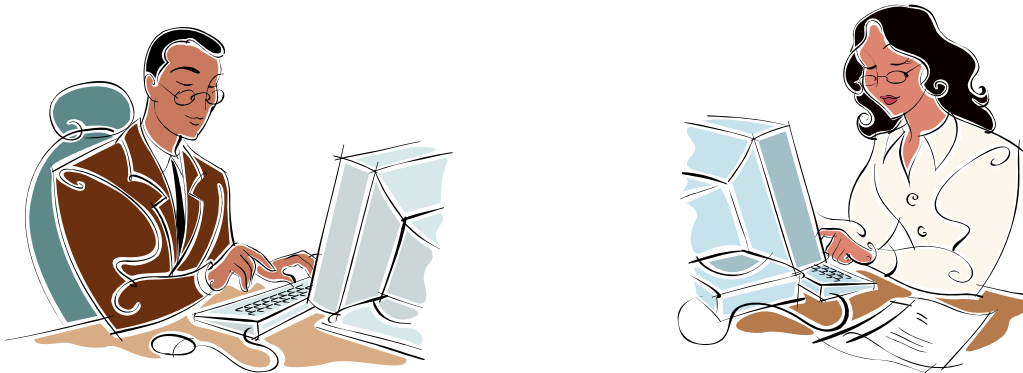


# **National Center for Health Statistics Data Users Conference**

## **Hands-On Session National Health Interview Survey (NHIS)**



**Using the 2004 and 2005 National Health Interview Surveys**

**July 10-12, 2006  
Omni Shoreham Hotel  
Washington, DC**

Centers for Disease Control and Prevention  
National Center for Health Statistics  
Division of Health Interview Statistics



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**NOTE: Example programs are run using 2004 and 2005 NHIS data files. All programs and estimates in this document are presented for demonstration purposes only and are not intended to be "real".**

## Downloading NHIS Data Files and SAS Programs

Go to the C drive and create a directory called C:/NHIS2005

Go to [www.cdc.gov/nchs/nhis.htm](http://www.cdc.gov/nchs/nhis.htm)

Scroll down and click on Questionnaires, Datasets, and Related Documentation

Scroll down and click on 1997-2006 Data and Related Documentation

Scroll down to 2005 NHIS and click on Data Release

Scroll down to Sample Adult file and click on ASCII data

Save the samadult.exe file to the C:/NHIS2005 directory on your hard drive

Once the download is complete, click on "Close"

Under Sample Adult file, click on Sample SAS statements

Save the samadult.sas file to the C:/NHIS2005 directory on your hard drive

Once the download is complete, click on "Close"

After the 2005 Sample Adult file and 2005 Sample Adult SAS program have been downloaded, go to the directory where the files are saved (C:/NHIS2005) and double click on the samadult.exe file. This will generate an ASCII file which can then be used for processing by PC statistical software packages which utilize ASCII formatted input.

**NOTE:** Since the NHIS data files typically have the same name from year to year (i.e., personsx, samadult, samchild), downloaded files from different years should be placed in different directories. Otherwise, files that already exist in the directory will be replaced.

# Provided SAS Program 2005 Sample Adult File (SAMADULT.SAS)

---

JUNE 1, 2006 8:56 AM

This is an example of a SAS program that creates a SAS  
file from the 2005 NHIS Public Use samadult.DAT ASCII file

This is stored in samadult.SAS

\*\*\*\*\*;

\* USER NOTE: PLACE NEXT STATEMENT IN SUBSEQUENT PROGRAMS;

LIBNAME NHIS "C:\NHIS2005";

\* USER NOTE: PLACE NEXT STATEMENT IN SUBSEQUENT PROGRAMS

IF YOU ALLOW PROGRAM TO PERMANENTLY STORE FORMATS;

LIBNAME LIBRARY "C:\NHIS2005";

FILENAME ASCIIDAT 'C:\NHIS2005\SAMADULT.DAT';

\* DEFINE VARIABLE VALUES FOR REPORTS;

\* USE THE STATEMENT "PROC FORMAT LIBRARY=LIBRARY"

TO PERMANENTLY STORE THE FORMAT DEFINITIONS;

\* USE THE STATEMENT "PROC FORMAT" IF YOU DO NOT WISH

TO PERMANENTLY STORE THE FORMATS.;

PROC FORMAT LIBRARY=LIBRARY;

\*PROC FORMAT;

VALUE \$GROUPC

' '< - HIGH = "All Values"

;

VALUE GROUPN

LOW - HIGH = "All Values"

;

.

