

Autonomy Out of Control: Time Management in the Mediated Age

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Abstract: A response to the growing trend of “internalization” has been the usage of time management software (apps) by young people to quantitatively manage time and improve self-efficiency. This study explores the tensions that today’s youth experience between “autonomy” and “loss of control” in the digital age while examining the effects of the quantitative self “visible” characteristic and monitoring mechanisms in time management apps on users. The goal is to make time management techniques as effective as possible for this group. Instead than depending on straightforward dualism, it is crucial to understand that resolving structural difficulties necessitates a multidimensional approach. Thus, sociocultural viewpoints should be taken into account while analyzing and researching time management.

1. Introduction

Manuel Castells claims that “timeless time”—a state of time devoid of temporality—serves as a defining characteristic of the contemporary network society in his book *The Emergence of the Network Society*.^[1] The post-epidemic era brought about a flexible time era, which in turn increased people’s desire for time. The current era of big data and ubiquitous mediation is closely related to this increased sense of time constraint.

Applications for time management are used by younger populations to quantify and control their time. In response to the pervasive trend of “internalization,” these apps deploy monitoring techniques intended to increase users’ productivity. The majority of time management programs are digital assemblages that depend on smartphones and smartwatches to give users individualized time information. These tools are intended to enhance users’ time management skills and sense of self-efficacy, resulting in a better user experience. They also help users quantify their learning goals and concentration times, which ultimately promotes self-awareness.

However, the use of time management software by young people is not without issues. These difficulties reflect not only the mediatization-era tendencies of this group of people, but also important facets of social change and advancements in media technology in China^[2]. The goal of this study is to investigate time management apps as a field of network observation, focusing on the “visibility” characteristic of the quantified self and the effects of these apps’ monitoring features on their users. Furthermore, it aims to investigate how modern youth groups in the networked era balance “autonomy” and “loss of control.” This research aims to improve time management techniques for young people by exploring the conflict between “autonomy” and “loss of control” that characterizes the contemporary youth experience in the networked era.

2. The Secret of visibility

2.1. Time Management Applications

Applications for time management are increasingly common in modern life and in educational contexts. In software stores, such as Apple’s App Store, time management applications are categorized under “productivity”, alongside note-taking and office software. These programs are

made to help users handle their time effectively and efficiently.

The use of quantitative time management methods is not an isolated phenomenon in the media age^[3]. However, when compared to traditional paper-and-pencil records or alarm clocks and timers, time management apps represent a more advanced form of self-quantification in the digital era. These applications incorporate various features, such as embedded timers, rewards, rankings, points, and levels, as well as “gamification” elements designed to motivate users.

In addition, time management apps seamlessly integrate multiple aspects of users’ lives, including task lists, daily reviews, class schedules, and daily habits. This thorough approach produces a user-friendly and straightforward platform that makes it simple for people to optimize their time management techniques.

2.2. The “Quantity” and “Quality” of time

Marx once posited that “as value, all commodities are only a certain amount of congealed labor time”^[4]. The production model of industrial society has established a strong correlation between the value of output and time, leading to the notion that “time is money” in a quantifiable sense. This quantitative perspective on time, which emphasizes high efficiency and high output, profoundly impacts individuals’ lives, production processes, and even their value systems. Time, as a linear and homogeneous entity at the objective level, progressively becomes a major force in managing and controlling human activity.

Whereas the “quality” of time concentrates on the idea that time is dependent on events, the “quantity” of time is focused on the idea that events are dependent on time. British scholar Hassard challenges the view that time is solely a matter of “quantity” and argues that the “quality” of time is of greater importance. The “quality” of time allows for the meaningful experience of events themselves, without neglecting the significance of these occurrences.

Focusing solely on the benefits brought forth by the quantitative aspect of time may narrow the broader understanding of time that can be pursued, potentially overshadowing the importance of its “quality.”

