

Self-Representation on Social Media during the First Five COVID-19 Pandemic Waves

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Abstract

The present pilot study provides details on changes in self-representation on social media during the COVID-19 pandemic, as well as on their potential link to mental health. The aim was to contribute to our knowledge both of mental health contexts underlying engagement on social media and of the pandemic's psychosocial consequences—a topic calling for an interdisciplinary approach including sociology, psychology, and communication and media studies. Via a four-step online survey, the study assessed participants' current mental health status, alongside their self-perceived social media usage and self-representation habits. The survey asked the same 20 questions four times during each of the first five COVID-19 pandemic waves in Hungary, between April 22, 2020, and January 20, 2022. The research indicated that (1) time spent on social media and (2) willingness to share self-representative content increased during the pandemic up to the fourth wave. The findings associated these changes with (3) a growing risk of the subjects' developing a major depressive disorder during all five waves and (4) an even higher risk of depression among the most active social media sharers, as the embedded PHQ-2 questionnaire demonstrated. This leads to the conclusion that the multidimensional societal consequences under the COVID-19 pandemic are worth further examining.

Keywords: COVID-19, self-representation, social media, sociology, social psychology

1. Introduction

Recent research has addressed the psychosocial effects of the COVID-19 pandemic and its associated lockdowns at length. According to scientists, the related extraordinary limitations to disease prevention could be linked to acute panic, anxiety, compulsive behaviours, hoarding, paranoia, depression, and post-traumatic stress disorder (Dubey et al., 2020). The COVID-19 crisis has involved uncertainty about the future, dread of infection, resource shortages, unprecedented public health measures curbing individual freedoms, monetary losses, and conflicting media messages (Pfefferbaum & North, 2020).

The pandemic's psychosocial effects have been magnified by our living 'in a connected world', 'a connected age', within the 'human web' and a 'web society' (van Dijk, 2020)—the era of the so-called 'new media' (Thornham et al., 2009). Many believe social media to be the

most prominent new media, employing ‘mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content’ (Kietzmann et al., 2011 [214]). Users create virtual self-representations on social media platforms influenced by ‘real-world’ individual and societal events, while also learning a great deal about ‘real-life’ happenings from others’ posts (Hogan & Quan-Haase, 2010).

COVID-19 is a respiratory illness stemming from a new coronavirus known as ‘severe acute respiratory syndrome coronavirus 2’ (i.e. SARS-CoV-2, formerly 2019-nCoV), first detected in Wuhan, China (Cennimo, 2020). The United States Centers for Disease Control and Prevention (CDC) warned that ‘COVID-19 is thought to spread mainly through close contact from person to person, including between people who are physically near each other (within about 6 feet)’ (CDC, 2020). The virus has proven to be highly contagious, fast-spreading, and especially dangerous to people with compromised immune systems. Curfews, lockdowns, quarantining, and physical distancing have been recommended and implemented across the world as preventive measures against the pandemic (Sanche et al., 2020).

Hungary detected its first COVID-19 case on March 4, 2020, with the first COVID-19-related death in the country occurring within 11 days. In reaction to this initial wave of the pandemic, the Hungarian government declared an epidemiological emergency on March 11, 2020. The lockdown began on March 28 and was initially supposed to last two weeks, but the administration extended it on April 9, and then progressively until May 4. Closed in this first wave were borders, educational institutions, recreational facilities, restaurants, cafés, bars, clubs, and some private industry service providers, among many others. Meetings, events, and non-emergency visits to health and social care institutions were consequently prohibited, and people had to wear masks publicly in enclosed spaces, e.g. on public transport and in stores.

Few limitations beyond the face mask requirement remained in effect in Hungary during that summer. However, autumn brought the pandemic’s second spike in infections, and the government once again announced an epidemiological emergency, on November 4, 2020, imposing a curfew the very next day. Everyone in the country was forced to stay indoors from 8 p.m. to 5 a.m., and those in cities of more than 10,000 inhabitants had to wear masks in all public spaces, indoors or outdoors.

A third COVID-19 wave followed the second as the Alpha variant hit Hungary in mid-February 2021, leading to the limitations remaining in force for a longer period than those in the first wave. As more than half of the country’s population had been vaccinated by then, the government gradually eased restrictions, including lifting the curfew and requirement to wear masks in public spaces by the end of May 2021.

People saw themselves forced to mask up in enclosed spaces once again and temporarily switch to taking their university courses online with the arrival of the Delta variant, and hence the fourth wave of the pandemic, that autumn. By the end of 2021, the most recent COVID-19 variant, Omicron, had merged the fourth and fifth waves together, with Hungary’s declared epidemiological emergency being extended until June 1, 2022.

As a high-impact, ‘real-world’ event, the COVID-19 crisis has affected social media use, which, when frequent, has been linked with an elevated risk of depression among users during the pandemic. Researchers had observed such links prior to the pandemic (Lin et al., 2016). The present pilot study sought to substantiate them for the ongoing crisis, validating the

following multipart hypothesis: (1) time spent on social media and (2) willingness to share self-representative content increased during the first five COVID-19 waves in Hungary, and were associated with (3) a growing risk of major depression among users and (4) an even higher risk among the most active sharers (according to the embedded PHQ-2 questionnaire).

2. Methods

An online questionnaire represented the most efficient way to collect data from social media users amid the methodological challenges the social sciences have faced during the COVID-19 waves and lockdowns. This anonymous survey contained the same 20 questions in Hungarian for everyone, with a few modifications in their phrasing to match the different periods at hand. This researcher shared it via Facebook and Instagram during each of the pandemic waves in Hungary, to obtain an overview of changes in self-representation on social media and test their hypothesised connection to users' deteriorating mental health.

The questionnaire was designed to record participants' basic demographic traits (gender, age, type of settlement, education level), social media use patterns (platforms, types of shared content, frequency of sharing), and current mental health state via the Patient Health Questionnaire-2 (PHQ-2). Two open-ended questions were included, to allow users to share their thoughts on their own and their peers' social media use and on self-representation amid the five COVID-19 waves mentioned. Data for the first wave was collected from 170 survey respondents during the first strict lockdown, between April 22 and May 11, 2020, via answers related to their social media use before and during the pandemic (Sándor, 2020).

