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*** Stata code for the article DOI 20-0079 in Public Opinion Quarterly **
*** "Sharing data collected with smartphone sensors: Willingness, participation,
*** and nonparticipation bias"
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*** Last change to code: 23.02.2021, B. Struminskaya
*** Note: the data are not available for replication since these are administrative data
*** which can be only accessed securily within Statistics Netherlands. This code serves the
*** purpose of allowing conceptual replication. Some precautionary measures have been taken:
*** - The paths are replaced by placeholders #path#
*** - Dataset names replaced by placeholders #datafile#
*** - Some data preparation that pertains to administrative data / registry data
*** that do not directly pertain to the analysis are replaced by placeholders #data prep#
clear
clear matrix
set more off
cd "#pat.h1#"
use #data1#, clear
describe
count if sleutel[ n] != sleutel[ n+1] // 1965 observations
#data prep1#
* WTS variables
cap drop shareqps sharevid sharefhou sharefrec sharefself
clonevar sharegps = Main GPSFotoVideo ToestemmingDel
clonevar sharevid = Main GPSFotoVideo ToestemmingVid
clonevar sharefhou = Main GPSFotoVideo ToestemmingFot
clonevar sharefrec = Main GPSFotoVideo ToestemmingFo0
clonevar sharefself = Main GPSFotoVideo ToestemmingFol
recode sharegps sharevid sharefhou sharefrec sharefself (2=0)
br Main GPSFotoVideo ToestemmingDel Main GPSFotoVideo ToestemmingVid ///
   Main GPSFotoVideo ToestemmingFot Main GPSFotoVideo ToestemmingFo0 ///
   Main GPSFotoVideo ToestemmingFol shareqps sharevid sharefhou sharefrec sharefself
gen nettodataset = 1 // identifier for the netto data set (#datasetname1#) n=1965
tab nettodataset
cd "#path2#"
save #datasetname1#, replace
*** Merge with paradata
clear
cd "#path3#"
use #datasetname2#, clear
cap drop id // n=3618 [invited]
```

```
clonevar id = Correspondentienummer
save #datasetname2#, replace
cd "#path2#"
use #datasetname1#, clear
cap drop id interimid
clonevar interimid = sleutel
destring interimid, gen(id)
br sleutel id interimid
drop interimid
save #datasetname1#, replace
cd "#path3#"
merge m:m id using #datasetname2#
tab merge nettodataset, m
cd "#path2#"
*** merging with admin data ***
cd "#path2#"
use #datasetname1#, clear
cap drop idadmin
destring SteekproefeenheidId, gen(idadmin)
save #datasetname3#, replace
cd "#path4#"
use #datasetname4#, clear
cap drop idadmin
destring veilignummer, gen(idadmin)
sum idadmin // 3618 observations in dataset
cd "#path2#"
save #datasetname5#, replace
use #datasetname3#, clear
cap drop merge
merge m:m idadmin using #datasetname5#, force
br veilignummer SteekproefeenheidId idadmin
tab merge // all cases merged
drop merge
save #datasetname3#, replace
*****************
      DATA PREPARATION AND ANALYSIS ***
********************
cd "#path2#"
use #datasetname3#, clear
numlabel all, add
```

```
Experimental groups
      Gain Control
                              Privacv
     X X
2 X
                X
   X
                                      Χ
  X
5
                 X
                                      Χ
6
                                      Χ
8
* /
cap drop group
gen group = Main Stuur SE Groep
la var group "Experimental group"
la def group 1 "GainConPriv" 2 "GainCon" 3 "GainPriv" 4 "Gain" 5 "ConPriv" 6 "Con" 7 "Priv" 8 "No text"
la val group group
tab group, m
// Dummy variables for groups
cap drop dumgain dumcon dumpriv
gen dumgain = 0
replace dumgain = 1 if group <5</pre>
gen dumcon =0
replace dumcon =1 if group<3 | group>4 & group<7
gen dumpriv =0
replace dumpriv =1 if group ==1 | group ==3 | group == 5 | group ==7
tab group dumgain
tab group dumcon
tab group dumpriv
// new indicator variables of actual gps photo videos taken
cap drop gpslocation
gen gpslocation = 1
replace gpslocation = 0 if Main GPSFotoVideo Location == ""
tab gpslocation, m
tab gpslocation if sharegps==1
cap drop video
gen video = 1
replace video = 0 if Main GPSFotoVideo Video == ""
tab video if sharevid ==1
cap drop phouse
gen phouse = 1
replace phouse = 0 if Main GPSFotoVideo PhotoHouse == ""
tab phouse if sharefhou ==1
cap drop preceipt
gen preceipt = 1
replace preceipt = 0 if Main GPSFotoVideo PhotoReceipt == ""
```

