

Metrics

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Labeling factors and exploring scales.

0.1 Data preliminaries

Initial point of departure - the [databox][databox] of the selected variables, described in the Methods chapter.

VARIABLE TITLE		Units	Codename																	
CV_SAMPLE_TYPE		1/0	sample	1997																
PUBID, YOUTH CASE IDENTIFICATION CODE		integers	id	1997																
KEY SEX, RS GENDER		m/f	sex	1997																
KEY RACE_ETHNICITY, COMBINED RACE AND ETHNICITY		b/h/m/o	race	1997																
KEY BDATE, RS BIRTHDATE MONTH/YEAR		01-12	bmonth	1997																
KEY BDATE, RS BIRTHDATE MONTH/YEAR		years	byear	1997																
HOW OFTEN PR ATTEND CHURCH IN LAST YEAR?		1-8	attendPR	1997																
WHAT IS PRS CURRENT RELIGIOUS PREFERENCE?		1-8	relprefPR	1997																
WHAT RELIGION WAS PR RAISED IN?		1-8	reltraisedPR	1997																
RS AGE IN MONTHS AS OF INTERVIEW DATE		months	agemon	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
RS AGE AT INTERVIEW DATE		years	ageyear	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
# DAYS PER WEEK TYPICALLY FAMILY DOES SOMETHING RELIGIOUS		# days	famrel	1997	1998	1999	2000													
HOW OFTEN R ATTENDED WORSHIP SERVICE IN PAST 12 MONTHS		1-8	attend				2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
R DOES NOT NEED RELIGION FOR GOOD VALUES		y/n	values						2002			2005			2008				2011	
GOD NOTHING TO DO HAPPENS TO R		y/n	todo						2002			2005			2008				2011	
R BELIEVES RELIGIOUS TEACHINGS ARE TO BE OBEYED EXACTLY AS WRITTEN		y/n	obeyed						2002			2005			2008				2011	
R PRAYS MORE THAN ONCE A DAY		y/n	pray						2002			2005			2008				2011	
R ASKS GOD HELP MAKE DECISIONS		y/n	decisions						2002			2005			2008				2011	
WHAT IS R'S CURRENT RELIGIOUS PREFERENCE?		cats:35	relpref									2005			2008				2011	
R A BORN-AGAIN EVANGELICAL CHRISTIAN?		y/n	bornagain												2008				2011	
IMPORTANCE OF RELIGIOUS FAITH IN DAILY LIFE		1-5	faith												2008				2011	
HOW OFTEN R FELT CALM AND PEACEFUL IN PAST MONTH		1-4	calm				2000		2002		2004		2006		2008		2010			
HOW OFTEN R FELT DOWN OR BLUE IN PAST MONTH		1-4	blue				2000		2002		2004		2006		2008		2010			
HOW OFTEN R HAS BEEN A HAPPY PERSON IN PAST MONTH		1-4	happy				2000		2002		2004		2006		2008		2010			
HOW OFTEN R DEPRESSED IN LAST MONTH		1-4	depressed				2000		2002		2004		2006		2008		2010			
HOW OFTEN R HAS BEEN A NERVOUS PERSON IN PAST MONTH		1-4	nervous				2000		2002		2004		2006		2008		2010			
HOW MANY HOURS PER WEEK DOES R WATCH TELEVISION		cats:6	tv						2002					2007	2008	2009	2010	2011		
HOW MANY HOURS PER WEEK DOES R USE A COMPUTER		cats:6	computer						2002					2007	2008	2009	2010	2011		
CURRENTLY HAVE ACCESS TO INTERNET?		y/n	internet							2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	

This [databox][databoxStatcanvas] corresponds to the dataset **dsL** produced by [Derive_dsL_from_Extract][derive] report, given in the Appendix.

```
dsL<-readRDS("./Data/Derived/dsL.rds")
```

