

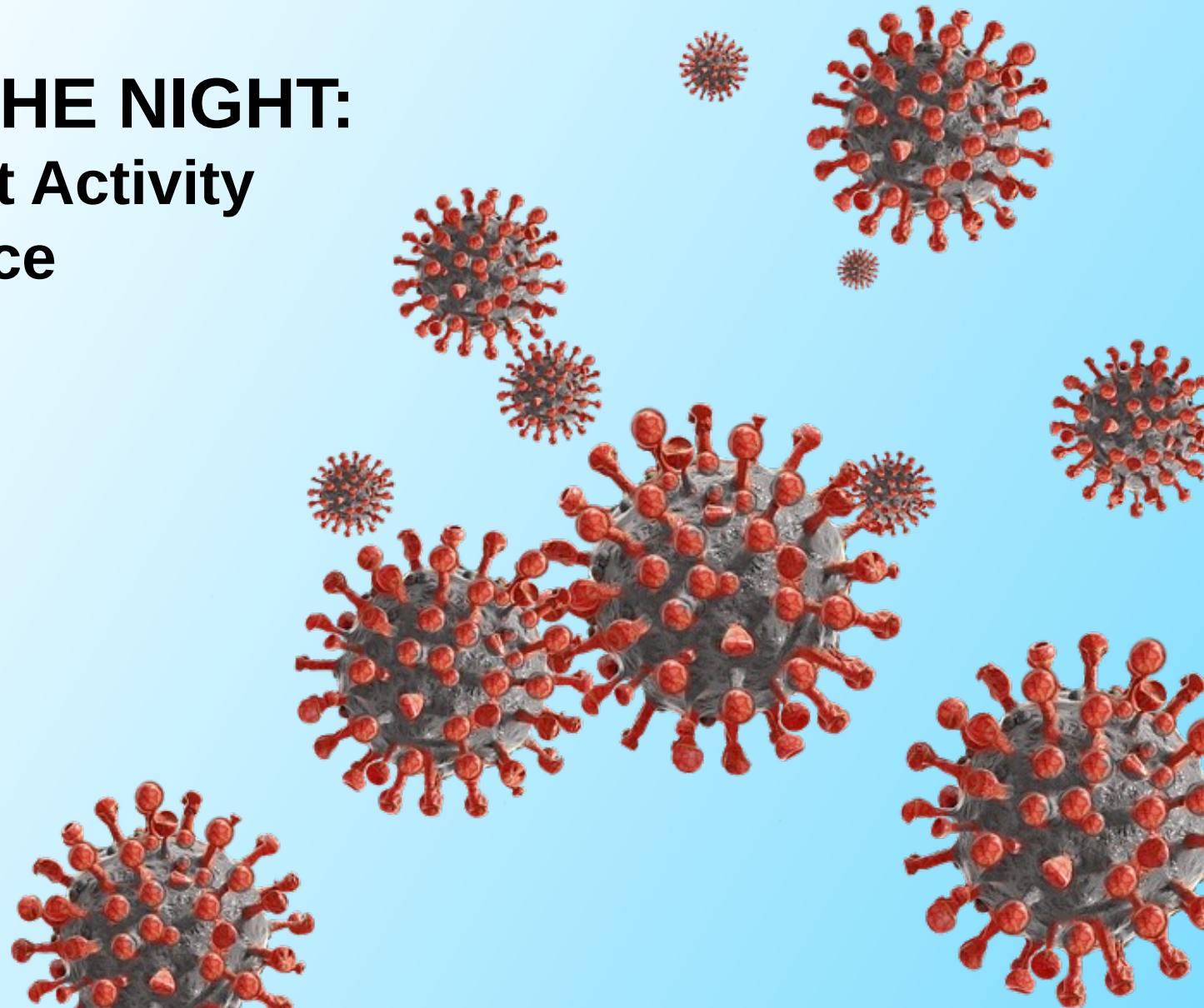



The Complex System Society Conference -
2020

THE RHYTHMS OF THE NIGHT: Increase in Online Night Activity and Emotional Resilience During the Spring 2020 Covid-19 Lockdown

Maria Castaldo,
Tommaso Venturini,
Paolo Frasca,
Floriana Gargiulo

CNRS, France



A faint, dark blue world map is visible in the background of the slide, centered behind the text box.

Spring 2020 Covid-19 lockdown:

What changed online?

- What stayed the same?

A faint, light blue world map is visible in the background of the slide, showing the continents and major landmasses.

Spring 2020 Covid-19 lockdown:

What changed online?

