

# TimeUse+ Pretest

## Data and variable description

### Other Research Data

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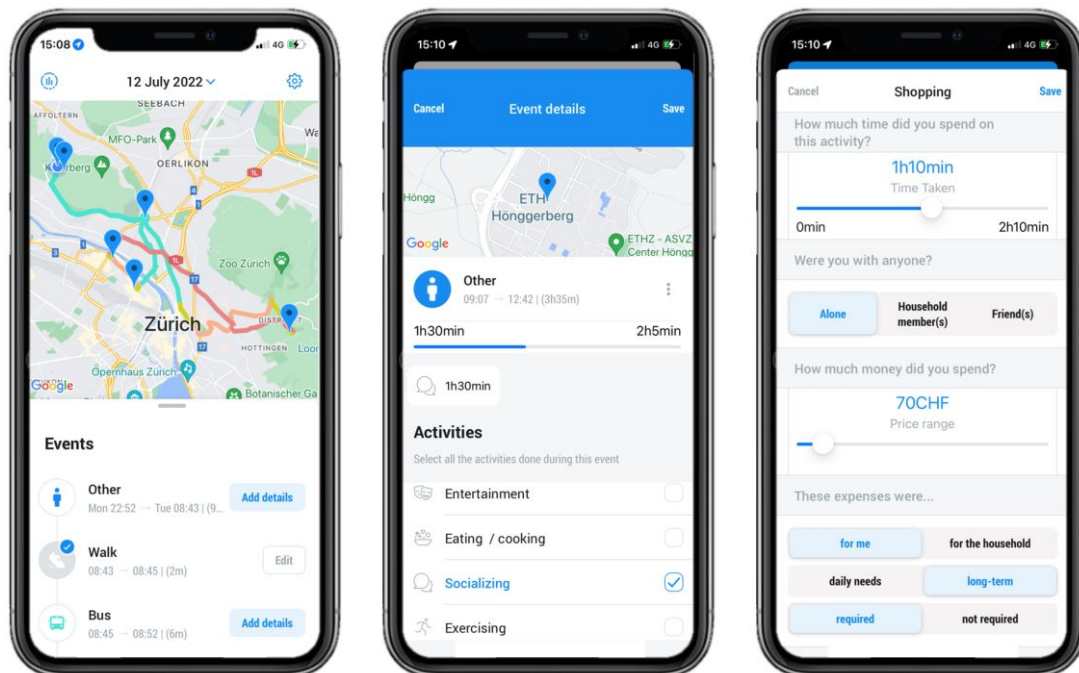
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## TimeUse+ Pretest: Data and variable description

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Travel Survey Metadata Series 85

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# TimeUse+ Pretest: Data and variable description

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## Abstract

The TimeUse+ study is an effort to collect data to understand daily patterns in travel, time use, and expenditure behavior. Study participation begins with an initial survey that collects personal and household level characteristics along with information on mobility tool ownership. Next, participants took part in either 14 or 28 days of tracking and validating, or annotating, their passively recorded events with all of the activities they performed at each location or during travel. For each activity, some or all of the following attributes had to be validated: duration, social partners, and expenditures. The TimeUse+ smartphone app was developed specifically for this project and the tracking portion relies on the software development kit from MotionTag ([www.motiontag.com](http://www.motiontag.com)). After a successful tracking period, participants completed a final questionnaire that mainly collected long-term expenditure information. 7,500 individuals were invited to participate in this pretest between March and April 2022, and 205 successfully completed all three parts (i.e. net response rate around 2.7%).

## Keywords

Codebook, list of variables, GPS data, time use and travel data, expenditure data

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## Study description

### Title

TimeUse+ Pretest

### Creator

Caroline Winkler (IVT, ETH Zurich)

### Subject

Codebook, list of variables, initial and final questionnaire data, tracking summary data, GPS tracking with diary information

### Description

The TimeUse+ study is an effort to collect data to understand daily patterns in travel, time use, and expenditure behavior. Study participation begins with an initial survey that collects personal and household level characteristics along with information on mobility tool ownership. Next, participants took part in either 14 or 28 days of tracking and validating, or annotating, their passively recorded events with all of the activities they performed at each location or during travel. For each activity, some or all of the following attributes had to be validated: duration, social partners, and expenditures. The TimeUse+ smartphone app was developed specifically for this project and the tracking portion relies on the software development kit from MotionTag ([www.motiontag.com](http://www.motiontag.com)). After a successful tracking period, participants completed a final questionnaire that mainly collected long-term expenditure information. 7,500 individuals were invited to participate in this pretest during March and April 2022, and 205 successfully completed all three parts (i.e. net response rate around 2.7%).

This pretest aimed to test different configurations of the TimeUse+ study. To that end, 1) study duration, 2) activity list complexity, and 3) incentive level were tested. The five groups tested had the following characteristics (1,500 invitations sent per group):

1. 28 days tracking & validating /detailed activity list /50 CHF incentive
2. 28 days tracking & validating /simple activity list /50 CHF incentive
3. 14 days tracking & validating /detailed activity list /50 CHF incentive
4. 14 days tracking & validating /simple activity list /50 CHF incentive
5. 28 days tracking & validating /detailed activity list /100 CHF incentive

With respect to the detailed vs. simple activity lists, simple lists of activities are a shorter, aggregated version of the detailed versions.

Table 1: Full list of activities

	<b>Simple</b>	<b>Detailed</b>
<b>Home</b>	Sleeping Self-care Eating and cooking Chores Leisure Digital entertainment Working or studying Online Shopping	Sleeping Self-care, Resting Eating and cooking General household work, caretaking Exercising, Socializing, Entertainment Digital entertainment Home-office, Studying Online shopping Other
<b>Other</b>	Shopping Leisure Eating and drinking Waiting Errands Working or studying Overnight stay	Shopping Gastronomy, Entertainment, Socializing, Exercising Eating and cooking (without expenses) Waiting Errands, Caretaking, Person pick up/drop off, Package pick up/drop off Coworking, Studying Sleeping, Resting, Self-care Other
<b>Work</b>	Working Other	Working Other

Group affiliation is included in the participants\_tracking\_summary.EXT files.

## Publisher

Institute for Transport Planning and Systems (IVT), ETH Zurich

## **Contributor**

Adrian Meister

Ueli Isenschmid

Karina Lerdo de Tejada Acosta

Basil Schmid

Kay W. Axhausen

## **Date**

2023-01-30

## **Type**

Codebook, surveydata

## **Format**

Portable document format (pdf), R data (.Rda), comma-separated (.csv)

## **Source**

<https://www.ivt.ethz.ch/>

<https://www.timeuse.ethz.ch/>

## **Language**

Codebook contents are described in English.

Questionnaires were available in English and German; the app (tracking data) in English, German, French, and Italian. The `p_language` variable in the `participant.EXT` files indicates which language the initial questionnaire was filled out in.

## **Relation**

<https://www.ivt.ethz.ch/>

<https://www.timeuse.ethz.ch/>

## **Coverage**

German speaking part of Switzerland, 2022. Adults only.

## **Rights**

Institute for Transport Planning and Systems (IVT), ETH Zurich

## **Other identifications, funding and acknowledgements**

The project was financed by the Swiss National Science Foundation (SNF).

## **Unit of analysis**

Adult respondents from the German speaking part of Switzerland

## **Document responsibility**

Caroline Winkler

Email: [caroline.winkler at ivt.baug.ethz.ch](mailto:caroline.winkler@ivt.baug.ethz.ch)

## Participants: File description

Title: participants.rda, participants.csv

Contents: Data from the initial and final questionnaires, 106 variables from 205 participants.

Data collection: Merged from both Qualtrics questionnaires

Unit of analysis: Individual data. Each row corresponds to a unique respondent. Household-level characteristics are prefixed by hh\_.

File Structure: Data frame, with participant\_id uniquely identifying each row. Columns 4 - 60 stem from the initial questionnaire (before tracking period), while columns 61 - 106 are from the final questionnaire.

Number of cases: 205. Variables per record: 106.

## Participants: Variables

**participant\_id: Participant identification number**

Format = numeric.

**survey\_date\_intro: Recorded date introductory questionnaire**

Format = POSIXct, POSIXt, numeric.

**survey\_date\_final: Recorded date final questionnaire**

Format = POSIXct, POSIXt, numeric.

