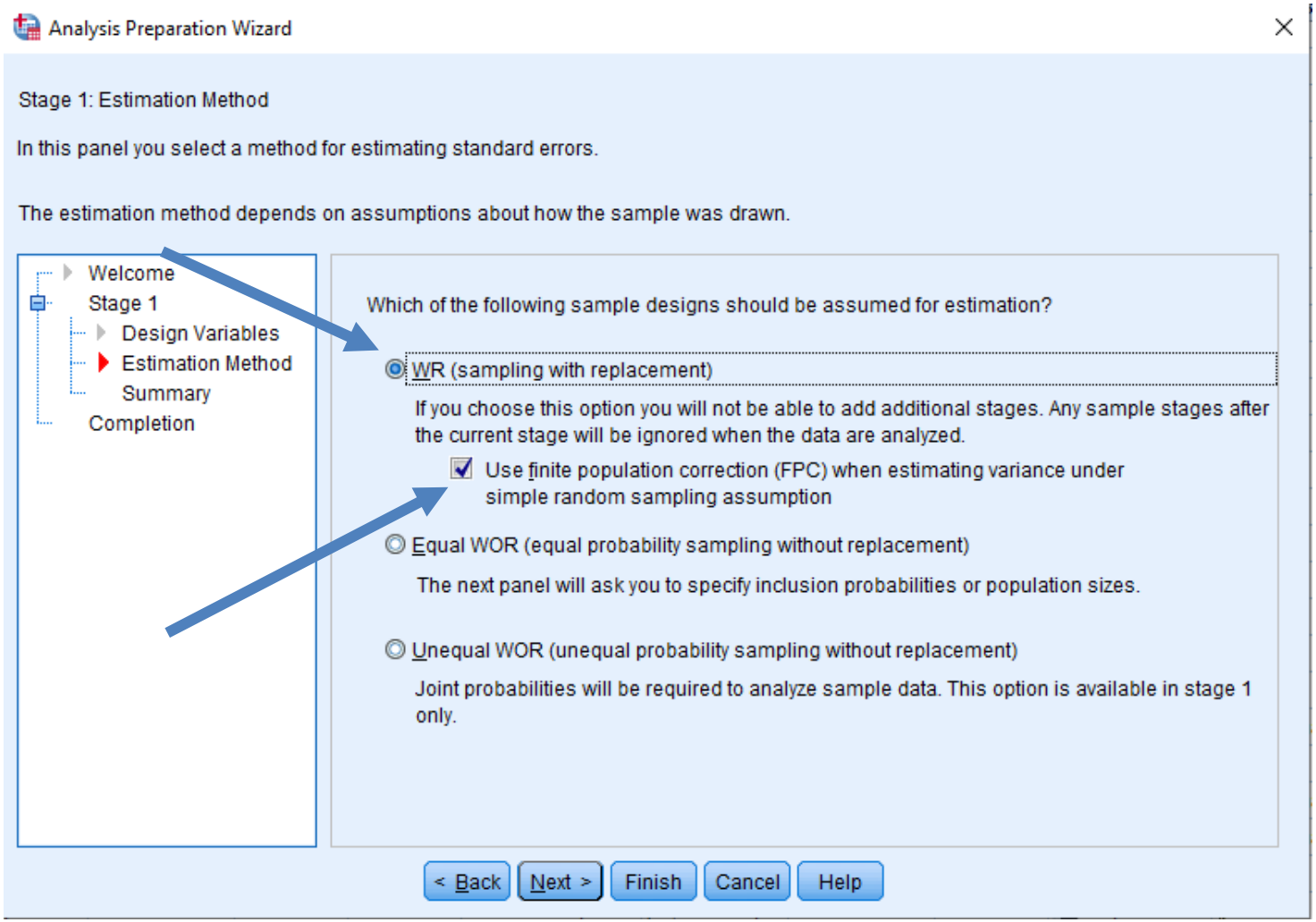

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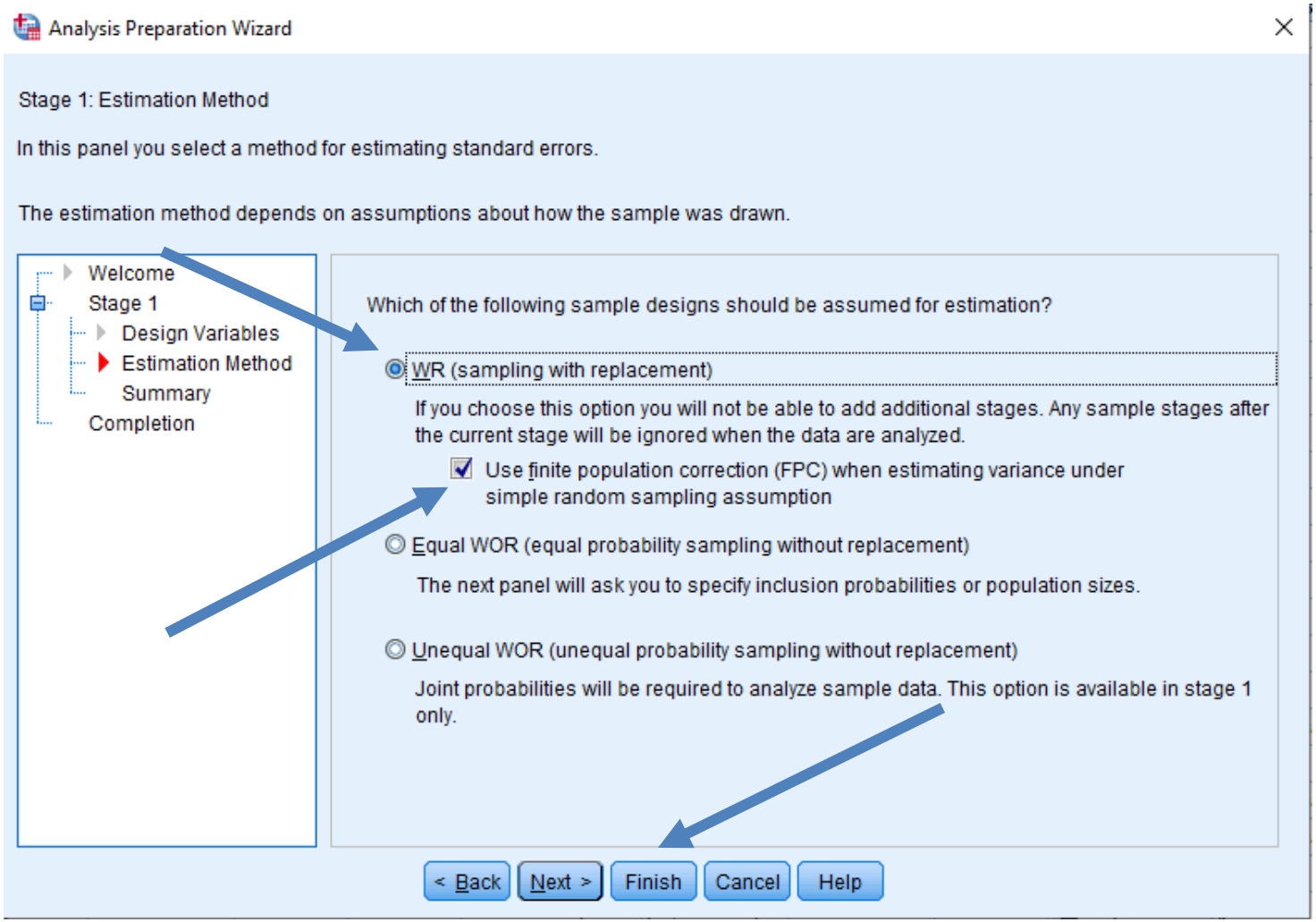
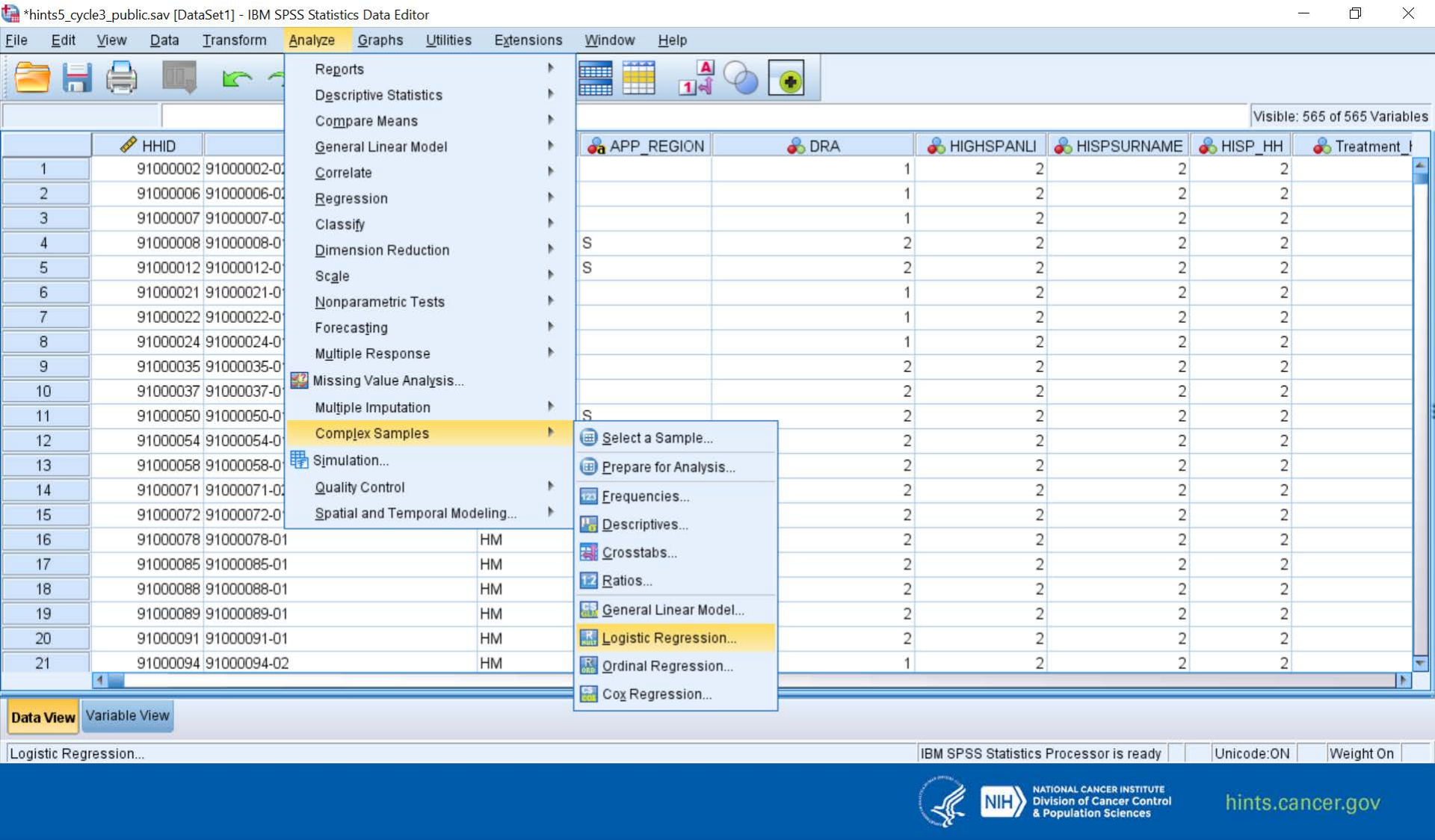


