Groningen Exercise Report

This reports narrates the results of modeling in the Groningen Harmonization Exercise

# Attach these packages so their functions don't need to be qualified: http://r-pkgs.had.co.nz/namespace.html#search-path  
library(magrittr) # enables piping : %>%   
# library(ggplot2)  
# library(glmulti)  
# library(rJava)  
# require(MASS)  
  
# Verify these packages are available on the machine, but their functions need to be qualified: http://r-pkgs.had.co.nz/namespace.html#search-path  
requireNamespace("testit")# For asserting conditions meet expected patterns.  
requireNamespace("ggplot2") # graphing  
requireNamespace("tidyr") # data manipulation  
requireNamespace("dplyr") # Avoid attaching dplyr, b/c its function names conflict with a lot of packages (esp base, stats, and plyr).  
requireNamespace("plyr")

# Call `base::source()` on any repo file that defines functions needed below. Ideally, no real operations are performed.  
source("./scripts/common-functions.R") # used in multiple reports  
source("./scripts/graph-presets.R") # fonts, colors, themes   
source("./scripts/graph-logistic.R")

#Put code in here. It doesn't call a chunk in the codebehind file.

This report is a record of interaction with a data transfer object (dto) produced by ./manipulation/0-ellis-island.R.

The next section recaps this script, exposes the architecture of the DTO, and demonstrates the language of interacting with it.

# Exposition

## Ellis Island

All data land on Ellis Island.

The script 0-ellis-island.R is the first script in the analytic workflow. It accomplished the following:

* 1. Reads in raw data files from the candidate studies
  2. Extract, combines, and exports their metadata (specifically, variable names and labels, if provided) into ./data/shared/derived/meta-data-live.csv, which is updated every time Ellis Island script is executed.
  3. Augments raw metadata with instructions for renaming and classifying variables. The instructions are provided as manually entered values in ./data/shared/meta-data-map.csv. They are used by automatic scripts in later harmonization and analysis.
  4. Combines unit and metadata into a single DTO to serve as a starting point to all subsequent analyses.

# load the product of 0-ellis-island.R, a list object containing data and metadata  
dto <- readRDS("./data/unshared/derived/dto\_h.rds")

# the list is composed of the following elements  
names(dto)

[1] "studyName" "filePath" "unitData" "metaData"

# 1st element - names of the studies as character vector  
dto[["studyName"]]

[1] "alsa" "lbsl" "satsa" "share" "tilda"

# 2nd element - file paths of the data files for each study as character vector  
dto[["filePath"]]

[1] "./data/unshared/raw/ALSA-Wave1.Final.sav" "./data/unshared/raw/LBSL-Panel2-Wave1.Final.sav"   
[3] "./data/unshared/raw/SATSA-Q3.Final.sav" "./data/unshared/raw/SHARE-Israel-Wave1.Final.sav"  
[5] "./data/unshared/raw/TILDA-Wave1.Final.sav"

# 3rd element - is a list object containing the following elements  
names(dto[["unitData"]])

[1] "alsa" "lbsl" "satsa" "share" "tilda"

# each of these elements is a raw data set of a corresponding study, for example  
dplyr::tbl\_df(dto[["unitData"]][["lbsl"]])

Source: local data frame [656 x 39]  
  
 id AGE94 SEX94 MSTAT94 EDUC94 NOWRK94 SMK94 SMOKE  
 (int) (int) (int) (fctr) (int) (fctr) (fctr) (fctr)  
1 4001026 68 1 divorced 16 no, retired no never smoked  
2 4012015 94 2 widowed 12 no, retired no never smoked  
3 4012032 94 2 widowed 20 no, retired no don't smoke at present but smoked in the past  
4 4022004 93 2 NA NA NA NA never smoked  
5 4022026 93 2 widowed 12 no, retired no never smoked  
6 4031031 92 1 married 8 no, retired no don't smoke at present but smoked in the past  
7 4031035 92 1 widowed 13 no, retired no don't smoke at present but smoked in the past  
8 4032201 92 2 NA NA NA NA don't smoke at present but smoked in the past  
9 4041062 91 1 widowed 7 NA no don't smoke at present but smoked in the past  
10 4042057 91 2 NA NA NA NA NA  
.. ... ... ... ... ... ... ... ...  
Variables not shown: ALCOHOL (fctr), WINE (int), BEER (int), HARDLIQ (int), SPORT94 (int), FIT94 (int), WALK94 (int),  
 SPEC94 (int), DANCE94 (int), CHORE94 (int), EXCERTOT (int), EXCERWK (int), HEIGHT94 (int), WEIGHT94 (int), HWEIGHT  
 (int), HHEIGHT (int), SRHEALTH (fctr), smoke\_now (lgl), smoked\_ever (lgl), year\_of\_wave (dbl), age\_in\_years (dbl),  
 year\_born (dbl), female (lgl), marital (chr), single (lgl), educ3 (chr), current\_work\_2 (lgl), current\_drink (lgl),  
 sedentary (lgl), poor\_health (lgl), bmi (dbl)