**distribution\_channel: Whether participant used the QR code for the initial online questionnaire**

Format = character.

	qr	anonymous
<b>Count</b>	172	33

**p\_language: Initial questionnaire language**

Format = character.

	DE	EN
<b>Count</b>	194	11

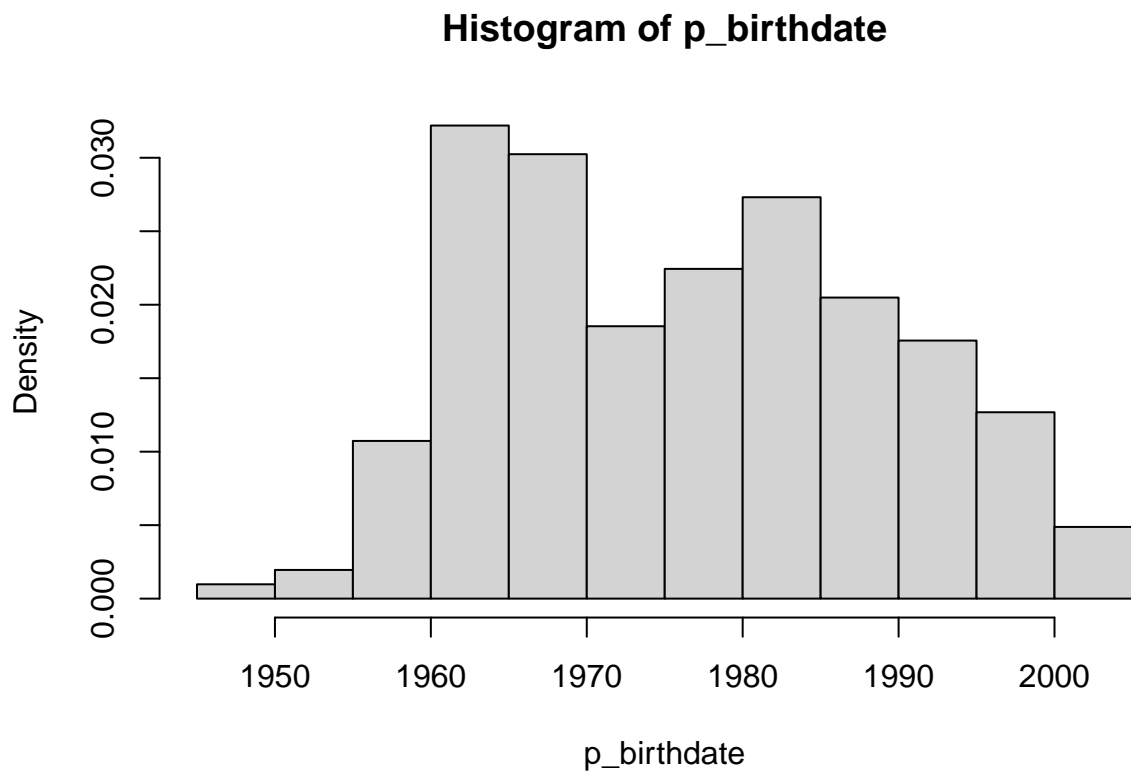
**p\_sex: Sex**

Format = character.

	female	male
<b>Count</b>	101	104

**p\_birthdate: Birth year**

Format = numeric.

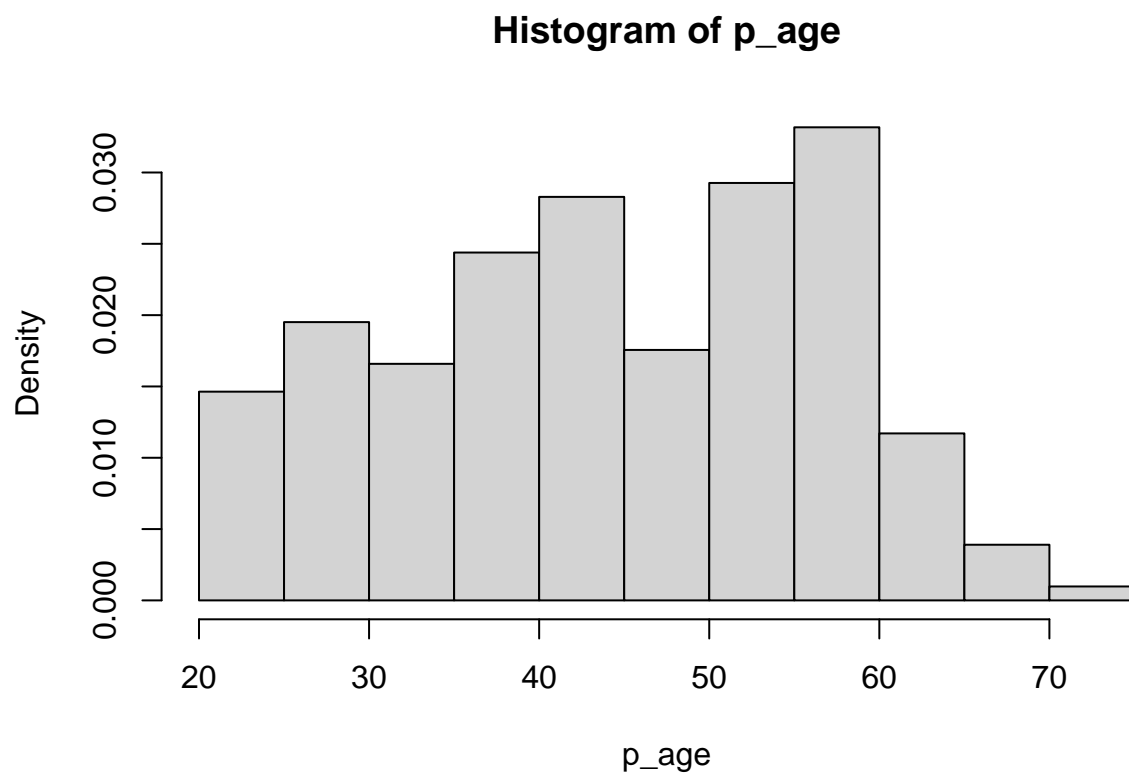




**p\_age: Age at time of study (2022)**

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
20	35	45	44.82	55	74

**p\_age\_group: Age group (2022)**

Format = character.

	18 - 40	41 - 55	56 - 65	66 +
<b>Count</b>	77	77	46	5

**p\_citizenship\_swiss: Whether the participant is a Swiss citizen**

Format = character.

	Switzerland	Other
<b>Count</b>	192	13

**p\_citizenship\_2: Country of citizenship (non-Swiss)**

Format = character.

	Switzerland	Germany	France	Portugal	Italy	Colombia
<b>Count</b>	12	3	1	1	2	1

	Austria	Serbia	Spain	NA's
<b>Count</b>	1	1	1	182

**p\_citizenship\_3: First country of dual (or multiple) citizenship (non-Swiss)**

Format = character.

	Germany	NA's
<b>Count</b>	1	204

**p\_citizenship\_4: Second country of dual (or multiple) citizenship**

Format = character.

	Germany	Austria	Finland	Bosnia and Herzegovina	Turkey
<b>Count</b>	3	1	1	1	1

	Serbia	Italy	Brazil	United Kingdom of Great Britain and Northern Ireland	NA's
<b>Count</b>	1	4	1	1	191

**p\_educ: Participant's highest completed level of education**

Format = character.

