Contents

1 Dataset preparation

1.1 Upload datasets

```
tc.profiles <- read.csv("Data/details_profile.csv")
submissions <- read.csv("Data/submissions.csv")
survey.ini  <- read.csv("Data/qualtrics/SV_8elNruzKCgPB72B.csv"
               , skip=1, na.strings=c("","NA"))
survey.end  <- read.csv("Data/qualtrics/SV_0DSqL7Exk0A7Bdj.csv"
               , skip=1, na.strings=c("","NA"))
assignment <- rbind(read.csv("Data/race.csv")
                    , read.csv("Data/tournament.csv")
                    , read.csv("Data/reserve.csv"))

# Functions
na.count <- function(x) sum(is.na(x))
replace.pattern <- function(x, p1, p2) gsub(x, pattern=p1, replacement=p2)
impute.zero <- function(x) ifelse(is.na(x), 0, x)
capitalize <- function(x) {
  substr(x, 1, 1) <- toupper(substr(x, 1, 1))
  return(x)
}
```

1.2 Initial Survey

```
library(magrittr)
library(jsonlite)
```

```
## Loading required package: methods
```

```
library(xtable)
library(knitr)
```

```
## Warning: package 'knitr' was built under R version 3.2.5

# Order
miss <- apply(survey.ini, 1, na.count)
survey.ini <- survey.ini[order(miss, decreasing=TRUE), ]

# Handle in survey
handle.raw <- survey.ini[, 12]
handle.raw %>%
    as.character %>%
    replace.pattern("@gmail.com", "") %>%
    replace.pattern("avitella", "Avitella") %>%
    replace.pattern("vidhyabhushan", "vidhyabhushanv") -> handle

# Unique survey
index <- tapply(1:length(handle), handle, tail, n=1)
survey.ini.unique <- survey.ini[index, ]
handle.unique <- handle[index]

# Demographics
male  <- survey.ini.unique[, 20]=='Male'
age   <- survey.ini.unique[, 21]
educ  <- survey.ini.unique[, 22]
plang <- survey.ini.unique[, 23]

work.raw <- survey.ini.unique[, 24]
work.raw %>%
  tolower %>%
  replace.pattern("-"," ") %>%
  replace.pattern(".*software.*","software") %>%
  replace.pattern(".*master.*|.*univer.*|.*sopho.*|.*bachel.*|.*gradu.*","universi
```

```
  replace.pattern(".*self.*","self-employed") %>%
  replace.pattern("^employed.*|.*tcs.*|.*employee.*|.*full.?time.*|.*work.*","empl
  replace.pattern(".*part.*time.*","part time") %>%
  replace.pattern(".*resear?ch.*|.*profe.*|.*lectur.*","research") %>%
  replace.pattern(".*unemp.*|.*none.*|.*nothing.*","not employed") %>%
  replace.pattern(".*free.?lanc.*|.*independent.*","freelance") %>%
  replace.pattern(".*develop.*","developer") %>%
  replace.pattern(".*ph.?d.*","phd student") -> work

country.raw <- survey.ini.unique[, 25]
country.raw %>%
     gsub(pattern="^[A-Z]{2} - ", replace="") -> country.or

tz.raw <- survey.ini.unique[, 26]
tz.raw %>%
  replace.pattern(",.GMT.*","") -> tz

risk.raw <- survey.ini.unique[, 27]
risk <- factor(risk.raw, levels=c("1-unwilling", 2:9, "10-completely willing"))

hweek1 <- survey.ini.unique[, 28]
hweek2 <- survey.ini.unique[, 29]
hweek3 <- survey.ini.unique[, 30]
hweek4 <- survey.ini.unique[, 31]
lat <- survey.ini.unique[, 32]
long <- survey.ini.unique[, 33]

initial.survey <- data.frame(id=handle.unique, male, age, educ
                  , plang, work, country.or, tz, risk
                  , hweek1, hweek2, hweek3, hweek4, lat, long)
```

1.3 Final survey

```
# Handle in survey
handle.raw <- survey.end[, 12]
