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From Digital Inclusion to Behavioral Loss of Control A Study on Age-Friendly Experience Design for the Dilemma of Short Video Platform Addiction Among Older Adults

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Abstract: Short video platforms are important digital media for older adults to access information, seek emotional solace, and participate in society, facilitating their digital inclusion. However, driven by algorithmic recommendation, immersive interaction, and other mechanisms, some older users have developed uncontrolled usage, leading to problems like imbalanced time management and weakened real-life interaction. Unlike existing studies, this paper defines this addiction dilemma as an age-friendly experience design issue from a design science perspective, noting its formation is jointly caused by individual vulnerability and retention-oriented platform design. The dilemma is characterized by easy access but difficult exit, excessive immersion, insufficient discernment, and feedback dependence. Five optimization paths for age-friendly experience design are proposed to promote older adults' shift from "accessible usage" to "healthy usage".

Keywords: older adults, short video platforms, age-friendly design, experience design, behavioral loss of control

1. Introduction

Against the backdrop of simultaneous population aging and social digitalization, older adults have gradually become important users in Internet application scenarios. In recent years, with the popularization of smartphones, the penetration of mobile Internet, and the continuous advancement of age-friendly digital product transformation, a growing number of older adults have started using short video platforms. They browse news, health care knowledge, life skills, opera programs, and family records to obtain information support, emotional solace, and daily entertainment (Jie & Ibrahim, 2024). Characterized by convenient operation, intuitive content, rapid feedback, and low usage thresholds, short video platforms have to some extent compensated for the complexity and exclusivity of traditional digital products in elderly usage scenarios, becoming an important gateway for older adults' digital inclusion (Yu et al., 2024).

Nevertheless, "being able to access the platform" does not necessarily mean "being able to use the platform healthily". Under the platform operation logic centered on retention rate, dwell time, activity, and conversion rate, short video products often extend users' stay, weaken their willingness to exit, and reinforce repetitive viewing and consumption behaviors through mechanisms such as infinite scrolling, automatic playback, interest tracking, gold coin incentives, cashback red envelopes, and social assistance (Türk Kurtça & Doğru, 2026). For older users with relatively weakened cognitive control, insufficient risk identification, and strong needs for emotional companionship,such an experience

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structure of "low-threshold access、high-stimulation retention、strong feedback reinforcement" is more likely to turn digital inclusion into behavioral dependence, further resulting in uncontrolled usage (Li, 2025).

In real contexts, some older adults have developed problems such as prolonged immersion in short video platforms, disrupted circadian rhythms, excessive eye strain, reduced physical activity, and weakened family communication. Some frequently participate in activities like "watching videos for gold coins", "viewing ads for rewards", and "limited-time offers in live streaming rooms", gradually falling victim to consumption inducement and information misjudgment (Liao, 2024). Furthermore, under the long-term push of homogeneous content by algorithms, some even exhibit information bias, amplified emotions, and solidified misconceptions (Cui et al., 2026). It is thus clear that the problem of short video usage among older adults is no longer merely an access issue of "being unable to use technology", but has evolved into a deeper age-friendly problem of "how to avoid being coerced by inductive mechanisms".

Existing studies mostly analyze short video usage among older adults from the perspectives of digital divide, media usage, Internet addiction, or platform governance, but systematic discussions from the perspective of experience design remain relatively scarce. In fact, platform addiction does not entirely stem from insufficient individual self-control; to a large extent, it is related to the product's information presentation, interaction flow, feedback structure, recommendation logic, and exit support mechanisms (McGinley et al., 2022). Therefore, the dilemma of short video platform addiction among older adults is both a media usage issue and a design issue, involving not only "usability" but also "controllability, discernibility, exitability, and recoverability".

Based on this, this paper adopts a design science perspective to define relevant concepts, sort out the main manifestations of the addiction dilemma, analyze its formation mechanisms, and propose systematic optimization paths for age-friendly experience design. It aims to provide references for the design of digital products for the elderly, age-friendly platform governance, and the construction of an age-friendly digital society.