## Meta

# 4th element - a dataset names and labels of raw variables + added metadata for all studies  
dto[["metaData"]] %>%  
 dplyr::select(study\_name, name, item, construct, type, categories, label\_short, label) %>%  
 DT::datatable(  
 class = 'cell-border stripe',  
 caption = "This is the primary metadata file. Edit at `./data/shared/meta-data-map.csv",  
 filter = "top",  
 options = list(pageLength = 6, autoWidth = TRUE)  
 )

# t <- table(ds$smoke\_now, ds$study\_name, useNA="always");t[t==0]<-".";t

## Assembly

The dto containing harmonized operationalizations is queried to assemble analysis-ready dataset.

assemble\_dto <- function(dto, get\_these\_variables){  
   
 lsh <- list() # list object with harmonized data  
 for(s in dto[["studyName"]]){  
 ds <- dto[["unitData"]][[s]] # get study data from dto  
 variables\_present <- colnames(ds) %in% get\_these\_variables # variables on the list  
 lsh[[s]] <- ds[, variables\_present] # keep only them  
 }  
 return(lsh)  
}  
lsh <- assemble\_dto(  
 dto=dto,  
 get\_these\_variables <- c(  
 "id",  
 "year\_of\_wave","age\_in\_years","year\_born",  
 "female",  
 "educ3",  
 "marital", "single",   
 "smoke\_now","smoked\_ever",  
 "poor\_health",  
 "sedentary",  
 "current\_work\_2",  
 "current\_drink"  
 )  
)  
lapply(lsh, names) # view the contents of the list object

$alsa  
 [1] "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "age\_in\_years" "year\_born"   
 [7] "female" "marital" "single" "educ3" "current\_work\_2" "current\_drink"   
[13] "sedentary" "poor\_health"   
  
$lbsl  
 [1] "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "age\_in\_years" "year\_born"   
 [7] "female" "marital" "single" "educ3" "current\_work\_2" "current\_drink"   
[13] "sedentary" "poor\_health"   
  
$satsa  
 [1] "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "age\_in\_years" "year\_born"   
 [7] "female" "marital" "single" "educ3" "current\_work\_2" "current\_drink"   
[13] "sedentary" "poor\_health"   
  
$share  
 [1] "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "year\_born" "age\_in\_years"   
 [7] "female" "marital" "single" "educ3" "current\_work\_2" "current\_drink"   
[13] "sedentary" "poor\_health"   
  
$tilda  
 [1] "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "age\_in\_years" "year\_born"   
 [7] "female" "marital" "single" "educ3" "current\_work\_2" "current\_drink"   
[13] "sedentary" "poor\_health"

ds <- plyr::ldply(lsh,data.frame, .id = "study\_name")  
ds$id <- 1:nrow(ds) # some ids values might be identical, replace  
ds %>% names()

[1] "study\_name" "id" "smoke\_now" "smoked\_ever" "year\_of\_wave" "age\_in\_years"   
 [7] "year\_born" "female" "marital" "single" "educ3" "current\_work\_2"  
[13] "current\_drink" "sedentary" "poor\_health"

This dataset, which includes harmonized variables, will be used to fit the models.

