

Your Call—Keep or Wrap: Examining the Impact of Self-regulatory Intervention on Short-form Video Consumption Behavior

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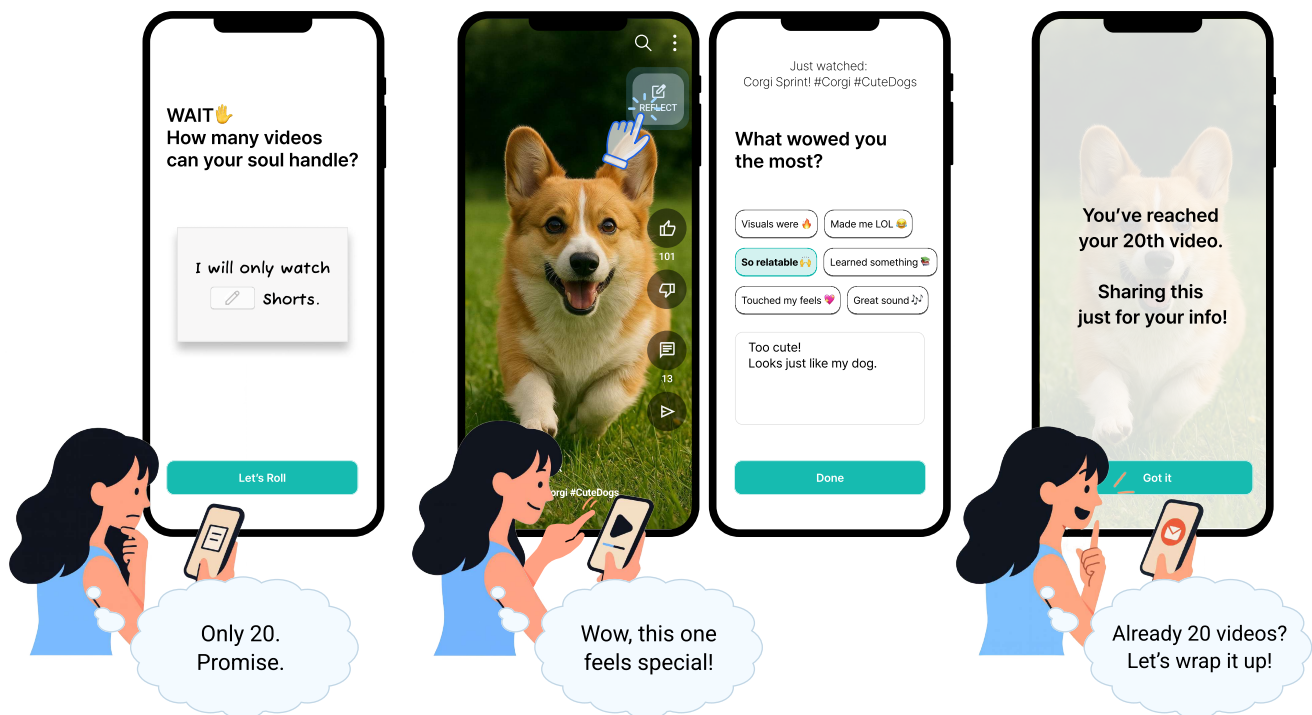


Figure 1: We designed a self-regulatory intervention that supports users in autonomously managing their short-form video consumption and explored its potential impact on viewing behavior through a 4-week field study. The figure illustrates an example of the intervention flow: setting a viewing goal (Left), watching videos with reflection (Middle), and receiving feedback upon reaching the goal (Right).

Abstract

Short-form videos have become one of the most addictive forms of digital media, keeping users endlessly scrolling with little self-regulation. Most existing interventions, screen-time limits or warning messages, are imposed from the outside and often lead to resistance or are simply ignored. To explore a more empowering approach, we designed a self-regulatory intervention that allows users to set their own viewing goals, reflect on what they watch,



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and receive periodic feedback as well as a summary of their viewing behaviors. We conducted a 4-week field study with 20 participants, spanning baseline, intervention, and withdrawal phases. Participants became more conscious of their viewing and more self-disciplined, finding control over both the viewing quantity and quality. However, sustaining self-regulation proved challenging once the intervention was withdrawn. These findings highlight both the promise and fragility of self-regulatory strategies and point to new design opportunities for interventions that support sustainable self-regulation in short-form videos.

CCS Concepts

• **Human-centered computing** → **Empirical studies in HCI**.

Keywords

Short-form Videos, Self-regulation, Intervention, Digital Well-being

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1 Introduction

Short-form videos, typically 15 seconds to 3 minutes long, have become a highly influential media format, reaching over 1 billion monthly active users [9, 65]. They are distinguished from other media, such as long-form videos and social media, by fostering rapid consumption and strong user engagement through a strategic combination of features. These features include highly compressed content [81], frictionless one-finger interactions, hyper-personalized algorithms [29], and an ongoing stream of stimuli [49]. However, beyond their popularity, many people are consuming short-form videos excessively or even addictively. They continue watching without adequate control, as overconsumption of short-form videos has been closely associated with weakened self-regulation [20, 56]. Overconsumption of short-form video lead to negative psychological and cognitive outcomes, including attention difficulties [15, 44], impaired memory [17], and heightened feelings of regret and anxiety [16, 28]. There has been a call for interventions to regulate short-form video consumption [42, 56].

In response, several interventions have been proposed, often through externally imposed controls. A rigid approach is restriction, which limit access to the short-form video feature or block scrolling [8, 72]. A gentler approach involves warnings, which inform users of their viewing time and urge them to take breaks, using directive messages that guide users' behavior (e.g., "You have been watching for 1 hour. Take a moment to reset.") [31, 32, 64, 66]. However, such externally imposed interventions could trigger negative emotional reactions, including frustration, irritation, and resistance, and even strengthen users' desire to bypass or disable them [36, 37]. As they do not actively engage users' motivation to regulate their own behavior, they are also perceived merely as disturbances, ultimately causing users to ignore or dismiss them [36].

To address this issue, giving users more control with a focus on "*self-regulation*"—the autonomous management of one's behaviors, emotions, and thoughts [71]—could be considered an alternative. Prior research has shown that improving self-regulation could mitigate addictive behaviors and reduce the harms of media overuse [21, 41, 68], suggesting that self-regulatory intervention could serve as an empowering alternative. This could also provide a fundamental direction for addressing short-form video overuse, which is closely tied to diminished self-regulation [20, 56]. Previous research on self-regulatory intervention, implemented through self-tracking and monitoring [23, 48, 52, 57] and design frictions [27, 53, 58, 77], suggests that this approach could enhance awareness of media use and foster more deliberate decision-making and control. Yet, most research has focused on other media such as social media or general smartphone use. Little attention has been given to short-form videos, despite their unique characteristics that may shape the impacts, challenges, and experiences of self-regulatory intervention. This study therefore aims to apply self-regulatory intervention in the context of short-form video consumption and investigate its effects.

To this end, we designed a self-regulatory intervention to help users autonomously regulate their short-form video consumption, based on design goals derived from the theoretical framework of self-regulation and literature on short-form videos. A collaborative design process with six design practitioners further informed the final intervention, comprising four features: (1) Goal Nudge, (2) Micro Reflection, (3) Viewing Checkpoint, and (4) Viewing Logbook. These features work in sequence during the viewing process. Before watching, users are prompted to set viewing goals. During viewing, they are encouraged to leave brief reflections on watched videos and provided with periodic feedback on the number and list of videos watched. After viewing, they are provided with a summary that enables them to reflect on their consumption behaviors. To explore the impacts, challenges, and experiences of self-regulatory intervention in the context of short-form video consumption, we conducted a 4-week field study with 20 participants, structured into three phases: 1-week baseline, 2-week intervention, and 1-week withdrawal.

By building on their awareness of viewing and exercising self-regulatory behaviors through the intervention, participants were able to gain a sense of control over both the quantity and quality of their consumption. However, although requiring participants to set goals before watching was perceived as a negative and externally imposed obstacle, it paradoxically weakened their initial urge to enter the videos, unintentionally suppressing their consumption. Once this barrier was removed, however, the effect quickly reversed: during the withdrawal, self-regulatory behaviors began to decline, particularly as the entry to the video rebounded. Participants also expressed a lack of confidence in sustaining control without the intervention's support. Based on these findings, we discuss how interventions could foster conscious engagement, sustain self-regulation and be tailored to enhance user acceptance.

The key contributions of this study are threefold:

- We design self-regulatory intervention that employs a supportive approach to help users manage their consumption.

- We collect empirical findings from the 4-week field study with 20 participants, highlighting the impact of the self-regulatory intervention on short-form video consumption, challenges, and associated experiences.
- We propose design implications for interventions aimed at fostering self-regulation of short-form video consumption.

2 Related Works

2.1 Short-Form Videos and the Need for Mindful Consumption

Short-form videos are brief clips, lasting between 15 seconds and 3 minutes, and are available on platforms such as YouTube Shorts, Instagram Reels, and TikTok. In recent years, they have emerged as one of the most popular media, with YouTube Shorts attracting over 1.5 billion monthly active users [9] and TikTok reaching nearly 1 billion [65]. Short-form videos fuel users' engagement and immersion through a strategic combination of features. First, the short and compressed format quickly facilitates information intake and captures users' attention [45, 81]. The low-effort interaction of swiping through videos with a single finger and the exclusive use of the vertical 16:9 format further amplify user engagement [29, 49]. Moreover, they continuously deliver stimuli that precisely aligns with users' interests through hyper-personalized recommendation algorithms [49]. This makes short-form videos more immersive and addictive than traditional media (e.g., social media) [20]. Therefore, they are considered a distinct form of media, as noted in *"the widespread adoption of short-form video has fundamentally transformed online content consumption patterns."* [62]

However, many users are engaging with short-form videos to an excessive degree. People often keep scrolling through videos without control, as overconsumption is associated with weakened self-regulation [20, 56]. Such overuse could lead to psychological and cognitive side effects. Research has shown that short-form video overconsumption can undermine prospective memory, the ability to remember and carry out future intentions at the right time [17]. It is also associated with a reduced attention span, making it challenging for users to stay focused on a single task [15, 44]. In addition, excessive viewing often evokes negative feelings, including regret and anxiety [16, 28]. Hence, researchers have been increasingly calling for interventions and strategies that support more balanced use of short-form videos [42, 56]. Therefore, our study aims to help users manage their short-form video consumption and maintain a balance in their everyday use. We sought to design an intervention and examine its impact on short-form video consumption behaviors and experiences.

2.2 Interventions for Managing Short-Form Video Consumption

Several interventions have been proposed to help regulate short-form video consumption. One dominant approach involves restrictions. For instance, Chrome extensions such as No YouTube Shorts [8] and No Shorts Video [72] remove short-form video features from the platform, thereby blocking access entirely. Time-based restrictions have also been implemented. NoScroll [19] disables scrolling of short-form videos once a certain time limit is reached.

Beyond third-party apps, TikTok has introduced a built-in feature that imposes a 60-minute daily limit for users under 18 [64]. A less rigid approach involves warnings and alerts, commonly integrated into short-form video platforms such as YouTube's Take a Break Reminder [25], TikTok's Screen Time Breaks [66], and Instagram's Daily Limit Reminder [31]. These features notify users once they exceed a certain viewing time and provide a message that directs or prompts them to stop watching (e.g., "You have been watching for 1 hour. Take a moment to reset.", "You've had 1 hour of uninterrupted screen time. Consider taking a break for a while.")

These interventions primarily employ externally imposition, forcing or directing users to stop or reduce their viewing. However, previous research has documented the side effects and unintended consequences of such approaches. It is found that restrictive interventions often evoke negative experiences, such as frustration and irritation [36]. Such emotions can manifest as reactance, strengthening the desire to bypass the restrictions [37]. Users may also feel confused or uncomfortable when they are prevented from using a platform they genuinely need [55]. Messages that prompt users to stop watching can also create a sense of oppression and even produce a backfire effect, leading users to watch more [79]. Furthermore, warnings or alerts appearing after a certain period are often perceived as infringing on users' autonomy and sense of control, as users prefer to decide for themselves when to stop [79]. Warnings or alerts are also seen as disturbances, leading users to ignore them [36]. Considering these limitations, several studies have highlighted the importance of guiding users to regulate their behavior appropriately on their own through non-punitive design approaches [62, 73]. Building on this insight, this study aims to explore an alternative approach that enables users to manage their usage autonomously.

