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What makes good digital time? Finding the balance between productivity and control

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ABSTRACT

There is growing awareness that wellbeing in today's digital age cannot simply be achieved by minimising digital engagement. Instead, it requires living well *with* digital technology and pursuing digital practices that afford a sense of productivity and user control. This study sought to identify and distinguish between types of digital technology use viewed as ideal, acceptable or tolerable and negative and determine what factors contribute to digital practices being evaluated this way. 50 semi-structured interviews were conducted with individuals from the UK population. An inductive and interpretative thematic analysis of the data led to the creation of four themes, which differentiated between digital practices associated with (1) high productivity and high control (ideal digital engagement), (2) high productivity and low control (acceptable or tolerable technology use), (3) low productivity and low control (negative digital practices) and (4) low productivity and high control (mixed digital experiences). Quality of digital experience was shaped by how well the type of productivity afforded by specific digital practices aligned with user goals in a specific context and how well these practices supported user control in interaction with the context of digital engagement. As control was perceived to be restricted by external factors, such as digital functions and social norms, control-enhancing structural, societal and social changes may be needed to support digital wellbeing. In addition, non-prescriptive education that raises awareness of productivity and control as broad principles of good digital time could be helpful. However, further research is needed to investigate the effectiveness of such interventions.

1. Introduction

The use of digital technology (DT), here understood as the utilisation of "devices, systems, services, data or processes that use digital information in some way" (Witowska et al., 2025, p. 3), has generated concerns about its potentially adverse consequences since the 1990s (Guan

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& Subrahmanyam, 2009; Kraut et al., 1998; O'Reilly et al., 2018). Mainstream media often warn of the risks of DT-induced distraction, mental health problems and digital addiction (Fyfe, 2025; Sehmer, 2025). Many people therefore have the impression that sustaining wellbeing in today's digital age primarily means avoiding excessive reliance on DT (Černohorská et al., 2025) and frequently report guilt, regret and shame about the amount of time they spend in the digital world (Schoetensack et al., 2026).

Research is however increasingly suggesting that digital wellbeing may not merely be influenced by the duration or amount of DT use but also by its quality (Witowska et al., 2025). When asked about the benefits of DT, users often express their appreciation of the efficiency and ease with which outcomes important for daily functioning can now be achieved (e.g. the acquisition of knowledge, the maintenance of social networks or practical tasks such as shopping) (Bitto Urbanova et al., 2023; Karaoglu et al., 2021). Similarly, digital activities which are active and may be supportive of eudaimonic wellbeing (the experience of purposefulness and self-realisation), such as digital education or meaningful communication, tend to be viewed as more worthwhile compared to more passive digital behaviours that may mainly facilitate hedonic wellbeing (the experience of positive emotionality and avoidance of pain) such as consumptive forms of social media use (Lukoff et al., 2018; Ryan & Deci, 2001) suggesting that a perception of productivity may be critical to positive evaluations of DT.

The task of selecting and pursuing beneficial digital activities is often more complex than consistently choosing what are often labelled as "good" (e.g. active and eudaimonic) activities and avoiding "bad" (e.g. passive and hedonic) ones, since many digital practices are associated with both positive and negative lived experiences. Achieving digital wellbeing is therefore likely to require a functional balance between beneficial and less favourable experiences of DT (Vanden Abeele, 2020). For example, enjoying the flexibility of time-independent digital communication may involve having to manage availability pressures successfully (Vanden Abeele, 2020); experiencing the time-saving nature of remote work may mean having to resist the temptation to work outside one's work hours, or the immediate availability of large amounts of information may involve confronting digital information overload (Faber et al., 2022). These paradoxes emphasise the need to understand the underlying factors which make digital practices sufficiently worthwhile for users.

Feeling in control of DT use has been associated with positive perceptions of DT (Lee et al., 2021), suggesting that control may be a critical element in enhancing digital experiences. However, high levels of user control may be difficult to achieve as the often-desired accessibility or convenience of DT may increase the likelihood of loss of autonomy over digital engagement. First-hand accounts suggest that the perceived ease of DT use or immediate availability of digital information can amplify experiences of decreased self-regulation, particularly when users find themselves becoming absorbed in the digital world longer than desired, instead of pursuing non-digital more valued but effortful activities (Schoetensack et al., 2026). The perceived convenience of DT also appears to facilitate habitual digital actions, e.g. using a smartphone in an automatic rather than mindful or intentional manner (Chen et al., 2019), which is linked to regret (Guo et al., 2025). In addition, digital notifications or alerts, which provide instant access to new information, have been shown to contribute to inattention and hyperactive tendencies (Kushlev et al., 2016). These experiences of lowered self-regulation in turn can lead to an unwelcome sense of reduced productivity (Kushlev et al., 2016), e.g. the impression that time has been wasted on DT (Ytre-Arne et al., 2020). Thus, enjoying highly convenient and easy-to-use DT may increase the risk of lower control over DT use.

Control may also be eroded because ongoing digitalisation can put pressure on individuals to embrace technologies introduced by public bodies or organisations (Pihlainen et al., 2023). Many transactions such as purchasing goods, banking or the use of healthcare increasingly require digital engagement (Eurostat, 2025; Van der Linden et al., 2025). Technologies that store user data and automatically select content for the individual by means of algorithms can further restrict perceived user control over personal data (Festic, 2022) and content (Ytre-Arne & Moe, 2021). 24/7 accessibility of DT has also contributed to the normalisation of constant connectivity and consequent availability pressure (Bayer et al., 2015; Geber et al., 2024). Ensuring the fulfilment of basic needs in the digital age can therefore mean having to resort to digital processes regardless of personal preferences, resulting in suboptimal digital experiences.

Despite rapidly increasing digitisation, societies often recommend a significant reduction in DT use for the sake of individual wellbeing (Syvertsen & Enli, 2020). However, this may not always be a feasible course of action, as choosing non-digital activities instead of digital ones can be impractical, socially isolating or economically disadvantageous (Nguyen, 2023). Evidence-based guidance on how to live well with DT (rather than without it) under consideration of real-world restrictions of an individual's freedom of choice is needed. However, developing such recommendations requires in-depth exploration of the underlying factors which contribute to time on digital media being appraised as positive, less than ideal but tolerable, and clearly negative.

Identifying and describing digital experiences that may be rejected but are adopted reluctantly is critical to increasing our understanding of underlying goal conflicts, such as discrepancies between desires for convenience, flexibility or efficiency and loss of self-regulation, distraction or digital overload that may reduce perceived satisfaction with digital life. Addressing these goal conflicts is crucial for the promotion of digital wellbeing (Gilbert et al., 2023), specifically the reduction of widespread feelings of guilt and regret of DT use (Halfmann et al., 2024, 2025), as guilt and regret are associated with marked negative health outcomes, including depression and anxiety (Bybee & Quiles, 1998; Dickerson et al., 2004; Jokisaari, 2004; Rutledge et al., 2024). Conversely, specifying types of DT use that are clearly perceived as worthwhile may aid in the normalisation of positive digital practices that may add to overall life satisfaction. Such normalisation may be especially important to increase acceptance of DT among groups (e.g. older individuals or those with lower digital literacy) who use DT less but may derive significant health and wellbeing benefits from digital engagement (Francis et al., 2019).

