

\*FRAILTY PHENOTYPE (FRIED`s FRAILTY CRITERIA) - LASA.

\*Document created by Emiel Hoogendijk, March 2017

\*References:

- Hoogendijk, E.O., Deeg, D.J.H., Poppelaars, J., van der Horst, M., Broese van Groenou, M.I., Comijs, H.C., Pasman, H.R.W., van Schoor, N.M., Suanet, B., Thomése, F., van Tilburg, T.G., Visser, M., & Huisman, M. (2016) The Longitudinal Aging Study Amsterdam: cohort update 2016 and major findings. *European Journal of Epidemiology*, 31, 927-945
- Hoogendijk, E.O., van Hout, H.P.J., van der Horst, H.E., Frijters, D.H.M., Dent, E., Deeg, D.J.H., & Huisman, M. (2014) Do psychosocial resources modify the effects of frailty on functional decline and mortality? *Journal of Psychosomatic research*, 77, 547-551
- Hoogendijk, E.O., van Hout, H.P.J., Heymans, M.W., van der Horst, H.E., Frijters, D.H.M., Broese van Groenou, M.I., Deeg, D.J.H., & Huisman, M. (2014) Explaining the association between educational level and frailty in older adults: Results from a 13-year longitudinal study in the Netherlands. *Annals of Epidemiology*, 24, 538-544
- Hoogendijk, E.O., Suanet, B., Dent, E., Deeg, D.J.H, & Aartsen, M.J. (2016) Adverse effects of frailty on social functioning in older adults: Results from the Longitudinal Aging Study Amsterdam. *Maturitas*, 83, 45-50

\*The frailty phenotype may be created at LASA C, D, E, F, G, and H.

\*In the current file we use C, for all other waves the syntax has to be adapted with variable names of respective measurement wave.

\*LASA files needed: file 046, file 161 for two waves, file 221, file 031, file 034, file 025

\*Z002, Z004, Z008 files with general information, such as response, age and demographics.

\*\*\*\*\*

NOTE: Replace "N:\3 Artikelen\etc" with your directory!

\*\*\*\*\*

GET

```
FILE='N:\3 Artikelen\LASAZ002.SAV'.  
DATASET NAME DataSet4 WINDOW=FRONT.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAZ004.SAV'  
/BY respnr.  
exe.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAZ008.SAV'  
/BY respnr.  
exe.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAC046.SAV'  
/BY respnr.  
exe.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAB161.SAV'  
/BY respnr.  
exe.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAC161.SAV'  
/BY respnr.  
exe.
```

```
MATCH FILES /FILE=*  
/FILE='N:\3 Artikelen\LASAC221.SAV'
```

```

/BY respnr.
exe.
MATCH FILES /FILE=*
/FILE='N:\3 Artikelen\LASAC031.SAV'
/BY respnr.
exe.
MATCH FILES /FILE=*
/FILE='N:\3 Artikelen\LASAC034.SAV'
/BY respnr.
EXECUTE.
MATCH FILES /FILE=*
/FILE='N:\3 Artikelen\LASAC025.SAV'
/BY respnr.
exe.

```

\*respondents need to have a medical interview (Only participants born before 1931 were included in the sample of the medical interview at Wave C).

\*\*\*\*\*

\*NOTE: Not all people born before 1931 were already 65 years old at the time of the interview. If researchers wish to include the few respondents at wave C that were not yet 65 years old, the following selection should be ignored (for more information on which variables to use to select these people as well, contact Jan Poppelaars, datamanager).

\*\*\*\*\*

```

FILTER OFF.
USE ALL.
SELECT IF(cage >= 65 & cmresult = - 1).
EXECUTE .

```

\*The frailty phenotype is based on the criteria of Fried et al (Journal of Gerontology, 2001): weight loss, low grip strength, exhaustion, low physical activity and slow gait speed.

\* Some adaptations were made to the original Fried et al criteria.

\* Weight loss: >5% body weight loss since previous LASA measurement wave.

\* Low grip strength: original cut-offs, sex and BMI specific.

\* Exhaustion: original items, two CESD items.