.

.

.

VALUE SAP520X

1 = "1 High"

2 = "2 Medium"

3 = "3 Low"

4 = "4 None"

5 = "5 Already have TB"

7 = "7 Refused"

8 = "8 Not ascertained"

9 = "9 Don't know"

;

```

DATA NHIS.samadult;
  * CREATE A SAS DATA SET;
  INFILE ASCIIIDAT PAD LRECL=729;

  * DEFINE LENGTH OF ALL VARIABLES;

  LENGTH

      /* IDN LENGTHS */

      RECTYPE      3      SRVY_YR      4      HHX      $ 6      INTV_QRT      3
      .
      .
      .
      .
      TBCURED      3      TBCHANC      3      TBSHAME      3      HOMELESS      3 ;

  * INPUT ALL VARIABLES;

  INPUT

      /* IDN LOCATIONS */

      RECTYPE      1 - 2      SRVY_YR      3 - 6
      .
      .
      .
      .
      TBSHAME      728 - 728      HOMELESS      729 - 729
;

  * DEFINE VARIABLE LABELS;

  LABEL

      /* IDN LABELS */

      RECTYPE      ="File type identifier"
      .
      .
      .
      .
      HOMELESS      ="Spent 24+ hrs living in street, shelter, jail/prison"
;

  * ASSOCIATE VARIABLES WITH FORMAT VALUES;
  *      (PUT ASTERISK (*) BEFORE WORD "FORMAT"
      IN NEXT STATEMENT TO PREVENT FORMAT
      ASSOCIATIONS BEING STORED WITH DATA SET);

  FORMAT

      /* IDN FORMAT ASSOCIATIONS */

      RECTYPE      SAP001X.      SRVY_YR      SAP002X.      HHX      $GROUPC.
      .
      .
      .
      .

```

```

      TBSHAME    SAP025X.    HOMELESS    SAP025X.;
RUN;

PROC CONTENTS DATA=NHIS.samadult;
  TITLE1 'CONTENTS OF THE 2005 NHIS Sample Adult FILE';

PROC FREQ DATA=NHIS.samadult NOTITLE;
  TABLES RECTYPE/LIST MISSING;
  TITLE1 'FREQUENCY REPORT FOR 2005 NHIS Sample Adult FILE';
  TITLE2 '(WEIGHTED)';
  WEIGHT WTFA_SA;

PROC FREQ DATA=NHIS.samadult NOTITLE;
  TABLES RECTYPE/LIST MISSING;
  TITLE1 'FREQUENCY REPORT FOR 2005 NHIS Sample Adult FILE';
  TITLE2 '(UNWEIGHTED)';

* USER NOTE: TO SEE UNFORMATTED VALUES IN PROCEDURES, ADD THE
              STATEMENT: FORMAT _ALL_;
RUN;

```

The entire SAS program can be viewed at [www.cdc.gov/nchs/nhis.htm](http://www.cdc.gov/nchs/nhis.htm)

**NOTE:** All provided SAS programs assign NHIS as the libname regardless of the data year. When using more than one year of data, the libname NHIS will need to be modified to reflect the different years. For example, when using data years 2004 and 2005, you may want to assign the libname NHIS04 for data year 2004 and NHIS05 for data year 2005.

# Program #1

## Example of All Variables Formatted with Value Labels

### SAS Program and SAS Output

#### 2005 Sample Adult File

---

#### SAS Program:

```
LIBNAME NHIS05      'C:\NHIS2005\';
LIBNAME LIBRARY     'C:\NHIS2005\';
```

```
proc freq data=nhis05.samadult;
  table hypev strfreqw / missing;
  title;
run;
```

#### SAS Output:

The FREQ Procedure

Ever been told you have hypertension

	HYPEV	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	Yes	8814	28.05	8814	28.05
2	No	22563	71.79	31377	99.84
7	Refused	18	0.06	31395	99.89
9	Don't know	33	0.11	31428	100.00

Freq strength activity (times per wk)