The current study therefore aimed to investigate what digital practices are seen as most beneficial, which are viewed as tolerable or acceptable, and which are considered unfavourable, whilst taking into account user goals or the context in which they may be adopted. Through inductive analysis, the study also sought to explore the broader psychological factors underpinning positive, mixed and negative evaluations of digital time or, in other words, what underlying factors may contribute to digital time being appraised in such ways. By grounding the analysis in participants' lived experience accounts of DT use, the study aimed to develop a nuanced understanding of the subjective meanings, motivations and contextual influences that shape how individuals perceive and evaluate time spent in digital environments.

In-depth qualitative interviews were conducted with 50 members of the public residing in the UK. It was hypothesised that participants would associate beneficial DT use with more controllable digital experiences traditionally seen as supportive of eudaimonic wellbeing but also with digital practices able to facilitate controlled pleasure. Less than optimal but acceptable DT use was expected to involve forms of digital engagement affected by external factors restricting control, such as societal norms, availability pressures or features of digital tools, and individual-level factors such as difficulties in self-regulation. The most negatively evaluated digital practices were anticipated to cause difficulties in need satisfaction and self-regulation.

2. Methodology

The study formed part of the initial phase of the TIMED (Time Experience in Europe's Digital age) research project, which aimed to

investigate post-pandemic experiences of DT use.

2.1. Sampling

Participants were eligible to take part in the study if they lived in the UK, were aged 18 years or above and had a good command of English. 50 participants were recruited from the general population of the UK. To ensure external validity, a purposive stratified method was employed involving recruiting a gender-balanced and demographically diverse sample composed of individuals of all age groups who varied in occupation, level of education and employment situation. This meant including participants in the study who were in education, retired or unemployed and those who held office and manual occupations, other tertiary as well as quaternary sector occupations. In addition, we recruited individuals who had attained university education as well as educational qualifications below university level. This recruitment method was jointly agreed on in conversations with stakeholders and following consideration of previous research that has demonstrated that DT use differs among people of different genders, ages, socioeconomic and educational backgrounds as well as among people holding different occupations (Bela et al., 2020; Elena-Bucea et al., 2021; Twenge & Martin, 2020).

As the study aimed to elicit a range of perspectives on different forms of digital practices, individuals who had different relationships with DT due to their occupational background or life situation were invited to participate in interviews. More specifically, recruitment targeted (a) individuals who held DT-focused occupations which did not exist prior to the age of digitalisation, such as content creator or IT assistant; (b) older individuals in manual or white-collar occupations that were transformed by digitisation; (c) people who were at risk of suffering negative outcomes in their interactions with DT, such as those with mental health problems, people employed in the gig economy or those affected by cyberbullying; (d) younger people who grew up in a digital world or those accustomed to a high level of DT in their everyday lives, such as smart home owners and (e) individuals who had lived experience of the digital divide due to reduced access to DT or low digital literacy. Demographic details of participants are displayed in Table 1. Participants were permitted to indicate multiple occupations and membership in more than one participant group to ensure that all occupations held and all group affiliations were captured. Consequently, the total participant counts across the occupational categories and across the participant groups listed in Table 1 each exceed the sample size (n = 50), and the corresponding percentages each sum to more than 100 percent.

Participant recruitment involved the dissemination of information about the study on social media, by email and via leaflets distributed or displayed in public places. Snowball sampling, i.e. the invitation of individuals to the study who were referred by previous participants, facilitated the recruitment of people from the same demographic groups. In addition, a British trade union also assisted the research team in identifying potential participants from a variety of occupational backgrounds.

2.2. Data collection

50 semi-structured interviews with an average duration of 39.91 min were conducted between December 2022 and April 2023. Interviews were preceded by a consent process, during which participants provided informed written or verbal consent. Data collection took place face-to-face, via telephone and online depending on participant preference. All interviews were audio recorded.

Interviews followed an interview schedule (see supplementary material) that had been developed collaboratively through discussions between all research teams involved in the TIMED project, consultations with stakeholders and an examination of relevant research. The schedule contained a list of questions enquiring about the use of DT in work, social and personal life, specifically how it was used and how it affected these areas of life. The questions thus did not specifically refer to what good, tolerable or bad digital time meant to participants but were designed to encourage interviewees to share their general experience of DT. This was done to ensure that the interviewer would not encourage participants to report on specific digital practices only or address positive, negative or mixed experiences if these were not relevant to participants. This approach was consistent with the exploratory nature of the study intended to investigate "good", "less than ideal" and "bad" digital time in general without steering data collection towards specific topics or digital practices. The interview procedure therefore enabled participants to mention digital experiences of their choice and lead the interaction in line with a semi-structured interview method. Data collection ceased once 50 participants had been recruited.

Table 1
Demographic characteristics of participants.

N = 50	
Age, mean (SD)	41.98 (17.37)
Gender, n (%)	
Women	24 (48.00)
Men	25 (50.00)
Other gender identity	1 (2.00)
Highest level of education, n (%)	
≥ Bachelor	35 (70.00)
Vocational, trade or technical education	5 (10.00)
Secondary education	10 (20.00)
Occupation, n (%)[a]	
Secondary sector occupations	1 (1.75)
Tertiary sector occupations	7 (12.28)
Tertiary office jobs	17 (29.82)
Tertiary manual jobs	8 (14.04)
Quaternary sector occupations	4 (7.02)
Retired	8 (14.04)
Student	10 (17.54)
Unemployed	2 (3.51)
Participant groups, n (%)[a]	
Individuals with DT-focused occupations	12 (18.75)
People whose careers have transformed due to DT	25 (39.06)
People for whom digitalisation poses potential risks	5 (7.81)
Individuals deeply accustomed to digital life	12 (18.75)
Individuals experiencing a digital divide	10 (15.63)

[a] Participants may be represented in multiple categories since they could report more than one occupation and membership in more than one participant group. Therefore, the sum of category frequencies exceeds the total sample size, and the sum of percentages exceeds 100 percent.

2.3. Data processing

All interviews were transcribed verbatim. Transcriptions were completed either manually, with the help of Microsoft Teams and Otter or a professional transcription service. Personal identifying information, such as names of participants or places were not recorded in writing or were removed after the receipt of transcripts from transcription services or automatic transcription.

2.4. Data analysis

Rather than relying on pre-determined hypotheses or frameworks to collect and analyse the data, we adopted a data-driven inductive approach drawing conclusions from the data in a bottom-up manner. Thematic analysis was applied to identify meaningful themes in the data. The analysis was inductive, data-driven and interpretative and followed Braun and Clarke's (2006) guidelines. In line with the aims of the TIMED project, initial coding of data was aimed at capturing how DT was used in different areas of life and how it impacted these. All data was

uploaded and coded in Nvivo following careful familiarisation with the data through repeated reading of interviews. Iterative coding was initiated during data collection and was undertaken in collaboration with five other research teams, who had carried out interviews in five other countries. This study is only based on the UK data.

All research teams participated in weekly meetings and contributed to the joint creation of a codebook. During the meetings, the interviews were discussed, codes were agreed on and added to the codebook along with their definition and example quotes. Codes and emerging thematic patterns were identified in group meetings and email exchanges, reviewed and improved collaboratively, a process which was documented through careful record keeping and updating of the codebook. Codes were added, removed and refined by modifying their titles, definitions or associated quotes as data collection and analysis progressed and patterns of meaning in the data became clearer. When new data had been transcribed, it was analysed using the most up-to-date version of the codebook, which was either modified further to reflect the new data or remained the same if the data could be analysed using existing codes.

