

MASZK

MAGYAR ADATSZOLGÁLTATÓ KÉRDŐÍV



covid.sed.hu

MASZK - Hungarian data provider questionnaire

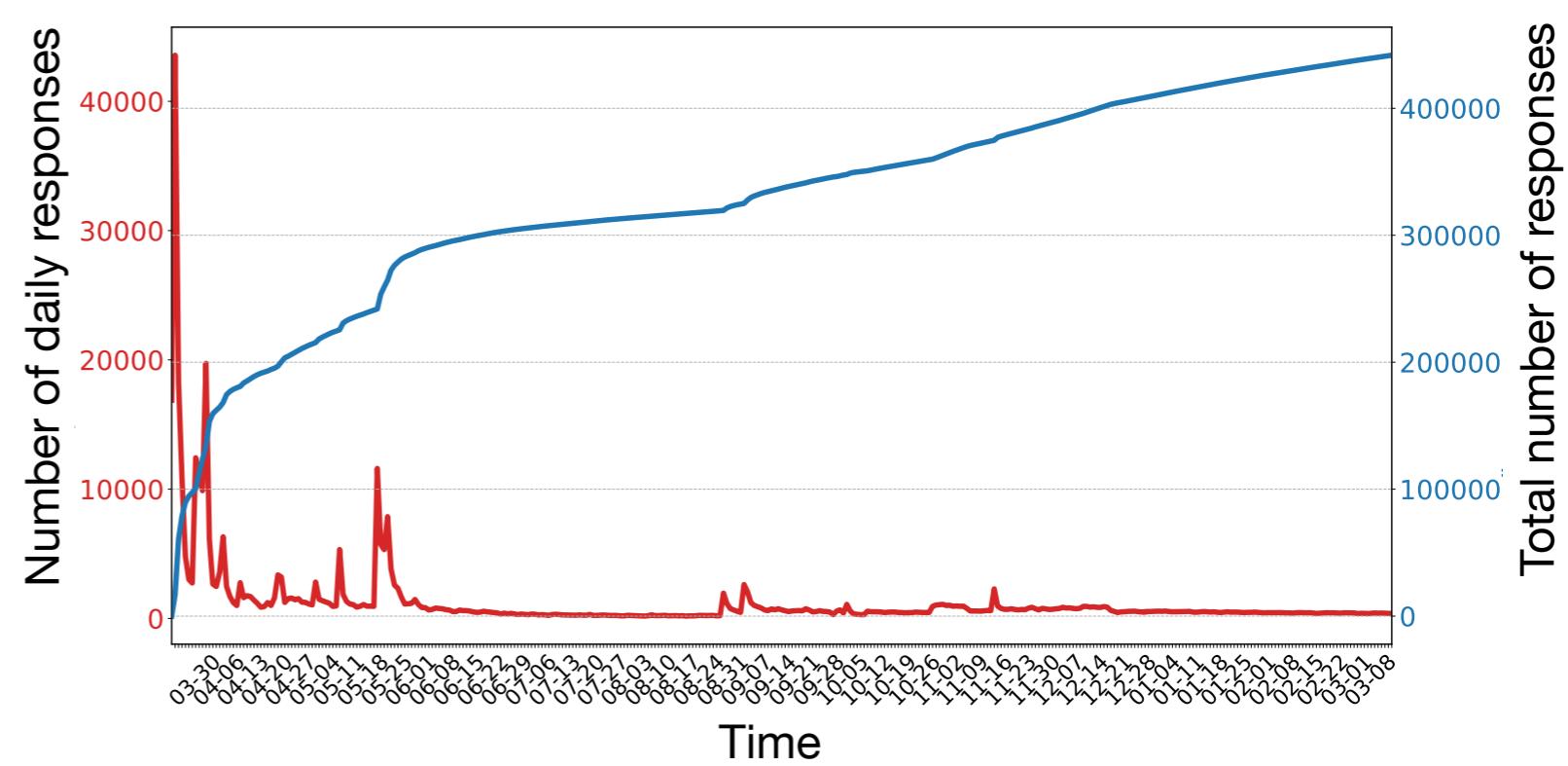


Since 23rd March 2020:

- 230 000+ respondent
- 442 000+ responses

Online COVID-19 questionnaire

- Anonym
- Voluntary
- Rolling data collection
- Dynamical and cheap
- Goals:
 - To estimate age contact matrices
 - To follow behavioural and opinion changes



MASZK online - questionnaire structure

Demography

- Basic demographics
 - age
 - gender
 - location
- Occupation
- Education
- Employment status/home office
- Income - before/now
- Acute and chronic diseases
- Family structure
- Smoking habits

Mobility data

- Travels abroad over the last months (neighbouring countries or else)
- Mobility between cities and districts in Budapest

Reference period

- Contact matrix for pre-COVID-19 period
- Weekday/Weekend matrices separately

	0 fő	1-2 fő	3-6 fő	7-15 fő	16-30 fő	31-60 fő	60-nál több fő
Kisgyermek (0-4 éves)	●	○	○	○	○	○	○
Gyermek (5-14 éves)	●	○	○	○	○	○	○
Fiatal (15-29 éves)	○	○	●	○	○	○	○
Fiatal felnőtt (30-44)	○	○	○	●	○	○	○
Középkorú (45-59 éves)	●	○	○	○	○	○	○
Idősödő (60-69 éves)	○	●	○	○	○	○	○
Idős (70-79 éves)	●	○	○	○	○	○	○
Szépkorú (80 évesnél idősebb)	●	○	○	○	○	○	○

Actual period

(asked always for yesterday)

- Tested or symptomatic COVID-19 infection of ego, family and environment

Matrices:

- **Proxy** (<2 meter, 15min<) contact matrix
- **Physical** (physical touch without protection) contact matrix
- **Home/Work/Elsewhere** contact matrices
- **Children** proxy and physical contact matrices at school estimated by parents

