

Released on 28/03/2020

# **Keeping informed, in touch and ‘in sync’ with society during times of crisis: The smartphone use of Flemish adults during the COVID-19 pandemic**

The worldwide outbreak of the COVID-19 virus puts the work and social life of citizens around the globe to a halt. During this time of crisis, digital media such as smartphones are a window to the world. Based on the mobileDNA data of 2778 Flemish adults, this report reveals that smartphones are key instruments to keep informed, stay in touch with loved ones and participate in the public sphere.

A report of the Research Group for Media, Innovation and Communication Technologies (imec-MICT-UGhent), Ghent University, Belgium.

## **BY**

Jakob Ohme, Mariek M. P. Vanden Abeele, Kyle Van Gaeveren, Wouter Durnez & Lieven De Marez

## **INQUIRIES**

For inquiries about the report, contact Mariek M. P. Vanden Abeele at [m.m.p.vandenabeele@tilburguniversity.edu](mailto:m.m.p.vandenabeele@tilburguniversity.edu)

For inquiries about mobileDNA, contact Lieven De Marez at [lieven.demarez@ugent.be](mailto:lieven.demarez@ugent.be)

## **Please cite as:**

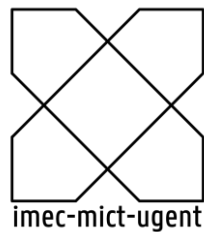
Ohme, J., Vanden Abeele, M. M. P., Van Gaeveren, K., Durnez, W. & De Marez, L. (2020). Keeping informed, in touch and ‘in sync’ with society during times of crisis: The smartphone use of Flemish adults during the Covid-19 pandemic. Research Group for Media, Innovation and Communication Technologies (imec-MICT-UGhent), Ghent University, Belgium.

**A** | **S** Amsterdam School of  
**Co** | **R** Communication Research

Dr. Jakob Ohme, Amsterdam School of  
Communication Research (ASCOR),  
University of Amsterdam, the Netherlands



Dr. Mariek M. P. Vanden Abeele, Tilburg  
Center for Cognition & Communication  
(TiCC), Tilburg University, the Netherlands;  
affiliated researcher at imec-MICT-UGent



Kyle Van Gaeveren, Research Group for  
Media, Innovation and Communication  
Technologies (imec-MICT-UGent), Ghent  
University, Belgium

Dr. Wouter Durnez, Research Group for  
Media, Innovation and Communication  
Technologies (imec-MICT-UGent), Ghent  
University, Belgium

Prof. dr. Lieven De Marez, Research Group  
for Media, Innovation and Communication  
Technologies (imec-MICT-UGent), Ghent  
University, Belgium

## Keeping informed, in touch and ‘in sync’ with society during times of crisis: The smartphone use of Flemish adults during the Covid-19 pandemic

Western Europe is currently in the midst of the COVID-19 pandemic. Schools, universities, stores, bars and restaurants are closed, and social life has come to a halt. Most European governments have asked citizens to ‘socially distance’ themselves from others to ‘flatten the curve’ of infections. This report looks at how people use their smartphone while dealing with the social implications of the outbreak.

COVID-19 is not the first virus that requires individuals to self-quarantine. The Babyboomer generation may remember school closings in response to local polio outbreaks in the 1950s, and more recently, the Mexican government shut down public life to contain the spread of the Mexican flu virus. The COVID-19 crisis, however, appears unique in at least two respects. First, although mortality rates are relatively low, the long incubation period and high degree of infectiousness of COVID-19 require social distancing measures to be in place for a long time. The implications of having to keep distance to colleagues, friends, and family members for a prolonged period of time are anticipated to be more far-reaching than for previous outbreaks. Second, the COVID-19 outbreak is the first pandemic to occur in a fully globalized network society<sup>1</sup>, in which so-called digitally native generations such as the Millennial generation and Generation Z have been fully socialized within a digital environment, and therefore can make full use of digital media to keep informed, stay in touch and participate in society<sup>23</sup>. While the implications of social distancing measures are severe, many citizens in the current digital society may thus be better equipped to deal with them.

Digital media can help people cope with the COVID-19 crisis because they give instant and ubiquitous access to information and can help people coordinate the logistics of work, family and social life<sup>4</sup>. They also allow users to express and share their thoughts, concerns, and opinions on social media platforms, thereby offering opportunities for ‘digital citizenship’<sup>5</sup>. In this report, we explore the smartphone use of 2778 Flemish adults and examine how it evolves over time, as the COVID-19 crisis unfolds. We draw from

---

<sup>1</sup> Castells, M. (1996). *The Rise of the Network Society*. John Wiley & Sons.

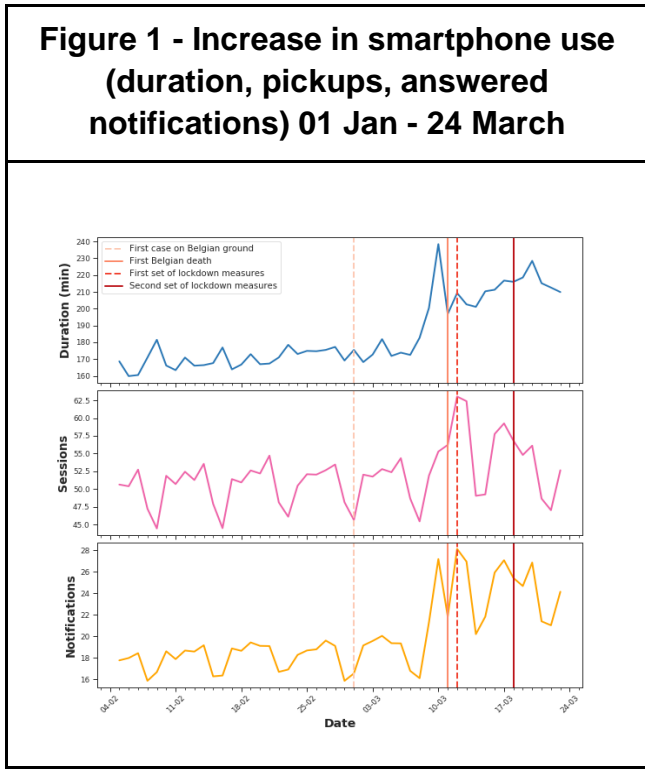
<sup>2</sup> Vanden Abeele, M. M. P. (2016). Mobile youth culture: A conceptual development. *Mobile Media & Communication*, 4(1), 85-101.

<sup>3</sup> Ohme, J. (2019). When digital natives enter the electorate: Political social media use among first-time voters and its effects on campaign participation. *Journal of Information Technology & Politics*, 16(2), 119–136.

<sup>4</sup> Vanden Abeele, M. M. P., De Wolf, R., & Ling, R. (2018). Mobile media and social space: How anytime, anyplace connectivity structures everyday life. *Media and Communication*, 6(2), 5-14.

<sup>5</sup> Ohme, J. (2019). Updating citizenship? The effects of digital media use on citizenship understanding and political participation. *Information, Communication & Society*, 22(13), 1903–1928.

mobileDNA<sup>6</sup>, We draw from mobileDNA, a mobile application developed by the research group Media, Innovation and Communication Technologies that aims to give users insight into their smartphone usage by logging their app activity and displaying that information in a dashboard. A brief look at the smartphone usage data of a sample of 2778 Flemish adults in the mobileDNA database reveals how smartphone use unfolds as the COVID-19 outbreak progresses. The substantial increase in usage over the past few weeks suggests the deep integration of digital media into people’s communicative and information-seeking behaviors during this time of crisis. For example, over the whole period of 2020 before March 10, the average user used their smartphone for a total duration of 166 minutes. From March 10 - 19 March, however, the average user used their smartphone 193 minutes per day (an increase of about half an hour or 17%). The number of smartphone pickups remains stable over this period. This means that users constantly turn to their smartphones, but use it longer to access news (43% increase), social media (31 % increase) or calling people (62% increase).



The stark increase in smartphone use evokes questions about the specific opportunities and challenges that mobile connectivity brings. Do smartphones help people to stay informed, to bridge physical distance and to help each other out in times of an enduring, global crisis that affects everyone? By gaining a better understanding of when, where and for which purposes people use their smartphone, we may be able to

