How do Portuguese young adults engage and use m-apps in daily life? An online questionnaire survey

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Abstract

The rise of the mobile era has brought ubiquity in media access, constant connection to other people and interconnectedness with devices as part of life. Considering mobile devices and mobile applications (m-apps) as an environment that allows multitasking, this article is interested in understanding the performance of popular m-apps in the daily lives of young adults in Portugal. It is also focused on how these apps relate to their personal contexts and experiences. To this end, an online questionnaire survey was conducted using a quantitative-extensive methodological strategy. The research involved applying a set of data collection questions to a representative sample of Portuguese young adults (N = 1500) aged 18-30. The results show that more than 90% of Portuguese young adults use m-apps every day, emphasising social media applications (daily use between 81,32% and 91,21%). It is also important to note that the use of m-apps dialogues with their personal contexts in a substantially different manner than such app's perceived relevance. Social and entertainment apps are more consumed and show an extension of the self that is not perceived to be as important as apps with social uses.

Keywords: mobile apps, young adults, digital mediated interfaces

Introduction

Technology and the affordances of mobile communication substantially change the way people interact, implying new uses, practices, and consumption patterns. The widespread usage of smartphones and tablets opened space for a competitive mobile applications (m-apps) complex market, incorporating a diversity of application categories whose affordances, grammars, policies and contents challenge users and their appropriation of applications. Moreover, m-apps are user-friendly and have become a trend mainly because of their features and mobility that overcome desktop computers (Gerlich et al., 2015). In addition, mobile-based technologies enhance the convergence between media content, features and functions from different platforms into one single device (Deng, 2019). Furthermore, smartphones and other mobile devices perform

multitasking, allowing users to conduct various activities simultaneously, saving time and executing tasks previously undertaken through different types of equipment.

According to a report by Statista (2021), in Q3 2021, 27.6 billion apps were downloaded from Google Play for Android, and 8.1 billion apps were downloaded from the Apple Store for iOS. The same report indicates that, in 2020, users downloaded 218 billion apps. However, the mobile app market's volatile record leads to low app retention rates at 30 days from installation as 6,.48% in 2020 (Statista, 2021). Engagement with apps varies depending on their features, but social and communication platforms are the most widely used globally (Statista, 2021). In Portugal, the most used app categories are social networking (96.2%), chat (95.8%), entertainment and video (86.4%), maps (82.2%), shopping (66.7%), music (55.9%), games (51%), banking and financial services (37.4%), health, fitness and nutrition (24.3%) and dating and friendship (6.2%) (Statista, 2020). The Internet penetration rate in Portugal is high. At the beginning of 2021, 84.2% of the population had access to the Internet and 76.6% to social media. A differentiating aspect in Portugal is the fact that there is a high ratio of mobile phones, with the DataReportal (2021) showing that in early 2021 there were 15.80 million mobile connections, which corresponds to 155.1% of the total population.

Apps are often multimodal and multitasking, operating across platforms, promoting dynamic and active experiences (Gerlich et al., 2015). Integration into everyday life also centres on the idea of performing activities in real-time and on the move, which promotes the change and facilitation of behaviours and the adaptation of new routines, "leveraging apps as a powerful persuasive technology" (Zhang et al., 2018, p. 2).

Digital media and mobile-based technologies have changed how young people interact in different spheres of their daily experiences, considering the centrality of digital media in their lives (Jenkins et al., 2016; Mehra et al., 2021).

How people use media, engage with it, and participate civically and politically has been a constant issue with the emergence of new media (Ohme, 2020). The massive use of m-apps from different categories of apps, from social or dating platforms to games, health, fitness and self-tracking apps, suggests that people are spending more time using apps to connect with others. These mobile-based technologies have become an indispensable part of their lives as an extension of the self (Zhang et al., 2018). Therefore, people's use and different appropriations of mobile applications are essential to understand how they challenge or constrain their personal experiences. Young adults' use of mobile applications has been studied primarily from the uses and gratifications theory or the risks and advantages approach. This paper assumes a critical perspective on contemporary digital media, based on a comprehension of technology as a producer of meaning, subjectivity, and agency. Therefore, this paper departs from the following research questions:

RQ1: How do Portuguese young adults' engage in their daily lives with mobile apps?