The creation of codes was terminated once all research teams had agreed that the existing codebook contained all the necessary codes to capture the dominant meanings in the data. Agreement was only negotiated after (a) continued coding had failed to lead to the production of new codes or identification of new meanings relevant to the study aims, (b) researchers had begun generating an increasing number of codes retrospectively considered to be unrelated to the study objectives so that they were discarded and (c) all researchers had agreed that final theme generation would be successfully accomplished based on existing codes. A formal coding saturation criterion was not applied in our study in line with the assumptions of reflexive thematic analysis, according to which there is no objective endpoint to data analysis that can be discovered by the researcher as meaning is not inherent in the data but is created by the researcher through subjective interpretation. The decision not to assess saturation formally is in line with current guidance on reflexive thematic analysis (Braun & Clarke, 2021).

To ensure reflexivity, the coding process involved researchers reflecting on their coding practices and providing feedback on each other's coding decisions, which was intended to lend credibility to the analytic strategy and its outcomes. In this process, the researchers consistently referred back to the data, exemplifying their points with quotes and re-evaluating whether and to what extent codes captured the data so that the outcome of the analytic process would accurately reflect the data. Reliability of coding was also ensured through double-coding of 10 % of all interviews, i.e. independent coding of the data by two researchers, subsequent discussion of coding decisions, comparison and agreement on a coding strategy. The interviews to be double-coded were selected randomly. Due to the iterative coding that required reaching agreements on coding practices repeatedly after several phases of reassessment of meanings present in interviews, the determination of inter-rater reliability through statistical means was not practical so that coders engaged in qualitative consensus-building in line with recommendations and common practice in qualitative research (Horsburgh, 2003; Noble & Smith, 2025).

The jointly created codebook allowed for the organisation of data into the two broad mother codes “advantages” and “disadvantages of DT use”. Iterative data analysis revealed that participants distinguished between specific types of digital practices perceived positively or negatively, which could be differentiated by the function or purpose that they were perceived to fulfil, such as accessing information, services or products; communicating or connecting socially; or using DT for work or education. The data was therefore initially coded in such a way that digital practices could be categorised according to the way they were appraised (positively or negatively) and the purpose they were felt to serve. Careful comparison, discussion and iterative review of codes then led to the conceptualisation of the constructs that helped to explain participants’ appraisals of digital time. Coding was therefore adjusted, e.g. through reorganisation of codes and creation of new codes, so that it facilitated a classification of forms of DT use according to these constructs. The final codebook used in this study, including code names, definitions and example quotes is provided in the supplementary material.

A review and comparison of the mentioned codes led to the identification of initial thematic patterns in the data that captured the hallmarks of “good”, “bad” and “tolerable” digital time as well as specific digital practices associated with each category. A summary of these thematic patterns was prepared, which contained their definition, description and illustrative quotes. This overview was discussed within the research team, compared against codes and data again and reviewed before the final themes were agreed on.

3. Results

Throughout the interviews participants judged the value of different forms of digital time in everyday life based on the level of control and productivity that they were perceived to afford. The concept of control here refers to the freedom to make choices in everyday life and enjoy a sense of autonomy. Productivity by contrast describes the extent to which DT was thought to lead to positive and personally meaningful outcomes. The most common types of productivity that participants alluded to comprised *temporal productivity* (achieving a goal/task successfully in little time and with little effort), *social productivity* (achieving social goals and communicating social information successfully and efficiently), *emotional/physical productivity* (reducing discomfort and/or increasing pleasure) and *intellectual productivity* (obtaining intellectual benefits). Critically, analysis showed that the evaluation of specific digital activities as productive was highly context-specific, i.e. it appeared to depend on individuals’ personal goals at a given moment in time. For example, DT use that afforded temporal benefits, such as speedy online communication could be judged as highly productive in a work context but considered less helpful during social face-to-face encounters, as temporal productivity was prioritised in work situations whereas social connection became a more salient goal during free time. Therefore, our data suggested that digital practices could not categorically be described as either unproductive or productive but acquired this subjective quality under certain circumstances.

The analysis revealed that it was possible to classify the digital activities described by participants in terms of their affordance of productivity and control. As a result, four core context-dependent themes of digital practices were identified: 1) those that were perceived to afford *high productivity and high control (theme 1),* 2) *high productivity and low control (theme 2),* 3) *low productivity and low control (theme 3)* and 4) *low productivity and high control (theme 4)* (see Fig. 1). The digital practices referred to here constitute behaviours highlighted in our interviews but do not represent an exhaustive selection of digital activities.

3.1. Theme 1: high productivity and high control

3.1.1. Temporal productivity

Temporally productive practices were characterised as facilitating rapid access to information, products or services in a user-friendly manner, or as eliminating time-consuming activities or processes, such as travel, non-digital work or communication. Examples often included accessing work- or study-related information digitally, online shopping, banking or navigation. Effortless ease of use was critical to these practices being considered temporally productive, thus better designed products and enhanced levels of digital literacy increased the likelihood of temporal productivity.

> *It [platform to access study materials] was very easy to use, like at any time. So if I was thinking like what reading do I need to do, I could literally go straight on there and it would have an access, like it'd literally point blank say “this is the reading you need to do”. It was very structured in the sense that there's tabs. So if I was thinking what, what's the marking*