2. Definition of Relevant Concepts

2.1 Older adult users of short video platforms

The older adults discussed in this paper mainly refer to users aged 60 and above who possess basic smartphone operation skills and can access short video platforms independently or semi-independently for browsing, interaction, shopping, or socializing. It should be noted that older users are not a homogeneous group; they show significant differences in education level, urban-rural background, physical condition, family structure, digital literacy, and media preferences (Li et al., 2025). Some older adults gradually master short video usage skills with the help of their children, community training, or platform guidance, becoming "new users" of digital inclusion; others have formed stable high-frequency usage habits and integrated the platform into their daily routines (He et al., 2023).

In the field of digital aging research, British scholar Yates et al. (2015) proposed that older adults' digital access and usage capabilities are influenced by multiple factors such as educational capital, social networks, living contexts, and technical experience. Therefore, they should not be generalized as a single, static category of "older adults" but understood within a continuous spectrum of digital inequality. Compared with other Internet products, short video platforms have spread faster among older adults. On the one hand, short videos replace text interfaces with high reading barriers through a composite expression of images, sounds, and subtitles, which better fits the perceptual characteristics of some older adults (Jia et al., 2022). On the other hand, the platform significantly reduces information search costs through continuous recommendation and automatic playback, enabling older adults to obtain sustained content supply with low learning costs. Precisely because of their low access threshold, high

instant feedback, and strong immersion, short video platforms have become both an important medium gateway for older adults' digital inclusion and one of the digital arenas most likely to induce behavioral dependence.

This phenomenon can be explained by technology acceptance and media affordance theories. Fred Davis (1989) pointed out in the Technology Acceptance Model (TAM) that individuals' "perceived usefulness" and "perceived ease of use" of technology are key factors affecting their adoption intention. For many older users, short video platforms meet these two conditions with low thresholds, high intuitiveness, and instant entertainment.

2.2 The dilemma of short video platform addiction

"Addiction" was originally used in medical and psychological fields and later extended to research on behavioral issues such as Internet usage, gaming, and social media dependence. The "dilemma of short video platform addiction among older adults" referred to in this paper is not a strict clinical pathological diagnosis, but rather persistent, high-frequency, and hard-to-regulate viewing and interactive behaviors of older users when using short video platforms, leading to imbalanced time management, disrupted real-life routines, reduced judgment ability, and excessive emotional dependence on the platform (Liu et al., 2021).

Theoretically, this paper defines it closer to "behavioral addiction" rather than substance addiction. American psychologist Mark D. Griffiths (2005) noted in behavioral addiction research that addiction is not limited to substance intake but can also manifest as continuous reinforcement and loss of control over certain behaviors, with typical characteristics including salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse. Under this framework, older adults' frequent short video viewing, difficulty in stopping, feelings of emptiness after leaving the platform, and subsequent disruption of real-life order show obvious characteristics of behavioral dependence.

This dilemma mainly has the following features: first, high usage frequency and long dwell time, manifested as "casual browsing" and "difficulty in interruption"; second, anticipation of platform pushes, rewards, or interactions, with emotional reactions such as emptiness, anxiety, or loss after exiting; third, continuous encroachment on real-life rest, exercise, social interaction, and family communication; fourth, insufficient ability to distinguish the authenticity, commerciality, and value orientation of platform content, easily falling into misbelief, impulsive purchase, and repeated participation. Therefore, this paper conceptualizes it as "behavioral loss of control digital dependence" shaped by platform mechanisms, psychological needs, and living contexts.

2.3 Age-Friendly experience design

Age-friendly design refers to the targeted optimization of products, services, and environments based on the physiological, psychological, cognitive, and behavioral characteristics of older adults, making them more in line with the ability boundaries and real needs of elderly users (Li et al., 2025). From a design science perspective, age-friendly design includes not only usability transformations such as enlarged fonts, simplified buttons, and streamlined processes but also systematic reconstruction of experience dimensions such as information comprehension support, risk prompts, behavioral moderation, emotional guidance, and service collaboration.

Mace (1985) proposed that design should enable people of all ages, abilities, and backgrounds to use products and environments conveniently, safely, and with dignity. Scholars such as Lee (2012) further emphasized that design for older adults should not only stay at the level of functional compensation but also address their needs for autonomy, sense of participation, and social connection.

Experience design emphasizes users' perception, emotions, decision-making, and behavioral paths during usage. For short video platforms for older adults, truly effective age-friendly experience design should not merely lower access thresholds but also focus on reducing immersion risks, enhancing process controllability, improving information

discernment, and supporting timely exit (Li et al., 2026). Therefore, the age-friendly experience design in this paper refers to the construction of a friendlier, more moderate, comprehensible, and recoverable usage environment throughout the entire short video usage process of older adults through interaction design, information design, service design, and mechanism design.