```
tab preceipt if sharefrec ==1
cap drop pself
gen pself = 1
replace pself = 0 if Main GPSFotoVideo PhotoSelfie == ""
tab pself if sharefself == 1
tabl gpslocation video phouse preceipt pself
*** who said yes to WTP took a measurement and then changed the answer to WTP question
br Main GPSFotoVideo ToestemmingDel Main GPSFotoVideo Location ///
      if Main GPSFotoVideo ToestemmingDel == 2 & Main GPSFotoVideo Location != "" // 13 persons
br Main GPSFotoVideo ToestemmingVid Main GPSFotoVideo Video ///
      if Main GPSFotoVideo ToestemmingVid == 2 & Main GPSFotoVideo Video != "" // 15 persons
br Main GPSFotoVideo ToestemmingFot Main GPSFotoVideo PhotoHouse ///
      if Main GPSFotoVideo ToestemmingFot==2 & Main GPSFotoVideo PhotoHouse != "" // 4 persons
br Main GPSFotoVideo ToestemmingFo0 Main GPSFotoVideo PhotoReceipt ///
      if Main GPSFotoVideo ToestemmingFo0==2 & Main GPSFotoVideo PhotoReceipt != "" // 1 person
br Main GPSFotoVideo ToestemmingFol Main GPSFotoVideo PhotoSelfie ///
      if Main GPSFotoVideo ToestemmingFo1 == 2 & Main GPSFotoVideo PhotoSelfie != "" // 1 person
******************
*** Respondent characteristics ***
** age
clonevar age = Main CtrlPG AFL Lft
sum age
** gender
tab Main NAW Geslacht Geslacht, m
cap drop man
gen man = .
replace man = 1 if Main NAW Geslacht == "M"
replace man = 0 if Main NAW Geslacht == "V"
tab Main NAW Geslacht man, m
tab man
** education
tab Main Afsluit Opleiding if netto == 1, m
tab Main Afsluit Opleiding oplnivhg ,m
tab Main Afsluit Opleiding oplnivact ,m
// 1. no education, basis & vbmo 2. havo/vwo & mbo 3. hbo & wo
cap drop education
cap drop educ1 educ2 educ3
gen education = Main Afsluit Opleiding
recode education 2=1 3=2 4=3 5=. 6=1
// imputing information from registry
replace education = 1 if education == . & oplnivhg == 11
```

```
replace education = 1 if education == . & oplnivhg == 12
replace education = 2 if education == . & oplnivhg == 21
replace education = 3 if education == . & oplnivhg == 31
tab education if netto==1, m
tab education, gen(educ)
** number of device activities - numactiv
tab1 Main Device Activiteiten1 - Main Device Activiteiten16,m
forvalues i=1/16 {
      cap drop mact`i'
      tab Main Device Activiteiten`i', m
      gen mact i' = 0
      replace mact'i' = 1 if Main Device Activiteiten'i' !=.
      tab mact`i',m
cap drop numactiv
egen numactiv = rowtotal (mact1 mact2 mact3 mact4 mact5 mact6 mact7 mact8 mact9 ///
                            mact10 mact11 mact12 mact13 mact14 mact15 mact16)
cap drop numactcheck
egen numactcheck = rownonmiss (Main Device Activiteiten1 Main Device Activiteiten2 Main Device Activiteiten3 ///
                                                 Main Device Activiteiten4 Main Device Activiteiten5 Main Device Activiteiten6 ///
                                                 Main Device Activiteiten7 Main Device Activiteiten8 Main Device Activiteiten9 ///
                                                 Main Device Activiteiten10 Main Device Activiteiten11 Main Device Activiteiten12 ///
                                                 Main Device Activiteiten13 Main Device Activiteiten14 Main Device Activiteiten15 ///
                                                 Main Device Activiteiten16)
tab numactiv if numactiv != numactcheck
replace numactiv = . if netto != 1
** freq qps
tab Main Device HoeVaakGPS
cap drop freggps
gen freqgps = Main Device HoeVaakGPS
recode freggps .=0 6=1 5=2 4=3 3=4 2=5 1=6
replace freggps =. if netto != 1
** freq photo
cap drop freqphoto
gen freqphoto = Main Device HoeVaakFotos
recode freqphoto .=0 5=1 4=2 3=3 2=4 1=5
tab freqphoto Main Device HoeVaakFotos, m
replace freqphoto =. if netto != 1
** freq video
cap drop freqvideo
gen freqvideo = Main Device HoeVaakVideos
recode frequideo .=0 5=1 4=2 3=3 2=4 1=5
tab freqvideo Main Device HoeVaakVideos, m
replace frequideo =. if netto != 1
```