2.3. Time “Visibility” and Invitation to Surveillance

Time management in the internet era follows the path of big data and provides users with a transparent “visibility” of time. According to Michel Foucault, visibility is a form of entrapment, with the audience serving as the target rather than the subject of communication, leading to an unequal distribution of visibility rights.^[5] With the emergence of the internet era and the prevalence of mobile communication, surveillance has expanded beyond spatial confines, subjecting individuals’ lives and privacy to constant observation.

Foucault drew inspiration from Bentham's Panopticon in his original conceptualization of the surveillance mechanism. However, recent advancements in new media technologies have given rise to a reimagining and transformation of this structure.^[6] Prisoners can now invite others into their figurative prison, allowing for mutual monitoring and subsequently stepping up surveillance. Prisoners are no longer isolated. As a result, in addition to users tracking their learning trajectories, the media age fosters “participatory surveillance” through interactions with information networks, allowing people to examine others' learning time, content, and even work schedules via software, which can be visualized through pie charts and learning status analysis.

Bauman et al. suggest that surveillance has become fluid and liquid in the media age^[7], but this “liquid surveillance” emerges due to the undifferentiated rights and access to functions that software grants users. In reality, “membership” differentiates between ordinary users and member users, creating both distinction and hierarchy^[8]. The “visibility” is amplified by the privileges afforded to members, necessitating further exploration of the role of visibility in mediated time management software^[9].

3. Research Method

This study seeks to address the following questions: 1. How does time management in the

mobile era impact youth groups; 2. How do youth groups balance the dynamics of “loss of control” and “autonomy” in the context of the quantified self’s time data? Methodologically, the sociological shift toward everyday life emphasizes establishing intersubjectivity between the researched and the researcher; this is achieved by fostering empathy and experiencing a “shared environment of understanding” through in-depth interviews, participant observation, and similar methods.

To investigate these questions, this study adopted a combination of the App walk-through method and unstructured in-depth interview techniques. In the initial phase, the top seven apps (Forest, iHour, Tomato Todo, Minimal Todo, and Small Daily) were selected from the App Store using the keyword “time management” for immersive participatory observation and experience. The researcher observed the impact of the software on the users and experienced the specific privileges afforded to paying users.

In the research process, the author aimed to dismantle the binary structure of online and offline thinking, incorporating the researcher’s personal life ecology as the content and subject of unstructured interviews to reduce the positivistic structure and measurement thinking. The study focused on the subjectivity of time management software users, the mechanisms of self-psychological operation and action, and the interpretation of the interviewees’ usage meaning. The interviews concentrated on the participants’ active statements regarding their struggles with time management, the software’s usefulness, and the changes in their selves, while exploring the reasons for such changes to comprehend their true meanings.

Considering the methodological framework, the researcher is also an experienced user of Tomato TODO and iHour time management software, having used these applications for approximately 1000 hours since 2018. This study employs the researcher as a tool to record various experiences in using each time management software. Concurrently, users and non-users of different software were selected as research subjects, completing in-depth interviews with 27 participants (15 female, 12 male). Refer to Table 1 for the interviewee identification numbers.

Table 1 Respondents’ basic information

Number	Gender	Age	Identity	Time management apps used
1	Female	20	Undergraduate	Tomato TODO; iHour
2	Female	21	Undergraduate	Tomato TODO
3	Female	24	Postgraduate	Forest
4	Male	18	High school student	Tomato TODO; Forest
5	Female	17	High school student	Forest
6	Male	21	Undergraduate	Tomato TODO; Small Daily
7	Female	28	Doctor	Forest
8	Female	22	Postgraduate	Tomato TODO; iHour
9	Female	18	High school student	Tomato TODO
10	Male	21	Undergraduate	iHour
11	Male	17	High school student	Tomato TODO
12	Male	21	Undergraduate	Tomato TODO; Tick List
13	Female	20	Undergraduate	iHour
14	Male	21	Undergraduate	Tick List; Small Daily
15	Female	20	Undergraduate	Tomato TODO
16	Female	21	Postgraduate	Tomato TODO
17	Female	25	Doctor	iHour
18	Male	22	Doctor candidate	Tomato TODO
19	Male	19	High school student	Tomato TODO; Forest
20	Female	22	Postgraduate	Small Daily
21	Male	21	Undergraduate	Minimal To-do
22	Female	20	Undergraduate	Forest
23	Male	21	Postgraduate	Tomato TODO; forest
24	Female	19	Undergraduate	Tomato TODO
25	Male	22	Postgraduate	Forest
26	Female	17	High school student	Minimal To-do