2.3 Self-regulatory Intervention in Digital Media Use

Self-regulation—the ability to control one's behaviors, emotions, or thoughts by resisting habitual responses [71]—has received attention as an approach to promote balanced media use. Numerous studies have found that enhancing self-regulation can effectively mitigate addictive behaviors and buffer the negative consequences of social media overuse [68], internet overuse [21], and general media overuse [41]. Moreover, since overconsumption of the media including short-form videos is associated with weakened self-regulation [20, 56], interventions that support the development of self-regulatory capacity can play a crucial role. Building on this foundation, many studies have investigated self-regulatory interventions. The most common approach involves self-tracking and monitoring. For instance, RescueTime [57] and ManicTime [48] provide users with organized data on how many times they opened an app and how long they used it. GoodVibrations [52] tracks app usage and delivers feedback through gentle vibrations when users exceed the certain time limits, raising awareness of their usage. In addition to increased awareness, interventions with design friction can actively encourage reflection. For example, OneSec [53] prompts users with the question, "Why are you opening this app?" before launching the targeted application, leading them to reflect on their intention for using the app. TypeOut by Xu et al.

[77] prompts users to consciously affirm their important personal values or strengths before using the smartphone, leveraging the concept of self-affirmation. Some interventions apply design friction after app entry. Ruiz et al. [58] modified social media interfaces to require users to select a reaction, such as “Like,” “Congrats,” “Touching,” “Love,” or “Not interested,” before reading further content. These self-regulatory interventions enhance users’ control over the consumption, promote more deliberate engagement, and reduce unconscious usage [27, 46].

While these interventions have made contributions to supporting self-regulation in media use, most have focused on areas such as social media or general smartphone use. It remains unclear what impact and experience these interventions may bring in the context of short-form video consumption, as short-form videos have emerged as a distinct form of media with high addictive appeal and powerful mechanisms for maximizing user engagement. This underscores both the potential and the need to investigate the effects of self-regulatory intervention on the short-form video consumption behaviors. Accordingly, we seek to design a self-regulatory intervention and investigate its effects on both behavior and experience within the context of short-form video consumption.

3 Intervention Design

3.1 Design Goals

Our self-regulatory intervention was designed and developed to support users in autonomously regulating their short-form video usage. To inform the design of the intervention, we drew on prior literature on self-regulation. Our foremost objective was to enable users to regulate their viewing on their own, without forcibly controlling their usage. In addition, we drew on previous studies concerning the characteristics of short-form videos and users’ lived experiences. As the intervention not carefully tailored to the research context could compromise our ability to examine its effects [30], we drew on this literature to identify when, what, and how interventions should be provided. Based on these considerations, we identified the following design goals.

DG1. Provide integrated support for holistic self-regulation.

Self-regulation occurs through multiple stages, rather than as a single action [6, 71]. This stepwise nature is illustrated in Zimmerman’s cyclical model [82]. Zimmerman explains self-regulation as a process involving three phases: (1) Forethought (Goal setting and planning), (2) Performance (Execution and self-monitoring), and (3) Self-reflection (Self-Evaluation). As insights gained during the self-reflection phase could influence the next forethought phase, each phase interacts with the others. In turn, it forms a feedback loop that helps progressively achieve effective self-regulation. In light of this, we aimed to design the intervention to consist of multiple features tailored to each phase of self-regulation. We believe that this multi-feature intervention could provide integrated support for self-regulation during consuming short-form video.

DG2. Enhance users’ awareness and agency in consuming short-form videos. Previous work has found that users are often unaware of the time spent and the number of videos consumed while watching short-form videos [34, 45]. They also experience distorted temporal awareness (e.g., thinking only 5 minutes have

passed when in fact 1 hour has elapsed) [20, 29]. Furthermore, people engaged in passive and drifting viewing, scrolling through recommended content without explicit goals [34, 73]. This lack of awareness and agency could lead to unconscious and prolonged consumption. Therefore, we aim to support users in becoming aware of their viewing behaviors and to promote control over their consumption.

DG3. Address the fleeting and ephemeral nature of short-form videos. Many previous studies shed light on the high ephemeral nature of short-form videos [17, 76]. This ephemerality makes it difficult for users to remember what they have watched, often leading to feelings of regret, emptiness, and self-reproach over perceived wasted time [34]. To address this, we aim to help users retain the content they have consumed, thereby enhancing the value of their viewing and reducing negative aftereffects. We anticipate that countering this ephemerality could provide opportunities for users to engage in more purposeful viewing while enhancing overall user experience.

3.2 Design Workshop for Implementing Self-Regulatory Intervention

Guided by the three design goals, we first drafted initial concepts and potential features. Then, we decided to undertake a design process to refine our intervention, as creating meaningful and engaging designs benefit from feedback across multiple viewpoints [75]. Six graduate students majoring in design ($M = 25.17$, $SD = 1.17$; 4 females) participated as design collaborators. On average, they had 3.83 years of experience in UX/UI design projects. Five reported frequent engagement with short-form videos (more than four days per week), while one participant reported rare use (approximately once per week).

3.2.1 Procedure. To facilitate the collaborative design process, we held a single design workshop comprising three sessions. In the first session, we presented the research background and design goals, including key insights from prior studies on self-regulation as well as the characteristics and user experiences of short-form videos. We ensured that all collaborators had a clear understanding of this background. In the second session, collaborators interacted with our initial design concepts and intervention ideas via Figma prototypes. They evaluated each prototype, commenting on strengths, weaknesses, and improvements. Then, we engaged in in-depth discussions, with each collaborator sharing their feedback in turn. In the final session, collaborators were encouraged to generate and present new ideas, after which we held follow-up discussions to collaboratively explore and develop each idea. The entire process lasted approximately 160 minutes.

3.2.2 Design Insights. To translate design goals into practical features, we derived several design insights.

For the first design goal—supporting integrated self-regulation—we emphasized the importance of *providing a well-organized logbook* that captures both short-form video usage and intervention participation data. As self-reflection serves as the starting point for cyclical self-regulation, we aimed to design the logbook to enable users to reflect on their own viewing behaviors. Furthermore, we stressed the importance of a *non-judgmental and neutral tone* in

the messages delivered by the intervention, so that users have the space to think, decide, and regulate for themselves. In addition, our collaborators suggested adopting a *playful and engaging tone* to foster positive feelings toward self-regulation.

Regarding the second design goal—enhancing awareness and agency during the consumption—we decided to provide users with feedback on the number of videos viewed. During discussions, we emphasized the importance of *providing feedback periodically*, as continuous feedback from the outset could lead users to become quickly desensitized. We also thought that continuous feedback could induce guilt or pressure, emphasizing the need for spaced intervention. Additionally, we discussed *bounded goal-setting prior to viewing*, as a way to counteract the passive and aimless engagement with short-form videos that often leads to prolonged consumption. By making a small commitment through setting a target number of videos before watching and receiving feedback once the goal is reached, we believe this feature could encourage more purposeful viewing.

For the third design goal—mitigating the ephemeral nature of short-form videos—we discussed a feature that allows users to *leave brief reflections on watched content*. We agreed that this feature should be *user-initiated and low-burden*, since requiring reflections for every video could increase cognitive load and not all content might feel meaningful to the user. Therefore, we considered providing a persistent UI element that lets users open the reflection interface whenever they want. We also extensively discussed ways to make reflection as short and sweet as possible, exploring multiple modalities such as selecting predefined tags.

3.3 User Interfaces and Interaction Components

The insights from the collaborative design process guided the final design of the intervention. As a multi-feature system, it comprises four features: (1) Goal Nudge, (2) Micro Reflection, (3) Viewing Checkpoint, and (4) Viewing Logbook.

3.3.1 Goal Nudge. Prior to starting the viewing session, users are invited to establish a personal viewing goal by specifying the number of videos they intend to watch. This step functions as a brief moment of goal-setting and self-commitment, aimed at enhancing their sense of agency over their viewing behavior. Users could their intended number in a designated field (See Figure 1). When they reach the preset number, a subtle feedback overlay appears. Non-judgmental and lightweight feedbacks are provided, while existing alert and warning (e.g., YouTube’s Take a Break Reminder) typically deliver direct messages. We aimed to invite users to interpret their own viewing behaviors and exercise self-directed control over whether to proceed or stop.

A set of neutral yet playful goal-nudge messages is shown below. One of these appeared randomly on the screen.

- *That was your _th video. Just for your information. (Really, just FYI!)*
- *You’ve now passed _ videos. The meaning is yours to decide. We just counted :)*
- *Just so you know: You’ve watched _ Shorts.*
- *You’ve reached your _ videos. Sharing this just for your info!*
- *You’ve watched _ videos. (We’ll leave the interpretation to you!)*

- *You’ve watched the number you set—_ videos! Should we award you a badge?*

This approach is consistent with earlier design insights emphasizing the use of predefined viewing goal and non-judgmental, playful feedback upon reaching it. Furthermore, this feature primarily corresponds to the “Forethought” phase in Zimmerman’s cyclical model of self-regulation [82], which highlights the importance of setting behavioral goals and plans prior to action.

3.3.2 Micro Reflection. After watching each video, users have the option to leave a brief reflection on the watched content whenever they want. Each video features a “Reflect” button in the upper-right corner. Tapping this button brings users to a reflection interface where they can either select from predefined tags or freely write their notes. Users could also combine both—choosing tags while adding notes (See Figure 1).

This feature draws on the insight that interventions should be user-initiated and available at the moment of choice. It also aligns with principle of self-regulation, which emphasize engaging in deliberate behaviors rather than falling into habitual and automatic patterns [71].

3.3.3 Viewing Checkpoint. While watching videos, users receive periodic feedback on the count and list of short-form videos they have viewed. The feedback is delivered every 10 videos (e.g., at 10, 20, 30...). Each video in the watched list includes a “Reflect” button, allowing users to leave a Micro Reflection for any selected video (See Figure 2-(a)).

This design reflects our insight that viewing metrics should be presented periodically to maintain awareness without causing fatigue. Conceptually, it is grounded in Zimmerman’s “Performance” phase that which highlights real-time self-monitoring as key to the self-regulatory cycle, where individuals gain awareness of their actions during execution [82].

3.3.4 Viewing Logbook. At the conclusion of a short-form video session, users could visit the organized history of their viewing activity. This log consisted of three layers. First, the daily view summarized overall usage, showing the number of times the user accessed the short-form platform and the total videos watched in a day (e.g., “Opened 2 times, watched 40 Shorts!”) (See Figure 2-(b)). Second, the session-based view compared the number of videos the user planned to watch against the number actually watched during a session (e.g., “00:07–00:10: Set goal for 10, actually watched 10!”) (See Figure 2-(c)). Finally, the detailed view listed each video watched along with reflections recorded (See Figure 2-(d)). These layers allowed users to review their consumption patterns and the outcomes of engaging with the intervention, helping them gain insights to inform future goal-setting and viewing decisions.

This design reflects the insight that all data related to short-form consumption and intervention engagement should be well organized to support self-reflection. It also strongly supports the Zimmerman’s “Self-reflection” phase, where individuals gain insight into themselves [82].

