The influence of travel mode on mood and productivity

-using panel data from the C19 lockdown

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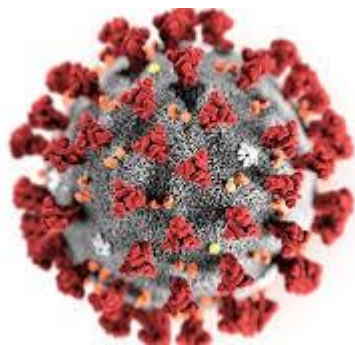
Conference on Environmental Psychology

November 2020

Research in motion

RECRUITMENT

Facebook

6 May 2020

2031 people answered

TIMELINE

| T0 | T1 | T2 | T3 | T4 | T5 | T6 |

13 mars 2020
Lockdown

6 -25 ma

13 mai-3 jun

26 mai-18 jun

9-25 jun

25 aug-7sept

8-17 sept

22-28 sept

N= 2031

N= 1810

N= 1693

N= 1532

N=1608

N=1544

N=1497

toi : Institute of Transport Economics
Norwegian Centre for Transport Research

Sample (N= 2031)

98% work
2% students

Region:
63% Oslo, Viken, Innlandet
6% Agder, Vestfold, Telemark
15% Vestland, Rogaland
11% Trøndelag, Møre, Romsdal
3% Nordland, Troms, Finnmark

70% female

43 yrs

45% office worker
33% academic
11% manager
2% sales /service
2% health worker

65% have children
• 76% below 18
• 50% more than one

60% high education (master)

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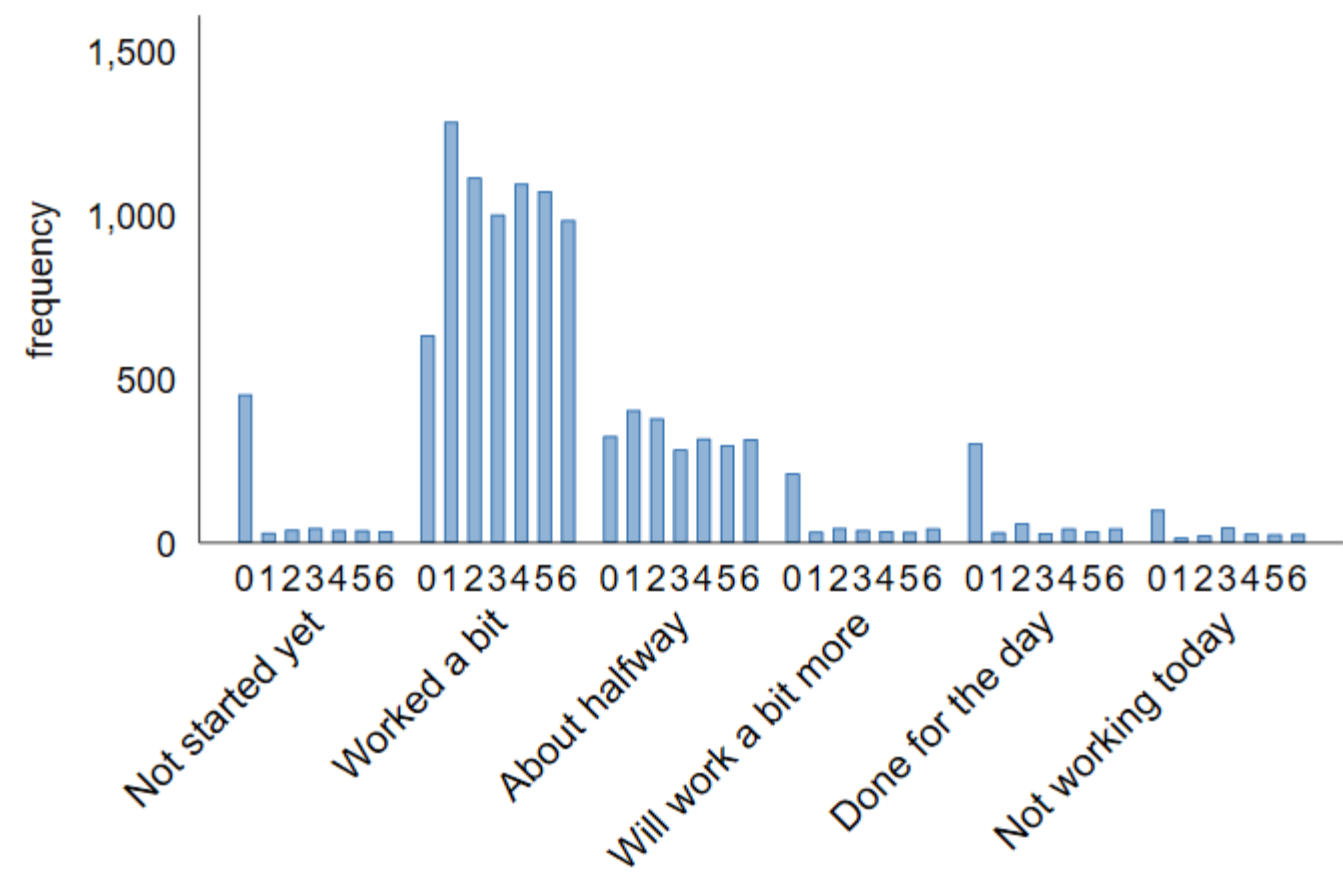
Interview context

What statement best describes your working day today?