MASZK online - Opinion and behavioural monitoring

Exposure

- Tested/Vaccinated/Infected
- Symptoms
- Family infection and symptoms

Opinion

- Vaccination
 - attitude
 - preferred vaccine
 - children
- Necessary protection and interventions
- Trust in scientists and policy makers

Behaviour

- Testing
- Vaccination
 - type/number/time/symptoms
 - For family and children
- Contact dynamics after vaccination
- Travels abroad and out of habitual place
- Use of transportation
- Participation at mass events
- Mask wearing at different contexts
- Perception of danger
- Awareness and willingness of adaption
- Preferred source of information about the pandemic

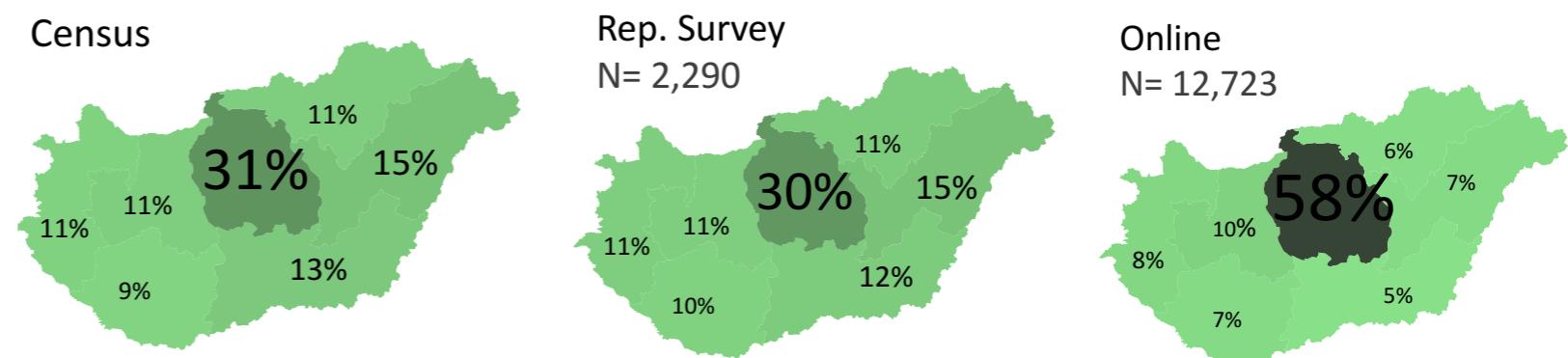
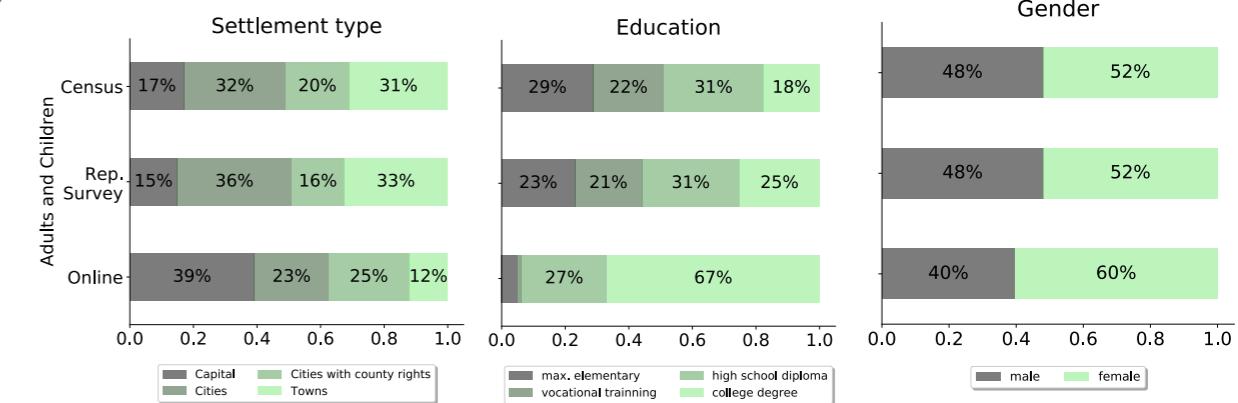
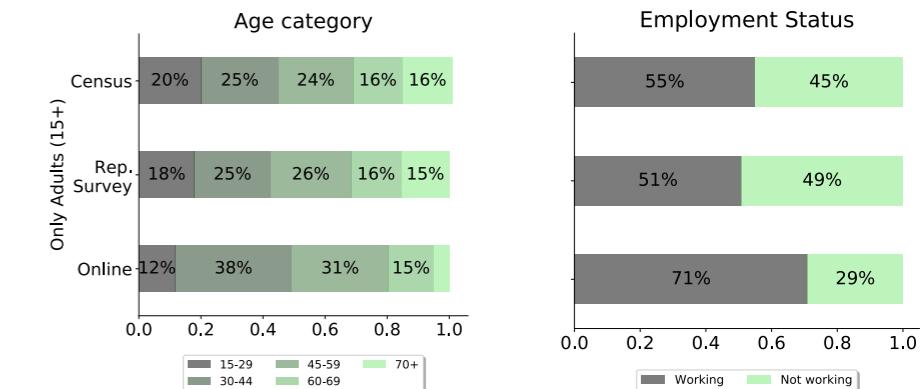
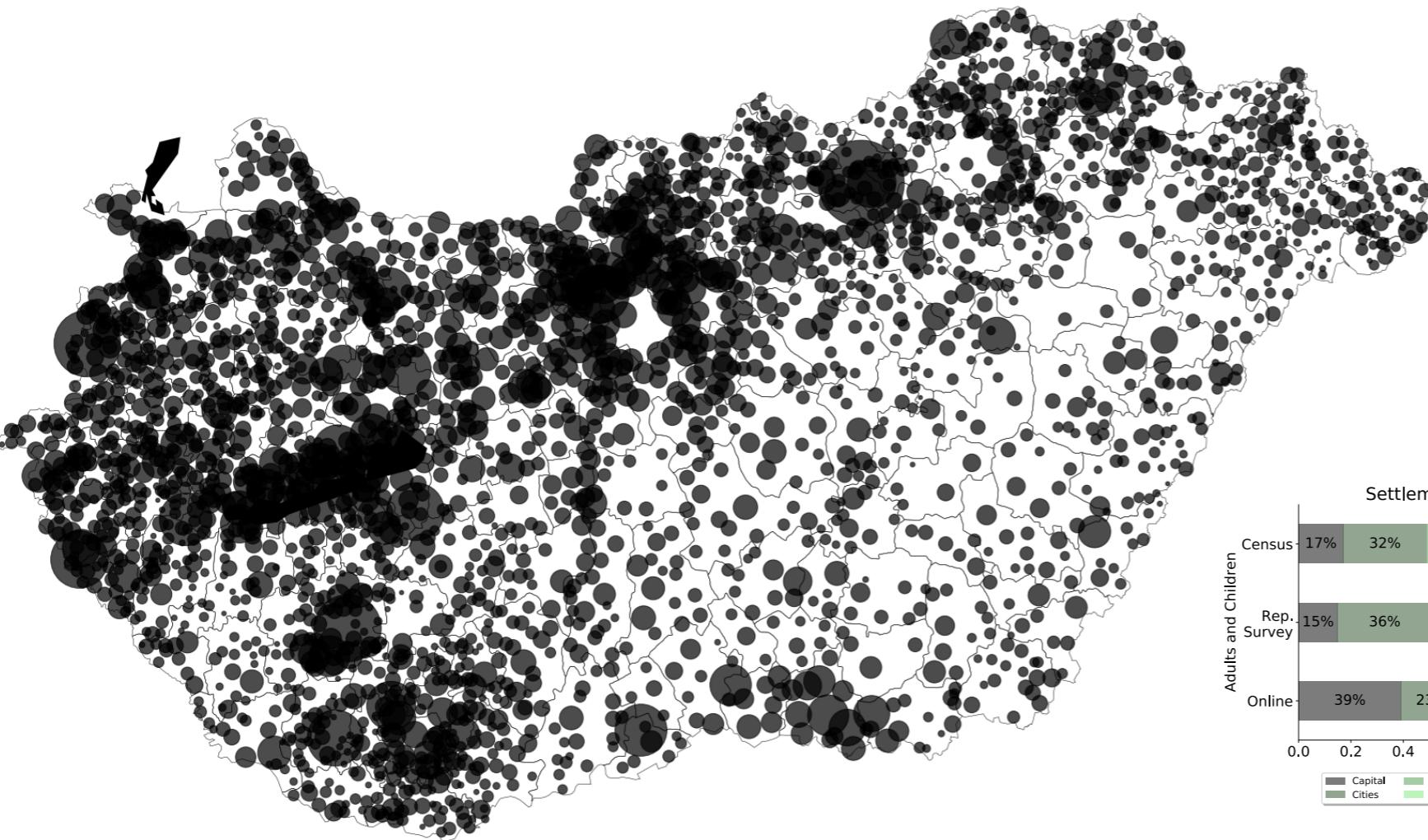
M Karsai, J Koltai, O Vásárhelyi, G Röst
Hungary in mask/maszk in Hungary
Corvinus Journal of Sociology and Social Policy

