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Mapping mobile service usage diversity in cities

Maxime Lenormand

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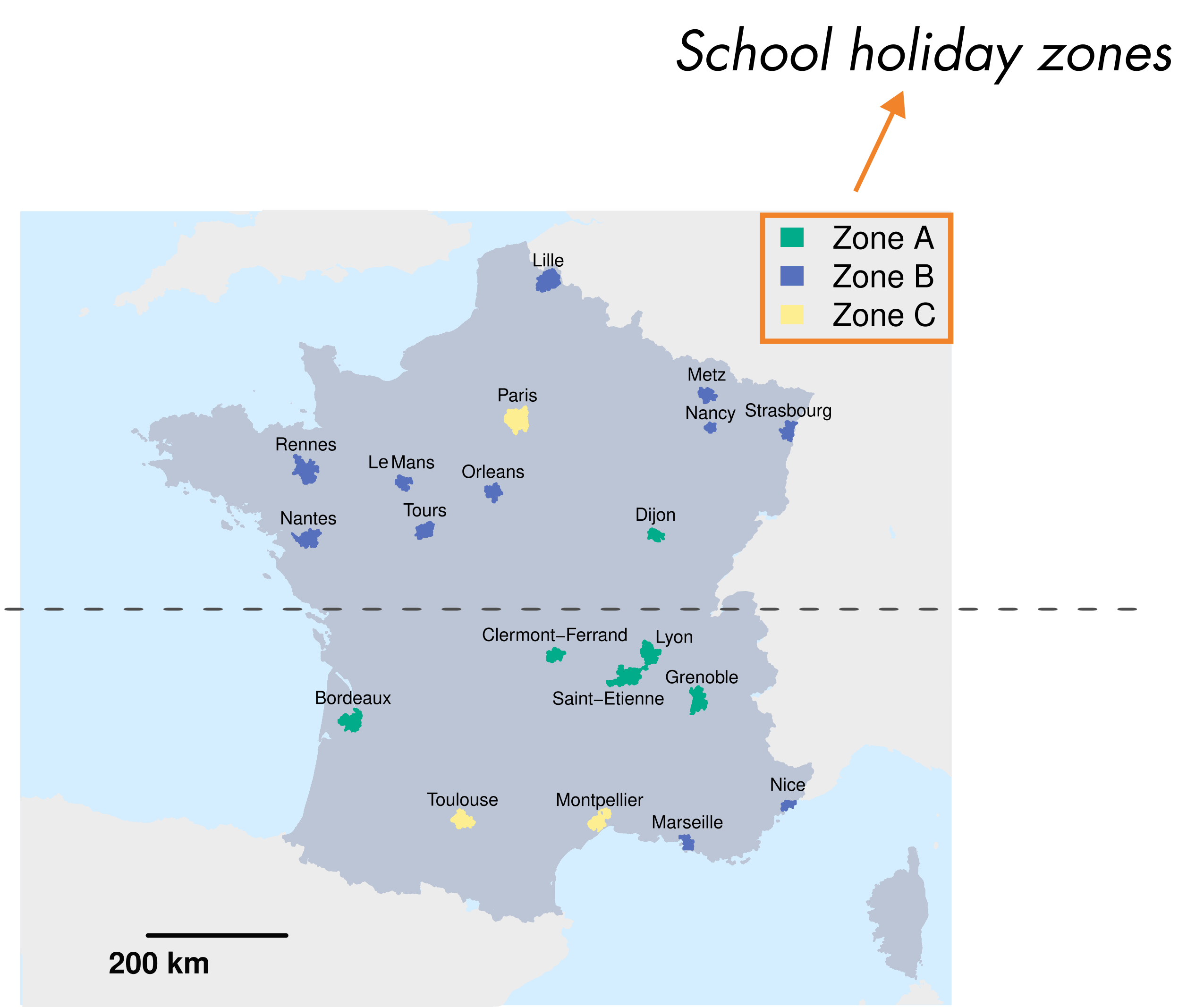
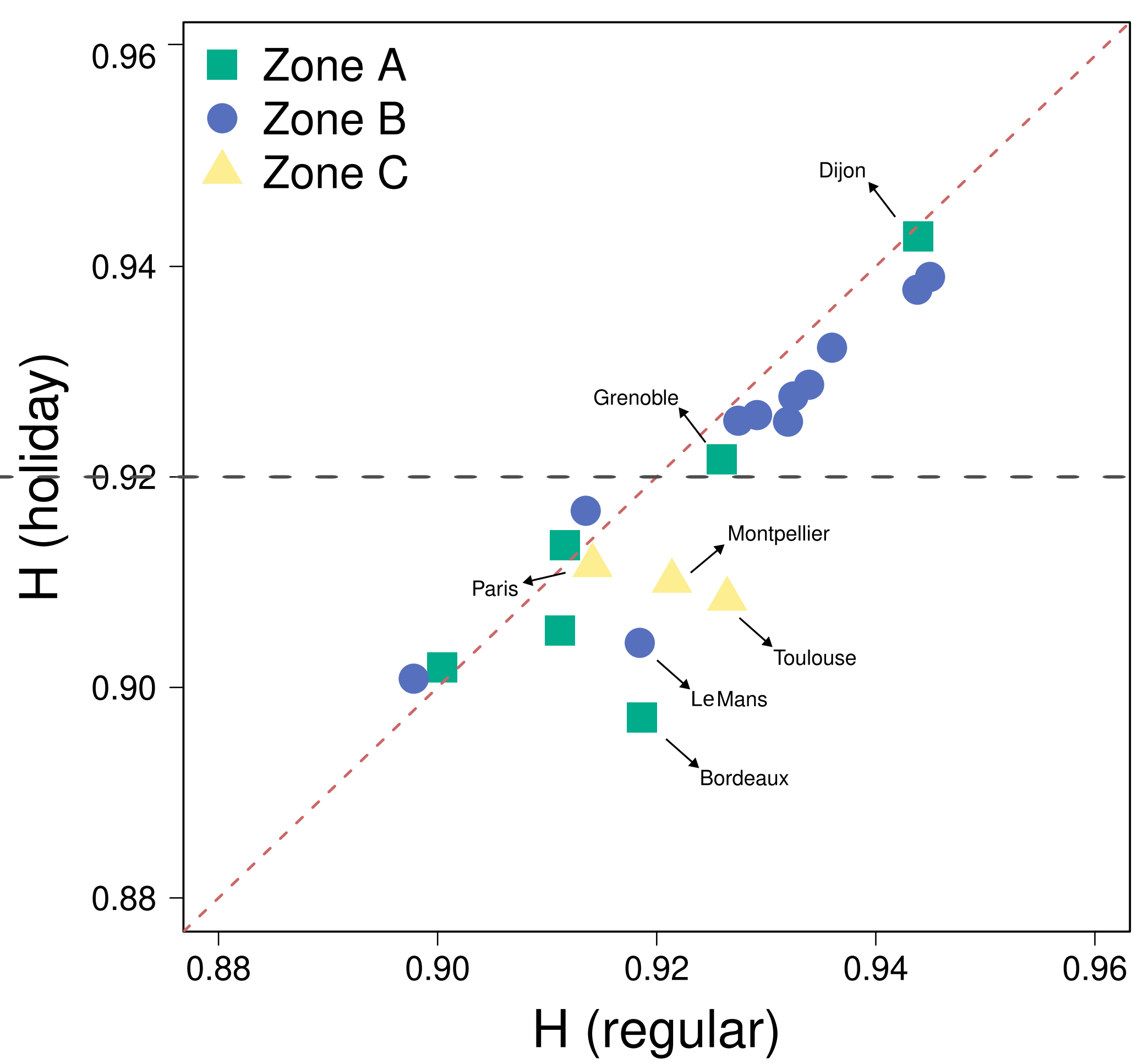
Mapping mobile service usage diversity in cities