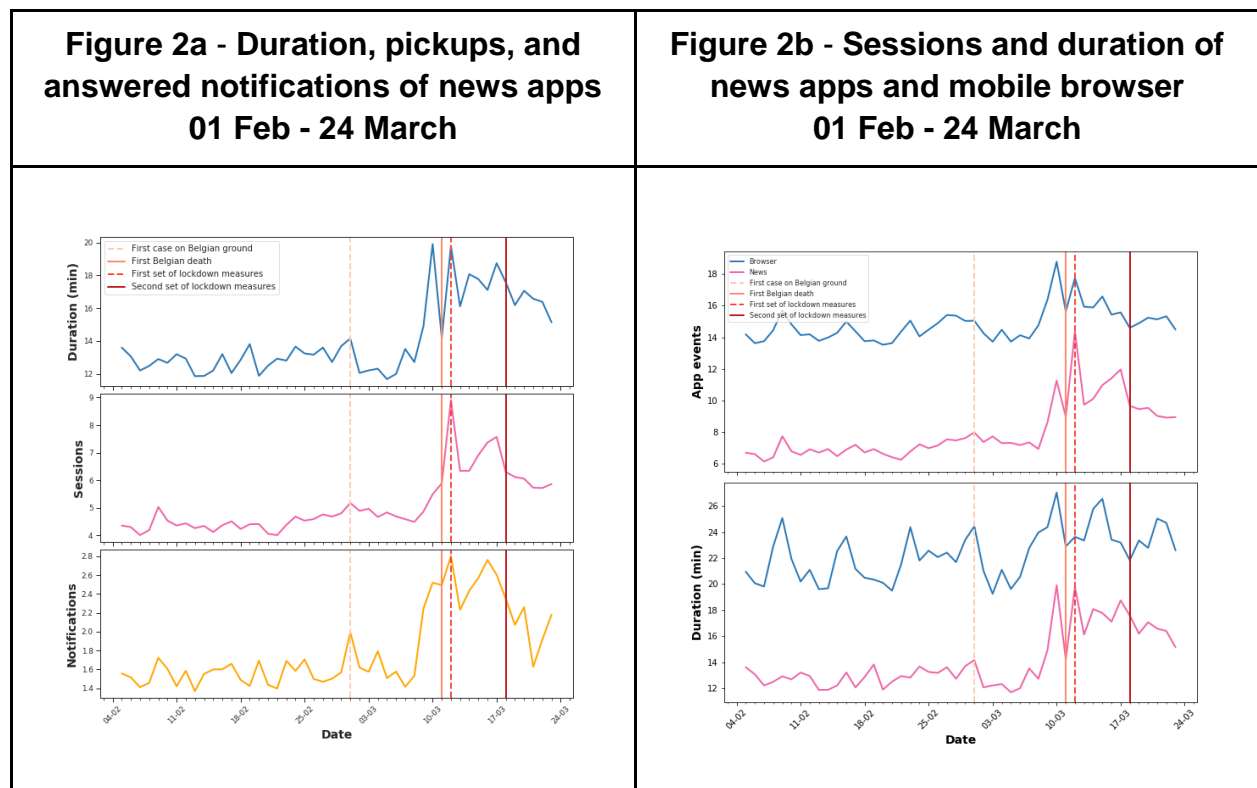
<sup>6</sup> <https://mobiledna.be/>

better comprehend how citizens respond to the COVID-19 pandemic. To that end, this report will tease apart patterns in Flemish adults' smartphone use during the crisis, focusing on three questions:

1. How do smartphones help people to stay and feel informed?
2. Can mobile communication and social media use bridge physical distance?
3. What opportunities do smartphones and digital platforms offer for citizens to engage themselves?

### Being and getting informed.

In times of crisis, information is key. That information has become dynamic: News updates are published immediately, as a result of accelerated information cycles in journalism enabled by growing digitalization. Most citizens have established information routines that are built on the real-time information that they can access on their smartphones anywhere, at any time<sup>7</sup>. A crisis such as the COVID-19 outbreak can disrupt these information routines. A look at mobileDNA suggests that this is indeed the case.



<sup>7</sup> Van Damme, K., Martens, M., Leuven, S. V., Vanden Abeele, M., & Marez, L. D. (2019). Mapping the Mobile DNA of News. Understanding Incidental and Serendipitous Mobile News Consumption. *Digital Journalism*, 8(1), 49–68.

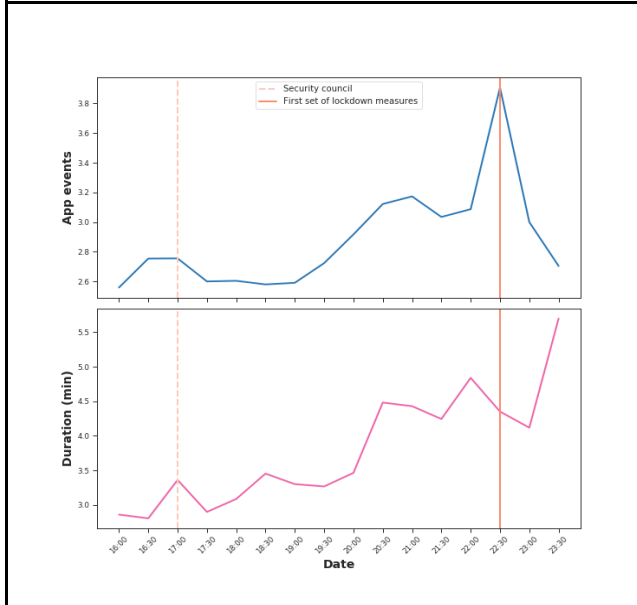
Figure 2a shows that, in the current situation, people increasingly rely on their smartphones to get to the information they need. For example, on February 28, before the first Belgian was diagnosed with COVID-19, people on average accessed dedicated news apps 7.6 times and spent 13 minutes on these apps per day. On March 10, this increased to 11.3 pickups (a 49% increase), with a daily average duration of approximately 20 minutes (a 54% increase, Figure 2b). While this illustrates the increased need for information, the total share of news use was likely higher, since many individuals access news via social media platforms and in browsers. When we look at mobile browser activity data - usually an illustration for covering various information needs<sup>8</sup> - we see a similar increase in usage.

The above figure already shows that the smartphone helps citizens to stay informed in times of crisis and help fulfill their increased information needs, since they can independently upscale their amount of news input. Governments can also reach citizens quickly through digital channels. They do not have to rely solely on word-to-mouth transmission or scheduled newscasts to disseminate news - although these remain important. Public authorities can spread their message quickly and in a direct, detailed and thereby more fact-oriented manner. That smartphones are used to consume such real-time communication shows from momentary increases in browser and dedicated news app use when important messages are communicated. For example, on 12 March there were rumors that the national security council would announce severe lockdown restrictions, including the closure of bars, restaurants and schools, and people anticipated that a press conference would take place in the early evening. Eventually, however, the press conference announcing these measures took place around 10:30 pm in the evening. This is visible in news app usage in the late evening hours of that day, where we see a spike in news and browser consumption after the long-anticipated press conference (Figure 3):

---

<sup>8</sup> Nelson, J. L., & Lei, R. F. (2018). The Effect of Digital Platforms on News Audience Behavior. *Digital Journalism*, 6(5), 619–633.

**Figure 3 - News app use as response to press conference on evening 12 March 4 pm to March 12 midnight**



Having such real-time access to information enables citizens to ‘flexibly align’<sup>9</sup> themselves to the new circumstances. Unfortunately, in the current crisis, some Flemish people responded to the announced shutdown of bars and restaurants with ‘lockdown parties’<sup>10</sup>; supermarkets were confronted with a new surge in hoarders<sup>11</sup>. While in Flanders, lockdown measures were communicated a day in advance, an example from the Netherlands illustrates that citizens’ responses can be immediate: on March 15 at 5 pm, the Dutch government announced that cafes and restaurants would close at 6 pm that same day. Within minutes, people lined up in long queues in front of coffee shops to stock up on weed<sup>12</sup>.

In sum, the mobileDNA data indicate that, in the current pandemic situation, mobile access to digital information is important to satisfy information needs and help authorities

<sup>9</sup> Bertel, T. F. (2013). “It’s like I trust it so much that I don’t really check where it is I’m going before I leave”: Informational uses of smartphones among Danish youth. *Mobile Media & Communication*, 1(3), 299–313.

<sup>10</sup> <https://www.vrt.be/vrtnws/en/2020/03/14/outrage-at-lock-down-parties/>

<sup>11</sup> <https://www.hln.be/nieuws/binnenland/ook-vandaag-hamsterwoede-in-de-supermarkten-politie-moet-tussenbeide-komen-in-verschillende-filialen~ac350d32/>

<sup>12</sup> <https://www.ad.nl/binnenland/nieuwe-coronamaatregelen-nederlanders-hamsteren-massaal-wiet-en-hasi~a861b1ba/?>

to communicate with citizens. The immediacy of this information can produce immediate responses by citizens, such as hoarding or last-minute meetings. In a slower information cycle, where information is less readily available, such flexible alignment would be less likely to occur. While people acting based on readily-available official information may lead to undesirable consequences such as hoarding, this ubiquitous access to the latest information may still lead to a more controlled maneuvering through this current situation.

### **Bridging physical distance.**

Most European governments have responded to the exponential increase in diseased citizens by placing increasingly restrictive sanctions on public gatherings and social activities in an attempt to keep people from infecting each other. 'Social distancing' is currently used as the term to describe the aspired outcome of these restrictions.

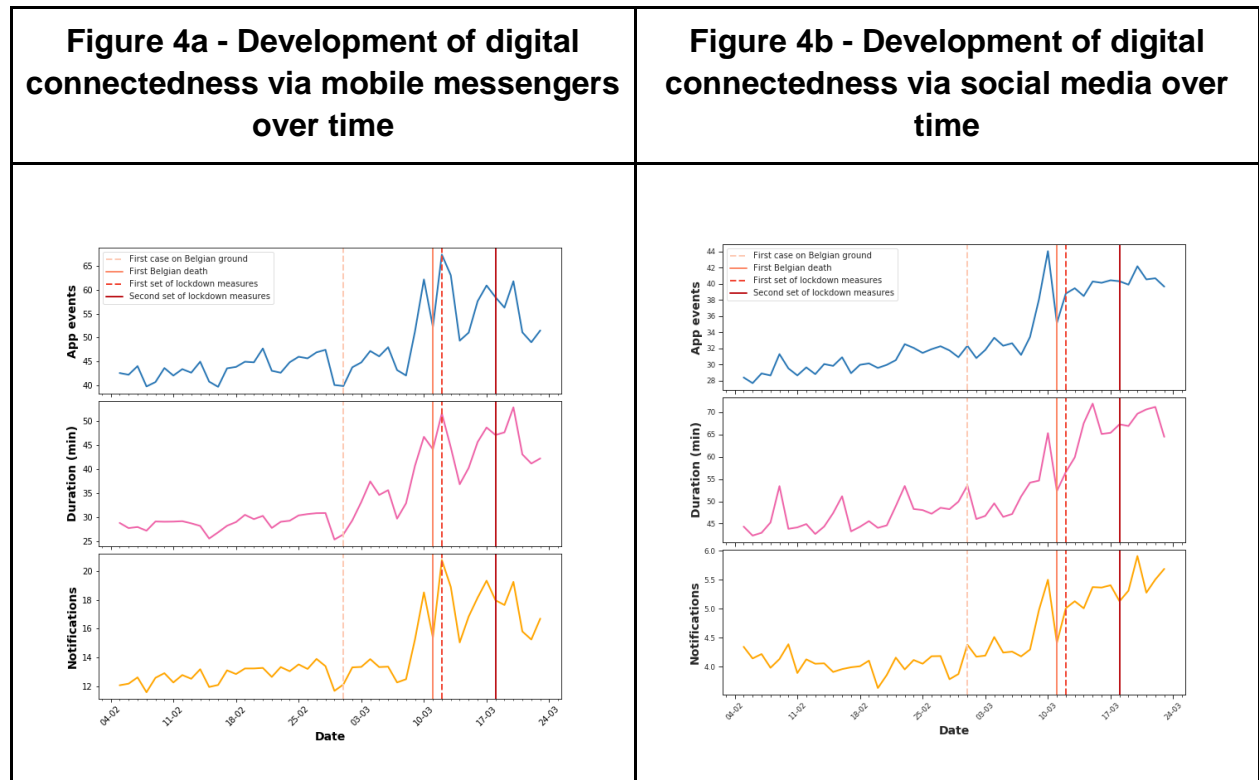
Several people have observed that the term social distancing is misleading, as what governments are asking for is that people take distance from each other *physically*, not socially. Mediated social interactions are not only allowed, but also encouraged by various governments as a surrogate for face-to-face contact.