2.4 The transformation logic from digital inclusion to behavioral loss of control

Digital inclusion is generally regarded as an important symbol for older adults to bridge the digital divide and participate in the digital society. However, inclusion does not naturally lead to improved well-being. For short video platforms, digital inclusion may bring information access, emotional companionship, and social participation, but it can also transform into highly dependent, sticky, and unreflective usage patterns driven by excessive commercialization and inductive mechanisms (Sánchez et al., 2018). In other words, the process of older adults moving from "being unable to use" to "frequently using" does not unidirectionally lead to digital benefits; instead, it may further develop into "being unable to quit" without procedural regulation. This judgment is theoretically supported by the evolution of digital divide research. Van Dijk (2005) pointed out that digital inequality is not only reflected in "access or no access" but also in layered differences in skills, usage patterns, and usage outcomes.

This transformation logic indicates that the current construction of age-friendly digital society has entered a new stage: it is necessary to not only solve the access problem of "being able to enter" but also respond to the experience issues of "being able to control", "being able to discern", and "being able to exit smoothly". In the media scenario of short video platforms, which heavily rely on algorithmic recommendations, incentive mechanisms, and immersive interaction, age-friendly design must undergo a deeper reconstruction from "convenient access" to "healthy usage".

3. From Inclusion to Loss of Control: Manifestations of the Short Video Platform Addiction Dilemma Among Older Adults

As short video platforms have gradually integrated into the daily lives of older adults, the problematic forms have shifted from "insufficient access" to "excessive usage and increased dependence". Combined with real observations and existing studies, the dilemma of short video platform addiction among older adults is mainly manifested in the following four aspects.

3.1 Easy access but difficult exit: coexistence of low-threshold access and high-inertia retention

Compared with e-commerce platforms, government service platforms, or comprehensive social products, short video platforms have a simpler usage path. Users can directly enter the content feed interface after opening the application, without complex searches or understanding of multi-level navigation structures. For older users, this interaction mode of "watch upon opening, switch by swiping" significantly reduces learning costs, enabling rapid digital access. However, low-threshold access is not accompanied by low-cost exit; instead, it has formed high-inertia retention to a certain extent.

Short video platforms generally adopt mechanisms such as infinite scrolling, automatic playback, and continuous recommendation. Users barely need to make explicit decisions again, as the platform can continuously provide the next piece of "potentially interesting" content (Scott, 1995). For older adults, this passive viewing mode easily prolongs usage time unconsciously, turning the original intention of "watching for a while" into prolonged immersion. Thus, the platform not only satisfies older adults' viewing needs but also continuously creates retention inertia through its interaction structure.

3.2 Excessive immersion: erosion of daily rhythms by platform time

Short video platforms not only occupy older adults' leisure time but also reshape their daily life rhythms to a certain extent. Some older adults have gradually converted time slots such as after waking

up, before and after meals, lunch breaks, and before bedtime into fixed moments for watching short videos, which have embedded into their life routines and become habitual actions. Once this usage habit is strengthened, it will crowd out rest, health, and real-life activities.

Specifically, firstly, prolonged screen viewing may cause physical problems such as eye fatigue, neck and shoulder discomfort, and delayed sleep. Secondly, time originally used for walking, exercising, reading, chatting, or community activities is occupied by the platform, reducing active behaviors in real life. Thirdly, some older adults suffer from disrupted circadian rhythms and decreased mental state during the day due to continuous short video viewing at night. This indicates that the platform's logic of "filling fragmented time" may further evolve into continuous encroachment on entire blocks of daily life time in elderly usage scenarios.

3.3 Insufficient discernment: intertwined risks of content misbelief and consumption inducement

The addiction problem of older adults on short video platforms is not only reflected in "long dwell time" but also in "excessive involvement in content and high trust". Due to relatively weak media literacy, information discrimination ability, and understanding of platform rules, some older adults are more likely to regard platform content as credible information sources, especially on topics such as health care, social news, policy interpretation, and emotional narratives, where they tend to form high recognition. However, the content ecosystem of short video platforms is highly mixed, including authoritative popular science as well as information with exaggerated headlines, arbitrary conclusions, emotional incitement, and even false marketing. Some accounts enhance credibility through "expert tones", "acquaintance narratives", or "personal stories", further inducing older users to like, forward, place orders, or participate in live streaming consumption. When older adults immerse themselves in such content environments for a long time, their judgment basis tends to shift from real-life experience to platform experience, from prudent identification to emotional belief, thus forming a reinforcing cycle of "viewing 、 identification 、 consumption、re-viewing".