	Secondary education (e.g., apprenticeship or diploma)	Higher education (e.g., university)
<b>Count</b>	119	80

	Mandatory education
<b>Count</b>	6

**p\_occup\_1\_employed: Normal employment**

Format = character.

	employed	NA's
<b>Count</b>	168	37

**p\_occup\_1\_selfemployed: Self-employment**

Format = character.

	self-employed	NA's
<b>Count</b>	11	194

**p\_occup\_1\_student: Student/trainee**

Format = character.

	student	NA's
<b>Count</b>	18	187

**p\_occup\_1\_other: Other occupational status**

Format = character.

	other	NA's
<b>Count</b>	16	189

**p\_occup\_employed: Employment vs. self-employment**

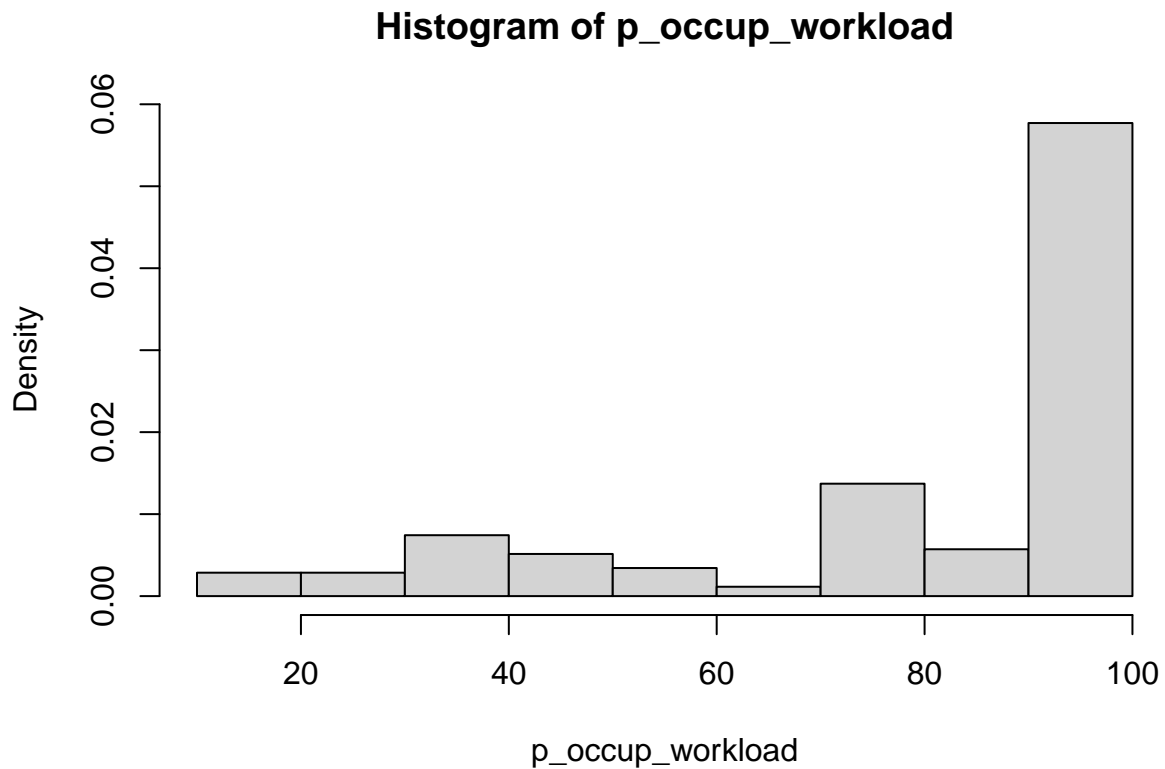
Format = character.

	employed	self-employed	NA's
<b>Count</b>	168	6	31

**p\_occup\_workload: Percent of full time employment**

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
15	80	100	83.35	100	100	30

**p\_occup\_loc\_regularity: Whether main work location changes regularly**

Format = character.

	No, I have a fixed workplace	Yes, weekly or more often
<b>Count</b>	149	15

	Yes, monthly	NA's
<b>Count</b>	1	40

**p\_occup\_plz: Postcode of main place of employment**

Format = numeric.

**p\_occup\_plz\_otherloc: Postcode of the second most frequented place of employment**

Format = numeric.

**p\_occup\_shift: Whether participant works in shifts**

Format = character.

	Yes	No	NA's
<b>Count</b>	21	154	30

**p\_occup\_shorttimework: Whether participant is in short time work**

Format = character.

	No	Yes	NA's
<b>Count</b>	173	2	30

**p\_occup\_n\_days: Number of days per week that the participant works at their usual workplace away from home**

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	2	3	3.257	5	7	30

**p\_occup\_wfh\_possibility: Whether participant is allowed to work from home**

Format = character.

	No, never did	Yes	No, but I worked from home during COVID-19 related lockdowns	NA's
<b>Count</b>	67	87	21	30

**p\_occup\_wfh\_n\_days: Number of days per week that the participant works from home**

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	1	1	2.092	3	7	118

**p\_occup\_wfh\_n\_days\_covid: Number of days per week that the participant worked from home in the average week during COVID-19 related lockdowns**

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	1	4	3.241	5	7	97

**p\_ptmobtool\_ga1cl: Whether the participant owns a 1st class national (unlimited) railway pass**

Format = character.

	ga1cl	NA's
<b>Count</b>	3	202

**p\_ptmobtool\_ga2cl: Whether the participant owns a 2nd class national (unlimited) railway pass**

Format = character.

	ga2cl	NA's
<b>Count</b>	27	178

**p\_ptmobtool\_ht: Whether the participant owns a half-fare card (Halbtax)**

Format = character.

	ht	NA's
<b>Count</b>	126	79

**p\_ptmobtool\_regional\_or\_point\_to\_point: Whether the participant owns a regional or 'point-to-point' public transport pass**

Format = character.

	regional_point2point	NA's
<b>Count</b>	30	175

**p\_ptmobtool\_seven25: Whether the participant owns a seven25 (Gleis 7) pass**

Format = character.

	seven25	NA's
<b>Count</b>	1	204



**p\_ptmobtool\_other: Whether the participant owns another public transport pass**

Format = character.

	other	NA's
<b>Count</b>	3	202

**p\_driverslicense: Whether the participant owns a driver's license for cars**

Format = character.

	Yes	No
<b>Count</b>	196	9

**p\_motolicense: Whether the participant owns a driver's license for motorbikes**

Format = character.

	No	Yes
<b>Count</b>	118	87

**p\_carsharing\_subscription: Whether the participant has a carsharing subscription**

Format = character.

	No	Yes	NA's
<b>Count</b>	172	24	9

**p\_carsharing\_user: Whether the participant has used the carsharing service they have a subscription for in the past 12 months**

Format = character.

	Yes	No	NA's
<b>Count</b>	13	11	181

**p\_bikesharing\_subscription: Whether the participant has a bikesharing subscription**

Format = character.

	No	Yes
<b>Count</b>	202	3

**p\_bikesharing\_user: Whether the participant has used the bikesharing service they have a subscription for in the past 12 months**

Format = character.

	No	Yes	NA's
<b>Count</b>	1	2	202

**p\_car\_access: How often the participant has access to a car**

Format = character.

	No, but I can arrange to borrow one from someone (e.g., my partner, friend, neighbor)	Yes	No	NA's	
<b>Count</b>		22	152	22	9

**p\_motorbike\_access: How often the participant has access to a car**

Format = character.

	No	Yes	No, but I can arrange to borrow one from someone (e.g., my partner, friend, neighbor)	NA's
<b>Count</b>	57	27	3	118

**p\_bike\_access: How often the participant has access to a car**

Format = character.

	No	Yes	No, but I can arrange to borrow one from someone (e.g., my partner, friend, neighbor)	NA's
<b>Count</b>	28	173		4

**hh\_privatemobtool\_bike\_regular: Whether the participant owns a normal bicycle**

Format = character.

	bike-regular	NA's
<b>Count</b>	141	64

**hh\_privatemobtool\_bike\_e25: Whether the participant owns an e-bike with 25 km/h max. speed**

Format = character.

	bike-e25	NA's
<b>Count</b>	42	163

### hh\_privatemobtool\_bike\_e45: Whether the participant owns an e-bike with 45 km/h max. speed

Format = character.

	bike-e45	NA's
<b>Count</b>	8	197

### car\_fuel: Fuel type of main car

Format = character.

### car\_year: Year of main car

Format = character.

### car\_size: Size of main car

Format = character.

### car\_engine: Engine size of main car

Format = logical.

### parking\_spaces: Number of owned or rented parking spaces at home

Format = character.

	1	2	more than 3	3	None	NA's
<b>Count</b>	69	49	19	12	3	53

**parking\_spaces\_cost: Monthly cost of parking spaces at home**

Format = character.

	up to 100 CHF	0 CHF	101 - 200 CHF	301 - 400	201 - 300 CHF
<b>Count</b>	30	71	40	3	5

	NA's
<b>Count</b>	56

**parking\_work: Number of owner or rented parking spaces at work**

Format = character.

	None	1	more than 3	3	2	NA's
<b>Count</b>	86	52	11	2	1	53

**parking\_work\_cost: Monthly cost of parking spaces at work**

Format = character.

	0 CHF	up to 100 CHF	101 - 200 CHF	NA's
<b>Count</b>	38	24	4	139

**hh\_postcode: Home postcode**

Format = numeric.