Limiting social interaction is known to be exceptionally hard for social human beings. Especially in times of crisis, access to one's social network can be crucial to obtain and provide information and social support. As such, mediated communication may be particularly important to people to cope with the current crisis. We can observe this hypothesis by looking at both the frequency and duration of usage of mobile messengers such as WhatsApp, Telegram and Facebook messenger. Figure 4a shows a substantial increase in mobile communication over time: On Feb 28, people opened their messenger apps 47.5 times on average, for a total daily duration of approximately 31 minutes; On March 12, when the first phase of the shutdown was announced, this increased to 67.4 times (an increase of 42%), for a total daily duration of approximately 51 minutes (a 64% increase; see Figure 4a). We also see an increase in people's activities on the main social media platforms (such as Facebook, Instagram, and Twitter): On 28 February, these apps were opened 31.7 times on average, for an average duration of 48 minutes. On March 15, this increased to an average of 40 app openings (up 26%), for a total duration of 72 minutes (up 50%), although this could partly be attributed to the weekend, when people generally use their smartphones more (Figure 2b). Interestingly, while the mobile messaging duration is highest at the day of the press-conference (indicating the immediate need to communicate with personal contacts from their inner circle), the duration of social media increases in the days after the press conference. This exemplifies the need for social evaluation of current development from users' broader social network.

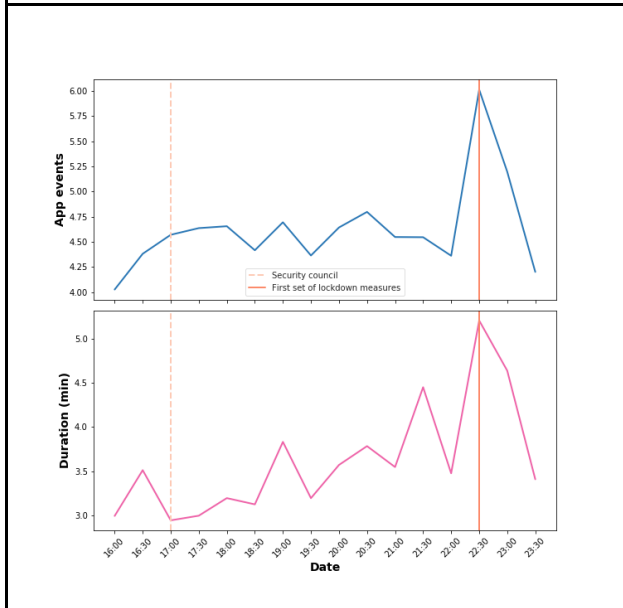
If we zoom into March 12 again, the day of the press-conference that communicated the partial lock-down of the country, we see that duration of mobile messaging peaks during the time of the press conference, while social media use goes



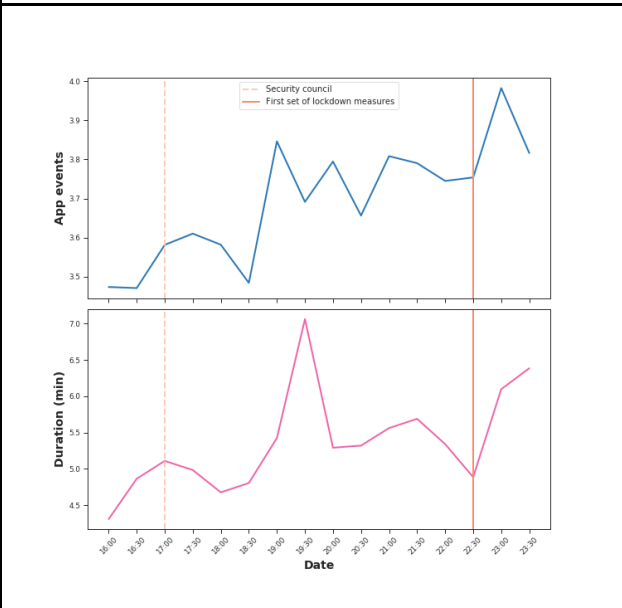
up just at the end and after the press conference. This once again shows that people first have the need to communicate with close tie contacts via messenger apps like WhatsApp or Facebook Messenger and text messages, and only afterwards gather responses from a broader social network on platforms like Facebook, Instagram, and Twitter.



**Figure 4c - Mobile messaging around major press conference March 12**



**Figure 4d - Social media use around major press conference March 12**

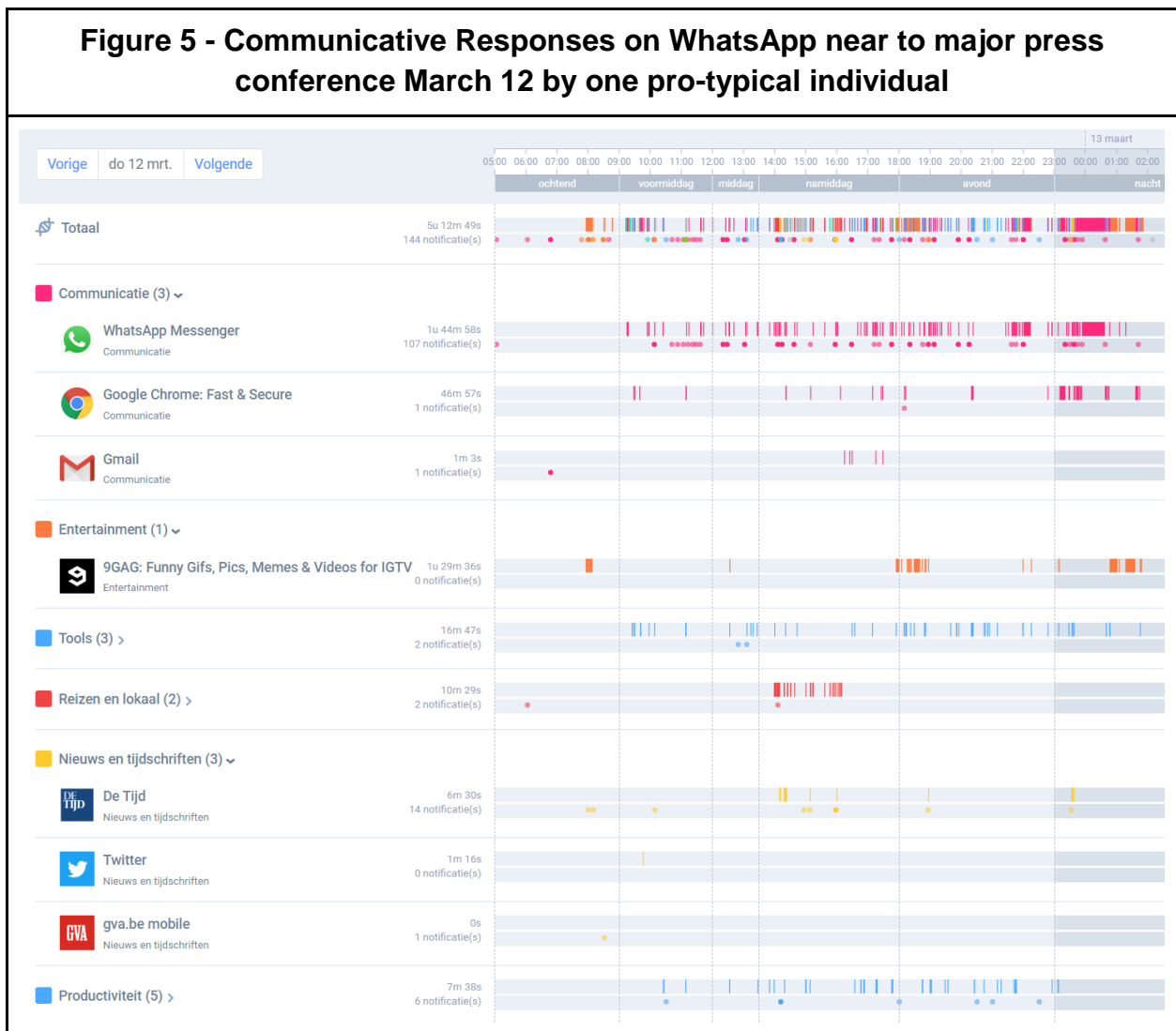


Not surprisingly, this increase is strongly driven by WhatsApp, the most frequently used mobile messaging platforms in Belgium, while other apps such as Facebook Messenger or text messaging apps experienced a lower surge. When we zoom in on the WhatsApp usage of a random individual on March 12 (Figure 5), we see that especially at the time of the press conference and subsequent news broadcasts in the evening hours, WhatsApp is used in a highly fragmented manner, with multiple short interactions taking place within a relatively short time span. WhatsApp is an example of a mobile messenger that affords near-synchronous<sup>13</sup> communication: People carry out text-based conversations, but they can contribute to these conversations at their own convenience. Brevity in responses is sanctioned, and because there are no formal openings and closings, conversations can go on for days, weeks, and - in the case of family or friend group chats - even months or years. As such, the low-threshold nature of mobile text-based conversations facilitates a fragmented pattern of digital connectedness where multiple short interactions are carried out all throughout the day, and can even be multi-tasked with other activities such as TV viewing or with other conversations, both online and face-to-face. These multiple combinations of information intake and creation exemplify how mobile media contribute to the uniqueness of each individual's