```
** device skill
tab Main Device Vaardigheden, m
clonevar spskill = Main Device Vaardigheden
** privacy concern
tab Main Privacy ZorgenAlgemeen, m
clonevar concern = Main Privacy ZorgenAlgemeen
replace concern =. if netto !=1
** distrust: concern about data sharing // 1 factor
factor Main Privacy VertrouwenBedrijven Main Privacy VertrouwenOverheids Main Privacy VertrouwenSocialeMe
rotate, promax blanks(.3)
clonevar concern firms = Main Privacy VertrouwenBedrijven
clonevar concern govt = Main Privacy VertrouwenOverheids
clonevar concern socme = Main Privacy VertrouwenSocialeMe
egen concern ds = rowmean(concern firms concern govt concern socme)
sum concern ds
** survey attitudes
tabl Main Privacy LeukVragenlijsten Main Privacy LeukGeinterviewd Main Privacy InteressantVragenli ///
Main Privacy BelangrijkVragenlij Main Privacy WijzerVragenlijstOn Main Privacy TijdverspillingOnde ///
Main Privacy TeVeelVerzoekenEnqu Main Privacy PrivacyOpiniepeilin Main Privacy VermoeiendVeelVrage
factor Main Privacy LeukVragenlijsten Main Privacy LeukGeinterviewd Main Privacy InteressantVragenli ///
Main Privacy BelangrijkVragenlij Main Privacy WijzerVragenlijstOn Main Privacy TijdverspillingOnde ///
Main Privacy TeVeelVerzoekenEnqu Main Privacy PrivacyOpiniepeilin Main Privacy VermoeiendVeelVrage
rotate, promax blanks(.3)
cap drop survatt*
gen survatt1 = Main Privacy LeukVragenlijsten
gen survatt2 = Main Privacy LeukGeinterviewd
gen survatt3 = Main Privacy InteressantVragenli
gen survatt4 = Main Privacy BelangrijkVragenlij
gen survatt5 = Main Privacy WijzerVragenlijstOn
gen survatt6 = Main Privacy TijdverspillingOnde
gen survatt7 = Main Privacy TeVeelVerzoekenEnqu
gen survatt8 = Main Privacy PrivacyOpiniepeilin
gen survatt9 = Main Privacy VermoeiendVeelVrage
recode survatt6 7=1 6=2 5=3 4=4 3=5 2=6 1=7
tab Main Privacy TijdverspillingOnde survatt6
factor survatt1 survatt2 survatt3 survatt4 survatt5 survatt6 survatt7 survatt8 survatt9
rotate, promax blanks(.3)
// same as DeLeeuw et al. 2019 (items 3, 6 have additional loadings just as in DeLeeuw et al.)
egen sa enjoy = rowmean(survatt1 survatt2 survatt3)
egen sa value = rowmean(survatt4 survatt5 survatt6)
egen sa burden = rowmean(survatt7 survatt8 survatt9)
```

```
** survey experience
tabl Main Survey VragenlijstenIngevul Main Survey VragenlijstSmartPhon
gen survpart = Main Survey VragenlijstenIngevul
recode survpart 1=0 2/4=1
gen sppart = Main Survey VragenlijstSmartPhon
recode sppart 1=0 2/8 =1
** passive data collection
cap drop sharedinf shared*
gen sharedinf = . // 1 invited no share, 2 never invited, 3 shared
replace sharedinf = 1 if Main Survey EerderMeegedaan == 1 & Main Survey InformatieGedeeld == 2
replace sharedinf = 2 if Main Survey EerderMeegedaan == 2
replace sharedinf = 3 if Main Survey EerderMeegedaan == 1 & Main Survey InformatieGedeeld == 1
tab sharedinf, gen(shared)
** app experience
cap drop downapp
gen downapp = . // 1 invited no download, 2 never invited, 3 downloaded
replace downapp = 1 if Main Survey GevraagdAppDownloade == 1 & Main Survey AppGedownload == 2
replace downapp = 2 if Main Survey GevraagdAppDownloade == 2
replace downapp = 3 if Main Survey GevraagdAppDownloade == 1 & Main Survey AppGedownload == 1
tab downapp, gen(download)
save #datasetname6#, replace
cd "#path2#"
use #datasetname6# clear
*** Analytic sample definition
********************
keep if netto == 1 // only those who started the survey in dataset
tab Main GPSFotoVideo ToestemmingDel if netto ==1 // question about location asked to 1868
tab sharegps if netto == 1
tab sharevid if netto == 1
tab sharefhou if netto == 1
tab sharefrec if netto == 1
tab sharefself if netto == 1
// people who do not use smartphones or tablets
tab1 Main Device Apparaten1-Main Device Apparaten5
cap drop nomobile
gen nomobile =.
forvalues i = 1/5 {
      replace nomobile = 0 if Main Device Apparaten`i' == 1
      replace nomobile = 0 if Main Device Apparaten`i' == 4
tab nomobile, m // 15 persons 0.76% no sp or tablet but paradata indicates fill in on smartphone/mob/tab
tab DeviceType 1 if nomobile == .
```

```
tab1 DeviceType *
br DeviceType * // from 18 -> no observations
tab DeviceType 1 // 21 (1.07%) started response on a device that is a PC according to paradata
tab DeviceType 2
tab Main Device WelkeDeviceInvullen //
tab Main Device WelkeDeviceInvullen if netto ==1 & sharegps ==., m // 1868 received WTP questions
gen ansample = 0
replace ansample = 1 if sharegps != .
tab ansample, m
*** Device switch
tab DeviceSwitch if netto==1 // 6.06% of respondents switched devices
*keep if netto ==1 // only respondents in dataset
tab1 DeviceType 1-DeviceType 34
forvalues i = 2/17 {
      display "LOGIN"" `i'
      levelsof id if DeviceType `i' <.
tab Main Device WelkeDeviceInvullen if sharegps == .
// GPS question was not asked for those who indicated to fill out on PC, other device
tab DeviceSwitch
// EXCLUDING 82 persons who indicated to be using pc/laptop or other device
drop if Main Device WelkeDeviceInvullen == 3 | Main Device WelkeDeviceInvullen == 5
tab DeviceType 1 DeviceSwitch
* Droped overall: 97 participants (4.94%) who were not asked the sensor questions
* 15 did not use smartphones or tablets and 82 said they are filling out on PC or other
drop if sharegps == .
save #datasetname7#, replace
*****************
*** Descriptives and Willingness & participation rates
cd "#path2#"
use #datasetname7#, clear
* Descriptives
foreach var of varlist age man numactiv freqgps ///
      freqphoto freqvideo spskill concern Main Privacy VertrouwenBedrijven ///
      Main Privacy VertrouwenOverheids Main Privacy VertrouwenSocialeMe ///
      concern ds sa enjoy sa value sa burden survpart sppart sharedinf ///
      shared1 shared2 shared3 download1 download2 download3 educ1 educ2 educ3 {
```