According to the rules of the exercise,however, only the participants over the age of 50 were kept for the analysis:

# restrict analysis to respondents age 50+  
ds <- ds %>%   
 dplyr::filter(age\_in\_years >= 50)

# Harmonization rules

This section narrates the harmonization rules applied to candidate variables from each study and provides the descriptives of harmonized variables

Harmonization has been carried out by sequential execution of the follwoing scripts:

* [./reports/harmonize-smoking/harmonize-smoking.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-smoking.html)
* [./reports/harmonize-age/harmonize-age.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-age.html)
* [./reports/harmonize-sex/harmonize-sex.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-sex.html)
* [./reports/harmonize-marital/harmonize-marital.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-marital.html)
* [./reports/harmonize-education/harmonize-education.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-education.html)
* [./reports/harmonize-work/harmonize-work.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-work.html)
* [./reports/harmonize-alcohol/harmonize-alcohol.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-alcohol.html)
* [./reports/harmonize-physact/harmonize-physact.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-physact.html)
* [./reports/harmonize-health/harmonize-health.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-health.html)
* [./reports/harmonize-physique/harmonize-physique.R](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/harmonize-physique.html)

the reports are produced by knitting their respective .Rmd files, located in corresponding folders.

The following subsections provide summary details on the harmonization implemented to produce each target variable. Please refer to full reports listed above for further details.

## Smoking

View [descriptives : smoking](/https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-smoking.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Are you a smoker presently?** - smoke\_now

* 0 - FALSE - *healthy* - Reference group
* 1 - TRUE - *unhealthy* - Risk factor

t <- table(ds$smoke\_now, ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1851 430 934 2113 6674 .   
 TRUE 217 60 246 390 1488 .   
 <NA> 19 92 60 4 1 .

#### **Have you ever smoked?** - smoked\_ever

* 0 - FALSE - *healthy* - Reference group
* 1 - TRUE - *unhealthy* - Risk factor

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

t <- table( ds$smoked\_ever,ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1851 173 621 1485 3561 .   
 TRUE 217 324 530 1018 4601 .   
 <NA> 19 85 89 4 1 .

## Age

View [descriptives : age](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-age.html) for closer examination of raw variables. For each study, three variables have been formulated and computed:

* year\_of\_wave - Calendar year in which the measurement wave occured. These data values are added manually, after consulting respective study's documentation.
* year\_born - Calendar year in which the respondent was born
* age\_in\_years - Age of respondent in years

lsh\_age <- assemble\_dto(dto, c("id","year\_of\_wave","age\_in\_years","year\_born"))  
lapply(lsh\_age, head) # view the contents of the list object

$alsa  
 id year\_of\_wave age\_in\_years year\_born  
1 41 1992 86 1906  
2 42 1992 78 1914  
3 61 1992 89 1903  
4 71 1992 78 1914  
5 91 1992 85 1907  
6 121 1992 92 1900  
  
$lbsl  
 id year\_of\_wave age\_in\_years year\_born  
1 4001026 1994 68 1926  
2 4012015 1994 94 1900  
3 4012032 1994 94 1900  
4 4022004 1994 93 1901  
5 4022026 1994 93 1901  
6 4031031 1994 92 1902  
  
$satsa  
 id year\_of\_wave age\_in\_years year\_born  
1 2321 1991 64.81331 1926  
2 2322 1991 64.81331 1926  
3 2501 1991 64.80330 1926  
4 2502 1991 64.80330 1926  
5 2621 1991 64.75332 1926  
6 11301 1991 90.20333 1900  
  
$share  
 id year\_of\_wave year\_born age\_in\_years  
1 2.5052e+12 2006 1942 64  
2 2.5052e+12 2006 1945 61  
3 2.5052e+12 2006 1947 59  
4 2.5052e+12 2006 1946 60  
5 2.5052e+12 2006 1937 69  
6 2.5052e+12 2006 1940 66  
  
$tilda  
 id year\_of\_wave age\_in\_years year\_born  
1 1091 2009 80 1929  
2 1111 2009 51 1958  
3 1112 2009 51 1958  
4 1151 2009 60 1949  
5 1281 2009 72 1937  
6 1411 2009 66 1943

rm(lsh\_age)  
  
  
   
# age summary across studies  
ds %>%   
 dplyr::group\_by(study\_name) %>%  
 na.omit() %>%   
 dplyr::summarize(  
 mean\_age = round(mean(age\_in\_years),1),  
 sd\_age = round(sd(age\_in\_years),2),  
 observed = n(),  
 min\_born = min(year\_born),  
 med\_born = median(year\_born),  
 max\_born = max(year\_born)  
 ) %>%   
 dplyr::ungroup()