Conducting Analyses to Assess for Group Differences in SPSS



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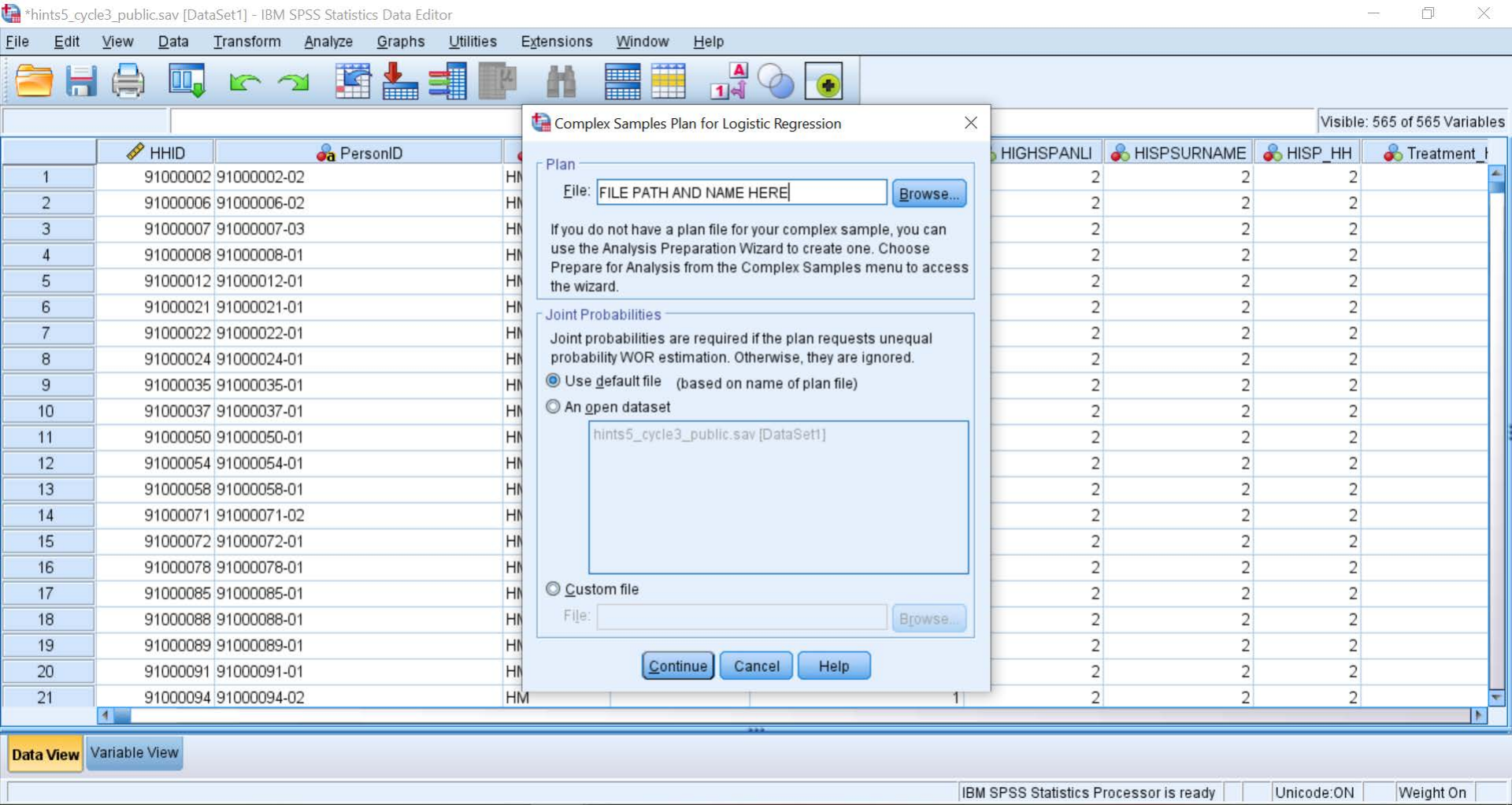

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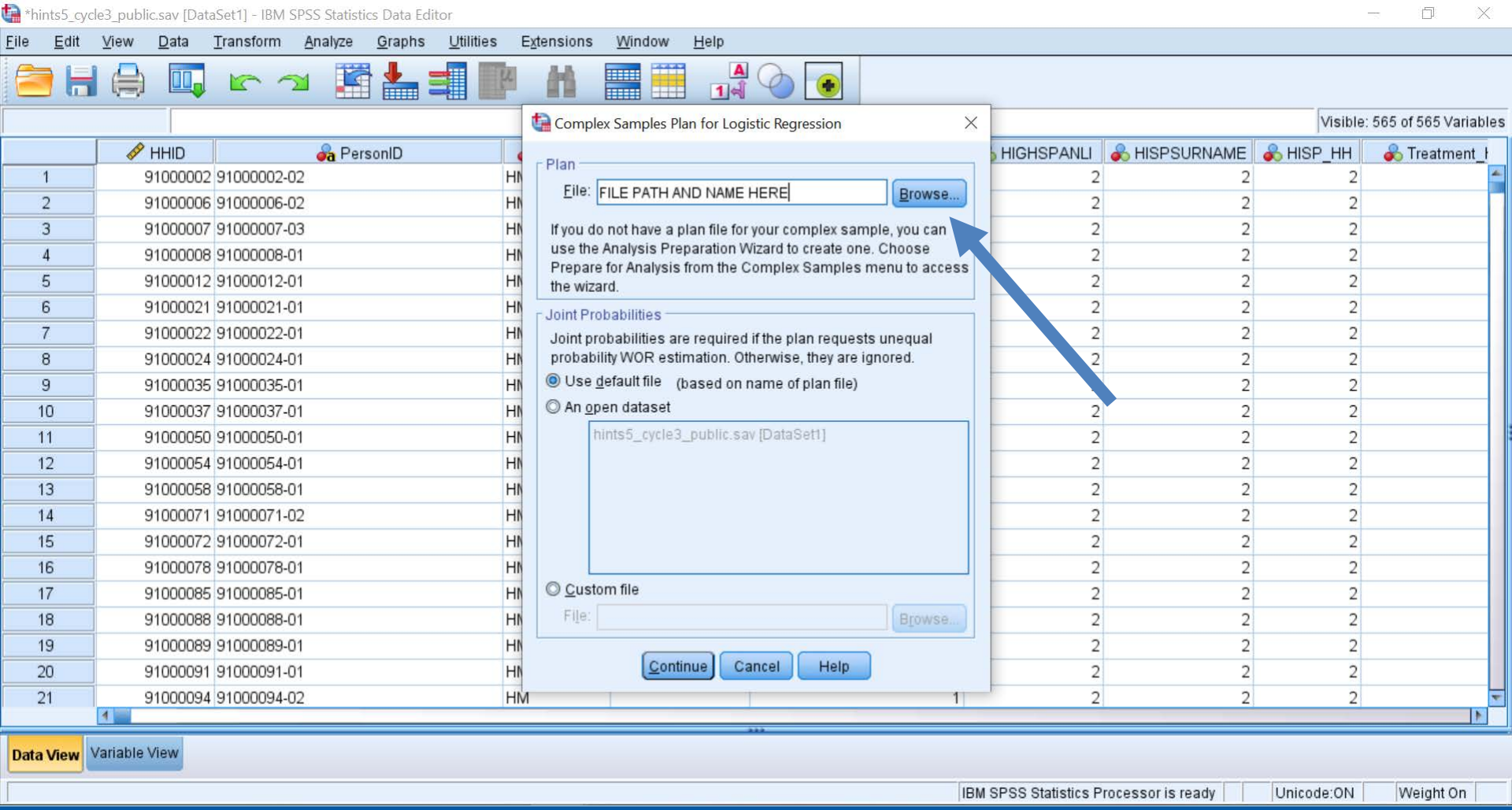