\* Low physical activity: lowest quintile approach (see Saum et al, JAGS, 2012), lowest quintile of time spend on walking, cycling and sports in past two weeks (LAPAQ questionnaire).

\* Slow gait speed: lowest quintile, sex and height specific (height groups in line with Fried).

\* There is some discussion with regard to adaptation of the original Fried variables, but most studies do it

(and there is also no clear rationale for using the original cut-offs as they were derived from a specific cohort in the US); the current operationalization has been used in several LASA studies, and shows good predictive ability.

\*\*\*\*\*

NOTE: read the syntax carefully before using it, there are several choices the researcher has to make before running the syntax.

\*\*\*\*\*

\*ITEM 1: weight loss.

freq bmweight.

Compute gewichtb=bmweight.

if bmweight<0 gewichtb=-9.

missing value gewichtb (-9).

```
execute.  
fre gewichtb.  
execute.
```

```
Compute gewichtc=cmed153.  
if cmed153<0 gewichtc=-9.  
missing value gewichtc (-9).  
execute.  
fre gewichtc.  
execute.
```

```
compute changeC=gewichtc/gewichtb.  
EXECUTE.  
freq changeC.
```

```
compute gwverliesc=0.  
if missing (changeC) gwverliesc=-9.  
if (changeC <0.95) gwverliesc=1.  
missing value gwverliesc (-9).  
exe.  
var labels gwverliesc "FRIED ITEM 1: weight loss C".  
value labels gwverliesc (0) 'No' (1) 'Yes'.  
freq gwverliesc.
```

```
* ITEM 2: low grip strength.  
FREQUENCIES  
  VARIABLES=cmed616 to cmed620  
  /ORDER= ANALYSIS .
```

```
compute leftc=max(cmed618, cmed619).  
compute rightc=max(cmed616, cmed617).  
execute.  
compute grip=-9.  
if leftc<1 grip=-9.  
if rightc<1 grip=-9.  
if (leftc>0 & rightc>0) grip = (SUM(leftc, rightc))/2.  
if (leftc>0 & rightc<0) grip = leftc.  
if (leftc<0 & rightc>0) grip = rightc.  
missing value grip (-9).
```

```
Compute lengtec2=-9.  
if cmed150<0 lengtec2=-9.  
if cmed150>0 lengtec2=cmed150/100.  
Variable label lengtec2 "height in meters".  
Missing value lengtec2 (-9).  
Formats lengtec2 (f4.2).  
execute.  
fre lengtec2.  
execute.
```

```
Compute gewichtc2=cmed153.  
if cmed153<0 gewichtc2=-9.  
missing value gewichtc2 (-9).  
Variable label gewichtc2 "Weight".  
execute.
```

```
fre gewichtc2.  
execute.
```

```
compute bmic=-9.  
if missing (lengtec2) bmic=-9.  
if missing (gewichtc2) bmic=-9.  
IF ((lengtec2>0) & (gewichtc2 > 0)) bmic = (gewichtc2 /(lengtec2*lengtec2)) .  
Variable label bmic "BMI".  
missing value bmic (-9).  
EXECUTE .  
fre bmic.  
execute.
```

```
COUNT missingsgrip2= grip bmic (MISSING).  
exe.  
freq missingsgrip2.
```

```
RECODE  
  bmic  
  (0 thru 24.09=1) (24.10 thru 26.09=2) (26.10 thru 28=3) (28.01 thru 100=4) INTO  
  BMIman.  
EXECUTE.
```

```
RECODE  
  bmic  
  (0 thru 23.09=1) (23.10 thru 26.09=2) (26.10 thru 29=3) (29.01 thru 100=4) INTO  
  BMlvrouw.  
exe.
```

```
*cut-offs based on Fried, sex and BMI specific.  
compute gripc33=0.  
if (missingsgrip2 >=1) gripc33=-9.  
if (grip<=32 & sex=1 & bmiman=4) gripc33 =1.  
if (grip<=30 & sex=1 & bmiman=3) gripc33 =1.  
if (grip<=30 & sex=1 & bmiman=2) gripc33 =1.  
if (grip<=29 & sex=1 & bmiman=1) gripc33 =1.  
if (grip<=21 & sex=2 & bmivrouw =4) gripc33 =1.  
if (grip<=18 & sex=2 & bmivrouw=3) gripc33 =1.  
if (grip<=17.3 & sex=2 & bmivrouw=2) gripc33 =1.  
if (grip<=17 & sex=2 & bmivrouw=1) gripc33 =1.  
variable label gripc33 "FRIED ITEM 2: low grip strength C".  
Value labels gripc33 (1) "Yes "(0)"No".  
Missing value gripc33 (-9).  
execute.  
fre gripc33.
```