```
sum `var'
cap drop sp part all
gen sp part all = sppart // recode nonpart on online to 0 on smartphone part
replace sp part all = 0 if survpart == 0
tab sp part all
sum sp part all
*** Hypothetical willingness & actual data collection
tabl sharegps sharevid sharefhou sharefrec sharefself // hypothetical willingness
tabl gpslocation video phouse preceipt pself // actual data sharing
// some people have revoked their measures
// recoding those who indicate 0 in willingness but then provide the data as missing for actual data
replace gpslocation = 0 if sharegps==0 & gpslocation==1 // 13 persons
replace video =0 if sharevid==0 & video==1 // 15 pers
replace phouse =0 if sharefhou==0 & phouse==1 // 4 pers
replace preceipt =0 if sharefrec==0 & preceipt==1 // 1 pers
replace pself=0 if sharefself==0 & pself==1 // 1 pers
** sharing conditional on willing
cap drop condigps condivideo condiphouse condipreceipt condipself
clonevar condigps = gpslocation
replace condigps=. if sharegps==0
clonevar condivideo = video
replace condivideo=. if sharevid==0
clonevar condiphouse = phouse
replace condiphouse =. if sharefhou==0
clonevar condipreceipt = preceipt
replace condipreceipt =. if sharefrec==0
clonevar condipself = pself
replace condipself =. if sharefself==0
tabl condigps condivideo condiphouse condipreceipt condipself
*** Benefit framing:
tab1 sharegps sharevid sharefhou sharefrec sharefself if dumqain == 1
tabl condigps condivideo condiphouse condipreceipt condipself if dumgain == 1
      * Control condition for benefit framing:
      tab1 sharegps sharevid sharefhou sharefrec sharefself if dumqain == 0
      tabl condigps condivideo condiphouse condipreceipt condipself if dumqain == 0
*** Control over data collection
tab1 sharegps sharevid sharefhou sharefrec sharefself if dumcon == 1
tabl condigps condivideo condiphouse condipreceipt condipself if dumcon == 1
```

```
* Control condition for control:
      tabl sharegps sharevid sharefhou sharefrec sharefself if dumcon == 0
      tab1 condigps condivideo condiphouse condipreceipt condipself if dumcon == 0
*** Privacy
tabl shareqps sharevid sharefhou sharefrec sharefself if dumpriv == 1
tabl condigps condivideo condiphouse condipreceipt condipself if dumpriv == 1
      * Control condition for privacy:
      tab1 sharegps sharevid sharefhou sharefrec sharefself if dumpriv == 0
      tabl condigps condivideo condiphouse condipreceipt condipself if dumpriv == 0
*--- Table 1 ----
*** No text condition
tabl sharegps sharevid sharefhou sharefrec sharefself if dumqain == 0 & dumcon == 0 & dumpriv == 0
tabl condigps condivideo condiphouse condipreceipt condipself if dumgain == 0 & dumcon == 0 & dumpriv == 0
*** Benefit only
tabl sharegps sharevid sharefhou sharefrec sharefself if dumgain == 1 & dumcon == 0 & dumpriv == 0
tabl condigps condivideo condiphouse condipreceipt condipself if dumqain == 1 & dumcon == 0 & dumpriv == 0
*** Control/autonomy over data collection only
tabl shareqps sharevid sharefhou sharefrec sharefself if dumqain == 0 & dumcon == 1 & dumpriv == 0
tabl condigps condivideo condiphouse condipreceipt condipself if dumgain == 0 & dumcon == 1 & dumpriv == 0
*** Privacy only
tabl sharegps sharevid sharefhou sharefrec sharefself if dumgain == 0 & dumcon == 0 & dumpriv == 1
tabl condigps condivideo condiphouse condipreceipt condipself if dumgain == 0 & dumcon == 0 & dumpriv == 1
***** Significance tests
* WTS benefit
sum sharegps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum shareqps if dumqain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 235 .6340425531914894 .4827257878088507 237 .5991561181434599 .4911066335571638, level(95)
sum sharevid if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharevid if dumgain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 235 .1702127659574468 .3766217885773547 237 .1265822784810127 .333208157859735
sum sharefhou if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefhou if dumqain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 235 .1276595744680851 .3344226608557429 237 .0928270042194093 .2908040133542459
```