The flux of the pandemic then did not allow for a long sampling process, as the timing, duration, and severity of subsequent waves seemed entirely unpredictable. The rapidly changing scenario required the fastest and most effective suitable method: convenience sampling. Hence, during the second round of data collection (between November 20 and December 2, 2020), the samples were made comparable by adjusting the second to match the first, since two samples cannot contain exactly the same participants.

The second version of the survey covered the second-wave lockdown and the 'lockdown-free' period between the first two COVID-19 waves in Hungary. This researcher selected 100 sets of answers from 119 participants in the second sample to match it to the first in terms of gender and age, with less than 0.5% difference. In both the selected samples, 79% of the respondents were women and 21% men, among which 2% were aged 13–19, 34% aged 20–29, 31% aged 30–39, 16% aged 40–49, 13% aged 50–59, and 4% aged 60–69 (Sándor, 2021). The third survey round, corresponding to the third wave, began on March 13 and ended on April 4, 2021, and included 157 respondents and 135 sets of answers chosen in proportion to the gender and age statistics of the two preceding samples.

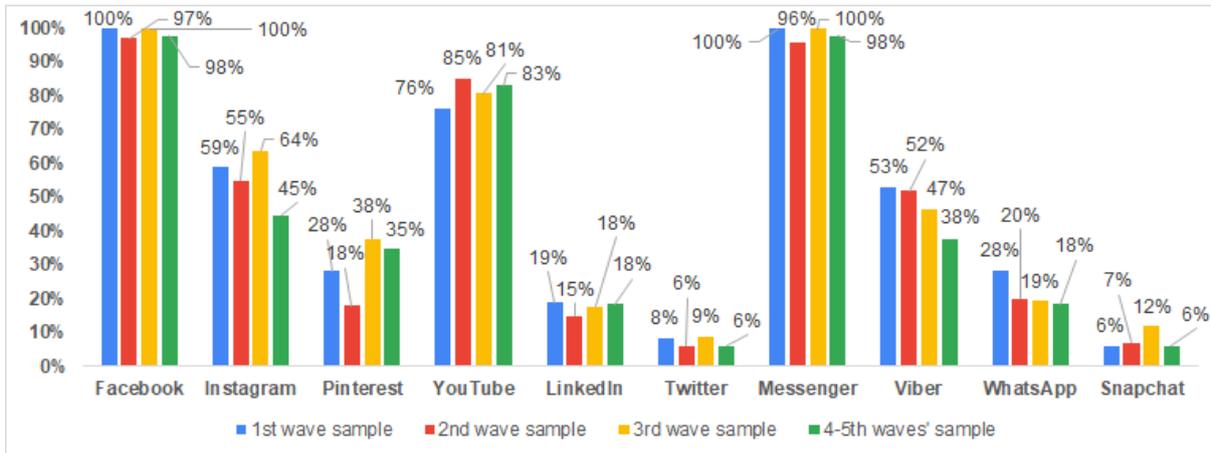
The final data collection round pertained to the combined fourth and fifth COVID-19 waves. A total of 202 social media users filled out the survey between January 7 and 20, from which 130 sets of answers were selected to match the previous three samples.

3. Results and Discussion

The answers to the first social-media-use question ('which social media platforms do you use?') revealed that the most popular platforms among the respondents were Facebook and

Messenger. Respectively in each of the four samples, 100%, 97%, 100%, and 98% had used Facebook, and 100%, 96%, 100%, and 98% had used Messenger (Figure 1).

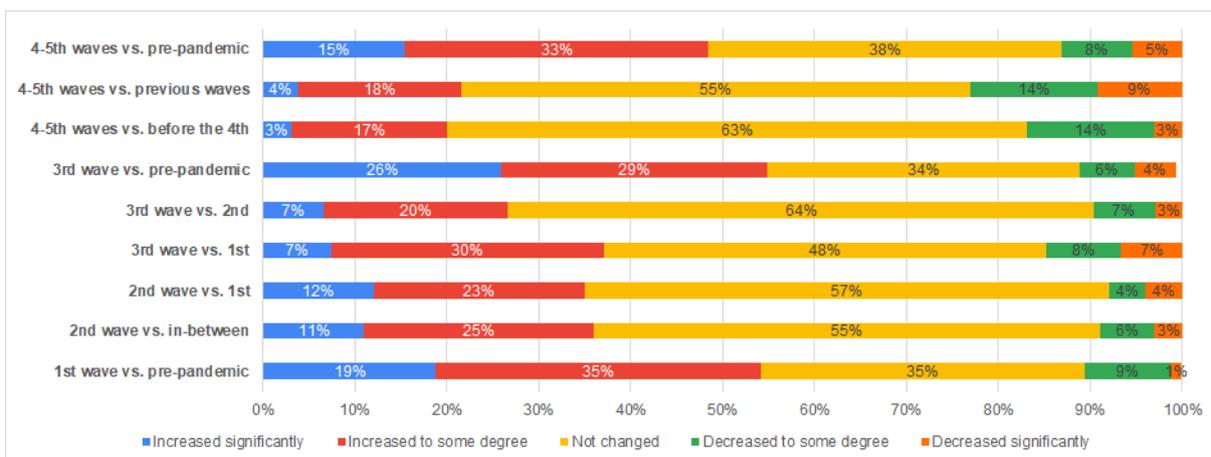
Figure 1: Social media platforms used by participants



Source: the author

The responses to the next question (‘how has your total time spent using social media changed?’), pointed to the first COVID-19 wave as the most momentous: 54% of participants reported they spent more time on social media during the first-wave lockdown in the spring of 2020 than they did pre-pandemic. By the third wave, 55% of individuals said they had come to spend more time on social media than before the COVID-19 outbreak, indicating a significant cumulative effect from the first three waves. However, that rate went down to 48% during the final round of responses, in winter 2021, indicating that that cumulative effect may have faded during the combined fourth and fifth waves (Figure 2).