- Circadian Rhythms
- Emotions
- Themes

- **What stayed the same?**

- Hourly distribution of emotions

The French Spring Lockdown

Key dates:

March 15: the lockdown is announced

March 17: start day of lockdown

May 11: end day of lockdown



Two French Datasets



YOUTUBE

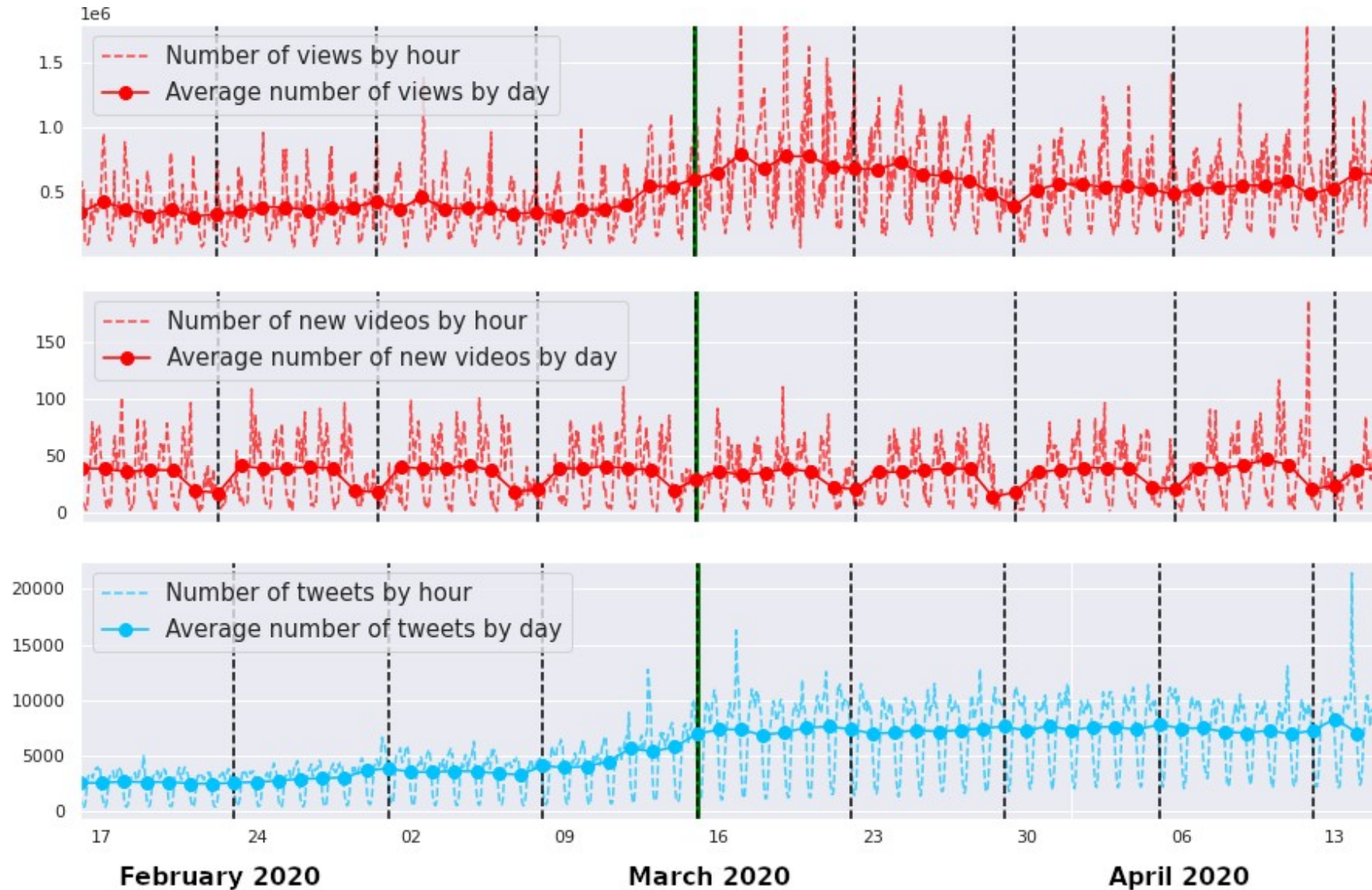
- Evolution of **views** along time
- 1031 French news and politics **channels**
- 99.992 **videos**
- from February 17 to April 14
- Data collected in collaboration with the Qatar Computing Research Institute