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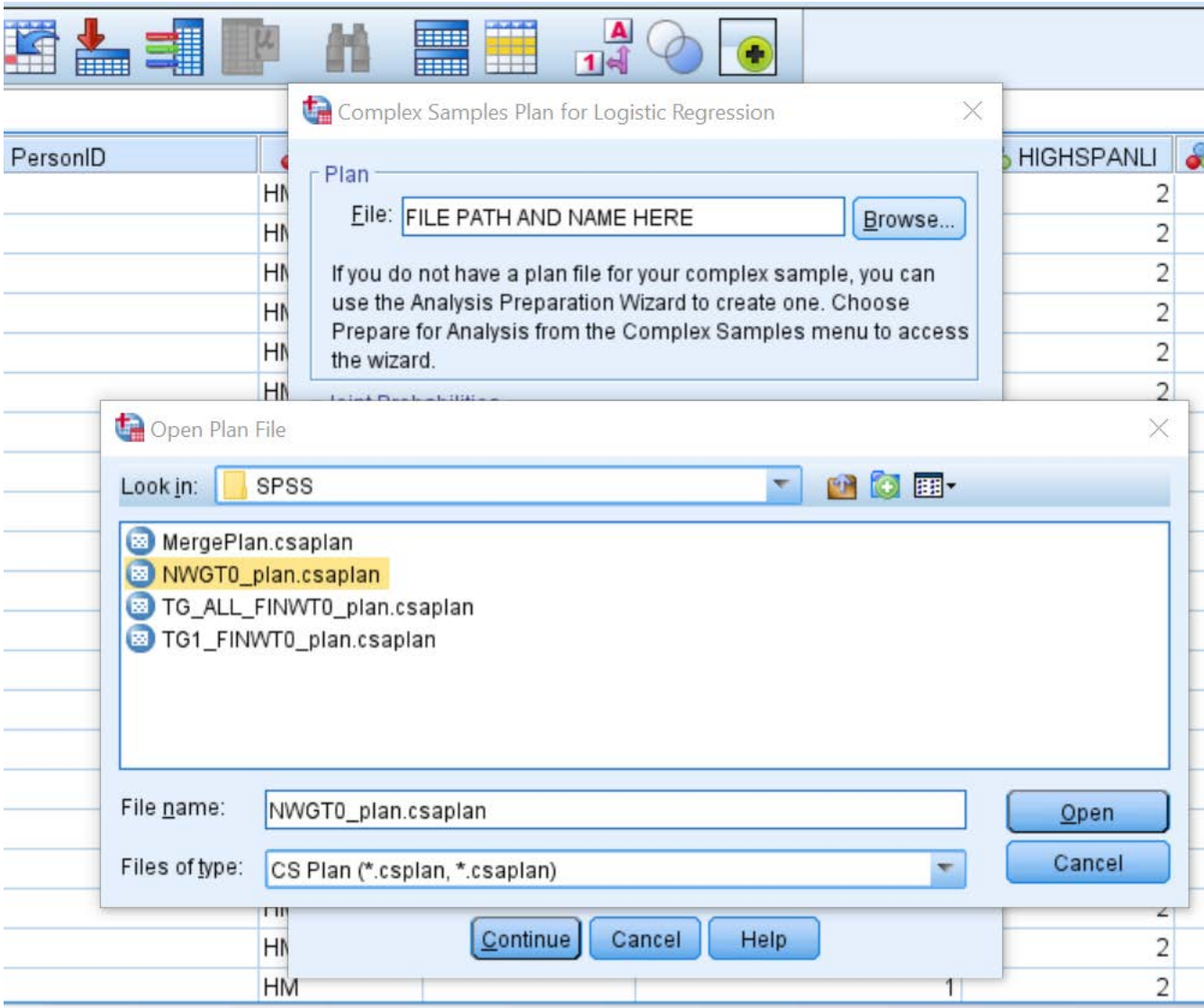