RQ2: How do the uses of m-apps by young adults dialogue with their personal contexts?

Drawing on a survey of a representative sample of Portuguese young adults (18-30 years), this study aims to examine (a) what typologies of mobile apps are more widely used by young adults; (b) which mobile apps are most frequently selected according to gender, age and educational variables; and (c) how young people perceive the importance of using of mobile apps in their personal contexts and experiences. Hence, the paper explores the relevance of mobile applications in the lives of Portuguese young adults and how their uses dialogue with their contexts and personal experiences.

The next subsections discuss how young people engage with the digital media landscape and incorporate mobile apps into their daily lives. Finally, the following sections present the method, results and discussion, and conclusion.

Research on young people and digital media

As the digital media ecosystem evolved into a hybrid public space (Castells, 2012), digital media shaped civic participation (Murru et al., 2018). The public can channel their ideas through different digital behaviours (Hwang et al., 2006), which raises ground to increase individualised engagement induced by digital technologies affordances (Bennett & Segerberg, 2011). Therefore, a new 'ecological reconfiguration' produces new digital media consumption patterns (Gurevitch et al., 2009; Torres da Silva et al., 2017). As early adopters of multitasking media uses (van Dijk, 2006), mediatised choices (Hepp, 2013), and cross-media consumption practices (Lee & Yang, 2014), younger generations are different from other generations concerning digital media consumption (Amaral & Brites, 2019). "Technological landscapes and media diets change rapidly" among young people (Thulin & Vilhelmson, 2019, p. 42). As such, their constant presence on social media, intense usage patterns and the digitalisation of their lives creates new forms of networked participation within their 'mediated lives' (Deuze, 2011).

There are well-established lines of research that examine how young people use digital technologies, interact with others, use digital media in their daily lives, change their attitudes and behaviours based on their practices, participate and engage with civic and political movements, consume news, follow trends and influencers, make friends, and have digital intimacy.

Concerning news, several studies argue that young people have a lack of interest in the 'serious' issues of society and the world, as well as a lack of motivation to follow up on these topics (Johnson & Kaye, 2014; Brites et al., 2017; Silveira & Amaral, 2018). Other studies report two critical trends in youth information consumption: incidental news consumption on social media (Gil de Zuñiga et al., 2017; Boczkowski et al., 2018; Fletcher & Nielsen, 2018) and media avoidance and resistance (Schrøder & Blachørsten, 2016; Syvertsen, 2017; Brites & Ponte, 2018).

Considering a hybrid and multiplatform media ecosystem, in which media ubiquity is a constant, digital risks are often referred to when considering young people. Risks associated with addiction, cyberbullying, hate speech, online sexual exploitation, inactive lifestyles, sedentarism, depression, and suicide are frequently listed in research on young people and technologies (Sinkkonen et al., 2014, Jenkins et al., 2016; Gerodimos, 2017; Twenge, 2017; Thulin & Vilhelmson, 2019; Amaral & Simões, 2021). Another line of research focuses on the positive aspects of digital media use, emphasising the increase of digital activism, public and civic engagement, and social and political participation (Lee et al., 2013; Ekström et al., 2014; Boulianne & Theocharis, 2018). Furthermore, the various theories on social media effects (Boulianne, 2015) consider that these can affect civic and political participation, promote the so-called incidental news exposure, enhance creating social bonds. Research also examines peers' influence in civic and political life engagement. Other strands of research shed light on the immersion of youth in digital media in their everyday life, considering that although technologies enhance social interaction, they also favour isolation and loneliness

(Thulin & Vilhelmson, 2019). Finally, research on youth also focuses on online sexual identities and the Internet as a place for digital intimacy (De Ridder & Van Bauwel, 2015).