TWITTER

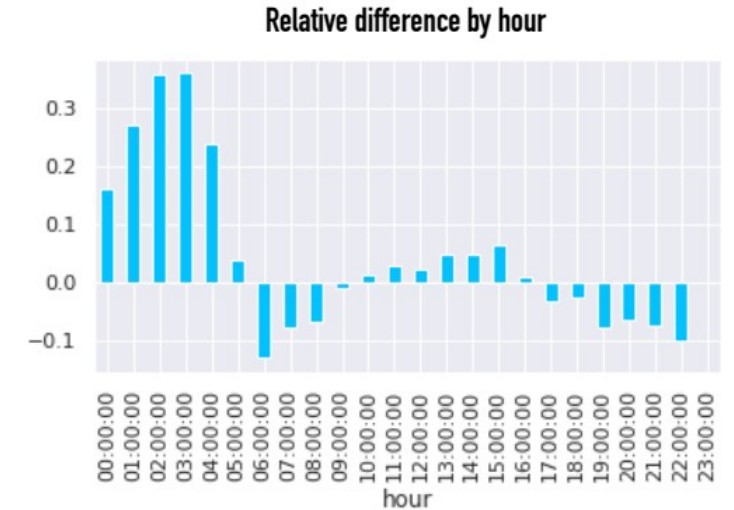
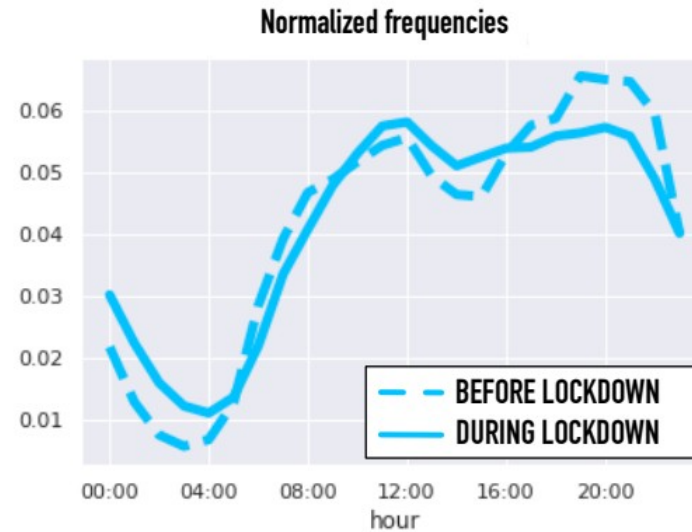
- 8 millions **tweets** and retweets
- 5161 unprofessional **users**
- from February 17 to April 14

An Increase in Online Activity

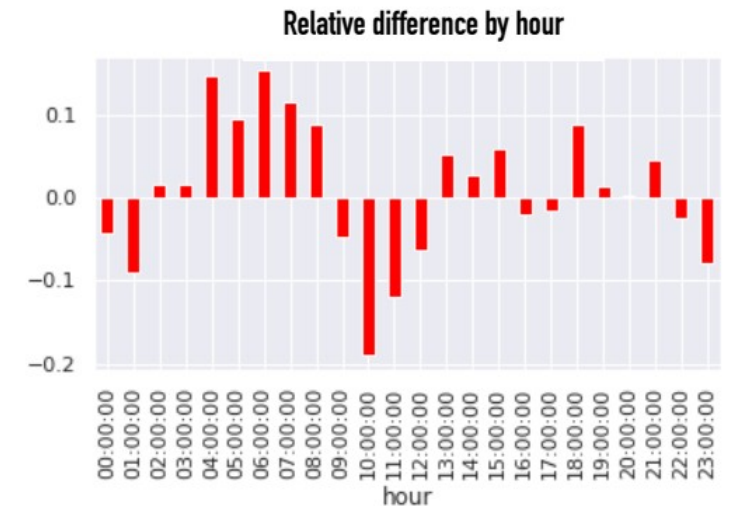
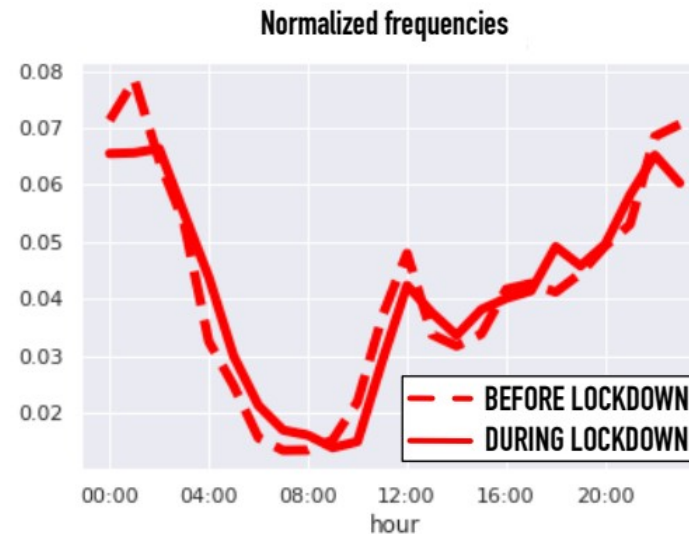