	STRFREQW	Frequency	Percent	Cumulative Frequency	Cumulative Percent
00	Less than once per week	358	1.14	358	1.14
	1	806	2.56	1164	3.70
	2	1336	4.25	2500	7.95
	.				
	.				
	.				
	.				
	20	3	0.01	6821	21.70
	21	76	0.24	6897	21.95
	28	37	0.12	6934	22.06
95	Never	23307	74.16	30241	96.22
96	Unable to do strength activity	746	2.37	30987	98.60
97	Refused	148	0.47	31135	99.07
98	Not ascertained	184	0.59	31319	99.65
99	Don't know	109	0.35	31428	100.00

# Program #2

## Example of Value Label Formatting Removed for One Variable

### SAS Program and SAS Output

#### 2005 Sample Adult File

---

#### SAS Program:

```
LIBNAME NHIS05      'C:\NHIS2005\';
LIBNAME LIBRARY     'C:\NHIS2005\';

proc freq data=nhis05.samadult;
  table hypev strfreqw / missing;
  format strfreqw;
  title;
run;
```

#### SAS Output:

The FREQ Procedure

Ever been told you have hypertension

	HYPEV	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	Yes	8814	28.05	8814	28.05
2	No	22563	71.79	31377	99.84
7	Refused	18	0.06	31395	99.89
9	Don't know	33	0.11	31428	100.00

Freq strength activity (times per wk)

	STRFREQW	Frequency	Percent	Cumulative Frequency	Cumulative Percent
	0	358	1.14	358	1.14
	1	806	2.56	1164	3.70
	2	1336	4.25	2500	7.95
	.				
	.				
	.				
	.				
	20	3	0.01	6821	21.70
	21	76	0.24	6897	21.95
	28	37	0.12	6934	22.06
	95	23307	74.16	30241	96.22
	96	746	2.37	30987	98.60
	97	148	0.47	31135	99.07
	98	184	0.59	31319	99.65
	99	109	0.35	31428	100.00



**Program #3**  
**Concatenating Files**  
**SAS Program and SAS Log**  
**2004 and 2005 Sample Adult Files**

---

**SAS Program:**

```
LIBNAME NHIS04      'C:\NHIS2004\';
LIBNAME LIBRARY     'C:\NHIS2004\';
LIBNAME NHIS05      'C:\NHIS2005\';
LIBNAME LIBRARY     'C:\NHIS2005\';
```

```
/* The following statement removes formats from the 2004 sample adult data
   set temporarily to allow merging with the 2005 sample adult data set
   which contains formats */
```

```
data temp04;
set nhis04.samadult;
format _all_;
```

```
/* The following statement concatenates the 2004 and 2005 sample adult data
   sets */
```

```
data sa04n05;
set temp04
    nhis05.samadult;
run;
```

**SAS Log:**

```
1  LIBNAME NHIS04      'C:\NHIS2004\';
NOTE: Libref NHIS04 was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2004
2  LIBNAME LIBRARY     'C:\NHIS2004\';
NOTE: Libname LIBRARY refers to the same physical library as NHIS04.
NOTE: Libref LIBRARY was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2004
3  LIBNAME NHIS05      'C:\NHIS2005\';
NOTE: Libref NHIS05 was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2005
4  LIBNAME LIBRARY     'C:\NHIS2005\';
NOTE: Libname LIBRARY refers to the same physical library as NHIS05.
NOTE: Libref LIBRARY was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2005
5
6  /* The following statement removes formats from the 2004 sample adult
7     data set temporarily to allow merging with the 2005 sample adult
8     data set which contains formats */
```

```

9
10 data temp04;
11 set nhis04.samadult;
12 format _all_;
13
14
15 /* The following statement concatenates the 2004 and 2005 sample adult
      data sets */
16

```

NOTE: There were 31326 observations read from the data set NHIS04.SAMADULT.

NOTE: The data set WORK.TEMP04 has 31326 observations and 510 variables.

NOTE: DATA statement used (Total process time):

real time	6.25 seconds
cpu time	0.35 seconds

```

17 data sa04n05;
18 set temp04
19     nhis05.samadult;
20 run;

```

NOTE: There were 31326 observations read from the data set WORK.TEMP04.

NOTE: There were 31428 observations read from the data set NHIS05.SAMADULT.

NOTE: The data set WORK.SA04N05 has 62754 observations and 526 variables.