K. Kutasi, J. Koltai, Á. Szabó-Morvai, G. Röst, M. Karsai, P. Biró, B. Lengyel,
Understanding hesitancy with revealed preferences across COVID-19 vaccine types.
arXiv:2111.06462, Accepted in Sci. Rep. (2022)

AS Ligeti, J Koltai, M Karsai, G Röst
Vaccine hesitancy in Hungary
in White book about the economic and social consequences of the COVID-19 pandemic in Hungary
ELKH, KRTK-KTI (2022)

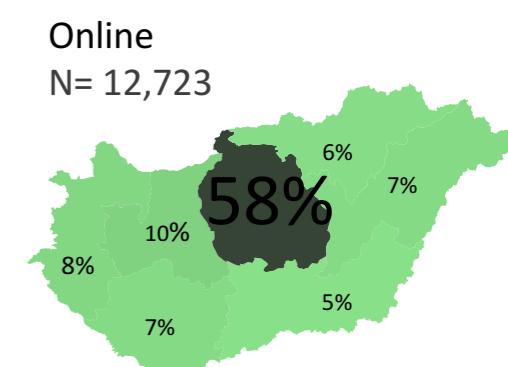
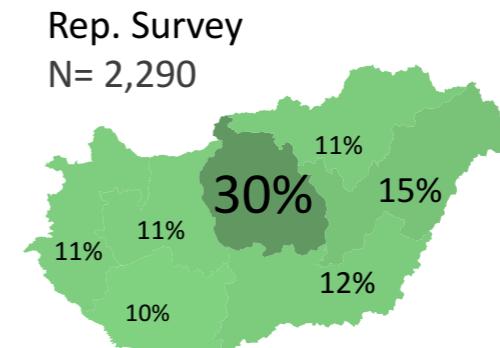
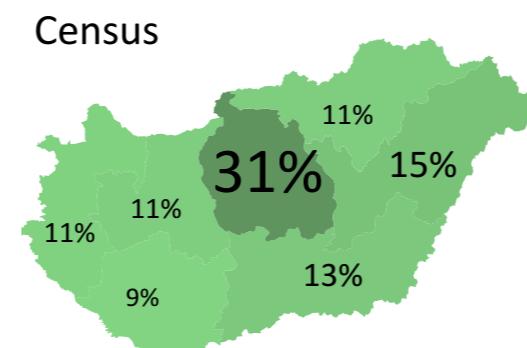
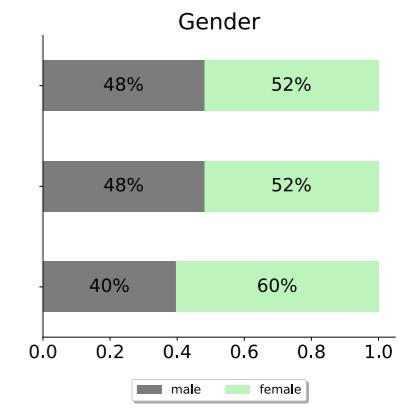
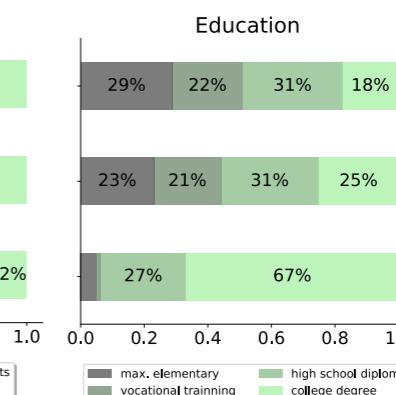
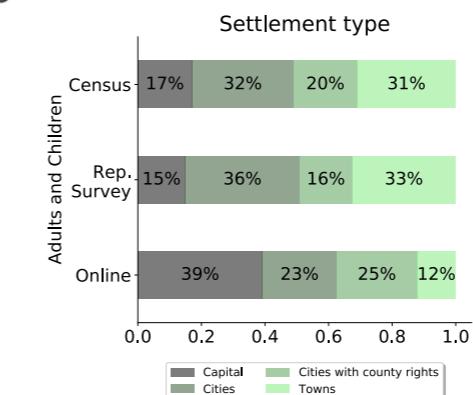
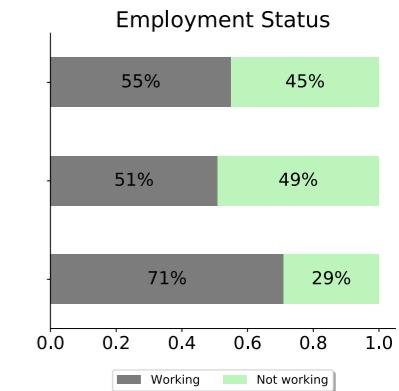
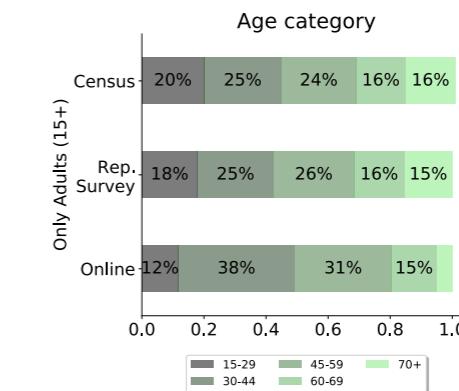
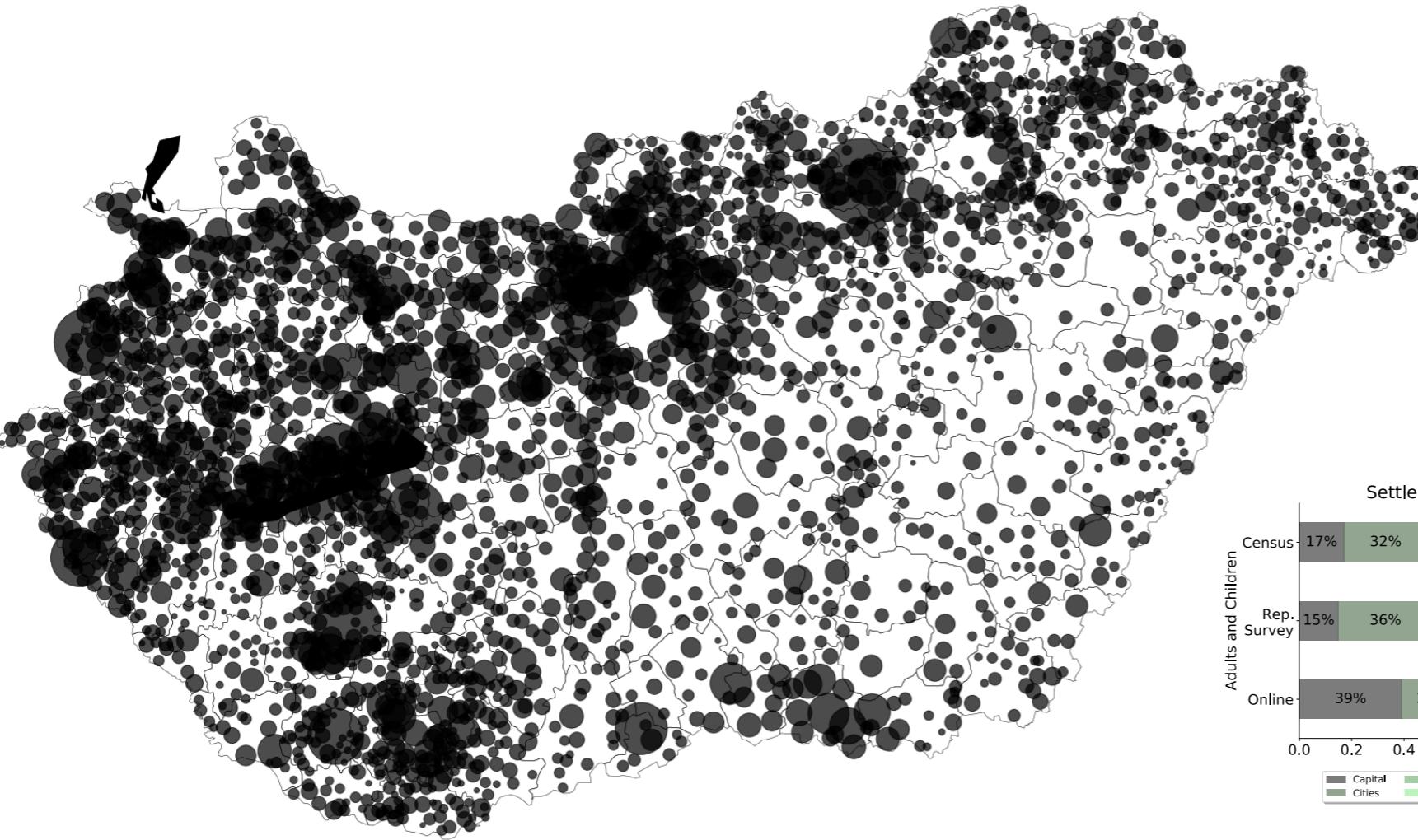
MASZK - Demography