An Increase in Night Activity

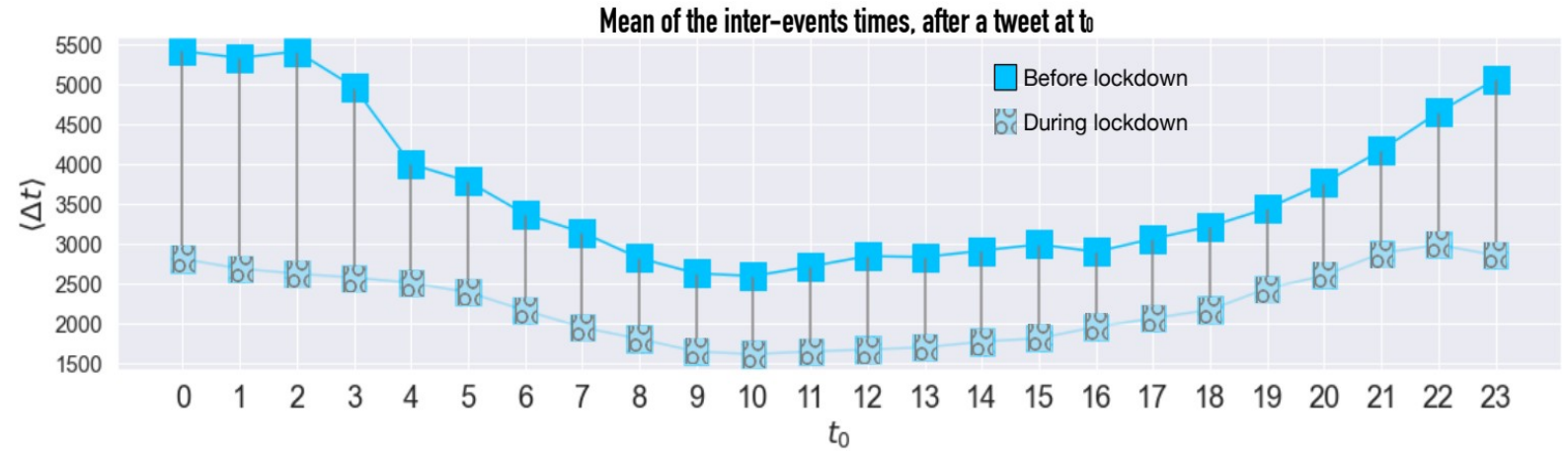
TWITTER



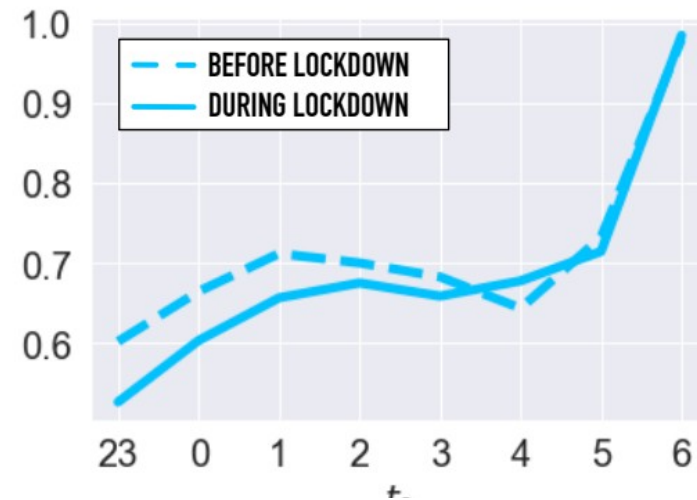
YOUTUBE



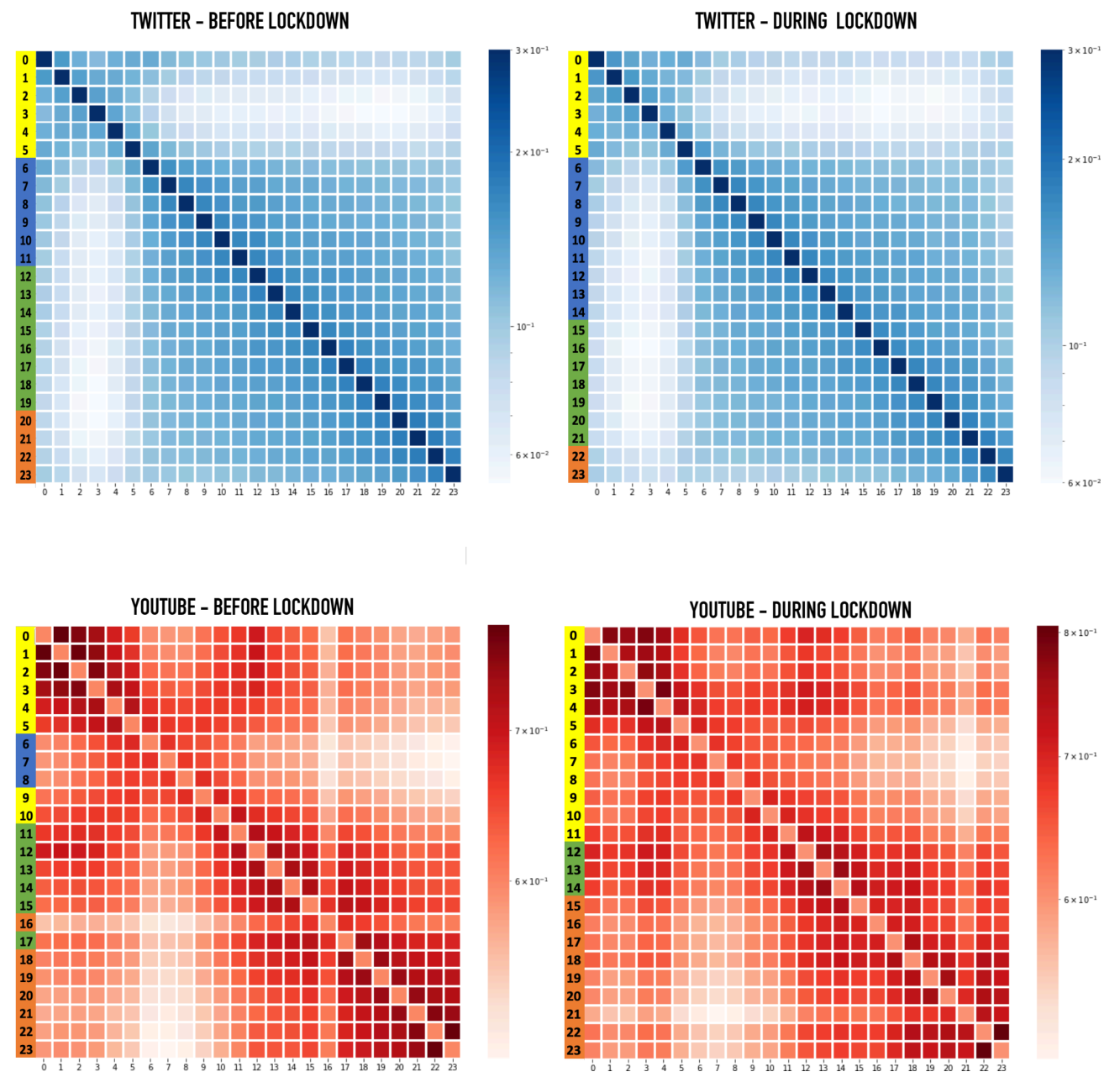