3.4 Technical Implementation

The intervention was implemented as a native Android application that functioned as an overlay to the short-form platform. We used

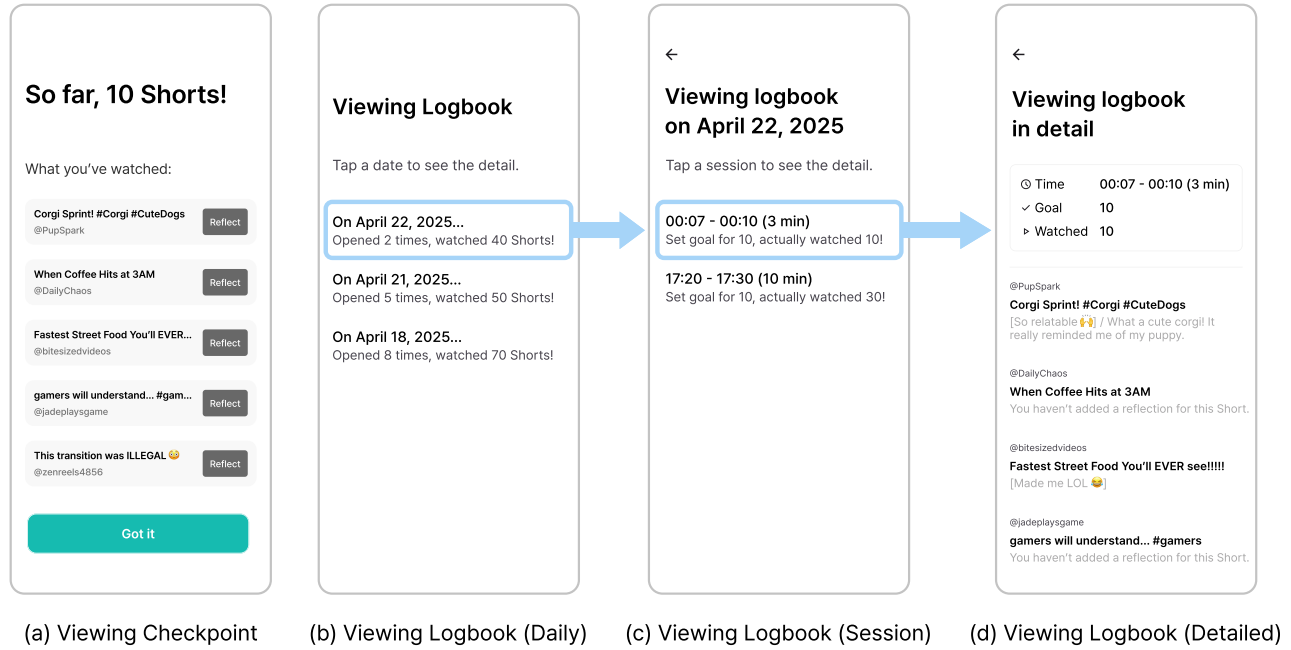


Figure 2: Screens illustrating two features of the intervention, with the other features shown in Fig 1: (a) periodic feedback showing users their watch count and watchlist, (b) a daily viewing log, (c) a session-based viewing log, and (d) a detailed viewing log including the videos watched along with written reflections.

Kotlin [33] and the Android SDK [3]. We employed Android’s Accessibility Service [2] to monitor real-time scrolling and clicking behaviors. Standard Android development tools were used to identify UI elements by examining resource IDs, content descriptions, and XPath attributes, allowing the app to determine video titles, channel names, and distinguish advertisements from standard content, counting only non-advertisement videos. To deliver timely and minimally intrusive interventions, the WindowManager API [4] displayed overlay UI elements (e.g., pop-ups, floating action buttons) directly on top of the short-form video app, prompting users to set viewing goals and enter reflections seamlessly. User preferences (e.g., username, initial settings) were managed locally using SharedPreferences for fast, persistent storage, while detailed interaction data (e.g., session histories, watched videos, reflections) were securely stored in Firebase [24], enabling structured, robust data collection without the need for a dedicated server.

4 Field Study

We conducted a 4-week field study with 20 participants, as an exploratory study to investigate the impact of a self-regulatory intervention on short-form video consumption behaviors. The study protocol was approved by the Institutional Review Board. In this study, we focused on YouTube Shorts (hereafter, Shorts), one of the most popular short-form video platforms [9], and implemented the intervention as an overlay system on the Shorts. Although this study focused specifically on Shorts, the intervention system could

be easily extended to other short-form video platforms (e.g., TikTok, Instagram Reels) in future applications.

4.1 Participants

We recruited participants who met three criteria: (1) they were active daily users of Shorts, (2) they had concern about their own Shorts usage, and (3) they used an Android smartphone as their primary device. Recruitment was conducted through advertisements on social media and university online communities. Prior to the study, a preliminary survey was conducted to collect demographic information, details about participants’ Shorts usage (e.g., number of videos watched per day, total viewing duration), instances when they overconsumed or failed to regulate their usage, their concerns and views about their Shorts consumption. A total of 23 participants were enrolled, but three were excluded from data analysis due to unstable or insufficient data collection. The final dataset included 20 participants ($M = 25.05$, $SD = 3.41$; 12 females), who reported watching an average of 74.75 minutes and 57.50 Shorts per day. Each participant received 70,000 KRW (approximately \$50 USD) as compensation. Additional demographic and usage information is provided in Table 1.

4.2 Study Procedure

Our study consisted of three main stages: (1) a pre-survey and orientation, (2) a 4-week field study, and (3) an exit survey and interview, as shown in Figure 3.

ID	Age	Gender	Occupation	Daily Average Watch Time (minutes)	Daily Average Count
P1	30	F	Freelancer	30	35
P2	25	F	Ph.D Student	60	10
P3	33	M	Freelancer	120	60
P4	21	F	Undergraduate Student	180	50
P5	27	F	Office Worker	40	50
P6	23	F	Master Student	30	25
P7	23	M	Undergraduate Student	30	40
P8	29	F	Ph.D Student	100	150
P9	27	M	Ph.D Student	60	100
P10	24	M	Undergraduate Student	60	65
P11	21	F	Student On Leave	60	50
P12	29	M	Ph.D Student	60	30
P13	22	F	Undergraduate Student	45	15
P14	20	F	Undergraduate Student	70	80
P15	23	M	Undergraduate Student	80	60
P16	23	F	Undergraduate Student	50	30
P17	25	M	Ph.D Student	120	30
P18	23	F	Undergraduate Student	240	200
P19	26	M	Office Worker	30	40
P20	27	F	Office Worker	30	30

Table 1: Participants’ demographic information and viewing patterns, including average daily time spent and number of Shorts watched per day.

4.2.1 Pre-survey and Orientation. After recruitment, participants attended a 20-minute orientation session, either in person or online. We first explained the study’s purpose and procedure, addressed participants’ questions (e.g., what data would be collected and how it would be processed and analyzed), and obtained informed consent. Participants then installed the intervention system and configured the necessary permissions, setting up the field study. Afterward, participants completed pre-surveys. To assess participants’ dependence on short-form videos and their consumption patterns, we used the Short-form Video Addiction Scale (SAS) [81]. The full SAS questionnaire is provided in Table 2. In addition, to assess participants’ self-regulation in viewing, we employed the Brief Self-Control Scale (BSCS) [63]. Since the BSCS measures general self-regulation in everyday life, we slightly adapted its 13 items to fit the context of short-form video consumption. We calculated Cronbach’s α for the adapted scale to be 0.82, suggesting that the adapted scale exhibited stable internal consistency. The full adapted scale is provided in Appendix A.

4.2.2 4-week Field Study. Our 4-week field study was divided into three phases: (1) a 1-week Baseline, (2) a 2-week Intervention, and (3) a 1-week Withdrawal. This three phase design allowed us to examine the intervention’s impact by comparing baseline and intervention phases, and to assess whether behavioral patterns persisted by comparing intervention and withdrawal phases [38]. We further set the intervention phase to be twice as long as the other phases to reliably capture the impact of the intervention [27].

In the baseline phase, participants watched Shorts for one week as they normally would, without any intervention. Although the intervention was not displayed, the intervention system passively collected the data including the number of Shorts sessions and videos watched. This phase aimed to establish a naturalistic baseline of short-form video consumption behavior in everyday contexts.

During the intervention phase, all four components of the intervention (see Section 3.3) were activated and displayed. Participants were asked to interact with the intervention naturally over two weeks. If they experienced any difficulties with the intervention, they were encouraged to contact the research team at any time. This phase allowed us to explore how self-regulatory intervention influenced the management of Shorts usage.

In the final withdrawal phase, the intervention was removed and participants could watch Shorts for a week. Similarly, during the baseline phase, the system continued to passively collect data on short-form video consumption. This phase was designed to observe whether self-regulation could be maintained after the intervention was withdrawn, exploring the potential sustainability and internalization of self-regulatory behaviors.

Throughout the study, the research team controlled the activation and deactivation of the intervention. Participants could not toggle the intervention. Moreover, we did not initiate any contact with participants after the orientation, except when responding to their inquiries [51], to mitigate potential Hawthorne effect (i.e., where participants modify their behaviors in response to being monitored) [60].

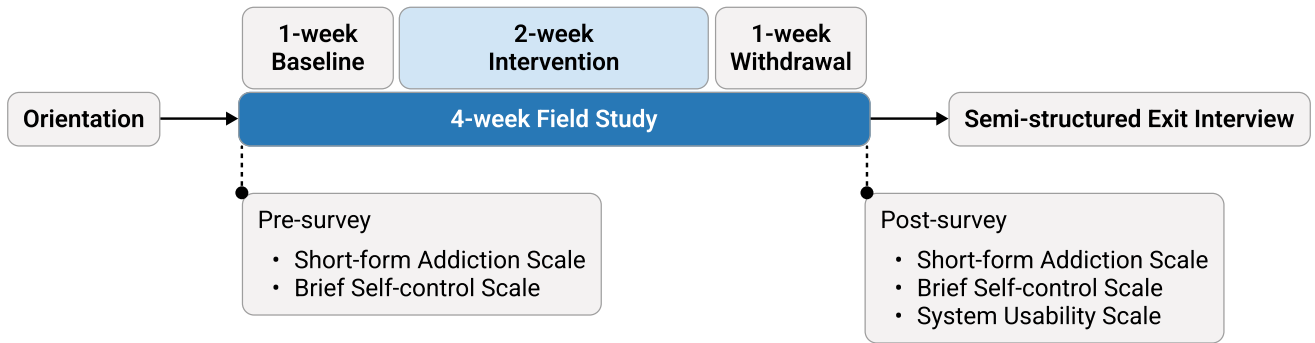


Figure 3: Overview of the study procedure.

4.2.3 Exit Survey and Interview. After the 4-week field study, participants completed three exit surveys. To measure changes in their short-form video consumption behavior and self-regulation, they again completed SAS [81] and BSCS [63], which had been administered at the pre-study stage. Additionally, the System Usability Scale (SUS) [12] was employed to assess the usability of the intervention.

Following the surveys, individual semi-structured interviews were conducted to explore in depth the impact, challenges, and experiences of the self-regulatory intervention. Key interview questions included how the intervention influenced participants' short-form video consumption, changes in their self-regulation behaviors and abilities, the most useful aspects of the intervention, any discomfort or areas for improvement, and follow-up questions based on quantitative data that showed interesting patterns for each participant. This qualitative data served to complement and contextualize the quantitative data. For reference, the full interview script is provided in Appendix B. All interviews were audio-recorded with participants' consent. Interviews lasted on average 40 minutes (range: 25–51 minutes) and were all conducted by the first author.

4.3 Data Analysis

We analyzed the participants' Shorts usage logs, which included both overall Shorts usage data and intervention-related log data, as well as survey responses collected at the pre- and post-study stages and transcriptions from the semi-structured exit interviews.

For the analysis of the overall Shorts usage data, we focused on three behavioral metrics: (1) the average number of sessions per day (i.e., the number of times participants entered Shorts), (2) the average number of Shorts watched per day, and (3) the average number of Shorts watched consecutively in a single session. We analyzed how the means of these metrics changed across the baseline, intervention, and withdrawal phases. Prior to analysis, we assessed normality using the Shapiro–Wilk test and sphericity using Mauchly's test. For the first metric, both normality and sphericity assumptions were met, allowing us to apply a one-way repeated measures ANOVA. For the other two metrics, either normality or sphericity was violated, $p < 0.05$. Therefore, we employed the Friedman test, a non-parametric alternative to repeated measures ANOVA suitable for rank-based comparisons. For variables showing significant phase differences, we conducted post-hoc pairwise comparisons.

Bonferroni-corrected paired t-tests were used following one-way repeated measures ANOVA, whereas Bonferroni-corrected Wilcoxon signed-rank tests were applied following the Friedman test. All analyses were performed using SPSS, with a significance threshold set at $\alpha = 0.05$.