Figure 2: Overall perception of one’s own time spent on social media

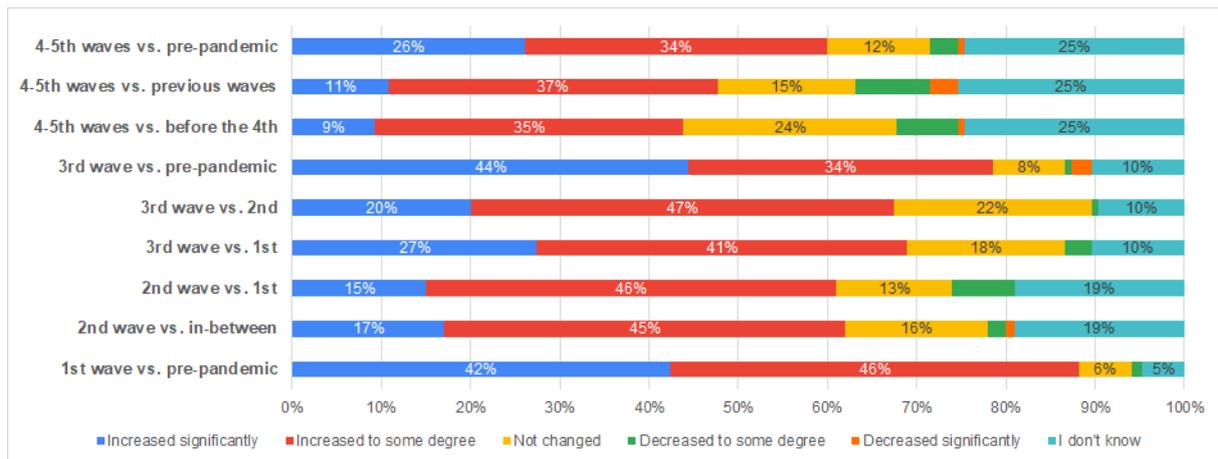


Source: the author

Interestingly, the survey results show a significant discrepancy between respondents’ impressions on changes to their own social media use and that of others. To a similar extent in the first, second, and third waves, they noted bigger changes in others’ social media usage patterns (in both time and frequency) than in their own. During the first COVID-19 wave in

Hungary, 42% of participants said that others’ social media use ‘increased significantly’ and 46% said it ‘increased to some degree’, compared to 44% and 34%, respectively, in the third wave. Despite the fact that the second and third waves were merging (but to a smaller extent than the fourth and the fifth), two-thirds of respondents (67%) saw an increase in others’ social media usage times. During the fourth and fifth waves, 48% noticed that others spent more time on social media compared to the previous three waves (Figure 3).

Figure 3: Overall perception of time others spent on social media



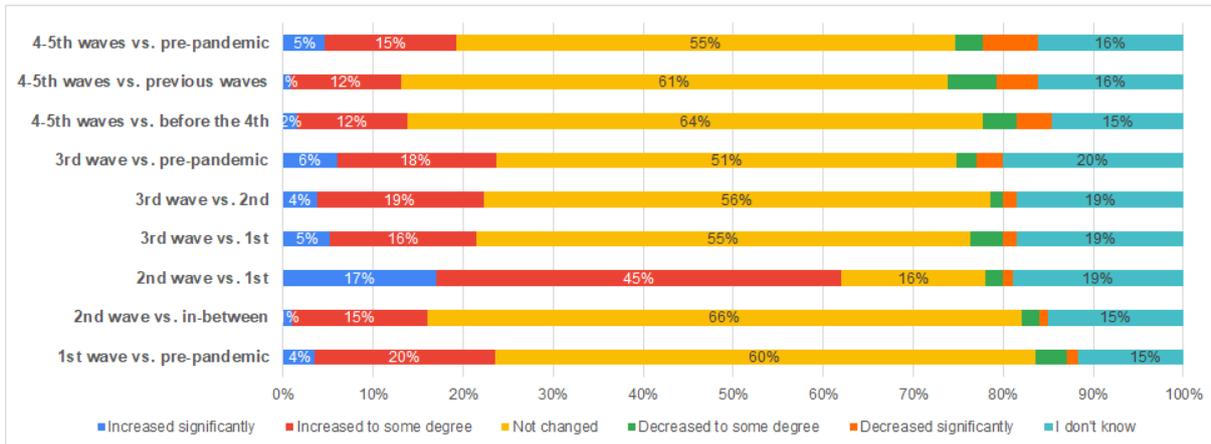
Source: the author

Participants were asked to answer the following related open-ended question: ‘How do you think others’ social media use has changed as a result of the entire pandemic and the current fourth and fifth wave? What kind of pictures and videos do they post about themselves, and how much time do they spend on it?’ One of the participants wrote: ‘I spend more time on it, even 5–6 hours a day. I also share more content, preferring to share [content] about me on Instagram or Snapchat, and other people’s content on Facebook.’ Another respondent pointed out that ‘due to contact restrictions, contact with family and friends could only be limited to social media.’ Reasons for increased social media use may not only be personal but also professional, as a third user emphasised that ‘before the pandemic, I didn’t use any social media other than YouTube at all. I was forced to FB [Facebook] as a teacher, but I only use it for work.’

However, pandemic-related changes in social media use may fade over time, as indicated by a fourth respondent: ‘During the current [fifth] wave, I’m already posting less and reading less about the pandemic.’ A fifth respondent suggested that trauma response may be a reason for sharing content more often during the pandemic, writing that ‘my acquaintances share more pictures and posts, especially those who have already gone through the [COVID-19] disease or lost a loved one.’ The quoted responses may help explain the numbers in Figure 3.

Survey participants saw the most notable increase in responses (likes, other one-button reactions, comments) to the self-representative photos and videos they shared on social media during the second COVID-19 wave (Figure 4). At that time, 62% felt other users reacted more to their posts. Interestingly, as the pandemic progressed, the spike in reactions perceived compared to pre-pandemic times gradually decreased.