4. The Pursuit of Time Management Self-Optimization

Generally, time management apps are labeled as “productivity” in the app store. Based on personal experience, most of these apps contain features such as focus mode, habit formation, and event tracking. During the interview process, the most frequently mentioned app was “Tomato TODO.” The Pomodoro Technique is used by the straightforward app Tomato TODO to promote focus by fusing work and play. The software offers three categories: tomato timer, goal setting, and habit development, along with three timing methods: forward timing, countdown timing, and no timing.

Tomato TODO offers visualizations like daily wake-up, sleep tracking, and study time distribution pie charts, as well as daily, weekly, and monthly time statistics. By providing answers to questions like “How long have I studied?” and “What have I accomplished?,” users are able to understand their time management. The maximum number of time habits or plans that regular users can establish is six, while premium users have no such restrictions. Premium membership is the primary revenue source for the app.

Regarding pricing, among several timekeeping applications, a lifetime or long-term membership is often more cost-effective than a single monthly membership when utilized with the same frequency. A three-year membership for Tomato TODO costs \$50, while an iHour lifetime membership is \$30. Most users seeking to unlock additional features opt for a premium membership.

Task-oriented and time-oriented methods to time management can be distinguished based on the technical features offered by time management software. However, irrespective of whether the focus is on time or tasks, the primary motive is to “avoid using the phone.” For instance, the software starts a countdown for task completion when you create a task in the iHour app, such as “write course paper for 2 hours.” Within the 2-hour timeframe, users are allowed a 5-minute pause to exit the app. If the program is exited for more than 5 minutes, the task is considered a failure.

Users typically set a specific starting time in task-driven mode, such as “start writing the paper,” when using this mode. The main difference between task-oriented and time-oriented techniques is the latter's less precise definition of time.

“Sometimes, using the app isn’t solely about studying; it’s more about finding a way to distance oneself from the phone and do something else. After all, the temptations on the phone are too great, and time seems to pass quickly when using it. (12)” “In fact, it’s like a switch; opening the app signifies my intention to start studying. (2)”

The operation of time management apps in the era of mediatisation revolves around two aspects: reconstructing time reference and reconstructing sequential time^[10]. Users reorganize disordered time through information means, with time calculation and enforced locking as the primary methods. These techniques serve to digitally disconnect and control the use of cell phones, thus avoiding distractions during the learning process. In the process of use, users’ initially fragmented time coalesces into blocks, and even if they focus only for 40 minutes at a time, combining 4-5 instances a day results in 4 hours of focused work. Consequently, the subjective perception of learning is transformed into measurable and visualized quantitative data, with individual focus quantified and presented as data.

“When I use these apps, I feel reassured that my time is not being wasted, especially when I know that I’ve studied for more than 8 to 9 hours a day. (16)” “I would open the app and complete tasks, but I struggle if I finish a focus task without recording it. (20)”

Foucault suggested that uninterrupted verification is one of the essential tools of discipline, and the implementation of such verification involves transforming individual information into “homogenized symbols” that can be more easily compared and measured when de-contextualized^[11]. The youth group uses the performance of time management apps to form quantifiable focus symbols, sharing them with others and measuring themselves against a so-called “self-discipline” standard to ensure they are spending their time productively instead of aimlessly using their phones. Since the ego’s notion of time during the focus process is imprecise and abstract, quantitative procedures “solidify” the nebulous focus period into a number or a chart on a page. The past is always safe and secure, while the future is full with uncertainty. By quantifying and studying

previous time, young users strive to fit the unknown future into a streamlined digital timeline.