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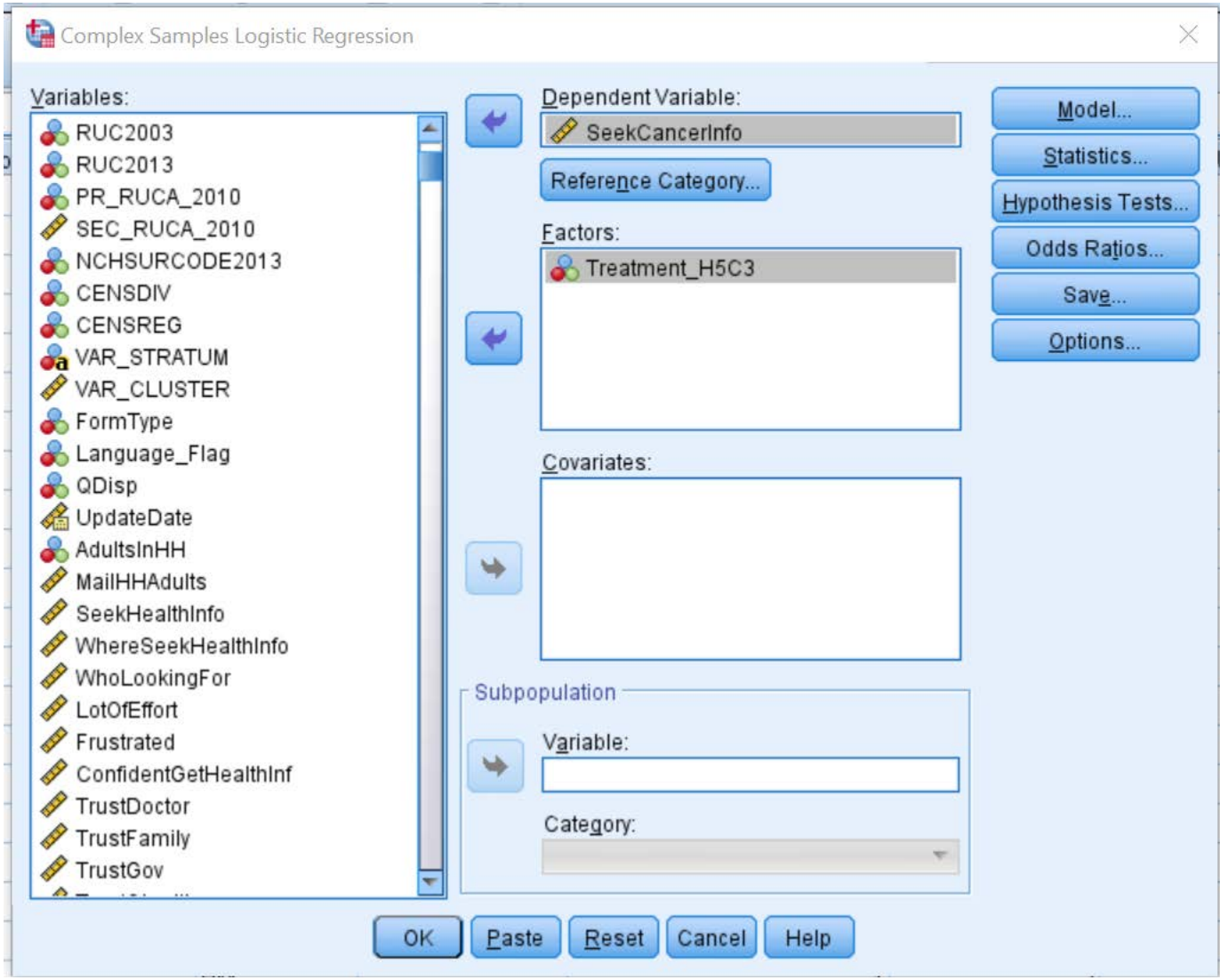
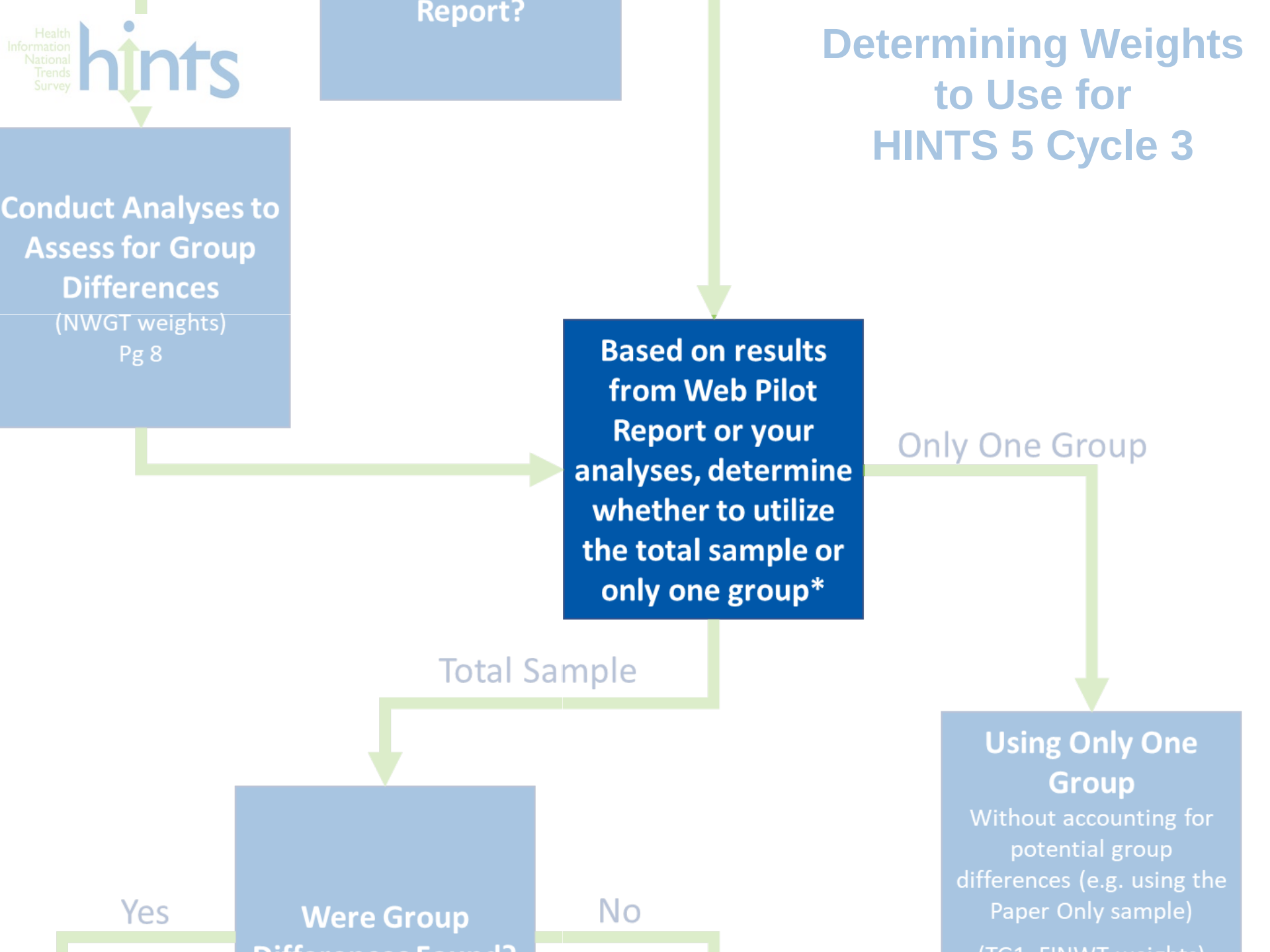
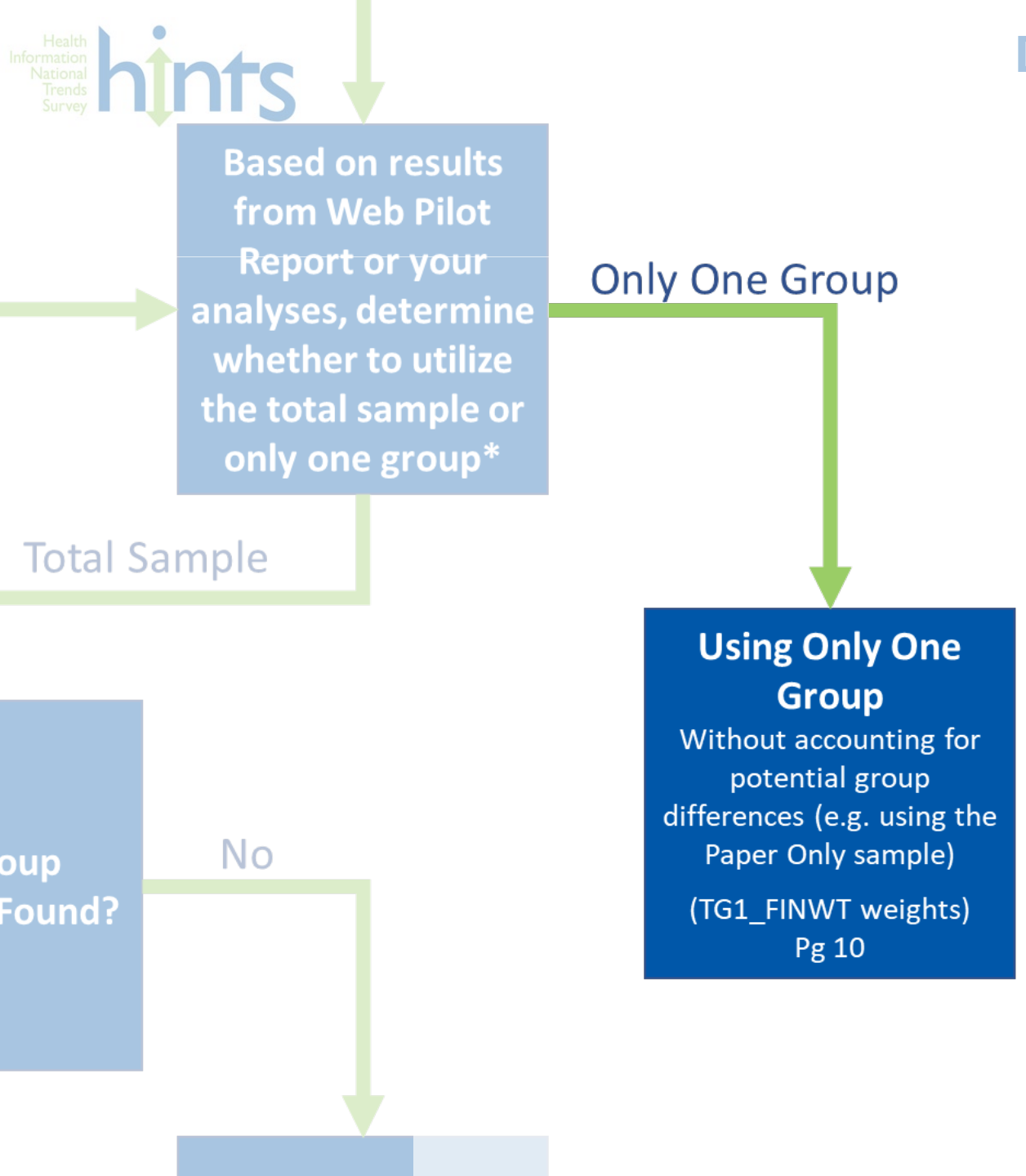



Health Information National Trends Survey
hints
Report?
Determining Weights to Use for HINTS 5 Cycle 3
Conduct Analyses to Assess for Group Differences
(NWGT weights)
Pg 8
Based on results from Web Pilot Report or your analyses, determine whether to utilize the total sample or only one group*
Only One Group
Total Sample
Using Only One Group
Without accounting for potential group differences (e.g. using the Paper Only sample)
Yes
Were Group
No

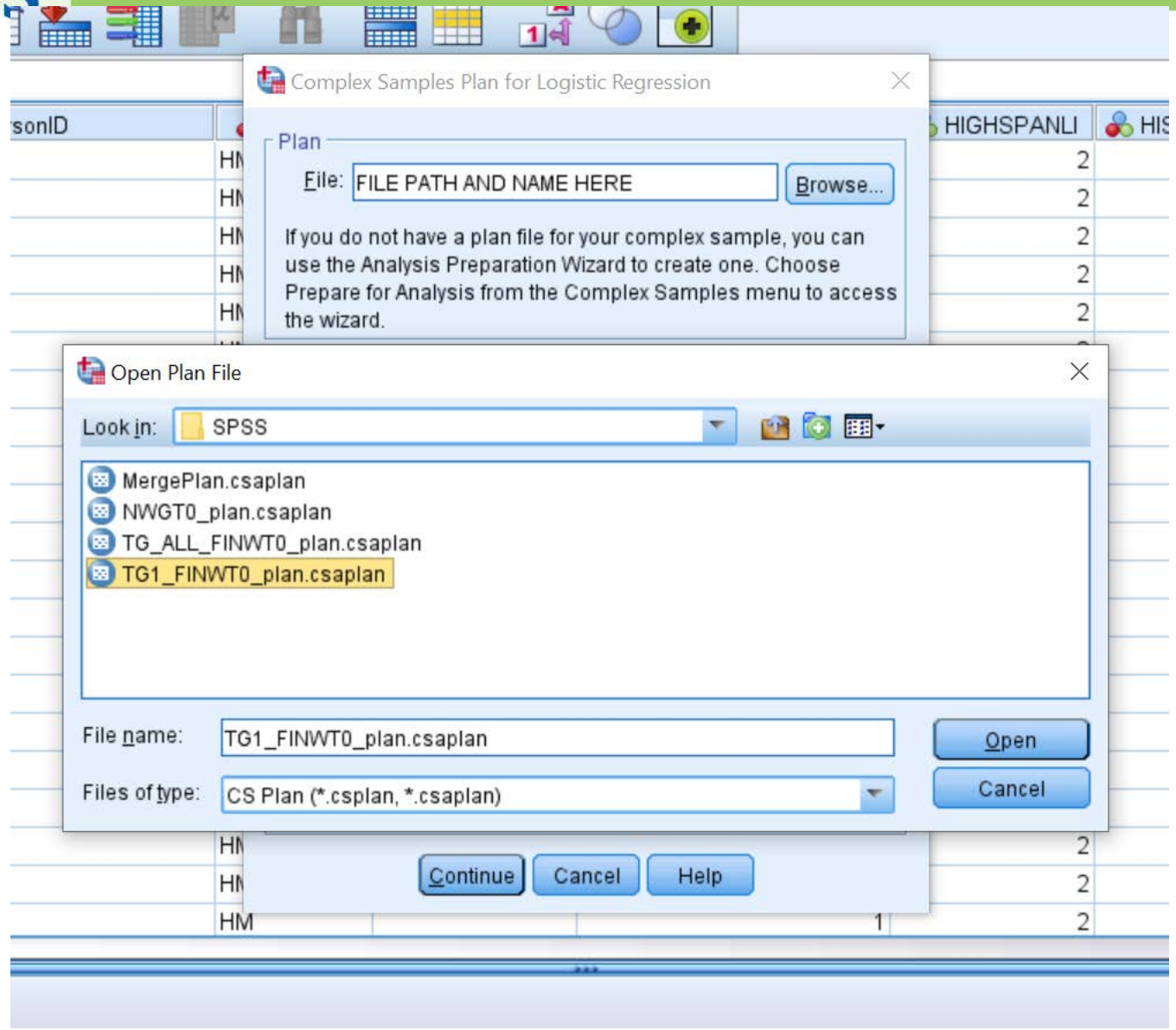
Determining Weights to Use for HINTS 5 Cycle 3