```
sum sharefrec if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefrec if dumgain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 235 .1702127659574468 .3766217885773547 237 .1434599156118143 .3512831374633495
sum sharefself if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefself if dumgain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 235 .1319148936170213 .3391205210079231 237 .1223628691983122 .3283979912383143
* WTS control over data collection
sum sharegps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum shareqps if dumqain == 0 & dumcon == 1 & dumpriv == 0
return list
ztesti 235 .6340425531914894 .4827257878088507 237 .7172995780590717 .4512650379200384
sum sharevid if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharevid if dumqain == 0 & dumcon == 1 & dumpriv == 0
return list
ztesti 235 .1702127659574468 .3766217885773547 237 .1729957805907173 .3790441423456217
sum sharefhou if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefhou if dumcon == 1 & dumgain == 0 & dumpriv == 0
return list
ztesti 235 .1276595744680851 .3344226608557429 237 .1308016877637131 .33789695851459
sum sharefrec if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefrec if dumgain == 0 & dumcon == 1 & dumpriv == 0
return list
ztesti 235 .1702127659574468 .3766217885773547 237 .2362869198312236 .4256994866351198
sum sharefself if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefself if dumgain == 0 & dumcon == 1 & dumpriv == 0
return list
ztesti 235 .1319148936170213 .3391205210079231 237 .1687763713080169 .3753469871935186
* WTS privacy
sum shareqps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum shareqps if dumgain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .6340425531914894 .4827257878088507 265 .6226415094339622 .4856429311786321
```

```
sum sharevid if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharevid if dumgain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 265 .1509433962264151 .3586710748941078
sum sharefhou if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefhou if dumqain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1276595744680851 .3344226608557429 265 .1207547169811321 .3264585514586329
sum sharefrec if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefrec if dumgain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 265 .1735849056603773 .3794687990708427
sum sharefself if dumqain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefself if dumqain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1319148936170213 .3391205210079231 265 .1660377358490566 .3728186029315382
* actual sharing GPS
sum condigps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum condigps if dumgain == 1 & dumcon == 0 & dumpriv == 0
return list
ztesti 149 .7449664429530202 .4373501660971845 142 .6971830985915493 .461103157943543
sum condigps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum condigps if dumgain == 0 & dumcon == 1 & dumpriv == 0
return list
ztesti 149 .7449664429530202 .4373501660971845 170 .6647058823529411 .4734878471358178
sum condigps if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum condigps if dumgain == 0 & dumcon == 0 & dumpriv == 1
return list
ztesti 149 .7449664429530202 .4373501660971845 165 .715151515151515152 .4527162009587189
*** Additional groups
* WTS benefit x control (in paper "autonomy" phrasing is used) over data collection
sum shareqps if dumgain == 1 & dumcon == 1 & dumpriv == 0
return list
      ztesti 235 .6340425531914894 .4827257878088507 224 .7589285714285714 .4286915270545403
sum sharevid if dumgain == 1 & dumcon == 1 & dumpriv == 0
```

```
return list
      ztesti 235 .1702127659574468 .3766217885773547 224 .1785714285714286 .383850814496828
sum sharefhou if dumgain == 1 & dumcon == 1 & dumpriv == 0
return list
      ztesti 235 .1276595744680851 .3344226608557429 224 .1517857142857143 .3596166725627967
sum sharefrec if dumgain == 0 & dumcon == 0 & dumpriv == 0
return list
sum sharefrec if dumqain == 1 & dumcon == 1 & dumpriv == 0
return list
      ztesti 235 .1702127659574468 .3766217885773547 224 .2008928571428572 .4015654425027481
sum sharefself if dumqain == 1 & dumcon == 1 & dumpriv == 0
return list
      ztesti 235 .1319148936170213 .3391205210079231 224 .1651785714285714 .3721733097006762
* WTS control (i.e. autonomy) over data collection x privacy
sum shareqps if dumgain == 0 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .6340425531914894 .4827257878088507 233 .6781115879828327 .468206266707426
sum sharevid if dumgain == 0 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 233 .1802575107296137 .385229357059309
sum sharefhou if dumcon == 1 & dumgain == 0 & dumpriv == 1
return list
ztesti 235 .1276595744680851 .3344226608557429 233 .1287553648068669 .335650032334288
sum sharefrec if dumgain == 0 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 233 .1502145922746781 .3580508131343199
sum sharefself if dumgain == 0 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1319148936170213 .3391205210079231 233 .111587982832618 .3155367105695218
* WTS benefit x privacy
sum shareqps if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .6340425531914894 .4827257878088507 227 .5947136563876652 .4920323411364158
sum sharevid if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 227 .13215859030837 .3394115306338421
sum sharefhou if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1276595744680851 .3344226608557429 227 .1233480176211454 .3295629682310175
```