NOTE: DATA statement used (Total process time):

real time	4.73 seconds
cpu time	1.03 seconds

**Program #4**  
**Merging Files**  
**SAS Program and SAS Log**  
**2004 Household File and 2004 Family File**

---

**SAS Program:**

```
LIBNAME NHIS04      'C:\NHIS2004\';  
LIBNAME LIBRARY     'C:\NHIS2004\';
```

```
data hh (keep=hhx region);  
set nhis04.househld;  
run;
```

```
proc sort data=hh;  
  by hhx;  
run;
```

```
data fam (keep=hhx fmx rat_cat);  
set nhis04.familyxx;  
run;
```

```
proc sort data=fam;  
  by hhx;  
run;
```

```
data nhis04.hhfm;  
merge hh  
      fam (in=fromfm);  
  by hhx;  
if fromfm;  
run;
```

**SAS Log:**

```
1  LIBNAME NHIS04      'C:\NHIS2004\';  
NOTE: Libref NHIS04 was successfully assigned as follows:  
      Engine:          V9  
      Physical Name: C:\NHIS2004  
2  LIBNAME LIBRARY     'C:\NHIS2004\';  
NOTE: Libname LIBRARY refers to the same physical library as NHIS04.  
NOTE: Libref LIBRARY was successfully assigned as follows:  
      Engine:          V9  
      Physical Name: C:\NHIS2004  
3  
4  data hh (keep=hhx region);  
5  set nhis04.househld;  
6  run;  
  
NOTE: There were 42089 observations read from the data set NHIS04.HOUSEHLD.  
NOTE: The data set WORK.HH has 42089 observations and 2 variables.  
NOTE: DATA statement used (Total process time):  
      real time          0.39 seconds  
      cpu time           0.06 seconds
```

```

7
8   proc sort data=hh;
9       by hhx;
10  run;

```

NOTE: There were 42089 observations read from the data set WORK.HH.

NOTE: The data set WORK.HH has 42089 observations and 2 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time	0.15 seconds
cpu time	0.06 seconds

```

11
12  data fam (keep=hhx fmx rat_cat);
13  set nhis04.familyxx;
14  run;

```

NOTE: There were 37466 observations read from the data set NHIS04.FAMILYXX.

NOTE: The data set WORK.FAM has 37466 observations and 3 variables.

NOTE: DATA statement used (Total process time):

real time	0.06 seconds
cpu time	0.03 seconds

```

15
16  proc sort data=fam;
17       by hhx;
18  run;

```

NOTE: There were 37466 observations read from the data set WORK.FAM.

NOTE: The data set WORK.FAM has 37466 observations and 3 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time	0.07 seconds
cpu time	0.04 seconds

```

19
20  data nhis04.hhfm;
21  merge hh
22       fam (in=fromfm);
23       by hhx;
24  if fromfm;
25  run;

```

NOTE: There were 42089 observations read from the data set WORK.HH.

NOTE: There were 37466 observations read from the data set WORK.FAM.

NOTE: The data set NHIS04.HHFM has 37466 observations and 4 variables.

NOTE: DATA statement used (Total process time):

real time	0.21 seconds
cpu time	0.11 seconds

**Program #5**  
**Merging Files**  
**SAS Program and SAS Log**  
**2004 Merged Household/Family File and**  
**2004 Person File**

---

**SAS Program:**

```
LIBNAME NHIS04      'C:\NHIS2004\';
LIBNAME LIBRARY     'C:\NHIS2004\';

proc sort data=nhis04.hhfm;
  by hhx fmx;
run;

data per (keep=hhx fmx fpx age_p sex racerpi2 origin_i psu stratum wtfa);
set nhis04.personsx;
run;

proc sort data=per;
  by hhx fmx;
run;

data nhis04.hhfmper;
merge nhis04.hhfm
      per;
  by hhx fmx;
run;
```

**SAS Log:**

```
1  LIBNAME NHIS04      'C:\NHIS2004\';
NOTE: Libref NHIS04 was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2004
2  LIBNAME LIBRARY     'C:\NHIS2004\';
NOTE: Libname LIBRARY refers to the same physical library as NHIS04.
NOTE: Libref LIBRARY was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2004
3
4  proc sort data=nhis04.hhfm;
5    by hhx fmx;
6  run;

NOTE: There were 37466 observations read from the data set NHIS04.HHFM.
NOTE: The data set NHIS04.HHFM has 37466 observations and 4 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.28 seconds
      cpu time           0.04 seconds
```

```

7
8   data per (keep=hhx fmx fpx age_p sex racerpi2 origin_i psu stratum
wtfa);
9   set nhis04.personsx;
10  run;

```

NOTE: There were 94460 observations read from the data set NHIS04.PERSONSX.