Experience with working from home

Before COVID-19

1.7% had home office only

8% regularly

64% occasionally

26% never

13 Mars 2020

During COVID-19

88 % had home office only

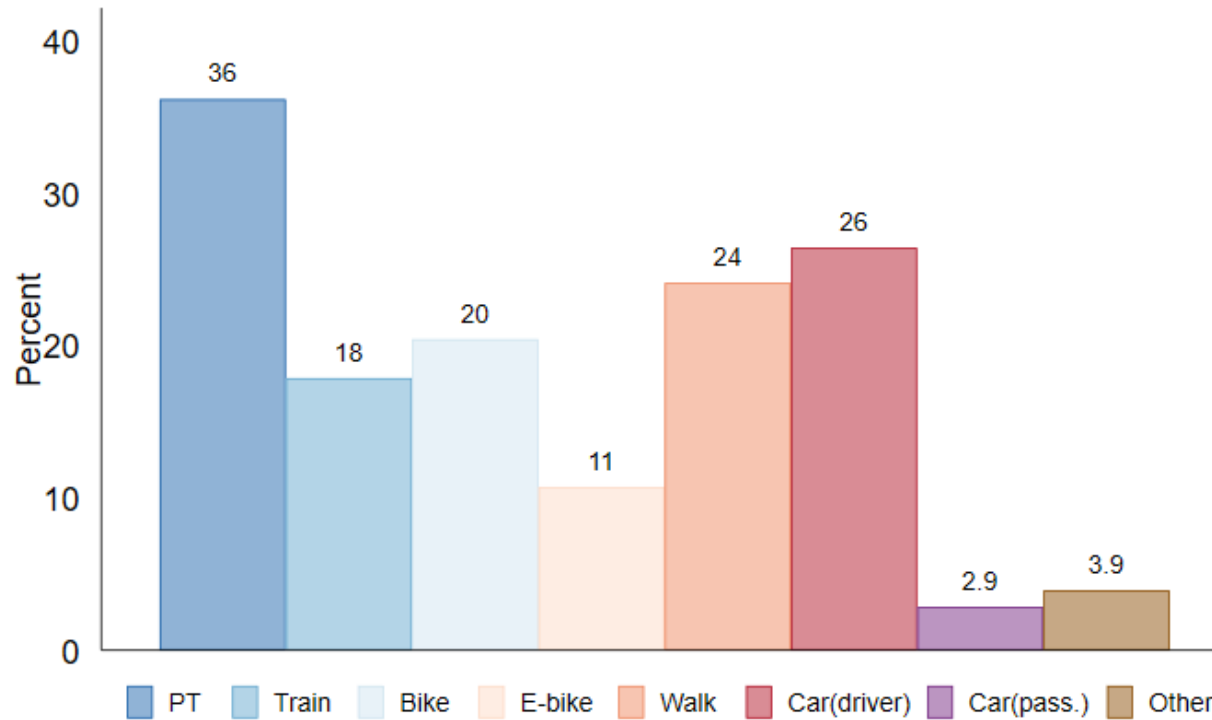7% regularly

3 % occasionally

3% never

Travel habits before

How do you normally travel to work/school this time of the year? (%)

If you are not travelling beacuse of Covid-19, think about how you travelled before

N=2031

Legend: PT, Train, Bike, E-bike, Walk, Car(driver), Car(pass.), Other

Values: PT 36, Train 18, Bike 20, E-bike 11, Walk 24, Car(driver) 26, Car(pass.) 2.9, Other 3.9

… and now

How do you normally travel to work/school this time of the year? (%)

If you are not travelling beacuse of Covid-19, think about how you travelled before
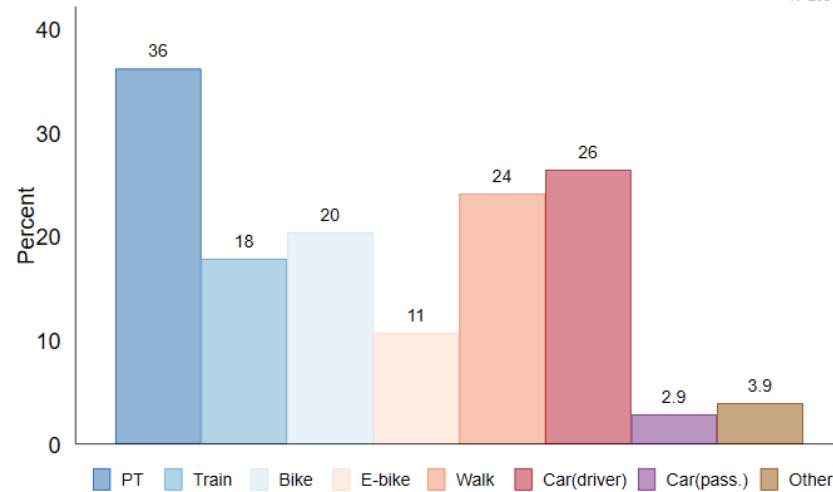
N=2031