	Time Invariant								Time Variant																					
sample	id	sex	race	bmonth	byear	attendPR	relprefPR	reltraisedPR	year	agemon	ageyear	famrel	attend	values	todo	obeyed	pray	decisions	relpref	bornagain	faith	calm	blue	happy	depressed	nervous	tv	computer	internet	
1	1	2	4	9	1981	7	21	21	1997	190	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1	1	2	4	9	1981	7	21	21	1998	206	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1	1	2	4	9	1981	7	21	21	1999	219	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1	1	2	4	9	1981	7	21	21	2000	231	19	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	3	3	3	NA	NA	
1	1	2	4	9	1981	7	21	21	2001	243	20	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1	1	2	4	9	1981	7	21	21	2002	256	21	NA	2	1	1	1	0	1	NA	NA	NA	4	2	3	2	1	2	5	NA	
1	1	2	4	9	1981	7	21	21	2003	266	22	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1		
1	1	2	4	9	1981	7	21	21	2004	279	23	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	4	1	4	1	1	NA	NA	0	
1	1	2	4	9	1981	7	21	21	2005	290	24	NA	1	0	1	0	0	1	21	NA	NA	NA	NA	NA	NA	NA	NA	1		
1	1	2	4	9	1981	7	21	21	2006	302	25	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	4	1	4	1	1	NA	NA	1	
1	1	2	4	9	1981	7	21	21	2007	313	26	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	6	1	
1	1	2	4	9	1981	7	21	21	2008	325	27	NA	1	0	1	0	0	1	21	NA	NA	3	3	3	3	3	3	NA	1	
1	1	2	4	9	1981	7	21	21	2009	337	28	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	6	1	
1	1	2	4	9	1981	7	21	21	2010	350	29	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	3	3	1	6	1
1	1	2	4	9	1981	7	21	21	2011	360	29	NA	1	0	1	0	0	1	21	NA	1	NA	NA	NA	NA	NA	NA	6	1	
1	2	1	2	7	1982	NA	NA	NA	1997	178	14	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1	2	1	2	7	1982	NA	NA	NA	1998	196	16	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Figure 3.3 Generic dataset used in the current study, view for one respondent

Note that the variable **year** serves as a natural divided between time invariant (Tlvars) and time variant (TVvars) variables. All modeling operations begin with subsetting this dataset. For the grammar rules of operations with relevant data see [Data Manipulation Guide][manipulate].

0.2 Labeling Factor Levels

Review of the item reference [cards][databoxStatcanvas] shows that initially, all items were recorded on some discrete scale, either counting occasions or assigning an integer to a category of response. However, data were saved as numerical values or integers

```
ds<- dsL %>%
  dplyr::select(
    sample, id, sex, race, bmonth,byear, attendPR, relprefPR,relraisedPR,
    year,
    agemon, ageyear, famrel, attend,
    values, todo, obeyed, pray, decisions,
    relpref, bornagain, faith,
    calm, blue, happy, depressed, nervous,
    tv, computer, internet)
str(ds)
```

```
'data.frame': 134745 obs. of 30 variables:
 $ sample : int 1 1 1 1 1 1 1 1 1 1 ...
 $ id : int 1 1 1 1 1 1 1 1 1 1 ...
 $ sex : int 2 2 2 2 2 2 2 2 2 2 ...
 $ race : int 4 4 4 4 4 4 4 4 4 4 ...
 $ bmonth : int 9 9 9 9 9 9 9 9 9 9 ...
 $ byear : int 1981 1981 1981 1981 1981 1981 1981 1981 1981 1981 ...
 $ attendPR : int 7 7 7 7 7 7 7 7 7 7 ...
 $ relprefPR : int 21 21 21 21 21 21 21 21 21 21 ...
 $ relraisedPR: int 21 21 21 21 21 21 21 21 21 21 ...
 $ year : int 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 ...
 $ agemon : num 190 206 219 231 243 256 266 279 290 302 ...
 $ ageyear : num 15 17 18 19 20 21 22 23 24 25 ...
 $ famrel : num NA NA NA NA NA NA NA NA NA NA ...
 $ attend : num NA NA NA 1 6 2 1 1 1 1 ...
 $ values : num NA NA NA NA NA 1 NA NA 0 NA ...
 $ todo : num NA NA NA NA NA 1 NA NA 1 NA ...
 $ obeyed : num NA NA NA NA NA 1 NA NA 0 NA ...
 $ pray : num NA NA NA NA NA 0 NA NA 0 NA ...
 $ decisions : num NA NA NA NA NA 1 NA NA 1 NA ...
 $ relpref : num NA NA NA NA NA NA NA NA 21 NA ...
 $ bornagain : num NA NA NA NA NA NA NA NA NA NA ...
 $ faith : num NA NA NA NA NA NA NA NA NA NA ...
 $ calm : num NA NA NA 3 NA 4 NA 4 NA 4 ...
 $ blue : num NA NA NA 3 NA 2 NA 1 NA 1 ...
 $ happy : num NA NA NA 3 NA 3 NA 4 NA 4 ...
 $ depressed : num NA NA NA 3 NA 2 NA 1 NA 1 ...
 $ nervous : num NA NA NA 3 NA 1 NA 1 NA 1 ...
 $ tv : num NA NA NA NA NA 2 NA NA NA NA ...
 $ computer : num NA NA NA NA NA 5 NA NA NA NA ...
 $ internet : num NA NA NA NA NA NA 1 0 1 1 ...
```