Conducting Analyses Using Only One Group

```
proc surveylogistic data=DATAFILENAME varmethod=jackknife;
   weight tg1_finwt0;
   repweights tg1_finwt1-tg1_finwt50 /df=49 jkcoefs=.98;
    *Predictor# variables in model statement are placeholders
    to substitute with your desired predictors;
      model SeekCancerInfo = predictor1 predictor2
      predictor3 predictor4…;
run;
```

Note: example code above is for the paper-only sample ("TG1"). Weight and repweight statements may be replaced with the "TG2" weights for the web option sample or "TG3" weights for the web bonus sample.


Complex Samples Plan for Logistic Regression
Plan
File: FILE PATH AND NAME HERE
Browse...
If you do not have a plan file for your complex sample, you can use the Analysis Preparation Wizard to create one. Choose Prepare for Analysis from the Complex Samples menu to access the wizard.
Open Plan File
Look in: SPSS
MergePlan.csaplan
NWGT0_plan.csaplan
TG_ALL_FINWT0_plan.csaplan
TG1_FINWT0_plan.csaplan
File name: TG1_FINWT0_plan.csaplan
Open
Files of type: CS Plan (*.csplan, *.csaplan)
Cancel
Continue
Cancel
Help
HIGHSPANLI

Determining Weights to Use for HINTS 5 Cycle 3

Report?

Conduct Analyses to Assess for Group Differences

(NWGT weights)

Pg 8

Based on results from Web Pilot Report or your analyses, determine whether to utilize the total sample or only one group*

Only One Group

Using Only One Group

Without accounting for potential group differences (e.g. using the Paper Only sample)

Total Sample

Were Group

Yes

No

Health Information National Trends Survey hints

only one group*

Total Sample

Were Group Differences Found?

Yes

Use the combined sample and control for group differences using the Treatment variable

(NWGT weights & Treatment_H5C3)
Pg 10

No

Use the combined sample without controlling for group differences

(TG_ALL_FINWT weights)
Pg 10

Health Information National Trends Survey hints

only one group*

Total Sample

Were Group Differences Found?

Yes

Use the combined sample and control for group differences using the Treatment variable

(NWGT weights & Treatment_H5C3)
Pg 10

No

Use the combined sample without controlling for group differences

(TG_ALL_FINWT weights)
Pg 10

Conducting Analyses Combined Sample, Controlling For Group Differences

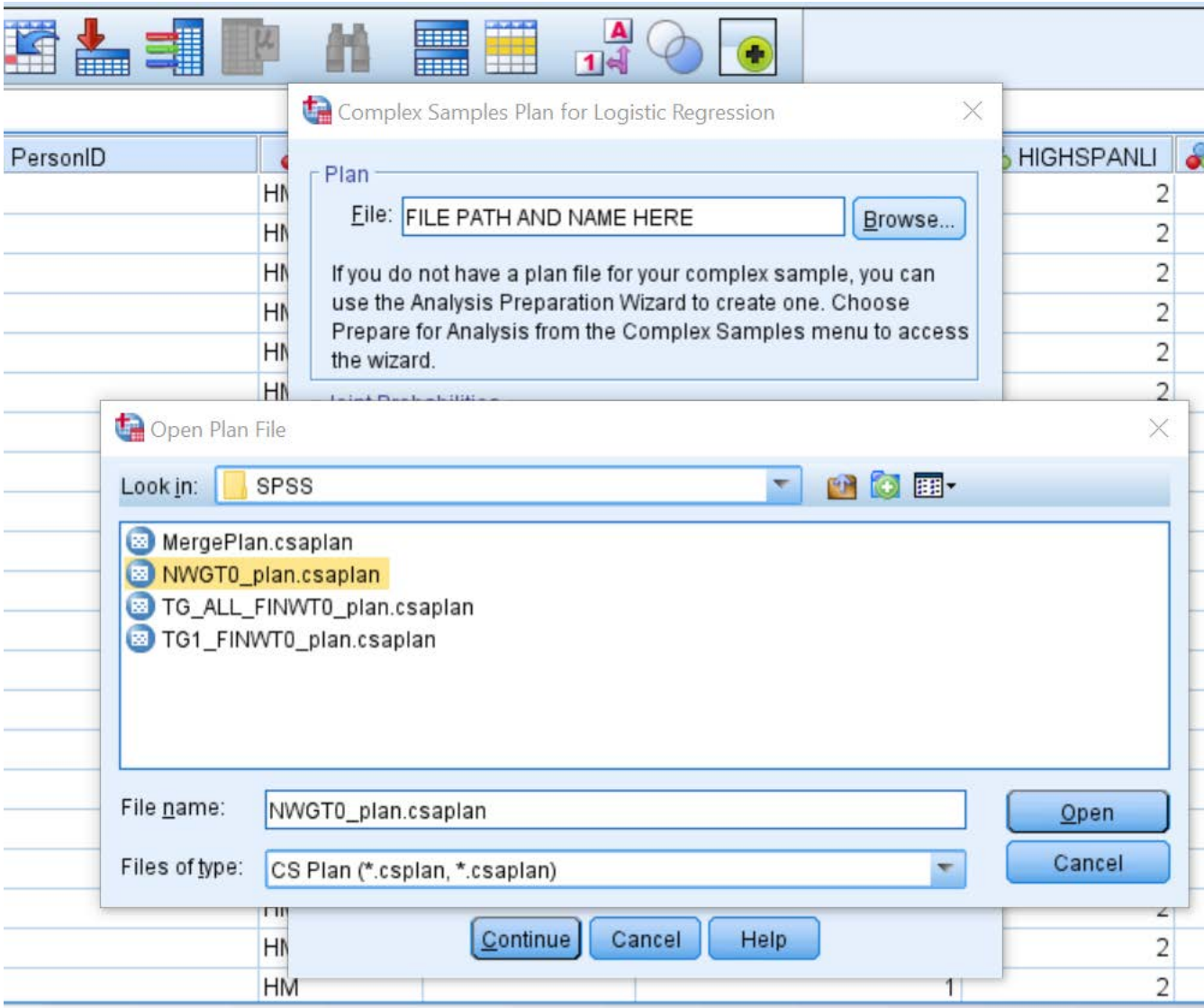
- ***Logistic Regression***

```
proc surveylogistic data=DATAFILENAME varmethod=jackknife;
    weight nwgt0;
    repweights nwgt1-nwgt150 /df=147 jkcoefs=.98;
     *Predictor# variables in model statement are placeholders to substitute
     with your desired predictors;
        model SeekCancerInfo = TREATMENT_H5C3 predictor1 predictor2 predictor3
        predictor4…;
run;
```