Source: local data frame [5 x 7]  
  
 study\_name mean\_age sd\_age observed min\_born med\_born max\_born  
 (fctr) (dbl) (dbl) (int) (dbl) (dbl) (dbl)  
1 alsa 78.1 6.65 2053 1889 1915 1927  
2 lbsl 71.3 9.92 463 1900 1923 1944  
3 satsa 67.5 9.31 1087 1900 1922 1998  
4 share 64.7 9.67 2467 1911 1943 1956  
5 tilda 63.6 9.08 5632 1929 1946 1959

# see counts across age groups and studies   
t <- table(  
 cut(ds$age\_in\_years,breaks = c(49,seq(from=45,to=100,by=5), Inf)),  
 ds$study\_name,   
 useNA="always"  
);t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 (45,49] . . . . . .   
 (49,50] . 6 . 26 334 .   
 (50,55] . 45 162 475 1637 .   
 (55,60] . 28 126 543 1590 .   
 (60,65] 13 87 168 361 1388 .   
 (65,70] 258 101 222 415 1138 .   
 (70,75] 552 81 235 274 884 .   
 (75,80] 513 67 198 221 1192 .   
 (80,85] 425 110 96 130 . .   
 (85,90] 254 43 28 43 . .   
 (90,95] 58 13 4 19 . .   
 (95,100] 12 1 1 . . .   
 (100,Inf] 2 . . . . .   
 <NA> . . . . . .

# now after centering  
ds$age\_in\_years\_70 <- ds$age\_in\_years - 70  
t <- table(  
 cut(ds$age\_in\_years\_70,breaks = c(-Inf,seq(from=-25,to=30,by=5), Inf)),  
 ds$study\_name,   
 useNA = "always"  
); t[t==0] <- "."; t

alsa lbsl satsa share tilda <NA>  
 (-Inf,-25] . . . . . .   
 (-25,-20] . 6 . 26 334 .   
 (-20,-15] . 45 162 475 1637 .   
 (-15,-10] . 28 126 543 1590 .   
 (-10,-5] 13 87 168 361 1388 .   
 (-5,0] 258 101 222 415 1138 .   
 (0,5] 552 81 235 274 884 .   
 (5,10] 513 67 198 221 1192 .   
 (10,15] 425 110 96 130 . .   
 (15,20] 254 43 28 43 . .   
 (20,25] 58 13 4 19 . .   
 (25,30] 12 1 1 . . .   
 (30, Inf] 2 . . . . .   
 <NA> . . . . . .

## Sex

View [descriptives : sex](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-sex.html) for closer examination of each variable that contributed to the computation of the harmonized variable. f unique response vectors.

#### **Is respondent female?** - female

* 0 - FALSE - male - Reference group
* 1 - TRUE - female

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live)

t <- table( ds$female, ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1056 292 506 1136 3740 .   
 TRUE 1031 290 734 1371 4423 .   
 <NA> . . . . . .

## Education

View [descriptives : education](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-education.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Highest level of education achieved** - educ3

* -1 - less then high school
* 0 - high school - Reference group
* 1 - more than high school

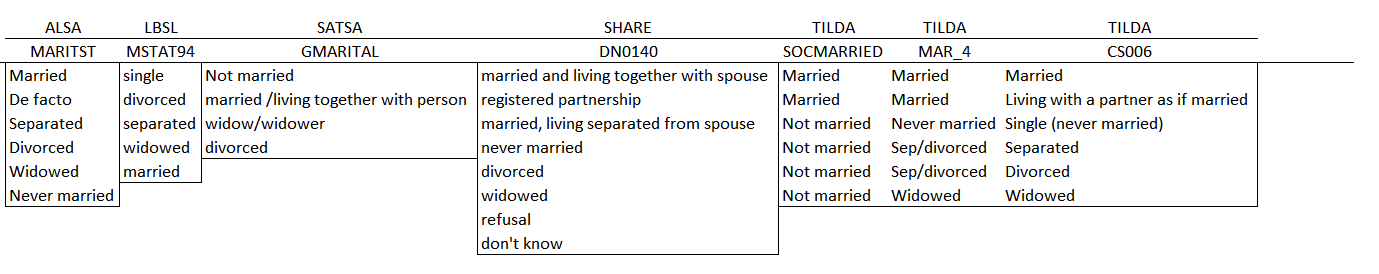
The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