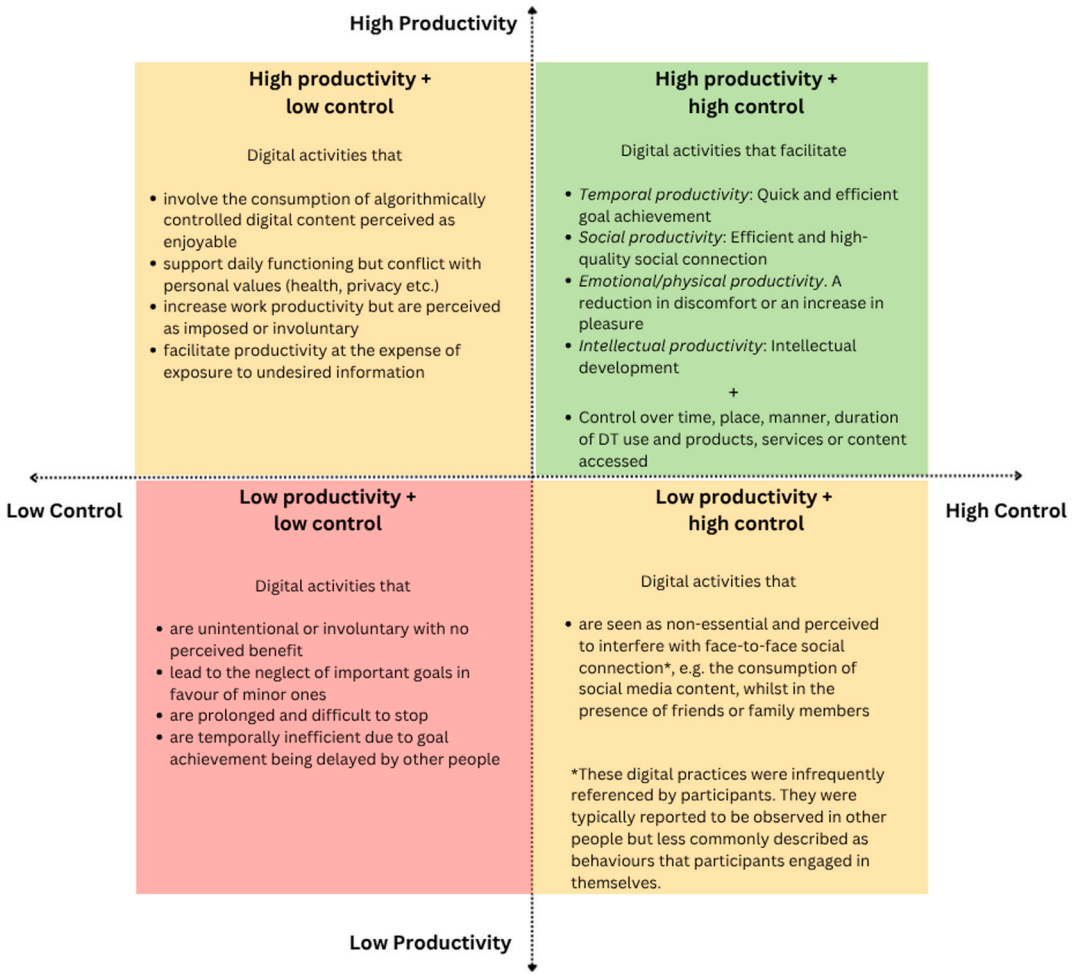

Fig. 1. Spectrum of digital practices categorised along the dimensions of productivity and control. Green = Digital time perceived as ideal. Amber = Tolerable/acceptable digital time. Red = Undesirable digital time. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

> *scheme for this assignment, I could go into the assignment, download the marking scheme straight away and be able to see it. […] There was no like you had to e-mail your lecturer and say "could you send me this?". It was all on there.* **(Participant 3)**

Highly accessible, easy-to-use and efficient digital activities were most likely to be appraised positively when they allowed the user to control the time, place, manner and duration of DT use, whilst also providing a choice of products, services or content being accessed. Users particularly valued temporally and spatially independent accessibility, versatility/flexibility of digital services, variety and transparency. Transparency here refers to the ability to anticipate the duration of a digital activity and the type of product, service or content that the user will be exposed to prior to engagement *and* to remain in control of these during DT use. Activities that combined temporal productivity and high user control often included online shopping and the use of certain entertainment platforms, or work and study tools. These services were perceived to provide a virtually unlimited variety of content but still allowed users to flexibly switch between services, products or information enabling them to access desired content quickly. In this sense, the time spent on these activities was perceived as controllable and this allowed for "good digital time".

> *The other thing, obviously, my wife and I use television, internet, things like Netflix and Amazon quite a lot, and I catch up programmes on the BBC and ITV as well quite a lot in the evening. […] I love having a nice wide choice of things, which is good, and therefore I never watch something and think, "this isn't worth watching," because I know I can stop and find something that I do like.* **(Participant 23)**

3.1.2. Social productivity

Good digital time was also achieved when DT use was perceived as *socially productive*, i.e. facilitating the fulfilment of social goals, such as the maintenance of bonds with friends or family members, catchups with acquaintances or even the establishment of new connections. However, what made digital practices socially valuable was the combination of social productivity and temporal efficiency, i.e. participants expressed high satisfaction when social goals could be achieved quickly and efficiently.

> *It's easy to organise going out … you create a group …. and so it's easy to just say we're going out to wherever at two o'clock. And you know, for well everybody's got that message […] where previously you would have, maybe you may have rang them, and then you have to ring the other ones to say that "I can't come at two o'clock, I can come at three o'clock", where if it's a group message, it's done.* **(Participant 14)**

Socially productive DT use was also characterised by the successful communication of socially relevant non-verbal information, such as emotions, body language or tone of voice. Participants pointed out how digital tools that facilitated such communication could prevent communicative failures or misunderstandings, increase clarity in communication, make the interaction more personal and thereby more

meaningful, or allow for a more genuine connection with other people.

> *What my friend and I do is we don't type out messages, we just voice message each other, which I found really useful and I just find that mode more appealing. […] You can really convey [a] message a lot more and I think I find it quite anxiety-inducing not being able to fully convey, you know, what I'm trying to say, but also sometimes it's, it helps me understand a bit more like what someone is saying to me when someone, you know, a single line of text saying "yeah, I'm great, thanks" can be read a million different ways, and hearing someone's voice, hearing them expand on an idea, hearing, hearing them, yeah, just the tone, it can really, really help, […] bridges a bit of a communication barrier really.* **(Participant 7)**

DT use that fulfilled social goals was sometimes criticised when it did not allow the user to control the duration of the interaction or the channel of communication. The ability to determine both length and manner of interaction in addition to the time are therefore significant aspects of "good digital time". The strategic choice of specific channels of communication in line with the users' goals seemed to be important to obtain a greater degree of control. For example, the use of asynchronous texting was reported to allow participants to complete or finish the interaction easily if desired or respond to communications at times that could freely be chosen by the interlocutors, which was especially important if they resided in different geographical areas. However, since asynchronous digital communication could also cause delays in the receipt of messages if the interlocutor's replies were slow, it was not always associated with user control but more likely to have this effect when interlocutors could be trusted to reply in a time judged as acceptable by the participant, e.g. when an existing bond existed between communicators, such as friendship or quick responses were not as important.

> *I have a lot of friends like in completely different time zones and social media allows you to have sort of conversations with them without obviously-, if you were ringing them, it would be well, it's-, so I've got friends in like America where it would be in the middle of the night when we're in the middle of our day. So if-, with the social media you can put a message and then they reply when they're ready so it's always been good for that kind of thing.* **(Participant 4)**

3.1.3. Emotional or physical productivity

Digital practices that facilitated a reduction in discomfort or increase in pleasure were also viewed as good digital time. For example, participants who disliked travel or communicating with others found online shopping, banking, administrative tasks or home working to be emotionally and physically productive (as well as temporally productive) because they removed disliked elements of non-digital life.

> *You get all your car insurance documents via email, house insurance, mostly everything is via email. So that's really good, because you don't have to actually go to the branches or … because I hate speaking to people on the phone.* **(Participant 36)**

Filling time with digital activities could also be appraised positively because it prevented or reduced boredom, stress or improved mood. It was also perceived by some as instrumental in supporting pleasure, enjoyment, entertainment or relaxation, especially through digital free time.

> *I think the reason I find it [VR games] fun is because it, it sort of destresses you. It, it completely takes me out of like, say, if I come in and I've got a stressful day or something, I can play that and my mind is taken off it pretty quickly. So it's a way of, it's sort of an immersion, an escape in a way.* **(Participant 27)**

However, the use of algorithmically controlled digital platforms to alleviate discomfort or increase pleasure could be rejected by participants as it was perceived as likely to lead to a loss of control over digital behaviour and its duration in certain circumstances (see section 3.2.). Therefore, emotionally/physically productive DT use was usually judged most positively when participants consciously selected and initiated their digital activities and retained choice of its duration and the activities pursued during it, such as content consumed on social media. This was the case when: (1) DT use took place during periods or moments in the day that were planned and naturally time-limited, such as during breaks from work or study or in the evening after work. In this context, digital engagement that brought pleasure could sometimes function as a reward for fulfilling commitments. (2) DT use involved a higher level of activity, whether this was physical, intellectual or social activity. For example, cognitively or physically engaging digital games that met users' interests or social contact through audiovisual means that required more social involvement than purely written communication were more likely to be portrayed as enjoyable and were rarely (if ever) referred to as addictive/uncontrolled.