handle.raw %>%
    as.character %>%
    replace.pattern("@gmail.com", "") %>%
    replace.pattern("avitella", "Avitella") %>%
    replace.pattern("taquion", "Taquion") %>%
    replace.pattern("drwhatsisname", "DrWhatsisname") %>%
    replace.pattern("vidhyabhushan", "vidhyabhushanv") -> handle

# Unique survey
index <- tapply(1:length(handle), handle, tail, n=1)
survey.end.unique <- survey.end[index, ]
handle.unique <- handle[index]

eweek1 <- survey.end.unique[, 20]
eweek2 <- survey.end.unique[, 21]
eweek3 <- survey.end.unique[, 22]
eweek4 <- survey.end.unique[, 23]
pdouble <- survey.end.unique[, 24]
phalf   <- survey.end.unique[, 25]
hard    <- survey.end.unique[, 27]
risk2.raw   <- survey.end.unique[, 29]
risk2 <- factor(risk2.raw, levels=c("1-unwilling", 2:9, "10-completely willing"))

final.survey <- data.frame(id=handle.unique, eweek1, eweek2
                , eweek3, eweek4, pdouble, phalf, hard, risk2)
```

1.4 Scores and submissions

```
handle <- as.character(submissions$handle)
subid <- submissions$submissionID
subts <- strptime(submissions$timestamp, "%Y-%m-%d %H:%M:%S")
subsys <- submissions$system
subprov <- submissions$provisional

scores <- data.frame(id=handle, subid, subts, subsys, subprov)
```

1.5 Platform datasets

```
# Web profiles
fnames <- list.files(c("Data/profiles-handles","Data/profiles"), full.names=TRUE)
profiles <- NULL
m <- data.frame(matrix(nrow=length(fnames), ncol=4))
for (i in 1:length(fnames)) {
  x <-  fromJSON(fnames[i])
  info <- cbind(x$handle, x$country,  as.character(as.Date(x$memberSince)), NA)
  if (!is.null(x$Achievements$date)) {
      y <- x$Achievements
      info[4] <- sum(as.Date(y$date) < "2015-03-13")
  }
  m[i, ] <- info
}
m <- unique(m[1:nrow(m), ])
id <- m[, 1]
id[grep("rtriv", id)] <- "rst9288"
country <- factor(m[, 2])
msince <- as.Date(m[, 3])
badges <- as.numeric(m[, 4])
```

```
profiles <- data.frame(id, country, msince, badges)

# Platform Ratings
handle.raw <- tc.profiles$Handle
handle.raw %>%
    as.character %>%
    replace.pattern("@gmail.com", "") %>%
    replace.pattern("avitella", "Avitella") %>%
    replace.pattern("vidhyabhushan", "vidhyabhushanv") %>%
    replace.pattern("vidhyabhushanvv", "vidhyabhushanv") -> handle

mm.count  <- impute.zero(tc.profiles$MM.Count)
mm.wins   <- impute.zero(tc.profiles$Num.Wins)
mm.top5   <- impute.zero(tc.profiles$Num.Top.5)
mm.top10  <- impute.zero(tc.profiles$Num.Top.10)
mm.best.rank  <- tc.profiles$Best.Rank
mm.rating     <- tc.profiles$Rating

ratings <- data.frame(id=handle, mm.count, mm.rating, mm.wins, mm.top5, mm.top10,


# Check before merging
index <- which(!ratings$id %in% profiles$id)
if (length(index)>0) {
  warning(sprintf("%i Unmatched handles in ratings", length(index)))
#  cat(ratings$id[index])
}
index <- which(!profiles$id %in% ratings$id)
if (length(index)>0) {
```

```
  warning(sprintf("%i Unmatched handles in profiles", length(index)))
 # cat(profiles$id[index])
}
```

```
## Warning: 1 Unmatched handles in profiles
```

```
if (any(table(profiles$id) != 1)) stop("Error profile ids!")
if (any(table(ratings$id) != 1)) stop("Error ratings ids!")