**hh\_income: Gross household income per month (in CHF)**

Format = character.

	4 001 - 8 000 CHF	More than 16 000 CHF	8 001 - 12 000 CHF	
<b>Count</b>	69	13	58	

	12 001 - 16 000 CHF	4 000 CHF or less	Prefer not to say	NA's
<b>Count</b>	30	20	14	1

**hh\_dogs: Whether household owns dogs**

Format = character.

	No	Yes	NA's
<b>Count</b>	187	17	1

**hh\_size\_total: Total household size**

Format = character.

	2	4	5 or more	1	3	NA's
<b>Count</b>	67	44	16	43	34	1

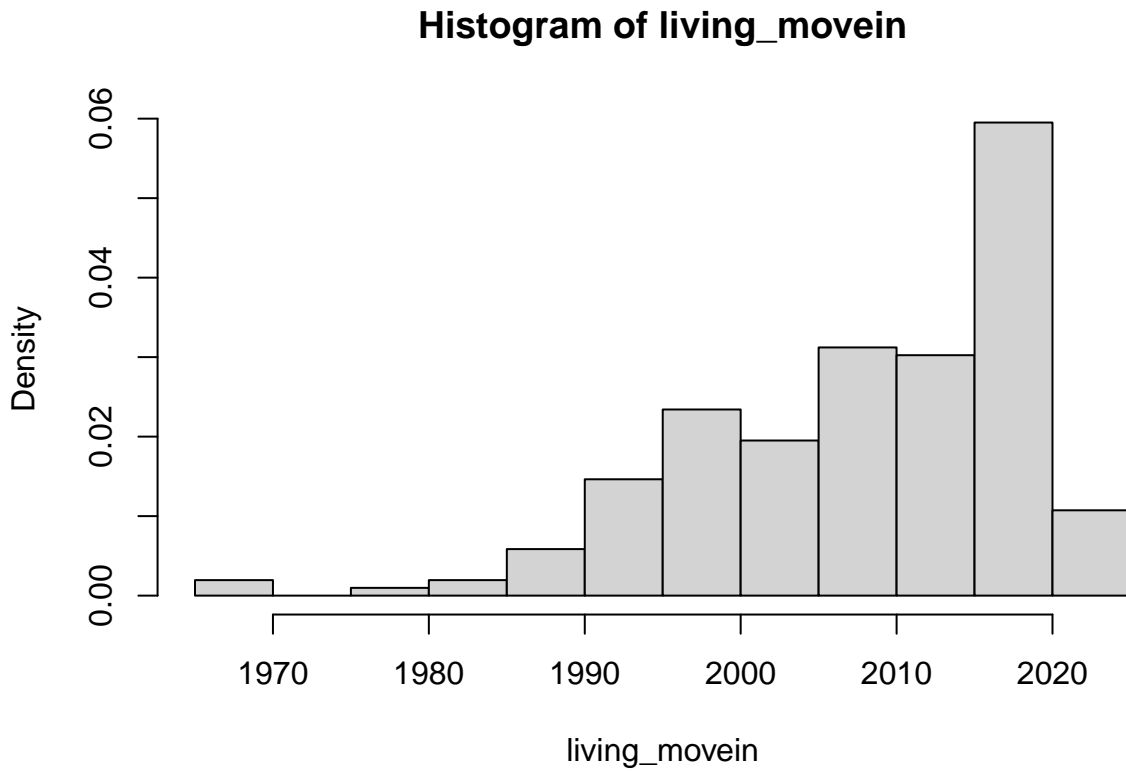
**hh\_young\_kids: Do any children aged 12 or younger live in the household?**

Format = character.

	youngkids	NA's
<b>Count</b>	46	159

**living\_movein: Year moved into current residence**

Format = numeric.



**living\_situation: Current residential situation (renter/owner)**

Format = character.

	I live in a housing cooperative	I own my home and pay a mortgage	I rent my home
<b>Count</b>	50	109	43

	I own my home and have paid it off fully
<b>Count</b>	3

**living\_rentcost: Cost of monthly rent (renters)**

Format = character.

	between 1,501 CHF and 2,000 CHF	between 1,000 CHF and 1,500 CHF
<b>Count</b>	29	26

	between 2,001 CHF and 2,500 CHF	up to 1,000 CHF
<b>Count</b>	18	6

	between 2,501 CHF and 3,000 CHF	I do not pay my rent
<b>Count</b>	4	5

	between 3,001 CHF and 3,500 CHF	more than 4,000 CHF	NA's
<b>Count</b>	3	2	112

**living\_perc\_rent: Percentage of total rent participant personally pays for**

Format = character.

	between 51 and 80%	100%	up to 49%	50%	0%
<b>Count</b>	7	35	12	24	13

	between 81 and 99%	NA's
<b>Count</b>	2	112



**living\_mortgagecost: Cost of monthly mortgage (owners)**

Format = character.

	between 3,001 CHF and 3,500 CHF	between 1,001 CHF and 1,500 CHF
<b>Count</b>	3	29

	between 1,501 CHF and 2,000 CHF	between 2,001 CHF and 2,500 CHF
<b>Count</b>	13	7

	up to 1,000 CHF	I do not pay my rent
<b>Count</b>	51	3

	between 2,501 CHF and 3,000 CHF	NA's
<b>Count</b>	2	97

**living\_perc\_mortgage: Percentage of total mortgage participant personally pays for**

Format = character.

	50%	100%	0%	up to 49%	between 51 and 80%	NA's
<b>Count</b>	26	54	11	11	5	98

**living\_clothes: Amount of money spent on clothing for oneself in the past year**

Format = character.

	between 501 and 1,000 CHF	between 1,001 and 2,000 CHF
<b>Count</b>	64	33

	between 101 CHF and 250 CHF	between 251 and 500 CHF
<b>Count</b>	28	55

	up to 100 CHF	over 2,000 CHF
<b>Count</b>	14	11

**living\_hhitems: Amount spent on household items in the past year**

Format = character.

	between 251 and 500 CHF	over 2,000 CHF	up to 100 CHF
<b>Count</b>	60	16	28

	between 501 and 1,000 CHF	between 1,001 and 2,000 CHF
<b>Count</b>	35	14

	between 101 CHF and 250 CHF
<b>Count</b>	52

### living\_hh\_appliances: Amount spent on household appliances in the past year

Format = character.

	between 101 CHF and 250 CHF	between 501 and 1,000 CHF
<b>Count</b>	36	19

	between 251 and 500 CHF	up to 100 CHF
<b>Count</b>	36	93

	between 1,001 and 2,000 CHF	over 2,000 CHF
<b>Count</b>	12	9

### living\_sports equip: Amount of money spent on sports equipment in the past year

Format = character.

	up to 100 CHF	between 251 and 500 CHF
<b>Count</b>	47	48

	between 501 and 1,000 CHF	between 1,001 and 2,000 CHF
<b>Count</b>	31	21

	over 2,001 CHF	between 101 CHF and 250 CHF
<b>Count</b>	8	50

**online\_internet\_time: Number of hours spent on the internet weekly**

Format = character.

	more than 25 hours	between 6 and 24 hours	less than 5 hours
<b>Count</b>	62	109	18

	NA's
<b>Count</b>	16

**online\_ict\_devices: Which of the following IT devices do you own?  
- Multiple answers possible**

Format = character.

**online\_prod\_type: Types of products the participant buys online -  
Multiple answers possible**

Format = character.

**online\_order\_freq: Frequency of online product purchases**

Format = character.

	less than once a month	up to 4 times per month
<b>Count</b>	83	89

	more than four times per month	NA's
<b>Count</b>	17	16

### subs\_phoneTVinternet: Amount spent on combined phone, internet and TV plan monthly

Format = character.

	between 31 and 70 CHF	between 101 and 150 CHF
<b>Count</b>	48	51

	more than 150 CHF	between 71 and 100 CHF
<b>Count</b>	27	44

	I do not have a combined plan	up to 30 CHF
<b>Count</b>	16	19

### subs\_phoneplan: Amount spent on mobile phone plan monthly

Format = character.

	up to 30 CHF	between 71 and 100 CHF
<b>Count</b>	14	1

	I do not have a mobile phone plan	NA's
<b>Count</b>	1	189

**subs\_homewifi: Amount spent on home internet plan monthly**

Format = character.

	up to 30 CHF	between 31 and 70 CHF	between 71 and 100 CHF
<b>Count</b>	7	7	1

	I do not have a home internet plan	NA's
<b>Count</b>	1	189

**subs\_TVplan: Amount of money spent on a cable/satellite TV plan monthly**

Format = character.

	up to 30 CHF	I do not have a cable (or satellite plan) at home	between 71 and 100 CHF
<b>Count</b>	8	6	1

	between 30 and 70 CHF	NA's
<b>Count</b>	1	189

### services\_TVstreaming: Amount of money spent on TV streaming services per month

Format = character.

	between 11 and 30 CHF	up to 10 CHF	I do not use a TV streaming service
<b>Count</b>	57	30	89

	between 31 and 80 CHF	I use someone else's TV streaming service account
<b>Count</b>	12	15

	more than 100 CHF	between 81 and 100 CHF
<b>Count</b>	1	1

### services\_musicstream: Amount of money spent on music streaming services per month

Format = character.