> *Gaming I definitely try to use as a reward, but like I'll eat dinner and I'll be watching something on the TV and then typically I'll do some work on my computer until I have reached or almost reached my goal, uh, which is usually around 8:00 or 9:00 PM. And then I give myself a bit of time to game just to chat and have some fun.* **(Participant 13)**

3.1.4. Intellectual productivity

Intellectually productive DT use was also evaluated positively by participants. When it was explicitly compared to digital engagement that primarily provided emotional benefits, it tended to be judged as more productive overall, although such a judgement could be context-dependent. For example, when participants described situations in which recovery from work was important to them, the goal of relaxation became salient so that intellectually less challenging but emotionally satisfying activities were appreciated. Digital practices seen as intellectually valuable often involved a higher level of cognitive activity, which users in turn associated with greater maintenance of control.

> *I feel that this [watching educational YouTube videos] adds to my personal development as I take lessons from what I'm listening. Sometimes I take notes and then I apply this to my life and I'm, I become more conscious and I then sometimes I give advice to friends and family, or not advice, maybe advice is like too strong, but maybe I would share the experience that I heard on the TEDx and then they would, mainly I get positive feedbacks, they like go and watch it as well. And then they feel good about the new information that they have received.* **(Participant 20)**

3.2. Theme 2: high productivity and low control

Digital time was evaluated as less worthwhile when it was judged as productive but did not allow for high levels of user control. This was a common occurrence in the case of passive social media consumption involving algorithmically controlled content, which could be considered emotionally productive, i.e. "funny", "amusing" or "interesting" but often resulted in unwanted prolonged digital engagement and the exposure to content that the user did not wish to see. Despite this, platforms such as TikTok were sometimes considered to be excellent at pinpointing users' interests and presenting material aligned with these. This suggests that exposure to a subjectively "sufficient" amount of relevant and emotionally satisfying content seemed to allow for emotional productivity.

> *Some of this stuff [on TikTok], yeah, […] I like it.. but I think not many people get it because, for example, a video I saw, it was so funny, I haven't downloaded it, it was [a] crossover between Wham and Slayer. And it's got the music of Wham, but the Slayer lyrics. And I thought whoever made that, it, it's absolutely genius.* **(Participant 17)**

However, a few participants also pointed out that content simply

matching user interests could result in consumers accessing one-sided information, such as political views of the same type. One-sided political content was thought to carry the risk of producing biased or unbalanced opinions among users. Therefore, it appeared that the perceived productivity of unpredictable forms of digital consumption was dependent on the nature of personal tastes and interests, with benign interests such as harmless hobbies or light-hearted entertainment being regarded as good conditions for emotionally or intellectually productive digital time when compared to an interest in politics.

> *I'd have to say the algorithm that's on there is incredibly good […] at curating content for you, so if you do have a right-wing bias, it will very quickly skew you towards the right wing, but likewise, it's very good at-, if you have an interest in gardening, it'll be very good at finding videos about gardening for you. And so it's, it's possibly scary good at keeping your attention because it's, it's very good at knowing what you might be interested in, and then 30 seconds later finding you something else you might be interested in, and then 30 seconds later finding something else you might be interested in.* **(Participant 6)**

Digital practices reluctantly adopted for their convenience and productivity but regarded as less than ideal due to their inconsistency with personal values or preferences, constituted another example of digital engagement that was characterised by high productivity but low user control. Participants suggested that basic needs for convenience, easy access to information or services, social participation or engagement in work or studies made them use certain DTs despite their preference of non-use. Participants conveyed a sense of pressure to engage digitally for the purpose of need fulfilment. The preference not to use specific DTs was motivated by desires to protect their health, privacy or stick to familiar behaviours and values which participants felt they were unable to meet when using DTs. At times, however, the exact reason for preferred non-use was not expressed clearly, with participants alluding to DT being "harmful" but not explaining why they believed this to be the case.

> *I was like, I'm not gonna get another smartphone. I'm gonna go back to buying a just like, a dumb phone if you want to call it that. But again, it just seems so awkward to do that because every, like you, it's just so much easier to have a [smart]phone, […] part of me just acknowledges that like you're actually handicapping yourself if you don't have one, like you're making your life quite a lot more difficult, […] if you have a [smart] phone, it's just like completely simple, […] buying train tickets on a whim on my phone is, like, super easy and helps me see them.* **(Participant 26)**

Digital activities perceived as productive could also cause frustration when users felt stripped of their ability to choose when to engage digitally, specifically when they felt compelled to complete work-related tasks outside their usual working hours. Pressure to work could occur due to external factors, such as unavailability of other employees available to cover participants' work during non-work hours but also perceived expectations from employers to remain available digitally appeared to feed such pressure. However, participants also spoke of an urge to check their phones for work messages simply due to the easy accessibility of such messages, or the experience of being overwhelmed by the volume of incoming information and having to engage with work during personal time to reduce workload when in work. In this situation, it appeared that a lack of control over the volume of incoming communications led participants to work out of hours as a strategy to restore control over their work life. However, this in turn resulted in a loss of autonomy over personal time, which was dedicated to work.

> *Last night was probably an example, I didn't finish [work]. So I stopped, had tea, put my daughter to sleep, about 9:15, and then I worked until half 11, […] which is not, it's not good, is it? So it's, you know, it's, but it cleared something off my, off my list of things to do for this morning. So it's probably worked out well, but it's not ideal, I think.* **(Participant 39)**

Work-related digital engagement outside of work was therefore not conducive to recovery or relaxation, i.e. it lacked productivity in one context (free time) but facilitated work productivity, which some participants pointed out by explaining that out-of-hours work helped them "get things done" or "clear something off" their to-do list. Completing work-related tasks outside of working hours could therefore be considered a digital practice that was characterised by work productivity but low user control. However, the same digital practice could also be perceived as wholly unproductive and low in control if participants did not see any benefit in work extension (see section 3.3).

Use of digital communication tools in daily life could also sometimes give rise to experiences of low control whilst still fulfilling helpful functions. This happened when participants used channels of communication, specifically chat groups or social media, that satisfied social needs such as maintaining contact with other people or informational needs such as accessing meaningful content, but also exposed users to irrelevant or undesired information that was out of their control. Sometimes such extraneous information meant that temporal productivity of DT use also suffered as time had to be dedicated to filtering out useless information. Emotional productivity could also be compromised as undesired/controversial content led to discomfort or disapproval. Yet, because some degree of informational or social productivity persisted, these more unpredictable forms of digital communication were still valued by some participants.

> *This women's club I go to, because I, I am the secretary, we have speakers and do different things. So I set this group up for everyone in the club to say "we've got a speaker. Don't forget this week we'll have a discussion afternoon […]". People are putting pictures up of their grandchildren and and jokes and I'm thinking it wasn't intended for that. It, I feel it was, it's been hijacked a bit, but you know, it's keeping people in touch with each other.* **(Participant 38)**

3.3. Theme 3: low productivity and low control

Participants appeared to be most likely to judge digital engagement as unsatisfactory (low in productivity and user control) in the following circumstances: (1) when it was unintentional or involuntary and was not associated with any benefit, (2) when it led to the neglect of important goals in favour of others considered less important, (3) when it took up more time than desired and was difficult to stop or (4) when it lacked temporal productivity due to goal achievement being delayed by other people.