platform <- merge(ratings, profiles, all=TRUE)
```

1.6 Assigned treatment

```
handle.raw <- assignment$handle
handle.raw %>%
    as.character %>%
    replace.pattern("@gmail.com", "") %>%
    replace.pattern("avitella", "Avitella") %>%
    replace.pattern("vidhyabhushan", "vidhyabhushanv") %>%
    replace.pattern("vidhyabhushanvv", "vidhyabhushanv") -> handle

room <- factor(paste("Group ", ifelse(assignment$treatment=="race", "1"
    , ifelse(assignment$treatment=="tournament", "2", "3"))
    , toupper(letters[assignment$room_id]), sep=""))
treatment <- factor(assignment$treatment)
size <- assignment$room_type_id
levels(treatment) <- capitalize(levels(treatment))
assigned.treatment <- data.frame(id=handle, room, treatment, size)
```

1.7 Merge datasets

```
# Functions
merge.by.id <- function(x, y) {
```

```
  id.x <- x$id
  id.y <- y$id
  index <- which(!id.x %in% id.y)
  if (length(index)>0) {
    warning(sprintf("%i Unmatched handles in x dataset", length(index)))
    cat(as.character(id.x[index]), sep='\n')
    index <- which(!id.y %in% id.x)
    warning(sprintf("%i Unmatched handles in y dataset", length(index)))
    cat(as.character(id.y[index]), sep='\n')
  }
  merge(x, y, by="id", all.x=TRUE)
}
agg <- function(label, ...) {
  z <- aggregate(...)
  colnames(z) <- c("id", label)
  return(z)
}

assigned.treatment %>%
    merge.by.id(platform) %>%
    merge.by.id(initial.survey) %>%
    merge.by.id(final.survey) %>%
    merge.by.id(agg('lastscore', f=subprov ~ id, d=scores, FUN=tail, n=1)) %>%
    merge.by.id(agg('nsub', f=subprov ~ id, d=scores, FUN=length)) -> dat

## Warning in merge.by.id(., initial.survey): 19 Unmatched handles in x
## dataset

## 1957
## a9108tc
## cxz2004
```

```
## dimkadimon
## fujiyama
## gkeesh7
## ISMAX
## k_k1
## koyumeishi
## lionelc
## mak512
## Nfcj000
## Orisano
## pooya_
## Rajpurohit
## RobinWang
## vokie
## yoshibo-
## zhengqiang

## Warning in merge.by.id(., initial.survey): 103 Unmatched handles in y
## dataset

## 1
## 1123
## ablasco
## algoexpert
## ansary
## asmisha
## atetubou
## athought
## boo
## c_arty
## c7d5a6
```

```
## carlop
## CatalinT
## Chola
## christianworlda
## cocodrips
## ComputerGenie
## crazygo
## Cristy94
## Dawit
## Defh
## desertstorm
## dmpetrov
## doudouille
## eatingpeaches
## Ecv
## fivestarwy
## gogsa
## goocoder
## GrantRVD
## GreatOZ
## gugu77
## h0rm1
## hadisotudeh1992
## https://www.topcoder.com/
## hulululu
## i.am.charlie
## imwilly37
## insik92
## ironhawks
## Javajay
```

```
## jeniroxy
## Jk24
## jnnoij
## keyvankhademi
## Kinematic
## kliner
## Lawliet
## legend12s
## m2cl3k
## maxareo
## metdos
## misaxi
## Moninf
## Morojenoe
## MYChien
## myossy
## Neo.subrata
## nika
## nofto
## oKing
## OUDON
## oulric1
## pawan91
## pixroom
## poundinc_tc
## powerbirD
## pradeep599
## Proud2BACoug
## puffring
## purneshtripathi
```

```
## rahulyadav.18
## rb_next
## ritesh_tiwary
## Rizvanov_de_xXx
## rnkavil
## robinbg
## rolandino
## shin_taku
## snixtho
## Sobeonkey
## spiderbatman
## srivastu
## starea
## Steven_Huang
## sutowo
## t5.keeper
## test
## tokiru
## torys
## Venugra
## vikasverma
## vishfrnds
## Wilxzzz
## wleite
## Wook.Song
## wukejia
## yamakic
## yamkic
## Yu-Cheng
## zakharchuk
```

```