t <- table( ds$educ3,ds$study\_name, useNA="always");t[t==0]<-".";t

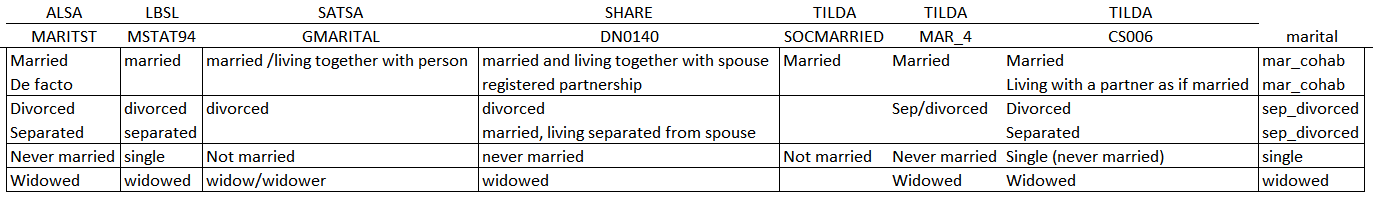
alsa lbsl satsa share tilda <NA>  
 high school 819 157 119 853 2607 .   
 less than high school 337 73 999 935 5092 .   
 more than high school 905 263 106 693 460 .   
 <NA> 26 89 16 26 4 .

## Marital status

View [descriptives : marital](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-marital.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

The responses to variables loading on the construct marital are as such: 

After reorganizing the possible repsonses, the following clustering has emerged



marital harmonized

After reviewing descriptives and relevant codebooks, the following operationalization of the harmonized variables have been adopted:

#### **Current marital status** - marital

* -1 - mar\_cohab - married or cohabiting
* 0 - single- not married - REFERENCE group
* 1 - widowed - widowed
* 2 - sep\_divorced - separated or divorced

However, such categorization resulted in data sparseness: some categories were not populated heavily enough to allow for convergence during estimation. To address this, a simpler harmonization rule has been adopted :

#### **Current marital status** - single

* 0 - FALSE - married / living together - Reference group
* 1 - TRUE - single / lining along

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

t <- table( ds$single,ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1367 295 771 1961 5631 .   
 TRUE 719 203 454 543 2532 .   
 <NA> 1 84 15 3 . .

## Health (SR)

View [descriptives : health](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-physact.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Does respondent report poor health?** - poor\_health

* 0 - FALSE - Reference group
* 1 - TRUE - Risk factor

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

t <- table( ds$poor\_health, ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1423 306 676 1336 6263 .   
 TRUE 658 197 550 1168 1899 .   
 <NA> 6 79 14 3 1 .

## Physical activity

View [descriptives : physact](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-physact.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Does respondent lead a sendentary lifestyle?** - sedentary

* 0 - FALSE - Reference group
* 1 - TRUE - Risk factor

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

The operationalization of this variable ***is not*** sensitive to the intensity of exercise. Any reponses indicating an activity at least as vigorous as ***walking*** generated values TRUE on the harmonized variable.

t <- table( ds$sedentary, ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 1250 422 465 1975 6643 .   
 TRUE 814 73 752 528 1515 .   
 <NA> 23 87 23 4 5 .

## Employment status

View [descriptives : work](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-work.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Is respondent currently in the work force?** - current\_work\_2

* 0 - FALSE - Reference group
* 1 - TRUE - Risk factor

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

The operationalization of this variable ***does not*** distinguish between retired and unemployed statuses.

t <- table( ds$current\_work\_2,ds$study\_name,useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 2038 372 916 1617 5094 .   
 TRUE 31 118 303 882 3067 .   
 <NA> 18 92 21 8 2 .

## Alcohol

View [descriptives : alcohol](https://rawgit.com/IALSA/ialsa-2016-groningen-public/master/describe-alcohol.html) for closer examination of each variable that contributed to the computation of the harmonized variable.