```
sum sharefrec if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 227 .1762114537444934 .3818419601393992
sum sharefself if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 235 .1319148936170213 .3391205210079231 227 .1365638766519824 .3441452141521703
* WTS benefit x control (i.e. autonomy) x privacy
sum shareqps if dumqain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .6340425531914894 .4827257878088507 210 .7285714285 714285 .4457592384923712
sum sharevid if dumgain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 210 .1476190476190476 .3555695580898862
sum sharefhou if dumgain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1276595744680851 .3344226608557429 210 .119047619047619 .3246183590946291
sum sharefrec if dumqain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1702127659574468 .3766217885773547 210 .2523809523809524 .4354165883117903
sum sharefself if dumgain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 235 .1319148936170213 .3391205210079231 210 .1523809523809524 .3602485155235031
* Additional actual sharing GPS
sum condigps if dumgain == 1 & dumcon == 1 & dumpriv == 0
return list
ztesti 149 .7449664429530202 .4373501660971845 170 .711764705882353 .4542792626249809
sum condigps if dumgain == 0 & dumcon == 1 & dumpriv == 1
return list
ztesti 149 .7449664429530202 .4373501660971845 158 .6075949367088608 .4898386974590104
sum condigps if dumgain == 1 & dumcon == 0 & dumpriv == 1
return list
ztesti 149 .7449664429530202 .4373501660971845 135 .7037037037037 .4583239106524254
sum condigps if dumgain == 1 & dumcon == 1 & dumpriv == 1
return list
ztesti 149 .7449664429530202 .4373501660971845 153 .6470588235294118 .4794540238549595
*****************
******* Analysis experimental conditions **********
cd "#path2#"
use #datasetname7#, clear
```

```
***** Table 2: Baseline
tab qpslocation, m
logit shareqps dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
logit condigps dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
logit video dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
logit phouse dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
logit preceipt dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
logit pself dumgain dumcon dumpriv, or vce(cluster sleutel)
margins, dydx(*)
****** Respondent characterisitcs
logit sharegps dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo
            concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
logit condigps dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
logit video dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
logit preceipt dumgain dumcon dumpriv numactiv spskill freggps fregphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
logit phouse dumgain dumcon dumpriv numactiv spskill freqqps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
logit pself dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
            man age educ2 educ3, or vce(cluster sleutel)
margins, dydx(*)
******* Respondent characterisitcs + interactions (Table B1)
tabl concern concern ds
gen dumgain concern = dumgain * concern
gen dumgain concernds = dumgain * concern ds
```

```
gen dumcon concern = dumcon * concern
gen dumcon concernds = dumcon * concern ds
gen dumpriv concern = dumpriv * concern
gen dumpriv concernds = dumpriv * concern ds
gen dumgain numactiv = dumgain * numactiv
gen dumcon numactiv = dumcon * numactiv
gen dumpriv numactiv = dumpriv * numactiv
logit sharegps dumgain dumcon dumpriv numactiv spskill freqpps freqphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
logit condigps dumgain dumcon dumpriv numactiv spskill freggps fregphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
logit video dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
logit preceipt dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
logit phouse dumgain dumcon dumpriv numactiv spskill freggps fregphoto freqvideo
                                                                                  ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
logit pself dumgain dumcon dumpriv numactiv spskill freggps fregphoto fregvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             man age educ2 educ3, or vce(cluster sleutel)
             * with smartphone activities (Table B2)
logit sharegps dumgain dumcon dumpriv numactiv spskill freqpps freqphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
logit condigps dumgain dumcon dumpriv numactiv spskill freqqps freqphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
```

```
logit video dumgain dumcon dumpriv numactiv spskill freggps fregphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
logit preceipt dumgain dumcon dumpriv numactiv spskill freggps fregphoto freqvideo
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
logit phouse dumgain dumcon dumpriv numactiv spskill freqqps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
logit pself dumgain dumcon dumpriv numactiv spskill freqgps freqphoto freqvideo ///
             concern concern ds sa enjoy sa value sa burden survpart sp part all shared1 shared3 download1 download3 ///
             dumgain concern dumgain concernds dumcon concern dumcon concernds dumpriv concern dumpriv concernds ///
             dumgain numactiv dumcon numactiv dumpriv numactiv ///
             man age educ2 educ3, or vce(cluster sleutel)
cap drop sharinggroup // 1 yes to all tasks & shared, 2 stop after first camera-task ///3 stop after sharing qps, 4 did not share anything
gen sharinggroup = .
replace sharinggroup = 1 if condigps == 1 & video == 1 & ///
             preceipt == 1 & phouse == 1 & pself == 1
replace sharinggroup = 2 if condigps == 1 & video == 1 & ///
             preceipt == 1 & phouse == 1 & pself == 0
replace sharinggroup = 3 if condigps == 1 & video == 1 & ///
             preceipt == 0 & phouse == 1 & pself == 0
replace sharinggroup = 4 if condigps == 1 & video == 1 & ///
             preceipt == 0 & phouse == 0 & pself == 0
replace sharinggroup = 5 if condigps == 1 & video == 0 & ///
             preceipt == 0 & phouse == 0 & pself == 0
replace sharinggroup = 6 if condigps == 0 | condigps ==. & video == 0 & ///
             preceipt == 0 & phouse == 0 & pself == 0
tab sharinggroup, m
cap drop sumsensor
egen sumsensor = rowtotal(condigps video preceipt phouse pself) if sharinggroup ==.
br sharinggroup sharegps condigps video preceipt phouse pself sumsensor
```