[LabelingFactorLevels.R][labels] sourced at the end of [Derive_dsL_from_Extract][derive] matches numeric values with response labels from the questionnaire and adds copies of the variables, saved as labeled factors, to **dsL**. For estimations routines such as lme4 or graphing functions such as ggplot2, the data type (string,numeric, factor) is a meaningful input, so a quick access to both formats frequently proves useful. It is convenient to think that **dsL** contains only

```
ncol(dsL)/2
```

```
[1] 30
```

variables, but each of them has a double, a labeled factor.

```
str(dsL)
```

```
'data.frame':  134745 obs. of  60 variables:
 $ sample      : int  1 1 1 1 1 1 1 1 1 ...
 $ id          : int  1 1 1 1 1 1 1 1 1 ...
 $ sex         : int  2 2 2 2 2 2 2 2 2 ...
 $ race        : int  4 4 4 4 4 4 4 4 4 ...
 $ bmonth      : int  9 9 9 9 9 9 9 9 9 ...
 $ byear       : int  1981 1981 1981 1981 1981 1981 1981 1981 1981 ...
 $ attendPR    : int  7 7 7 7 7 7 7 7 7 ...
 $ relprefPR   : int  21 21 21 21 21 21 21 21 21 ...
 $ relraisedPR : int  21 21 21 21 21 21 21 21 21 ...
 $ year        : int  1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 ...
 $ agemon      : num  190 206 219 231 243 256 266 279 290 302 ...
 $ ageyear     : num  15 17 18 19 20 21 22 23 24 25 ...
 $ famrel      : num  NA NA NA NA NA NA NA NA NA ...
 $ attend      : num  NA NA NA 1 6 2 1 1 1 1 ...
 $ values      : num  NA NA NA NA NA 1 NA NA 0 NA ...
 $ todo        : num  NA NA NA NA NA 1 NA NA 1 NA ...
 $ obeyed      : num  NA NA NA NA NA 1 NA NA 0 NA ...
 $ pray        : num  NA NA NA NA NA 0 NA NA 0 NA ...
 $ decisions    : num  NA NA NA NA NA 1 NA NA 1 NA ...
 $ relpref     : num  NA NA NA NA NA NA NA NA NA 21 NA ...
 $ bornagain   : num  NA NA NA NA NA NA NA NA NA NA NA ...
 $ faith       : num  NA NA NA NA NA NA NA NA NA NA NA ...
 $ calm        : num  NA NA NA 3 NA 4 NA 4 NA 4 ...
 $ blue        : num  NA NA NA 3 NA 2 NA 1 NA 1 ...
 $ happy       : num  NA NA NA 3 NA 3 NA 4 NA 4 ...
 $ depressed    : num  NA NA NA 3 NA 2 NA 1 NA 1 ...
 $ nervous     : num  NA NA NA 3 NA 1 NA 1 NA 1 ...
 $ tv          : num  NA NA NA NA NA 2 NA NA NA NA ...
 $ computer    : num  NA NA NA NA NA 5 NA NA NA NA ...
 $ internet    : num  NA NA NA NA NA NA 1 0 1 1 ...
 $ sampleF     : Ord.factor w/ 2 levels "Cross-Sectional"<...: 1 1 1 1 1 1 1 1 1 1 ...
 $ idF         : Factor w/ 8983 levels "1","2","3","4",...: 1 1 1 1 1 1 1 1 1 1 ...
 $ sexF        : Ord.factor w/ 3 levels "Male"<"Female"<...: 2 2 2 2 2 2 2 2 2 2 ...