Spatial distribution of respondents



MASZK - Demography

Spatial distribution of respondents



Solution:

Each month **nationally representative phone survey** with 1000 respondents using the same questionnaire

26 monthly data collection waves so far

MASZK – Contact matrix construction

J. Koltai, O. Vásárhelyi, G. Röst, M. Karsai
Scientific Reports, 12: 4690 (2022)

Dimensions most correlated with the number of connections

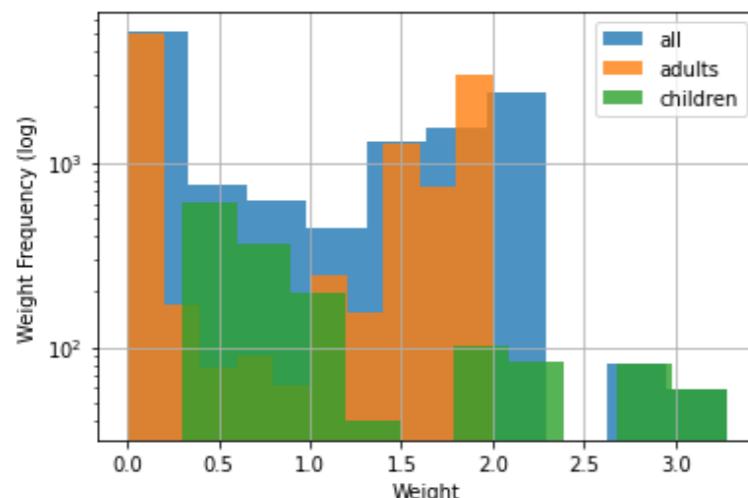
- **age** (census)
- **employment status** (census)
- **visiting other cities the day before** (representative data)
- **household size** (representative data)
- **typology of work** (representative data)

Weighting online records to obtain more representative data

- **Iterative Proportional Fitting** using the representative phone survey and census data

