

I Wish I Had: Desired Real-World Activities Instead of Regretful Smartphone Use

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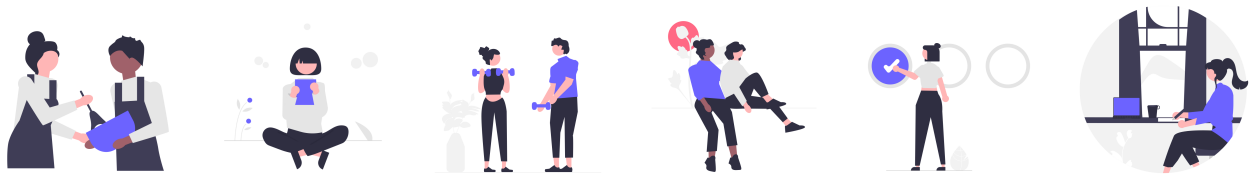


Figure 1: We asked smartphone users what activities they would have liked to pursue instead of regretful smartphone use. The results of our online survey with $N = 67$ participants revealed the activities (from left to right) “cooking”, “reading”, “physical exercise”, “engaging with other people”, “planning”, and “studying/working”, among others.

ABSTRACT

For most people, smartphones have become daily companions, offering ubiquitous information access and social communication. The majority of smartphone users sometimes feel distracted by their mobile devices and have experienced regretful smartphone use. The downsides of smartphone use have been widely explored by the literature. What is missing, however, is a suggestion of alternative activities users would like to perform instead of using their smartphone. We therefore conducted an online survey with $N = 67$ participants exploring users preferred activities alternative to regretful smartphone use for different time-frames. Our results show that usage sessions shorter than ten minutes are less prone to inducing a feeling of regret. Users’ concrete suggestions range from relaxation and self-care activities (10 to 20 minutes) to social and outdoor activities (more than 20 minutes) with a trend towards leisure activities rather than work-related ones. We finally provide impulses how to promote these activities through technology.

CCS CONCEPTS

• **Human-centered computing** → **Smartphones; Human computer interaction (HCI)**.

KEYWORDS

smartphone use, balance, real-world activities, thematic analysis, regret

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1 INTRODUCTION & BACKGROUND

Since its introduction in 2007¹, the smartphone has evolved into a computer in our hands. As such, it offers a plethora of different features and functionalities, surpassing its original goal of communication – all while on the go, regardless of time and space. Currently, almost half of smartphone users in the US spend between five and six hours per day on their smartphones². However, users state to spend only parts of that time in joyful [21], meaningful [12] or utilitarian [8] interactions. Furthermore, such excessive smartphone use often results in a partly dysfunctional everyday life. In other words, people neglect their work, social interactions or leisure for the sake of using a smartphone [23].

While earlier research focuses exclusively on tackling the emerged dysfunction by analyzing the activities and behaviors surrounding the smartphone as a device, e. g., use quantity or patterns of use [6], more recent advances call for a coexistence of user’s everyday life and smartphones [23]. Similarly, Google’s manifest on digital well-being [5] states that: “*technology should improve life, not distract from it. [...] So that life, not the technology in it, stays front and center.*” Although reports of real-world dysfunction are on the rise, current solutions to it in research barely include users’ physical world and the contexts smartphone use happens in (stead).

As one of the initial attempts to blend the surrounding world, My-Time [7] employed *aspirations*, something users wished to achieve in a day, which could be an activity from the real-world. The authors

¹https://www.youtube.com/watch?v=MnrJzXM7a6o&ab_channel=JohnSchroter, last accessed 2022-08-20

²<https://www.statista.com/statistics/1224510/time-spent-per-day-on-smartphone-us/>, last accessed 2022-08-20

did not examine which aspirations, that is, real-world activities people desire to pursue. A more recent study [3] examined social media use on a feature level from the perspective of *regret*. They list several alternative activities but do not put emphasis on them, furthermore prompting users during smartphone use to reflect on the importance of their current real-world context.

We similarly apply the perspective of regret [9], i. e., an inference that the “*past might have unfolded differently, particularly if a different decision had been made*” [17], to explore why people feel they should not have used their smartphone and what everyday life activities they would have liked to do instead of regretful smartphone use. We report insights from a questionnaire executed with $N = 67$ participants, hypothesizing that different smartphone interaction session lengths yield different reasons for feeling regret and diverse desired alternative real-life activities.