	I do not use a music streaming service	between 11 and 30 CHF
<b>Count</b>	110	52

	up to 10 CHF	I use someone else's music streaming service account	between 31 and 80 CHF
<b>Count</b>	33	9	1

**services\_education: Amount of money spent on education per month**

Format = character.

	up to 10 CHF	between 81 and 100 CHF	between 11 and 30 CHF
<b>Count</b>	140	12	26

	more than 100 CHF	between 31 and 80 CHF
<b>Count</b>	13	14

**services\_childcare: Amount of money spent on childcare per month**

Format = character.

	I have no children in the household	between 801 and 1,000 CHF
<b>Count</b>	156	4

	up to 100 CHF	between 301 and 800 CHF	between 101 and 300 CHF
<b>Count</b>	26	7	10

	between 1,001 and 2,000 CHF
<b>Count</b>	2



**services\_cleaning: Amount of money spent on cleaning services per month**

Format = character.

	I never hire cleaners	more than 100 CHF
<b>Count</b>	171	24

	between 51 CHF and 100 CHF	up to 50 CHF
<b>Count</b>	6	4

**services\_hobbies: Amount of money spent on hobbies per month**

Format = character.

	0 CHF	between 81 and 100 CHF	between 11 and 30 CHF
<b>Count</b>	64	19	45

	between 31 and 80 CHF	more than 100 CHF	up to 10 CHF
<b>Count</b>	30	25	22

**services\_printmedia: Amount of money spent on print media per month**

Format = character.

	0 CHF	between 11 and 30 CHF	between 81 and 100 CHF
<b>Count</b>	95	40	5

	between 31 and 80 CHF	up to 10 CHF	more than 100 CHF
<b>Count</b>	28	30	7

**services\_beauty: Amount of money spent on beauty services per month**

Format = character.

	0 CHF	between 11 and 30 CHF	up to 10 CHF
<b>Count</b>	56	49	30

	between 31 and 80 CHF	between 81 and 100 CHF	more than 100 CHF
<b>Count</b>	48	13	9

**services\_wellness: Amount of money spent on wellness services per month**

Format = character.

	0 CHF	between 11 and 30 CHF	between 31 and 80 CHF
<b>Count</b>	136	19	14

	between 81 and 100 CHF	up to 10 CHF	more than 100 CHF
<b>Count</b>	14	15	7

**services\_counseling: Amount of money spent on counseling services per month**

Format = character.

	0 CHF	between 50 and 100 CHF	between 100 and 200 CHF
<b>Count</b>	172	13	5

	up to 50 CHF	more than 200 CHF
<b>Count</b>	9	6

**health\_insurance: Monthly cost of health insurance premium**

Format = character.

	between 301 and 400 CHF	between 401 and 500 CHF
<b>Count</b>	59	33

	between 100 and 300 CHF	more than 500 CHF	less than 100 CHF
<b>Count</b>	90	21	2

**health\_suppl\_insuran: Amount spent on supplementary health insurance per month**

Format = character.

	between 20 and 50 CHF	between 101 and 250 CHF	less than 20 CHF
<b>Count</b>	77	25	18

	between 51 and 100 CHF	more than 250 CHF
<b>Count</b>	54	9

	I do not have a supplementary health insurance plan
<b>Count</b>	22

**health\_accident\_insu: Whether the participant has an active accident insurance policy**

Format = character.

	Yes, my employer covers my accident insurance	Yes, I pay for it as part of my health insurance	No
<b>Count</b>	161	39	5

**health\_liability\_ins: Whether the participant has an active third-party liability insurance policy**

Format = character.

	Yes	No
<b>Count</b>	196	9

**health\_home\_insuranc: Whether the participant has an active household contents insurance policy**

Format = character.

	Yes	No
<b>Count</b>	190	15

**vacation\_duringstudy: Whether a participant took time off of work during study participation**

Format = character.

	No	Yes
<b>Count</b>	153	52

**vacation\_yearly: Number of weeks of vacation per year**

Format = character.

	4 - 5 weeks	5 - 6 weeks	6 - 8 weeks	2 - 3 weeks
<b>Count</b>	77	55	19	11

	1 - 2 weeks	more than two months per year	less than 1 week
<b>Count</b>	9	9	5

	3 - 4 weeks
<b>Count</b>	20

**vacation\_company: Who usually accompanies the participant on vacation**

Format = character.

	Partner and other household members	Partner only	Colleagues
<b>Count</b>	67	69	6

	Friends	Extended family members	Other (please specify)
<b>Count</b>	24	16	12

	I prefer traveling alone
<b>Count</b>	11

**vacation\_expensepn: Average amount of CHF participant is willing to spend on an average night during a typical vacation**

Format = character.

	between 51 and 100 CHF	between 151 and 200 CHF
<b>Count</b>	67	33

	between 101 and 150 CHF	up to 50 CHF	between 201 and 300 CHF
<b>Count</b>	86	11	4

	more than 300 CHF
<b>Count</b>	4

**vacation\_expensefood: Average amount of CHF the participant is willing to spend on gastronomy daily while on a typical vacation**

Format = character.

	between 51 and 100 CHF	between 151 and 200 CHF	up to 50 CHF
<b>Count</b>	103	12	60

	between 101 and 150 CHF	more than 300 CHF
<b>Count</b>	26	1

	between 201 and 300 CHF
<b>Count</b>	3

**vacation\_expenseleis: Average amount of CHF the participant is willing to spend on entertainment daily while on a typical vacation**

Format = character.

	between 101 and 150 CHF	up to 50 CHF	between 51 and 100 CHF
<b>Count</b>	14	119	68

	between 151 and 200 CHF	between 201 and 300 CHF
<b>Count</b>	3	1

**hh\_fin\_who: Who takes care of the finances in your household? - Multiple answers possible**

Format = character.

	I do	My partner and I manage our finances together	My partner does
<b>Count</b>	103	49	13

	My partner and I manage our finances separately	Other arrangement (please specify)
<b>Count</b>	22	4

	Another household member does	I do not know/ rather not say
<b>Count</b>	11	3

**hh\_fin\_org: How are finances organized in your household? -  
Multiple answers possible**

Format = character.

	Other arrangement (please specify)	I share almost all of my money
<b>Count</b>	27	76

	I share part of my money	I do not know/ rather not say
<b>Count</b>	70	32

**hh\_fin\_share: Percentage of personal income the participant shares  
with other household members**

Format = character.

	less than 20%	51 - 75 %	21 - 50%	more than 76%
<b>Count</b>	36	8	19	1

	I do not know/ rather not say	NA's
<b>Count</b>	6	135



**savings\_amountleft: Amount of money left at the end of a month on average**

Format = character.

	between 2,001 and 3,000 CHF	between 1,001 and 2,000 CHF
<b>Count</b>	26	34

	between 501 and 1,000 CHF	I usually break even
<b>Count</b>	43	21

	between 101 and 500 CHF	I rarely have money left	up to 100 CHF
<b>Count</b>	39	19	10

	between 3,001 and 4,000 CHF	more than 5,000 CHF
<b>Count</b>	7	4

	between 4,001 and 5,000 CHF
<b>Count</b>	2

**savings\_monthlydonat: Percent of monthly income donated**

Format = character.

	0%	1 - 5%	more than 20%	6 - 10%	11 - 20%
<b>Count</b>	77	109	3	14	2

**savings\_investments: Regular contributions to investment plans - Multiple answers possible**

Format = character.

**savings\_mainjob: Percent of total income that is earned through the participant's main job**

Format = character.