 $ raceF       : Ord.factor w/ 4 levels "Black"<"Hispanic"<...: 4 4 4 4 4 4 4 4 4 4 ...
 $ bmonthF     : Ord.factor w/ 12 levels "Jan"<"Feb"<"Mar"<...: 9 9 9 9 9 9 9 9 9 9 ...
 $ byearF      : Factor w/ 5 levels "1980","1981",...: 2 2 2 2 2 2 2 2 2 2 ...
 $ attendPRF   : Ord.factor w/ 8 levels "Never"<"Once or Twice"<...: 7 7 7 7 7 7 7 7 7 7 ...
 $ relprefPRF  : Ord.factor w/ 33 levels "Catholic"<"Baptist"<...: 21 21 21 21 21 21 21 21 21 21 ...
 $ relraisedPRF: Ord.factor w/ 33 levels "Catholic"<"Baptist"<...: 21 21 21 21 21 21 21 21 21 21 ...
```

```

$ yearF      : Factor w/ 15 levels "1997","1998",...: 1 2 3 4 5 6 7 8 9 10 ...
$ ageyearF   : Factor w/ 244 levels "146","147","148",...: 45 61 74 86 98 111 121 134 145 157 ...
$ ageyearF   : Factor w/ 21 levels "12","13","14",...: 4 6 7 8 9 10 11 12 13 14 ...
$ famrelF    : Factor w/ 8 levels "0","1","2","3",...: NA NA NA NA NA NA NA NA ...
$ attendF    : Ord.factor w/ 8 levels "Never"<"Once or Twice"<...: NA NA NA 1 6 2 1 1 1 ...
$ valuesF    : Ord.factor w/ 2 levels "FALSE/less Religious"<...: NA NA NA NA NA 2 NA NA 1 NA ...
$ todoF      : Ord.factor w/ 2 levels "FALSE/less Religious"<...: NA NA NA NA NA 2 NA NA 2 NA ...
$ obeyedF    : Ord.factor w/ 2 levels "FALSE/less Religious"<...: NA NA NA NA NA 2 NA NA 1 NA ...
$ prayF      : Ord.factor w/ 2 levels "FALSE/less Religious"<...: NA NA NA NA NA 1 NA NA 1 NA ...
$ decisionsF : Ord.factor w/ 2 levels "FALSE/less Religious"<...: NA NA NA NA NA 2 NA NA 2 NA ...
$ relprefF   : Ord.factor w/ 33 levels "Catholic"<"Baptist"<...: NA NA NA NA NA NA NA NA 21 NA ...
$ bornagainF : Ord.factor w/ 2 levels "NO"<"YES": NA NA NA NA NA NA NA NA ...
$ faithF     : Ord.factor w/ 5 levels "Exrtremely"<"Very"<...: NA NA NA NA NA NA NA NA NA NA ...
$ calmF      : Ord.factor w/ 4 levels "All of the time"<...: NA NA NA NA NA NA NA NA NA NA ...
$ blueF      : Ord.factor w/ 4 levels "All of the time"<...: NA NA NA NA NA NA NA NA NA NA ...
$ happyF     : Ord.factor w/ 4 levels "All of the time"<...: NA NA NA NA NA NA NA NA NA NA ...
$ depressedF : Ord.factor w/ 4 levels "All of the time"<...: NA NA NA NA NA NA NA NA NA NA ...
$ nervousF   : Ord.factor w/ 4 levels "All of the time"<...: NA NA NA NA NA NA NA NA NA NA ...
$ tvF        : Ord.factor w/ 6 levels "less than 2"<...: NA NA NA NA NA 2 NA NA NA NA ...
$ computerF  : Ord.factor w/ 6 levels "None"<"less than 1"<...: NA NA NA NA NA 5 NA NA NA NA ...
$ internetF  : Ord.factor w/ 2 levels "No"<"Yes": NA NA NA NA NA NA 2 1 2 2 ...