Our results show that participants stated usually not to feel regret for sessions shorter than ten minutes, unless the user is distracted or the interaction leaves participants in a distressed state, for, e. g., reading bad news or comparing themselves to unrealistic ideals. Users prefer to swap longer smartphone interaction sessions with relaxing, self-care, physical, organizational or social activities – that is, with a trend towards leisure activities rather than work-related ones. We contribute to HCI by both understanding users’ needs more profoundly as well as informing the design of smartphone apps, smartphone use interventions or future ubiquitous technology, in intertwining users’ digital and physical everyday life in a more balanced way.

2 METHODOLOGY

To investigate which real-world activities users would prefer to pursue instead of regretful smartphone use, we conducted an online survey with $N = 67$ participants.

2.1 Online Survey Procedure

We distributed the online questionnaire through our institution’s mailing list as well as the authors’ friends and acquaintances. After shortly introducing the motivation behind the questionnaire, participants were asked an excluding question on whether they had ever felt regret after using their smartphone, that is, if they had ever wished they had been doing something else instead of smartphone use. We did not give a definition of regret, but let participants rather interpret the term on their own. Participants who stated to have never felt regretful were directed to the final page of the survey and prompted a non-eligibility and thank-you message.

For eligible participants, the questionnaire continued with five blocks of questions, each evolving around a different time-frame of regretful smartphone use. The time-frames were: (1) less than 5 minutes, (2) 5 to 10 minutes, (3) 10 to 20 minutes, (4) 20 to 30 minutes, and (5) over 30 minutes. Each block started with the following leading premise:

*Imagine the following situation: You have just spent
time-frame on your phone and you regret it.*

With the aim to explore the reasons behind the experience of regret and the activities participants would have liked to do instead, the block continued with the following four questions:

- (1) What were you most likely doing on your phone during the given time-frame?
- (2) What is the reason you regret (parts of) the imagined session?
- (3) How likely is it, that you would have preferred to do the following activity instead of using your smartphone?
- (4) What concrete activities, alternative to smartphone-use, can you imagine to do within the given time-frame?

Questions (1) and (2) were open-ended text-based questions, aiming to reveal the reason for experiencing regret during and after the smartphone interaction. Question (3) disclosed eleven categories of alternative activities, e. g., *mental exercise*, *physical exercise*, or *work*. We also included the options “Nothing: I cannot imagine that I could have done anything else in that length of time.” and “Other” with an additional text input field. We deduced the eleven categories from a non-exhaustive review of websites on the google search term “activities instead of smartphone use” as well as a brainstorming session among the authors. We asked participants to rate the likelihood of pursuing activities from each of the listed categories within the given time-frame on a 5-point Likert scale from “not likely at all” to “extremely likely”. Question (4) asked users to list as many concrete activities for the presented categories as they could think of.

The questionnaire continued with the option to give additional feedback and demography questions, concluding with smartphone use patterns (i. e., average screen-time, number of pickups, most used apps, and smartphone ownership).

The questionnaire required approximately 15 minutes to complete. After completion, participants were able to enter a raffle to win a 15€ voucher for an online shop (one per ten participants).

2.2 Participants

18 people who participated in the survey stated that they had never regretted using their smartphone. 68 participants who reported experiencing regret after interacting with their smartphone at some point finished the survey. We excluded one participant after data analysis, as we realized that the participant stated equal answers across several Likert-scale questions (all answers were “somewhat likely”). This resulted in a final pool of $N = 67$ participants (48 female, 17 male, 1 non-binary, 1 gender not disclosed) aged 26 years on average ($SD = 7.29$). Almost 75% of participants ($N = 49$) were university students.