An Increase in Night Activity



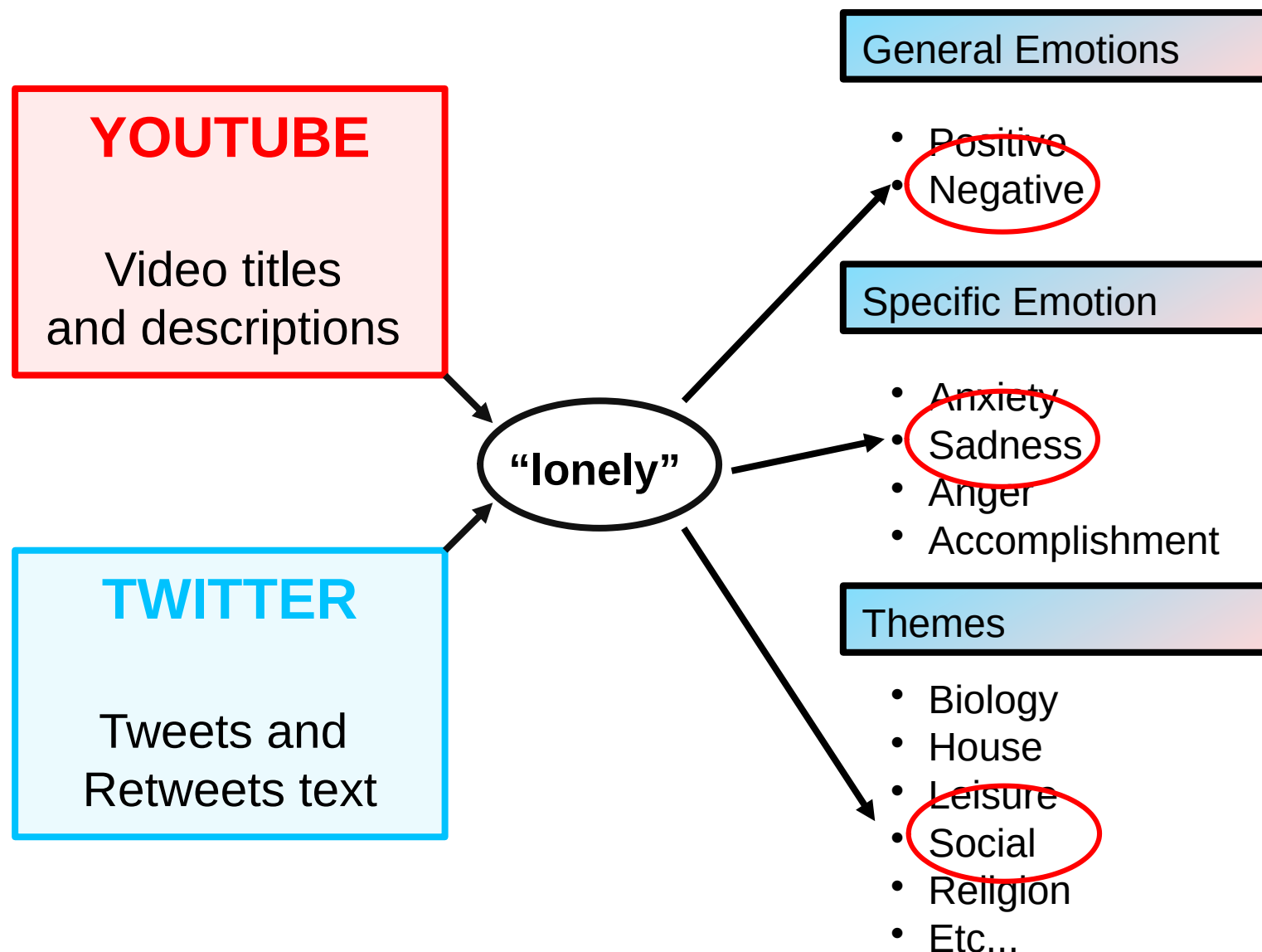
Probability that after a tweet at t_0 ,
the next one is in the next morning