\*ITEM 3: exhaustion (based on two CESD items, identical to Fried).

```
freq ccesd07 ccesd20.  
compute cexhaust=-9.  
if (ccesd07=2 | ccesd07=3 | ccesd20=2 | ccesd20=3) cexhaust=1.  
if ((ccesd07=0 | ccesd07=1) & (ccesd20=0 | ccesd20=1)) cexhaust=0.  
Variable label cexhaust "FRIED ITEM 3: exhaustion C".  
value labels cexhaust (0)"No" (1) "Yes".
```

missing values cexhaust (-9).  
execute.  
fre cexhaust.

\*ITEM 4: low physical activity.

\*This item has the most complex syntax.

\*Item based on the LAPAQ questionnaire: time spent on walking, cycling and sports in past two weeks.

\*There are people who have missing values for only the frequency or duration of a physical activity, these missings are imputed by group means (sex specific).

\*See for more information the LAPAQ/physical activity documentation on the LASA website: [www.lasa-vu.nl](http://www.lasa-vu.nl).

\*\*\*\*\*

CHOICE FOR RESEARCHERS: it is also possible to calculate the lowest quintile of physical activity only with walking and cycling, the syntax has to be adapted manually then.

\*\*\*\*\*

\*walking.

USE ALL.

COMPUTE filter\_\$=(clphya01= 4 & sex=1 & clphya08>0 & clphya09>0).

VARIABLE LABEL filter\_\$ 'blphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya08 clphya09

/STATISTICS=MEAN MEDIAN

/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphya01= 4 & sex=2 & clphya08>0 & clphya09>0).

VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya08 clphya09

/STATISTICS=MEAN MEDIAN

/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphya01= 4).

VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

```
if (clphysa06=2 and clphysa07=2 and clphysa08<1 and sex=2) clphysa08=12.
if (clphysa06=2 and clphysa07=2 and clphysa08<1 and sex=1) clphysa08=14.
if (clphysa06=2 and clphysa07=2 and clphysa09<1 and sex=2) clphysa09=36.
if (clphysa06=2 and clphysa07=2 and clphysa09<1 and sex=1) clphysa09=38.
execute.
```

```
compute loopc=-9.
if (clphysa07<1) loopc=-9.
if (clphysa06=1) loopc=0.
if (clphysa07=1) loopc=0.
if (clphysa07=2) and (clphysa08 ge 1) and (clphysa09 ge 1) loopc=(clphysa08*clphysa09)/14.
Variable label loopc "total walktime calculated in minutes per day".
execute.
MISSING VALUES loopc clphysa08 clphysa09 (-9).
freq loopc.
execute.
```

\*bicycling.

```
USE ALL.
COMPUTE filter_$=(clphysa01= 4 & sex=1 & clphysa12>0 & clphysa13>0).
VARIABLE LABEL filter_$ 'clphysa01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphysa12 clphysa13
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