## zhangyilun
## znirzejskwarka

## Warning in merge.by.id(., final.survey): 180 Unmatched handles in x dataset

## 1101
## 1957
## aakinola
## abundrew
## adk90
## air13
## alazyrabbit
## alex90
## alexpeptan
## alinionut.popa
## an_ant
## ananthhh
## andresduque
## AndyFang
## antoshkaplus
## antslag
## aropan
## ascii892
## Avitella
## azukun
## Bankevich
## Bargash
## blu3fox
## bluenet
## bohuss
## buraksrc
```

```
## Cannon
## caustique
## chengweichi
## chicapi
## Chikov2
## codercat
## ctrucza
## cup_of_tea
## daga_sumit
## defatigue
## defh
## delabourdonnais
## dexy
## dhbellol
## dilip.thapa
## dimonica
## ecv
## elder1g
## eldidou
## eofsentinel
## F.L.K
## f1zz0_13
## Fdg
## feather
## fine_plain
## fizzicks
## gkeesh7
## GoogleHireMe
## gutoo
## halyavin
```

```
## haraduka
## harshaneelhg
## haveri
## hired777
## ichattopadhyaya
## ichyo
## Irioth
## Ironhawks
## ISMAX
## ivan_metelsky
## jaikamal
## jasonw
## JK24
## Jumping John
## jun22
## k_k1
## kamalkishor1991
## kino
## kit1980
## klo86min
## knighthunter
## koyumeishi
## kpoxa2l
## ksma
## kumar.virakta
## kwrig
## kyerise
## LaguneXXX
## lejosne
## Liaksiejka
```

```
## lizame2012
## LOY
## Lozy
## ltda
## m_dz
## madbn
## MahmoudAGawad
## mak512
## marchyoung
## marek.cygan
## marsavic
## marshmallow
## mateuszlewko
## Matt_sjtu
## mayoko
## mcw1142
## midrux
## MIPT_Alex
## MonicaMuranyi
## mra
## Mril284
## mrmillers
## mystic_coder
## Neodym
## neotheicebird
## net_buster
## Nfcj000
## nhzp339
## nic.lim55
## nims11
```

```
## OlexandrT
## omu
## onjanirina
## Orisano
## osev
## ourtake
## PaxosMyth
## pedrosorio
## pfr
## pnomarev
## pooya_
## Ra16bit
## Rajpurohit
## ribeiro
## Ritesh_Singh
## RobinWang
## RRx
## rst9288
## ryuwonha
## sakaark
## sampathkumarv
## sasikanth9
## Seip_meginu
## SePulTribe
## smel
## sohel_uoa
## StarCuriosity
## stzgd
## sukides
## sweetkang
```

```
## szd714
## tbell
## toshif
## TrePe
## ty70
## unbing
## V[i]ctor
## vaa2804
## Vardan(RAU)
## VArt
## Venug
## vidhyabhushanv
## Visoks
## vitux
## vokie
## vss109
## windhunterSB
## xiaoruby
## xin135
## xsymphonyx
## yangzhe1991
## yannoj2
## yaric_om
## yassine12
## YDesai
## yedtoss
## yfalah
## ynasu
## yoshibo-
## yrtchn
```

```
## zaq1xsw2tktk
## zhanghanyuan
## zhanyi658657
## zhengqiang

## Warning in merge.by.id(., final.survey): 6 Unmatched handles in y dataset

## aaa
## ka
## mmenietti
## op
## yfalah
## zzzzzzz

## Warning in merge.by.id(., agg("lastscore", f = subprov ~ id, d = scores, :
## 213 Unmatched handles in x dataset

## _Kevin
## 1101
## 1957
## aakinola
## abundrew
## adk90
## ahoenig
## air13
## alazyrabbit
## alecn2002
## alex90
## alexpeptan
## alinionut.popa
## an_ant
## AnandVeeramani
```

```
## ananthhh
## andresduque
## AndyFang
## antoshkaplus
## antslag
## aropan
## ascii892
## Avitella
## azukun
## Bankevich
## Bargash
## baseballnut
## bdepwgjqet
## blu3fox
## bluenet
## buraksrc
## Cannon
## cant_dance
## caustique
## cheaps
## chicapi
## Chikov2
## Chmel_Tolstiy
## codercat
## codeshubh
## ctrucza
## cup_of_tea
## d_jash
## daga_sumit
## danbanica
```

```
## daviduarte
## defatigue
## defh
## delabourdonnais
## dexy
## dhbellol
## didi_baga
## dilip.thapa
## dimonica
## DrWhatsisname
## DuXSerbia
## ecv
## elder1g
## eldidou
## eofsentinel
## Euniceadu
## F.L.K
## f1zz0_13
## falanga
## fazam
## Fdg
## feather
## fine_plain
## fizzicks
## gkeesh7
## gutoo
## halyavin
## haraduka
## harshaneelhg
## hired777
```

```