NOTE: The data set WORK.PER has 94460 observations and 10 variables.

NOTE: DATA statement used (Total process time):

real time	2.43 seconds
cpu time	0.89 seconds

```

11
12  proc sort data=per;
13    by hhx fmx;
14  run;

```

NOTE: There were 94460 observations read from the data set WORK.PER.

NOTE: The data set WORK.PER has 94460 observations and 10 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time	8.70 seconds
cpu time	0.20 seconds

```

15
16  data nhis04.hhfmper;
17  merge nhis04.hhfm
18        per;
19    by hhx fmx;
20  run;

```

NOTE: There were 37466 observations read from the data set NHIS04.HHFM.

NOTE: There were 94460 observations read from the data set WORK.PER.

NOTE: The data set NHIS04.HHFMPER has 94460 observations and 12 variables.

NOTE: DATA statement used (Total process time):

real time	0.84 seconds
cpu time	0.40 seconds

**Program #6**  
**Merging Files**  
**SAS Program and SAS Log**  
**2004 Merged Household/Family/Person File and**  
**2004 Sample Adult File**

---

**SAS Program:**

```
LIBNAME NHIS04      'C:\NHIS2004\';  
LIBNAME LIBRARY     'C:\NHIS2004\';
```

```
proc sort data=nhis04.hhfmper;  
  by hhx fmx fpx;  
run;
```

```
proc sort data=nhis04.samadult;  
  by hhx fmx fpx;  
run;
```

```
data nhis04.hhfmpersa;  
merge nhis04.samadult  
      nhis04.hhfmper;  
  by hhx fmx fpx;  
run;
```

**SAS Log:**

```
1  LIBNAME NHIS04      'C:\NHIS2004\';  
NOTE: Libref NHIS04 was successfully assigned as follows:  
      Engine:          V9  
      Physical Name: C:\NHIS2004  
2  LIBNAME LIBRARY     'C:\NHIS2004\';  
NOTE: Libname LIBRARY refers to the same physical library as NHIS04.  
NOTE: Libref LIBRARY was successfully assigned as follows:  
      Engine:          V9  
      Physical Name: C:\NHIS2004  
3  
4  proc sort data=nhis04.hhfmper;  
5    by hhx fmx fpx;  
6  run;  
  
NOTE: There were 94460 observations read from the data set NHIS04.HHFMPER.  
NOTE: The data set NHIS04.HHFMPER has 94460 observations and 12 variables.  
NOTE: PROCEDURE SORT used (Total process time):  
      real time          0.48 seconds  
      cpu time           0.25 seconds
```

```

8   proc sort data=nhis04.samadult;
9       by hhx fmx fpx;
10  run;

```

NOTE: There were 31326 observations read from the data set NHIS04.SAMADULT.  
 NOTE: The data set NHIS04.SAMADULT has 31326 observations and 510 variables.  
 NOTE: PROCEDURE SORT used (Total process time):

real time	10.32 seconds
cpu time	0.34 seconds

```

11
12  data nhis04.hhfmpersa;
13  merge nhis04.samadult
14         nhis04.hhfmpersa;
15      by hhx fmx fpx;
16  run;

```

NOTE: There were 31326 observations read from the data set NHIS04.SAMADULT.  
 NOTE: There were 94460 observations read from the data set NHIS04.HHFMPER.  
 NOTE: The data set NHIS04.HHFMPERSA has 94460 observations and 519 variables.  
 NOTE: DATA statement used (Total process time):