Generate individual weights

- Assign weights to each respondent to account in a representative sample



MASZK – Contact matrix construction

Dimensions most correlated with the number of connections

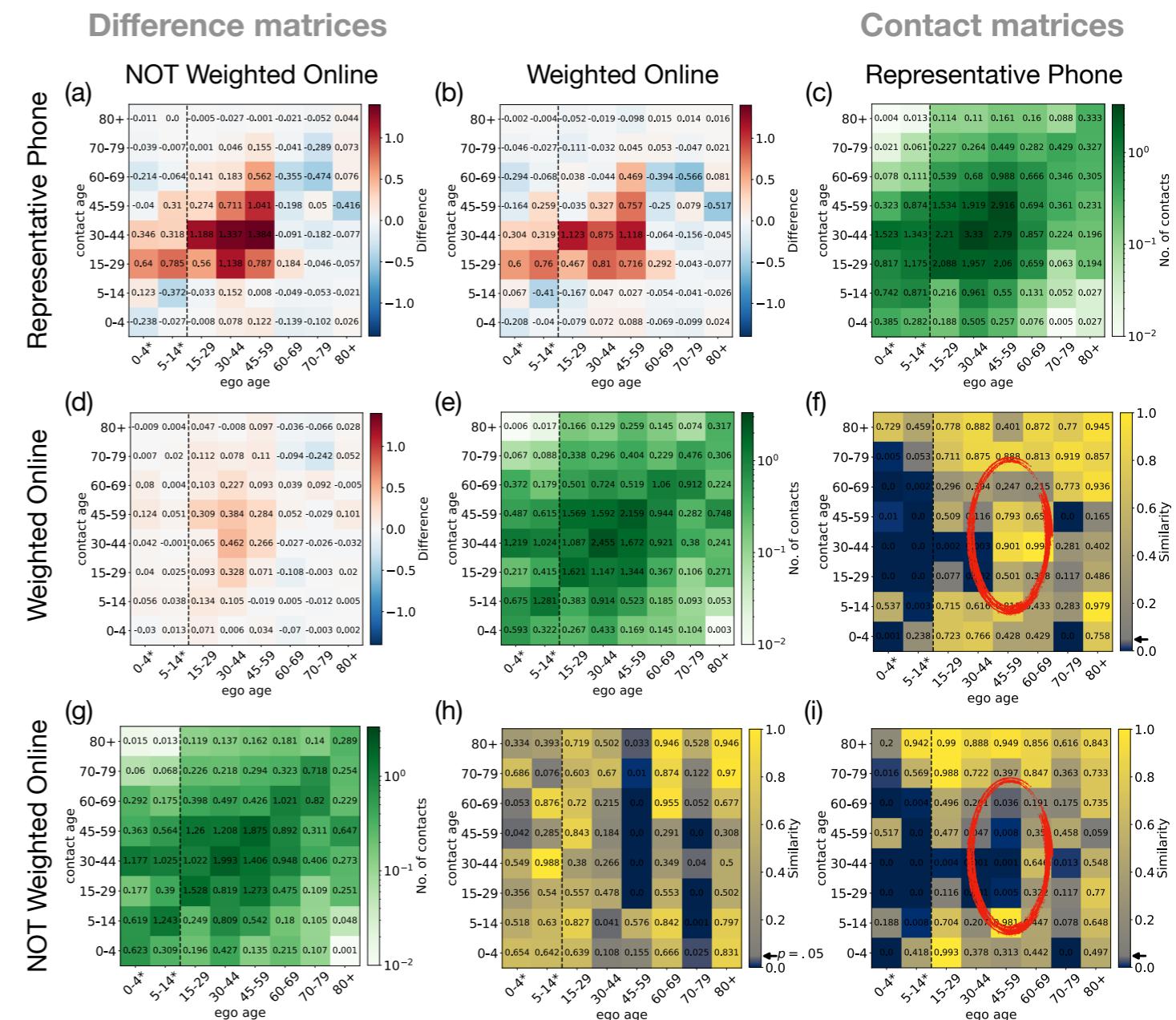