Furthermore, for the intervention log data (e.g., number of goals set, number of micro reflections), we conducted descriptive analyses to examine participants' engagement patterns.

Regarding the surveys, responses from the SUS were analyzed descriptively. For the SAS and BSCS, which were collected at pre- and post-study, we performed Wilcoxon signed-rank test to evaluate changes in participants' self-regulation and tendencies toward short-form video dependence.

Lastly, all interview recordings were transcribed and anonymized before analysis. These transcripts were examined through thematic analysis [11]. The focus of the analysis was on participants' awareness of their Shorts viewing, perceived changes in self-regulatory behaviors, the strengths and challenges of the intervention, and their experiences during and after interacting with the intervention. We began with open coding to capture initial concepts, then conducted axial coding to identify patterns and relationships among codes. To consolidate insights, we used affinity diagramming to cluster related codes into broader themes [18]. The interview analysis enriched our quantitative results by illustrating how participants engaged with the self-regulatory intervention and experienced the shifts with consuming Shorts throughout the study.

5 Findings

In this section, we first report participants' engagement with and experiences of the intervention, along with descriptive statistics of survey responses and Shorts usage data. We then explain the process by which participants built self-regulation, the outcomes of their efforts to manage Shorts consumption, and the challenges that arose throughout the study.

5.1 General Orientation

5.1.1 Overall Experience and Engagement with Intervention. Participants evaluated the usability score of the intervention at an average of 71.88 ($SD = 15.06$, $Min = 37.5$, $Max = 95$), indicating that it has

#	Questionnaire	Pre-study	Post-study	<i>p</i> -value	sig.
Q1	I have difficulties in focusing on my study or work due to this short-form video.	3.30	2.90	0.133	—
Q2	I lose sleep over spending more time on this short-form video.	3.65	2.85	0.048	*
Q3	This short-form video interferes with doing social activities.	2.15	1.65	0.048	*
Q4	My family or friends think that I spend too much time on this short-form video.	2.25	2.25	1.000	—
Q5	I feel anxious if I cannot access this short-form video.	2.25	1.75	0.021	*
Q6	I have attempted to spend less time on this short-form video but have not succeeded.	3.45	2.80	0.013	*

Table 2: Short-form addiction questions with participants’ average ratings at the pre-study and post-study periods. Results of the Wilcoxon signed-rank test are reported with corresponding *p*-values and significance levels.

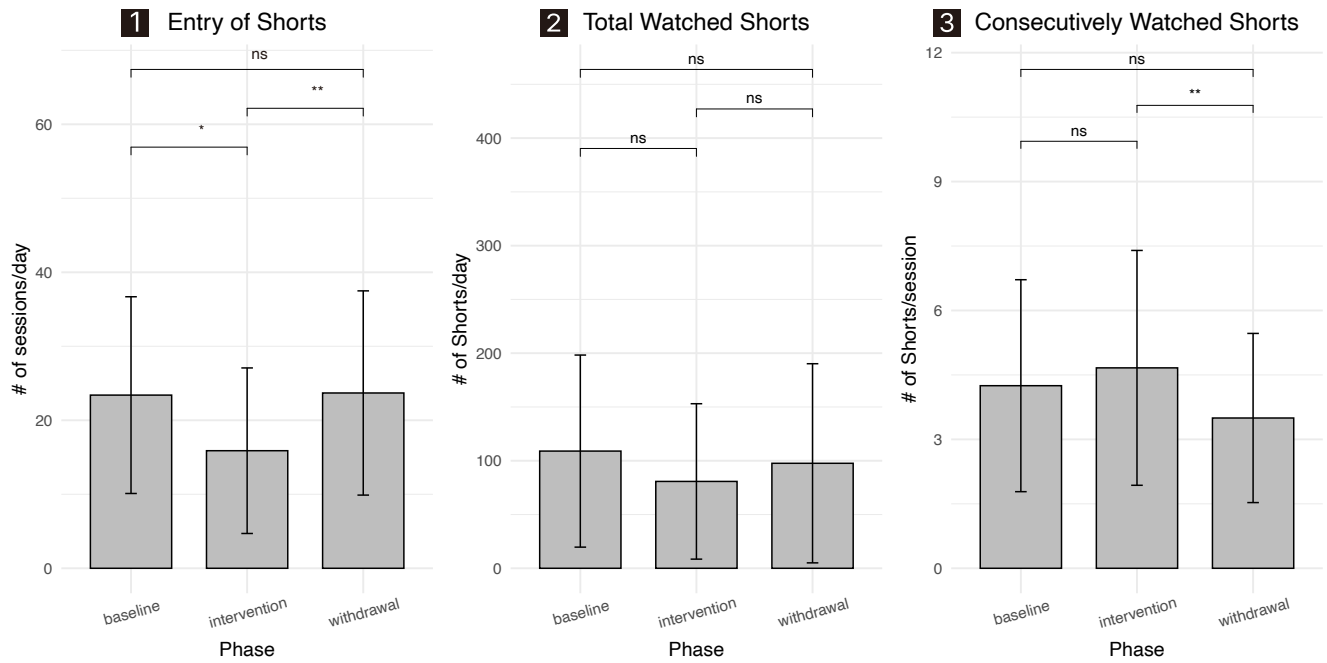


Figure 4: Changes in three behavioral metrics across the Baseline, Intervention, and Withdrawal: (1) Average number of entries into Shorts, (2) Average number of Shorts viewed in a day, and (3) Average number of consecutively watched Shorts per session. Statistically significant differences between phases are reported as * <0.05 , ** <0.01 with the asterisks.

acceptable usability. Participants remarked that they initially found the intervention somewhat unfamiliar and awkward, since they had watched Shorts freely. However, they considered the unease as a starting point for regulation, accepted it, and adapted within a day.

Over the course of the intervention, participants reported becoming more aware of and reflective about their Shorts consumption, which facilitated the management of their behavior. Fifteen participants who had previously attempted other strategies to control Shorts consumption compared the experience of this intervention with those prior strategies. Those who relied on externally imposed approaches (e.g., app blocking (P2, P4, P18), “Take a Break” reminders from the platform (P14, P16)) viewed this self-regulatory intervention positively, as it fostered greater awareness and supported the development of self-discipline and self-regulation. In

addition, participants who had tried self-directed efforts (e.g., watching study-with-me videos (P13) or engaging in hobbies instead of Shorts (P10)) noted that it lowered the barrier to exercising self-regulation. While self-directed practices were difficult to implement and sustain, given their dependence on individual willpower, the structured scaffolding offered by the intervention enabled them to more easily practice self-regulation.

In engaging with the intervention, participants collectively set 4852 viewing goals for Goal Nudge. On average, they entered 10.86 goals ($SD = 9.54$), with a minimum of 1 and a maximum of 200 (P8) for Goal Nudge. For the Micro Reflection, participants left only 284 reflections out of 22,614 Shorts they watched, and three participants (P1, P2, P10) did not use the Micro Reflection feature at all. Several participants perceived Micro Reflection as heavy, since they primarily watched Shorts for light purposes such as entertainment or stress relief, and found it difficult to decide what

feelings to express about these videos. Some even felt embarrassed when asked to reflect on and record what they had been watching. Even among those who wanted to save notable Shorts, participants found leaving reflections somewhat cumbersome and preferred to continue using their own strategies, such as taking screenshots (P1) or liking videos to revisit later (P17). For the Viewing Checkpoint, participants could receive periodic feedback during viewing. However, those who typically watched fewer than 10 Shorts in a session noted that they often did not encounter this feature. Finally, for the Viewing Logbook, participants stated that they reviewed summaries of their viewing behavior every one to two days.

5.1.2 Survey Outcomes. At the pre-study stage, the average score on the adapted BSCS was 2.53 out of 5 ($SD = 0.63$, $Min = 1.58$, $Max = 4.17$). After the study, the mean BSCS score significantly increased to 2.97, $p = .027$. Regarding SAS, we compared responses between the pre- and post-study survey on an item-by-item basis, as there was no clear procedure to calculate the total score. Significant improvements were observed for items 2, 3, 5, and 6 (see Table 2). Taken together, these findings suggest that the self-regulatory intervention may help reduce problematic use and foster better capacity for self-regulating the use of short-form videos.

5.1.3 Behavioral Outcomes. We observed the changes in Shorts usage across phases based on three behavioral metrics. Note that we analyzed the participants as a single group, as we found no significant differences between the heavy and light subgroups based on the median value. The average daily frequency of entering Shorts showed the significant difference across the phases, $F(2, 38) = 6.09$, $p = .005$. Post-hoc analysis showed that the frequency significantly decreased from the baseline (23.40) to the intervention (15.89), $adj.p = .046$. Also, it significantly increased during the withdrawal phase (23.69) compared to the intervention phase (15.89), $adj.p = .003$ (see Figure 4-1). In the case of the number of consecutively watched Shorts, there was also a significant difference across the phases, $\chi^2(2) = 7.30$, $p = .026$. Participants watched significantly fewer Shorts per session during the withdrawal (3.50) compared to the intervention phase (4.66), $adj.p = .006$ (see Figure 4-3). The average number of Shorts viewed per day decreased from the baseline (108.97) to the intervention (80.76), and slightly increased during withdrawal (97.63), though it remained below the baseline. However, the differences across phases were not statistically significant, $\chi^2(2) = 1.30$, $p = .522$ (see Figure 4-2).

5.2 The Process of Building Self-Regulation

5.2.1 Confronting Quantity and Quality of Short-Form Video Consumption. By using the intervention, participants became aware of their Shorts consumption in ways that contrasted with their earlier, more mindless viewing. This awareness opened key avenues for initiating self-regulation.

More and Faster Than Expected. Participants gradually built awareness of their actual usage patterns. Confronting their real data in the Viewing Logbook made them recognize the discrepancy between their rough sense and reality, prompting reflection that they had been watching far more Shorts than expected. This reflection often elicited surprise and even shock: “I thought I only watched about 30 Shorts a day. But, when I checked the Viewing Logbook, I

saw I had watched 130 or 140. That was a huge shock, and made me realize, ‘Wow, I actually watch a lot of Shorts.’” (P11) Furthermore, participants became aware of their rapid viewing patterns of Shorts. Several reported being surprised when the feedback upon reaching their set goal appeared much faster than expected, even though they believed they had initially set a fairly generous viewing goal. Likewise, the Viewing Checkpoint, displayed every 10 Shorts, appeared more frequently than they had anticipated. This helped them realize for the first time that they were scrolling rapidly and consuming a large number of videos within a short period.

Nothing Worth Remembering. Participants also became aware of the qualitative aspects of Shorts, whereas previously they had watched them mindlessly. By reviewing the titles of videos they had watched through the Viewing Logbook and Viewing Checkpoint, they recognized a tendency to consume a large volume of low-quality or meaningless content. Moreover, they came to realize that Shorts often lack inherent value and provide little personal meaning. When attempting to record their thoughts through Micro Reflection, many found they had nothing to write because none of the Shorts left a meaningful or memorable impression. This prompted deeper reflection on the nature of Shorts, with some concluding that they are inherently lacking in value: “I gave it a try to write some micro reflection. But I realized—I had nothing to write. Shorts just weren’t meaningful or useful enough to me...” (P5)

5.2.2 Exercising Self-Regulation through Commitment and Reflection. Participants found that setting a viewing goal through the Goal Nudge, and receiving feedback when they reached the goal, was the most helpful in cultivating self-regulatory behaviors. They regarded goal-setting process as making a prior commitment to themselves and as a way of building self-discipline: “Setting a goal is more about disciplining myself to stay in control. I feel more honest with myself through this, whereas a time limit or restriction makes me feel like I’m relying on the control app.” (P14) This process enabled them to begin viewing with an awareness of the promise they had made to themselves.

Such self-commitment often triggered immediate self-reflection. For example, P8, who was eager to watch many Shorts, initially set a goal of 200. However, she immediately realized, “Did I really declare to myself that I’ll spend the next couple of hours on Shorts?”, which left her feeling embarrassed. This reflection prompted her to adopt smaller goals ($M = 22.48$, $SD = 27.18$) thereafter, illustrating how goal-setting laid the foundation for self-correction.