The assumption that internet-based activities and mediated presence directly interfere with people's lives is based on a specific technological determinism. On the one hand, some theories consider mutual interaction and influence between digital and offline realms (Vilhelmson et al., 2018). On the other hand, research has shown a degree of detachment related to the type of activities concerned (Ekström et al., 2014). Nevertheless, the influence of app-driven reliance on mediators of consumption and participation promotes new repertoires of engagement of young people (Cammaerts et al., 2014).

The rise of the mobile era has brought ubiquity in media access, constant connection to other people and interconnection with other devices are part of everyday life. Scientific research on incorporating mobile apps into young adults' daily lives is intertwined with using digital communication technologies and social media. However, m-apps are much more diverse and include several young adults' lives spheres. From gaming to shopping, from dating to health and nutrition, from fitness to self-tracking, many mobile applications are used by young adults. Consumers' use, behaviours, and attitudes may depend on whether the app is paid, free or freemium (Basalingappa, 2016). These can be considered external factors, such as compatibility with other devices (Groß, 2018) or logic across platforms (Gerlich et al., 2015). Internal factors are associated with behavioural intention (Mehra et al., 2021), participatory behaviours (Saldaña et el., 2015), perceived usefulness (Cheng & Mitomo, 2017), relative advantage (Huang, 2018), playfulness (Hsieh & Tseng, 2017) and co-creation (Lember et al., 2019).

Mobile communication is operating a reconfiguration of sociotechnical practices (boyd, 2015) that translates into the construction and reconstruction of sociality culture, structures and social hierarchies, facilitating the involvement of technology in different aspects of everyday life (Simões & Amaral, 2022).

With the myriad of research already conducted in mobile applications, especially on social media apps, it is possible to identify the strong presence of the image or visualities in the majority of applications and platforms. The affordances offered by a mobile phone enable processes of remediation (Bolter & Grusin, 1999) of aesthetic expression (Berry, 2017) and identity representation. One common behaviour is that the growing accessibility of smartphones has influenced users to convince their friends and contacts that they have "been there" through photographic and video evidence (Berry, 2017).

Recently, regarding social media and young adults, mobile applications have been studied in various approaches (Roffarello & Russis, 2021), but also with an emphasis on the uses of specific platforms such as Facebook (Khadir et al., 2021), Twitter (Moreno & Whitehill, 2016), Instagram (Ash et al., 2020;), Snapchat (Juhász & Hochmair, 2018), TikTok (Song et al., 2021), for example, prominently for illustrative case studies from an approach of uses and gratifications. Other themes that also appear as an area of interest in the social sciences are finance and home banking apps (Prom Tep et al., 2020) and news (Antunovic et al., 2018).

Also relevant is a growing body of scholarship on digital surveillance and inequalities based on datification (van Dijck, 2014) as a form of data colonisation (Couldry & Mejias, 2019) through self-tracking and self-quantifying apps (Lupton, 2016). The self-quantifying movement is based on the idea of quantifying individual elements of body and mind to promote greater productivity and awareness of the self. From this idea, apps arise to monitor, measure, and record habits and associated behaviours. For example, several studies are showing that young adults frequently use m-apps to quantify general health issues (Kanstrup et

al., 2018) or mental health (Marzano et al., 2015); measure physical activity (O'Loughlin et al., 2021); record fertility issues (Gambier-Ross et al., 2018); tracking sexual intercourse (Danaher et al., 2018); monitoring menstrual periods (Kressbach, 2021); managing screen time (Agree, 2011); or relating parenting issues (Lupton & Pedersen, 2016).