real time	6.21 seconds
cpu time	1.26 seconds



## Results of Merging Files

### 2004 Merged Household/Family/Person File and 2004 Sample Adult File

---

#### Sample Adult File

Person 1: Sample Adult Info

Person 3: Sample Adult Info

Person 4: Sample Adult Info

#### Household/Family/Person File

Person 1: Household/Family/Person Info

Person 2: Household/Family/Person Info

Person 3: Household/Family/Person Info

Person 4: Household/Family/Person Info

Person 5: Household/Family/Person Info

Person 6: Household/Family/Person Info

#### Merged Sample Adult File and Household/Family/Person File

Person 1: Household/Family/Person Info and Sample Adult Info

Person 2: Household/Family/Person Info and No Sample Adult Info

Person 3: Household/Family/Person Info and Sample Adult Info

Person 4: Household/Family/Person Info and Sample Adult Info

Person 5: Household/Family/Person Info and No Sample Adult Info

Person 6: Household/Family/Person Info and No Sample Adult Info

# Program #7

## Frequency of Strengthening Activities

### Weighted Number and Percent Distribution

#### SAS Program and SAS Output

#### 2005 Sample Adult File

---

#### SAS Program:

```
LIBNAME NHIS05      'C:\NHIS2005\';
LIBNAME LIBRARY     'C:\NHIS2005\';

proc freq data=nhis05.samadult;
  table strfreqw;
  weight wtfa_sa;
run;
```

#### SAS Output:

The FREQ Procedure

Freq strength activity (times per wk)

	STRFREQW	Frequency	Percent	Cumulative Frequency	Cumulative Percent
00 Less than once per week		2855214	1.31	2855214	1.31
	1	6165649	2.83	9020863	4.14
	2	10147766	4.66	19168629	8.80
	3	15899183	7.30	35067812	16.10
	4	4885133	2.24	39952945	18.35
	5	3545242	1.63	43498187	19.97
	6	596415	0.27	44094602	20.25
	7	6530153	3.00	50624755	23.25
	8	3367	0.00	50628122	23.25
	10	29729	0.01	50657851	23.26
	11	10890	0.01	50668741	23.27
	14	622570	0.29	51291311	23.55
	16	4935	0.00	51296246	23.55
	20	31736	0.01	51327982	23.57
	21	570291	0.26	51898273	23.83
	28	235528	0.11	52133801	23.94
95 Never		1.5803E8	72.57	2.1017E8	96.51
96 Unable to do strength activity		4587734	2.11	2.1476E8	98.61
97 Refused		1000856	0.46	2.1576E8	99.07
98 Not ascertained		1242431	0.57	2.17E8	99.64
99 Don't know		774572	0.36	2.1777E8	100.00

**Program #8**  
**Engaged in Strengthening Activities**  
**Percents and Standard Errors by Sex and Race**  
**SAS and SUDAAN Program, SAS Log, and SUDAAN Output**  
**2005 Sample Adult File**

---

**SAS Program:**

```
LIBNAME NHIS05      'C:\NHIS2005\';
LIBNAME LIBRARY     'C:\NHIS2005\';

proc format;

value lift
    1='Do not do strengthening activities'
    2='Do strengthening activities'
    3='Missing';

value sex
    1='Male'
    2='Female';

value race
    1='White only'
    2='Black/African American only'
    3='AIAN only'
    4='Asian only'
    5='Race group not releasable'
    6='Multiple race';

run;

data wtlft;
set nhis05.samadult;
if strfreqw=95 or strfreqw=96 then lift=1;
else if 00<=strfreqw<=28 then lift=2;
else lift=3;
format lift lift. sex sex. racerpi2 race.;
run;

proc freq data=wtlft;
    table strfreqw*lift / list missing;
run;

proc sort data=wtlft;
    by stratum psu;
run;
```

### SUDAAN Program:

```
PROC DESCRIPT DATA=wtlft FILETYPE=SAS DESIGN=WR;
  NEST STRATUM      PSU      ;
  WEIGHT WTfa_sa;
  VAR lift;
  CATLEVEL 2;

  SUBGROUP lift sex racerpi2 ;
  LEVELS    2    2    6    ;

  TABLES    SEX * racerpi2;

  RTITLE "Table 5: Participation in Strengthening Activities by sex and race";
  RTITLE "Proc DESCRIPT: CRUDE";
  RFORMAT lift lift. ;
  RFORMAT sex sex. ;
  RFORMAT racerpi2 race. ;

  PRINT NSUM="SAMPLE SIZE"
        WSUM="POPULATION SIZE"
        PERCENT="PERCENT"
        SEPERCENT="STANDARD ERROR"
        /STYLE=NCHS
        NSUMFMT=F7.0
        WSUMFMT=F10.0
        PERCENTFMT=F9.1
        SEPERCENTFMT=F9.2;

RUN;
```