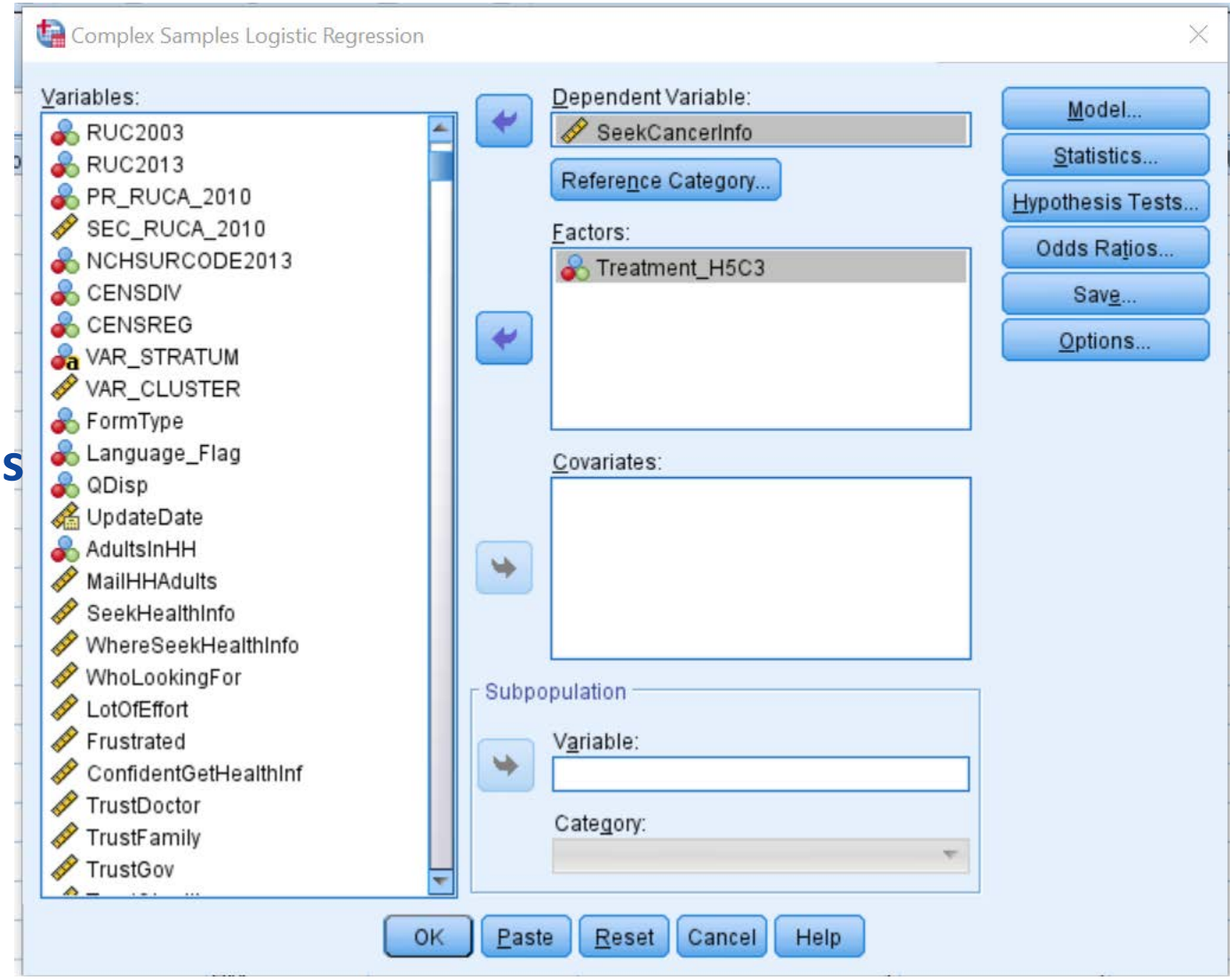
- ***Linear Regression***

```
proc surveyreg data=DATAFILENAME varmethod=jackknife;
    weight nwgt0;
    repweights nwgt1-nwgt150 /df=147 jkcoefs=.98;
     *Predictor# variables in model statement are placeholders to substitute
     with your desired predictors;
        model GeneralHealth = TREATMENT_H5C3 predictor1 predictor2 predictor3
        predictor4… /solution;
run;
```

Conducting Analyses Combined Sample, Controlling For Group Differences



Conducting Analyses Combined Sample, Controlling For Group Differences



Health Information National Trends Survey hints

only one group*

Total Sample

Were Group Differences Found?

Yes

Use the combined sample and control for group differences using the Treatment variable

(NWGT weights & Treatment_H5C3)
Pg 10

No

Use the combined sample without controlling for group differences

(TG_ALL_FINWT weights)
Pg 10

Conducting Analyses on the Combined Sample, Without Controlling for Group Differences

If no group differences are found, it is suggested that analysts use the combined sample to increase statistical power

- ***Frequency Table and Chi-Square Test***

```
proc surveyfreq data = hints5cycle3 varmethod = jackknife;
 weight TG_all_FINWT0;
 repweights TG_all_FINWT1-TG_all_FINWT50 / df = 49 jkcoefs = 0.98;
 tables edu*gender / row col wchisq;
run;
```

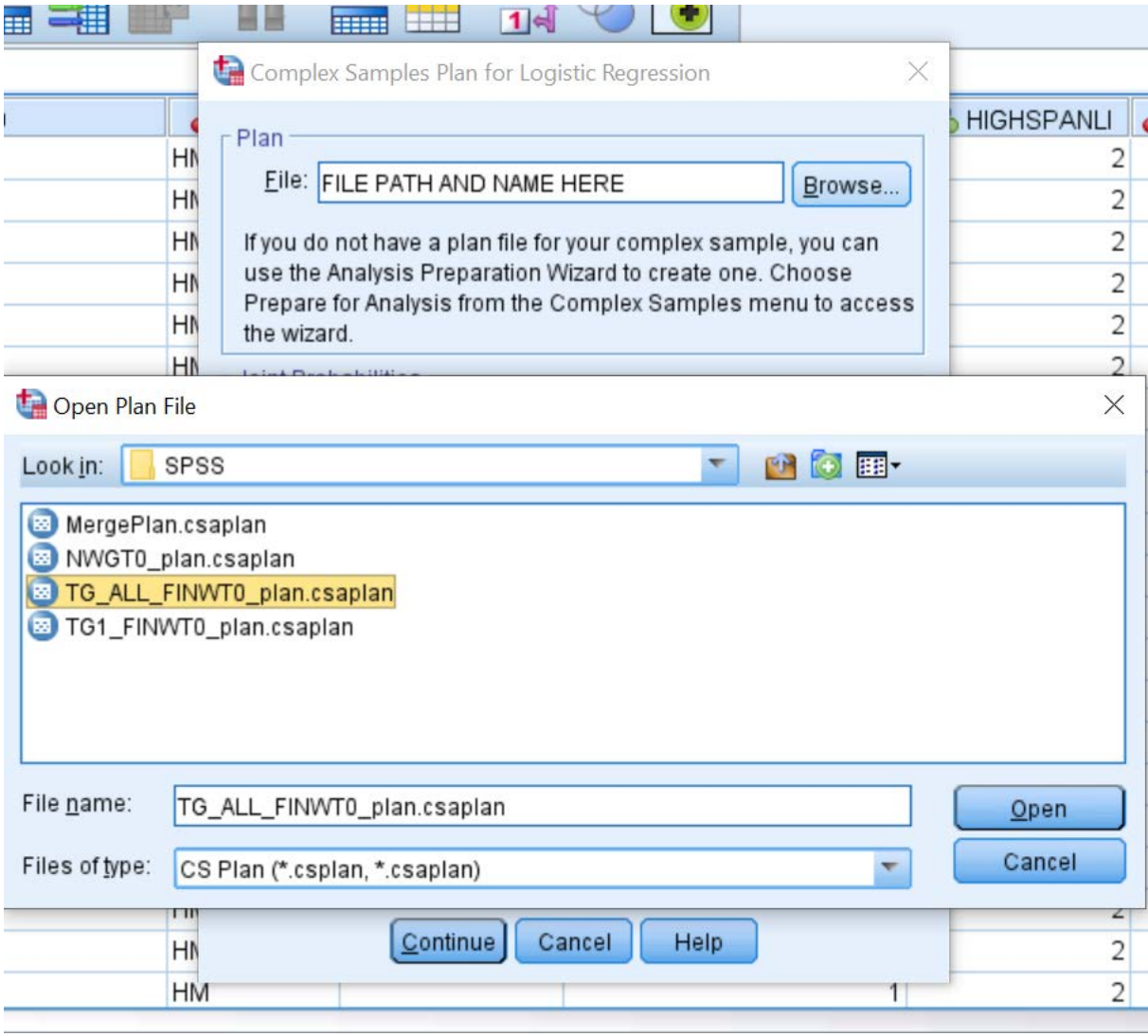
- ***Logistic Regression***

```
/*Multivariable logistic regression of gender and education on SeekCancerInfo*/
proc surveylogistic data= hints5cycle3 varmethod=jackknife;
 weight TG_all_FINWT0;
 repweights TG_all_FINWT1-TG_all_FINWT50 / df=49 jkcoefs=0.98;
 class edu (ref="Less than high school")
       gender (ref="Male")/param=REF;
 model seekcancerinfo (descending) = gender edu /tech=newton xconv=1e-8 CLPARM EXPB;
run;
```

- ***Linear Regression***

```
/*Multivariable linear regression of gender and education on GeneralHealth*/
proc surveyreg data= hints5cycle3 varmethod=jackknife;
 weight TG_all_FINWT0;
 repweights TG_all_FINWT1-TG_all_FINWT50 / df=49 jkcoefs=0.98;
 class edu (ref="Less than high school") gender (ref="Male");
 model generalhealth = edu gender /solution;
run;
```

Conducting Analyses on the Combined Sample, Without Controlling for Group Differences



Health Information National Trends Survey

hints

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Combining Cycles

Merging HINTS Survey Iterations

- Analysts should first assess for group differences in the HINTS 5, Cycle 3 data on variables of interest
- Sample code is created assuming there are no differences between groups in HINTS 5 Cycle 3
- If group differences are found:
  - Create a new variable in both data files that would allow the analyst to differentiate between the 4 groups
    (H5C2, H5C3 Paper Only, H5C3 Web Option, and H5C3 Web Bonus groups)
  - Use the Rizzo, et al., (2008) method to create 200 replicate weights