<sup>13</sup> Rettie, R. (2009). SMS: EXPLOITING THE INTERACTIONAL CHARACTERISTICS OF NEAR-SYNCHRONY. *Information, Communication & Society*, 12(8), 1131–1148.

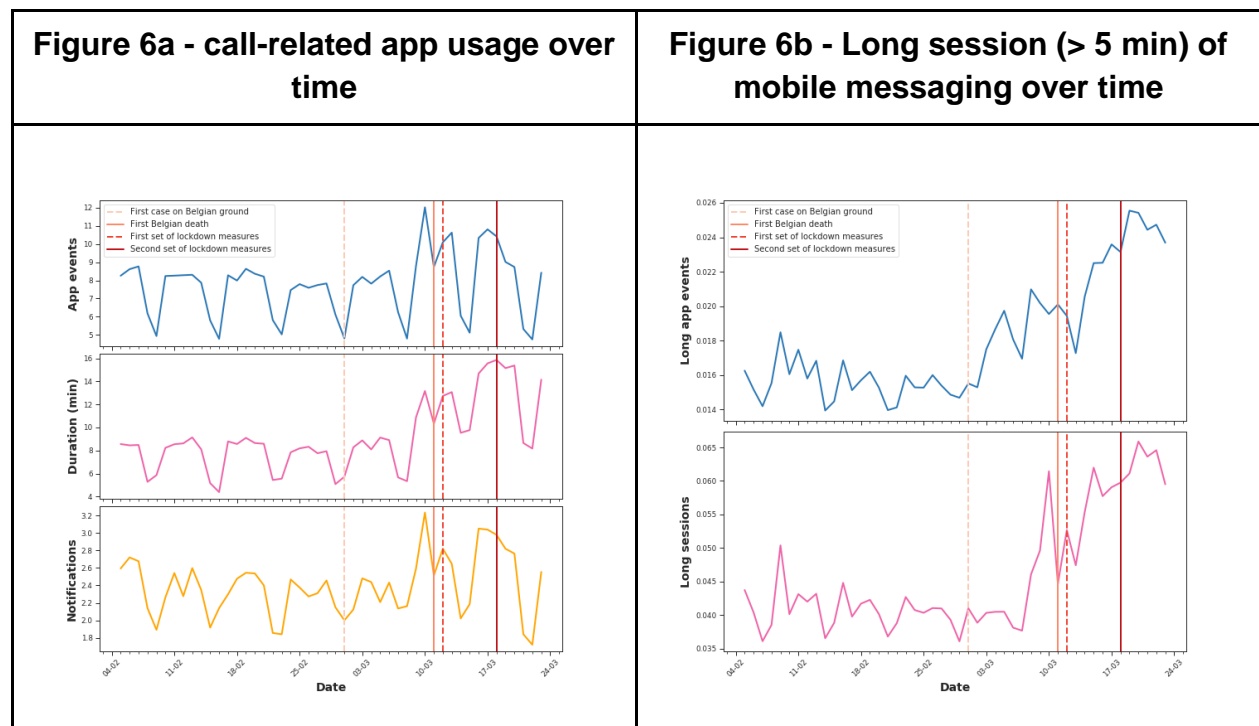
communication trajectory, thereby ever-increasing the fragmentation of audiences<sup>14</sup>. This fragmented pattern in communication is visible in the communication pattern of one pro-typical person (see Figure 5). As can be seen, during the day time, this person's mobile DNA reveals the typical pattern of fragmented messaging behavior. After a break around dinner time, this pattern intensifies up to the moment where the press conference begins (22.30 pm). Immediately after the press conference ending, the messaging behavior intensifies further. Here, we see that there are few incoming notifications, which suggests that the user has been engaged in a quasi-synchronous conversation for an a-typically long amount of time.

**Figure 5 - Communicative Responses on WhatsApp near to major press conference March 12 by one pro-typical individual**



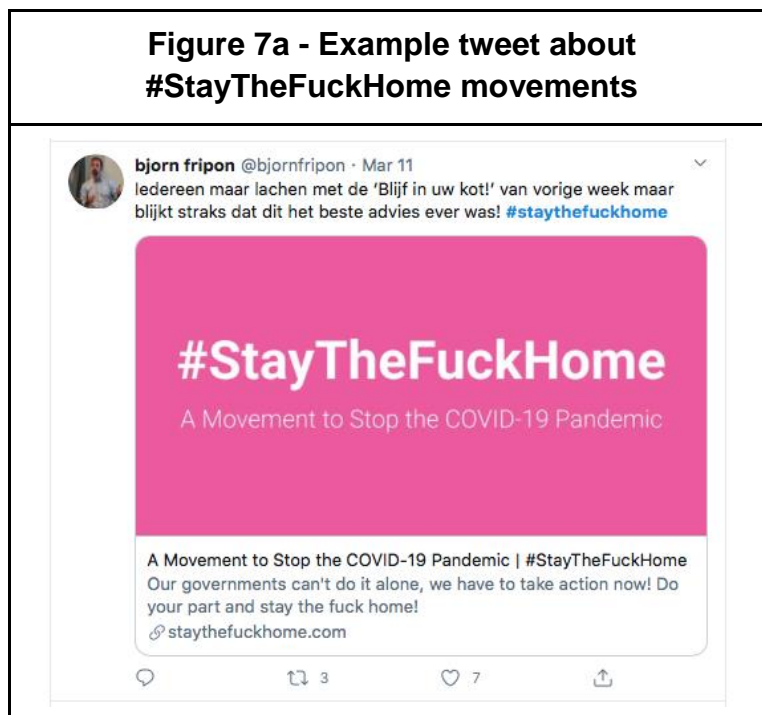
<sup>14</sup> Bennett, W. L., & Iyengar, S. (2008). A new era of minimal effects? The changing foundations of political communication. *Journal of Communication*, 58(4), 707–731.

In times when people experience no restrictions of physical movements, means of digital communication are a useful and important add-on to supplement face-to-face interactions. In times of physical distancing, however, digital communication increases in importance and shifts from a convenient supplement to, to a necessary substitute for face-to-face interactions. The underlying digital infrastructure and habitualized digital social communication routines that people have established over the past decades may therefore shape the coping process, and thereby also potentially the progress of this unusual situation that is concerning for so many. Here, the social function of digital media is likely to help people that are affected by the physical distancing under the COVID-19 ban to get through a difficult situation more easily. This is visible from the smartphone log data in various respects. First, although the number of voice calls does not appear to drastically increase (7.8 calls on February 28 versus 10.8 calls on 17 March), we see a substantial increase in the duration of (video) calling (8 minutes on 28 February, 16 minutes on 17 March; see Figure 6a). The need for extended social interaction becomes furthermore visible when we look at the increase of session length. The share of communication that takes longer than 5 minutes in a row, which is considered long for rather short-term patterns of mobile messaging, increases from about 1,5 % on February 28 to 2,3% on March 17 (Figure 6b).



## Engaging and volunteering digitally.

Because social distancing confines people to their homes, this restricts their possibility to act and to help: Many forms of civic engagement that take place offline, such as doing voluntary work, expressing opinions in a personal talk, or attending demonstrations are not possible in the current situation. But digital activism and online voluntary work have been known to provide an alternative for or a supplement to offline participation and activism<sup>1516</sup>. While these forms have been described as low effort types of political participation<sup>17</sup>, they now become a necessity for people to organize help and responses. In some cases, such as the #MeToo movement, people around the world have already rehearsed this form of engagement via digital means. Now, with restrictions in physical mobility, digital activism and volunteering become important tools for people to shape the development of the situation. #StayTheFuckHome, a movement to stop the COVID-19 pandemic, gained momentum with its hashtag having several million hits so far.



<sup>15</sup> Ohme, J., de Vreese, C. H., & Albæk, E. (2018). From theory to practice: How to apply van Deth's conceptual map in empirical political participation research. *Acta Politica*, 53(3), 367–390.

<sup>16</sup> Theocharis, Y., Moor, J., & Deth, J. W. (2019). Digitally Networked Participation and Lifestyle Politics as New Modes of Political Participation. *Policy & Internet*.