How did you travel to work/school today? (%), T0

N=329
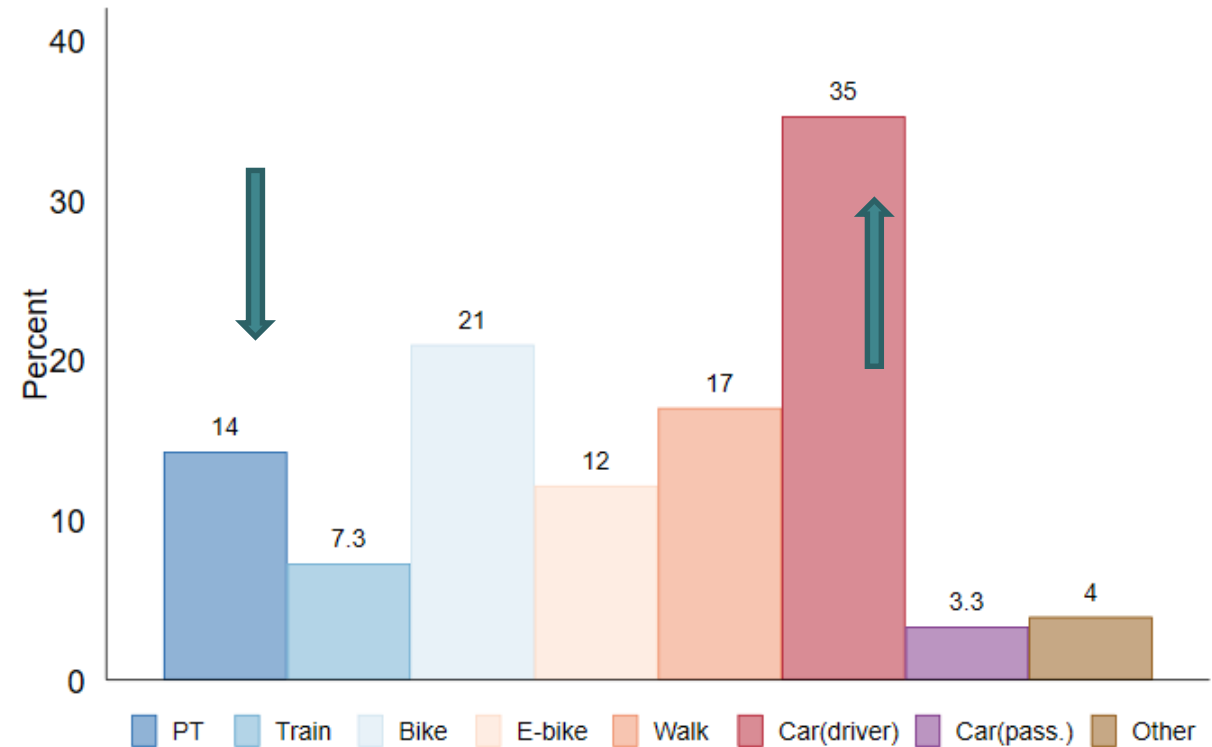
Fear of COVID19

How worried are you...

that you will be infected?

| 21 | 29 | 18 | 14 | 12 | 5 | 1 |

N=2031

that your children will be infected?

| 15 | 26 | 19 | 14 | 15 | 7 | 3 |

N=1312
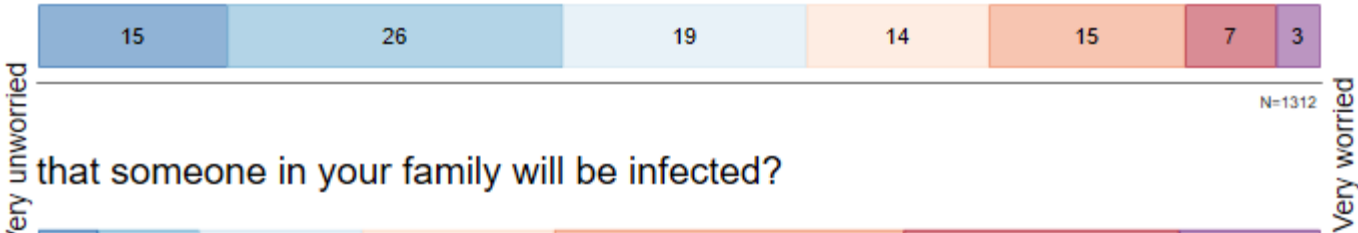
that someone in your family will be infected?

| 5 | 8 | 13 | 15 | 27 | 22 | 11 |

N=2031

to infect others?

| 6 | 9 | 11 | 17 | 26 | 21 | 10 |

N=2031

Very unworried — Very worried
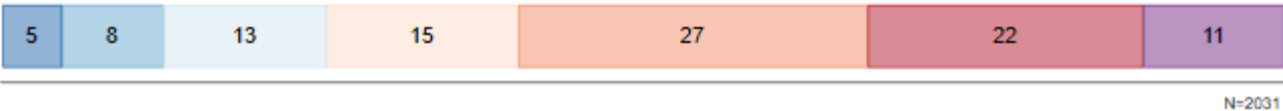
To travel, or not to travel (to work)

Most(>95%) worked on the survey day

Are you working from home today? (%)