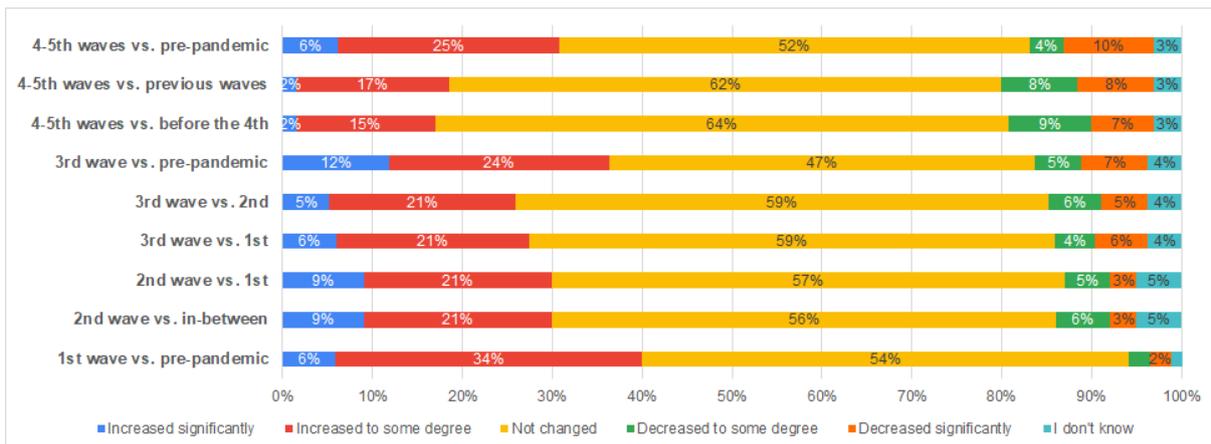
Figure 4: Overall perception of amount of reaction received



Source: the author

Concerning one’s own responses to other users’ posts (likes, other one-button reactions, comments), the biggest change vis-à-vis pre-pandemic times was observed during the first and third COVID-19 waves (Figure 5), when 40% and 36%, respectively, thought they had come to react more on social media. Conversely, the period of the fourth and fifth waves saw a more modest 17% increase vis-à-vis the months between the third and fourth waves, which could mean that certain psychosocial effects of the pandemic were stronger over the first waves, then lost some of their momentum—at least in terms of social media activity.

Figure 5: Overall perception of amount of reaction given



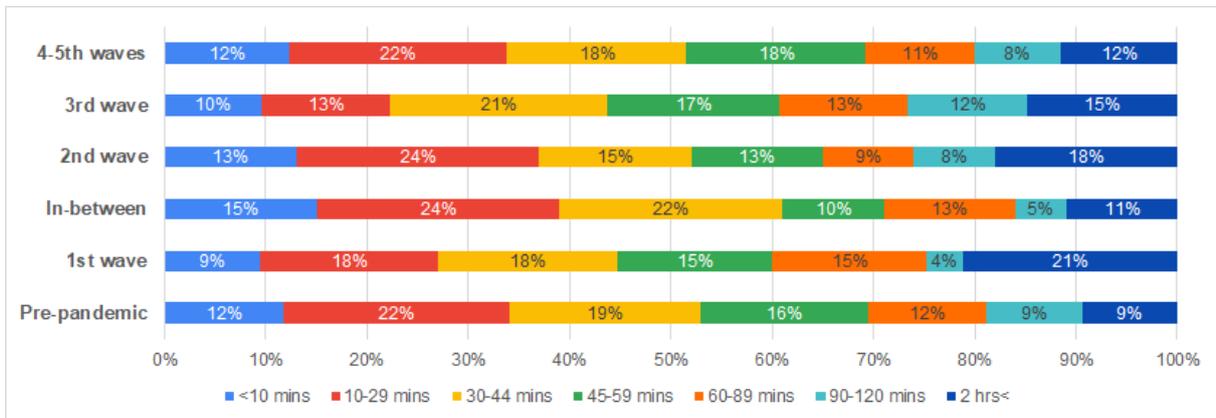
Source: the author

According to data from matrix questions (multiple-choice grids with time intervals in their columns and social media platforms in their rows), the time respondents spent on social media increased dramatically during the COVID-19 pandemic. Participants answered these matrix questions twice in the first two survey rounds: the first time to record their platform-specific perceived social media usage prior to and during the first lockdown, and the second time to evaluate it prior to and during the second lockdown. Likewise, the third-wave data collection

assisted in quantifying users’ perceived social media use during the third lockdown, and the fourth assessed it for the period of the fourth and fifth waves.

The most remarkable changes in time spent on social media occurred among Facebook users. During the first lockdown, the most common response to this question was ‘over two hours’ (21%). The rate of participants who used Facebook for such extended periods daily fell to about half (11%) between the first two lockdowns, only to rise again during the subsequent wave to 18%, then fall slightly to 15% (Figure 6). The corresponding rate in the fourth and fifth waves (12%) was closer to the in-between period of the first two waves (11%). However, more users reported ‘90–120 mins’ of use during the fourth data collection round (8%) than in the first in-between period (5%).

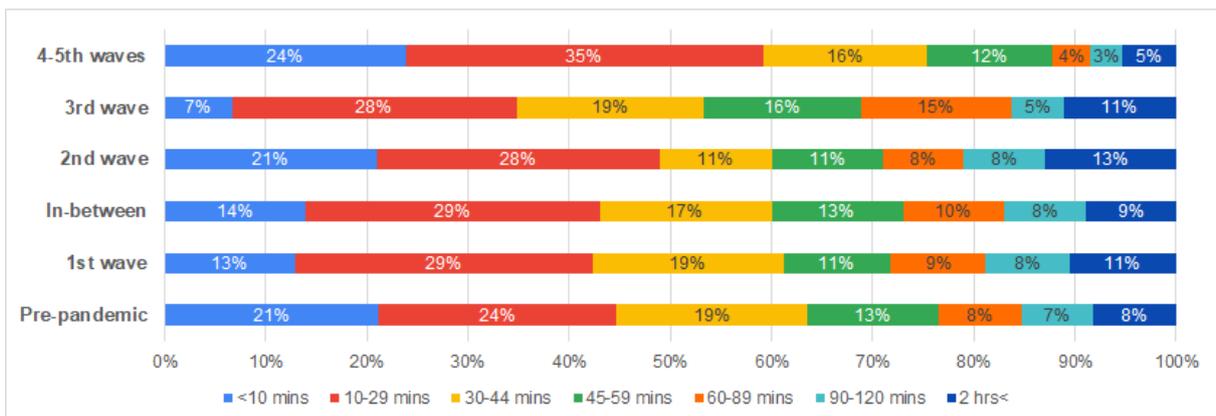
Figure 6: Time spent daily on Facebook (before, during, and between pandemic waves)



Source: the author

Messenger was the most popular social messaging platform among the respondents, and its use also increased prominently. Vis-à-vis the pre-pandemic era, the proportion of the least-assiduous users (less than 10 minutes per day) decreased from 21% to 7% by the third wave but bounced back up to 24% during the combined fourth and fifth waves. Meanwhile, extended Messenger use (more than two hours per day) was the most frequent during the second wave (13%), and least frequent during the fourth and fifth waves (5%). Interestingly, this ratio is even smaller than that of the pre-pandemic-related data (8%), which might be explained by the supposedly evanescent psychosocial effects of the pandemic.