<sup>17</sup> Morozov, E. (2009). From slacktivism to activism. *Foreign Policy*.  
<https://foreignpolicy.com/2009/09/05/from-slacktivism-to-activism/>

While this movement is a clear case of supporting political messages, people also use digital platforms to organize local help. In Facebook groups, such as '[Spread solidarity, not the virus](#)' Belgian citizens can post, share and react to various initiatives aimed at helping others cope with the crisis. There are also more specific examples of 'connective actions'<sup>18</sup>, such as [facebook groups to bring together persons that sew breathing masks](#) for health professionals as a response to shortages in hospitals) and digital platforms such as [hulpvoorhelden.be](#) (Help for Heroes) and [Vlaanderen Helpt \(Flanders helps\)](#) that offer a digital infrastructure for citizens to organize various forms of neighborhood help, such as babysitting services for health professionals who cannot tend to their children and grocery services for elderly or other groups with high infection risks. In another instance, the #donateyourticket movement spreads the idea of donating tickets of cancelled events to artists or venue owners to minimize the economic impact of cultural life coming to a hold for the creative industry.

The above examples show that, in times of crisis, digital media not only help people to inform themselves and connect with their social network. They are also a means to an end in organizing responses and give citizens the agency to spread information themselves and help others. Civic engagement online and peoples' self-efficacy are tightly connected<sup>19</sup>. For people who cannot contribute to a good outcome of this pandemic otherwise, partaking in these 'connective actions' on digital media can therefore help to develop a feeling of personal usefulness and safeguard mental health while going through this crisis. There are also risks associated with these citizenship behaviors, such as that of misinformation. However, here again, new initiatives arise, such as the [Corona Code](#), a 'code of conduct' that citizens and professionals can sign to show their commitment to distribute fact-checked information without causing panic.

In sum, in these remarkable times, smartphones and digital platforms such as Facebook, Twitter, and WhatsApp serve as main tools of activity and communication in times of physical distancing. While these digital infrastructures are not free from problems - for example, the spread of disinformation, panic or anxiety and disparities in their access and use - their use suggests that physical distancing does not necessarily lead to social distancing. In this first fully digital pandemic, means of digital communication and activism that have been tested and rehearsed for years may now show to be an effective tool to help political leaders but also individual citizens to get through these remarkable times.

---

<sup>18</sup> Bennett, W. L., & Segerberg, A. (2012). The logic of connective action. *Information, Communication & Society*, 15(5), 739–768.

<sup>19</sup> Park, C. S. (2015). Pathways to Expressive and Collective Participation: Usage Patterns, Political Efficacy, and Political Participation in Social Networking Sites. *Journal of Broadcasting & Electronic Media*, 59(4), 698–716.

## Figures

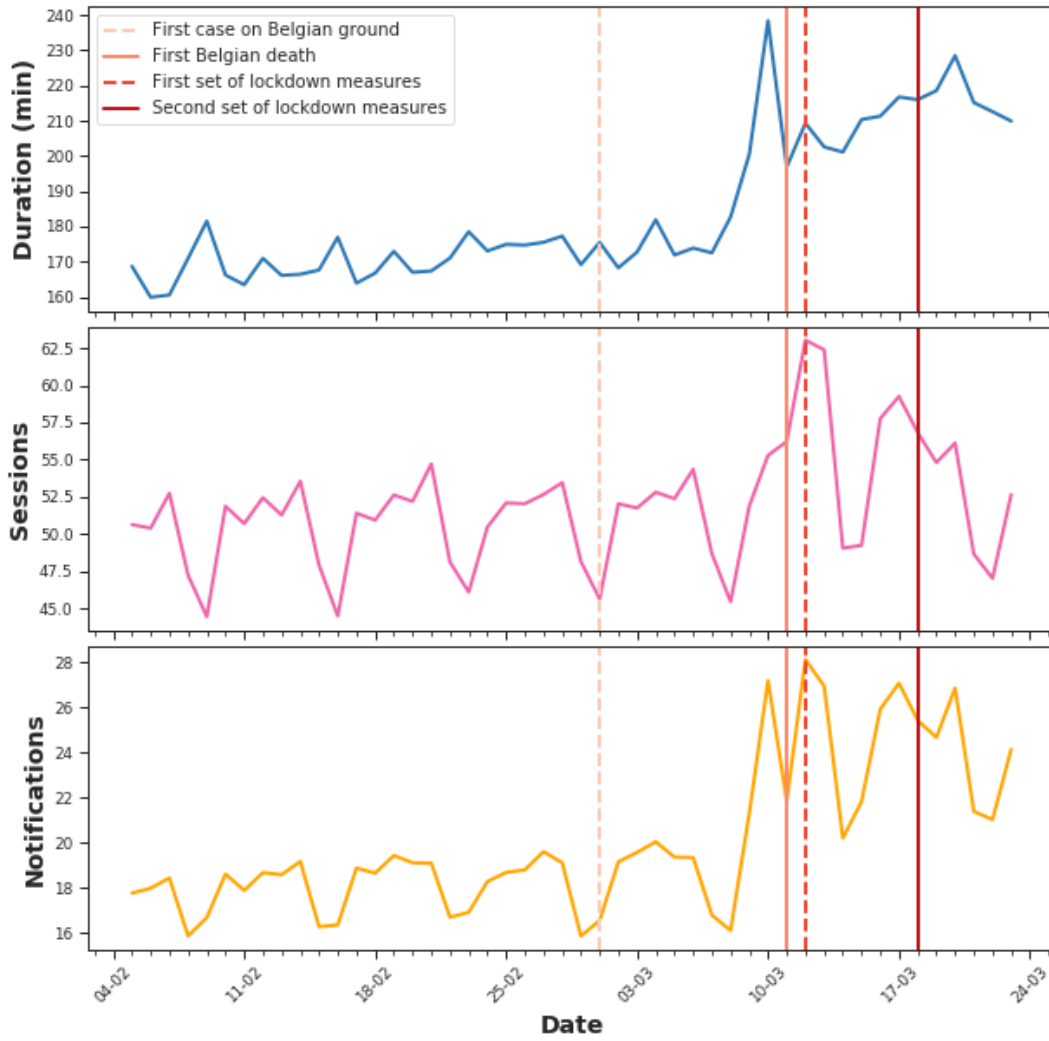


Fig. 1: Increase in smartphone use (duration, pickups, answered notifications) 01 Jan - 24 March

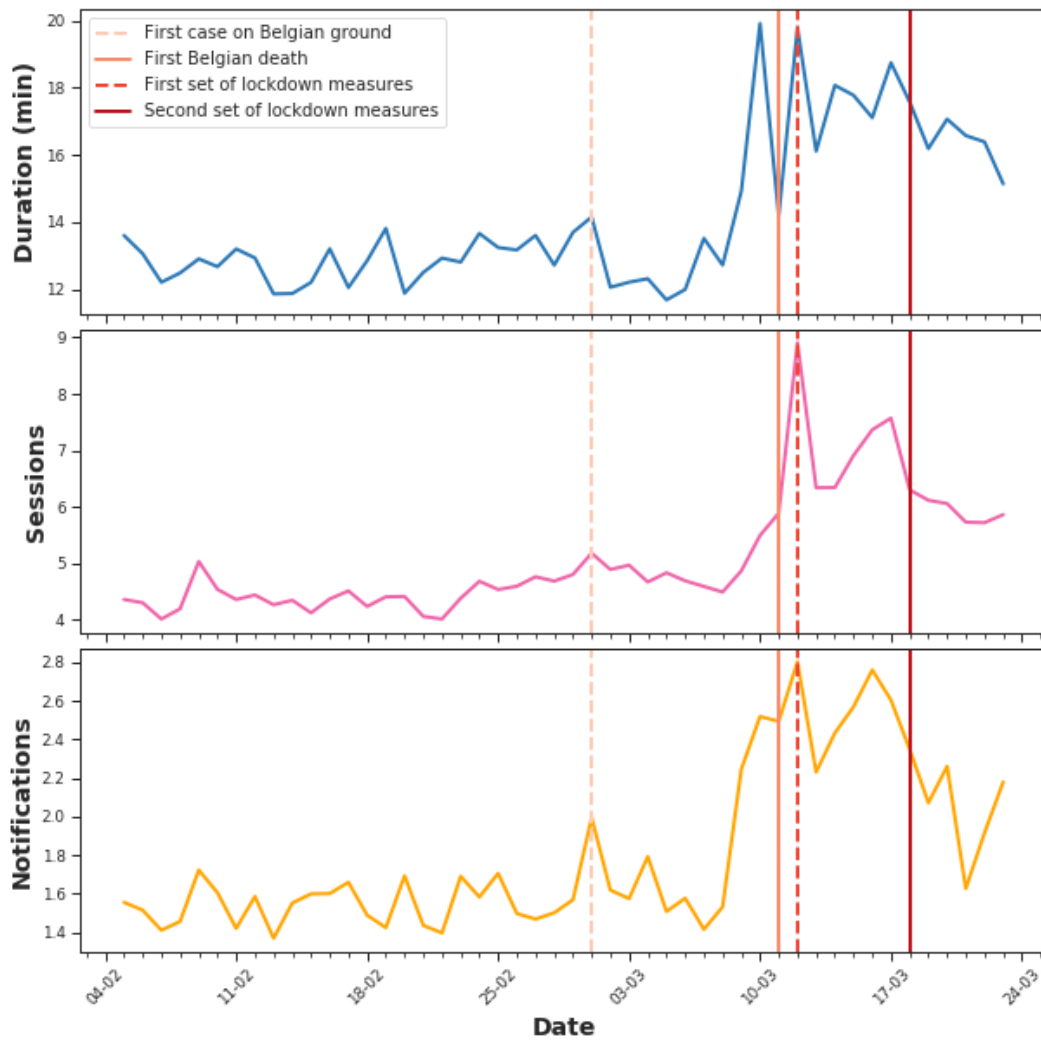


Fig. 2a: Duration, pickups, and answered notifications of news apps 01 Feb - 24 March