	Yes	No
T0, N=2022	84	16
T1, N=1799	79	21
T2, N=1656	69	31
T3, N=1437	62	38
T4, N=1552	54	46
T5, N=1498	52	48
T6, N=1448	58	42

May
Mai-June
Mai-June
June
Aug-Sept
Sept
Sept
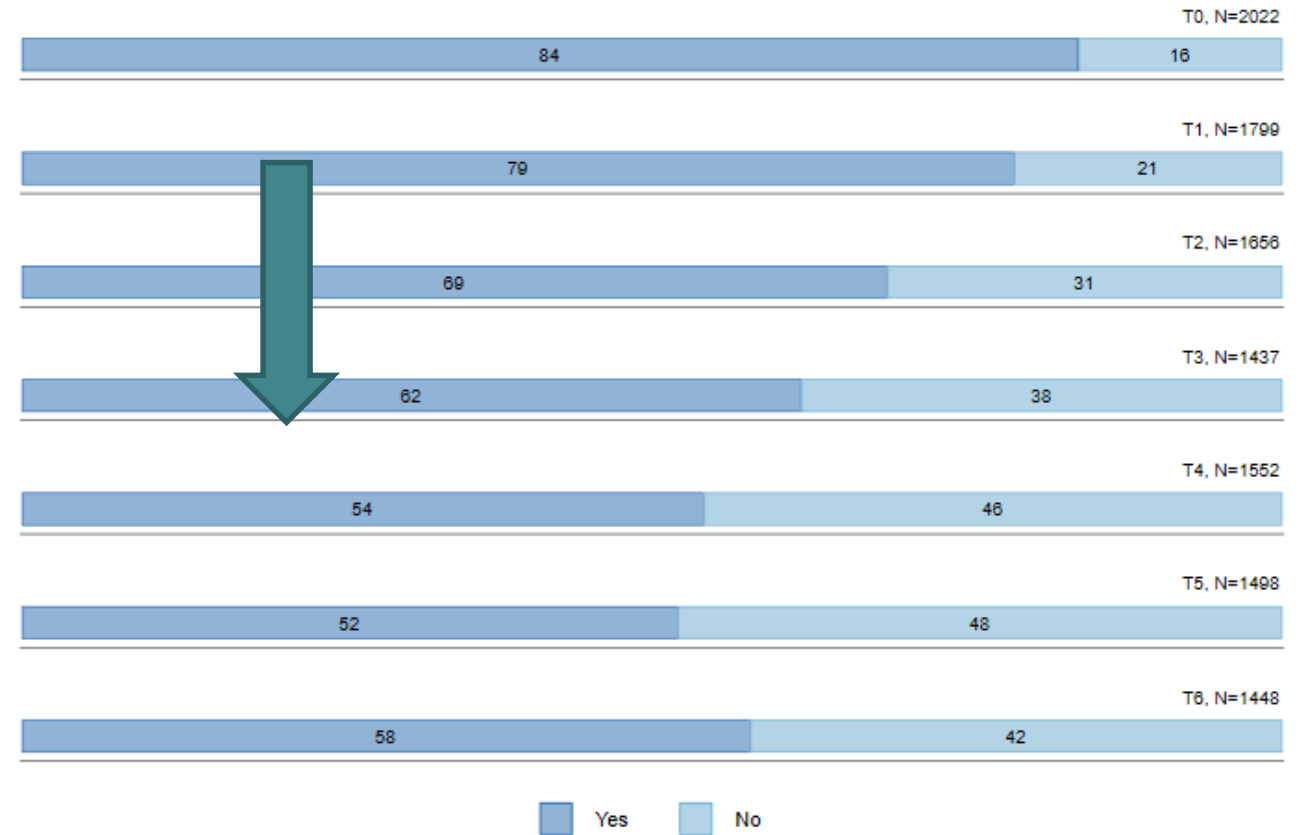
Working from home   is working well

How would you rate your experience of working from home today?

Do you miss your commute?

Do you miss your commute? (%), T0

Public Transport

| 47 | 45 | 8 |

N=268

Train

| 50 | 36 | 14 |

N=70

Walk

| 17 | 41 | 41 |

N=111

(e)Bike

| 12 | 60 | 28 |

N=350

Car

| 68 | 27 | 5 |

N=378

Legend: Not at all | Some aspects of it | Very much

Random-effects GLS regression   Number of obs = 6,783
Group variable: id   Number of groups = 1,662