3 RESULTS

We conducted an open-coding, bottom-up Thematic Analysis [2, 13] of the free text answers to explore why users experience regret and what activities they would have liked to have pursued instead. From the answers to the question “*What is the reason you regret (parts of) the imagined session?*”, for each of the five time-frames, the authors both coded the answers of the 67 participants, resulting in a total of 334 statements (we excluded one statement as the participant responded “don’t know”). The following ten initial codes emerged: (1) *loss of time*, (2) *no regret*, (3) *could have done something else*, (4) *negative feelings*, (5) *distraction*, (6) *no benefit*, (7) *uselessness*, (8) *loss of productivity*, (9) *pressure to be reachable*, and (10) *loss of control*. The authors discussed all discrepancies together and clustered similar codes, resulting in a final set of five themes (see

Table 1: Resulting themes of our open-coding Thematic Analysis: statement count aggregated across time-frames.

Themes	Code	5 min	5-10 min	10-20 min	20-30 min	>30 min
loss of time	loss of time	13	13	17	15	12
	uselessness	2	4	6	3	4
no regret	no regret	29	18	7	2	0
distraction	distraction	9	6	10	7	5
	loss of control	3	2	1	1	1
negative feelings	negative feelings	5	8	6	10	10
	pressure to be reachable	2	3	4	3	1
could have done something else	could have done something else	0	5	9	14	22
	no benefit	0	4	2	9	9
	loss of productivity	4	3	5	3	3

Table 1). As for the Likert-scale questions, we present the results in Table 2 and list the Median values on the preferred alternative activities for the different time-frames. We accompany our findings by participants' quotes where applicable.

3.1 Reasons for Feeling Regret

3.1.1 Loss of Time. Our results indicate that the most prominent consequence of regretful smartphone use is a **loss of time**. This theme was consistent over all time-frames, i. e., even a 5-minute session of regretful use could be perceived as a loss of time. We found that our five time-frames were also rather obsolete regarding the causes for regret. Most participants stated to regret the same “useless” smartphone activities and wished for the same real-life activities – in different duration – regardless of the time spent on their smartphones.

Everything I waste my time with on the smartphone I do the same within 5-20-30-40 minutes. (P6)

The most frequently mentioned smartphone activity that lead to regret was consuming social media content: images on Instagram, posts on Facebook, videos on YouTube and TikTok or “reading up on some argument on Twitter” (P57). This was followed by chatting and exchanging text-messages, which were particularly dominant in the short interaction time-frames (i. e., less than 10 minutes). Some participants named playing games, reading news or online shopping as regretful smartphone activities, as well as “sorting out irrelevant emails” (P14). P7 noted that “it’s more than sufficient to [check emails only] twice a day”. These activities were mostly classified as a loss of time.

3.1.2 The Ten-Minute Mark. In contrast, participants' statements reveal a tolerable tipping point around the ten-minute mark, that is, smartphone use shorter than approximately ten minutes does usually not yield an experience of regret (**no regret**). P28 distinguishes between these two time-frames as follows:

I would only regret scrolling on Instagram for more than 7 min straight, because then it would become mindlessly wasting time without relaxation. But under 7 min it would be getting up to date. (P28)

There are two exceptions to this “ten-minute rule”: First, users report a negative experience when (a burst of) short smartphone use disrupts a more important, ongoing real-life activity, leading to **distraction**. This can, for example, result in a loss of concentration on the real-life task.

I think 5-10 minutes is a little less frustrating. But again, I don't like that I lost the attention. (P42)

The second exception is when a short interaction causes **negative feelings** because of the consumed content, for example, reading bad news or comparing oneself to “perfect” Instagram lives.

The content I consumed was not valuable to me; the content I consumed ended up annoying me and making me feel bad. (P57)

I didn't learn anything, I felt drained afterwards and unhappy. I just watched reels and other peoples activities feeling bad in my body and for my life, always comparing myself to others. (P44)

I would regret scrolling through Instagram mindlessly, because it's a waste of time, and I wouldn't feel good afterwards, and maybe have the wrong impression about other lifestyles. And often I'm not even interested in what I'm watching but watch it anyways. Also I would regret it if I'm spending to much time watching Netflix or YouTube because I would be stressed later and not at all relaxed and also because I would just try to get away from reality. (P30)

Moreover, participants reported a “pressure to be reachable all the time”, resulting in stress and negative emotions. These problems are not exclusive to short interactions but also hold for longer time-frames.