Concerning young adults, most scientific research has focused on mobile apps dedicated to men having sex with other men (Blackwell et al., 2015). Nevertheless, studies on data cultures of mobile dating and young adults have emerged in the last decade. In this context, the themes of digital sexual cultures and digital intimacy have been addressed in studies on health and risks of sexual behaviour. However, it should be emphasised that the negotiations and renegotiations that young adults live and make in dating applications of their cultures of intimacy and sexuality must be considered from the notion of 'data culture' (Albury et al., 2017). This concept refers to digitally mediated dating and how algorithms collect users' data and seek to create habits and routines that become institutionalised from the famous 'matches' (Light, 2016; Albury et al., 2017). The idea of 'data cultures' refers to datafication, coined by van Dijck (2014), anchored to users' digital footprint and large-scale complex data that enables the transformation of social actions into quantitative data. Therefore, there is a technological intrusion (Mollen & Dhaenes, 2018; van Dijck, 2014; Gillespie, 2014) increasingly declared in people's daily lives, including in a logic of digital surveillance that disables users from having control over their privacy nor their data (Vesnić-Alujević et al., 2018). As an example, it should be noted that most dating apps operate on a geolocation logic (Brubaker et al., 2016).

The use of mobile apps in Portugal by young adults has been little studied. Most studies are focused on social media uses (Pinto et al., 2021) and, more recently, on apps related to health (Bento et al., 2018) and dating (Sepúlveda & Vieira, 2017). Given the lack of in-depth research on the personal implications of m-apps uses among Portuguese young adults, this paper is a pioneer study in Portugal that contributes to understanding the role of popular mobile apps in everyday life and how it relates to personal contexts and experiences of this specific population considering their different backgrounds.

Materials and Methods

This empirical study aims to answer the following research questions: RQ1: How do Portuguese young adults' engage in their daily lives with mobile apps? RQ2: How do the uses of m-apps by young adults dialogue with their personal contexts? The paper explores the relevance of mobile applications in the lives of Portuguese young adults and how their uses dialogue with their contexts and experiences. Therefore, the empirical study aims to assess the main typologies of mobile used by young adults, which mobile apps are most frequently selected according to socio-cultural variables, and how young people perceive the importance of mobile apps in their daily lives.

By using an online questionnaire survey, the study was operationalised through a quantitative-extensive methodological strategy. The research involved the application of a set of questions for data collection in Portuguese language, which were grouped into a single questionnaire made available online to a representative sample of Portuguese young adults (N = 1500) from 18 to 30 years old. The sample selected mobile apps' users, with quotas by gender and region (Mainland Portugal and islands) according to

population distribution[1] . The final sampling consists of 49.8% between 18 and 24, and 50.2% between 25 and 30 years old. Regarding education, 53.1% of respondents have higher education (Table 1). The survey was carried out by a contracted external entity between October 8th and 17th, 2021. The sample guarantees a margin of error of ± 2.53% for a 95% confidence level. Data were analysed using the IBM SPSS statistical analysis program and descriptive and inferential (bivariate) statistical analysis.

Sample design

Concerning the sample, we contend that it is relevant to consider that the homogenisation of young people as a single generation with similar ways of experiencing life and technology is problematic. Furthermore, frequently it is assumed that the generational uses of technology are homogeneous, which tend to create and perpetuate (Loos et al., 2012; Amaral et al., 2020) unique and hegemonic perspectives of the growth and ageing process, ignoring the complexity of personal life experiences. Therefore, the study of young adults proposed in this article considers two cohorts: 18-24 and 25-30 years old. This methodological option aims to represent the Portuguese young adult population, considering age, gender, and education issues.

Table 1: Sample distribution.

	Count N	Count %
Age		
18 - 24	747	49,80%
25 - 30	753	50,20%
Gender Identity		
Man	696	46,40%
Woman	796	53,07%
Non-binary	14	0,93%
Rather not answer	1	0,07%
Marital Status		
Single	1145	76,33%
Married or in Non-marital partnership	349	23,27%
Divorced or Separated	6	0,40%
Education		
Basic education	48	3,20%
High school	655	43,67%
Bachelor's degree	516	34,40%
Master's degree	260	17,33%
PhD	21	1,40%
Occupation		
Student	425	28,33%
Self-employed	130	8,67%
Employee	759	50,60%
Liberal worker (Freelancer)	36	2,40%
Unemployed	150	10,00%

Source: Authors

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[1] INE: Censos 2011. Retrieved from http://censos.ine.pt/, last accessed 2022/02/08

Questionnaire Design

A quantitative methodology was used. Online data collection was based on a structured questionnaire composed mainly of closed-ended questions and had an approximate duration of 30 minutes. The questionnaire was divided into six parts: sociodemographic characterisation, media consumption, use of mobile apps, personal and mediated experiences and self-representation, digital literacy, and intergenerationality.