#### **Does respondent currently consume alcohol?** - current\_drink

* 0 - FALSE- Reference group
* 1 - TRUE- Risk factor

The specific [harmonization rules](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/h-rules) have been encoded over the [observed frequencies](https://github.com/IALSA/ialsa-2016-groningen/tree/master/data/meta/response-profiles-live) of unique response vectors.

The operationalization of this variable ***is not*** sensitive to the intensity of consumption: any indications of non-abstaining generated TRUE values on the harmonizaed variable. It also doesn't account for the history of consumption, reflecting only the present habits.

t <- table( ds$current\_drink,ds$study\_name, useNA="always");t[t==0]<-".";t

alsa lbsl satsa share tilda <NA>  
 FALSE 774 168 515 1785 1779 .   
 TRUE 1293 334 699 718 3859 .   
 <NA> 20 80 26 4 2525 .

# Harmonized dataset

# Guide to Models

Each of the following models (A, B, AA, and BB) are fitted to the data from each study separately. When fitted to the pooled data, an additional predictor, study\_name is added after the intercept.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| predictors/model | A | B | AA | BB | best |
| age | age\_in\_years | age\_in\_years | age\_in\_years | age\_in\_years | ? |
| sex | female | female | female | female | ? |
| education | educ3 | educ3 | educ3 | educ3 | ? |
| marital status | single | single | single | single | ? |
| health |  | poor\_health |  | poor\_health | ? |
| physical activity |  | sedentary |  | sedentary | ? |
| employment |  | current\_work |  | current\_work | ? |
| alcohol use |  | current\_drink\_2 |  | current\_drink\_2 | ? |
| interactions | *none* | *none* | all pairwise | all pairwise | ? |

Odds-ratios with 95% confidence intervals are reported. The model labeled "best" represents the solution suggested by the top ranked model from the best subset search propelled by genetic algorithm with AICC as the guiding selection criteria.

# Between models

The following table reports comparison across five model types (A, B, AA, BB, best) and six datasets (alsa, lbsl, satsa, share, tilda, pooled). You can think of this as multiple tables of various heights stacked on top of each other. You select a single table by choosing the value for study\_name. (you may need to adjust the number of entries to view, at the top left of the dynamic table)

# Within models

The following table reports estimates and odds from every model that has been fit during the exercise. You can think of this as multiple tables of various heights stacked on top of each other. You select a single table by chosing the values for study\_name and model\_type. (you may need to adjust the number of entries to view, at the top left of the dynamic table)

# Static tables

You can examine individual static table from the dynamic tables above in a stand-alone [appendix report](https://rawgit.com/IALSA/ialsa-2016-groningen/master/models/exercise-report-3/predictors-in-focus.html)

# session

sessionInfo()

R version 3.2.5 (2016-04-14)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
locale:  
[1] LC\_COLLATE=English\_United States.1252 LC\_CTYPE=English\_United States.1252 LC\_MONETARY=English\_United States.1252  
[4] LC\_NUMERIC=C LC\_TIME=English\_United States.1252   
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] knitr\_1.12.3 MASS\_7.3-45 glmulti\_1.0.7 rJava\_0.9-8 ggplot2\_2.1.0 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.5 RColorBrewer\_1.1-2 formatR\_1.3 plyr\_1.8.3 highr\_0.5.1 tools\_3.2.5   
 [7] extrafont\_0.17 digest\_0.6.9 jsonlite\_0.9.20 evaluate\_0.9 gtable\_0.2.0 DBI\_0.4-1   
[13] yaml\_2.1.13 parallel\_3.2.5 Rttf2pt1\_1.3.3 dplyr\_0.4.3 stringr\_1.0.0 htmlwidgets\_0.6   
[19] grid\_3.2.5 DT\_0.1.40 R6\_2.1.2 rmarkdown\_0.9.6 tidyr\_0.4.1 extrafontdb\_1.0   
[25] scales\_0.4.0 htmltools\_0.3.5 rsconnect\_0.4.2.1 assertthat\_0.1 dichromat\_2.0-0 testit\_0.5   
[31] colorspace\_1.2-6 stringi\_1.0-1 lazyeval\_0.1.10 munsell\_0.4.3