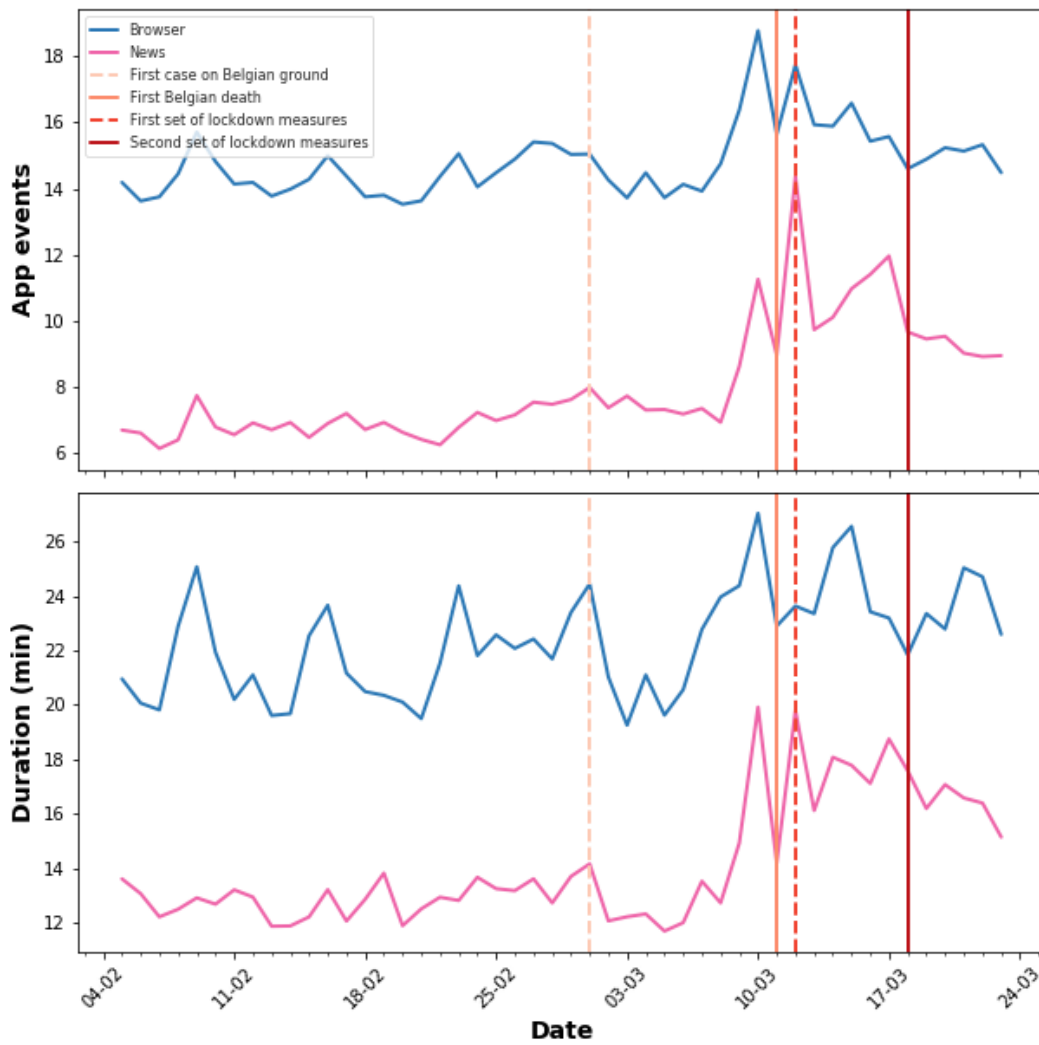


Fig. 2b: Sessions and duration of news apps and mobile browser 01 Feb - 24 March

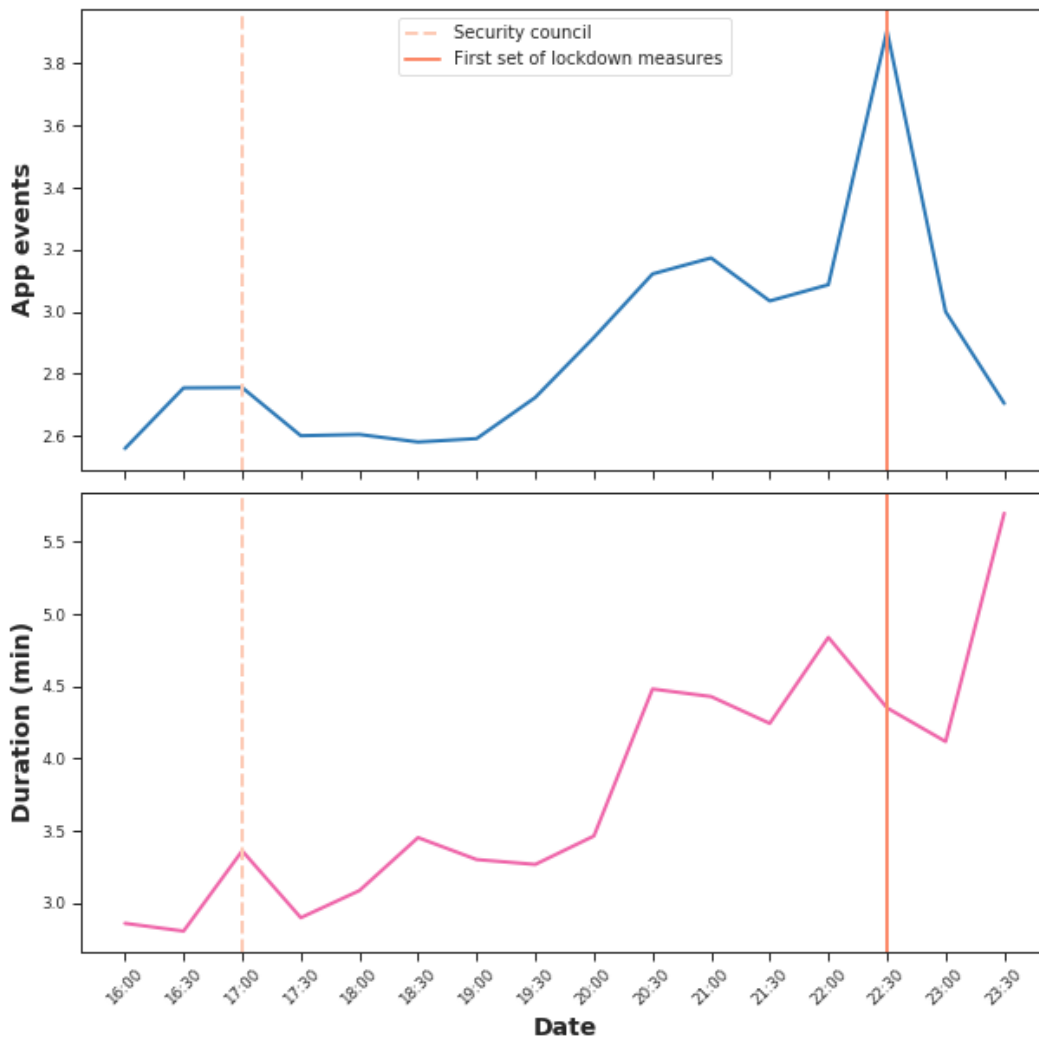


Fig. 3: News app use as response to press conference on evening 12 March 4 pm to March 12 midnight