Figure 7: Time spent daily on Messenger (before, during, and between pandemic waves)



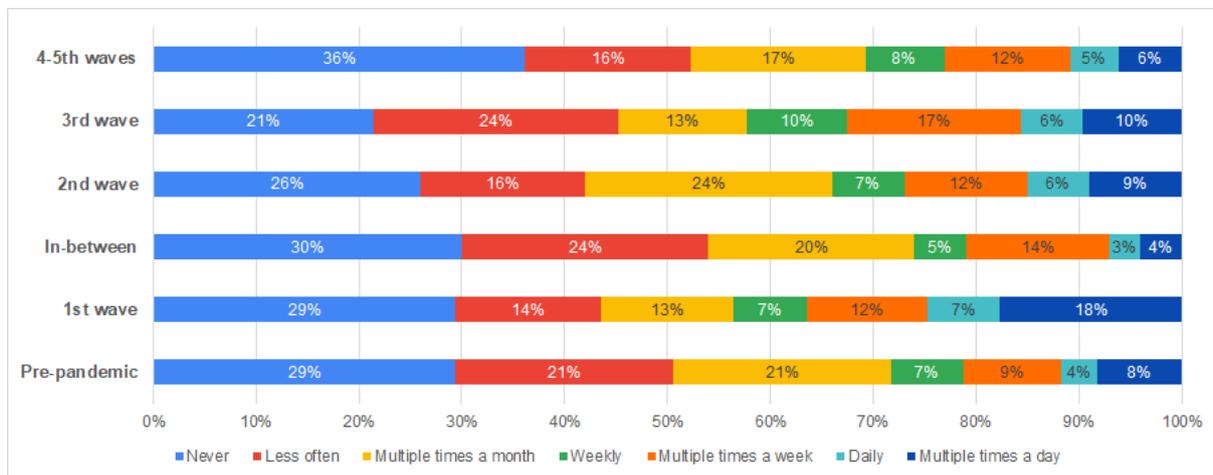
Source: the author

Participants also reported how frequently they shared photos or videos of themselves or close relations (including their pets) on social media prior to, between, and during the COVID-19 waves in Hungary. Changes in this behaviour were more noticeable on social messaging platforms (Messenger, Viber, WhatsApp, and Snapchat), according to the data collected, than on social networking sites (Facebook, Instagram, LinkedIn, Twitter, Pinterest, and YouTube).

Changes were most apparent on Messenger, where 18% of participants reportedly shared personal photos or videos ‘multiple times a day’ during the first COVID-19 wave, at more than double the pre-pandemic rate of 8% (Figure 8). In between the first two waves, the proportion of the most assiduous sharers dropped to 4%, only to climb back up to 9% during the second lockdown and 10% during the third. It then dropped back down to 6% during the fourth and fifth waves, which was less than the pre-pandemic rate.

The proportion of those who sent, or shared, personal photos or videos daily increased from 12% pre-pandemic to 25% during the first lockdown. Between the first two lockdowns, it decreased to 7%, then more than doubled to 15% in the second lockdown, reaching 16% in the third and finally dropping to 11% in the fourth and fifth waves. Non-sharers had increased to 36% by the fourth and fifth waves, which is the highest proportion recorded, meaning that the respondents’ willingness to share then was the lowest among the pandemic waves.

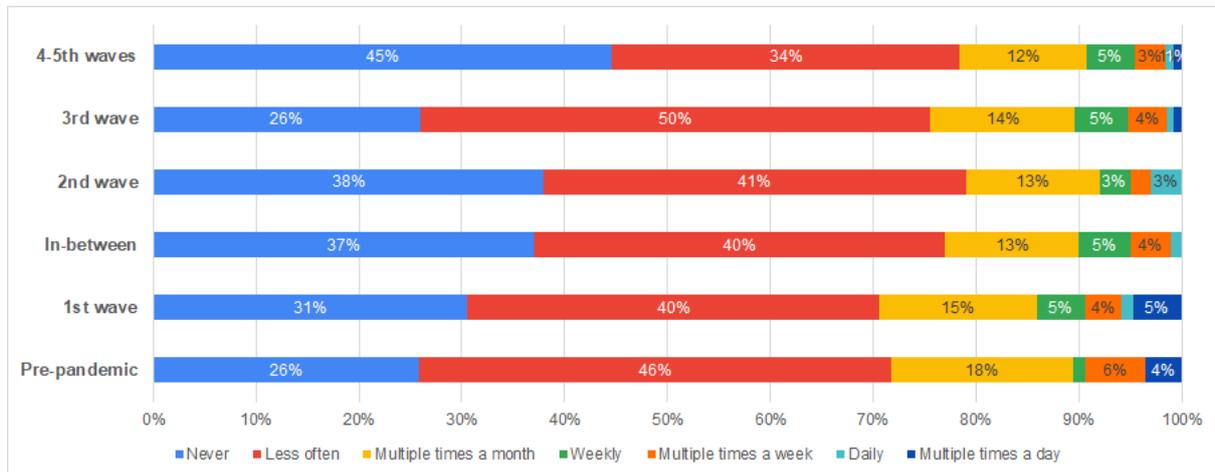
Figure 8: Frequency of self-representative photo or video posts on Messenger (before, during, and between pandemic waves)



Source: the author

Despite being the world’s most popular social network, Facebook appeared to lose self-representational value among users as the pandemic progressed (Wright & Bullock, 2021). During Hungary’s first COVID-19 wave, the rate of users who shared at least one personal photo or video per day on the platform went up from 4% to 6%. It then fell to 1% between the first two waves, increased to 3% during the second wave, and dropped back down to 2% during the third wave, staying there during the fourth and fifth waves (Figure 9). The proportion of non-sharers climbed to 45% by the end of the data collection, representing the weakest level of desire to share amid the pandemic, as was the case on Messenger (Figure 8).