R-sq: Obs per group:
    within = 0.0110   min = 1
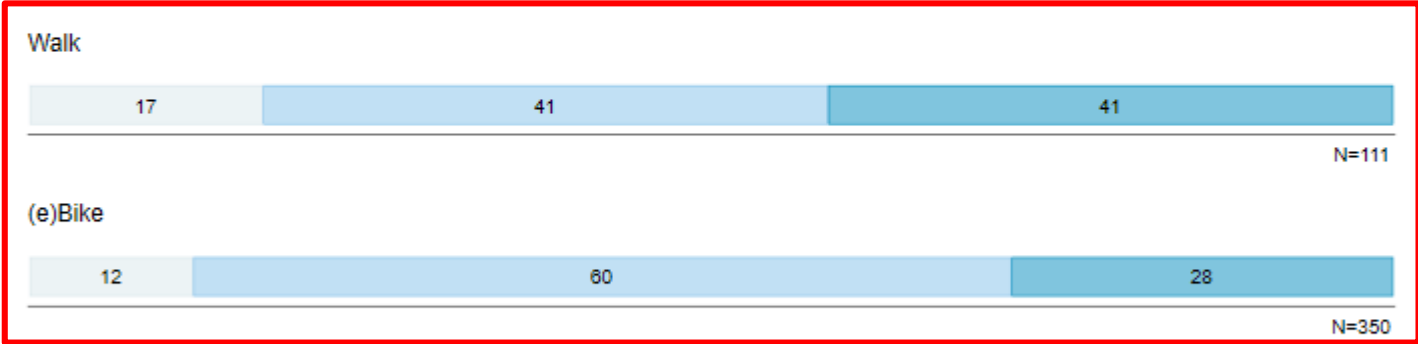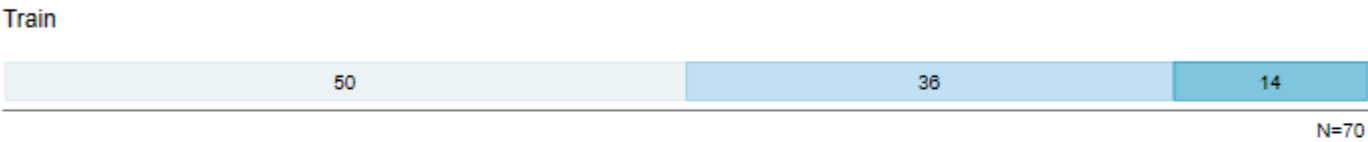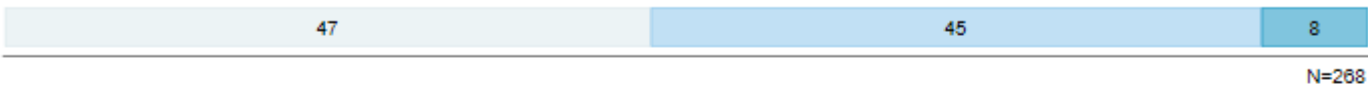   between = 0.2850   avg = 4.1
    overall = 0.2285   max = 7

    Wald chi2(46) = 720.45
corr(u_i, X) = 0 (assumed)   Prob > chi2 = 0.0000

savner	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
vanlig_reise						
Kollektiv	.2284042	.0462114	4.94	0.000	.1378315	.318977
Tog	.2750095	.0691515	3.98	0.000	.139475	.410544
Gå	.5922846	.0657433	9.01	0.000	.4634301	.7211392
(el)Sykkel	.6949847	.0459954	15.11	0.000	.6048354	.7851341
Annet	.3904852	.1395751	2.80	0.005	.1169231	.6640473
Flere	.2924331	.0378502	7.73	0.000	.218248	.3666182
hvorfor_hjemmeko~g						
Pålagt arbeids..	.0855246	.0169638	5.04	0.000	.0522761	.1187731
Oppfordret arbe..	.0539431	.0147112	3.67	0.000	.0251097	.0827764
Ansvar for barn..	.0197436	.0432226	0.46	0.648	-.0649712	.1044583
like_wfh	-.1223422	.0149784	-8.17	0.000	-.1516994	-.092985
kjonn	-.013951	.0302961	-0.46	0.645	-.0733303	.0454282
age	-.0007276	.0014694	-0.50	0.620	-.0036075	.0021524
brutto	-.0297914	.0155349	-1.92	0.055	-.0602392	.0006564
utdanning	.0227037	.0221997	1.02	0.306	-.0208068	.0662143
barn_under18	-.0290131	.026749	-1.08	0.278	-.0814401	.023414
kmreise	-.0147063	.0108431	-1.36	0.175	-.0359583	.0065457