```
tab sumsensor sum sumsensor
```

```
***** Nonresponse & nonconsent bias ************************
set scrollbufsize 2048000
cd "#path2#"
use #datasetname6#, clear
recode netto . = 0
tab netto
tab1 lft /// age (1)
             ETNGROEP3 /// ethnic background (2)
             vrlgbageslacht /// gender = man (3)
             BURKLASSE4 /// marital status (4)
             autop /// (5) owns a car
             brommerop /// (6)
             rijbewijsp /// (7) driver's license
             oplnivhg /// (8) education
             oplnivhb ///
             oplnivact ///
             vrlaantalpershh /// (9) number of people in the household
             lftjknd /// (10)
             typeeigenaar /// (11)
             gemgrootte /// (12)
             inppink /// (13)
             inpsecj /// (14)
             INHP100HBRUT // (15)
* Age as a categorical (dummy) variable
sum lft, detail
cap drop lft grp
gen lft grp = .
replace lft grp = 1 if lft >=16 & lft < 25
replace lft grp = 2 if lft >=25 & lft < 35
replace lft grp = 3 if lft >=35 \& lft < 45
replace lft grp = 4 if lft >=45 & lft < 55
replace lft grp = 5 if lft >=55 & lft < 65
replace lft grp = 6 if lft >=65 & lft < .
tab lft grp if netto ==1
tab lft lft grp,m
* modal category (25-34):
cap drop lft mod
gen lft mod = lft grp
recode lft mod 2=1 1=0 3/6=0
tab lft grp lft mod, m
tab lft lft mod, m
sum lft mod
* (1) age modal category
```

```
tab lft mod, m
cap drop nrb age
gen nrb age = lft mod
sum nrb age
sum nrb age if netto == 1
sum nrb age if netto == 0
di sqrt((r(mean)*(1-r(mean)))/r(N))*100 // se
di ((3608 - 1647)/3608)*sqrt(((.90739679)^2)+((1.0502789)^2))
* (3) gender
tab vrlgbageslacht, m
cap drop nrb man
gen nrb man = vrlgbageslacht
recode nrb man 2=0
* ethnic background (2)
tab ETNGROEP3, nol
gen nondutch = .
replace nondutch = 1 if ETNGROEP3 >1 & ETNGROEP3 <.</pre>
replace nondutch =0 if ETNGROEP3==1
tab ETNGROEP3 nondutch, m
* marital status (4)
tab BURKLASSE4, nol
gen nrb marr = BURKLASSE4
recode nrb marr 2/4=0
tab nrb marr, m
* driver's license (7)
tab rijbewijsp
gen nrb dr = rijbewijsp
* education (8)
tab oplnivhb, nol
*1. no education, basis & vbmo 2. havo/vwo & mbo 3. hbo & wo
gen nrb edu = oplnivhb
recode nrb edu 11=0 12=0 21=0 31=1 32=1
tab nrb edu
* Number of ppl in hh as a categorical (dummy) variable
* modal category:
sum vrlaantalpershh, detail
tab vrlaantalpershh, m
cap drop hh grp
gen hh grp = vrlaantalpershh
recode hh grp 4/9 = 4
tab vrlaantalpershh hh grp, m
tab hh grp if netto == 1
```

```
cap drop hh mod
gen hh mod = .
replace hh mod = 0 if vrlaantalpershh > 2 & vrlaantalpershh <.
replace hh mod = 1 if vrlaantalpershh == 2
replace hh mod = 0 if vrlaantalpershh < 2
tab vrlaantalpershh hh mod, m
sum hh mod
* number of people in the household (9)
cap drop nrb hh
gen nrb hh = hh mod
* homeowner (11)
tab typeeigenaar, nol
gen owner = typeeigenaar
recode owner 2=0 3=0 9=.
* urbanicity (12)
tab stedgem, nol
gen nrb urb = stedgem
recode nrb urb 2=1 3/5=0
tab nrb urb
* size of gemeente (12)
tab gemgrootte
cap drop nrb ggr
gen nrb ggr = gemgrootte
recode nrb ggr 1/4 = 0 5/8=1
tab nrb ggr
* in paid work: employed/self-employed etc.
/* 1: Werknemer | Directeur-grootaandeelhouder | Zelfstandig ondernemer |
Overige zelfstandige | Meewerkend gezinslid |
   0: Ontvanger werkloosheidsuitkering | Ontvanger bijstandsuitkering |
Ontvanger uitkering sociale voorziening | Ontvanger uitkering ziekte/arbeidsonges |
            Ontvanger pensioenuitkering | Nog niet schoolgaand/scholier/student m |
Nog niet schoolgaand/scholier/student z | Overig zonder inkomen |
Behoort tot huishouden zonder waargenom
* /
* in paid work (13)
cap drop nrb work
tab inpsecj
gen nrb work = inpsecj
recode nrb work 1/15 = 1 \ 20/99 = 0
tab inpsecj nrb work, m
tab nrb work
tab INHP100HGEST, m
```