3.4 Feedback dependence: mutual reinforcement of emotional solace and social substitution

The continuous usage of short video platforms by some older adults is not entirely driven by content consumption needs but is more related to their pursuit of emotional compensation and social feedback. With family miniaturization, busy children, weakened acquaintance networks, and reduced offline interaction opportunities, some older adults face insufficient companionship, fewer expression opportunities, and scarce responses in daily life. Short video platforms provide instant and visible feedback through likes, comments, follows, private messages, and live streaming interactions, enabling older users to gain psychological satisfaction of "being seen", "being responded to", and "being recognized" (Sheeran, 2002).

Especially when receiving likes and comments after posting content, the positive emotional experience brought by platform feedback further strengthens their motivation to continuously express and log in repeatedly. For some older adults with weak real-life social role perceptions, the platform even becomes an important space for rebuilding a sense of presence and value. The problem is that such feedback is often instant, superficial, and replaceable. Once it gradually replaces real family communication, neighborhood interactions, and offline activities, platform usage is no longer merely an entertainment behavior but evolves into a structural dependence of emotional regulation on digital media.

4. Analysis of the Causes of the Addiction Dilemma Among Older Adults on Short Video Platforms

Addiction to short video platforms among older adults is not caused by a single factor, but results from the coupling of individual physical and mental characteristics, emotional compensation needs,

platform operation logic, and biased age-friendly design. From a design perspective, behavioral loss of control is not merely reflected in increased usage frequency, but is closely related to the platform's specific arrangements in information presentation, interaction organization, feedback structure, and exit support. Essentially, the addiction dilemma represents a structural match between the relatively vulnerable usage conditions of older users and the high-stickiness experience mechanisms of the platform (van der Vaart & Drossaert, 2017). Specifically, its causes are mainly reflected in the following four aspects.

4.1 Changes in perceptual and cognitive resources enhance the pulling effect of immersive interaction

With aging, individuals generally experience declines in visual recognition, auditory reception, working memory, sustained attention, and information processing speed. Relevant studies show that when facing complex hierarchical structures, high-density textual information, and multi-task operating environments, older users tend to rely on intuitive, single, and clearly feedback-based information forms (Venkatesh & Bala, 2008). Compared with traditional graphic and textual media, short videos are characterized by continuous playback, audiovisual integration, short duration, and relatively low comprehension thresholds, which better align with older adults' preference for low cognitive load in media reception, making them more easily integrated into daily usage scenarios.

However, "easy to understand" does not equal "easy to control." From an experience design perspective, short video platforms construct a sustained attention environment through automatic playback, seamless switching, waterfall flow structures, strong visual stimulation, and instant responses (McLellan, 2000), which reduces behavioral interruption points, shortens reflection time, and improves attention adhesion. For older users with relatively diminished cognitive control, such an interaction structure more easily traps them in a passive following state rather than active choice. Therefore, high platform retention stems not only from content appeal but also from design mechanisms that sustain attention flows through low-burden interactions.

4.2 Emotional compensatory usage forms an important psychological basis for platform dependence

The persistence of short video usage among older adults is also closely linked to changes in their emotional structures in real life. With family miniaturization, regular population mobility, and weakened connections in acquaintance societies, some older adults face insufficient companionship, sparse interactions, and restricted social participation in daily life (van Hoof & Marston, 2021). Especially for empty-nesters, solo elders, and migrant elderly, the shrinkage of real social networks often leads to expanded daily time gaps and relatively limited channels for emotional release. Against this background, short video platforms, with their low entry thresholds, instant availability, and continuous feedback, have gradually become an important media environment for older adults to obtain emotional comfort and a sense of companionship.

Notably, older adults' dependence on the platform is not fully reflected in preferences for specific content, but more in the need for a "continuous sense of presence." Platform elements such as live-stream interactions, comment replies, like notifications, and updates from familiar creators provide lightweight yet high-frequency emotional feedback at a low cost. Although such feedback does not constitute stable and in-depth social relationships, it sufficiently creates feelings of being responded to and cared for at the experiential level, thus endowing platform usage with obvious compensatory functions.