Feedback upon reaching their self-set viewing goal reminded participants of their self-commitment without any judgment. This nonjudgmental message naturally encouraged them to reflect on their behavior and decide autonomously whether to continue. Participants emphasized that if the message had judged their behavior or imposed a sanction, it likely would have provoked resistance or even a rebellious urge to watch more. Instead, they felt positive about having the freedom to decide for themselves.

At the same time, this feedback reinforced self-restraint. When reminded of their commitment, participants naturally came to think that it might be time to stop. If they completed a session within their self-set goal, they felt they were using Shorts appropriately. In contexts where they believed that watching Shorts would not interfere

with themselves or their ongoing activities, they allowed themselves to go slightly beyond the goal. Yet, they still stopped within a self-imposed limit rather than continuing excessively: *“[Even when I was beyond the viewing goal] I was still thinking about the promise I made with myself. If I went too far beyond the goal, I would feel guilty, so I tried to allow myself only within a certain margin, making sure I didn’t exceed the goal I had set to an unreasonable extent.”* (P13) They regarded completing their viewing within the certain margin as their acceptable amount of viewing.

5.2.3 Strengthening Self-Regulation through Reflection. By engaging with multiple features of the intervention, participants gained insights into their Shorts consumption and planned subsequent actions. Reviewing the Viewing Logbook raised awareness of their current patterns, which in turn helped them set more realistic goals for the next session. Participants’ goal inputs showed a decreasing trend across the intervention period ($M = -0.63 \text{ goals/day}$, $SD = 2.45$). For instance, P10 reflected on his gradually decreasing consumption and adjusted his goals downward, which helped him sustain self-regulation.

Participants also reported that they experienced a sense of accomplishment when they found themselves successfully regulating their viewing and staying in control. These positive emotions encouraged them to sustain their self-regulation efforts: *“At the end of the day, I always looked at the Viewing Logbook and had a moment to reflect on myself. If I had watched only a small number of Shorts, I felt proud of myself, kind of like, ‘Oh, I’m in control.’”* (P14)

5.3 Behavioral Outcomes of Managing Shorts Consumption

5.3.1 Shifts toward Higher-Quality Viewing. Participants began to make more intentional choices about which Shorts to watch, which enhanced the overall quality of their viewing experiences. Previously, they had often consumed recommended Shorts passively, including those that were provocative or gossip-oriented. As they became aware that much of this content lacked value, they narrowed their scope of viewing and chose Shorts that felt more meaningful to them: *“I began to narrow down my viewing range by sticking to a single concept, and if I found myself drifting into unrelated content, I was able to stop watching. I definitely ended up not watching other types of videos that I did not intend to see, like random variety shows or strange information clips.”* (P2). To do so, participants evaluated the quality of Shorts using personal criteria such as “Does this Short provide useful information?”, “Does it offer a lesson?”, or “Does it align with my interests?” These criteria were also influenced by the predefined tags in the Micro Reflection. For instance, one participant (P20) shared that she always kept one tag in mind (i.e., “Made me LOL 😂”) and consciously evaluated whether each Short met that threshold.

In addition to intentional selection and consumption, participants reported that they could engage with Shorts more mindfully and with greater attention. Whereas they previously scrolled through Shorts without much thought, they became more attentive and reflective with writing Micro Reflection. Leaving reflections prompted them to concentrate on the content and interpret it from their own perspective. This helped them to recall the content later, making the experience less fleeting: *“I used to just watch Shorts and*

think, ‘Okay, whatever,’ and move on... but with the Micro Reflection, when I came across a Short, I found myself thinking, ‘What did I actually get from this Short?’ or ‘How much did I enjoy it?’ It became an experience that went beyond just watching. It made me think more deeply.” (P13)

5.3.2 Entering Shorts Less Often. Participants gained greater control over their viewing quantity, whereas they had previously consumed Shorts for prolonged periods. Although the difference was not statistically significant, the average number of Shorts viewed per day decreased from the baseline (108.97) to the intervention (80.76) (see Figure 4-2). Moreover, the average frequency of entering Shorts significantly decreased from the baseline (23.40) to the intervention (15.89) (see Figure 4-1).

Participants explained that they had previously entered Shorts in a largely unconscious and automatic manner. As their awareness of the need for regulation increased, they began to enter Shorts less frequently, often replacing that time with alternative activities such as household chores (P8), exercise (P15), and studying or work (P10, P14). Some noted that by watching fewer Shorts they could save time (P1, P9). Some noted that by watching fewer Shorts they could save time (P1, P9), whereas before they often procrastinated and lost time scrolling. This shift made them feel more productive and disciplined, which in turn boosted their confidence.

Interestingly, several participants reported that they could exercise self-regulation beyond Shorts, even though the intervention was only implemented there. Most participants were able to prevent increases in their use of other short-form platforms such as Instagram Reels or TikTok while reducing their Shorts usage. One participant (P14) shared that she could notably reduce her TikTok usage as well, as the experience of regulating Shorts carried over: *“While I was watching TikTok, I found myself closing the app more often, as well. It was because I learned that it actually does not benefit me from watching short-form videos during the intervention period. I realized that short-form videos didn’t even relax me. I felt nothing, so I just got bored of it.”* (P14)

5.3.3 Less Frequent Entry Due to Goal-Setting Friction. Participants emphasized that this significant reduction in daily entry was not solely the outcome of self-regulation. Rather, it was also influenced by the friction from the Goal Nudge. Although they thought that goal-setting encouraged more purposeful viewing, they stated that the process of setting a viewing goal each time they launched Shorts felt bothersome, since they were used to the seamless and instant access to Shorts. They described Goal Nudge as a barrier or hurdle that discouraged them from accessing Shorts: *“Every time I’d open Shorts, the Goal Nudge popped up. Even though inputting the number for the viewing goal is no big deal... Maybe it only takes a few seconds? But I felt uncomfortable, so I’d hesitate... and just not click at all. So, the intervention ended up making me click on Shorts less.”* (P7) Furthermore, depending on participants’ viewing patterns, the friction and discomfort created by the Goal Nudge became even greater. For those who tended to watch Shorts in short, fragmented sessions (i.e., watching 1–2 Shorts, quitting the session, and starting a new session) encountered the Goal Nudge more frequently, as it was triggered on a per-session basis. For them, the burden of repeatedly setting a viewing goal felt especially disruptive: *“When I watch Shorts, I usually watch one, exit, then pick another Shorts*

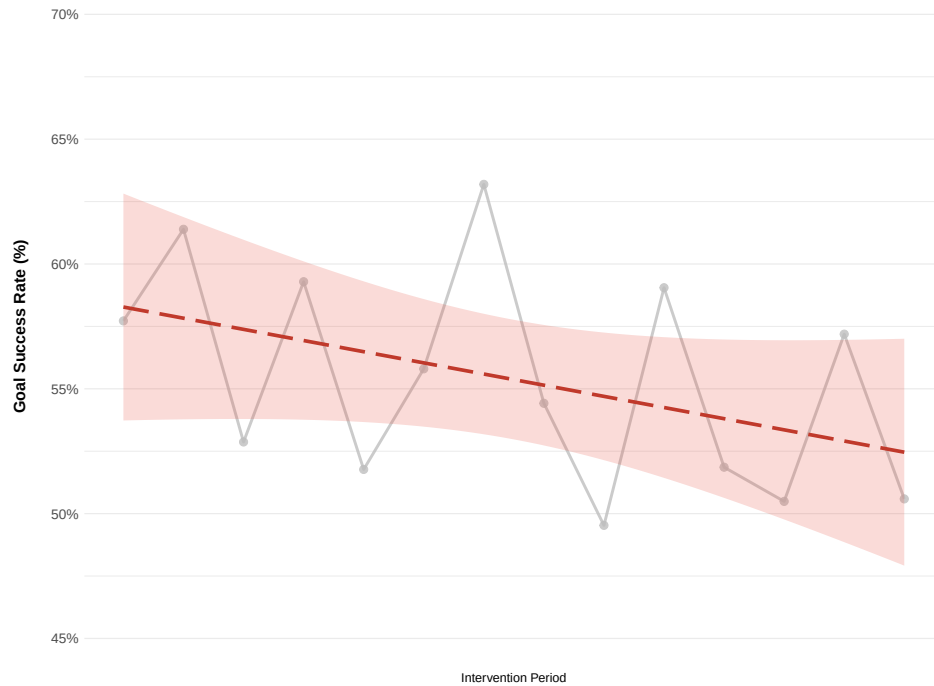


Figure 5: Goal success rate, defined as the proportion of times participants stopped watching Shorts within their viewing goals, during the two-week intervention period. The red line represents the trend line, illustrating the gradual decline in goal success rate over time.

to watch. But each time, I had to set a goal again. That felt a bit inconvenient for my viewing habit.” (P1)

5.4 Challenges in Sustaining Self-regulation

5.4.1 Losing Grip on Self-Regulation Over Time. During the intervention period, participants found it increasingly difficult to maintain self-regulation. Various contextual triggers, emotional states, and the engaging design of Shorts often undermined their efforts. Over time, habituation to the intervention further weakened its impact, making it harder for participants to sustain the discipline they had initially built.

Contextual and Emotional Triggers. Participants reported that they tended to watch Shorts freely whenever they had idle time, such as after completing a busy period (P7), late at night (P19), or in brief moments before sleep or during short breaks at work (P17). Emotional states intertwined with Shorts consumption also weakened self-regulation. For instance, when they felt emotionally drained and wanted to reward themselves (e.g., after finishing a long assignment (P11)), they often set aside self-regulation and indulged in Shorts. In such moments, some even tried to bypass the intervention by deliberately setting high goals (e.g., P11 setting 100 instead of her usual 11.22) to minimize interruptions.

Design Features Amplifying the Urge. The engaging design of Shorts—the mix of short content, personalized recommendations,

and one-finger navigation—also amplified the urge to keep watching. Even after reaching their viewing goals, participants often continued because of algorithmic suggestions: “Even after I had already reached the viewing goal I set in the Goal Nudge, I was curious about the next recommended video from the algorithm, so I kept watching... I think there were moments I failed to regulate myself because of that.” (P13)

Habituation to the Intervention. As time passed, participants reported becoming less responsive to the intervention. Goal success rates (i.e., watching Shorts within their self-set viewing goals) declined from over 60% in the early phase to the low 50% range in the second week (see Figure 5). Messages and goal-setting became routine, reducing emotional engagement: “Since the same six messages kept repeating, the emotional impact I felt when seeing them gradually faded. Later on, I just felt like, ‘Oh, that same one popped up again. Whatever.’” (P6)

5.4.2 Back to Old Habits After Withdrawal. After the intervention was removed, participants described slipping back into their old habit of freely opening Shorts. As the Goal Nudge had previously been experienced as externally constraining, its removal was perceived as affording a sense of freedom. This, in turn, resulted in a stronger impulse to enter Shorts. This pattern was reflected in the data. The average number of Shorts entry events increased to 23.69 during the withdrawal phase, compared to 15.89 in the intervention, and slightly exceeded the baseline level of 23.40 (see Figure 4-1). In other words, entry control achieved during the intervention did