Unintentional or involuntary DT use could be triggered by internal and external factors. Internal factors included behavioural tendencies or urges internal to the individual, such as a need to check a digital device for notifications or messages, habit or internalised pressure to work outside of the usual working hours. External factors included distraction by external digital stimuli (e.g. notifications or content), imposition of unwanted work tasks by employers, or external pressure (e.g. by managers or employers) to continue working after hours. Involuntary digital behaviours in response to internal or external demands generally generated frustration as they were often considered unhelpful in reaching current personal goals such as temporally efficient work, or rest and relaxation during free time. For example, online meetings scheduled by employers could be considered as superfluous and removing time necessary for other work tasks, while work extension could be perceived as invading personal time with no productivity benefit being identified.

> *With the amount of work we have to do it's a big chunk out of your time and your productivity-, discussing the work rather than doing it, which I've raised multiple times with management. Don't interrupt so much, don't have so many meetings and we can get, we can get more work done. But they seem to want their meetings.* **(Participant 9)**

Similarly habitual or absent-minded unintentional digital engagement often produced a retrospective evaluation that previous digital time did not fulfil a purpose and was therefore temporally unproductive

(i.e. a waste of time).

I probably pick up my phone to do one thing and if I'm, I get that job done and then I still got it in my hand. And that's when I start clicking on other things that I probably don't really need to or just yeah. It's just kind of boredom. And yeah, probably and distraction, maybe a little bit and but it, it's not, I don't think there's any value in it. I don't, but I, yeah, I still do it. **(Participant 24)**

However, low control and productivity was not limited to unintentional or involuntary use. Self-determined and goal-directed initiation of digital behaviour could still lead to the perception that DT interfered with important goals when it enabled participants to obtain some benefit but led to the neglect of other more important goals. This also occurred when the intended digital behaviour was not (fully) completed and the individual instead engaged in other unwanted activities, usually due to distraction. Situations in which certain "superior" goals remained unfulfilled, and digital time was therefore judged to be wholly unproductive (rather than just partially unproductive), included contexts in which time was scarce and awareness of time was lost during digital activity leading to unwanted prolonged engagement. DT was then seen as "wasting" the little time that participants had intended to dedicate to other tasks.

I see I've got a text, you know, I've gone on my phone to check my availability for something and I'll see a text about something else and, before I know where I am, you know, I'm checking out whether I'm available for that. And then forgetting to actually do the task that I went on the phone for. I mean, it comes down to personal self-discipline and organisation. **(Participant 8)**

Engaging digitally for longer periods than desired, often combined with difficulties stopping engagement, could also be judged as wholly unproductive behaviour low in user control. Some participants suggested that the virtually limitless range of digital services could cause them to spend an excessive amount of time looking for the "perfect" product or service. Prolonged searching thus led to a loss of time. At times, such behaviour was not only perceived as temporally inefficient but also unproductive as the products searched for could be of little importance, yet searching was continued in anticipation of the rewarding feeling of finding the "right" product. This form of reward seeking was sometimes associated with a perceived loss of control, as described by one participant who termed the behaviour "dopamining". Paradoxically, the objective increase in user control that resulted from the provision of a large variety of options could lead to a feeling of reduced autonomy if searching implied spending a period of time on DT that was judged as "excessive" and the ability to stop usage was perceived to be "impaired".

My most frequent digital technology use is researching pointless shit on the Internet. I've probably got undiagnosed ADHD and I probably, I think someone called it "dopamining", yeah, I think someone called it "dopamining". And I was like, yeah, I can see that. So, you know, maybe if I wanna get a new dog poo bag, I've been searching for three days on the very best dog poo bag. **(Participant 25)**

Relying on asynchronous methods of digital communication, such as texting or emails to communicate with other people when quick responses were desired but not mandatory also represented a digital practice characterised by low productivity and user control. Participants pointed out how texting could lead to repetitive and sometimes futile phone checking to ascertain whether the recipient of messages had already answered. This resulted in a loss of temporal efficiency and control which caused frustration.

I think [texting] is a waste of time because you wait for the person to answer and this person can answer after a few hours. Then you need to go again and check and then kind of you are engaged without having really a good reason for it. It's not like a very important thing. Sometimes it is, but mainly if it's very important, you would just call the person and find out what you want to find out. **(Participant 20)**

3.4. Theme 4: low productivity and high control

Participants only occasionally described engagement in digital activities that had little beneficial outcomes despite a high level of user control. In such instances, interviewees usually referred to digital practices that interfered with non-digital life, specifically with face-to-face social connection or contact. For example, a few respondents pointed out the non-essential use of digital devices, e.g. the consumption of social media content, whilst in the presence of friends or family members, which was thought to reduce opportunities for face-to-face social engagement and was thus considered socially unproductive.

I've noticed we're becoming the family where the TV is on, but we listen to the TV, while we are on our mobiles. We should be all watching something together, not all just listening to what's on TV, and being on our phones. […] You sit next to each other but we are multi-tasking as well, while we're watching, and also doing stuff. And then we're not talking about what's on TV, or what we are reading on our news. And that's me and my husband, and my daughter. My son usually just sits upstairs, and plays games online. So, we are just connected to the digital world, and I'm just thinking "wow." **(Participant 21)**

However, in most cases controllable digital activities that were judged as unhelpful in one sense were simultaneously described as fulfilling a separate purpose, which explained participants' engagement in them. For instance, home-based digital entertainment or the use of digital devices in face-to-face social situations could be seen as a barrier to non-digital social communication or social outings. At the same time, the latter activity could be described as a means to relax whereas the former was regarded as highly convenient, easy or familiar, which suggested varying levels of perceived temporal or emotional productivity.

When we're at work, at break times nobody talks. We're all on our phones. And at lunchtime, we don't really talk. We're all on our phones. […] And then I, occasionally somebody walks through and they'll say "nice lot of conversation going on here." And everybody looks up from that, we do talk, but […] because we're so busy and there's so many of us, like I can interact with about 50 people in the day, often constantly. So having that downtime actually is very good, I do have a lot of verbal conversations with people, but not on our breaks. That's, we're just on our phones. […] Sounds awful. **(Participant 51)**

By contrast, when referring to other people's intentional and perceived non-essential digital device use that was believed to interfere with social connection, it was less common for participants to also point out useful purposes that such DT use may serve. Instead, interviewees tended to highlight the social risks of activities such as online shopping, digital entertainment or communication, including the loss of non-digital social contact, the deterioration of social or linguistic skills (especially in children) and isolation without reflecting on other potentially productive functions of such activities. This implied that what was perceived as "controllable" digital device use could be considered significantly more unproductive when participants reflected on other people's DT use but was experienced as more purposeful when participants spoke about the same controllable digital behaviours in themselves.

The time you spend with people I don't want to be sat on my phone, and I think that really bothers me, when you see people out and just sat on their phone. I'm a bit, I don't understand, if you're spending time with someone, especially more on a one-to-one basis, then unless it's an emergency, […] don't know why people can't put it away for an hour, two hours. When on a night out, my phone stays in my bag pretty much […]. But then you see a lot of people where it's constantly on the phone, constantly.