4.3 Retention-Oriented platform mechanisms systematically strengthen dependent experiences

From the perspective of product operation logic, as commercial digital media, short video platforms typically center key indicators on user activity, dwell time, content conversion rate, and consumption conversion (Bahrampoor Givi et al., 2025). Therefore, in product design, platforms often construct an

experience closed loop oriented toward continuous retention through mechanisms such as algorithmic recommendations, task incentives, social feedback, welfare rewards, and live-stream marketing. For older users, these mechanisms are not neutral functional settings, but important external conditions that drive repeated entry and delayed exit.

First, by continuously recording viewing duration, click preferences, likes, comments, and sharing behaviors, algorithmic recommendations increasingly enhance the individual matching of content distribution, trapping users in a cycle of "more accurate recommendations, more viewing." For older adults with relatively weak media reflection and information judgment abilities, highly matched recommendations more easily boost platform appeal and reduce the likelihood of actively ending usage. Second, incentive mechanisms such as check-ins, gold coins, red envelopes, and point redemption frame viewing as a daily activity with "benefits," objectively enhancing the rationality of repeated usage. Particularly in some "lite version" products, viewing time is directly tied to cash rewards, turning video watching from mere entertainment into behavior with additional utility, further raising exit costs.

4.4 Age-Friendly design focuses on accessibility improvement and insufficiently responds to healthy usage needs

In recent years, age-friendly transformation has become an important topic in digital product optimization, with relevant practices mainly focusing on font enlargement, color enhancement, voice broadcast, streamlined processes, and prominent function entries (Amouzadeh et al., 2025). These transformations have achieved remarkable effects in lowering access thresholds and improving operational accessibility, and have to some extent promoted digital inclusion among older adults. However, from the usage scenario of short video platforms, current age-friendly design generally still emphasizes "enabling older adults to access" while rarely addressing deeper issues such as "helping them maintain moderate usage, accurately understand information, and exit smoothly."

From a design science perspective, this limitation reflects that current age-friendly goals mainly stay at the level of functional usability, with insufficient attention to behavioral regulation and risk intervention during continuous usage. Although many platforms have adopted elderly-friendly transformations at the interface level, they still follow a general design framework oriented toward maximizing retention in key links such as recommendation logic, continuous playback, incentive structures, risk prompts, and exit support (Earnshaw et al., 2017). As a result, while the threshold for older adults to enter the platform has been lowered, support mechanisms for controlling usage rhythm, identifying risky content, and making exit decisions have not been established simultaneously.

Therefore, the addiction dilemma of older adults on short video platforms can be interpreted to a certain extent as a result of unbalanced age-friendly design goals: platforms have completed "access-friendly" transformations but have not yet shifted toward "moderation-friendly," "discer-nment-friendly," and "exit-friendly" design. This also means that short video addiction among older adults is not only a problem of individual usage deviation but also a consequence of age-friendly experience design failing to fully respond to demands for healthy usage.

5. From Access-Friendly to Moderation-Friendly: Optimization Paths for Age-Friendly Experience Design of Short Video Platforms for Older Adults

Facing the realistic risk of older adults shifting from "digital access" to "behavioral loss of control" on short video platforms, the goal of age-friendly design should not stop at enabling older adults to "use" but further shift toward helping them "understand usage, moderate usage, identify risks, and exit smoothly when needed." The previous analysis shows that short video platform addiction among older adults is not purely caused by insufficient individual self-control, but results from

interface inducement, algorithmic traction, mixed content, feedback reinforcement, and absent support. On this basis, this paper argues that age-friendly experience design for short video platforms for older adults should shift from previous functional transformations focusing on "visibility and operability" to process support emphasizing "comprehensibility, interruptibility, discernibility, adjustability, and assistance." Specifically, it can be promoted in the following five aspects.

5.1 Promote comprehensible interaction design based on cognitive friendliness

Most existing platform age-friendly transformations focus on sensory aspects such as enlarged fonts, enlarged icons, and simplified pages, mainly solving the problem of older adults "not seeing clearly or clicking accurately." However, the key risks of short video platforms do not entirely occur at the access stage, but more during continuous usage. For older users, the real obstacle is often not invisible interfaces, but incomprehensible system logic, unclear operational consequences, and unperceivable usage status (McGinley et al., 2022). Therefore, age-friendly design should first shift from "visibility transformation" to "comprehensible interaction" construction.