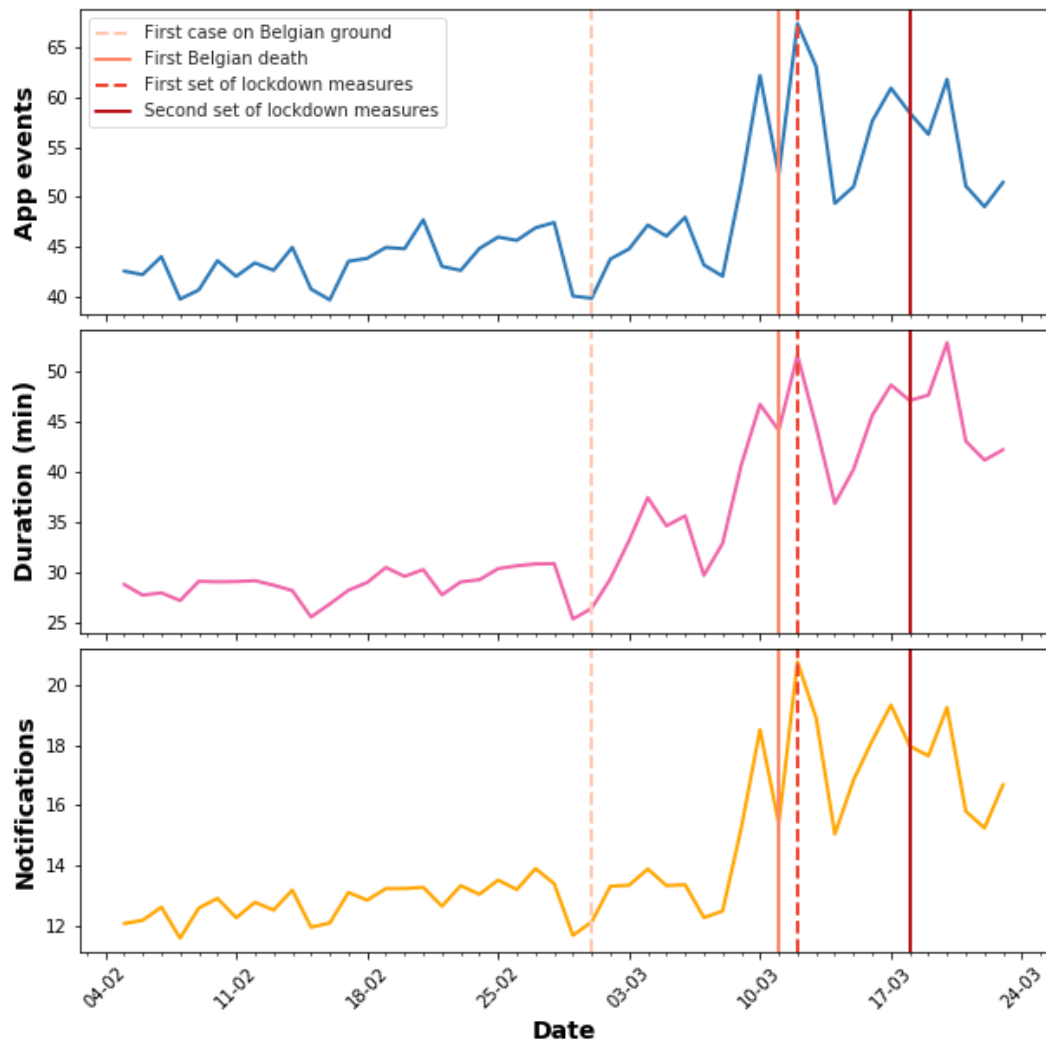


Fig. 4a: Development of digital connectedness via mobile messengers over time

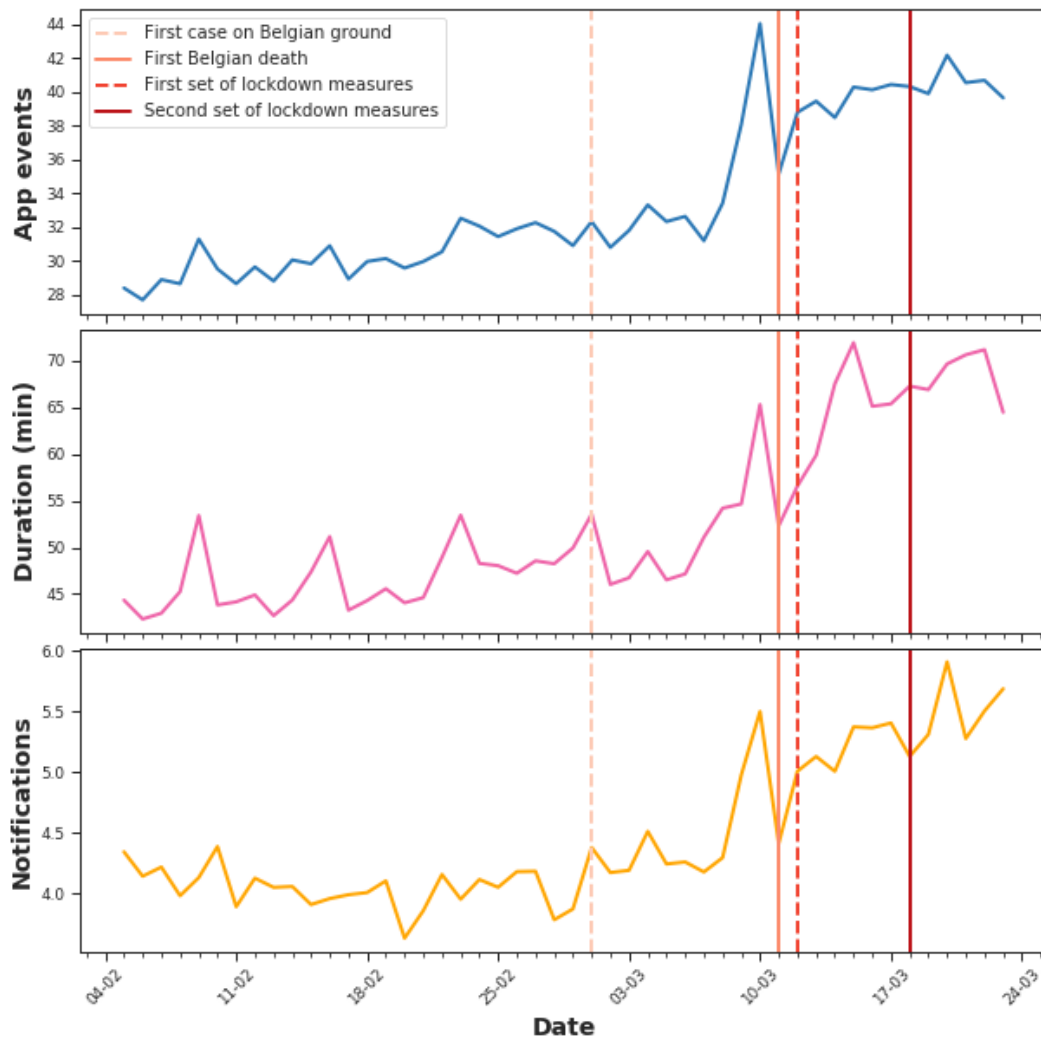


Fig. 4b: Development of digital connectedness via social media over time

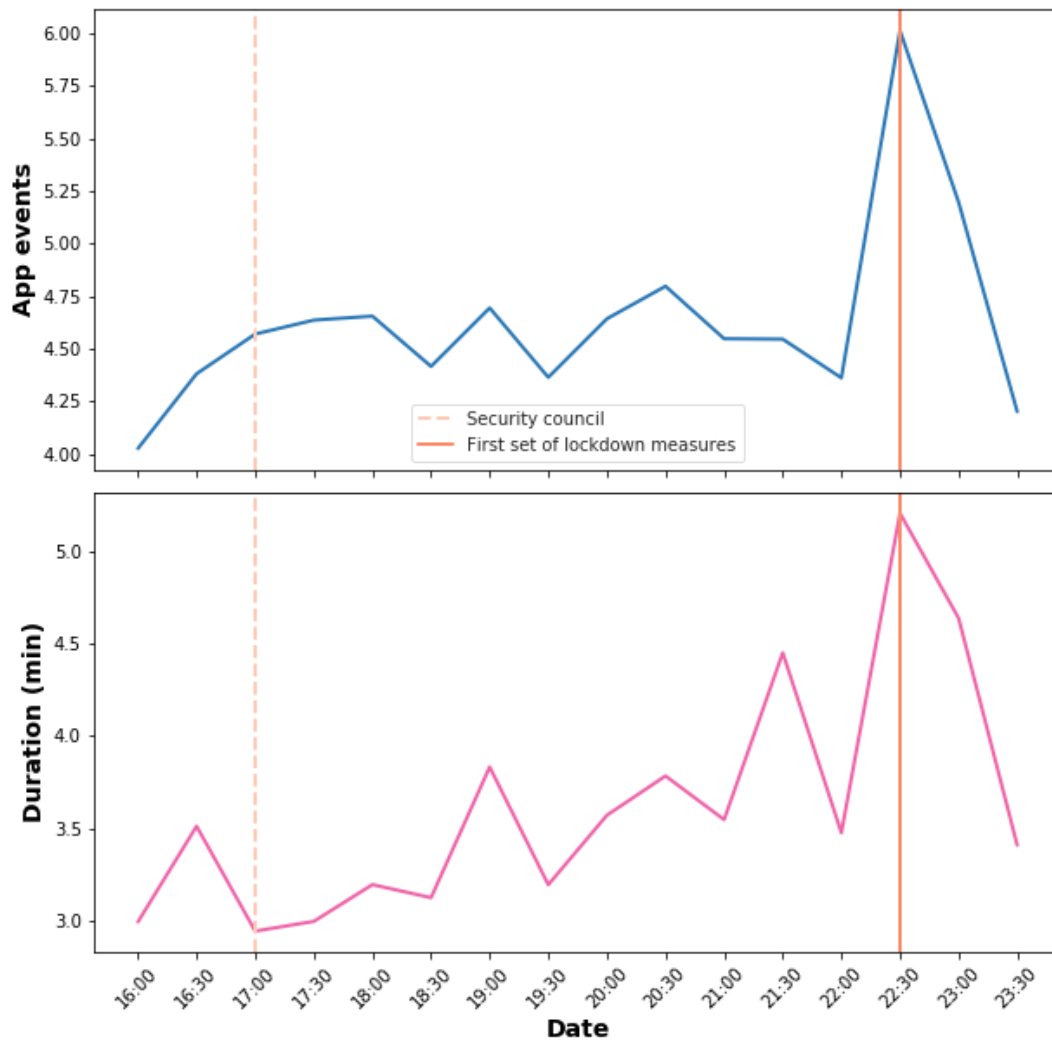


Fig. 4c: Mobile messaging around major press conference March 12