```
* Income percentile as a categorical (dummy) variable
cap drop pinc
gen pinc = INHP100HGEST
replace pinc =. if INHP100HGEST < 0</pre>
sum pinc, detail
cap drop pinc grp
gen pinc grp = .
replace pinc grp = 1 if INHP100HGEST < 25 & INHP100HGEST> 0
replace pinc grp = 2 if INHP100HGEST >=25 & INHP100HGEST < 50
replace pinc grp = 3 if INHP100HGEST >=50 & INHP100HGEST < 75
replace pinc grp = 4 if INHP100HGEST >= 75 & INHP100HGEST < .
tab INHP100HGEST pinc grp, m
tab pinc grp if netto == 1
cap drop pinc mod
gen pinc mod = pinc grp
recode \overline{pinc} mod 1/3=0 4=1
tab pinc grp pinc mod, m
sum pinc mod
* income percentile (15)
tab INHP100HGEST
gen nrb pinc = pinc mod
replace nrb pinc = . if nrb pinc <0
tab INHP100HGEST if nrb pinc==.
*** loop for se of bias (Table 3)
lookfor adminvar
cap drop adminvar*
cap drop nettovar*
qlobal num = 0
foreach var of varlist nrb age nrb man nrb edu nondutch nrb marr nrb hh autop ///
                                        nrb dr owner nrb urb nrb ggr nrb work nrb pinc {
      global num = $num+1
      clonevar adminvar $num = `var'
forvalues i=1/13 {
      clonevar nettovar `i' = adminvar `i'
      replace nettovar \[ i' = . if nettodataset == 0
* Calculating bias & standard errors (Lee 2006 formula)
forvalues i = 1/13 {
      sum adminvar `i' if nettodataset == 1
      global respmean = r(mean)
      global respsd = r(sd)
      global respn = r(N)
```

```
sum adminvar `i'
      global adminm = r(mean)
      global adminsd = r(sd)
      global adminn = r(N)
      sum adminvar `i' if nettodataset == 0
      global nrmean = r(mean)
      global nrsd = r(sd)
      qlobal nrn = r(N)
      di sqrt(($nrmean*(1-$nrmean))/$nrn)*100 // se-nr
      *di sqrt($nrmean*(1-$nrmean))*100 // sd
      di sqrt(($respmean*(1-$respmean))/$respn)*100 // se-r
      global respvar = $respmean * (1-$respmean) /$respn *100
      global nrvar = $nrmean * (1-$nrmean) /$nrn *100
      global se nrb = (($adminn - $respn)/$adminn) * sqrt($respvar+$nrvar)
      global nrbias = ($respmean*100-$adminm*100)
      di $nrbias
      di $se nrb
      global respmean = $respmean*100
      global respsd = $respsd*100
      global adminm = $adminm*100
      global adminsd = $adminsd*100
      global sddiff = $se nrb*sqrt($adminn)
      ttesti $adminn $respmean $respsd $adminm , level(95) // one-sample t-test
***** Nonparticipation bias ******
* GPS & co:
foreach var of varlist gpslocation video phouse preceipt pself {
      forvalues i = 1/13 {
             sum adminvar `i' if `var' == 1
             qlobal partm = r(mean)
             global partsd = r(sd)
             qlobal partn = r(N)
             sum adminvar `i' if nettodataset == 1
             qlobal respmean = r(mean)
             global respsd = r(sd)
             qlobal respn = r(N)
             sum adminvar `i' if `var' == 0
             global nonpmean = r(mean)
             global nonpsd = r(sd)
             qlobal nonpn = r(N)
             di sqrt(($nonpmean*(1-$nonpmean))/$nonpn)*100 // se-nonparticipants
             di sqrt(($partm*(1-$partm))/$partn)*100 // se-participants
```

```
global partvar = $partm * (1-$partm) /$partn *100
             global nonpvar = $nonpmean * (1-$nonpmean) /$nonpn *100
             global se nonp = (($respn-$partn)/$respn) * sqrt($partvar+$nonpvar)
             global nonpbias = ($partm*100-$respmean*100)
             di $nonpbias
             di $se nonp
                   global respmean = $respmean*100
                   global respsd = $respsd*100
                   global partm = $partm*100
                   global partsd = $partsd*100
                   ttesti $respn $partm $partsd $respmean , level(95)
** Average absolute bias **
di (1.65+ 0.93+ 3.40+ 1.79+ 2.66+ 2.87+ 2.50+ 2.79+ 2.15+ 0.86+ 1.00+ 0.38+ 4.18)/13
di (1.34+ 1.10+ 2.22+ 1.61+ 0.47+ 0.83+ 1.44+ .339+ 0.10+ 0.06+ 0.57+ 0.53+ 0.16)/13
di (2.81+ 1.36+ 0.88+ 0.78+ 2.67+ 0.67+ .994+ .642+ 2.03+ 5.86+ 5.20+ 0.75+ 1.76)/13
di (2.37+ 6.34+ 6.79+ 2.96+ 3.47+ 3.47+ 2.48+ 1.51+ 4.60+ 7.66+ 6.34+ 2.47+ 1.33)/13
di (0.47+ 3.91+ 2.38+ 2.42+ 1.41+ 0.26+ 0.86+ 1.19+ 2.27+ 6.96+ 3.78+ 1.26+ 1.92)/13
di (2.03+ 3.76+ 7.54+ 2.59+ 0.63+ 1.49+ 0.68+ 1.64+ 1.24+ 0.66+ 0.67+ 1.95+ 0.56)/13
```

* END DO-FILE *