Measures

Sociodemographic data were crossed with questions about the use of mobile apps in their daily lives. Respondents were asked about the use of mobile applications, namely concerning the frequency of use and type of applications, how often these are used, how much time they dedicate for this purpose, in which devices they use these applications and the importance of apps in their lives. Participants had to respond through a Likert scale of 1 to 7 (1 = Strongly Disagree and 7 = Strongly Agree).

Results/ Results discussion

Over 90% of the Portuguese young adults aged between 18 and 30 who responded to the survey utilise m-apps every day. There is a significant statistical difference between the respondents when it comes to using m-apps every day, with a higher prevalence of women (94,97% against men's 91,09%). When it comes to education, from high school forward (except for the PhD respondents), there is also an everyday usage of m-apps of more than 90%. Such results show significant differences, especially towards people with only basic education (77,08%). Among the respondents who utilise m-apps several times a week, there is a significant difference between men (6,18%) and women (3,77%) as well as respondents with basic education (16,67%) in comparison with the ones with Bachelor or Master degrees (3,10% and 3,467%, respectively). There is also a more significant statistical frequency regarding m-apps usage once a week between people with basic education (6,25%) in opposition with those with a Bachelor (0,78%). Among the respondents who answered they never utilise m-apps, none were women or people with basic education, Master or PhD (Table 2).

Table 2: Frequency of use of m-apps by gender and education.

	GENDER		EDUCATION				
	Man (A)	Woman (B)	Basic education (C)	High school (D)	Bachelor's (E)	Master's (F)	PhD[2] (G)
TOTAL	696	796	48	655	516	260	21
	%	%	%	%	%	%	%
Every day	91,09%	94,97% A	77,08%	91,45% C	95,74% CD	95,00% C	85,71%
Several times a week	6,18% B	3,77%	16,67% EF	6,11%	3,10%	3,46%	14,29%
Once a week	2,01%	1,01%	6,25% E	1,83%	0,78%	1,15%	0,00% *
Rarely	0,43%	0,25%	0,00% *	0,46%	0,19%	0,38%	0,00% *
Never	0,29%	0,00% *	0,00% *	0,15%	0,19%	0,00% *	0,00% *

Souce: Authors

Results show several usages concerning 18 different types of m-apps that were identified plus the category other - dating (mobile app example: Tinder), email (e.g. Gmail), entertainment/gaming (e.g. Netflix), fitness (e.g. Six Pack in 30 Days), health (e.g. Samsung Health), home banking/finances (e.g. PayPal), map/navigation (e.g. Google Maps), mental health (e.g. Being: my mental health friend), messaging apps/videoconference (e.g. WhatsApp), mindfulness/meditation (e.g. Headspace), news (e.g. Google News), nutrition (e.g. YAZIO), productivity (e.g. Notion), self-tracking (e.g. Clue Period Tracker), shopping (e.g. AliExpress), social media (e.g. Instagram), transportation/travelling (e.g. Uber), utilities (e.g. Nord VPN), and the aforementioned other category (any mobile app that would not fit in the 18 categories). Among this typology and concerning everyday use in ranked order, respondents perceive to utilise more social media apps, followed by email and messaging/videoconference apps (Table 3).

Table 3: Ranking of the three most used types of m-apps.