Mood

Three dimensions of mood (Wilhelm and Schoebi, 2007)
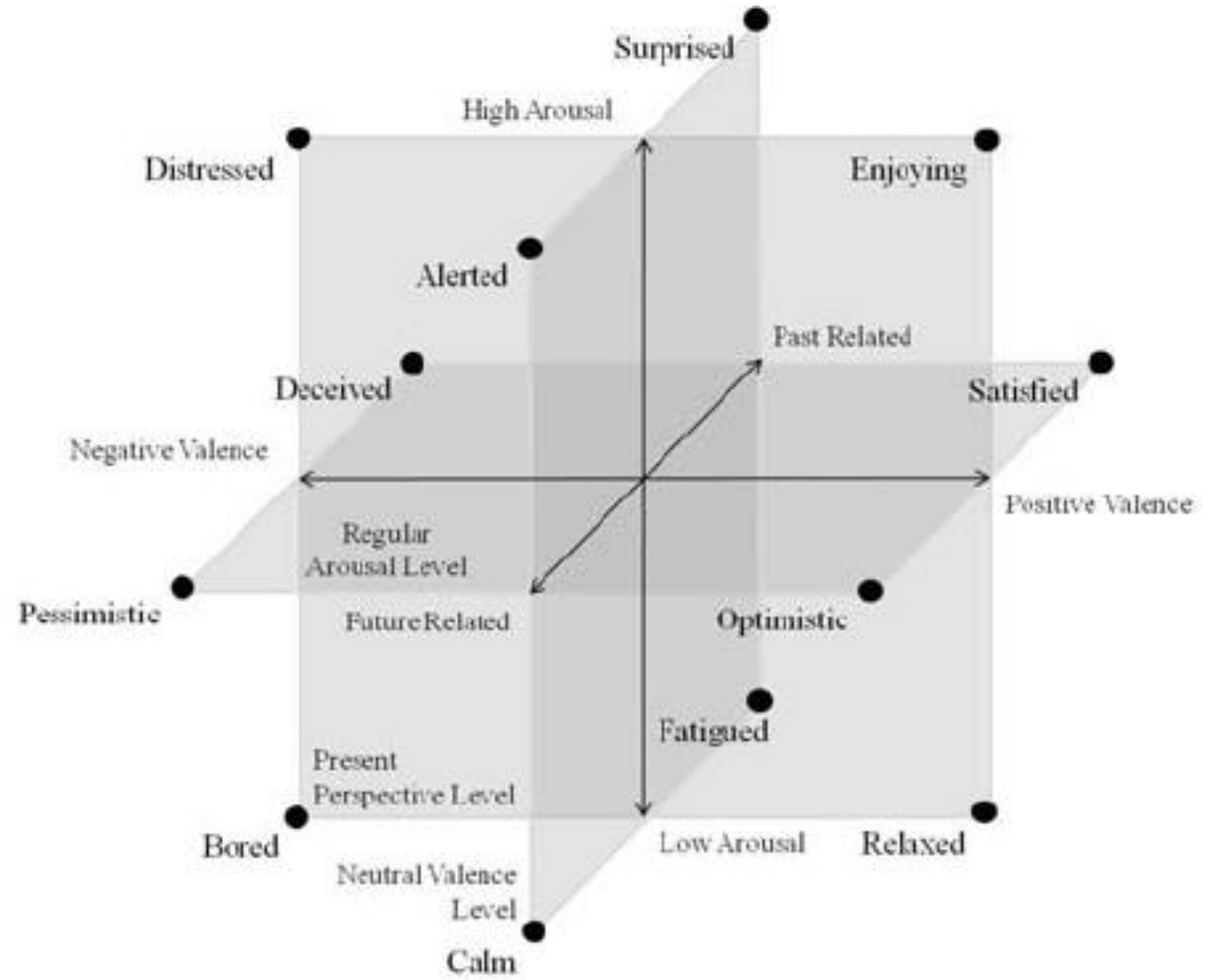
Mood

Three dimensions of mood (Wilhelm and Schoebi, 2007)

Today I feel

| Very tired | 3 | 6 | 13 | 17 | 25 | 26 | 10 | Very awake |

| Very content | 13 | 23 | 18 | 18 | 18 | 10 | 1 | Very discontent |

| Full of energy | 5 | 16 | 26 | 27 | 19 | 6 | 1 | Without energy |

| Very relaxed | 10 | 21 | 27 | 27 | 12 | 3 | 1 | Very tense |
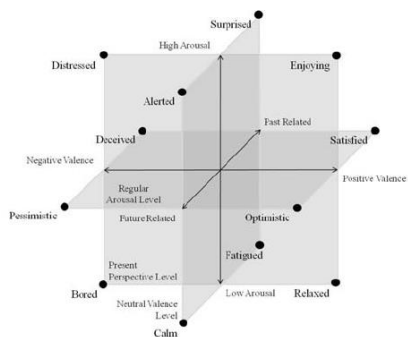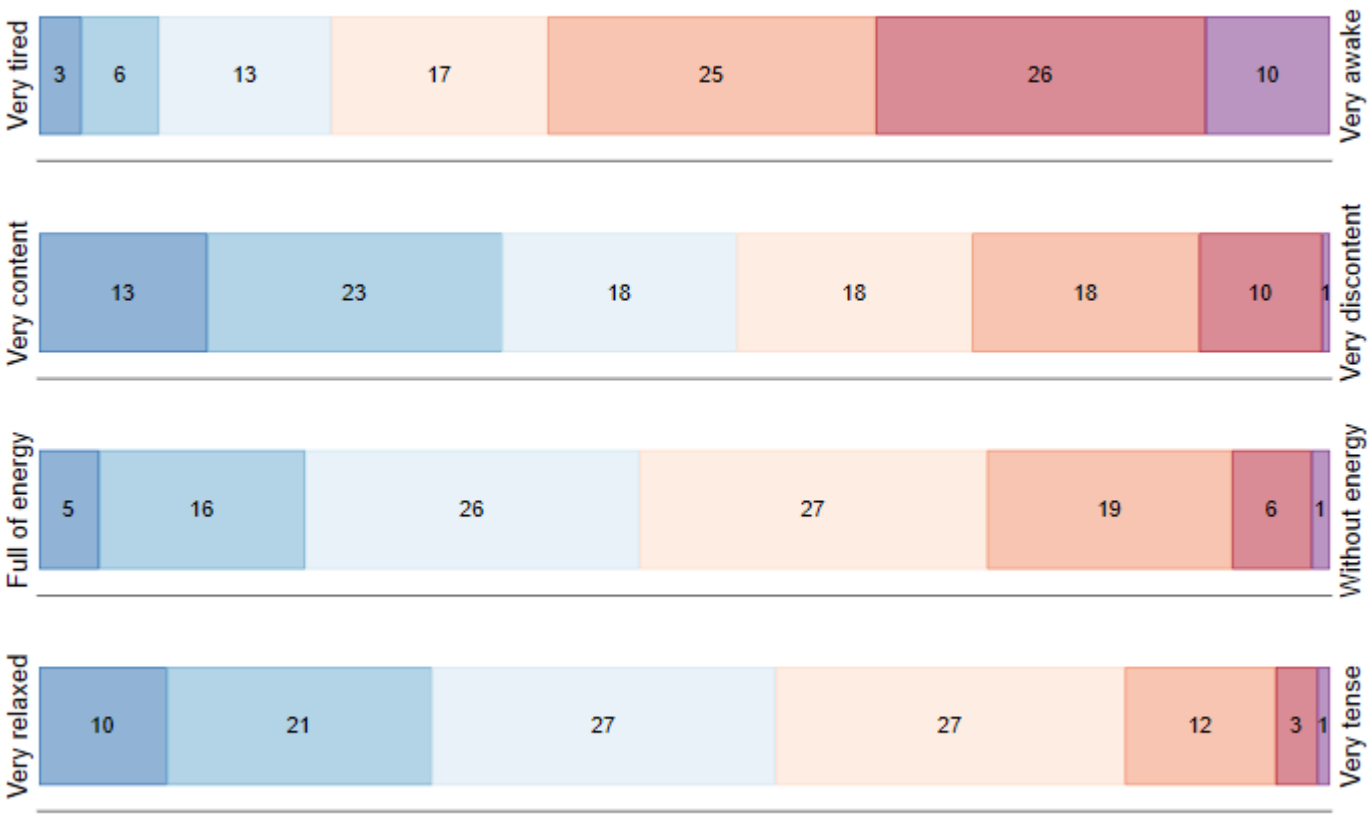
T0, N=2022