### SAS Log:

```
1  LIBNAME NHIS05 'C:\NHIS2005\';
NOTE: Libref NHIS05 was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2005
2  LIBNAME LIBRARY 'C:\NHIS2005\';
NOTE: Libname LIBRARY refers to the same physical library as NHIS05.
NOTE: Libref LIBRARY was successfully assigned as follows:
      Engine:          V9
      Physical Name: C:\NHIS2005
3
4  proc format;
5
6  value lift
7      1='Do not do strengthening activities'
8      2='Do strengthening activities'
9      3='Missing';
NOTE: Format LIFT has been output.
10
11 value sex
12     1='Male'
13     2='Female';
NOTE: Format SEX has been output.
14
```

```

15  value race
16      1='White only'
17      2='Black/African American only'
18      3='AIAN only'
19      4='Asian only'
20      5='Race group not releasable'
21      6='Multiple race';

```

NOTE: Format RACE has been output.

```
22  run;
```

NOTE: PROCEDURE FORMAT used (Total process time):

real time	0.14 seconds
cpu time	0.01 seconds

```

23
24  data wtlft;
25  set nhis05.samadult;
26  if strfreqw=95 or strfreqw=96 then lift=1;
27  else if 00<=strfreqw<=28 then lift=2;
28  else lift=3;
29  format lift lift. sex sex. racerpi2 race.;
30  run;

```

NOTE: There were 31428 observations read from the data set NHIS05.SAMADULT.

NOTE: The data set WORK.WTLFT has 31428 observations and 523 variables.

NOTE: DATA statement used (Total process time):

real time	5.59 seconds
cpu time	0.64 seconds

```

31
32  proc freq data=wtlft;
33      table strfreqw*lift / list missing;
34  run;

```

NOTE: There were 31428 observations read from the data set WORK.WTLFT.

NOTE: PROCEDURE FREQ used (Total process time):

real time	0.28 seconds
cpu time	0.09 seconds

```

35
36  proc sort data=wtlft;
37      by stratum psu;
38  run;

```

NOTE: There were 31428 observations read from the data set WORK.WTLFT.

NOTE: The data set WORK.WTLFT has 31428 observations and 523 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time	1.85 seconds
cpu time	0.32 seconds

```
39
```

```

40 PROC DESCRIPT DATA=wtlft FILETYPE=SAS DESIGN=WR;
41   NEST STRATUM      PSU      ;
42   WEIGHT wtfa_sa;
43   VAR lift;
44   CATLEVEL 2;
45
46   SUBGROUP lift sex racerpi2 ;
47   LEVELS    2    2    6    ;
48
49   TABLES sex * racerpi2;
50
51   RTITLE "Table 5: Participation in Strengthening Activities by Sex and
         Race";
52   RTITLE "Proc DESCRIPT: CRUDE";
53   RFORMAT lift lift. ;
54   RFORMAT sex sex. ;
55   RFORMAT racerpi2 race. ;
56
57   PRINT NSUM="SAMPLE SIZE"
58         WSUM="POPULATION SIZE"
59         PERCENT="PERCENT"
60         SEPERCENT="STANDARD ERROR"
61         /STYLE=NCHS
62         NSUMFMT=F7.0
63         WSUMFMT=F10.0
64         PERCENTFMT=F9.1
65         SEPERCENTFMT=F9.2;
66 RUN;

```

```

*****
SUDAAN Release 9.0.1 (Windows Network SAS-Callable version)
Serial Number A0002453, for 40 user(s) is licensed to
NCHS (NCHS).
It expires on October 01, 2006.
*****

```

Opened SAS data file WTLFT for reading.

```

NOTE: There were 31428 observations read from the data set WORK.WTLFT.
NOTE: PROCEDURE DESCRIPT used (Total process time):
      real time          2.79 seconds
      cpu time           0.93 seconds

```

# SUDAAN Output:

S U D A A N  
 Software for the Statistical Analysis of Correlated Data  
 Copyright            Research Triangle Institute      February 2005  
 Release 9.0.1

Number of observations read      :   31428      Weighted count :217773755  
 Denominator degrees of freedom :      339

Date: 05-24-2006                      Research Triangle Institute                      Page : 1  
 Time: 08:51:10                      The DESCRIPT Procedure                      Table : 1

Variance Estimation Method: Taylor Series (WR)  
 Table 5: Participation in Strengthening Activities by Sex and Race  
 Proc DESCRIPT: CRUDE  
 by: Variable, Sex, OMB groups w/multiple race.

for: Variable = LIFT: Do strengthening activities.