Figure 9: Frequency of self-representative photo or video posts on Facebook (before, during, and between pandemic waves)



Source: the author

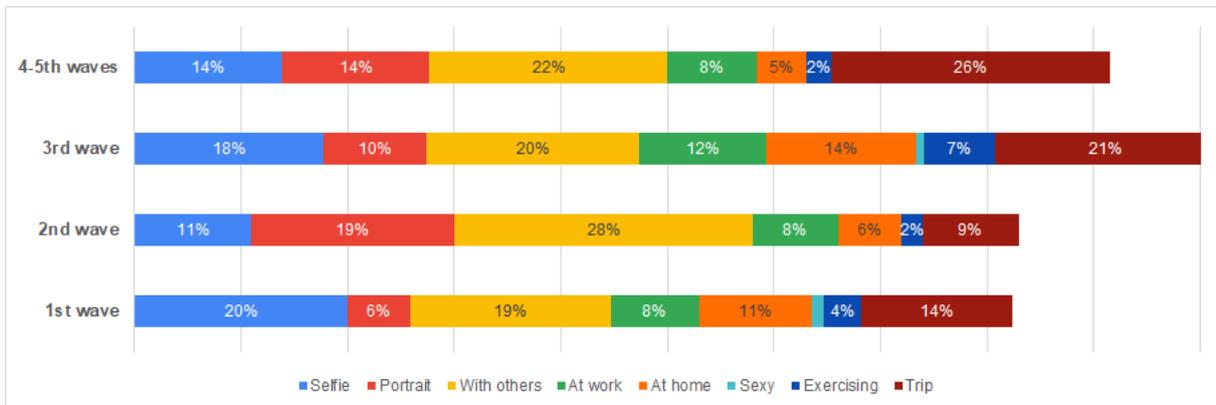
In response to the corresponding open-ended question, a participant explained that ‘as we gained more “practice” in confinement, the time we spent there [on social media], the desire and need to share and read, decreased.’ To another survey participant, social media functioned more as a communication channel than a self-representation one: ‘I communicate more on social media than I did before the pandemic. I don’t post more pictures of myself, rather less, because I rarely go to a place that’s worth it.’ This means that social media is not premised upon self-representative content for everyone, while having become central for social interaction during the pandemic. Rarely going out the traditional way may mean going out more frequently ‘online’, as a third participant pointed out that ‘a fundamental change during the pandemic is that with people we met with before frequently, e.g. with former colleagues, we now have a beer online instead of a pub every month. In the summer we met in person outdoors, before [during the third wave] and after [during the fourth wave] on Messenger.’

Asked about the type of self-representative photos and videos they posted, a considerably higher rate of participants indicated posting in this way during the third lockdown and fourth and fifth waves than during the first two waves. They reported having posted ‘selfies’ more than any other type of self-representative content during the first lockdown, on all social media platforms mentioned in the study (Facebook, Instagram, Pinterest, YouTube, LinkedIn, Twitter, Messenger, Viber, WhatsApp, and Snapchat). Despite what one may think, the predominance of selfies on Facebook decreased during the second lockdown (from 20% to 11%), going up to 18% during the third wave and down to 14% during the fourth and fifth waves. By the second wave, selfies had been overtaken by the previous runner-up, images and videos shot ‘with others’, whose frequency climbed from 19% to 28% by the second lockdown and experienced a similar up-and-down pattern, going from 20% to 22% during the last two data collection periods.

Travel photos and videos became the single most popular self-representative post type by the third wave (21% of posts), a trend strengthened during the fourth and fifth waves (26%). However, selfies and portraits together composed the most popular among such posts during

each wave (Figure 10). (The distinction between selfies and portraits is that in selfies, the photographer is the subject of the image, but in portraits, the photographer and subject are separate.) It is worth noting that the preventive restrictions were lighter between the first two waves and during the third, fourth, and fifth waves in Hungary. Thus, one probable reason for this trend of taking photos or videos on a trip or while spending time with people otherwise was the less strict set of limitations enabling individuals to connect, attend numerous public or private events, and enjoy a summer or winter vacation. Obviously, a single shot or video may fall under more than one category (for example, ‘workout selfie’).

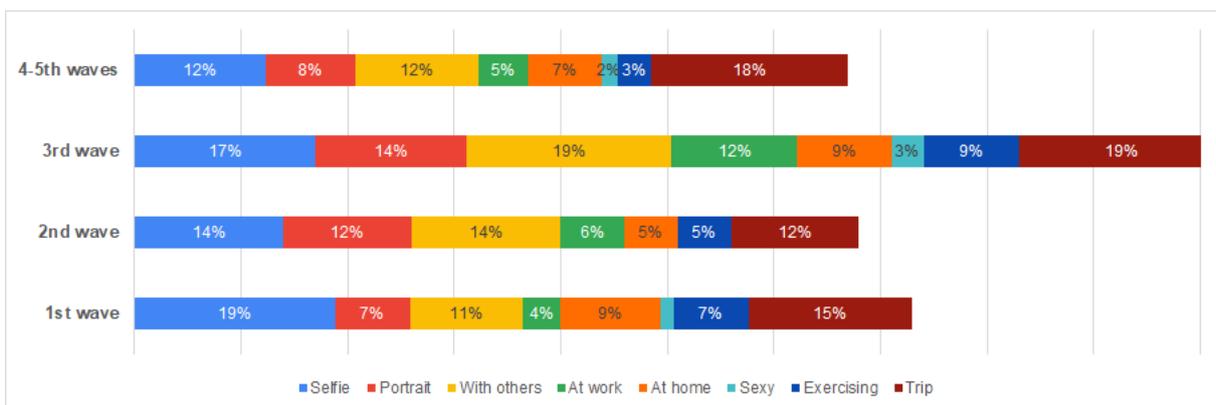
Figure 10: Types of self-related photos or videos shared on Facebook during COVID-19 pandemic waves



Source: the author

Instagram, another popular social network, has shown a similar trend, with selfies and portraits together composing the most frequent self-representative posts, and photos and videos taken during travel and/or spending time with others surpassing selfies’ popularity (Figure 11).