	Most used types of m-apps			
	1st	2nd	3rd	Count TOTAL
	100%	100%	100%	4500
Type of apps	%	%	%	N
Social Media	**68,53%**	14,60%	6,87%	1350
Email	9,07%	**31,93%**	22,80%	957
Messaging / Videoconference apps	8,20%	17,80%	**14,80%**	612
Health	3,93%	5,27%	3,47%	190
Entertainment / Gaming	3,80%	7,00%	9,40%	303
Mindfulness/Meditation	1,20%	2,13%	1,73%	76
Fitness	1,00%	4,40%	3,93%	140

[2] (*) Meaning insufficient sample base for calculating statistical differences, therefore every category with such a marker is not used in comparisons because its column proportion is equal to zero or one.

Mental Health	1,00%	2,60%	2,60%	93
Home banking / Finances	0,87%	4,33%	13,60%	282
Self-tracking	0,67%	2,60%	2,60%	88
Productivity	0,47%	0,73%	0,93%	32
Nutrition	0,33%	1,53%	2,73%	69
Map / Navigation	0,33%	1,40%	4,87%	99
News	0,27%	1,07%	3,20%	68
Shopping	0,13%	1,60%	3,27%	75
Utilities	0,13%	0,13%	0,53%	12
Transportation / Travelling	0,07%	0,20%	1,20%	22
Dating	0,00%	0,47%	1,20%	25
Other	0,00%	0,20%	0,27%	7

Souce: Authors

Respondents showed a substantial preference for social media apps, gathering 68,53% of the answers for the most used type of m-apps. In fact, answers that include social media apps between the three types of m-apps more utilised total a number of 1350 out of all the 4500. Email apps gathered the highest percentage of second places (31,93%) in this ranking answer of three types of apps more used and are also the second type of app with most overall references (957) in the total of 4500 mentions. The kind of app most answered at the third place of usage was email (22,80%). We should also highlight the messaging/videoconference apps as the third type of app with the most mentions (612) out of the total of 4500 mentions. This type of app was chosen 8,20%, 17,80% and 14,80% regarding answers of it as the first, second and third, respectively, most used type of app. The type of apps less utilised was the miscellaneous category of "other" apps, which only got 7 mentions out of the 4500 possible. Utility apps got similar results with 12 mentions; transportation/travelling apps and dating apps also showed low results in this ranking, with 22 and 25, respectively (Table 3).

As shown in Table 4, considering the most used mobile applications, those classified as social media apps should be highlighted, with statistically significantly different daily usage between women (91,21%) and men (81,32%). Messaging apps/videoconference apps reveal a daily usage between 65,20% (women) and 58,19% (men), with such differences being statistically significant. The age factor on the usage of email apps does not reveal any statistically significant differences. However, once a week, men's several times a week, and the rare usage of email apps (26,58%, 8,33% and 5,32%, respectively) are significantly statistically higher than women's (20,23%, 4,77% and 2,64%, respectively). The age factor also seems to mean different perceptions of email apps consumption. The older gap of 25 to 30 years aged respondents showed a higher and significant statistical difference of everyday use (72,64%) in opposition to the younger age cohort of 18 to 24 years old respondents (58,37%). Similarly, all the remaining answers of the regularity of usage are higher in the younger age cohort, with particular significant statistical differences concerning the several times a week usage, as well as the rare usage of email apps (27,84% and 4,95%, respectively) in comparison to the older age cohort (18,86% and 2,66%, respectively).

Table 4: Most used apps - perceptions of usage by gender and age.

		GENDER		AGE	
		Man (A)	Woman (B)	18 - 24 (C)	25 - 30 (D)
		%	%	%	%
Social Media	Every day	81,32%	91,21% A	87,15%	85,92%
	Several times a week	12,21% B	6,28%	9,37%	8,76%
	Once a week	3,59% B	1,01%	1,87%	2,66%
	Rarely	2,30% B	0,75%	0,80%	2,12% C
	Never	0,57%	0,75%	0,80%	0,53%
Email	Every day	59,20%	71,48% A	58,37%	72,64% C
	Several times a week	26,58% B	20,23%	27,84% D	18,86%
	Once a week	8,33% B	4,77%	7,76%	5,31%
	Rarely	5,32% B	2,64%	4,95% D	2,66%
	Never	0,57%	0,88%	1,07%	0,53%
Messaging apps/ Videoconference	Every day	58,19%	65,20% A	60,64%	63,21%
	Several times a week	22,99%	20,10%	21,55%	21,51%
	Once a week	7,61%	5,53%	6,96%	5,98%
	Rarely	8,62%	6,91%	7,90%	7,44%
	Never	2,59%	2,26%	2,95%	1,86%