-----				
Sex				
OMB groups w/multiple race	SAMPLE SIZE	POPULATION SIZE	PERCENT	STANDARD ERROR
-----				
Total				
Total	30987	214755896	24.3	0.38
White only	25075	178196832	24.8	0.41
Black/African				
American only	4329	24387264	20.3	0.80
AIAN only	218	1452368	24.3	3.86
Asian only	971	8018761	22.3	1.71
Race group not				
releasable	43	354759	30.3	7.18
Multiple race	351	2345912	34.9	3.81
Male				
Total	13533	103191917	27.4	0.55
White only	11137	86262956	27.1	0.60
Black/African				
American only	1673	10903328	27.5	1.30
AIAN only	88	698863	33.3	6.28
Asian only	462	4039098	28.8	2.69
Race group not				
releasable	23	184268	42.0	13.50
Multiple race	150	1103404	37.3	5.15
Female				
Total	17454	111563979	21.4	0.43
White only	13938	91933876	22.5	0.47
Black/African				
American only	2656	13483936	14.4	0.90
AIAN only	130	753505	16.0	3.53
Asian only	509	3979663	15.7	1.88
Race group not				
releasable	20	170491	17.7	9.26
Multiple race	201	1242508	32.7	5.36
-----				

Table 1. Frequencies and percents of persons who engaged in regular leisure-time physical activity and persons who engaged in strengthening activities, among persons 18 years of age and over, by selected characteristics: United States, 2005

Selected characteristic	Engaged in				
	All persons 18 years of age and over	Regular leisure-time physical activity	Strengthening activities	Regular leisure-time physical activity	Strengthening activities
	Number (in thousands)			Percents (standard error)	
Total	217,774	63,958	52,134	30.1 (0.39)	24.3 (0.38)
Sex					
Male	104,919	32,564	28,302	31.9 (0.54)	27.4 (0.55)
Female	112,855	31,394	23,832	28.5 (0.48)	21.4 (0.43)
Age					
18-24 years	28,360	10,294	10,228	37.4 (1.23)	36.8 (1.16)
25-44 years	82,071	25,995	22,326	32.4 (0.54)	27.6 (0.54)
45-64 years	72,296	20,450	15,095	29.1 (0.59)	21.2 (0.56)
65-74 years	18,446	4,515	2,831	25.3 (0.97)	15.5 (0.79)
75 years and over	16,600	2,704	1,654	16.8 (0.87)	10.1 (0.67)
Hispanic origin and race					
Hispanic or Latino	27,770	5,785	4,916	21.2 (0.66)	17.9 (0.61)
Non-Hispanic white, only	154,325	49,899	39,637	33.2 (0.47)	26.0 (0.46)
Non-Hispanic black or African American, only	24,186	5,101	4,767	21.7 (0.93)	20.1 (0.82)
Education					
Less than a high school diploma	35,033	5,783	4,332	16.9 (0.68)	12.5 (0.65)
High school diploma or /GED	63,937	14,187	10,400	22.9 (0.64)	16.5 (0.53)
Some college	60,876	19,976	17,195	33.6 (0.66)	28.6 (0.66)
Bachelor's degree or higher	55,483	23,592	20,007	43.4 (0.73)	36.5 (0.68)
Poverty status					
Poor	18,226	3,798	3,238	21.4 (0.98)	18.0 (0.94)
Near poor	30,457	6,454	5,343	21.7 (0.77)	17.7 (0.74)
Not poor	118,255	41,191	34,840	35.5 (0.49)	29.7 (0.53)
Region					
Northeast	39,843	12,450	9,675	32.2 (1.04)	24.7 (0.82)
Midwest	53,925	16,477	14,446	31.4 (0.76)	27.1 (0.81)
South	78,831	20,633	16,177	26.8 (0.67)	20.8 (0.59)
West	45,175	14,397	11,835	32.7 (0.72)	26.5 (0.85)

NOTE: Regular leisure-time physical activity is engaging in light-moderate activity at least five times per week for at least 30 minutes each time, engaging in vigorous activity at least three times per week for at least 20 minutes each time, or meeting either one or both of the first two criteria.

SAS program Table\_Example.sas was used to calculate the numbers, percents, and standard errors in this table.