Merging HINTS Survey Iterations Using SAS

```
/*FIRST CREATE THE FORMAT FOR THE SURVEY VARIABLE*/
proc format;
  value survey
  1="HINTS 5 CYCLE 2"
  2="HINTS 5 CYCLE 3"
  ;
run;

/*************************************************************************/

/*CREATE TWO SEPARATE TEMPORARY DATA FILES THAT CONTAIN THE NEW 'SURVEY'
VARIABLE.*/

/*PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 2 FORMATS ARE STORED*/;
options fmtsearch=(LibH5C2);

data tempHINTS5CYCLE2;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set LibH5C2.DataH5C2;

  survey=1;
  format survey survey.;

run;

/* PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 3 FORMATS ARE STORED*/
options fmtsearch=(hints5c3);

data tempHINTS5CYCLE3;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set hints5c3.hints5cycle3_formatted;
  survey=2;
  format survey survey.;
run;
```

Merging HINTS Survey Iterations Using SAS

```
/*FIRST CREATE THE FORMAT FOR THE SURVEY VARIABLE*/
proc format;
  value survey
  1="HINTS 5 CYCLE 2"
  2="HINTS 5 CYCLE 3"
  ;
run;

/*************************************************************************/

/*CREATE TWO SEPARATE TEMPORARY DATA FILES THAT CONTAIN THE NEW 'SURVEY'
VARIABLE.*/

/*PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 2 FORMATS ARE STORED*/;
options fmtsearch=(LibH5C2);

data tempHINTS5CYCLE2;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set LibH5C2.DataH5C2;

  survey=1;
  format survey survey.;

run;

/* PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 3 FORMATS ARE STORED*/
options fmtsearch=(hints5c3);

data tempHINTS5CYCLE3;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set hints5c3.hints5cycle3_formatted;
  survey=2;
  format survey survey.;
run;
```

Format for new variable to differentiate survey cycle

Merging HINTS Survey Iterations Using SAS

```
/*FIRST CREATE THE FORMAT FOR THE SURVEY VARIABLE*/
proc format;
  value survey
  1="HINTS 5 CYCLE 2"
  2="HINTS 5 CYCLE 3"
  ;
run;

/*************************************************************************/

/*CREATE TWO SEPARATE TEMPORARY DATA FILES THAT CONTAIN THE NEW 'SURVEY'
VARIABLE.*/

/*PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 2 FORMATS ARE STORED*/;
options fmtsearch=(LibH5C2);

data tempHINTS5CYCLE2;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set LibH5C2.DataH5C2;

  survey=1;
  format survey survey.;

run;

/* PUT NAME OF LIBRARY WHERE HINTS 5 CYCLE 3 FORMATS ARE STORED*/
options fmtsearch=(hints5c3);

data tempHINTS5CYCLE3;
  /*PUT NAME OF LIBRARY AND NAME OF EXISTING HINTS 5 CYCLE 3 DATA FILE*/
  set hints5c3.hints5cycle3_formatted;
  survey=2;
  format survey survey.;
run;
```

Format for new variable to differentiate survey cycle

Create new variable to differentiate survey cycle

Create new variable to differentiate survey cycle

Merging HINTS Survey Iterations Using SAS

SAS Code to Set Up Final and Replicate Weights for the Replicate Variance Estimation Method

```
/*THIS CODE MERGES THE TWO TEMPORARY DATA SETS CREATED ABOVE. IT ALSO CREATES ONE FINAL SAMPLE
WEIGHT (Merged_NWGT0) AND 100 REPLICATE WEIGHTS (Merged_NWGT1 THRU Merged_NWGT100)*/

data mergeHINTS5C2_HINTS5C3;

  set tempHINTS5CYCLE2 tempHINTS5CYCLE3;
  /*Create Replicate Weights for trend tests*/
  **Replicate Weights;
  array hints52wgts [50]  person_finwt1-person_finwt50;
  array hints53wgts [50]  TG_all_finwt1-TG_all_finwt50;
  array Merged_NWgt [100] Merged_NWGT1-Merged_NWGT100;

  **Adjust Final And Replicate Weights;
  if survey eq 1 then do i=1 to 50;    *HINTS 5 CYCLE 2;
       Merged_NWGT0=person_finwt0;
       Merged_NWgt[i]=hints52wgts[i];
       Merged_NWgt[50+i]=person_finwt0;
  end;

  else if survey eq 2 then do i=1 to 50; *HINTS 5 CYCLE 3;
       Merged_NWGT0=TG_all_finwt0;
       Merged_NWgt[i]=TG_all_finwt0;
       Merged_NWgt[50+i]=hints53wgts[i];
  end;
run;
```

Merging HINTS Survey Iterations Using SAS

SAS Code to Set Up Final and Replicate Weights for the Replicate Variance Estimation Method

```
/*THIS CODE MERGES THE TWO TEMPORARY DATA SETS CREATED ABOVE. IT ALSO CREATES ONE FINAL SAMPLE
WEIGHT (Merged_NWGT0) AND 100 REPLICATE WEIGHTS (Merged_NWGT1 THRU Merged_NWGT100)*/

data mergeHINTS5C2_HINTS5C3;

  set tempHINTS5CYCLE2 tempHINTS5CYCLE3;

  /*Create Replicate Weights for trend tests*/

  **Replicate Weights;
  array hints52wgts [50]  person_finwt1-person_finwt50;
  array hints53wgts [50]  TG_all_finwt1-TG_all_finwt50;
  array Merged_NWgt [100] Merged_NWGT1-Merged_NWGT100;

  **Adjust Final And Replicate Weights;
  if survey eq 1 then do i=1 to 50;    *HINTS 5 CYCLE 2;
        Merged_NWGT0=person_finwt0;
        Merged_NWgt[i]=hints52wgts[i];
        Merged_NWgt[50+i]=person_finwt0;
  end;

  else if survey eq 2 then do i=1 to 50; *HINTS 5 CYCLE 3;
        Merged_NWGT0=TG_all_finwt0;
        Merged_NWgt[i]=TG_all_finwt0;
        Merged_NWgt[50+i]=hints53wgts[i];
  end;
run;
```

Create Replicate Weights

Merging HINTS Survey Iterations Using SAS

SAS Code to Set Up Final and Replicate Weights for the Replicate Variance Estimation Method

```
/*THIS CODE MERGES THE TWO TEMPORARY DATA SETS CREATED ABOVE. IT ALSO CREATES ONE FINAL SAMPLE
WEIGHT (Merged_NWGT0) AND 100 REPLICATE WEIGHTS (Merged_NWGT1 THRU Merged_NWGT100)*/

data mergeHINTS5C2_HINTS5C3;

  set tempHINTS5CYCLE2 tempHINTS5CYCLE3;

  /*Create Replicate Weights for trend tests*/

  **Replicate Weights;
  array hints52wgts [50]  person_finwt1-person_finwt50;
  array hints53wgts [50]  TG_all_finwt1-TG_all_finwt50;
  array Merged_NWgt [100] Merged_NWGT1-Merged_NWGT100;

  **Adjust Final And Replicate Weights;
  if survey eq 1 then do i=1 to 50;    *HINTS 5 CYCLE 2;
       Merged_NWGT0=person_finwt0;
       Merged_NWgt[i]=hints52wgts[i];
       Merged_NWgt[50+i]=person_finwt0;
  end;

  else if survey eq 2 then do i=1 to 50; *HINTS 5 CYCLE 3;
       Merged_NWGT0=TG_all_finwt0;
       Merged_NWgt[i]=TG_all_finwt0;
       Merged_NWgt[50+i]=hints53wgts[i];
  end;
run;
```

Create Replicate Weights

Adjust Final and Replicate Weights

Adjust Final and Replicate Weights

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.
```

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.
```

Save as new file

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.
```

Save as new file

Rename Dataset

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.
```

Save as new file

Rename Dataset

Rename Final Sample Weight

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.
```

Save as new file

Rename Dataset

Rename Final Sample Weight

Create a variable that allows us to distinguish between participants from each cycle

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.



 **below, you should insert the filepath for your HINTS 5 Cycle 2 data**.
GET
  FILE='H:\HINTS\5 Cycle 2\HINTS-5_Cycle2_SPSS\hints5_cycle2_public.sav'.
ALTER TYPE ALL(A=AMIN).
DATASET NAME H5C2 WINDOW=FRONT.
COMPUTE MERGED_FINWT0=Person_FINWT0.
COMPUTE Survey=1.
EXECUTE.
```

Merging HINTS Survey Iterations Using SPSS

```
SAVE OUTFILE='H:\HINTS\5 Cycle 3\SPSS\MERGED_H5C3_H5C2.sav'
  /COMPRESSED.
DATASET NAME MERGED_DATA.

DATASET ACTIVATE MERGED_DATA.
COMPUTE MERGED_FINWT0=TG_all_FINWT0.
COMPUTE Survey=2.
EXECUTE.



 **below, you should insert the filepath for your HINTS 5 Cycle 2 data**.
GET
  FILE='H:\HINTS\5 Cycle 2\HINTS-5_Cycle2_SPSS\hints5_cycle2_public.sav'.
ALTER TYPE ALL(A=AMIN).
DATASET NAME H5C2 WINDOW=FRONT.
COMPUTE MERGED_FINWT0=Person_FINWT0.
COMPUTE Survey=1.
EXECUTE.
```