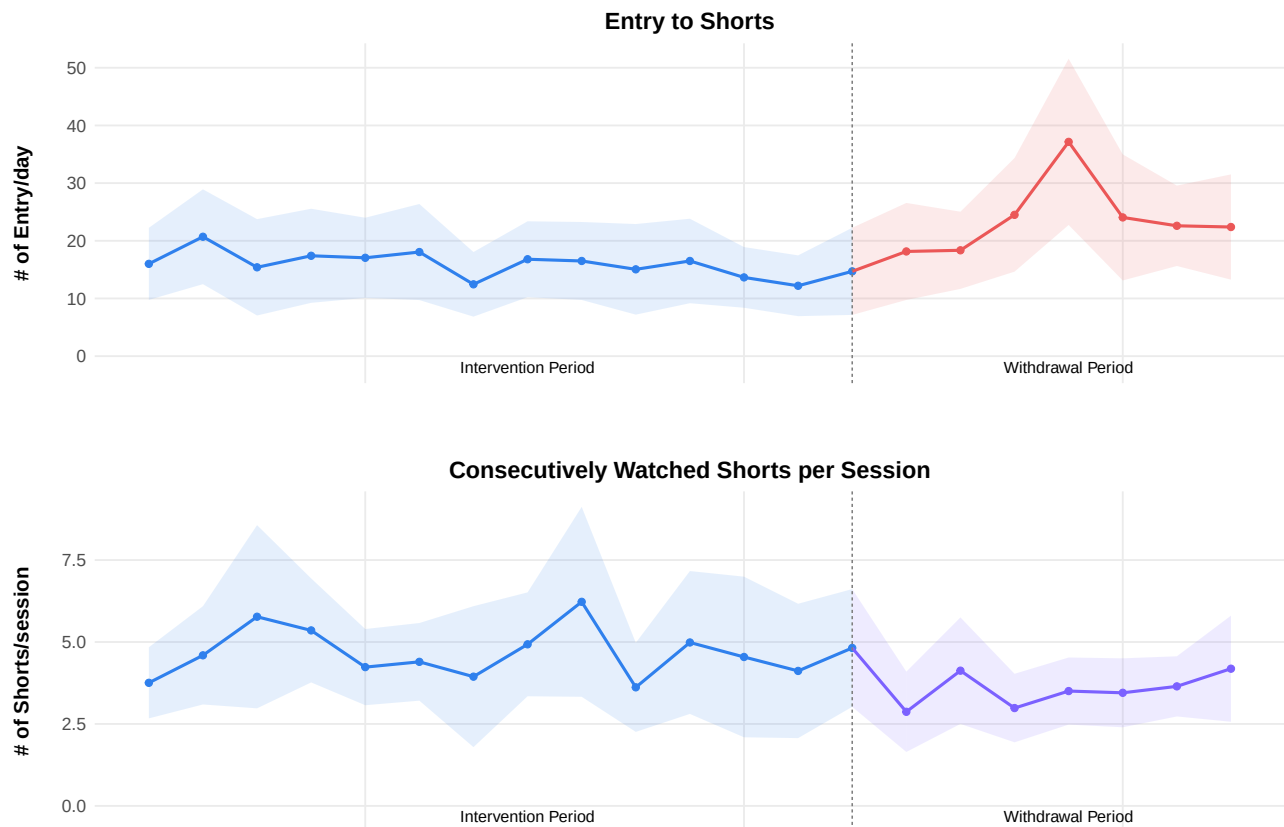


Figure 6: Changes over time across the intervention and withdrawal periods in the average daily entries to Shorts and consecutive Shorts watched per session.

not persist once the external barrier was gone. Day-to-day trends show the same rebound. On the first day of withdrawal, sessions rose to 18.15—still below baseline. By day three, they reached 24.50, surpassing baseline, and peaked at 37.15 on day four. Across the final three days, participants averaged 23.10 sessions, indicating that entry behavior did not return to the regulated levels observed during the intervention (see Figure 6). Participants noted that this may have been a psychological rebound effect: “I think there was a bit of a rebound effect. Once the part I found burdensome was gone, I just jumped right back in and got into Shorts even more.” (P12)

5.4.3 Still Keeping Control Within Sessions. Despite the rebound in entry, participants’ efforts to regulate Shorts within sessions remained relatively intact. The number of consecutive Shorts watched did not increase during the withdrawal phase. In fact, participants watched significantly fewer Shorts per session (3.50) than during the intervention (4.66) (see Figure 4-3). Across the withdrawal period, session length fluctuated between 2.87 and 4.19 Shorts, without any marked change (see Figure 6). Many participants continued to mentally track how much they had watched. When they sensed they had exceeded a self-defined limit, they could stop themselves:

“There’s always some awareness in the back of my mind. Like, ‘I must’ve watched dozens by now.’ It was a wake-up call for me and I could naturally stop watching.” (P8) They also remained selective in what they watched. Drawing on reflections during the intervention, participants avoided Shorts they felt were meaningless or irrelevant, and instead engaged with videos that aligned with their interests: “During the intervention, I came to realize, These videos don’t even interest me, and I won’t remember them anyway. That made me more selective. And even after the intervention, I’m watching Shorts while asking myself, Is this really worth watching?” (P4)

5.4.4 Control That Fades Without Intervention. While many participants thought that they retained some degree of control—particularly within-session regulation—they anticipated that maintaining this control would become increasingly difficult without the intervention’s external support. Since they no longer received precise feedback, they expressed concern about discrepancies between their subjective sense of control and their actual behavior. This uncertainty created anxiety about whether they were truly sustaining self-regulation. One participant (P16) even noted that she missed

the intervention during withdrawal and revisited the Viewing Log-book more often than during the intervention. Overall, participants predicted that their sense of control would fade over time without the intervention's support, eventually returning them to their previous patterns of Shorts consumption: *"I feel like self-regulation is still with me, just a little. But I also have a feeling that it'll be completely gone after a month."* (P7)

6 Discussion

In this study, we designed and applied a self-regulatory intervention in the context of short-form video consumption. In this section, we discuss design implications for how the intervention can facilitate reflective engagement, enhance user acceptance, and support sustainable self-regulation.

6.1 Enhancing Viewing Experiences through Reflective Engagement

Our findings revealed that participants' frequency of entering Shorts decreased significantly during the intervention period, but rebounded immediately once the intervention was removed, even exceeding baseline levels. Further, total daily viewing increased during the withdrawal phase compared to the intervention phase, even though the number of consecutively watched videos per session decreased. Taken together, this suggests that the self-regulatory intervention had a limited impact on controlling viewing quantity. Nonetheless, we observed that participants were able to improve the quality of their viewing experience. With Micro Reflection feature, participants engaged in self-questioning (e.g., asking themselves "Is this really worth watching?") and continued to watch selectively and consciously even after the intervention was removed. They also reported being able to immerse themselves more deeply in each video, going beyond passive viewing. This responds to a call from digital wellbeing research emphasizing that encouraging users to engage with media meaningfully in ways that align with their values and purposes is essential, beyond simply reducing usage time [1, 69].

However, the use of Micro Reflection remained low. This echoes that reflection has both strengths and trade-offs: it can encourage more conscious and intentional viewing, but it is also cognitively demanding [35]. Reflection could have created more tension in our context, given that short-form videos are rapid and lightweight in nature [49] and the design of explicit, heavy reflection tasks was misaligned with this nature. **To make reflection more approachable in short-form videos, it should be designed to be more lightweight.** One possible approach is to leverage micro-interactions (e.g., swiping right for videos they liked and left for those they did not), as brief reflections could reduce cognitive load while still eliciting assessment [5, 78]. Further, presenting a reflection prompt that encourages users to reconsider the videos they have watched could be another approach. Referring to the applications such as OneSec [53] and ScreenZen [59], which trigger reflection with the reflective prompts (e.g., "Is this important?"), a prompt-only mechanism without an explicit task could invite users to reflect while minimizing burden. By seamlessly integrating

reflection opportunities into the viewing experience, users could engage in reflection more frequently, ultimately supporting sustained improvements in viewing quality.

6.2 Tailoring Intervention to Support User Acceptance

Participants positively evaluated the nonjudgmental feedback that only reminded them of their own viewing goal and left all interpretations and judgments to themselves. They stated that if the feedback had been judgmental or coercive, they would have experienced reactance and watched even more Shorts. Such a nonjudgmental approach could support user autonomy and intrinsic motivation for regulating one's own behavior [67], which may have contributed to the number of consecutively watched videos per session remaining stable during the withdrawal phase. This nonjudgmental approach aligns with several commercial digital wellbeing applications in the context of smartphone use (e.g., Opal [54], Forest [23], SPACE [61]), which aim to increase users' awareness and support intentional choices rather than strictly restricting use. Our study indicates that nonjudgmental feedback can enhance user acceptance and support the exercise of self-regulation in the context of short-form video consumption. Such an approach may have been well-received because external impositions often lead to counterproductive effects [22], and are particularly ineffective in contexts characterized by automatic and habitual engagement such as short-form video platforms [70].

Nevertheless, we observed that participants expressed strong resistance to the intervention itself under certain circumstances. In particular, when participants had a strong desire to watch Shorts freely in specific situational or psychological contexts, they entered much higher viewing goals as a form of resistance. This finding echoes the limitations of a "one-size-fits-all" approach, which delivers the same intervention uniformly without the flexibility to account for users' context and state [27, 46]. Interventions are more effective and less disruptive when they are aware of users' emotions, environment, and contextual factors [40, 50]. **For better user acceptance and impact, the intervention system could leverage contextual data (e.g., stress levels, recent activity) to detect users' situational states and be tailored appropriately.** For example, if the system identifies that a user has experienced a particularly stressful day—based on high stress scores or a packed schedule—it could temporarily pause the intervention or allow greater freedom. However, contextual adjustment could signal to users that they are exempt from self-regulation during those moments through a licensing effect [10], which may reinforce problematic behavior. To address this, the system could support users to establish upper-bound rules for consumption and self-commit to maintaining them even in challenging contexts. Alternatively, the system could offer nonjudgmental feedback when users exceed their upper-bound, helping them recognize themselves (e.g., "We're adjusting the intervention because you're stressed out. By the way, you set a rule not to go over 100 Shorts, and just so you know—you're at 100 now.") By contextually adjusting the intervention with upholding upper-bound and emphasizing nonjudgmental approach, the intervention can support more sustainable engagement while preserving its impact.

6.3 Fostering Sustainable Self-regulation in Short-form Video

Participants reported that the intervention helped them remain aware and reflective about their usage, supporting control over both the quantity and quality of their viewing. Despite this potential, limitations emerged regarding sustainability. During the intervention period, participants became habituated to the intervention, and they could not actively translate the intervention's support into their self-regulatory behaviors. This echoes prior findings that user responses tend to diminish over time as interventions lose their novelty effect [27, 43]. Such habituation may have been accelerated in this study, given that people engage with short-form videos frequently throughout the day [80], and thus encountered the intervention at a high frequency. Moreover, after the intervention was withdrawn, participants' control over entering Shorts rapidly diminished, and although they retained some subjective sense of self-regulation, many reported feeling uncertain and anxious about whether they were truly maintaining themselves. This indicates a lack of full internalization of the self-regulatory behaviors acquired during the intervention [7].

To facilitate the internalization of self-regulation, the system should gradually shift regulatory control to users rather than continuously providing intervention support. We observed that prolonged exposure to the intervention led to habituation, suggesting that its mere persistence is insufficient. Therefore, a flexible and adaptive intervention that modulates its activation according to users' short-form video behaviors may represent a promising approach. For example, if the system determines that a user is engaging with content appropriately (i.e., watching within a personalized threshold derived from usage data), the intervention could be temporarily paused. Meanwhile, the system would continue monitoring consumption patterns and could prompt reactivation if signs of problematic use emerge (i.e., exceeding the personalized threshold). Beyond individual practice, self-regulation can also be more effectively developed and maintained in social contexts through mechanisms such as social learning, peer accountability, and social support [39]. Extending self-regulation of short-form video consumption into a social setting may therefore be a valuable approach. This could begin by forming small groups where users set collective goals and share their consumption data, fostering social learning and constructive social comparison. Reminders tied to collective goals could leverage peer accountability to sustain engagement. Given that social settings can unintentionally create undesirable pressure, comparison, and feelings of shame when goals are not met [14, 26], the intervention could prioritize psychological safety by initially focusing on small, trusted groups, and incorporating mutual support through lightweight interaction features (e.g., reacting to others' self-regulatory actions with brief messages).

7 Limitations and Future Work

This study presents several limitations and areas for future research. First, the intervention was applied over a relatively short period of two weeks, which may have limited the exploration of its impact on short-form video consumption. Extending the duration of

the intervention in future studies could provide deeper insights, particularly regarding long-term effectiveness.

Second, the study involved a relatively small sample of 20 participants, which may limit the broader insights. Moreover, the majority of participants were in their twenties. Although this age group reflects typical short-form video users [49, 56], media consumption habits can differ considerably across other age groups [74]. Future research that includes a wider and more diverse range of participants, both in terms of age and media usage patterns, could provide richer insights.

Third, this field study focused on a single user group, exploring the potential of self-regulatory interventions within the context of short-form video consumption. While we could identify both potential and challenges of the intervention, we could not understand how the intervention performs compared to other digital wellbeing tools or regulation strategies. To understand the intervention's relative effectiveness and associated user experience, comparative studies should be conducted in the future.