On the one hand, interface information density and functional coupling should be reduced to avoid excessive competition for older adults' attention resources. For high-interference elements such as pop-up reminders, floating entries, red envelope incentives, live-stream jumps, product links, and automatic playback, the elderly mode should adopt a lower-stimulus, more hierarchical interface organization, stably present core functions, compress unnecessary entries, and weaken the visual weight of instant rewards and inductive prompts (Jimenez et al., 2023). On the other hand, clearer column naming, more distinct page boundaries, and more prominent scene prompts should help older adults establish stable cognition of different content spaces such as "viewing," "live streaming," "shopping," and "following," reducing misentry, misclicks, and misjudgments.

More importantly, platforms should enable older users to perceive their current usage status. For example, process information such as current browsing scene labels, cumulative viewing duration prompts, and continuous swipe reminders can be added to the elderly mode to moderately visualize originally implicit behavioral trajectories, thereby helping older adults restore understanding and control over the usage process.

5.2 Construct interruptible experiences oriented toward behavioral moderation

As previously pointed out, one important inducement of short video platform addiction among older adults is that platforms form a low-decision, low-cost, highly continuous immersive usage structure through infinite feeds, automatic playback, and continuous recommendations. For older users with slowed reaction speeds and weakened time perception, such "boundless usage" models significantly impair their ability to stop voluntarily. Therefore, age-friendly design must reconstruct behavioral rhythms, break the platform's one-way reinforcement of continuous retention by setting interruption points, enhancing a sense of stages, and improving exit accessibility.

First, "unconscious continuation" should be reduced and "node awareness" enhanced. In the elderly mode, platforms can weaken the default infinite connection, change content feeds from completely unbounded scrolling to staged presentation, and provide explicit options of "continue watching" or "watch later" after users watch continuously for a certain number or duration. Second, an exit-friendly operation structure should be improved, with shortcut functions such as "one-click rest," "pause recommendations," and "timed shutdown" set at fixed positions on the interface, and exit costs reduced through larger, clearer button styles and stable layouts. Third, time feedback design should be strengthened, helping older adults establish a sense of usage boundaries through low-interference yet continuously visible viewing duration prompts, time-period reminders, and low-stimulation night modes (Carlsson &

Walden, 2015).

The key to interruptible experience design lies not in simply adding restrictions, but in creating opportunities for older users to "make decisions again" through design, turning moderation from individual will into system support.

5.3 Strengthen information discernible design focusing on risk identification

The risk of short video platform addiction among older adults lies not only in "staying too long" but also in that continuous immersion may weaken their vigilance against misinformation, emotional incitement, and consumption inducement. Especially in scenarios such as health popularization, disease treatment, elderly care services, financial management, and live-stream sales, older users are more prone to misbelief and impulsive purchases due to high discernment thresholds. To this end, age-friendly design should not only emphasize "content accessibility" but also "information discernibility."

First, content source identification should be strengthened through a clearer, unified, and understandable identification system. For high-risk information involving health, finance, policies, and elderly care, official certification, professional qualifications, and platform verification status should be highlighted in the elderly mode, and their authority clearly indicated through concise and intuitive visual methods. Second, risk early warning design in key scenarios should be enhanced, with more direct prompts and prominent interface language used for content such as live-stream shopping, external link jumps, preferential promotions, course payments, and health product recommendations to remind users of marketing attributes and potential risks (Martins et al., 2021). Third, decision-support functions should be added, such as auxiliary entries for "check source," "content verified or not," and "help me judge," to help older users quickly obtain secondary verification support when facing difficulties in judgment.

The core of information discernible design is not to make decisions for older adults, but to enhance the possibility of their prudent judgment by reducing discernment costs and increasing cognitive pauses (Sun et al., 2025).

5.4 Establish health-oriented recommendation mechanisms centered on algorithmic moderation

If interfaces and interactions determine how older adults enter the platform, algorithmic recommendations determine why they stay, how long they stay, and what content trajectories they are led to. As previously noted, short video addiction among older adults is driven not only by individual interests but also by platforms' algorithms that continuously reinforce existing preferences. Especially when the system repeatedly pushes highly emotional, familiar, and inductive content, older users are more likely to fall into repetitive viewing, emotional dependence, and impulsive consumption. Therefore, age-friendly design should not stop at front-end interface optimization but also include recommendation mechanisms in health governance.