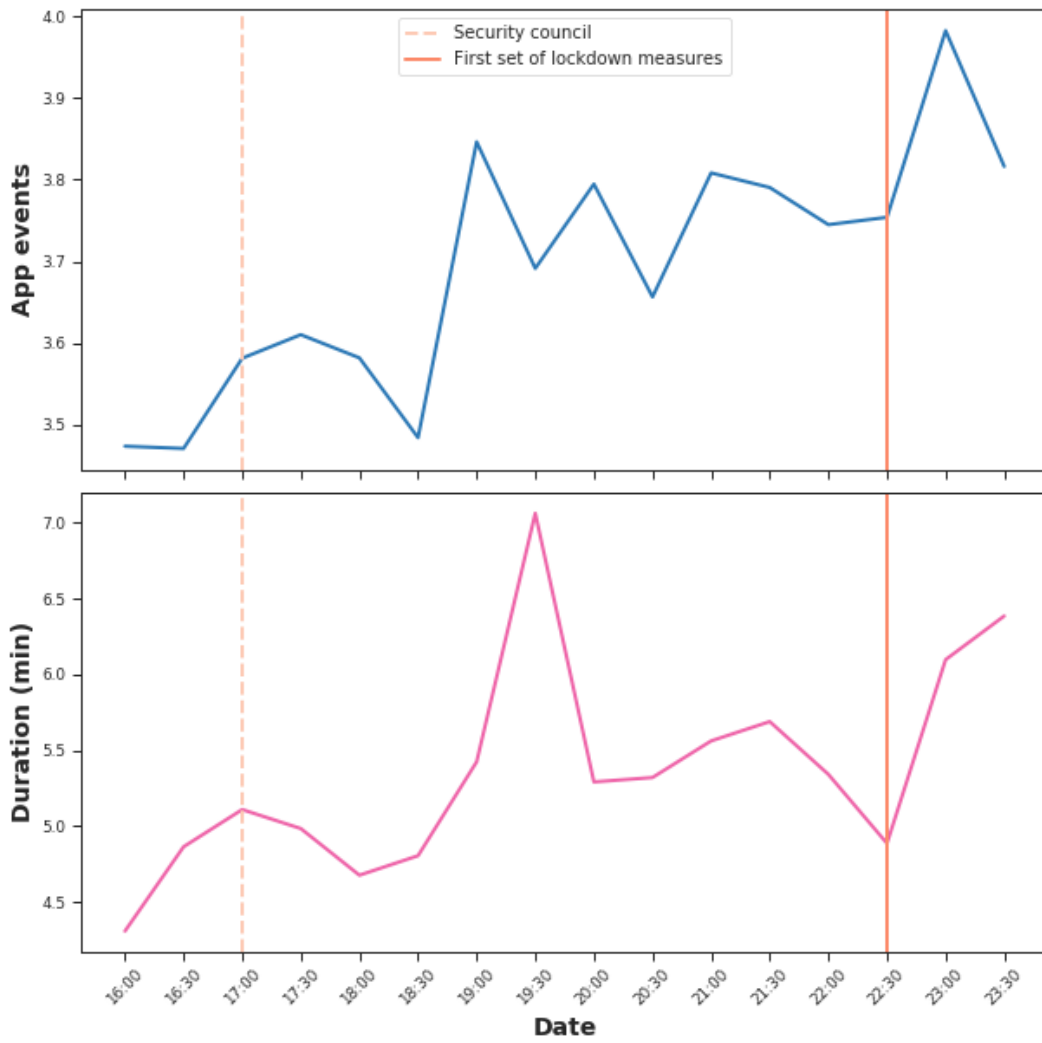


Fig. 4d: Social media use around major press conference March 12

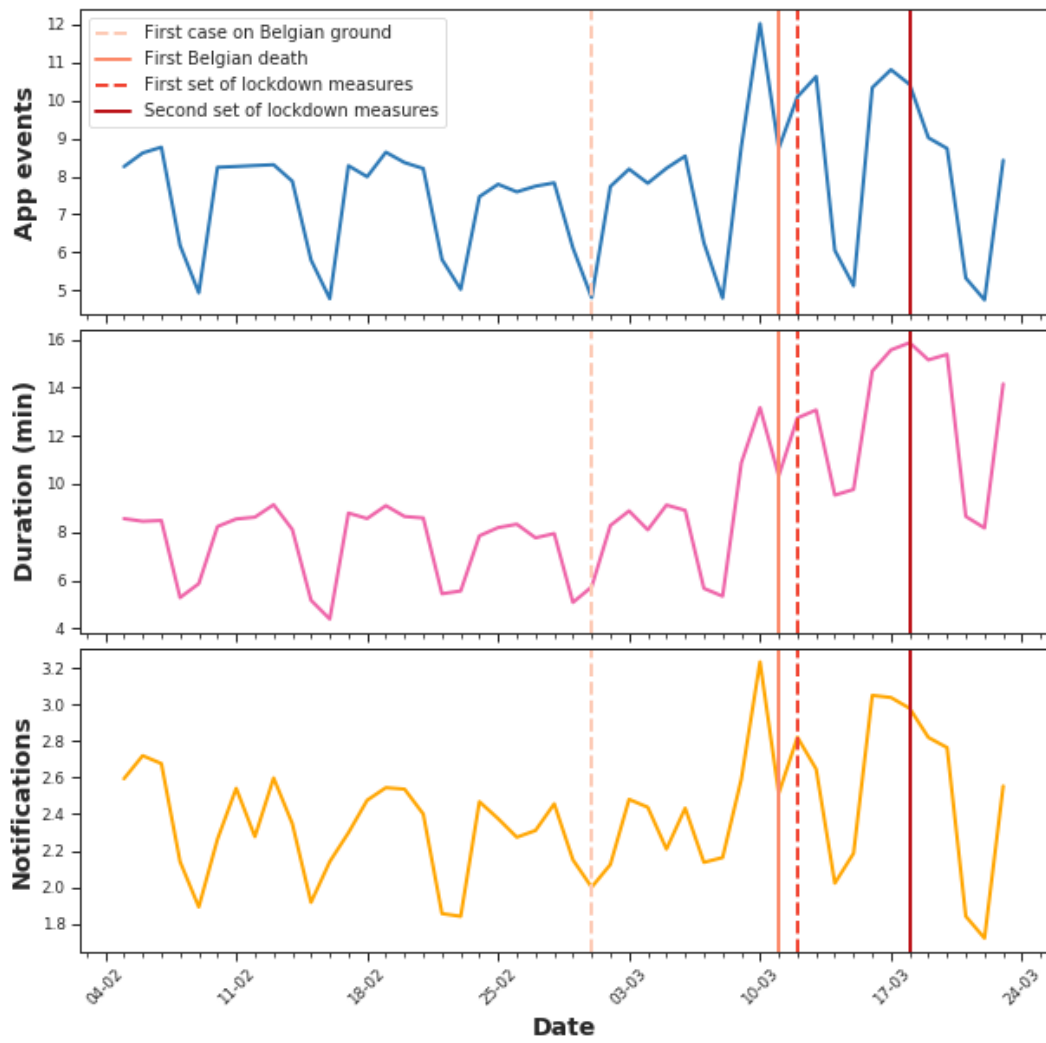


Fig. 6a: Call-related app usage over time

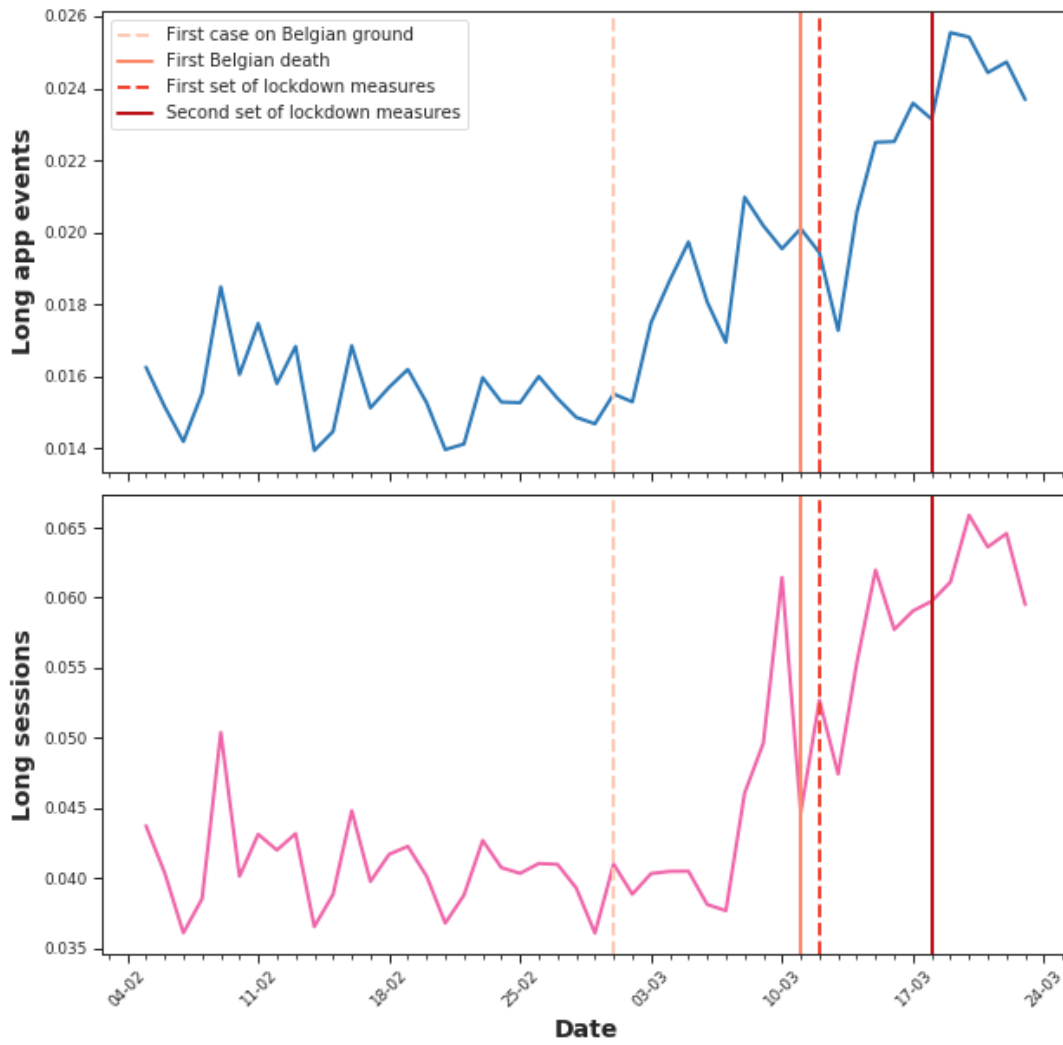


Fig. 6b: Long session (> 5 min) of mobile messaging over time