## ichattopadhyaya
## ichyo
## Ironhawks
## ISMAX
## ivan_metelsky
## izhari
## jaikamal
## jasonw
## jbgeddes3
## JK24
## jonathanps
## Jumping John
## jun22
## k_k1
## kamalkishor1991
## kazunetakahashi
## Kenny_HORROR
## kino
## kit1980
## knighthunter
## kossi_tg
## koyumeishi
## kpoxa2l
## ksma
## kumar.virakta
## kwrig
## kyerise
## LaguneXXX
## lejosne
## Liaksiejka
```

```
## lizame2012
## ll931110
## ltda
## m_dz
## madbn
## MahmoudAGawad
## mak512
## marchyoung
## marsavic
## marshmallow
## martinezgjuan
## mateuszlewko
## Matt_sjtu
## mayoko
## mcw1142
## midrux
## MIPT_Alex
## Mojito1
## MonicaMuranyi
## moriara
## mra
## Mril284
## mrmillers
## mystic_coder
## Neodym
## neotheicebird
## net_buster
## Nfcj000
## nhzp339
## nic.lim55
```

```
## Nickolas
## Nil_ct
## nims11
## NobuMiu
## not_
## OlexandrT
## omu
## onjanirina
## Orisano
## osev
## ourtake
## PaxosMyth
## pedrosorio
## pfilippi
## pnomarev
## pooya_
## Ra16bit
## Rajpurohit
## ribeiro
## Ritesh_Singh
## RobinWang
## RRx
## rst9288
## Rubanenko
## sakaark
## sampathkumarv
## sasikanth9
## Seip_meginu
## SePulTribe
## shilov
```

```
## shivamsihare
## smel
## sohel_uoa
## Sord
## StarCuriosity
## stzgd
## sukides
## sweetkang
## szd714
## T_I_W_A_R_Y
## TahaMahmoud
## Taquion
## tau0
## tbell
## toshif
## TrePe
## trylar
## TwCoder
## ty70
## Uchigle
## unbing
## V[i]ctor
## vaa2804
## Vardan(RAU)
## VArt
## vdave
## Venug
## vidhyabhushanv
## Visoks
## vitux
```

```
## vokie
## vss109
## vuchko
## windhunterSB
## xiakunxian923
## xin135
## xsymphonyx
## yangzhe1991
## yannoj2
## yassine12
## YDesai
## yedtoss
## ynasu
## zhanghanyuan
## zhanyi658657
## zhengqiang
## Zimuk
## zizo0003
```

```
## Warning in merge.by.id(., agg("lastscore", f = subprov ~ id, d = scores, :
## 0 Unmatched handles in y dataset
```

```
## Warning in merge.by.id(., agg("nsub", f = subprov ~ id, d = scores, FUN =
## length)): 213 Unmatched handles in x dataset
```

```
## _Kevin
## 1101
## 1957
## aakinola
## abundrew
## adk90
## ahoenig
```

```
## air13
## alazyrabbit
## alecn2002
## alex90
## alexpeptan
## alinionut.popa
## an_ant
## AnandVeeramani
## ananthhh
## andresduque
## AndyFang
## antoshkaplus
## antslag
## aropan
## ascii892
## Avitella
## azukun
## Bankevich
## Bargash
## baseballnut
## bdepwgjqet
## blu3fox
## bluenet
## buraksrc
## Cannon
## cant_dance
## caustique
## cheaps
## chicapi
## Chikov2
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```
## Chmel_Tolstiy
## codercat
## codeshubh
## ctrucza
## cup_of_tea
## d_jash
## daga_sumit
## danbanica
## daviduarte
## defatigue
## defh
## delabourdonnais
## dexy
## dhbellol
## didi_baga
## dilip.thapa
## dimonica
## DrWhatsisname
## DuXSerbia
## ecv
## elder1g
## eldidou
## eofsentinel
## Euniceadu
## F.L.K
## f1zz0_13
## falanga
## fazam
## Fdg
## feather
```

```
## fine_plain
## fizzicks
## gkeesh7
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## ichattopadhyaya
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## Ironhawks
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## ivan_metelsky
## izhari
## jaikamal
## jasonw
## jbgeddes3
## JK24
## jonathanps
## Jumping John
## jun22
## k_k1
## kamalkishor1991
## kazunetakahashi
## Kenny_HORROR
## kino
## kit1980
## knighthunter
## kossi_tg
## koyumeishi
```

```