Fourth, we designed the intervention considering goal-setting, self-reflection, feedback on the viewing counts and lists, and leaving reflection on the content. Nonetheless, multiple approaches could support self-regulation, including self-reward [13], social support and peer accountability [39], and self-affirmation [77]. Future work could develop self-regulatory interventions based on these alternative approaches and examine their impact on short-form video consumption behavior.

Finally, we cannot rule out the possibility of Hawthorne effect [60]. While we included strategies to minimize Hawthorne effect (see Section 4.2.2), this effect could exist during the baseline phase, as P19 reported that he unconsciously watched Shorts less than usual because he was being observed. Although reactivity is inherently difficult to eliminate in studies that log user behavior [47], future work could capture more naturalistic behavior by introducing a longer washout period (i.e., allowing participants to use the intervention for a few weeks before logging data).

8 Conclusion

This study designed a self-regulatory intervention for short-form video consumption, combining goal-setting, reflection, periodic feedback, and viewing summaries. We aimed to examine its impact on users' behaviors through a 4-week field study with baseline, intervention, and withdrawal phases. Our findings showed that participants became more aware of their viewing and fostered greater self-discipline, gaining a sense of control over both the quantity and quality of their consumption. However, the removal of the intervention and the friction it imposed undermined the sustainability of these effects, as entry into videos rebounded. Highlighting both the potential and limitations of such intervention, we conclude with design implications for supporting more sustainable self-regulation in short-form video use.

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References

- [1] Sultan Almoallim and Corina Sas. 2022. Toward research-informed design implications for interventions limiting smartphone use: functionalities review of digital well-being apps. *JMIR formative research* 6, 4 (2022), e31730.
- [2] Android Developers. [n. d.]. AccessibilityService. <https://developer.android.com/reference/android/accessibilityservice/AccessibilityService>
- [3] Android Developers. 2024. Download Android Studio & App Tools - Android Developers. <https://developer.android.com/studio?hl=en>
- [4] Android Developers. 2025. WindowManager | API reference | Android Developers. <https://developer.android.com/reference/android/view/WindowManager>
- [5] Matthew Barker-Canler, Daniel Gooch, Janet Van Der Linden, and Marian Petre. 2024. Flexible Minimalist Self-Tracking to Support Individual Reflection. *ACM Trans. Comput.-Hum. Interact.* 31, 3, Article 30 (Aug. 2024), 35 pages. doi:10.1145/3660339
- [6] Roy F Baumeister and Kathleen D Vohs. 2004. Self-regulation. *Character strengths and virtues: A handbook and classification* (2004), 499–516.
- [7] Albert J Bellg. 2003. Maintenance of health behavior change in preventive cardiology: internalization and self-regulation of new behaviors. *Behavior modification* 27, 1 (2003), 103–131.
- [8] Ben. 2025. No YouTube Shorts. <https://chromewebstore.google.com/detail/no-youtube-shorts/hjfkeneblldkfgibeglepinlabpifbl?hl=ko>
- [9] Mark Bergen. 2022. YouTube reaches 1.5 billion users of shorts, its TikTok rival - bloomberg. <https://www.bloomberg.com/news/articles/2022-06-15/youtube-reaches-1-5-billion-users-of-shorts-its-tiktok-rival>
- [10] Irene Blanken, Niels Van De Ven, and Marcel Zeelenberg. 2015. A meta-analytic review of moral licensing. *Personality and Social Psychology Bulletin* 41, 4 (2015), 540–558.
- [11] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative research in psychology* 3, 2 (2006), 77–101.
- [12] John Brooke et al. 1996. SUS-A quick and dirty usability scale. *Usability evaluation in industry* 189, 194 (1996), 4–7.
- [13] Emma M Brown, Debbie M Smith, Tracy Epton, and Christopher J Armitage. 2018. Do self-incentives and self-rewards change behavior? A systematic review and meta-analysis. *Behavior therapy* 49, 1 (2018), 113–123.
- [14] Haiyan Chen, Klaus Schoefer, Danae Manika, and Effy Tzemou. 2024. The “dark side” of general health and fitness-related self-service technologies: A systematic review of the literature and directions for future research. *Journal of Public Policy & Marketing* 43, 2 (2024), 151–170.
- [15] Yuhuan Chen, Mingming Li, Fu Guo, and Xueshuang Wang. 2023. The effect of short-form video addiction on users' attention. *Behaviour & Information Technology* 42, 16 (2023), 2893–2910.
- [16] Xusen Cheng, Xiaowei Su, Bo Yang, Alex Zarifis, and Jian Mou. 2023. Understanding users' negative emotions and continuous usage intention in short video platforms. *Electronic Commerce Research and Applications* 58 (2023), 101244.
- [17] Francesco Chiossi, Luke Haliburton, Changkun Ou, Andreas Martin Butz, and Albrecht Schmidt. 2023. Short-Form Videos Degrade Our Capacity to Retain Intentions: Effect of Context Switching On Prospective Memory. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (Hamburg, Germany) (CHI '23). Association for Computing Machinery, New York, NY, USA, Article 30, 15 pages. doi:10.1145/3544548.3580778
- [18] Juliet M Corbin and Anselm Strauss. 1990. Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative sociology* 13, 1 (1990), 3–21.
- [19] Curizic. 2021. NoScroll: Block Reels & Shorts. <https://play.google.com/store/apps/details?id=com.newswarajya.noswipe.reelshortblocker>
- [20] Meredith E David and James A Roberts. 2024. TikTok brain: an investigation of short-form video use, self-control, and phubbing. *Social Science Computer Review* (2024), 08944393241279422.
- [21] Sharon Dawe, Matthew J Gullo, and Natalie J Loxton. 2004. Reward drive and rash impulsiveness as dimensions of impulsivity: Implications for substance misuse. *Addictive behaviors* 29, 7 (2004), 1389–1405.
- [22] Patrick Ehrenbrink and Sabine Prezenski. 2017. Causes of psychological reactance in human-computer interaction: a literature review and survey. In *Proceedings of the European Conference on Cognitive Ergonomics*. 137–144.
- [23] Forest. 2025. Forest. <https://www.forestapp.cc/>
- [24] Google. 2019. Firebase. <https://firebase.google.com>
- [25] Google. 2019. Take a break reminder - Android - YouTube Help. <https://support.google.com/youtube/answer/9012523?hl=en&co=GENIE.Platform%3DAndroid>
- [26] Xinning Gui, Yu Chen, Clara Caldeira, Dan Xiao, and Yunan Chen. 2017. When Fitness Meets Social Networks: Investigating Fitness Tracking and Social Practices on WeRun. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (Denver, Colorado, USA) (CHI '17). Association for Computing Machinery, New York, NY, USA, 1647–1659. doi:10.1145/3025453.3025654
- [27] Luke Haliburton, David Joachim Grüning, Frederik Riedel, Albrecht Schmidt, and Nada Terzimehić. 2024. A Longitudinal In-the-Wild Investigation of Design Frictions to Prevent Smartphone Overuse. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 243, 16 pages. doi:10.1145/3613904.3642370
- [28] Lu Huang, Xiuli Dong, Hang Yuan, and Lihua Wang. 2023. Enabling and inhibiting factors of the continuous use of mobile short video APP: Satisfaction and fatigue as mediating variables respectively. *Psychology Research and Behavior Management* (2023), 3001–3017.
- [29] Qing Huang, Mingxin Hu, and Ning Zhang. 2022. A techno-psychological approach to understanding problematic use of short-form video applications: The role of flow. *Frontiers in Psychology* 13 (2022), 971589.
- [30] Hilary Hutchinson, Wendy Mackay, Bo Westerlund, Benjamin B. Bederson, Allison Druin, Catherine Plaisant, Michel Beaudouin-Lafon, Stéphane Conversy, Helen Evans, Heiko Hansen, Nicolas Roussel, and Björn Eiderbäck. 2003. Technology probes: inspiring design for and with families. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (Ft. Lauderdale, Florida, USA) (CHI '03). Association for Computing Machinery, New York, NY, USA, 17–24. doi:10.1145/642611.642616
- [31] Instagram. 2023. Manage Your Time on Instagram - Instagram Help Center. https://help.instagram.com/2049425491975359/?cms_platform=android-app&helpref=platform_switcher
- [32] Instagram. 2024. Take a Break Feature - Instagram Help Center. https://help.instagram.com/647518863867618/?helpref=related_articles
- [33] JetBrains. 2020. Kotlin Programming Language. <https://kotlinlang.org/>
- [34] Yeohyun Jung, Suyeon Seo, and Hwajung Hong. 2025. *Beyond the Scroll: Exploring the Design Space of Balanced Short-form Video Consumption through Everyday User Experiences*. Association for Computing Machinery, New York, NY, USA, 574–579. <https://doi.org/10.1145/3715668.3736346>
- [35] Pelin Karaturhan, Ecem Arıkan, Pelin Durak, Asim Evren Yantac, and Kemal Kescu. 2022. Combining Momentary and Retrospective Self-Reflection in a Mobile Photo-Based Journaling Application. In *Nordic Human-Computer Interaction Conference* (Aarhus, Denmark) (NordiCHI '22). Association for Computing Machinery, New York, NY, USA, Article 64, 12 pages. doi:10.1145/3546155.3546676
- [36] Jaeyeung Kim, Hayoung Jung, Minsam Ko, and Uichin Lee. 2019. GoalKeeper: Exploring Interaction Lockout Mechanisms for Regulating Smartphone Use. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 3, 1, Article 16 (March 2019), 29 pages. doi:10.1145/3314403
- [37] Jaeyeung Kim, Joonyoung Park, Hyunsoo Lee, Minsam Ko, and Uichin Lee. 2019. LocknType: Lockout Task Intervention for Discouraging Smartphone App Use. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (Glasgow, Scotland Uk) (CHI '19). Association for Computing Machinery, New York, NY, USA, 1–12. doi:10.1145/3290605.3300927
- [38] Young-Ho Kim, Jae Ho Jeon, Eun Kyung Choe, Bongshin Lee, KwonHyun Kim, and Jinwook Seo. 2016. TimeAware: Leveraging Framing Effects to Enhance Personal Productivity. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (San Jose, California, USA) (CHI '16). Association for Computing Machinery, New York, NY, USA, 272–283. doi:10.1145/2858036.2858428
- [39] Minsam Ko, Subin Yang, Joonwon Lee, Christian Heizmann, Jinyoung Jeong, Uichin Lee, Daehye Shin, Koji Yatani, Junehwa Song, and Kyong-Mee Chung. 2015. NUGU: A Group-based Intervention App for Improving Self-Regulation of Limiting Smartphone Use. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing* (Vancouver, BC, Canada) (CSCW '15). Association for Computing Machinery, New York, NY, USA, 1235–1245. doi:10.1145/2675133.2675244
- [40] Florian Künzler, Varun Mishra, Jan-Niklas Kramer, David Kotz, Elgar Fleisch, and Tobias Kowatsch. 2020. Exploring the State-of-Receptivity for mHealth Interventions. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 3, 4, Article 140 (Sept. 2020), 27 pages. doi:10.1145/3369805
- [41] Robert LaRose and Matthew S Eastin. 2004. A social cognitive theory of Internet uses and gratifications: Toward a new model of media attendance. *Journal of broadcasting & electronic media* 48, 3 (2004), 358–377.
- [42] Hongyao Li, Wendy Zhang, Bahareh Shahri, Zhen Chen, et al. 2024. EMOTIONAL DESIGN IN TRANSFORMING EXCESSIVE SOCIAL MEDIA USE: A CASE STUDY ON YOUNG ADULTS' OVERUSE OF SHORT-FORM VIDEO PRODUCTS. In *DS 131: Proceedings of the International Conference on Engineering and Product Design Education* (E&PDE 2024). 360–365.
- [43] Zhuoyang Li, Minhui Liang, Ray Lc, and Yuhuan Luo. 2024. StayFocused: Examining the Effects of Reflective Prompts and Chatbot Support on Compulsive Smartphone Use. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 247, 19 pages. doi:10.1145/3613904.3642479
- [44] Bei-Hong Lin, Yu-Jung Chung, Hao-Yuan Cheng, Yu-Ting Yen, Ching-Chuan Li, and Fu-Yin Cherng. 2024. Understanding the Effects of Short-Form Videos on Sustained Attention. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI EA '24). Association for Computing Machinery, New York, NY, USA, Article 352, 8 pages. doi:10.1145/