```
USE ALL.
COMPUTE filter_$=(clphysa01= 4 & sex=2 & clphysa12>0 & clphysa13>0).
VARIABLE LABEL filter_$ 'clphysa01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphysa12 clphysa13
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

```
USE ALL.
COMPUTE filter_$=(clphysa01= 4).
VARIABLE LABEL filter_$ 'clphysa01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
.
if (clphysa10=2 and clphysa11=2 and clphysa12<1 and sex=2) clphysa12=9.
```

```
if (clphya10=2 and clphya11=2 and clphya12<1 and sex=1) clphya12=11.
if (clphya10=2 and clphya11=2 and clphya13<1 and sex=2) clphya13=26.
if (clphya10=2 and clphya11=2 and clphya13<1 and sex=1) clphya13=31.
```

```
compute fietc=-9.
if (clphya11<1) fietc=-9.
if (clphya10=1) fietc=0.
if (clphya11=1) fietc=0.
if (clphya11=2) and (clphya12 ge 1) and (clphya13 ge 1) fietc= (clphya12*clphya13)/14.
Variable label fietc "total bycycling time in minutes per day".
execute.
MISSING VALUES fietc (-9).
fre fietc.
execute.
```

```
*****
```

The following part can be ignored if researchers only wish to use the time spent on walking and cycling.

```
*****
```

```
*sports.
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 & sex=1).
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphya22
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 & sex=2).
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphya22
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 and clphya22=1 & sex=1 & clphya23>-1 & clphya24>-1).
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMAT filter_$ (f1.0).
```

FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$=(clphya01= 4 and clphya22=2 & sex=1 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$=(clphya01= 4 and clphya22=3 & sex=1 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$=(clphya01= 4 and clphya22=4 & sex=1 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$=(clphya01= 4 and clphya22=5 & sex=1 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .