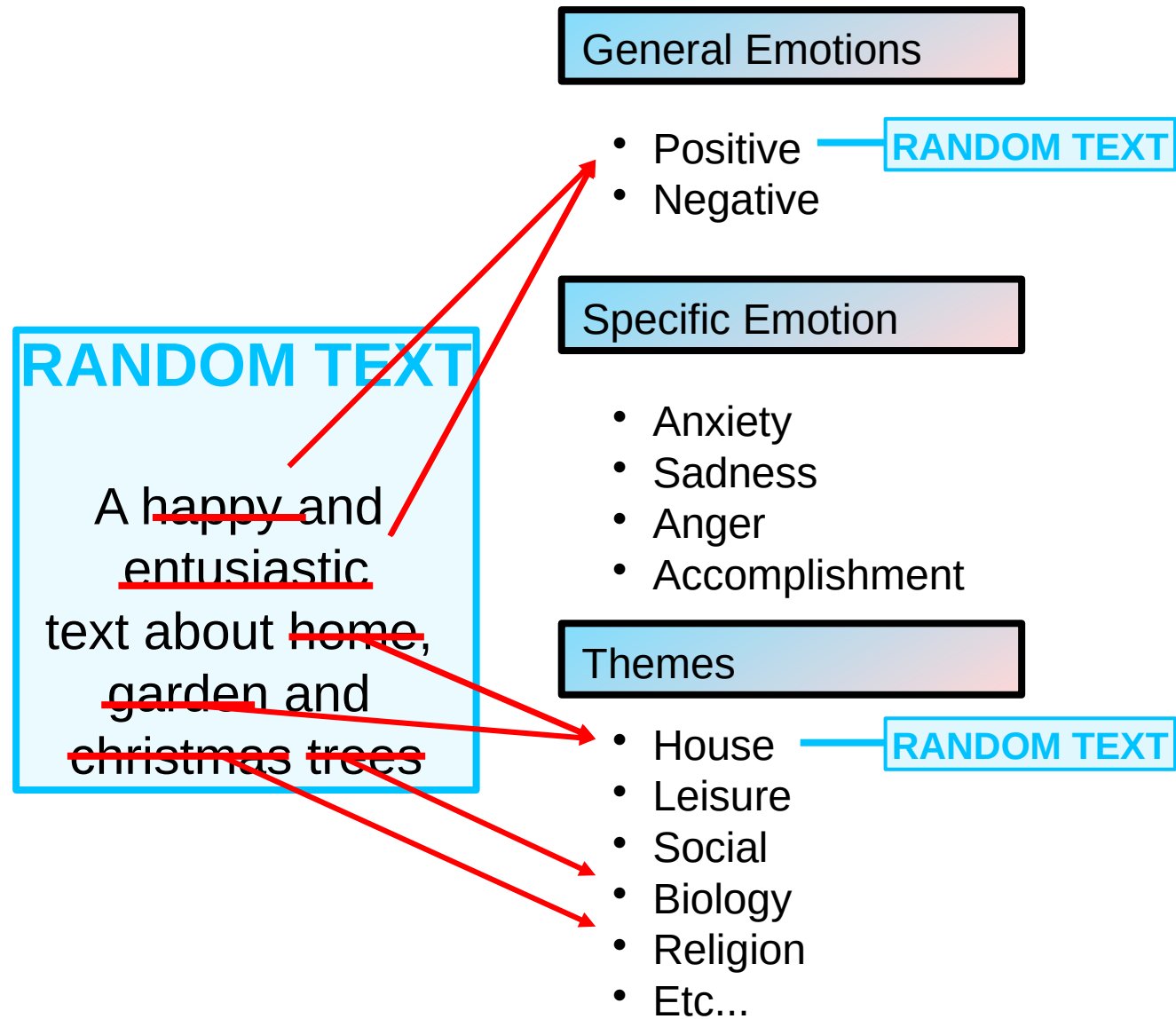
Clustering Hours by Content



Content Analysis: the LIWC dictionary

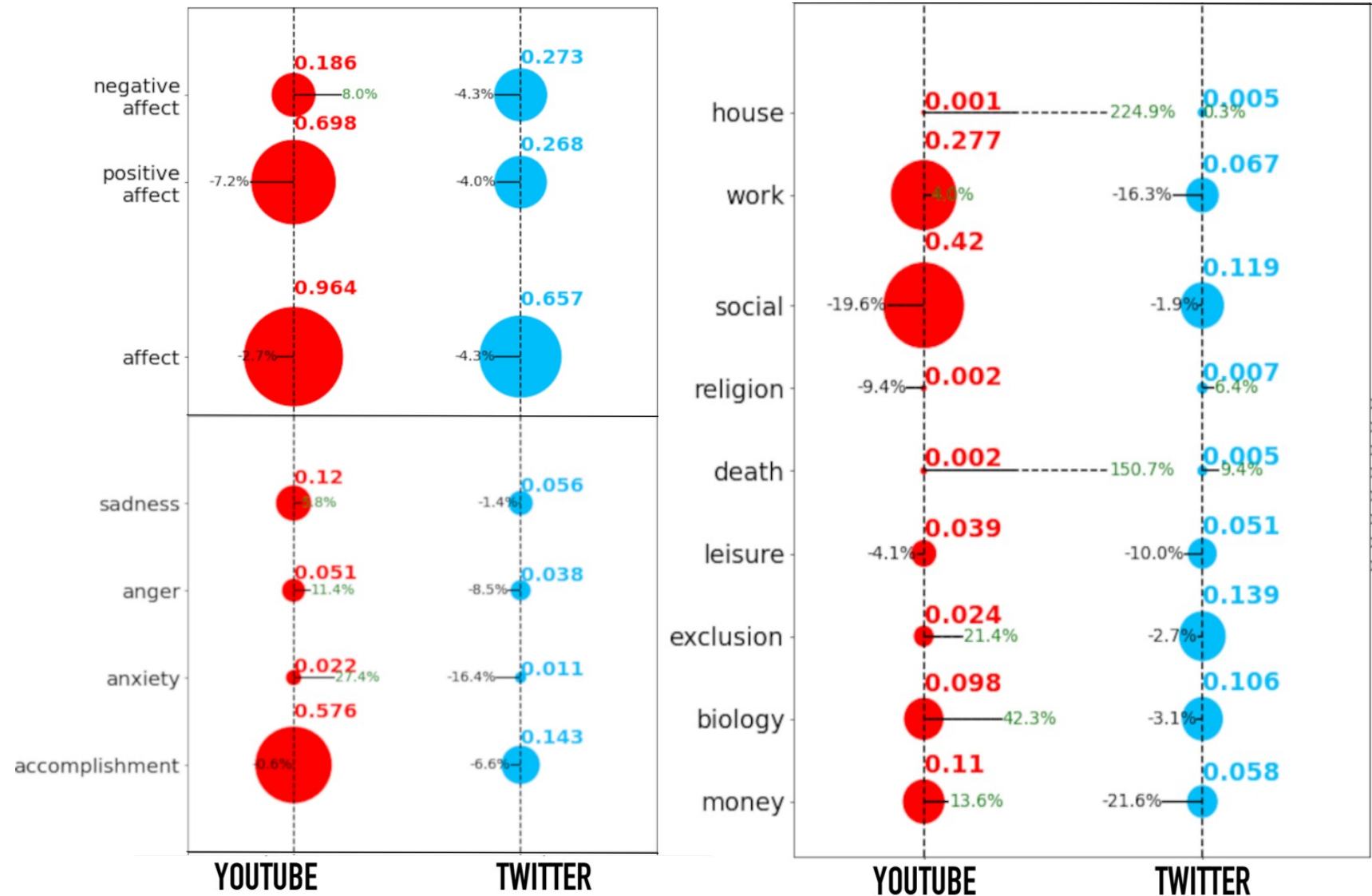


Content Analysis: the LIWC dictionary



Content Variation with lockdown