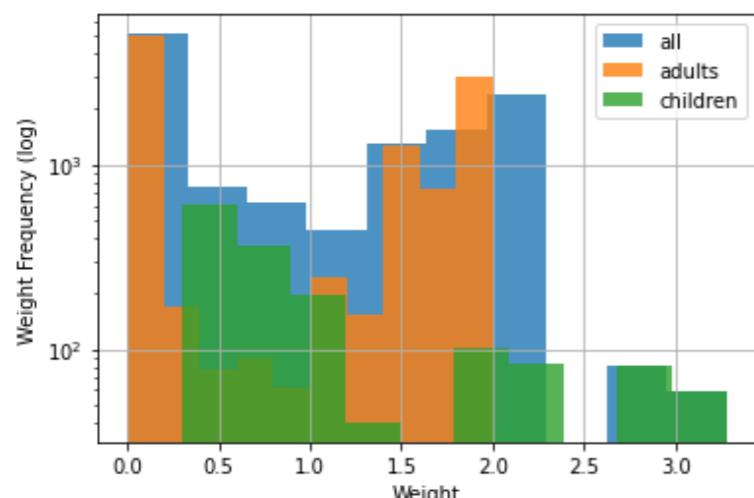
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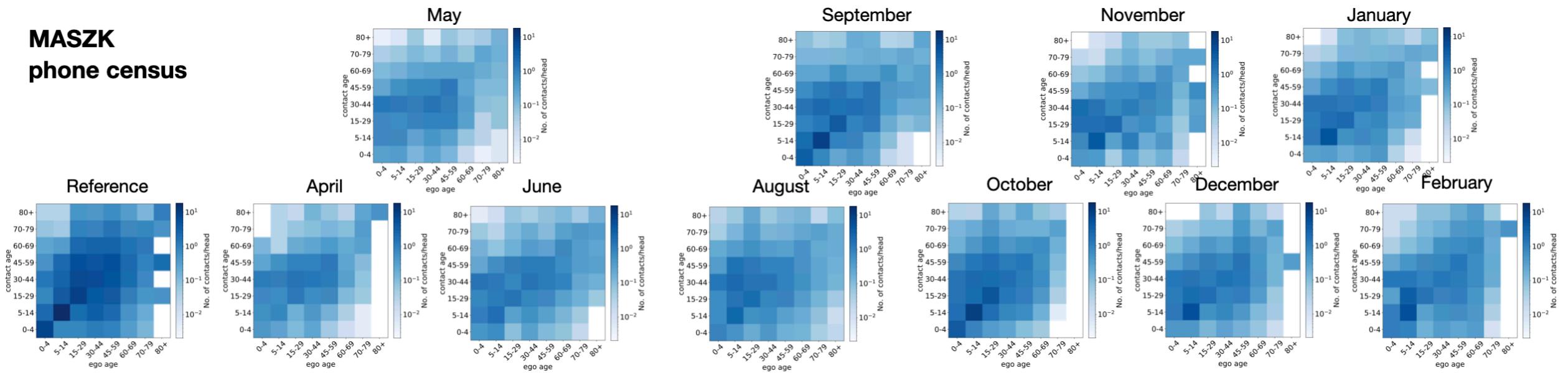
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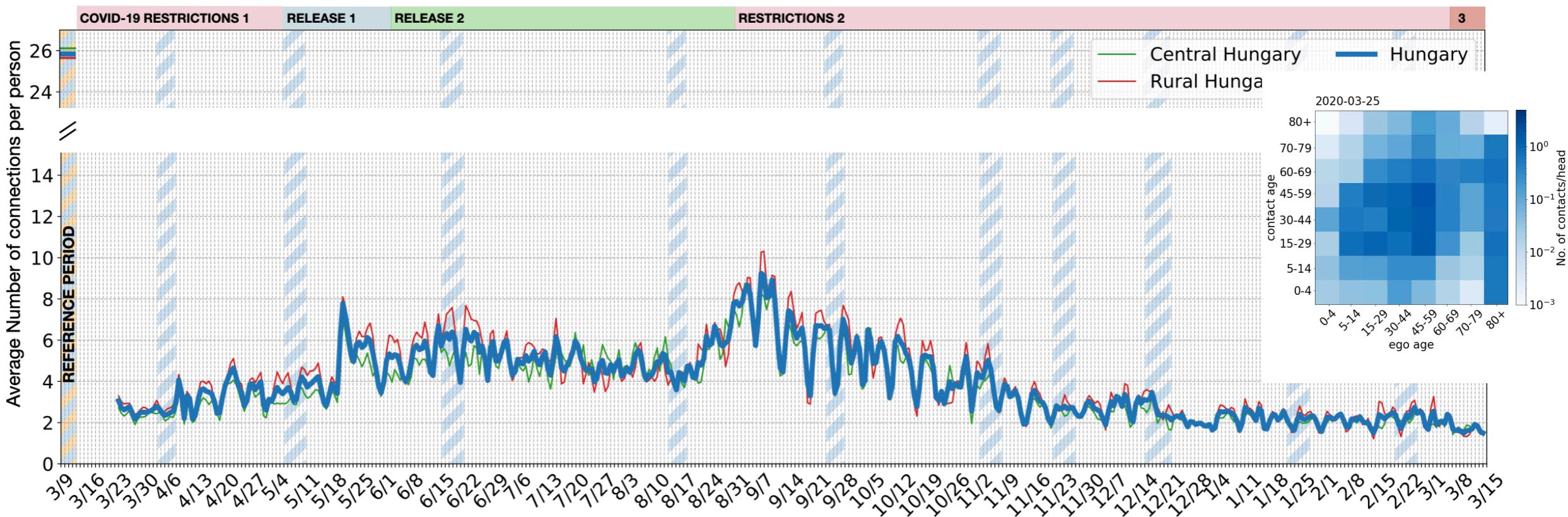