FREQUENCIES

VARIABLES=clphysa23 clphysa24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphysa01= 4 and clphysa22=8 & sex=1 & clphysa23>-1 & clphysa24>-1).  
VARIABLE LABEL filter\_\$ 'clphysa01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphysa23 clphysa24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphysa01= 4 and clphysa22=12 & sex=1 & clphysa23>-1 & clphysa24>-1).  
VARIABLE LABEL filter\_\$ 'clphysa01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphysa23 clphysa24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphysa01= 4 and clphysa22=17 & sex=1 & clphysa23>-1 & clphysa24>-1).  
VARIABLE LABEL filter\_\$ 'clphysa01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphysa23 clphysa24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$=(clphysa01= 4 and (clphysa22=6 or clphysa22=7 or clphysa22=9 or  
clphysa22=10 or clphysa22=11 or clphysa22=13 or clphysa22=14 or clphysa22=15 or  
clphysa22=16)  
& sex=1 & clphysa23>-1 & clphysa24>-1).  
VARIABLE LABEL filter\_\$ 'clphysa01 = 4 (FILTER)'.  
VALUE LABELS filter\_\$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter\_\$ (f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya22=1 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya22=2 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya22=3 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya22=4 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya23 clphya24

```
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and clphya22=5 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and clphya22=6 & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and (clphya22=7 or clphya22=8 or clphya22=9 or  
clphya22=10 or clphya22=11 or clphya22=12 or clphya22=13 or clphya22=14 or  
clphya22=15  
or clphya22=16 or clphya22=17) & sex=2 & clphya23>-1 & clphya24>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya23 clphya24  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

\*calculate total time spend on sport in past two weeks.

if (clphya21=2 and clphya23<1 and clphya22=1 and sex=2) clphya23=5.  
if (clphya21=2 and clphya23<1 and clphya22=2 and sex=2) clphya23=2.  
if (clphya21=2 and clphya23<1 and clphya22=3 and sex=2) clphya23=6.  
if (clphya21=2 and clphya23<1 and clphya22=4 and sex=2) clphya23=15.  
if (clphya21=2 and clphya23<1 and clphya22=5 and sex=2) clphya23=3.  
if (clphya21=2 and clphya23<1 and clphya22=6 and sex=2) clphya23=2.  
if (clphya21=2 and clphya23<1 and (clphya22=7 or clphya22=8 or clphya22=9 or  
clphya22=10 or clphya22=11 or clphya22=12 or clphya22=13 or clphya22=14 or  
clphya22=15 or clphya22=16 or clphya22=17)  
and sex=2) clphya23=5.  
execute.

if (clphya21=2 and clphya24<1 and clphya22=1 and sex=2) clphya24=89.  
if (clphya21=2 and clphya24<1 and clphya22=2 and sex=2) clphya24=138.  
if (clphya21=2 and clphya24<1 and clphya22=3 and sex=2) clphya24=38.  
if (clphya21=2 and clphya24<1 and clphya22=4 and sex=2) clphya24=15.  
if (clphya21=2 and clphya24<1 and clphya22=5 and sex=2) clphya24=53.  
if (clphya21=2 and clphya24<1 and clphya22=6 and sex=2) clphya24=93.  
if (clphya21=2 and clphya24<1 and (clphya22=7 or clphya22=8 or clphya22=9 or  
clphya22=10 or clphya22=11 or clphya22=12 or clphya22=13 or clphya22=14 or  
clphya22=15 or clphya22=16 or clphya22=17)  
and sex=2) clphya24=88.  
execute.

if (clphya21=2 and clphya23<1 and clphya22=1 and sex=1) clphya23=5.  
if (clphya21=2 and clphya23<1 and clphya22=2 and sex=1) clphya23=5.  
if (clphya21=2 and clphya23<1 and clphya22=3 and sex=1) clphya23=8.  
if (clphya21=2 and clphya23<1 and clphya22=4 and sex=1) clphya23=9.  
if (clphya21=2 and clphya23<1 and clphya22=5 and sex=1) clphya23=2.  
if (clphya21=2 and clphya23<1 and clphya22=8 and sex=1) clphya23=3.  
if (clphya21=2 and clphya23<1 and clphya22=12 and sex=1) clphya23=5.  
if (clphya21=2 and clphya23<1 and clphya22=17 and sex=1) clphya23=4.  
if (clphya21=2 and clphya23<1 and (clphya22=6 or clphya22=7 or clphya22=9 or  
clphya22=10 or clphya22=11 or clphya22=13 or clphya22=14 or clphya22=15 or  
clphya22=16) and sex=1) clphya23=3.  
execute.

if (clphya21=2 and clphya24<1 and clphya22=1 and sex=1) clphya24=96.  
if (clphya21=2 and clphya24<1 and clphya22=2 and sex=1) clphya24=121.  
if (clphya21=2 and clphya24<1 and clphya22=3 and sex=1) clphya24=34.  
if (clphya21=2 and clphya24<1 and clphya22=4 and sex=1) clphya24=12.  
if (clphya21=2 and clphya24<1 and clphya22=5 and sex=1) clphya24=46.  
if (clphya21=2 and clphya24<1 and clphya22=8 and sex=1) clphya24=166.  
if (clphya21=2 and clphya24<1 and clphya22=12 and sex=1) clphya24=129.  
if (clphya21=2 and clphya24<1 and clphya22=17 and sex=1) clphya24=124.  
if (clphya21=2 and clphya24<1 and (clphya22=6 or clphya22=7 or clphya22=9 or  
clphya22=10 or clphya22=11 or clphya22=13 or clphya22=14 or clphya22=15 or  
clphya22=16) and sex=1) clphya24=106.  
execute.

compute sport1c=-9.

```
if (clphya21<1) sport1c=-9.
if (clphya21=1) sport1c=0.
if (clphya21=2) and (clphya23 ge 1) and (clphya24 ge 1) sport1c=(clphya23*clphya24)/14.
Variable label sport1c "total sport time calculated in minutes per day".
execute.
MISSING VALUE sport1c (-9).
fre sport1c.
execute.
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 & sex=1).
VARIABLE LABEL filter_$(clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$( 0 'Not Selected' 1 'Selected'.
FORMAT filter_$(f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
fre clphya26.
execute.
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 & sex=2).
VARIABLE LABEL filter_$(clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$( 0 'Not Selected' 1 'Selected'.
FORMAT filter_$(f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
fre clphya26.
execute.
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 and clphya26=1 & sex=1 & clphya27>-1 & clphya28>-1).
VARIABLE LABEL filter_$(clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$( 0 'Not Selected' 1 'Selected'.
FORMAT filter_$(f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphya27 clphya28
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

```
USE ALL.
COMPUTE filter_$(clphya01= 4 and clphya26=2 & sex=1 & clphya27>-1 & clphya28>-1).
VARIABLE LABEL filter_$(clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$( 0 'Not Selected' 1 'Selected'.
FORMAT filter_$(f1.0).
FILTER BY filter_$.
EXECUTE .
```

```
FREQUENCIES
  VARIABLES=clphya27 clphya28
```

```
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and clphya26=3 & sex=1 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and clphya26=5 & sex=1 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and clphya26=12 & sex=1 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.  
EXECUTE .
```

