

USES OF MOBILE APPS DURING THE COVID-19 PANDEMIC: THE PORTUGUESE CASE

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Abstract

The social isolation caused by the Covid-19 pandemic was a challenge to the ongoing digitisation of societies. The massive use of the Internet and mobile applications has (re)configured social practices, relationships, and labour routines in unprecedented ways. Facing the challenges brought by social isolation, the uses of mobile apps have also changed during this period. Therefore, it is essential to understand how they dialogue with personal, social and civic intervention contexts. Research on mobile applications has mostly taken the theory of uses and gratifications or the approach to risks and opportunities. Specifically, regarding the Covid-19 pandemic, most of the research performed during this period has focused on contact tracing apps and privacy concerns. Considering the lack of in-depth research on the individual, social and civic implications of the uses of mobile applications in Portugal during the period of social isolation, we present an exploratory study to contribute to understanding a). the role of these digital platforms in citizens' daily lives, and b). the perceptions of people regarding their use of mobile apps. The empirical research, conducted during the first state of emergency the government declared, was operationalised through a quantitative-extensive methodological strategy using an online questionnaire survey. Sampling was non-probabilistic collected through the snowball process (N = 220). Data were analysed using descriptive and inferential (bivariate) statistical analysis. The study indicates that the use of mobile apps became more frequent during social isolation. The results show how contacting family and/or friends through mobile applications and consulting the news media to learn more about the situation have become frequent activities. Regarding the perceptions of usage, results suggest that some patterns are considered a waste of time. The study results contribute to a deeper understanding of the importance of mobile apps in everyday life during social lockdowns. The results also discuss how mobile apps are used in the reconfiguration of social practices, particularly regarding communication with family and friends, as sources for news and to perform leisure activities.

Keywords: mobile apps, Covid-19, Portugal.

1 INTRODUCTION

In Portugal, the number of COVID-19 cases surpassed one and a half million people, and the number of deaths surpassed nineteen thousand as of January 2022 [1]. Due to the high level of contagion of the disease, since the first cases appeared in the country, the Portuguese authorities took measures to restrict movement and implement social isolation, the first lockdown being decreed on March 18, 2020 [2]. By suddenly adapting their lives to the sanitary measures implemented by the government, people had to adapt to a new reality with fewer social interactions, physical activity, and sleep [3]. These new rules changed everyday life as a whole. Digital technologies were one of the solutions to deal with the impact of the measures. This constitutes one of the particularities of the COVID-19 pandemic. Compared to prior infectious-disease outbreaks, the COVID-19 took place in a digital and connected world [4].

The use of mobile apps allowed part of social and work life to migrate to the online environment. A mobile app is a software package that can be installed and run on a mobile device [4], especially on smartphones. These devices that provide instant access to information and help people coordinate their daily work, family and social life [5], [6] have become the most used gadget in contemporary society [7]. However, research revealed that the Covid-19 pandemic forced more people to change their habits [8]. Mobile apps benefited healthcare professionals and decision-makers, and ordinary citizens who were able to keep in touch with friends and family, access online entertainment, participate in study and work meetings, among other tasks.

Moreover, mobile apps increased the chance of reaching more recent [9] and reliable information, tracking symptoms and monitoring isolations [10]. Immediate access to information was one of the key factors in maintaining mental health during the lockdown period. Being informed reduces fear and makes

it easier for people to anticipate situations and act accordingly [11]. Another important aspect is the possibility of sharing thoughts and discussing opinions online, which are fundamental to digital citizenship [12].

It is essential to mention that mobile apps have negative sides, the most prominent being the users' concern with their privacy, particularly concerning tracking apps. Contact tracking is the process of identifying, evaluating and managing people who have been exposed to a disease to prevent further transmission [13]. Privacy concerns may explain some lower adoption rates of these applications during the pandemic.

Studying the use of mobile applications during a crisis situation can facilitate the perception of usage patterns and contribute to policy decisions regarding the provision of infrastructure for mobile connectivity [14]. Given the lack of in-depth research on the individual, social and civic implications of the use of mobile applications in Portugal during the period of social isolation, we present an exploratory study that aims to contribute to the understanding of the roles played by these digital platforms in the daily lives of citizens and people's perceptions of mobile apps usage. Research on mobile apps has mainly addressed the theory of uses and gratifications or the approach to risks and opportunities. Specifically, about the Covid-19 pandemic, most of the research conducted during this period focused on contact tracking applications and privacy issues. Therefore, the data from this study can provide insights into patterns and motives for using mobile apps, particularly during emergency periods.

2 METHODOLOGY

This paper is an exploratory and descriptive study that aims to gather data about the use of mobile applications during lockdown periods in a pandemic context. The questionnaire was designed to answer two main research questions: RQ1: what kind of mobile apps do people use in Portugal during pandemic lockdowns?; RQ2: what are the main purposes for using mobile apps during these periods? The study was conducted in Portugal and was operationalized using an online questionnaire survey on Google Forms that was spread using digital tools between March 29 and the end of May 2020, which roughly corresponds to the first lockdown determined by the Portuguese government due to the COVID-19 pandemic (March 18 to May 3). The sample was formed through a non-probabilistic convenience sampling method. The methodology of analysis is quantitative, recurring to SPSS 27 software. The form had 43 questions, excluding demographic characterization: 37 with 5 points Likert scale; 2 closed questions, 1 multiple choice and 3 open questions. The sample was composed of 220 valid respondents over 18 years old in social isolation during this period.