Productivity

(Fyhri, Karlsen, Ciccone, 2020)

So far today, I think...

I study/work effectively

| 1 | 6 | 12 | 17 | 27 | 25 | 12 |

T0, N=2022

I am easily distracted

| 11 | 25 | 19 | 16 | 16 | 10 | 3 |
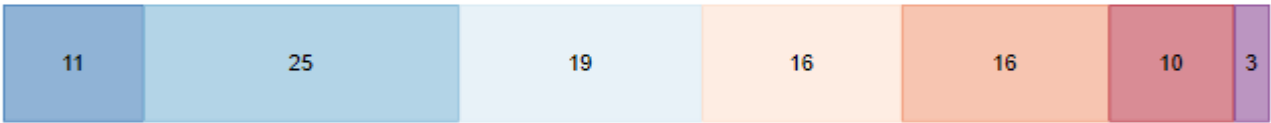
T0, N=2022

I concentrate well on my tasks

| 1 | 4 | 14 | 16 | 28 | 27 | 11 |

T0, N=2022

Completely disagree — Completely agree

Travel mode and mood/productivity

Left table:

```
Random-effects GLS regression              Number of obs    =     3,250
Group variable: id                         Number of groups =     1,181

R-sq:                                      Obs per group:
    within  = 0.0173                           min =         1
    between = 0.2107                           avg =       2.8
    overall = 0.1651                           max =         7

                                           Wald chi2(52)    =         .
corr(u_i, X)   = 0 (assumed)               Prob > chi2      =         .
```

prod_index	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
idag_mode						
Kollektiv	.035497	.0822445	0.43	0.666	-.1256994	.1966933
Tog	.1568103	.1354558	1.16	0.247	-.1086781	.4222987
(el)Sykkel	.2227246	.0658587	3.38	0.001	.093644	.3518052
Gå	.1929452	.0935891	2.06	0.039	.0095139	.3763764
Annet	.0030482	.1560905	0.02	0.984	-.3028837	.3089801
Flere	.0755782	.1030591	0.73	0.463	-.1264139	.2775704
kjonn	-.0445851	.0668862	-0.67	0.505	-.1756797	.0865094
age	.0236901	.0032497	7.29	0.000	.0173207	.0300594
brutto	-.0537627	.0349562	-1.54	0.124	-.1222756	.0147502
utdanning	.0459247	.049346	0.93	0.352	-.0507916	.1426411
barn_under18	-.0936934	.0589999	-1.59	0.112	-.209331	.0219442
tidreise	-.0449283	.0225696	-1.99	0.047	-.0891638	-.0006927
time2						
1	.3554724	.0956058	3.72	0.000	.1680885	.5428564
2	.2684029	.0927374	2.89	0.004	.086641	.4501648
3	.2802127	.0944748	2.97	0.003	.0950454	.46538
4	.2989236	.0953276	3.14	0.002	.112085	.4857623
5	.2259152	.0959249	2.36	0.019	.0379059	.4139245
6	.2883988	.096205	3.00	0.003	.0998403	.4769572