Figure 11: Types of self-related photos or videos shared on Instagram during COVID-19 pandemic waves

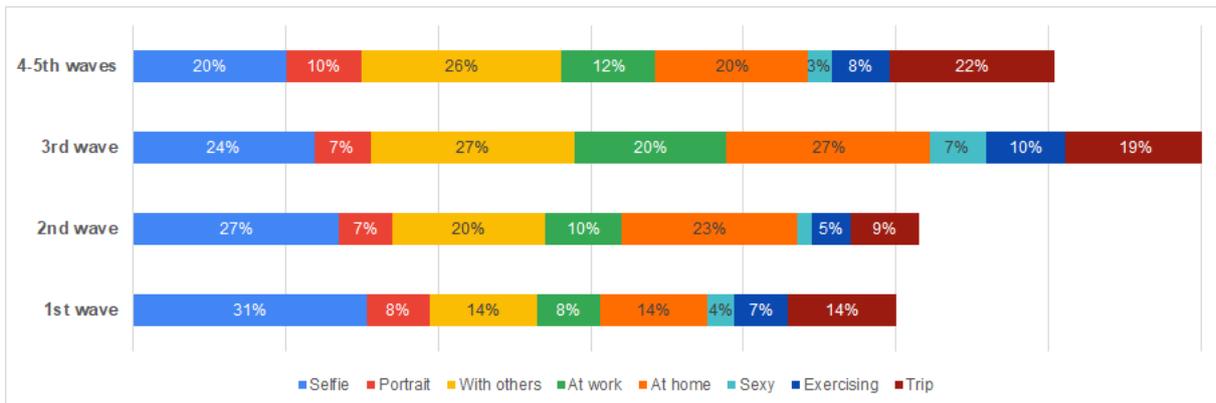


Source: the author

The essential difference between social messaging and social networking is that the former offers a more private way to exchange content (with only one user or a small group), implying that the user-generated content there is often not intended to be shared publicly. Hence, it is not surprising that the respondents reportedly tended to share more explicit photos and videos of themselves on Messenger (with 4%, 2%, 7%, and 3%), which is among the world’s most

popular social messaging platforms. Posting trends were similar between social messaging and social networking, but photos and videos taken ‘at home’ had a greater importance in the former (with 14%, 23%, 27%, and 20%, respectively, during the data collection periods), just like photos and videos taken ‘at work’ (with 8%, 10%, 20%, and 12%). ‘I think [others] must be browsing and posting more overall. Many people from my environment have started a new hobby, a job, posting pictures at home’, explained one of the participants, answering the open-ended question about the perceived changes in others’ social media use patterns.

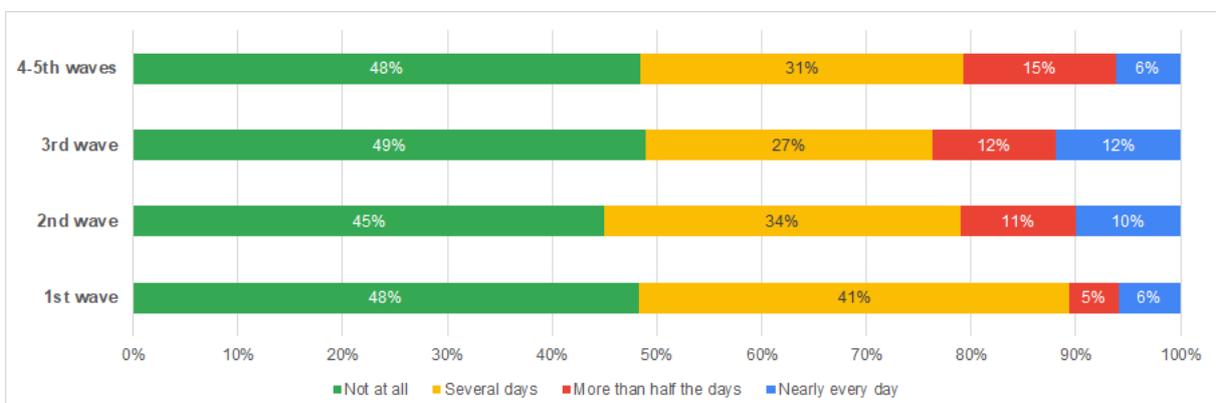
Figure 12: Types of self-related photos or videos shared on Messenger during COVID-19 pandemic waves



Source: the author

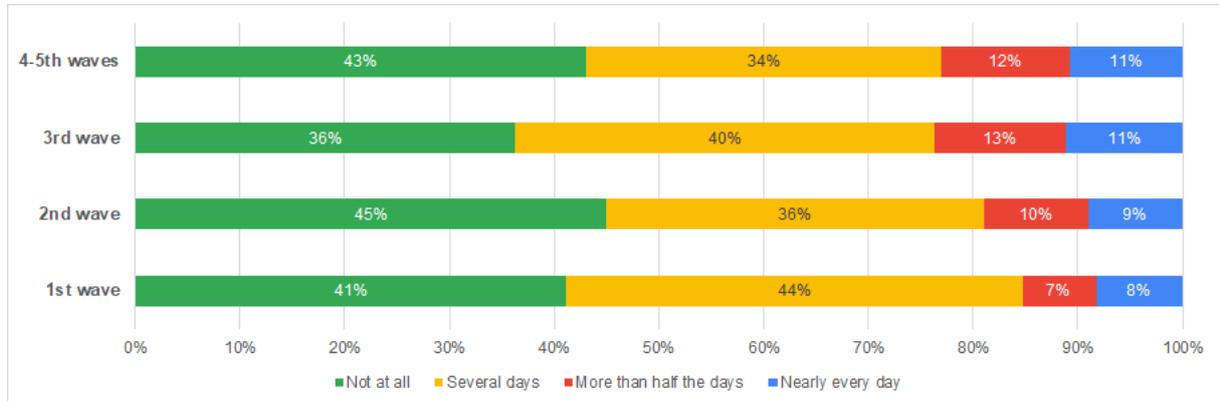
The online survey incorporated the Patient Health Questionnaire-2 (PHQ-2) to gauge respondents’ mental health. Two PHQ-2 items were included under the same question: ‘Over the last two weeks, how often have you been bothered by the following problems?’ The first item was ‘little interest or pleasure in doing things’, and the second was ‘feeling down, depressed, or hopeless’, with the possible answers being ‘not at all’ (0 points), ‘several days’ (1 point), ‘more than half the days’ (2 points), or ‘nearly every day’ (3 points). Accordingly, PHQ-2 scores range from 0 to 6. Scoring a 3 or higher would suggest a major depressive disorder and need for additional evaluation. Based on the PHQ-2 data, a rising proportion of respondents had symptoms of major depression during the pandemic waves (Figures 13–15).