- 3613905.3651018
- [45] Carl Lindholm. 2023. Short-Format Video Consumption: Evaluation of Key Quality and UX Aspects for Generation Z.
 - [46] Ulrik Lyngs, Kai Lukoff, Petr Slovak, William Seymour, Helena Webb, Marina Jirotko, Jun Zhao, Max Van Kleek, and Nigel Shadbolt. 2020. 'I Just Want to Hack Myself to Not Get Distracted': Evaluating Design Interventions for Self-Control on Facebook. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, HI, USA) (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–15. doi:10.1145/3313831.3376672
 - [47] Ritch Macfield. 2007. Usability studies and the Hawthorne Effect. *Journal of usability studies* 2, 3 (2007), 145–154.
 - [48] ManicTime. 2025. <https://www.manictime.com/>
 - [49] Shin Thant May and Veeraporn Siddoo. 2024. Factors affecting the short-form video consumption on social media platforms. In *2024 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON)*. IEEE, 140–144.
 - [50] Inbal Nahum-Shani, Shawna N Smith, Bonnie J Spring, Linda M Collins, Katie Witkiewitz, Ambuj Tewari, and Susan A Murphy. 2016. Just-in-time adaptive interventions (JITAs) in mobile health: key components and design principles for ongoing health behavior support. *Annals of behavioral medicine* (2016), 1–17.
 - [51] Van NB Nguyen, Charne Miller, Janine Sunderland, and William McGuiness. 2018. Understanding the Hawthorne effect in wound research—a scoping review. *International wound journal* 15, 6 (2018), 1010–1024.
 - [52] Fabian Okeke, Michael Sobolev, Nicola Dell, and Deborah Estrin. 2018. Good vibrations: can a digital nudge reduce digital overload?. In *Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services* (Barcelona, Spain) (MobileHCI '18). Association for Computing Machinery, New York, NY, USA, Article 4, 12 pages. doi:10.1145/3229434.3229463
 - [53] one sec. 2025. one sec – break free from social media distractions. <https://one-sec.app/>
 - [54] Opal. 2025. Opal - The #1 Screen Time App. <https://www.opal.so/>
 - [55] Adiba Orzikulova, Hyunsung Cho, Hye-Young Chung, Hwajung Hong, Uichin Lee, and Sung-Ju Lee. 2023. FinerMe: Examining App-level and Feature-level Interventions to Regulate Mobile Social Media Use. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW2, Article 274 (Oct. 2023), 30 pages. doi:10.1145/3610065
 - [56] Joohye Park and Yoonhyuk Jung. 2024. Unveiling the dynamics of binge-scrolling: A comprehensive analysis of short-form video consumption using a Stimulus-Organism-Response model. *Telematics and Informatics* 95 (2024), 102200.
 - [57] RescueTime. 2019. RescueTime: Fully Automated Time Tracking Software. <https://www.rescuetime.com/>
 - [58] Nicolas Ruiz, Gabriela Molina León, and Hendrik Heuer. 2024. Design Frictions on Social Media: Balancing Reduced Mindless Scrolling and User Satisfaction. In *Proceedings of Mensch Und Computer 2024* (Karlsruhe, Germany) (MuC '24). Association for Computing Machinery, New York, NY, USA, 442–447. doi:10.1145/3670653.3677495
 - [59] ScreenZen. 2025. ScreenZen-Screen Time Control. <https://www.screenzen.co/>
 - [60] Philip Sedgwick and Nan Greenwood. 2015. Understanding the Hawthorne effect. *Bmj* 351 (2015).
 - [61] SPACE. 2025. SPACE: Break phone addiction. <https://play.google.com/store/apps/details?id=mrigapps.android.breakfree.deux>
 - [62] Gabriel Andy Szalkowski, Iwona Maria Windekilde, and Christian Johansen. 2025. Towards sustainable short-form video: Modelling solutions for social and environmental challenges. *F1000Research* 14 (2025), 265.
 - [63] June P Tangney, Angie Luzio Boone, and Roy F Baumeister. 2018. High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. In *Self-regulation and self-control*. Routledge, 173–212.
 - [64] TikTok. [n.d.]. New features for teens and families on TikTok. https://newsroom.tiktok.com/en-us/new-features-for-teens-and-families-on-tiktok-us?msg_pos=2
 - [65] TikTok. 2021. Thanks a billion! <https://newsroom.tiktok.com/en-us/1-billion-people-on-tiktok>
 - [66] TikTok. 2023. Screen time | TikTok Help Center. <https://support.tiktok.com/en/account-and-privacy/account-information/screen-time>
 - [67] Romain Toebosch, Arne Berger, and Carine Lallemand. 2024. Non-judgmental Interfaces: A New Design Space for Personal Informatics. In *Companion Publication of the 2024 ACM Designing Interactive Systems Conference* (IT University of Copenhagen, Denmark) (DIS '24 Companion). Association for Computing Machinery, New York, NY, USA, 166–170. doi:10.1145/3656156.3663706
 - [68] Alexander JAM Van Deursen, Colin L Bolle, Sabrina M Hegner, and Piet AM Kommers. 2015. Modeling habitual and addictive smartphone behavior: The role of smartphone usage types, emotional intelligence, social stress, self-regulation, age, and gender. *Computers in human behavior* 45 (2015), 411–420.
 - [69] Mariek MP Vanden Abeele. 2021. Digital wellbeing as a dynamic construct. *Communication Theory* 31, 4 (2021), 932–955.
 - [70] Bas Verplanken and Wendy Wood. 2006. Interventions to break and create consumer habits. *Journal of public policy & marketing* 25, 1 (2006), 90–103.
 - [71] Kathleen D Vohs and Roy F Baumeister. 2004. Understanding self-regulation. *Handbook of self-regulation* 19 (2004), 1–9.
 - [72] Vortech. 2025. No Shorts Video. <https://chromewebstore.google.com/detail/no-shorts-video/idbeladlpbbegjenbpmlaifnioagpbh?hl=ko>
 - [73] Ruina Wang. 2022. Does short-form video application shape your life?: An empirical study of tiktok usage and persuasive behavior change in China.
 - [74] Oscar Westlund. 2015. News consumption in an age of mobile media: Patterns, people, place, and participation. 151–159 pages.
 - [75] David C Wynn and Claudia M Eckert. 2017. Perspectives on iteration in design and development. *Research in Engineering Design* 28 (2017), 153–184.
 - [76] Xinzhou Xie, Yanjun Lin, and Qiyu Bai. 2025. Ephemeral emotional resonance: user-perceived functional value leading to short-form video use. *Behavioral Sciences* 15, 3 (2025), 341.
 - [77] Xuhai Xu, Tianyuan Zou, Han Xiao, Yanzhang Li, Ruolin Wang, Tianyi Yuan, Yuntao Wang, Yuanchun Shi, Jennifer Mankoff, and Anind K Dey. 2022. TypeOut: Leveraging Just-in-Time Self-Affirmation for Smartphone Overuse Reduction. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) (CHI '22). Association for Computing Machinery, New York, NY, USA, Article 442, 17 pages. doi:10.1145/3491102.3517476
 - [78] Xinghui Yan, Shriti Raj, Bingjian Huang, Sun Young Park, and Mark W. Newman. 2020. Toward Lightweight In-situ Self-reporting: An Exploratory Study of Alternative Smartwatch Interface Designs in Context. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 4, 4, Article 158 (Dec. 2020), 22 pages. doi:10.1145/3432212
 - [79] Mingrui Ray Zhang, Kai Lukoff, Raveena Rao, Amanda Baughan, and Alexis Hiniker. 2022. Monitoring Screen Time or Redesigning It? Two Approaches to Supporting Intentional Social Media Use. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) (CHI '22). Association for Computing Machinery, New York, NY, USA, Article 60, 19 pages. doi:10.1145/3491102.3517722
 - [80] Qi Zhang, Yuling Wang, and Shaizatulaqma Kamalul Ariffin. 2024. Keep scrolling: An investigation of short video users' continuous watching behavior. *Information & Management* 61, 6 (2024), 104014.
 - [81] Xing Zhang, You Wu, and Shan Liu. 2019. Exploring short-form video application addiction: Socio-technical and attachment perspectives. *Telematics and Informatics* 42 (2019), 101243.
 - [82] Barry J Zimmerman. 2000. Attaining self-regulation: A social cognitive perspective. In *Handbook of self-regulation*. Elsevier, 13–39.

A Appendix A

Original Question	Adapted Question
I am good at resisting temptation.	I am good at resisting the temptation to watch short-form videos.
I have a hard time breaking bad habits.	I have a hard time breaking the bad habit of watching short-form videos.
I am lazy.	I often delay my tasks because I end up watching short-form videos.
I say inappropriate things.	–
I do certain things that are bad for me, if they are fun.	I watch short-form videos even if I know they are bad for me, as long as they are fun.
I refuse things that are bad for me.	I refuse watching short-form content that I know is harmful or distracting.
I wish I had more self-discipline.	I wish I had more self-discipline in controlling my short-form video use.
People would say that I have iron self-discipline.	People would say that I have iron self-discipline over my short-form video usage.
Pleasure and fun sometimes keep me from getting work done.	Pleasure and fun of watching short-form videos sometimes keeps me from getting work done.
I have trouble concentrating.	I have trouble concentrating after watching short-form videos.
I am able to work effectively toward long-term goals.	I am able to limit short-form video use and stay focused on long-term goals.
Sometimes I can't stop myself from doing something, even if I know it is wrong.	Sometimes I can't stop watching short-form videos, even when I know I should.
I often act without thinking through all the alternatives.	I often open and watch short-form video without thinking through all the alternatives.

Table 3: Original and adapted Brief Self-Control Scale. We removed the fourth item from the original scale because verbal behavior could not be appropriately transformed into the context of watching short-form videos. Note that the Cronbach's α for the adapted scale was 0.82, and all items used a 5-point scale (1 = strongly disagree, 5 = strongly agree).

B Appendix B

Theme	Questions
General Questions about Short-form Video	- In what situations or moments do you usually find yourself watching Shorts? - Why do you choose short-form videos over other types of media? - What attempts have you made to regulate your Shorts use, and what made those attempts difficult?
Overall Experience	- How would you describe your experience using the intervention? - What aspects did you find helpful? - What aspects did not work well, and what changes would make it better?
Impact of the Intervention	- In what ways did the intervention influence the amount of Shorts you watched? - Beyond watching less, how did your viewing behavior or awareness change? - In what contexts do you feel more or less in control of your Shorts use? - How did your use of other short-form videos like TikTok change? - When you spent less time on Shorts, what activities replaced that time?
Experience During Different Phases	- How did you feel when the intervention first started? - How did your thoughts or feelings change over time during the intervention phase? - How did the week after the intervention was removed compare to the baseline period? - What thoughts or behaviors did you notice after the intervention was removed?
Questions about Each Component	Goal Nudge - How did the feedback you received upon reaching your goal affect your viewing? - When you stayed within your goal or exceeded it, what factors influenced your behavior? Micro Reflection - What usually prompted you to write a reflection? - How did writing a reflection about Shorts affect you? Viewing Checkpoint - How did the feedback every 10 Shorts influence your viewing experience? Viewing Logbook - How often did you check your viewing log? - What thoughts or insights came up when looking at your viewing log? - How did reviewing the log influence your goals or viewing behavior afterward?
Follow-up Questions on Behavioral Patterns	- (P3) Sometimes you set large goals like 100, and other times small goals like 2. What influenced your choice of goal size? - (P6) Later in the study, you tended to exceed your goals and watch more. Was there any reason for this? - <i>Further questions to other participants.</i>
Future Intervention Service	- How would you imagine using a service to manage short-form video use in daily life? - What would be most important for this service to be useful to you?

Table 4: Full interview questions used in the exit interviews, organized by theme.