## kpoxa2l
## ksma
## kumar.virakta
## kwrig
## kyerise
## LaguneXXX
## lejosne
## Liaksiejka
## lizame2012
## ll931110
## ltda
## m_dz
## madbn
## MahmoudAGawad
## mak512
## marchyoung
## marsavic
## marshmallow
## martinezgjuan
## mateuszlewko
## Matt_sjtu
## mayoko
## mcw1142
## midrux
## MIPT_Alex
## Mojito1
## MonicaMuranyi
## moriara
## mra
## Mril284
```

```
## mrmillers
## mystic_coder
## Neodym
## neotheicebird
## net_buster
## Nfcj000
## nhzp339
## nic.lim55
## Nickolas
## Nil_ct
## nims11
## NobuMiu
## not_
## OlexandrT
## omu
## onjanirina
## Orisano
## osev
## ourtake
## PaxosMyth
## pedrosorio
## pfilippi
## pnomarev
## pooya_
## Ra16bit
## Rajpurohit
## ribeiro
## Ritesh_Singh
## RobinWang
## RRx
```

```
## rst9288
## Rubanenko
## sakaark
## sampathkumarv
## sasikanth9
## Seip_meginu
## SePulTribe
## shilov
## shivamsihare
## smel
## sohel_uoa
## Sord
## StarCuriosity
## stzgd
## sukides
## sweetkang
## szd714
## T_I_W_A_R_Y
## TahaMahmoud
## Taquion
## tau0
## tbell
## toshif
## TrePe
## trylar
## TwCoder
## ty70
## Uchigle
## unbing
## V[i]ctor
```

```
## vaa2804
## Vardan(RAU)
## VArt
## vdave
## Venug
## vidhyabhushanv
## Visoks
## vitux
## vokie
## vss109
## vuchko
## windhunterSB
## xiakunxian923
## xin135
## xsymphonyx
## yangzhe1991
## yannoj2
## yassine12
## YDesai
## yedtoss
## ynasu
## zhanghanyuan
## zhanyi658657
## zhengqiang
## Zimuk
## zizo0003

## Warning in merge.by.id(., agg("nsub", f = subprov ~ id, d = scores, FUN =
## length)): 0 Unmatched handles in y dataset

summary(dat)
```

```
##          id            room          treatment      size
##  _Kevin   :  1   Group 1E: 15   Race      : 99   Large:180
##  _Romka_  :  1   Group 1F: 15   Tournament:100   Small:119
##  1101     :  1   Group 1G: 15   Reserve   :100
##  112atn323:  1   Group 1H: 15
##  1957     :  1   Group 2E: 15
##  a9108tc  :  1   Group 2F: 15
##  (Other)  :293   (Other) :209
##     mm.count         mm.rating       mm.wins           mm.top5
##  Min.   :  0.000   Min.   : 593   Min.   : 0.0000   Min.   : 0.0000
##  1st Qu.:  0.000   1st Qu.:1017   1st Qu.: 0.0000   1st Qu.: 0.0000
##  Median :  3.000   Median :1294   Median : 0.0000   Median : 0.0000
##  Mean   :  9.254   Mean   :1322   Mean   : 0.2809   Mean   : 0.9264
##  3rd Qu.: 11.000   3rd Qu.:1549   3rd Qu.: 0.0000   3rd Qu.: 0.0000
##  Max.   :128.000   Max.   :3030   Max.   :27.0000   Max.   :56.0000
##                    NA's   :89
##     mm.top10       mm.best.rank            country
##  Min.   : 0.000   Min.   :  1.00   United States: 36
##  1st Qu.: 0.000   1st Qu.:  3.00   India        : 34
##  Median : 0.000   Median : 15.00   China        : 30
##  Mean   : 1.565   Mean   : 29.43   Japan        : 27
##  3rd Qu.: 1.000   3rd Qu.: 36.50   Russia       : 26
##  Max.   :64.000   Max.   :413.00   Belarus      : 20
##                   NA's   :89       (Other)      :126
##      msince               badges         male
##  Min.   :2001-05-26   Min.   : 0.00   Mode :logical
##  1st Qu.:2007-09-29   1st Qu.: 4.00   FALSE:13
##  Median :2010-10-08   Median : 8.00   TRUE :264
##  Mean   :2010-05-11   Mean   :10.27   NA's :22
##  3rd Qu.:2013-04-01   3rd Qu.:15.00
```

```