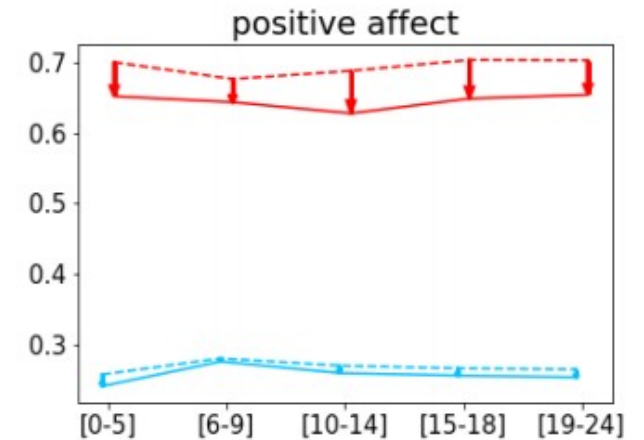
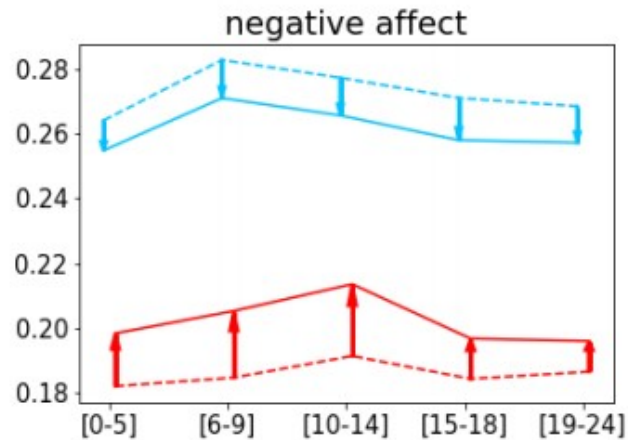
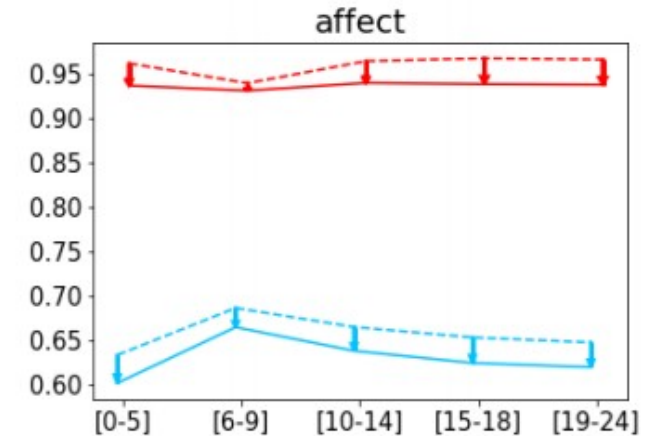
Fraction of Videos/Tweets with a content and relative change during lockdown