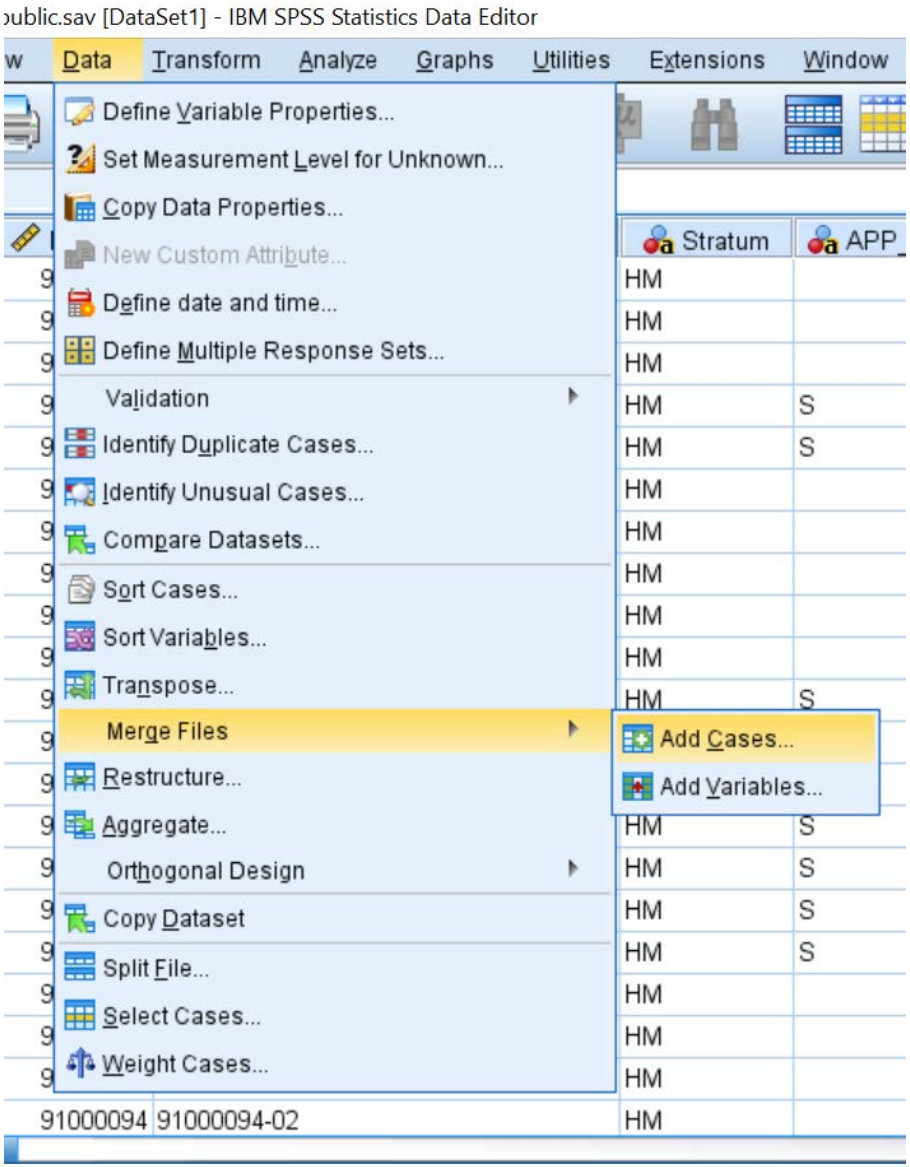
Open other cycle data

Rename Dataset

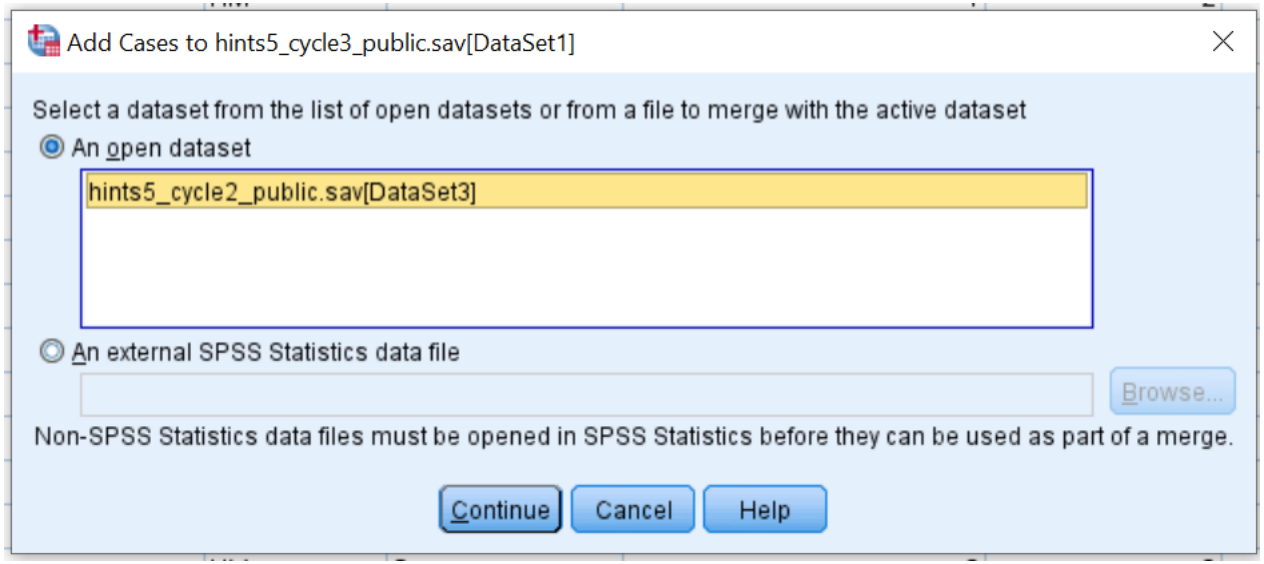
Rename Final Sample Weight

Create a variable that allows us to distinguish between participants from each cycle

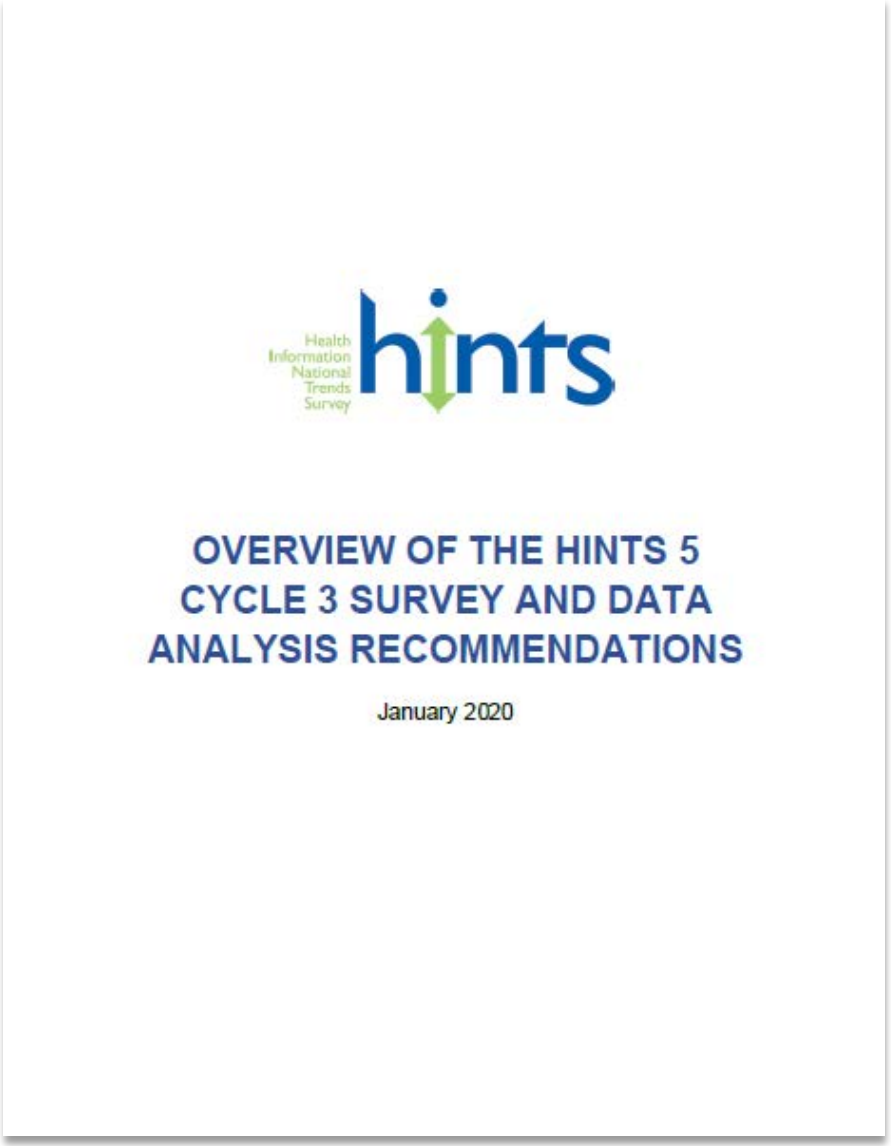
Merging HINTS Survey Iterations Using SPSS



Merging HINTS Survey Iterations Using SPSS



For More Information



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Questions?

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Back Pocket Slides

SAS Taylor Linearization

- Frequencies and Chi Square, Combined Sample (No Differences Found)

```
proc surveyfreq data = hints5cycle3
      varmethod = TAYLOR;
      strata VAR_STRATUM;
      cluster VAR_CLUSTER;
      weight TG_all_finwt0;
      tables edu*gender / row col wchisq;
run;
```

Variance Estimation Method

Strata and Cluster

Final Sample Weight

Questions?