	100%	less than 50%	71 - 80%	91 - 99%
<b>Count</b>	108	13	13	22

	I am not currently employed	61 - 70%	81 - 90%	51 - 60%
<b>Count</b>	22	3	13	11

## Participants\_tracking\_summary: File description

Title: participants\_tracking\_summary.rda, participants\_tracking\_summary.csv

Contents: Data about which TimeUse+ pretest configuration each participant belonged to, when they started/stopped tracking, and what phone type they hold.

Data collection: Summary based on tracking data using the TimeUse+ app.

Unit of analysis: Individual data. Each row corresponds to a unique respondent.

File Structure: Data frame, with participant\_id uniquely identifying each row. 7 variables from 205 participants.

Number of cases: 205. Variables per record: 11.

## Participants\_tracking\_summary: Variables

**participant\_id: Participant identification number**

Format = numeric.

**group: Group belonging**

Format = numeric.

	1	2	3	4	5
<b>Count</b>	39	33	40	38	55

**participation\_days: Number of required participation days**

Format = numeric.

	14	28
<b>Count</b>	78	127

**activity\_segmentation: Activity segmentation**

Format = character.

	detailed	simple
<b>Count</b>	134	71

**monetary\_incentive: Monetary incentive amount in CHF for study participation**

Format = character.

	50 CHF	100 CHF
<b>Count</b>	150	55

**first\_tracking\_date: First date of tracking**

Format = character.

**last\_tracking\_date: Last date of tracking**

Format = character.

**validation\_passed: Whether participant validated enough**

Format = character.

**validation\_percentage: Percent of activities validated by the participant**

Format = character.

**participant\_handset: Device model used by participant**

Format = character.

**participant\_os: Device OS used by participant**

Format = character.

## Activities: File description

Title: activities.rda, activities.csv

Contents: Annotated tracking data from all 205 participants. Locations (event\_type “stay”) and start, mid, and end points for stages (event\_type “track”) are provided as coordinates using the LV95 system, anonymized to a 100m grid. This level of anonymization also matches the <https://www.bfs.admin.ch/bfs/de/home.assetdetail.14716365.html>. The original data are therefore necessary for investigating trips outside of Switzerland.

Data collection: Passively tracked start and end points using TimeUse+ (based on SDK from MotionTag GmbH) with activity information provided by participants who were asked to annotate/validate events (i.e. stays or tracks) over five minutes.

Unit of analysis: Activity-level data. Each row corresponds to a unique activity. Group by distinct “event\_id” for pure list of stays and tracks.

File Structure: Data frame

Number of cases: 82906. Variables per record: 34.

## Activities: Variables

### **event\_id: Event ID**

Format = numeric.

### **status: Event validated by participant**

Format = character.

	complete	incomplete
Count	79421	3485

**event\_type: Event type**

Format = character.

	stay	track	untracked	deleted
<b>Count</b>	44701	36021	1341	843

**event\_name\_detected: Event start time**

Format = character.

**event\_name\_validated: Event start timezone**

Format = character.

	other	car	walk	bus	untracked	work	home
<b>Count</b>	24929	10134	17857	1878	1352	4198	15562

	passenger	train	other_track	tram	bicycle	ski	cable_car
<b>Count</b>	639	1263	151	750	2084	302	108

	regional_train	airplane	ebicycle	subway	motorbike_scooter
<b>Count</b>	537	12	119	6	121

	boat	taxi_uber	ebikesharing	carsharing	kick_scooter	NA's
<b>Count</b>	20	13	3	1	24	843

**event\_name\_imputed: Event end time**

Format = character.

	home	car	other	walk	bus	untracked	work
<b>Count</b>	23184	10134	17320	17853	1878	1343	4198

	passenger	train	other_track	tram	bicycle	ski	cable_car
<b>Count</b>	639	1263	151	750	2084	302	108

	regional_train	airplane	ebicycle	subway	motorbike_scooter
<b>Count</b>	537	12	119	6	121

	boat	taxi_uber	ebikesharing	carsharing	kick_scooter	NA's
<b>Count</b>	20	13	3	1	24	843

**started\_at: Event end timezone**

Format = POSIXct, POSIXt, numeric.

**started\_at\_tz: Event duration in minutes**

Format = character.

**finished\_at: Event distance in meters**

Format = POSIXct, POSIXt, numeric.

**finished\_at\_tz: Mode or location detected by app algorithm**

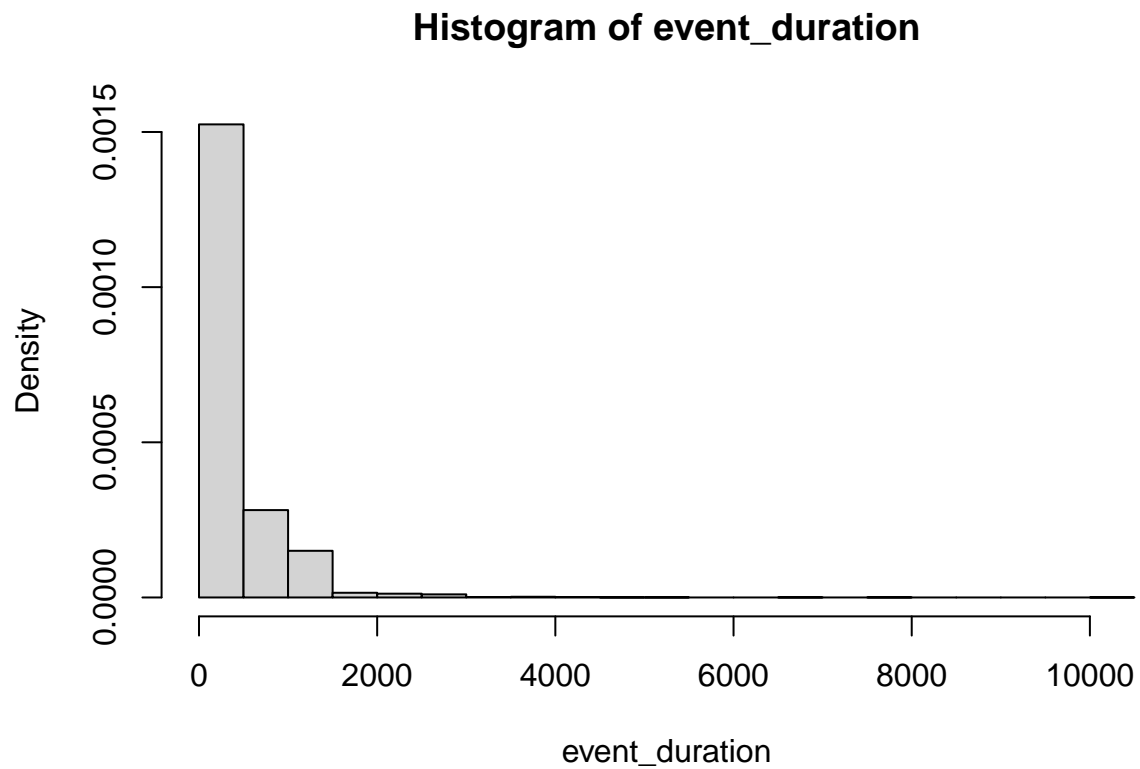
Format = character.



**event\_duration: Mode or location validated by participant**

Format = integer, numeric.