Resilience Of emotion distribution

Fraction of Videos/Tweets with a content by hour

- Youtube during LD
- - Youtube before LD
- Twitter during LD
- - Twitter before LD



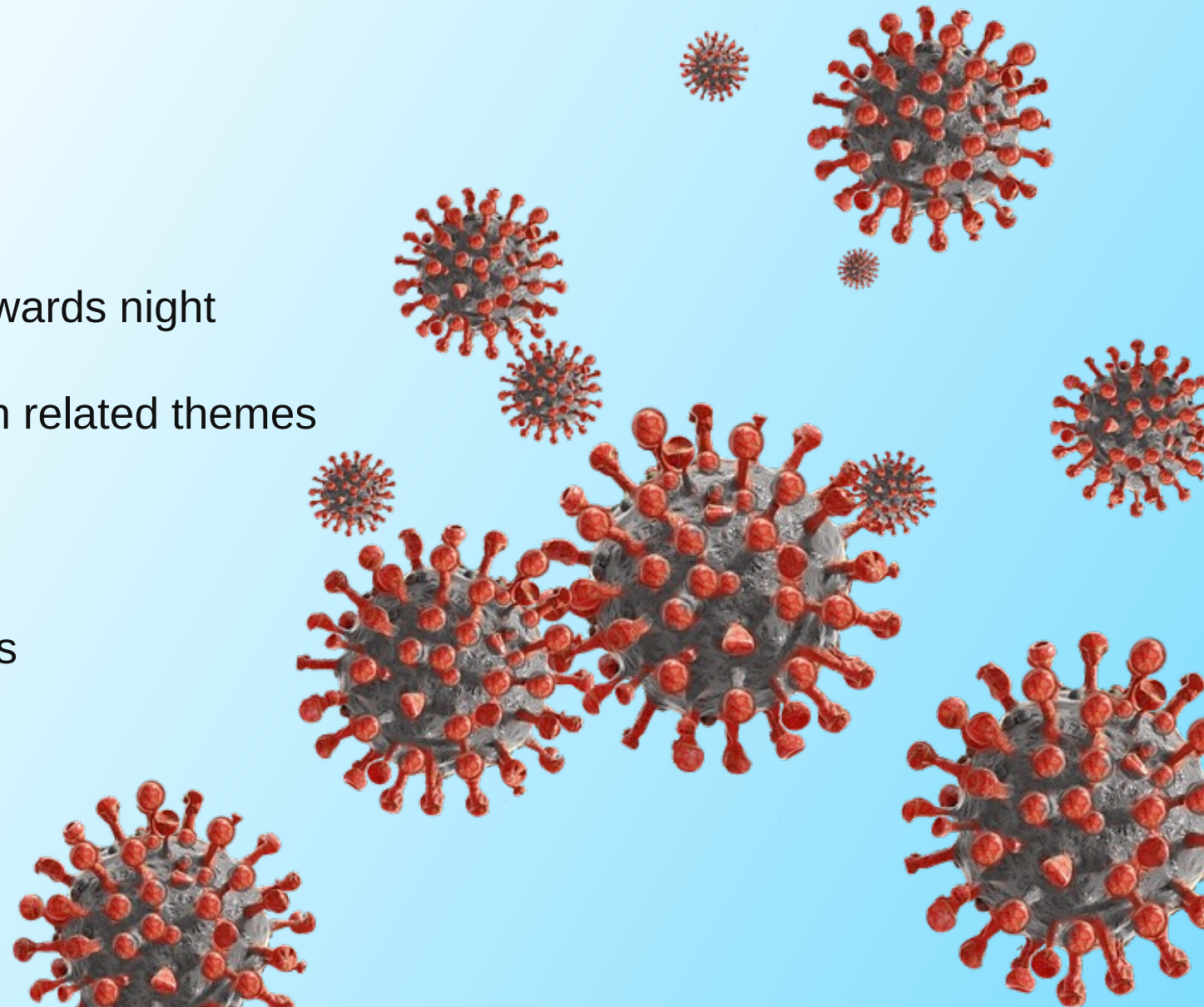
Conclusions:

What changed?

- Circadian Rhythms shifted towards night
- Emotions decreased
- Themes changed to lockdown related themes

- **What stayed the same?**

- Hourly distribution of emotions



Thank you for your attention

Maria Castaldo,
Tommaso Venturini,
Paolo Frasca,
Floriana Gargiulo

CNRS, France