```

This give a certain flexibility in assembling needed dataset quickly and have access to factor labels. One can alternate between the raw metric and labeled factor by adding “F” suffix to the end of the variable name:

```

ds<- dsL %>%
  dplyr::filter(id==25) %>%
  dplyr::select(id,byear,year, attend,attendF)
ds

```

	id	byear	year	attend	attendF
1	25	1983	1997	NA	<NA>
2	25	1983	1998	NA	<NA>
3	25	1983	1999	NA	<NA>
4	25	1983	2000	5	About twice/month
5	25	1983	2001	7	Several times/week
6	25	1983	2002	7	Several times/week
7	25	1983	2003	2	Once or Twice
8	25	1983	2004	7	Several times/week
9	25	1983	2005	5	About twice/month
10	25	1983	2006	7	Several times/week
11	25	1983	2007	5	About twice/month
12	25	1983	2008	7	Several times/week
13	25	1983	2009	7	Several times/week
14	25	1983	2010	7	Several times/week
15	25	1983	2011	7	Several times/week

Having quick access to factor labels will be especially useful during graph production.

0.3 Time metrics : Age, Period, Cohort

NLSY97 sample includes individuals from five cohorts, born between 1980 and 1984. The following graphics shows how birth cohort, age of respondents, and round of observation are related in NSLY97.

Wide age	Age in years																			
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Born in 1980					1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
1981				1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
1982			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011			
1983		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011				
1984	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011					
	Wave																			

Wide wave	Waves of measurement														
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Born in 1980	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1981	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1982	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1983	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1984	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Age															

Long wave	Born in	1980 1981 1982 1983 1984				
		1980	1981	1982	1983	1984
Wave: 1997	17	16	15	14	13	
1998	18	17	16	15	14	
1999	19	18	17	16	15	
2000	20	19	18	17	16	
2001	21	20	19	18	17	
2002	22	21	20	19	18	
2003	23	22	21	20	19	
2004	24	23	22	21	20	
2005	25	24	23	22	21	
2006	26	25	24	23	22	
2007	27	26	25	24	23	
2008	28	27	26	25	24	
2009	29	28	27	26	25	
2010	30	29	28	27	26	
2011	31	30	29	28	27	Age

Long age	Born in	1980 1981 1982 1983 1984				
		1980	1981	1982	1983	1984
Age years 13						1997
14					1997	1998
15				1997	1998	1999
16			1997	1998	1999	2000
17	1997	1998	1999	2000	2001	
18	1998	1999	2000	2001	2002	
19	1999	2000	2001	2002	2003	
20	2000	2001	2002	2003	2004	
21	2001	2002	2003	2004	2005	
22	2002	2003	2004	2005	2006	
23	2003	2004	2005	2006	2007	
24	2004	2005	2006	2007	2008	
25	2005	2006	2007	2008	2009	
26	2006	2007	2008	2009	2010	
27	2007	2008	2009	2010	2011	Wave
28	2008	2009	2010	2011		
29	2009	2010	2011			
30	2010	2011				
31	2011					

NSLY97 contains static (**bmonth**, **byear**) and dynamic (**agemon**, **ageyear**) indicators of age :

```
ds<- dsL %>%
  dplyr::filter(id==25, year %in% c(1997:2011)) %>%
  dplyr::select(id,byear,bmonthF,year,agemon,ageyear)
print(ds)
```

```
id byear bmonthF year agemon ageyear
```

1	25	1983	Mar	1997	167	13
2	25	1983	Mar	1998	188	15
3	25	1983	Mar	1999	201	16
4	25	1983	Mar	2000	214	17
5	25	1983	Mar	2001	226	18
6	25	1983	Mar	2002	236	19
7	25	1983	Mar	2003	254	21
8	25	1983	Mar	2004	261	21
9	25	1983	Mar	2005	272	22
10	25	1983	Mar	2006	284	23
11	25	1983	Mar	2007	295	24
12	25	1983	Mar	2008	307	25
13	25	1983	Mar	2009	319	26
14	25	1983	Mar	2010	332	27
15	25	1983	Mar	2011	342	28