Souce: Authors

Regarding the importance of m-apps, respondents were asked to answer based on a Likert scale measuring how essential such apps are in their everyday lives (Table 5). The applications considered most relevant in the personal lives of young adults (the sum of "completely agree" and "agree" answers) are email (72,87%), messaging/videoconference (69,93%), map/navigation (65%), home banking/finance (63,40%) and news (52,27%). These five types of apps are the only ones with more than half of the sample agreeing that they are essential in their lives. The apps that are considered less relevant in their daily life (the sum of "completely disagree" and "disagree" answers) are dating (51%), mindfulness/meditation (38.80%), nutrition (33,67%), fitness (32,73%) and mental health (32%). Dating apps stand out as more than 50% of the respondents disagreed with their importance in their life. These data also show that when asked about the use they make of the applications, young people give different indications of their perceptions of the relevance in their lives, as shown in Table 5.

Table 5: Importance of apps in the personal context.

To what extent do you agree or disagree that these apps are essential in your life?					
	Completely disagree	Disagree	Neither disagree nor agree	Agree	Completely agree
	%	%	%	%	%
Type of apps					
Dating	34,13%	17,07%	29,07%	12,60%	7,13%
Mindfulness/Meditation	18,27%	20,53%	32,93%	19,87%	8,40%
Nutrition	14,80%	18,87%	32,47%	26,00%	7,87%
Mental Health	14,13%	17,87%	31,67%	25,13%	11,20%
Fitness	14,00%	18,73%	31,80%	26,60%	8,87%
Self-tracking	13,47%	17,07%	31,20%	27,93%	10,33%
Entertainment/Gaming	11,60%	15,20%	31,27%	27,80%	14,13%
Other	11,47%	9,13%	51,53%	18,33%	9,53%
Productivity	11,07%	13,60%	37,47%	24,87%	13,00%
Health	10,73%	16,07%	29,47%	30,13%	13,60%
Social Media	10,27%	15,47%	24,87%	33,80%	15,60%
Utilities	9,47%	11,60%	39,93%	26,73%	12,27%
Transportation/Travelling	9,13%	13,07%	30,60%	33,00%	14,20%
Shopping	8,67%	13,00%	31,73%	31,93%	14,67%
Map / Navigation	8,53%	8,80%	17,67%	33,07%	31,93%
Email	8,53%	7,07%	11,53%	30,53%	42,33%
Messaging apps/Videoconference	8,53%	7,00%	14,53%	31,20%	38,73%
News	8,40%	12,60%	26,73%	34,87%	17,40%
Home banking / Finances	8,00%	9,40%	19,20%	34,07%	29,33%

Souce: Authors

Conclusion

Portuguese young adults between 18 and 30 years old have a lively everyday utilisation of m-apps, of more than 9 out of 10 respondents. Such results reinforce the idea of smartphone-based media convergence of Deng (2019) that assumes a central role in the lives of young people (Jenkins et al., 2016; Mehra et al., 2021). Notably, women and educated people with more than the basic education level have a higher prevalence of everyday regular apps usage. In that regard, no woman in the entire sample answered she never utilised an m-app (likewise no respondent with basic education, Master or PhD).