##  Max.   :2015-02-28   Max.   :54.00
##                       NA's   :1
##                  age                                  educ
##  <20 years old     :12   Doctorate/PhD                  : 27
##  20-25 years old   :94   High School                    : 34
##  26-30 years       :78   Postgraduate/Master of arts    :106
##  31-40 years       :65   Undergraduate/Bachelor's degree:113
##  41-50 years       :19   NA's                           : 19
##  51 years and above:11
##  NA's              :20
##     plang               work            country.or        tz
##  C#    : 27   employed    :64   India        : 33   1      : 49
##  C++   :133   university  :37   Russia       : 29   2      : 38
##  Java  : 83   student     :27   China        : 27   8      : 31
##  Other : 11   software    :26   Japan        : 22   5.5    : 28
##  Python: 25   not employed:19   United States: 19   9      : 28
##  VB    :  1   (Other)     :92   (Other)      :148   (Other):105
##  NA's  : 19   NA's        :34   NA's         : 21   NA's   : 20
##                     risk        hweek1           hweek2
##  7                    :59   Min.   : 0.000   Min.   : 0.000
##  8                    :44   1st Qu.: 4.000   1st Qu.: 3.000
##  5                    :42   Median : 6.000   Median : 5.000
##  6                    :34   Mean   : 7.619   Mean   : 6.953
##  10-completely willing:30   3rd Qu.:10.000   3rd Qu.: 9.750
##  (Other)              :70   Max.   :48.000   Max.   :48.000
##  NA's                 :20   NA's   :21       NA's   :21
##      hweek3           hweek4            lat              long
##  Min.   : 0.000   Min.   : 0.000   Min.   :-42.84   Min.   :-122.413
##  1st Qu.: 4.000   1st Qu.: 4.000   1st Qu.: 31.61   1st Qu.:  -0.875
##  Median : 5.000   Median : 8.000   Median : 40.42   Median :  27.567
```

```
##  Mean   : 7.527   Mean   : 9.054   Mean   : 36.69   Mean   :  25.156
##  3rd Qu.:10.000   3rd Qu.:11.500   3rd Qu.: 49.96   3rd Qu.:  79.717
##  Max.   :48.000   Max.   :48.000   Max.   : 59.89   Max.   : 149.140
##  NA's   :20       NA's   :21       NA's   :20       NA's   :20
##      eweek1           eweek2           eweek3           eweek4
##  Min.   : 0.000   Min.   : 0.00   Min.   : 0.000   Min.   : 0.000
##  1st Qu.: 1.000   1st Qu.: 0.00   1st Qu.: 0.000   1st Qu.: 0.000
##  Median : 2.000   Median : 2.00   Median : 2.000   Median : 2.500
##  Mean   : 3.923   Mean   : 3.51   Mean   : 3.683   Mean   : 4.817
##  3rd Qu.: 6.000   3rd Qu.: 4.00   3rd Qu.: 6.000   3rd Qu.: 8.000
##  Max.   :22.000   Max.   :32.00   Max.   :28.000   Max.   :28.000
##  NA's   :195      NA's   :195     NA's   :195      NA's   :195
##        pdouble           phalf                      hard
##  The same  : 50   The same  : 58   Difficult         : 28
##  20% more  : 17   30% less  : 12   Very Difficult    : 22
##  > 50% more: 11   > 50% less: 10   Neutral           : 20
##  30% more  :  8   20% less  :  8   Somewhat Difficult: 16
##  10% more  :  7   50% less  :  7   Somewhat Easy     :  5
##  (Other)   : 10   (Other)   :  8   (Other)           :  1
##  NA's      :196   NA's      :196   NA's              :207
##                    risk2       lastscore           nsub
##  7                    : 15   Min.   :     0   Min.   :  1.00
##  10-completely willing: 14   1st Qu.:794085   1st Qu.:  2.00
##  8                    : 10   Median :806417   Median : 11.00
##  3                    :  9   Mean   :782798   Mean   : 20.45
##  5                    :  9   3rd Qu.:814631   3rd Qu.: 27.75
##  (Other)              : 24   Max.   :846359   Max.   :126.00
##  NA's                 :218   NA's   :213      NA's   :213
```

```
save(list=c("dat", "scores"), file='races.RData')
```