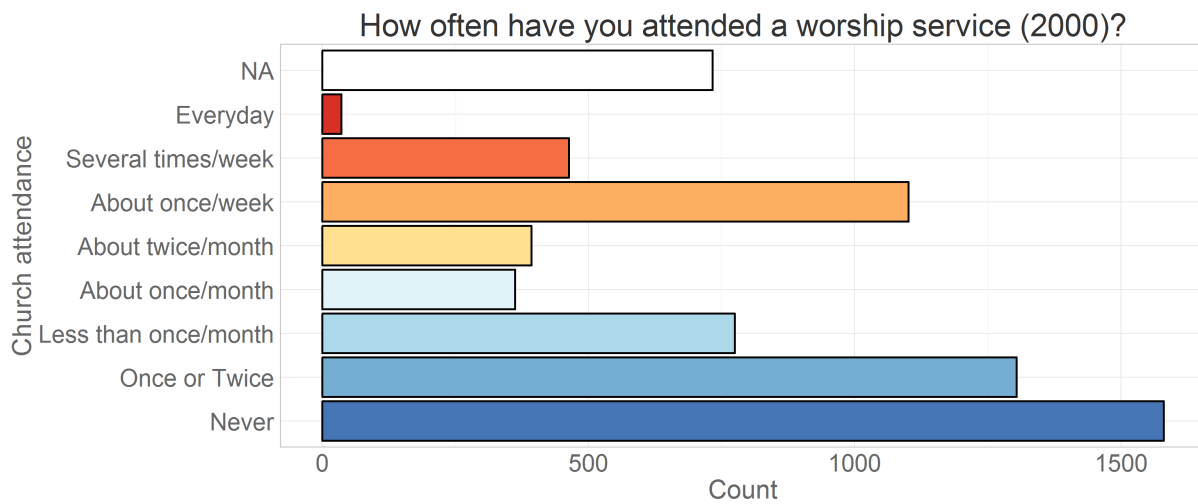
Variable **year** is used as cohort indicator. Variable **year** enumerates NLSY97 rounds, recording the calendaric year during which it took place. When transforming the metric of time, and using biological age instead of **year** as the temporal dimension, the value of age at the time of the interview will be computed as **age** = **agemon**/12

```
ds<- dsL %>%
  dplyr::filter(id==25, year %in% c(1997:2011)) %>%
  dplyr::select(id,bmonthF,byear,year, agemon,ageyear) %>%
  dplyr::mutate (age = agemon/12)
print(ds)
```

	id	bmonthF	byear	year	agemon	ageyear	age
1	25	Mar	1983	1997	167	13	13.92
2	25	Mar	1983	1998	188	15	15.67
3	25	Mar	1983	1999	201	16	16.75
4	25	Mar	1983	2000	214	17	17.83
5	25	Mar	1983	2001	226	18	18.83
6	25	Mar	1983	2002	236	19	19.67
7	25	Mar	1983	2003	254	21	21.17
8	25	Mar	1983	2004	261	21	21.75
9	25	Mar	1983	2005	272	22	22.67
10	25	Mar	1983	2006	284	23	23.67
11	25	Mar	1983	2007	295	24	24.58
12	25	Mar	1983	2008	307	25	25.58
13	25	Mar	1983	2009	319	26	26.58
14	25	Mar	1983	2010	332	27	27.67
15	25	Mar	1983	2011	342	28	28.50

0.4 Attendance

NLSY97 asked to report church attendance (**attend**) for the past 12 months preceding the interview date. The response card offered a choice of 7 categories ordered by magnitude.



0.5 Read more

in `./Models/Descriptives`:

- `[Metrics][metrics]` - how values of items are labeled
- `[Descriptives][descriptives]` - basic stats of various items (**Continue**)
- `[Attendance][attend]` - focus on church attendance over time
- `[Databox][databox]`

See also

- `[Deriving Data from NLYS97 extract][derive]`
- `[Data Manipulation Guide][manipulate]`