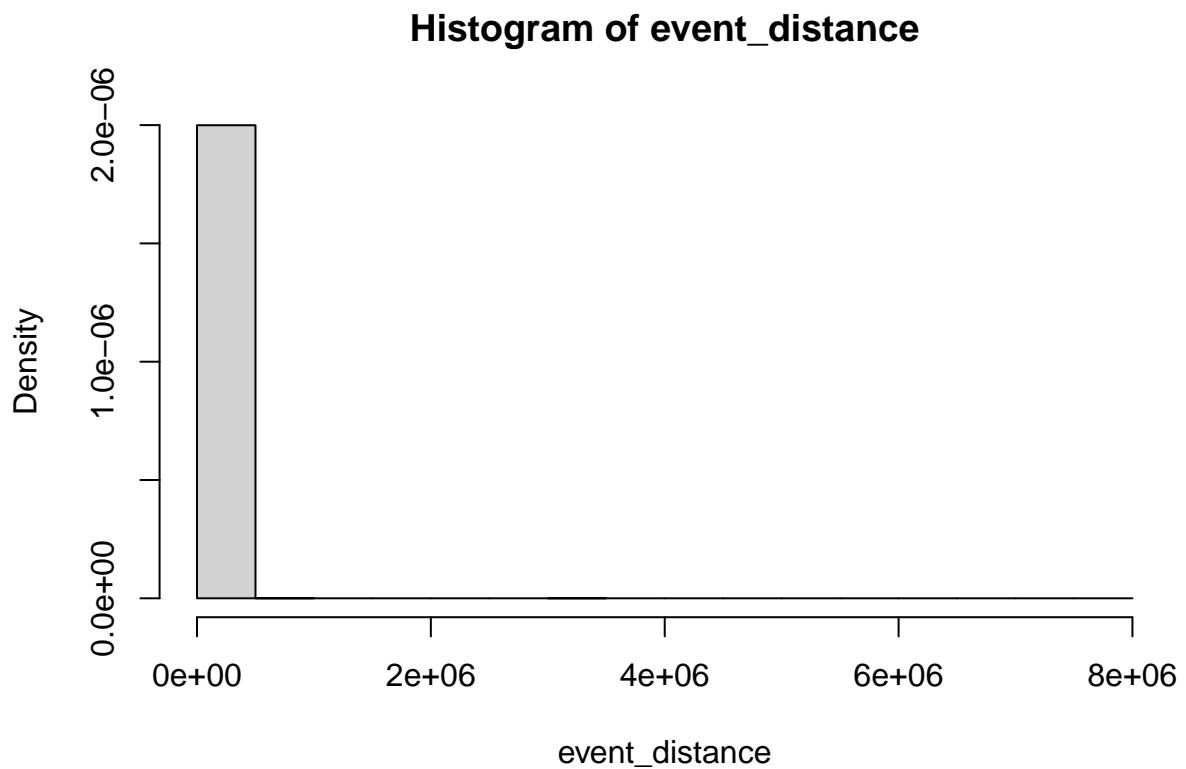
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1	6	23	288.8	375	10311



### **event\_distance: Mode or location refined by imputing location through clustering and activity information**

Format = integer, numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	0	0	3480	882.5	7811873	843



### **event\_start\_lat: Latitude of track start point location**

Format = numeric.

### **event\_start\_lon: Longitude of track start point location**

Format = numeric.

**event\_mid\_lat: Latitude of stay location or mid point of track**

Format = numeric.

**event\_mid\_lon: Longitude of stay location or mid point of track**

Format = numeric.

**event\_end\_lat: Latitude of track end point location**

Format = numeric.

**event\_end\_lon: Longitude of track end point location**

Format = numeric.

**trip\_id: Trip ID**

Format = numeric.

**trip\_status: All stages of this trip are validated by participant**

Format = character.

	complete	incomplete	NA's
Count	34254	1726	46926

**trip\_main\_mode: Trip main mode by distance share**

Format = character.

	car	walk	bus	passenger	train	other_track	bicycle
<b>Count</b>	12743	10764	2781	837	2967	126	2271

	ski	tram	regional_train	airplane	ebicycle	subway
<b>Count</b>	376	1237	1398	21	129	20

	cable_car	motorbike_scooter	boat	ebikesharing	carsharing
<b>Count</b>	82	169	17	4	2

	kick_scooter	taxi_uber	NA's
<b>Count</b>	13	23	46926

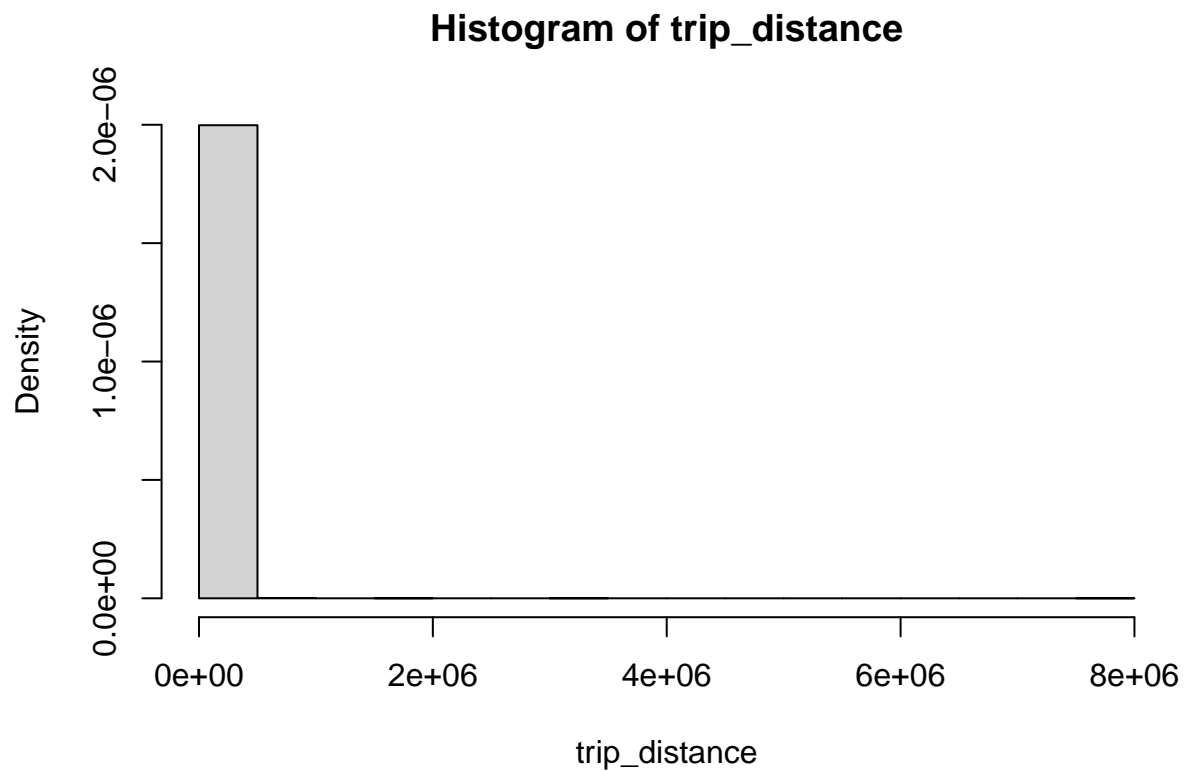
**trip\_distance: Trip distance in meters**

Format = integer, numeric.

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Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
10	1114	4250	15107	13265	7811991	46926

---



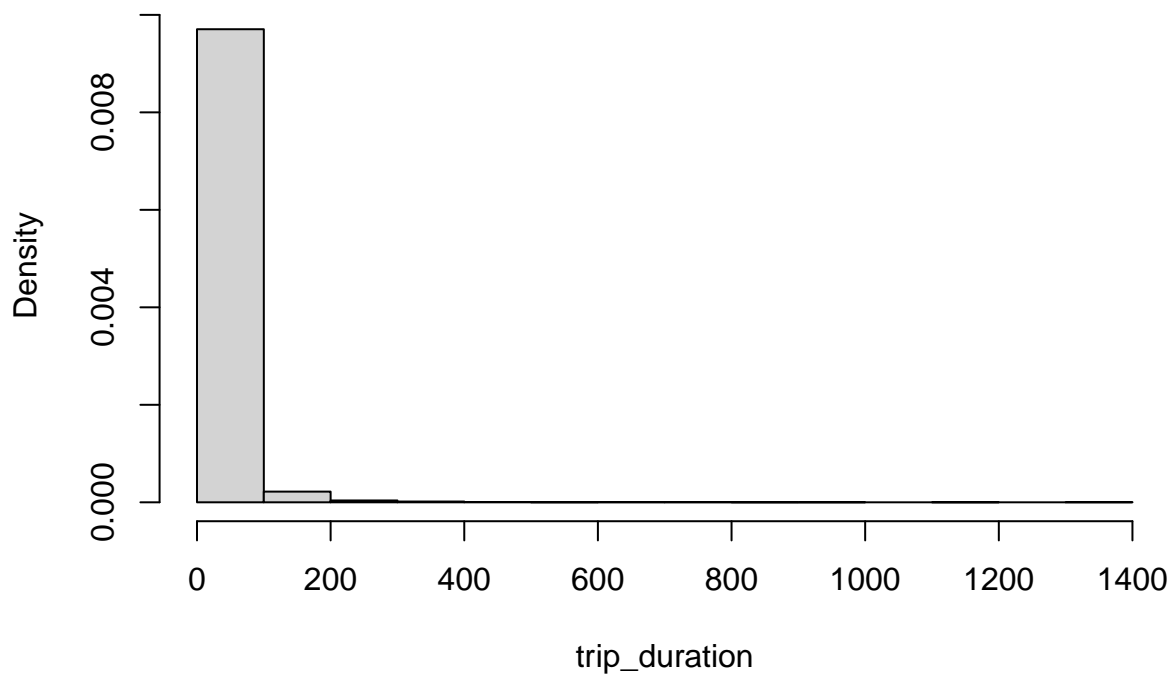
**trip\_duration: Trip duration in minutes**

Format = integer, numeric.