MASZK – Contact Dynamics

MASZK phone census

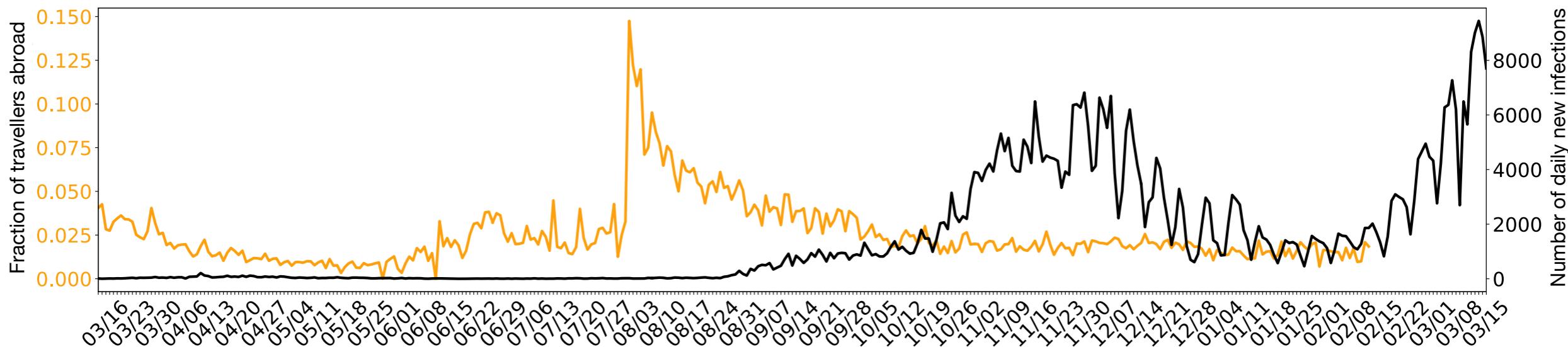


MASZK online

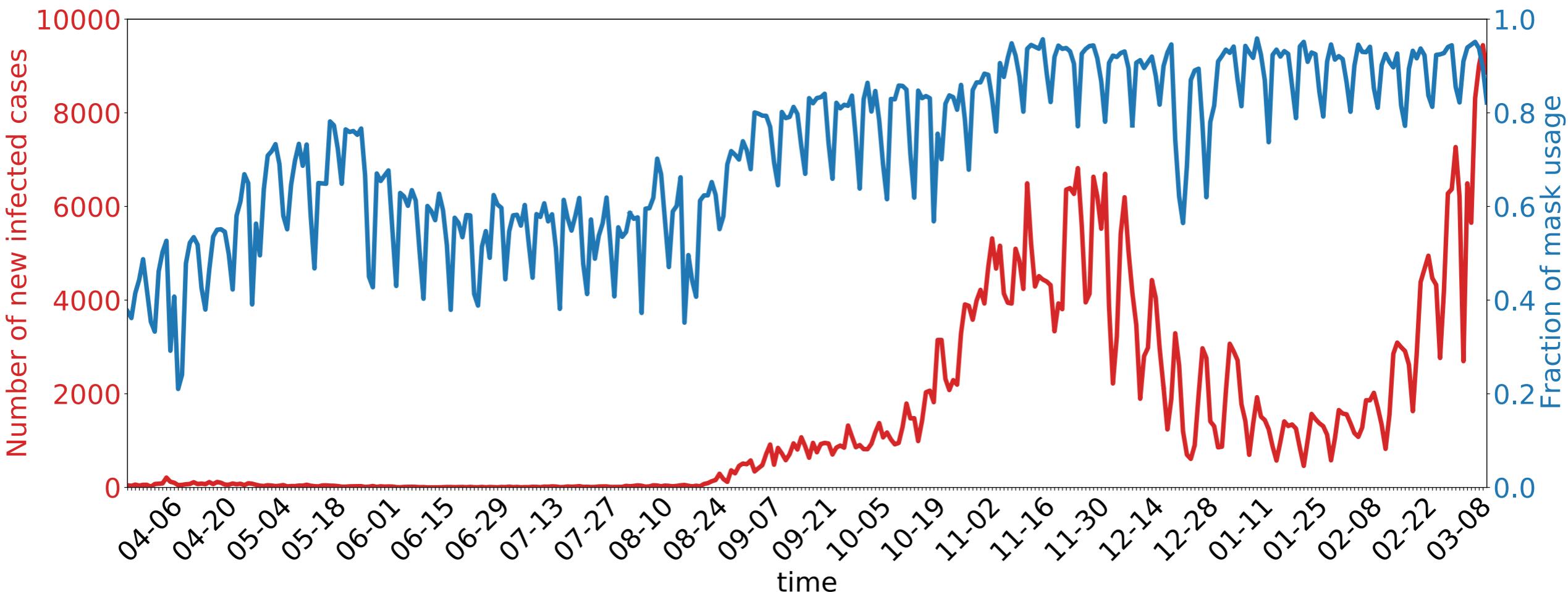


MASZK – Behavioural Dynamics

Fraction of travellers abroad



Fraction of mask users

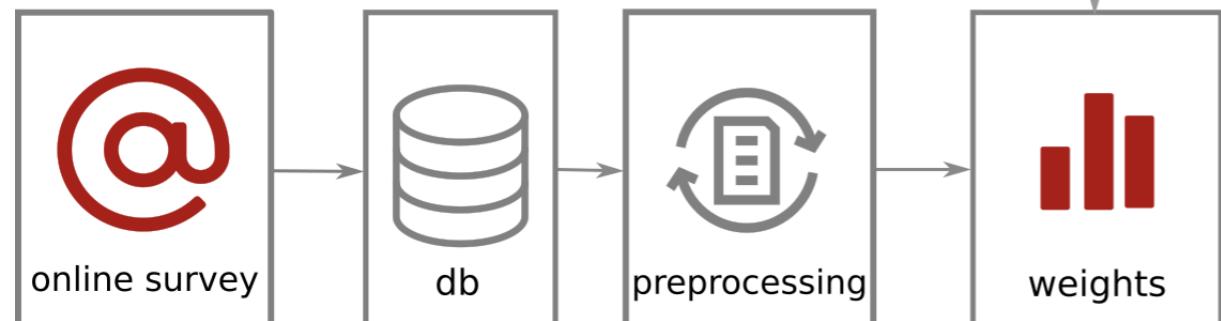


MASZK – R_t inference from behavioural data

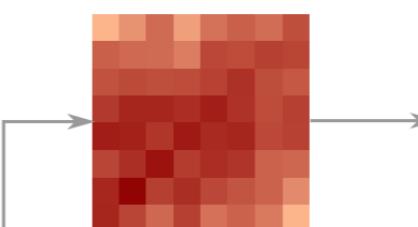
Representative survey (once)