Right table:

```
Random-effects GLS regression              Number of obs    =     3,250
Group variable: id                         Number of groups =     1,181

R-sq:                                      Obs per group:
    within  = 0.0187                           min =         1
    between = 0.2497                           avg =       2.8
    overall = 0.1967                           max =         7

                                           Wald chi2(52)    =         .
corr(u_i, X)   = 0 (assumed)               Prob > chi2      =         .
```

mood_index	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
idag_mode						
Kollektiv	.0243339	.0664621	0.37	0.714	-.1059295	.1545972
Tog	.2423895	.1095227	2.21	0.027	.0277289	.45705
(el)Sykkel	.2697689	.0531529	5.08	0.000	.165591	.3739467
Gå	.2171247	.075476	2.88	0.004	.0691945	.3650549
Annet	.2819699	.1263025	2.23	0.026	.0344215	.5295184
Flere	.2248233	.0833391	2.70	0.007	.0614817	.388165
kjonn	-.0957696	.0535729	-1.79	0.074	-.2007706	.0092314
age	.0186839	.002603	7.18	0.000	.0135821	.0237857
brutto	-.0576671	.0280031	-2.06	0.039	-.1125521	-.0027821
utdanning	-.0010148	.0395358	-0.03	0.980	-.0785036	.076474
barn_under18	-.0370055	.0472724	-0.78	0.434	-.1296576	.0556467
tidreise	-.0382778	.0180998	-2.11	0.034	-.0737528	-.0028029
time2						
1	.0453972	.0778009	0.58	0.560	-.1070897	.1978842
2	.0237522	.0754357	0.31	0.753	-.1240991	.1716034
3	-.0058039	.0768285	-0.08	0.940	-.156385	.1447773
4	.0086646	.0775148	0.11	0.911	-.1432616	.1605909
5	-.0653171	.0780038	-0.84	0.402	-.2182019	.0875676
6	-.0187232	.0782283	-0.24	0.811	-.172048	.1346015

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Changing from active to passive transport

Chart comparing Passive and Active transport for Mood ** and Productivity, with values between 4 and 5.

- Mood **: Passive ≈ 4.4, Active ≈ 4.6
- Productivity: Passive ≈ 4.5, Active ≈ 4.65

Legend: ■ Passive ■ Active

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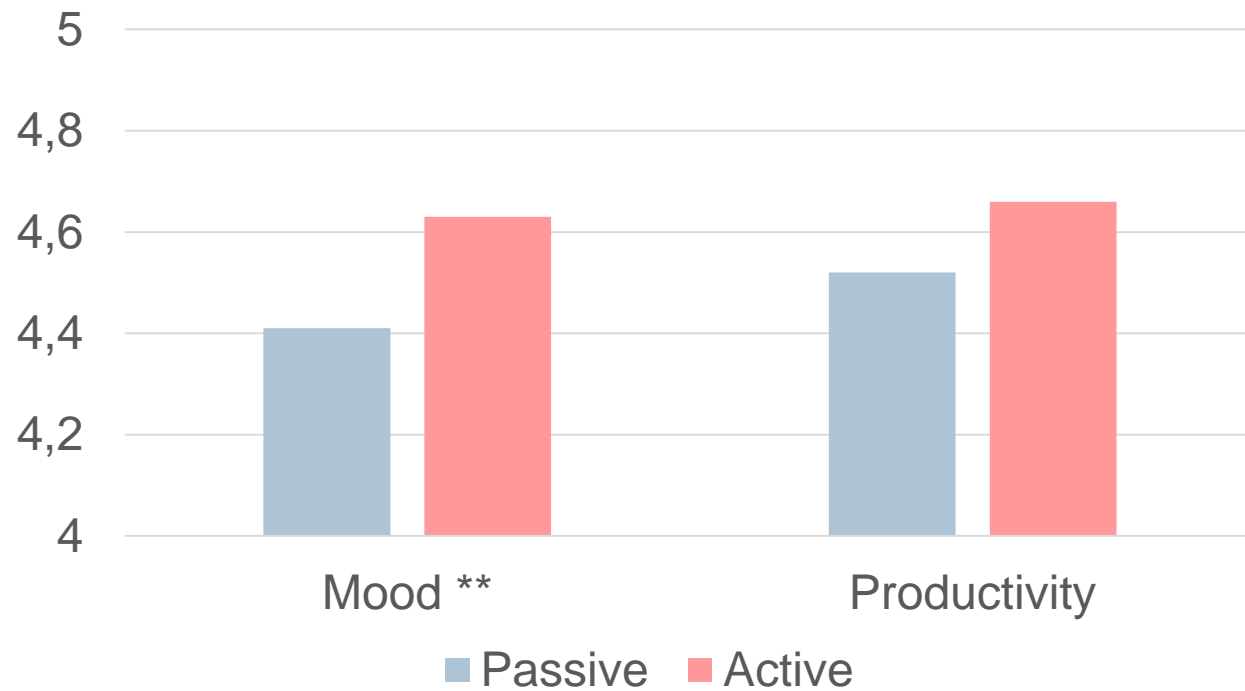
To summarize

«Everyone» started working from home…

…and they like it

..and are most happy when they arrive at work

Thank you!

Lockdown has shifted people from public transport to private car

Walkers and bikers miss their commute most…