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Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
1	6	14	25.59	31	1373	46926

---

**Histogram of trip\_duration****trip\_started\_at: Trip start time**

Format = POSIXct, POSIXt, numeric.

**trip\_finished\_at: Trip end time**

Format = POSIXct, POSIXt, numeric.

**activity\_name:** Activity name, if activity logged by participant

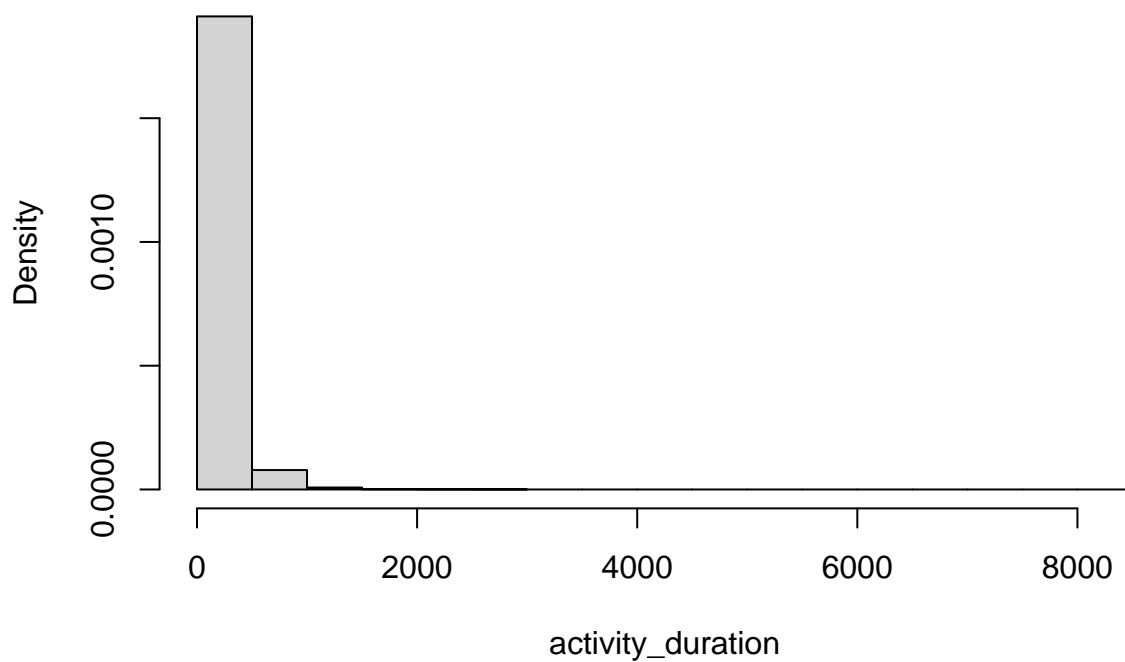
Format = character.

**activity\_duration:** Activity duration in minutes

Format = integer, numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	20	40	110.2	120	8400	24095

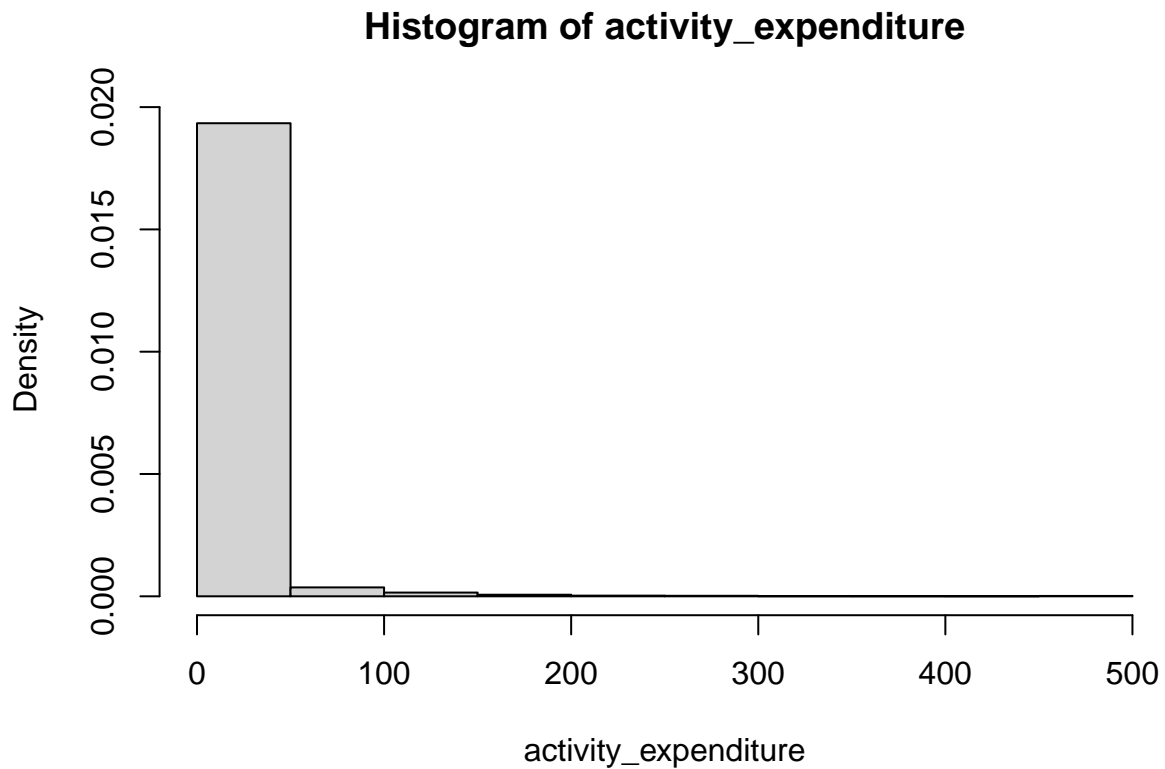
**Histogram of activity\_duration**



**activity\_expenditure: Expenditures during activity in CHF**

Format = integer, numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	0	0	5.471	0	500	48283

**activity\_expenditure\_necessity: Reported necessity of expenditure**

Format = character.

	required	not required	NA's
<b>Count</b>	27226	205	55475



**activity\_expenditure\_beneficiary: Reported beneficiary of expenditure**

Format = character.

	for me	for the household	NA's
<b>Count</b>	26626	805	55475

**activity\_expenditure\_timehorizon: Reported time horizon of expenditure**

Format = character.

	daily needs	long-term	NA's
<b>Count</b>	27065	366	55475

**activity\_socialpartner: Social companion reported for activity**

Format = character.

	alone	householdmembers	friends	NA's
<b>Count</b>	29173	5809	3346	44578

**participant\_id: Participant ID**

Format = numeric.

## Waypoints: File description

Titles: pretest\_geometries\_week\_2022-03-03.csv \ pretest\_geometries\_week\_2022-03-10.csv \ pretest\_geometries\_week\_2022-03-17.csv \ pretest\_geometries\_week\_2022-03-31.csv \ pretest\_geometries\_week\_2022-04-07.csv \ pretest\_geometries\_week\_2022-04-14.csv \ pretest\_geometries\_week\_2022-04-21.csv \

Contents: Waypoints for all tracks in the activities files. Longitude and latitude mapped on The World Geodetic System 1984 (WGS84). Data archived on a weekly basis.

Data collection: Passively tracked waypoints using TimeUse+ (based on SDK from MotionTag GmbH).

Unit of analysis: Event-level data. event\_id variable can be used to join these files to the activities file.

File Structure: Data frame

Number of cases: 1048148. Variables per record: 3.

## Waypoints: Variables

**event\_id:**

Format = numeric.

**lon:**

Format = numeric.

**lat:**

Format = numeric.