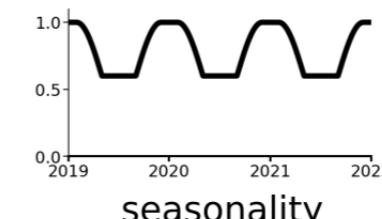
Real time data (continuously)



dimensions



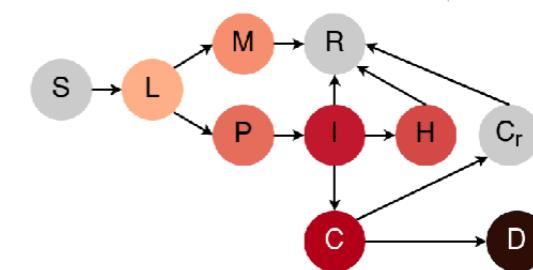
daily contact matrices



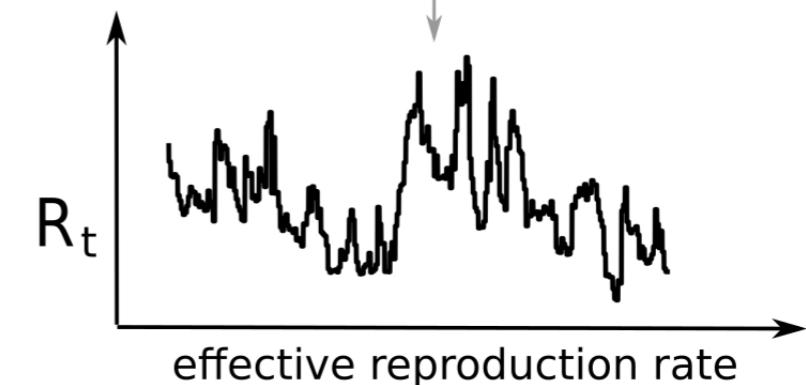
seasonality



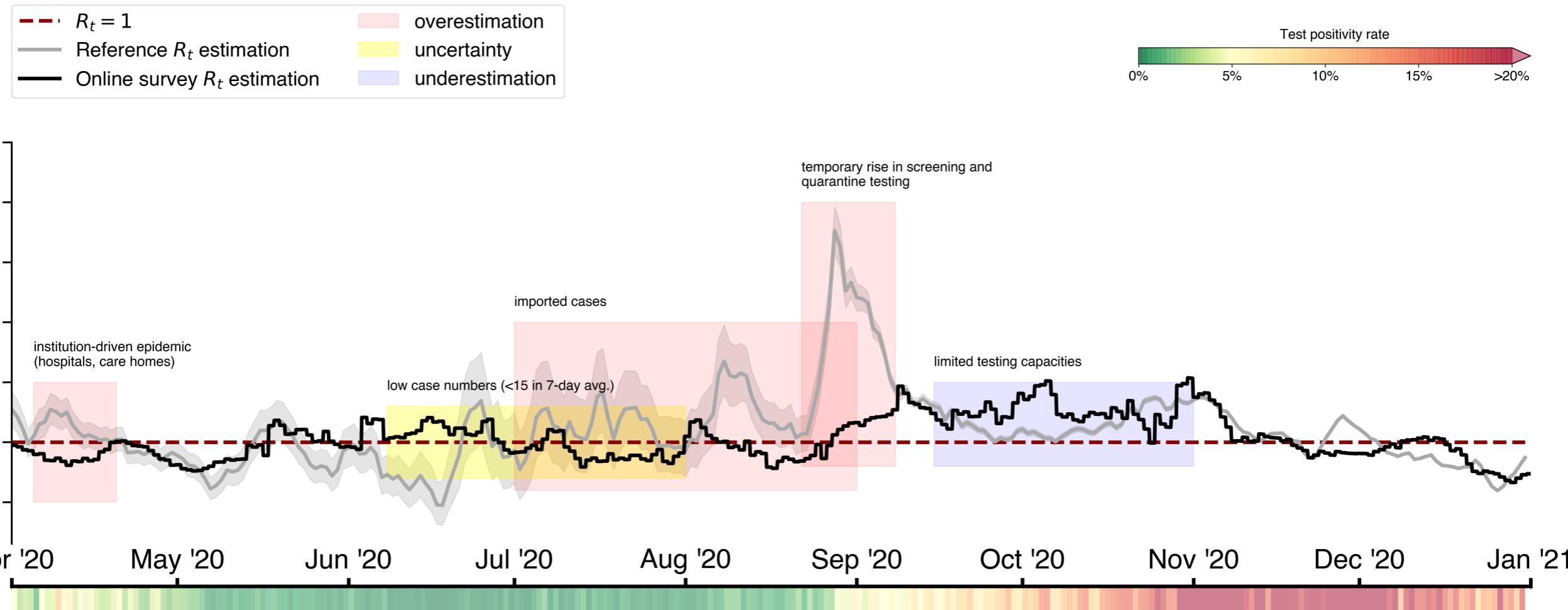
latent period, infectious period,
model parameters



model of transmission dynamics



MASZK – R_t inference from behavioural data



MASZK – R_t inference from behavioural data