3 RESULTS

The sample was composed of 220 respondents (78.6% female and 21.4% male), predominantly living in urban areas (83.2%) and with higher education degrees (87.3%). Half of the sample (50.5%) has a full-time job, while 30.9% are students and 9.1% are working and studying simultaneously. The remaining respondents are retired (7.3%) or unemployed (2.3%). In addition, the respondents were isolated due to lockdown restrictions (92.3%) or quarantine (7.7%).

The majority of the respondents consider that the isolation due to lockout or quarantine has increased mobile app usage (74%). Conversely, only 2.27% affirm to be using fewer apps than they did before the lockdown.

3.1 Activities during lockdown

Contacting with relatives and friends via mobile apps like Skype or WhatsApp is considered a frequent or very frequent activity by 81.8% of the sample (N=180). Using mobile apps to find information related to the COVID-19 pandemic is also a frequent or very frequent activity (77.3%) (N=170). The same percentage regarding the use of social media apps.

The use of mobile apps for remote working is also referred to as a frequent or very frequent activity by 82.27% of the respondents (N=181).

Entertainment is another important activity: 70.9% of the respondents use mobile apps to watch series and films, listen to music and play games (N=156). The use of mobile apps for physical activity contrasts with the previous reference. The use of mobile apps for physical activity contrasts with the previous reference. Only 30.45% affirm using mobile apps for workouts frequently or frequently (N=67).

Table 1. Uses of apps during pandemic.

<i>National health service app usage</i>	<i>Media apps for information about pandemic</i>	<i>Install apps to monitor health</i>	<i>Install meditation apps</i>	<i>Install apps to quantify body and health</i>
28.6%	61.3%	5.4%	11.3%	16.3%

The majority of the respondents in this sample did not use the National Health Service app for gathering information during the lockdown. In fact, only 28.6% agreed or completely agreed that it was a common action during social isolation. On the contrary, recurring to apps from media outlets to keep updated about the pandemic is a more common preference (61.3% of the respondents).

During this period, few respondents installed apps to monitor their health (only 5.4%). Specifically, regarding mental and emotional issues like anxiety, stress, or some kind of fear, the results indicate that installing an app to tackle these problems was not common. Only 11.3% of the respondents agreed or completely agreed that they had installed it during the lockdown. Other apps used to register and quantify menstruation, sleep, or weight were slightly more popular (16.3%).

Table 2. Behaviors and perceptions of App usage.

<i>Install app to control screen time</i>	<i>Apps are helping me</i>	<i>Stress caused by excessive use of apps</i>	<i>apps are a waste of time</i>	<i>use apps because I'm bored</i>
13,1%	51.8%	23.1%	40.9%	40%

Even though most of the respondents affirmed that social confinement has led to an increase in app usage, only 13.1% have installed apps to self-monitor screen time. Furthermore, only 23.1% consider that excessive use is causing them stress. A little over half of the respondents (51.8%) agree that apps were helpful in a moment of particular distress like social lockdown. However, when asked if apps were improving their work (or study), only 23.1% agreed. A more significant percentage of individuals (33.1%) agreed that apps helped keep their daily tasks when they were confined at home.

Table 3. Purposes for using apps during lockdown.

<i>Same/different apps</i>	<i>Learning a new language</i>	<i>Listening to music</i>	<i>Physical exercise</i>	<i>Cooking</i>	<i>Watching movies/series</i>	<i>Playing games</i>	<i>online shopping</i>
80%	12.7%	64%	33.6%	16.3%	55.4%	21.8%	27.27%

The majority of the individuals in the sample (80%) used the same apps as before the lockdown but more frequently. Besides working and communicating with friends and relatives, other essential purposes for using them were: listening to music (64%), watching movies or series (55.4%), workout (33.6%), online shopping (27.27%), cooking (16.3%) and learning a new language (12.7%).

Respondents (72%) also considered that apps were contributing to bringing their relatives and friends closer to them during these restrictions. However, only a residual percentage (3.1%) has responded using dating apps.

A significant part of the sample (40.9%) considers that their use of apps is a waste of their time, and a similar number of individuals (40%) affirms that boredom is determinant in the use of apps.

4 DISCUSSION

Despite the limitations of the methodology and sample composition, the study results offer some interesting insights about the importance of mobile apps during pandemic lockdown/quarantine. In many situations, mobile apps provided the only possibility for leaving home confinement, either by allowing people to talk to distant others or by seeking information about the pandemic's evolution. Reaching others remotely and seeking information on the pandemic, using mobile apps became widespread activities in people's lives.

Internet communication and social media have reconfigured contemporary sociabilities for some years now. However, during the COVID-19 pandemic, the lockdowns elevated mobile apps to a proxy for everyday activities at an unprecedented level. By elevating the smartphone and mobile devices to such a central and essential role, the COVID-19 lockdowns represent the peak of a convergent movement. Mobile technology became the single gate for a possible world, allowing work to continue, leisure, social activities, gathering information, medical counselling, keeping in contact with the gym, even proceeding with school, which should be emphasized. The results of this study illustrate these aspects. However, they provide an insight into another vital dimension. Despite some concerns regarding the usefulness of some apps, there is a favorable view of their importance in people's lives during the lockdown. Although most people are aware that the use of apps has increased, they do not feel concerned about it. We also argue that the low rate of usage of the Health Service app can be explained by two reasons: privacy concerns and poor communication strategies. The data from this survey cannot provide answers to that specific question but sets the direction for future research.

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