On the one hand, platforms should establish more moderate recommendation rules in the elderly mode: instead of taking "maximizing viewing duration" as the sole sorting criterion, dimensions such as content diversity, emotional balance, and risk sensitivity should be appropriately introduced to restrict the continuous push of highly stimulating, inciting, and consumption-inducing content (Eliseo et al., 2020). On the other hand, the interpretability of recommendation logic should be improved, with concise explanations of "why this is recommended to me" added at appropriate locations, and users allowed to select preference adjustment options such as "see less of this content," "reduce shopping live streams," and "lower emotional content recommendations" through simplified operations. The key to age-friendly algorithms is not to create a dedicated content pool that is easier for older adults to immerse in, but to establish a recommendation relationship that balances companionship value, information quality, and behavioral health.

5.5 Improve collaborative care experience by extending supportive systems

Short video platform addiction among older

adults does not entirely occur within the screen; it is also closely related to emotional gaps, insufficient intergenerational communication, and limited social participation in real life. Therefore, relying solely on interface reminders and usage restrictions is insufficient to fundamentally alleviate the immersion dilemma. Age-friendly experience design should also expand from single product design to supportive service design, forming a digital usage support system with more care attributes by connecting family, community, and platform resources.

At the family level, with the consent of older users, platforms can embed authorized assistance functions such as night rest mode settings, abnormal consumption reminders, and high-risk content prompts, based on the principle of "assistance rather than monitoring." At the relational level, platforms can design more content and task mechanisms conducive to intergenerational interaction, such as co-viewing, co-learning, and co-sharing functions, turning isolated immersion into opportunities for real communication (Gradiški et al., 2023). Meanwhile, at a broader service level, platforms should also link with community organizations, elderly education institutions, and grassroots service stations to provide older adults with support such as media literacy improvement, risk identification education, and digital behavior counseling.

The value of supportive systems lies in transforming older users from isolated individual users into continuously supported social members, extending age-friendly design from the product front desk to a complete service chain.

6. Conclusion

As digital technology continues to embed into the daily lives of older adults, short video platforms have become an important media space for them to access information, gain companionship, and participate in society. In this sense, older adults' access to short video platforms reflects progress in digital inclusion and indicates certain achievements in the construction of an age-friendly digital society. However, digital inclusion does not necessarily lead to digital well-being. Especially under the platform logic centered on retention and conversion, older adults, due to their perceptual and cognitive characteristics, emotional compensation needs, and limited media literacy, are more susceptible to immersive interactions, continuous recommendations, and commercial incentive mechanisms, thus sliding from "able to use" and "frequent use" to "uncontrollable use."

From a design science perspective, this paper summarizes the addiction dilemma of older adults on short video platforms into four main manifestations: easy access but difficult exit, excessive immersion, insufficient discernment, and feedback dependence. It argues that behind these manifestations lie both individual-level changes in abilities and emotional needs, as well as platform-level inductive mechanisms and biased age-friendly design. Current age-friendly transformations of digital products still mainly focus on usability optimization at the access level, with insufficient attention to comprehensibility, controllability, discernibility, and exitability during usage, leading "convenience" to become a prerequisite for addiction in some scenarios. Therefore, age-friendly design of short video platforms for older users should further shift from "access-friendly" to "moderation-friendly, discernment-friendly, and health-friendly," realizing deepening from functional adaptation to experience governance.

Based on the above analysis, this paper proposes five design paths: promoting comprehensible interaction design, constructing interruptible experiences, strengthening information discernible design, establishing health-oriented recommendation mechanisms, and improving collaborative care experiences. The common goal of these paths is to enable older adults to maintain basic control over time, content, and behavior while enjoying the convenience and companionship of digital media through collaborative optimization of interfaces, interactions, algorithms, information, and service systems. In short, truly valuable age-friendly design not only helps older adults enter the digital

world but also helps them maintain rhythm, understand rules, avoid misleading, and preserve life order in the digital world. This is both an important issue that design science should address in the context of an aging society and a proper direction for platforms to assume digital responsibility and promote high-quality digital inclusion.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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