Identifying 18 types of apps plus the category other enables analysing differences in the regularity of usage according to gender and age factors. Social media significantly impacted the everyday dynamics of m-apps consumption, especially on women (91,21%). In contrast, men who say they use social media apps every day are 81,32%. On the other hand, the remaining answers (except "Never") show significant statistical differences in men's usage compared to women. Concerning the age factor, the only noticeable statistical difference was by 25 to 30 years old respondents in the rare usage of social media apps (2,12%) in comparison to the younger age cohort (0,80%). A similar significant statistical superiority of women's everyday usage of messaging/videoconference apps is noticed (65,20% against men's 58,19%). This social media high usage rates may justify the focus on such a category of apps in most of the studies in Portugal that explore the use of mobile apps in Portugal by young adults (Pinto et al., 2021), while those studies in

overall terms are still reduced in quantity. Social media prominence in terms of overall usage but as well in academic research surpasses the portuguese context, corresponding with such popularity in other geographical latitudes, therefore existing a myriad of research in mobile applications, especially on social media and young adults, studied in various approaches (Roffarello & Russis, 2021), quite often analysing specific apps in opposition to this work, that explores broader category of apps.

Email apps ranked the highest percentage in the "completely agree" box with 42,33%. By joining together the top two options of agreement of the importance of such apps for the life of the respondents, email apps have 72,87% of respondents agreeing that such an app is essential to their lives.

By joining the two categories of agreement, it should be highlighted that messaging/videoconference apps got 69,93% of agreement - the second type of app with more "completely agree" answers in matters of essentiality with 38,73%. Map/navigation apps gather 65,00% of agreement (in this case, with more answers of "agree" rather than "completely agree", with 33,07% and 31,93%, respectively). Home banking/finances apps gathered 63,40% of agreement. Likewise, the level of agreement of map/navigation apps is more substantial on the answer "agree" (34,07%) than in the "completely agree" one (29,33%). News apps are the remaining type of apps to which more than half of the respondents agree with it being essential to their lives, with 52,27% that is obtained from it being the type of app with most "agree" answers (34,87%) while also having a reasonable percentage of "completely agree" answers (17,40%).

It is also interesting to point out how the miscellaneous "other" apps got more than half of respondents (51,53%) answering that they neither disagree nor agree with such an app being essential to their lives. Likewise, utility apps also gathered a higher percentage in this middle answer of indifference, with 39,93%.

By identifying uses and consumptions by users, this paper provides a step forward concerning awareness on how Portuguese young adults' engage in their daily lives with mobile apps. Data shed light on the fact that young adults use mobile apps in their daily lives for different tasks, enhancing different experiences in personal and social contexts. Furthermore, the mutual interaction between online and offline realms (Vilhelmson et al., 2018) is evident in the engagement and how young people use and consume mobile apps.

The results show that the usage of m-apps by young adults dialogues with their personal context in a substantially different manner than such apps' perceived relevance. Social and entertainment apps are more consumed and show an extension of the self that is not perceived in the same degree of importance as apps with social uses and enhance concrete experiences of services and/or information. Internal factors for usage (Mehra et al., 2021) are evident in our data, corroborating studies such as those on perceived usefulness (Cheng & Mitomo, 2017), relative advantage (Huang, 2018) and playfulness (Hsieh & Tseng, 2017). On the other hand, the factors behavioural intention (Mehra et al., 2021) and participatory behaviours (Saldaña et el., 2015) are directly associated with perceived value, not corresponding to the Portuguese young adults' repertoire of engagement with apps. Therefore, the main conclusion of this study is that the reconfiguration of sociotechnical practices and social relationships (boyd, 2015) reshapes usage repertoires but not the perceived value of the apps used.

Future studies intend to assess not only statistical values but also qualitative aspects. A series of semi-structured interviews will be conducted to complement the studies and understand the characteristics of the young Portuguese adults' scenario more profoundly. With the data collected from the survey and these interviews, the aim will be to understand how female and young male adults explain their practices of using

mobile apps in their daily lives and what meanings they attribute to these platforms. Also to identify how young people realise the impact of data cultures, digital surveillance and intrusive technology in their lives through mobile apps, acknowledge how they experience corporeality in the context of their engagements with apps, and, finally, learn how young adults select mobile apps for their identity performances and how they react to or resist other users influences.

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