They're just using it, I don't know, I just feel like if you're out and you're with people, then is there really a need to be on it? I'm sure for a few hours nobody's going to be bothered kind of thing. **(Participant 45)**

4. Discussion

This study sought to determine what digital practices are perceived to result in positive, tolerable/acceptable and negative digital time and what underlying factors contribute to digital practices being evaluated in such ways. Our findings revealed that the productivity and control that digital activities were perceived to afford shaped the way they were appraised and could be used as an organising framework to distinguish between forms of DT use thought of as positive, acceptable/tolerable and negative. The more productive and controllable digital practices were judged to be, the more positively they were evaluated. Overall, four categories of digital practices were identified, which also confirmed our hypotheses:

(1) Digital practices *high in perceived productivity and control* and therefore associated with the *most positive* digital experiences comprised activities serving eudaimonic purposes, such as efficient goal achievement, meaningful social connection or intellectual development. Forms of DT use that were found to be controllable and emotionally or physically pleasant were also perceived as affording high productivity and control.
(2) Digital practices associated with *high levels of productivity but low user control* were generally experienced as *tolerable or acceptable* but not ideal. These included practices where external and individual-level factors limited participants' autonomy: The consumption of algorithmically selected but enjoyable content, where algorithmic control substituted individual control over content; digital practices that afforded work productivity but felt imposed, e.g. due to availability pressure; and productive practices where control was limited due to digital information overload. Individual-level factors, such as personal values played a role in value-incongruent DT use in which convenience facilitated by digital activities was sought out at the expense of value-incongruence.
(3) Forms of DT use that were regarded as both *low in productivity and low in user control* were described in *negative* terms. These comprised those that hindered need satisfaction for example because they interfered with the achievement of personal goals considered important. These digital practices could also be unintentional or involuntary, leading to prolonged digital engagement that was difficult to stop so that they involved reduced self-regulation.
(4) An unanticipated finding of our study related to digital practices linked to *low perceived productivity, but high user control.* These were referred to least often and were evaluated *negatively* but frequently also associated with an additional productive function unless participants spoke of witnessing these behaviours in other people. Unproductive but controllable practices usually involved the use of DT in contexts in which it interfered with non-digital life, specifically face-to-face social connection.

Crucially however, the extent to which specific forms of DT use were experienced as beneficial, productive and controllable was shaped by personal goals and the context of use. This occurs for three reasons:

(a) Digital practices are seen as affording different types of productivity, i.e. one practice can be helpful for the fulfilment of a specific goal, such as relaxation, intellectual development or work productivity but less so for the achievement of another.
(b) Different types of productivity become salient or important to individuals in different situations so that digital practices that are deemed as productive in one specific context may not be in another, e.g. remote work can be seen as temporally efficient during work hours but may be deemed as emotionally unproductive during free time as it interferes with personal recovery from work or relaxation.
(c) Levels of control over DT use can be shaped by contextual factors as well, e.g. the speediness of responses provided by an interlocutor in digital communication or the time at which DT is used. Subjectively delayed responses of interlocutors may reduce perceptions of control over DT use, while DT use during periods that are naturally time-limited, such as short breaks can increase control over digital engagement prone to lead to a loss of temporal awareness.

Therefore, what determines the quality of digital time, i.e. whether digital time is experienced as good, tolerable/acceptable or bad is how well the type of productivity that it affords aligns with user goals in a specific situation and to what extent it supports user control in interaction with the context of use. This aligns with recent conceptualisations of digital wellbeing as a dynamic experience or state that is "temporary and idiosyncratic" (Vanden Abeele, 2020, p. 939).

The findings add nuance to existing arguments that greater amounts of time invested in digital engagement (Twenge, 2019), the reliance on platforms presenting algorithmically selected content (Taylor & Choi, 2024), the passive consumption of content (Meier & Krause, 2023; Wang et al., 2018) and DT use for entertainment purposes (Lukoff et al., 2018) exert a more negative than positive influence on wellbeing. By highlighting the way in which context, productivity and control collectively and dynamically govern evaluations of digital technologies, the findings inform why and how certain types of digital engagement are likely to be appraised positively or negatively in different circumstances. They also illustrate why one-size-fits-all guidance that concentrates on promoting specific digital behaviours and discouraging others is unlikely to be effective in improving digital wellbeing for all individuals.

While the path towards satisfaction with digital time seems to be governed by the same underlying principles for all or most users (maximising perceived productivity and user control will increase digital wellbeing), the specific digital behaviours that may support digital wellbeing at any given time are likely to differ between individuals and even throughout the day since these are context- and goal-specific. Therefore, whilst in some contexts, recommendations to limit screen-time, exposure to social media platforms (Caron, 2025; Musa, 2025) and scrolling and browsing content (Middleton, 2024) may provide benefit, they may not in others. Likewise, the belief that DT use for "higher-order" goals, such as intellectual development, meaningful social connection or work productivity is more beneficial may be inaccurate if the goals of the individual do not align with these activities. Evidence that digital engagement, which is often viewed as inferior to non-digital activities (Kopecka-Piech, 2024; Černohorská et al., 2025), can be emotionally rewarding and regulate mood (Dodemaide et al., 2022) illustrates the way in which the right balance of control and productivity can lead to positive digital experiences. Effective guidance to achieve digital wellbeing may therefore need to highlight that a large variety of digital practices can add to satisfaction with digital time, including those often regarded as low-quality activities in mainstream media or research.

Critically our findings suggest that maximising perceived user control in digital life is not fully achievable through efforts of individuals. The properties of digital tools themselves, including "imperfect" algorithmic content selection and information overload, the digitalisation of public services and critical infrastructure, and social norms labelling specific digital practices as good and bad all shape users' perceptions of control. Enhancing digital wellbeing therefore requires a multi-stakeholder approach (Al-Mansoori et al., 2022; Roffarello et al., 2024). Thus, key strategies to ensure user autonomy may need to include the implementation of autonomy-supportive digital design by

technology developers (Peters, 2023; Zhao et al., 2024), a review of societal norms, and the promotion of digital literacy, including a capacity to critically evaluate the likelihood of DT to lead to positive and negative outcomes.

Recent research has presented several design solutions for autonomy-supportive DT aimed at increasing digital wellbeing. These include systems enabling users to filter and select the social media posts presented to them (Bhargava et al., 2019), tools to limit prolonged digital engagement through digital nudges or reminders of time spent on apps (Purohit & Holzer, 2021) or ways to monitor alignment between digital activities and user intentions (Zhao et al., 2024). If integrated into devices as default functions that can be switched on or off, such tools may hold promise for increasing control over digital content, time spent on DT and congruence of digital activities with personal goals. However, the implementation of such structural changes to digital devices or tools is likely to need to be anchored in policy or law. Similarly, addressing external factors reducing perceived user control over DT, such as availability norms or social pressure to engage digitally, may also demand complex societal-level changes. These may include the introduction of policies or laws promoting a right to disconnect (Lerouge & Trujillo Pons, 2022) or even campaigns supporting guilt-free disconnection.

However, as structural changes to digital devices regulated by policy or the shifting of societal norms can often only be implemented slowly or may not be achievable at all in some contexts, laying the foundations for the digital empowerment of individuals is of crucial importance. Considering the frequent pathologisation of DT use and its association with a host of mental health problems (Twenge & Campbell, 2019) often based on only small correlations (Huang, 2017), enabling individuals to critically assess the quality of their own digital time in an evidence-based way and achieve good digital time even in the presence of factors reducing user control becomes important. Therefore, the framework presented in our study that highlights digital practices likely to support experiences of user control and productivity could be used as an effective roadmap to empower individuals to gain an awareness of ways in which DT can enrich digital time in real-life contexts and maximise autonomy and productivity.