Mesuring diversity...

$$H_{g,h}^c = -\frac{1}{\ln(S)} \sum_{s=1}^S \tilde{T}_{s,g,h}^c \ln(\tilde{T}_{s,g,h}^c)$$

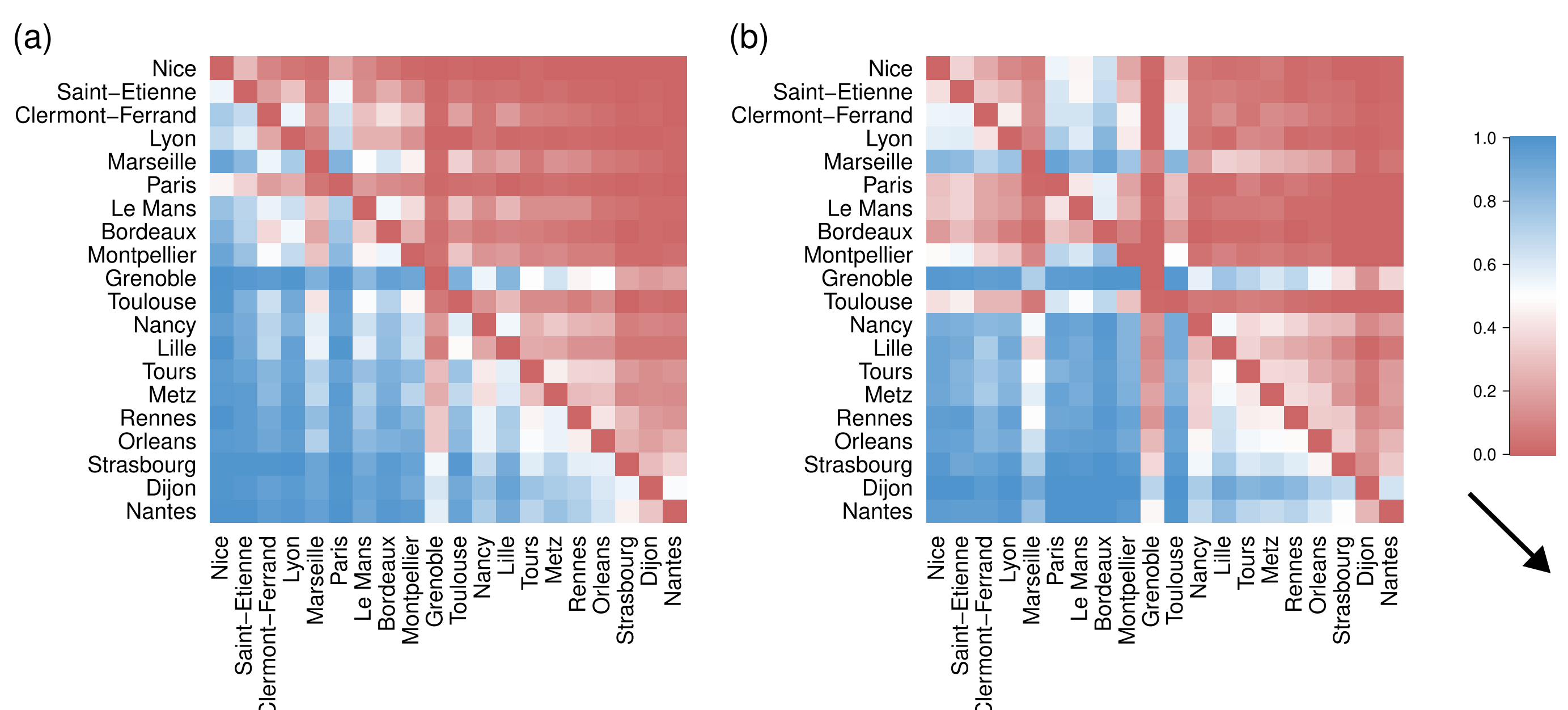
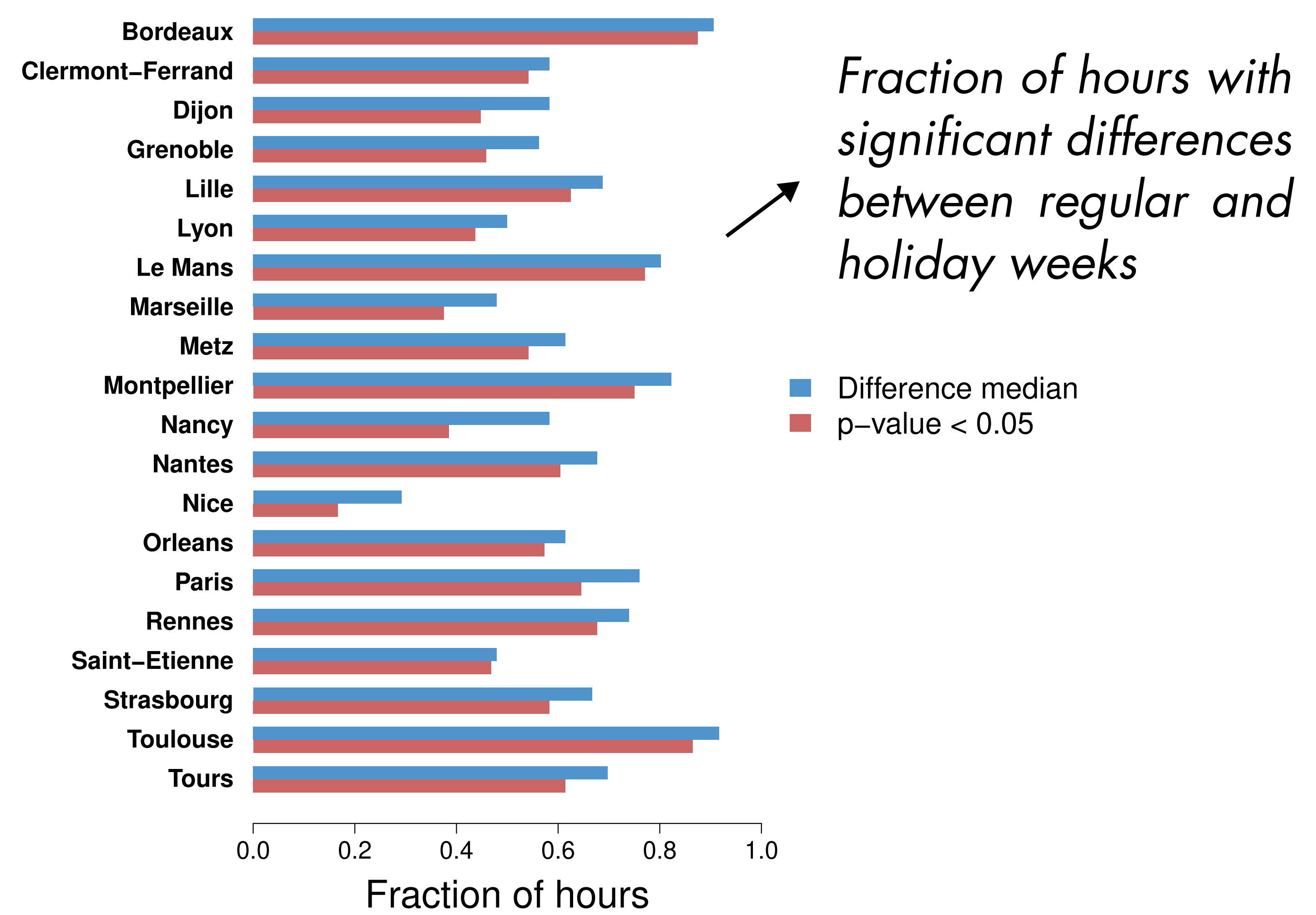
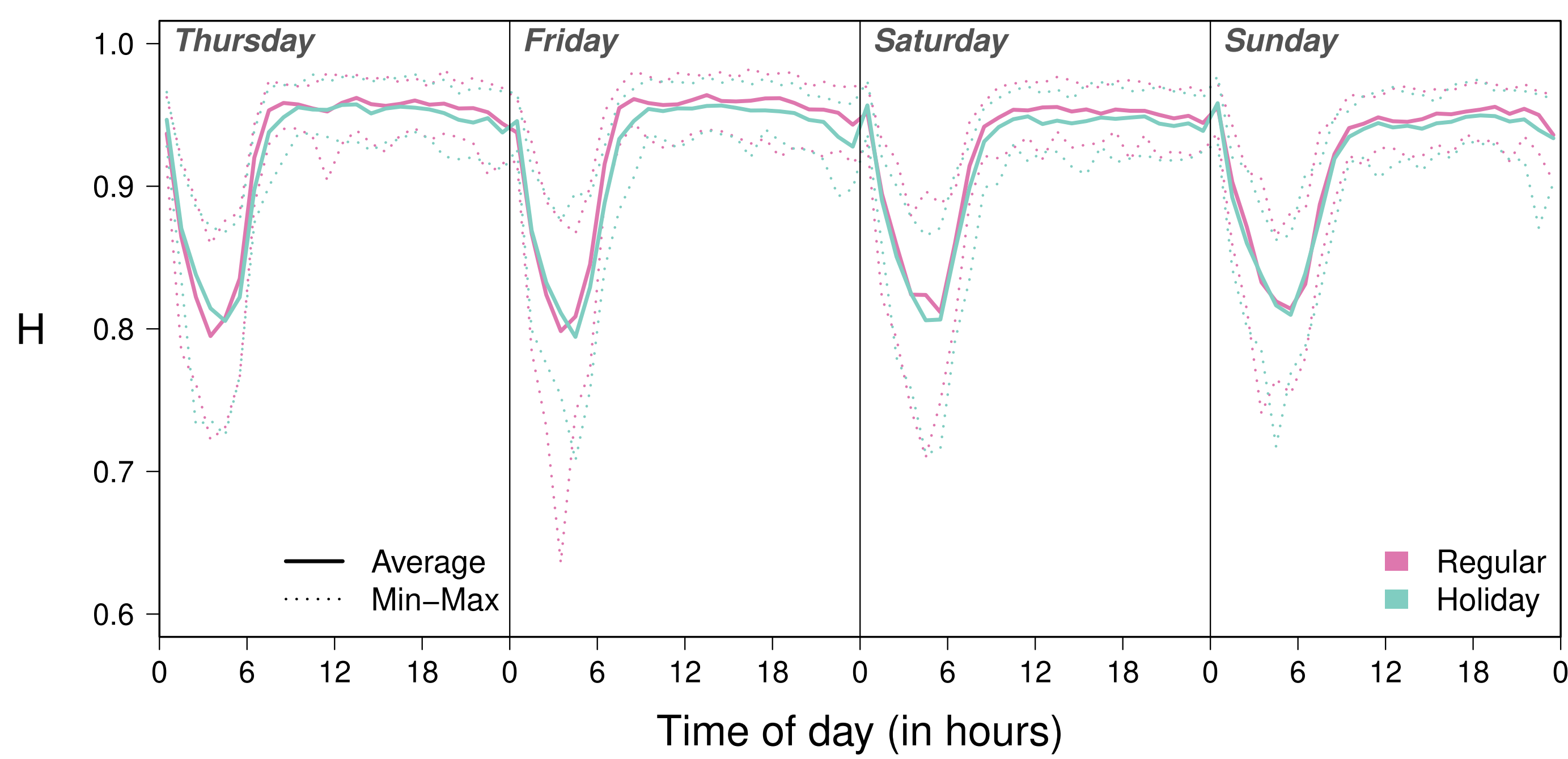
City: c
 Cell: g
 Hour: h
 6 social network services: S
 Mobile service: s
 Normalized traffic volume: $\tilde{T}_{s,g,h}^c$

... by city and week type (holiday and regular)



... over time

Average diversity per cell
Average, Min and Max per city

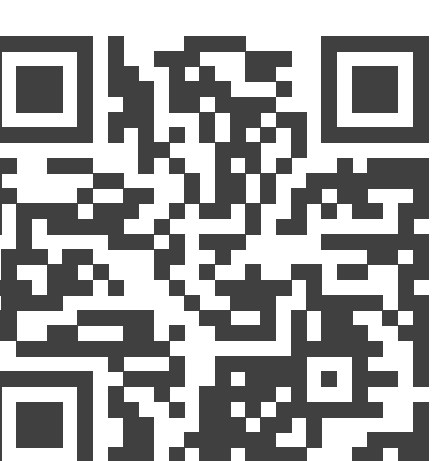


Fraction of hours with significant differences between cities
(a) Regular (b) Holiday



Paper as submitted to the NetMob 2023 Data Challenge

Interactive Web Application



Thanks to the NetMob 2023 Challenge Organizing Committee for granting us access to the data