FREQUENCIES

```
VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .
```

USE ALL.

```
COMPUTE filter_$=(clphya01= 4 and (clphya26=4 or clphya26=6 or clphya26=7 or  
clphya26=8 or clphya26=9 or clphya26=10 or clphya26=11 or clphya26=13 or clphya26=14  
or clphya26=15 or clphya26=16  
or clphya26=17) & sex=1 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter_$ 'clphya01 = 4 (FILTER)'.  
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.  
FORMAT filter_$ (f1.0).  
FILTER BY filter_$.
```

EXECUTE .

FREQUENCIES

VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya26=1 & sex=2 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya26=2 & sex=2 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya26=3 & sex=2 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES

VARIABLES=clphya27 clphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.

COMPUTE filter\_\$(clphya01= 4 and clphya26=4 & sex=2 & clphya27>-1 & clphya28>-1).  
VARIABLE LABEL filter\_\$(clphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).

FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clyphya27 clyphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$(clyphya01= 4 and clyphya26=5 & sex=2 & clyphya27>-1 & clyphya28>-1).  
VARIABLE LABEL filter\_\$(clyphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clyphya27 clyphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$(clyphya01= 4 and clyphya26=6 & sex=2 & clyphya27>-1 & clyphya28>-1).  
VARIABLE LABEL filter\_\$(clyphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clyphya27 clyphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.  
COMPUTE filter\_\$(clyphya01= 4 and (clyphya26=7 or clyphya26=8 or clyphya26=9 or  
clyphya26=10 or clyphya26=11 or clyphya26=12 or clyphya26=13 or  
clyphya26=14 or clyphya26=15 or clyphya26=16 or clyphya26=17) & sex=2 & clyphya27>-1 &  
clyphya28>-1).  
VARIABLE LABEL filter\_\$(clyphya01 = 4 (FILTER)).  
VALUE LABELS filter\_\$( 0 'Not Selected' 1 'Selected').  
FORMAT filter\_\$(f1.0).  
FILTER BY filter\_\$.  
EXECUTE .

FREQUENCIES  
VARIABLES=clyphya27 clyphya28  
/STATISTICS=MEAN MEDIAN  
/ORDER= ANALYSIS .

USE ALL.



```

COMPUTE filter_$(clphya01= 4).
VARIABLE LABEL filter_$(clphya01 = 4 (FILTER)'.
VALUE LABELS filter_$( 0 'Not Selected' 1 'Selected'.
FORMAT filter_$(f1.0).
FILTER BY filter_$.
EXECUTE .

```

\*calculate total time per day spend on sport2 in past two weeks.

```

if (clphya25=2 and clphya27<1 and clphya26=1 and sex=2) clphya27=3.
if (clphya25=2 and clphya27<1 and clphya26=2 and sex=2) clphya27=2.
if (clphya25=2 and clphya27<1 and clphya26=3 and sex=2) clphya27=7.
if (clphya25=2 and clphya27<1 and clphya26=4 and sex=2) clphya27=7.
if (clphya25=2 and clphya27<1 and clphya26=5 and sex=2) clphya27=2.
if (clphya25=2 and clphya27<1 and clphya26=6 and sex=2) clphya27=2.
if (clphya25=2 and clphya27<1 and (clphya26=7 or clphya26=8 or clphya26=9 or
clphya26=10 or clphya26=11 or clphya26=12 or
clphya26=13 or clphya26=14 or clphya26=15 or clphya26=16 or clphya26=17) and sex=2)
clphya27=4.
execute.