Participants often noted the problem with short interactions not being the interaction itself, but how it bears the potential to turn into a longer session. This may again lead to a loss of time (see Section 3.1.1), i. e., the mobile phone turns into a “rabbit hole”:

I do not frequently regret (short-term) smartphone usage. If I do, it is because something I read or heard during that time negatively affected my mood, not because I give myself a sense of guilt. Meanwhile, I do not have a good understanding of how much time elapses during smartphone usage. During app usage, I want to achieve a sense of closure prior to turning to other activities ([e.g.] finish watching the video although I should already do [something] else), which can cause me to lose time on other activities more urgent to me. (P40)

3.1.3 “I Could Have Done Something Else”. Another prominent theme, that increased with the duration of the imagined interaction time, was the feeling that users **could have done something else** (i. e., something more beneficial to them). Smartphone use comes

instead. These activities include, among others, relaxing (i. e., experiencing the world around them without actively doing anything), sleeping, physical activity (preferably outdoors), or chores. This stands partly in contrast to previous work [3, 10], where the smartphone’s disruptiveness is particularly emphasized in contexts that require productivity and focus. What might be the case is that people know what they should return to when they have something to work on, opposed to moments of leisure, suggesting that a stronger support is needed in such scenarios.

4.2 Provide Alternatives to Mitigate Regretful Use

Our results indicate that a certain time threshold is tolerable, supporting the idea of solutions that limit or block certain smartphone features. However, previous research suggests that setting time restrictions on the smartphone as a whole or certain apps might not be efficient enough (e. g., [11]), as users tend to ignore or circumvent them. Apple’s ScreenTime, for instance [1], offers the “one more minute” option. Based on our findings that participants wish to do something else in the physical world, we envision a solution in which a desirable real-world activity could be offered to users. A recent study has shown that raising awareness of the surrounding real-world can indeed reduce screen time [22]. Thus, future work could examine the effectiveness of suggesting a specific alternative activity compared to prompts to adhere to time limits after using certain apps for “too long.” Our findings contribute to future research by presenting a list of such alternative activities and users’ preferences in engaging in these activities in a variable time-frame.

4.3 Prevention Instead of Intervention

Furthermore, future work could aim at predicting regretful smartphone use situations (i. e., contexts), similar to detecting boredom [14] or habitual use [16], and prompt users with an alternative activity even before they are drawn into the “rabbit hole”. This is of particular importance in leisure scenarios, where reaching for the smartphone seems like the easiest option for (unfocused) entertainment. A concrete, but unfamiliar task in the real-world might be exciting and thus motivate a user to take a break from the digital tunnel. Epstein et al. [4] note that such tasks should have a certain level of specificity, as it makes willingness to engage most likely. Stawarz et al. [20] show that unique and new challenges increase a person’s mindfulness and engagement, even if the task was not completed. Furthermore, recent research efforts stress the importance of smartphones’ roles in emotional regulation in everyday life [15, 18, 19] motivating to further investigate the life-smartphone balance. Our work offers an insight into alternative activities for emotional regulation outside of the digital through digital interventions – stressing the importance of not shaming the user for using the smartphone, but the smartphone’s important role in the process. Finally, if the user reaches for the smartphone for a quick glance, these devices could ideally take us back to the activity that was interrupted and give us certain clues about the task at hand. By doing so, people could gain deeper insights into the everyday contexts in which they use their mobile devices and ultimately feel empowered to leave their phones behind to pursue other, more valuable everyday life activities, if they wish.

5 CONCLUSION

This paper presented an exploration of alternative activities that people would have liked to pursue instead of regretful smartphone use. In an online survey with $N = 67$ participants, we asked users for reasons for experiencing regret in this context. Moreover, they should list concrete alternative activities suitable for five time-frames ranging from 5 minutes to >30 minutes.

Our findings show that the root of regret is often independent of the usage duration and is rather caused by the consumed content. Regretful smartphone use was generally perceived as a loss of time by a large number of participants. However, when a session is shorter than ten minutes, people tend to feel less regret than for longer “useless” interactions. The feeling that users could have done something else, i. e., something beneficial or meaningful, instead increases with the duration of the session.

The majority of proposed alternative activities can be classified as leisure rather than work. In future research, we propose incorporating our identified set of activities as suggestions in interventional and preventional smartphone use tools.

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