Differences in the way digital practices were described when users considered their own versus other people's digital behaviours, specifically phubbing (using a phone in a social situation while ignoring conversational partners) (Deschamps et al., 2025) emerged as an incidental finding in our study: Participants more frequently suggested that other people's perceived non-essential DT use in social situations was unproductive due to interfering with social connection than their own, which was more often described as fulfilling a separate productive function. As phubbing is considered an impolite or even rude practice (Al-Saggaf & O'Donnell, 2019), it is possible that participants' more positive portrayal and justification of their own phubbing behaviours may have represented a self-protective mechanism possibly allowing participants to reduce or avoid feelings of guilt, which have been associated with phubbing (Reyes et al., 2026).

Self-protection from the potential negative emotional consequences of openly admitting non-normative behaviour may also explain the infrequent reference to low-productivity/high-control digital practices in our study. These may have been underreported for two reasons: Consciously engaging in behaviour that does not serve a useful purpose contradicts values of competence, ambition and success prevalent in English-speaking contexts (Schwartz, 2014) and therefore implies pursuing a "deficient" behaviour that fails to meet societal standards. In addition, the controllable pursuit of unproductive digital activities (as opposed to non-digital behaviours) may be associated with additional stigma as digital engagement, e.g. doomscrolling that is perceived to be devoid of a useful purpose tends to be portrayed and viewed in especially negative terms (The Guardian, 2026). Reducing the stigma of digital unproductivity through the adoption of a more accepting stance towards imperfect or unideal digital engagement in public accounts of DT use may aid in facilitating greater openness and less embarrassment or secrecy around such forms of DT use.

However, it is also possible that the infrequent occurrence of examples of low-productivity/high-control digital practices in our dataset reflects genuine reduced engagement in such behaviours and greater perception of digital practices as worthwhile. Considering that digital engagement often fulfils a need (Whiting & Williams, 2013; Zimmermann & Gerber, 2019), helps to obtain a reward (Lindström et al., 2021) or occurs due to lack of control over behaviour (Schoetensack et al., 2026), instances of consciously chosen and pursued digital activities that provide no perceived benefit or positive outcome may indeed be rare. In line with this interpretation, participants' descriptions of the "unproductiveness" of phubbing performed by other people may be rooted in participants' lack of insight into the reasons of other people's phubbing behaviour, specifically an underestimation of their importance, which has been associated with negative responses to phubbing (McDaniel & Wesselmann, 2021). Phubbing may therefore be a practice that has productive value but is not always recognised or acknowledged as fulfilling an (important) purpose. This mirrors the disjunction between negative portrayals of non-eudaimonic DT use in media and academic literature, and the lived experience of genuine benefits obtained from this form of digital engagement, which was also demonstrated in our study, e.g. in the experience of emotional advantages resulting from hedonic DT use.

4.1. Strengths and limitations

Overall, our study builds on and extends previous literature on DT use by (a) focusing on what living well with technology entails and conceptualising digital engagement as an opportunity to enhance wellbeing rather than merely a risk to be avoided or reduced, (b) characterising digital practices by combining the concepts of control and productivity, which previous studies on DT use have only examined in isolation, and (c) highlighting the context-dependent and goal-dependent nature of what individuals tend to consider "good" digital time in real-life situations and thereby facilitating a more nuanced understanding of the dynamic and changing nature of the value of different types of DT use.

While our study exclusively consulted adult participants and therefore cannot be used to draw conclusions about what may constitute good digital time for younger people, there is some evidence that the theoretical framework presenting productivity and control as key dimensions of positively perceived digital engagement may be of use to further investigate positive digital experiences among children and adolescents as they share an appreciation of these two constructs with adults (Newland et al., 2018; Purboningsih et al., 2023). However, young people may attach greater importance to specific types of productivity than adults and therefore differ in the digital practices experienced as positive. For example, some research suggests that children may pay less attention to temporal (Zilka, 2021) and intellectual affordances of DT (Newland et al., 2018) and focus to a greater degree on its utility for social connection and entertainment (Newland et al., 2018), two benefits also highlighted by adolescents (Sanchez & Jenkins, 2024), who, similarly to adults, tend to experience frustration about prolonged DT use that interferes with personal goals (Purboningsih et al., 2023). An appreciation of DT as a tool facilitating self-acceptance or identity formation has also been documented in the literature (Newland et al., 2018), suggesting that developmental tasks may shape perception of productive digital engagement among young people. Therefore, targeted research that explicitly tests the validity of the framework of our study among children and adolescents is needed.

The type of digital practices considered and analysed in this study only represents a finite selection of general everyday digital activities which were addressed by participants. More specific digital behaviours, e.g. use of specific platforms, tools or devices that may shape the quality of digital time were not considered. Another limitation of our study

concerns the inherent subjectivity of qualitative analysis: The classification of digital practices according to high vs. low levels of productivity and control was not based on quantifiable associations between digital engagement and its perceived productivity/user control but on a subjective – albeit scientifically rigorous – analysis of participants' verbal descriptions of their digital experiences. Therefore, confirming the proposed classification of digital activities using a quantitative study design would provide further evidence of the reliability of our findings.

As data collection for our study took place between 2022 and 2023, the reported digital experiences may have been shaped by the aftermath of the COVID-19 pandemic, or more specifically, the post-pandemic context. In this specific period, greater resistance to engaging digitally following forced digitalisation during the pandemic or alternatively an increased willingness to embrace DT (Polyakova et al., 2024) may have affected the expressed views of technology so that findings may differ if the study were to be repeated in another temporal context. In addition, data collection relied on participant recruitment via social media, email and snowball sampling, which may have led to an overrepresentation of individuals with greater levels of digital engagement.

As the study was conducted in the UK and mostly included participants with higher levels of education, conclusions about what constitutes positive, acceptable/tolerable and negative digital time may not be applicable to individuals living in non-Western countries and those with lower educational levels. This is because digital experiences can differ cross-culturally (Walsh et al., 2010) and among people of different levels of education (Wenz & Keusch, 2023). Therefore, the way different digital practices shape quality of digital time should be investigated in participants sampled from non-UK populations and with more diverse educational backgrounds.

5. Conclusion

Although DT use, especially hedonic, consumptive and passive forms of digital engagement are often regarded as a "waste of time", unhealthy, distracting or addictive, the findings presented in this article demonstrate that we can derive significant satisfaction from DT use when it adds to perceived productivity and provides a sense of control or autonomy in everyday life. Contrary to the common belief that specific digital activities are "bad" or worse than others, the study shows that what determines quality of digital time is not *what* we do with DT but *how well* our digital activities aid in the achievement of personal goals in specific situations and to what extent they support user control in interaction with context of use. Digital wellbeing, thus, emerges as a flexible, dynamic experience that can change as personal goals and context of DT use shift in everyday life. These findings suggest that non-prescriptive digital wellbeing guidance emphasising broad principles such as perceived productivity and control rather than prescribing specific digital behaviours may offer a useful framework for supporting digital wellbeing. However, further research using complementary methods and diverse populations is needed to assess the effectiveness and generalisability of such approaches before their implementation can be recommended.

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CRediT authorship contribution statement

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Ethics declaration

Written or verbal informed consent to take part in the study and to publish the article has been obtained from all participants or their legal representatives. The privacy rights of participants have been observed.

This study was performed in compliance with relevant laws, regulatory frameworks and guidelines where the research took place. This study was approved by the University Research Ethics Committee of Liverpool John Moores University (approval no. 22/PSY/030).

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.

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Data availability

The authors do not have permission to share data.

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