```

```

if (clphya25=2 and clphya27<1 and clphya26=1 and sex=1) clphya27=5.
if (clphya25=2 and clphya27<1 and clphya26=2 and sex=1) clphya27=4.
if (clphya25=2 and clphya27<1 and clphya26=3 and sex=1) clphya27=9.
if (clphya25=2 and clphya27<1 and clphya26=5 and sex=1) clphya27=4.
if (clphya25=2 and clphya27<1 and clphya26=12 and sex=1) clphya27=4.
if (clphya25=2 and clphya27<1 and (clphya26=4 or clphya26=6 or clphya26=7 or clphya26=8
or clphya26=9 or clphya26=10 or clphya26=11 or clphya26=13 or clphya26=14
or clphya26=15 or clphya26=16 or clphya26=17) and sex=1) clphya27=4.
execute.

```

```

if (clphya25=2 and clphya27<1 and clphya26=1 and sex=2) clphya28=89.
if (clphya25=2 and clphya27<1 and clphya26=2 and sex=2) clphya28=135.
if (clphya25=2 and clphya27<1 and clphya26=3 and sex=2) clphya28=28.
if (clphya25=2 and clphya27<1 and clphya26=4 and sex=2) clphya28=13.
if (clphya25=2 and clphya27<1 and clphya26=5 and sex=2) clphya28=56.
if (clphya25=2 and clphya27<1 and clphya26=6 and sex=2) clphya28=80.
if (clphya25=2 and clphya27<1 and (clphya26=7 or clphya26=8 or clphya26=9 or
clphya26=10 or clphya26=11 or clphya26=12
or clphya26=13 or clphya26=14 or clphya26=15 or clphya26=16 or clphya26=17) and sex=2)
clphya28=69.
execute.

```

```

if (clphya25=2 and clphya27<1 and clphya26=1 and sex=1) clphya28=104.
if (clphya25=2 and clphya27<1 and clphya26=2 and sex=1) clphya28=106.
if (clphya25=2 and clphya27<1 and clphya26=3 and sex=1) clphya28=28.
if (clphya25=2 and clphya27<1 and clphya26=5 and sex=1) clphya28=64.
if (clphya25=2 and clphya27<1 and clphya26=12 and sex=1) clphya28=110.
if (clphya25=2 and clphya27<1 and (clphya26=4 or clphya26=6 or clphya26=7 or clphya26=8
or clphya26=9 or clphya26=10 or clphya26=11 or
clphya26=13 or clphya26=14 or clphya26=15 or clphya26=16 or clphya26=17) and sex=1)
clphya28=67.
execute.

```

```
compute sport2c=-9.
if (clphya25<1) sport2c=-9.
if (clphya25=1) sport2c=0.
if (clphya25=2) and (clphya27 ge 1) and (clphya28 ge 1) sport2c=(clphya27*clphya28)/14.
if (sport1c=0 and sport2c=-9) sport2c=0.
Variable label sport2c "total sport2time calculated in minutes per day".
execute.
MISSING VALUE sport2c (-9).
fre sport2c.
execute.
```

\*\*\*\*\*

END of sports part.

\*\*\*\*\*

```
FILTER OFF.
USE ALL.
EXECUTE .
```

\*calculating missings and total time spent on physical activity.

\*NOTE: If researchers only want to use walking and cycling, sport1c and sport2c have to be removed from the next sentences.

```
missing value loopc fietc sport1c sport2c (-9).
count misactc= loopc fietc sport1c sport2c (-9).
fre misactc.
execute.
```

\*NOTE: If researchers only want to use walking and cycling, sport1c and sport2c have to be removed from the next sentences.

```
compute totactc= -9.
if (clphya01= 4 & misactc = 0) totactc=SUM (loopc, fietc, sport1c, sport2c).
Variable label totactc "total time spent on physical activities C".
MISSING VALUE totactc (-9).
fre totactc.
execute.
```

\*define lowest quintile.

```
FREQUENCIES
  VARIABLES=totactc
  /PERCENTILES= 20
  /STATISTICS=MEAN MEDIAN
  /ORDER= ANALYSIS .
```

\*/ quintile (20) at LASA C = 6.43

```
compute activitc=-9.
if totactc<6.43 activitc=1.
if totactc>=6.43 activitc=0.
variable label activitc "FRIED ITEM 4: low physical activity C".
value labels activitc (0) "No" (1) "Yes".
missing value activitc (-9).
execute.
fre activitc.
```