Figure 13: PHQ-2 answers on ‘little interest or pleasure in doing things’ during COVID-19 pandemic waves



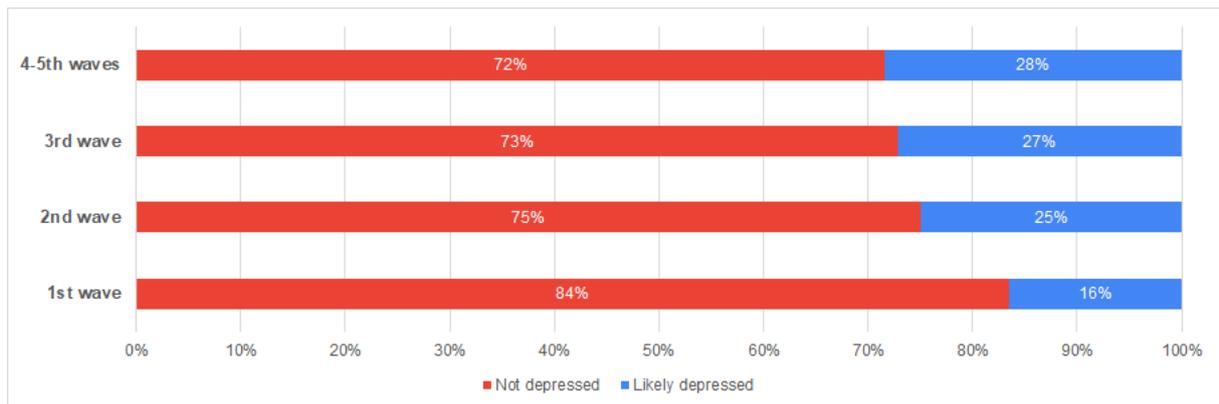
Source: the author

Figure 14: PHQ-2 answers on 'feeling down, depressed, or hopeless' during COVID-19 pandemic waves



Source: the author

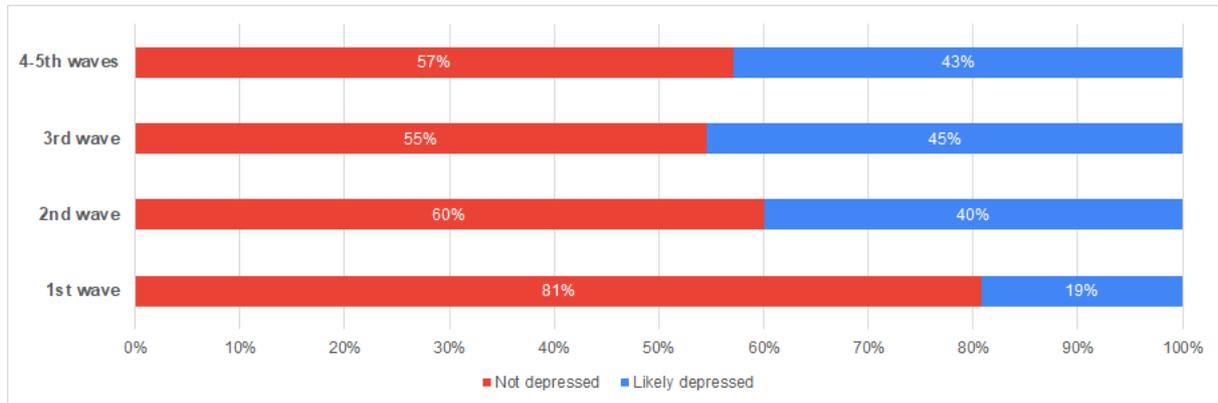
Figure 15: Proportion of those likely to experience major depression during COVID-19 pandemic waves



Source: the author

These PHQ-2 findings show that an increasing number of participants (16%, 25%, 27%, and 28%) reported symptoms emerging with such frequency that their overall PHQ-2 score was at least a 3, meaning that they likely had a major depressive disorder (Figure 15). Symptoms of depression were most frequent (and the likelihood of having depression the highest, with 19%, 40%, 45%, and 43%) among those who shared photos or videos of themselves or close relations on Messenger at least once a day (Figure 16).

Figure 16: Proportion of those likely to have major depression among respondents who shared photos or videos of themselves or close relations on Messenger at least once a day during COVID-19 pandemic waves



Source: the author

4. Conclusion

All four parts of the hypothesis were confirmed by the results of the four-step data collection during the first, second, third, and combined fourth and fifth COVID-19 waves in Hungary: (1) time spent on social media and (2) willingness to share self-representative content increased during the pandemic waves up until the fourth wave, and these changes were associated with (3) a growing risk of subjects' developing major depression during the first five waves and (4) an even higher risk among the most active sharers, based on the embedded PHQ-2 questionnaire.

The fact that more than a quarter of the total sample and more than two-fifths of the most active self-representative content sharers qualified for further examination due to the probability of having major depression raises serious public health concerns. It implies that mental health and conscientious social media usage should be prioritised in addressing the social-psychological consequences of pandemic-related lockdowns. The multidimensional societal impact of the COVID-19 crisis and social media use is worthy of further examination.

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