\*ITEM 5: Slow gait speed, sex and height specific, lowest quintile.

```
freq cwalk04.
```

```
compute snelhc1=cwalk04.
```

```
if (cwalk04<2) snelhc1=-9.
```

```
missing value snelhc1 (-9).
```

```
exe.
```

```
freq snelhc1.
```

\*use the same distance as Fried et al (4.57m).

```
compute snelhc=(snelhc1/6)*4.57.
```

```
if (snelhc1=-9) snelhc=-9.
```

```
missing value snelhc (-9).
```

```
exe.
```

```
freq snelhc.
```

```
freq cmed150.
```

```
Compute lengtec=cmed150.
```

```
if (cmed150<0) lengtec=-9.
```

```
Missing value lengtec (-9).
```

```
execute.
```

```
fre lengtec.
```

```
COUNT missingsloop=snelhc lengtec(MISSING).
```

```
exe.
```

```
freq missingsloop.
```

```
compute loopgroep=0.
```

```
if (missingsloop >=1) loopgroep=-9.
```

```
if (sex=1 & lengtec <=173) loopgroep=1.
```

```
IF (sex=1 & lengtec>173) loopgroep = 2.
```

```
if ( sex=2 & lengtec <=159) loopgroep=3.
```

```
if (sex=2 & lengtec >159) loopgroep=4.
```

```
missing value loopgroep (-9).
```

```
exe.
```

```
variable label loopgroep "height and sex group".
```

```
value labels loopgroep (0) "unknown" (1) "male <=173 cm" (2) "male > 173 cm" (3) "female <=159 cm" (4) "female >159cm".
```

```
freq loopgroep.
```

\*Split file and read lowest 20% (percentile =>80, because speed measured in seconds).

```
sort cases by loopgroep.
```

```
split file by loopgroep.
```

```
FREQUENCIES
```

```
  VARIABLES=snelhc
```

```
  /PERCENTILES= 80
```

```
  /STATISTICS=MEAN MEDIAN
```

```
  /ORDER= ANALYSIS .
```

```
split file off.
```

```
compute loopc2=0.
```

```
if (missingsloop >=1) loopc2=-9.
```

```
if (snelhc>=7.62 & sex=1 & lengtec <=173) loopc2=1.
```

```
IF (snelhc>=6.85 & sex=1 & lengtec>173) loopc2 = 1.
```

```
if (snelhc>=9.90 & sex=2 & lengtec <=159) loopc2=1.
if (snelhc>=8.38 & sex=2 & lengtec >159) loopc2=1.
missing value loopc2 (-9).
exe.
variable label loopc2 "FRIED ITEM 5: slow gait speed C".
value labels loopc2 (0) "No" (1) "Yes".
exe.
freq loopc2.
```

```
*compute frailty phenotype.
*Max 2 items may be missing according to Fried et al.
```

```
COUNT missingsfriedc= gwverliesc activitc cexhaust gripc33 loopc2 (MISSING).
VARIABLE LABELS missingsfriedc 'Missing values items frailty phenotype C'.
fre missingsfriedc.
```

```
freq gwverliesc activitc cexhaust gripc33 loopc2.
```

```
count friedc= gwverliesc activitc cexhaust gripc33 loopc2 (1).
if (missingsfriedc >=3) friedc =-9.
missing value friedc(-9).
variable label friedc "Number of frailty phenotype items present C"
EXECUTE.
fre friedc.
```

```
compute friedfrailc=-9.
if (friedc=0) friedfrailc=0.
if (friedc=1) friedfrailc=0.
if (friedc=2) friedfrailc=0.
if (friedc=3) friedfrailc=1.
if (friedc=4) friedfrailc=1.
if (friedc=5) friedfrailc=1.
variable label friedfrailc "Fraity no/yes phenotype C".
value label friedfrailc (0) "No" (1) "Yes, frail".
missing value friedfrailc (-9).
execute.
fre friedfrailc.
```