5. Ego Cannibalization Caused by Quantitative Data

In the process of using time management apps, interviewees often felt that their sense of self was constrained by data, with the data quantification mechanism imposing limitations on their learning mode in an imperceptible manner^[12]. The above analysis of time management apps primarily focuses on their mediated form, raising questions about the potential erosion of self-subjectivity by these apps. According to Foucault, setting up schedules for particular activities is a crucial way for organizations to exert time control over people. While the setting of schedules appears to create an idealized work model for individuals, it overlooks the importance of flexible self-controlled time.

“Sometimes, I exit the app midway, but it only allows for a 20-second break. The app forces me to write down the reason for leaving, but I might have just needed to answer a phone call or respond to a text message, both necessary tasks. If I don’t provide a reason, it feels like I’ve given up on my study hours. I generally just write something random, like searching for a cheat software, as I find this mechanism quite silly. (25)”

Drawing on Hegel’s analysis of free will, Couldry and Mejias regard the essence of autonomy as a concept of inner life, in which an individual’s life remains under their own control^[13]. However, the quantified self surrenders autonomy to external software devices, giving rise to an ideology in which external data processing systems understand our existence better than we do ourselves, dismantling the space of subjectivity in which individuals can enjoy freedom. The fragmentation of time was evident in various aspects of the interviews.

To address this dilemma, some apps have introduced whitelists. However, the emergence of whitelisting, which allows users to add their favourite software to a list of allowed programs, has gradually lessened the need to learn. Reasons such as the inability to leave messages unanswered or words unread have worn down the initial desire to learn and internal drive. Thus, all attention gets focused on operating the time management software while remaining concealed from the public.

Simultaneously, time possesses a social nature, and the temporal order is a product of social constructs. For instance, the “Pomodoro Technique” for focus has been widely implemented in numerous concentration software applications and is considered an idealized model of time management, consisting of 25 minutes of study followed by a 5-minute break before resuming the next study session.

“I’ve tried using time management software, like tomato clocks, at the suggestion of friends. However, I’m the type of person who procrastinates until the last minute, then works for eight or nine hours straight before submitting a manuscript to ensure it’s coherent and smooth. I won’t do anything else in between, except for bathroom breaks. But with the tomato clock, I’m forced to take a break every 25 or 30 minutes, or check my phone to see how long I need to focus. This actually interrupts my thoughts and reduces my efficiency. I feel like my motivation can’t align with the software, and I can’t be controlled by it anymore, so I uninstalled it. (3)” *“The quantification of everything makes me feel sick. I now record everything I do, even counting sleep as focus hours. Seeing a full time record brings me both happiness and anxiety. (7)”*

While time management software can effectively deter users from engaging with entertainment applications, it may also inadvertently increase the stress associated with managing tasks. These intangible constraints, whether manifested through quantifying time, establishing schedules, or compulsively documenting events, can ultimately erode the individual's sense of self through data-driven mechanisms.

6. Time Tracking for Surveillance Invitations and Social Atmosphere

Users typically use time management apps to increase their own productivity, and as these tools become more and more popular, more people are starting their own networks and organizations. Within these communities, the visualization of focus time serves as a crucial component. Many apps also integrate social features, enabling the creation of online study rooms where participants

can compare their daily study time and focus content, fostering a sense of competition.

For instance, the Forest app allows participants to form groups and work collectively for a predetermined number of hours, during which they must maintain their focus; otherwise, the small trees they have planted will wither. In Tomato TODO, users can join study rooms and participate in daily rankings. These study rooms typically consist of users with similar learning objectives, and the duration of study is considered indicative of the depth of learning, thereby exerting peer pressure.

On the Weibo super-talk #study account, most users share images of their study time, and the majority of respondents in this study mentioned that peer pressure and external supervision can provide sufficient motivation for self-regulation .

While swiping data is not uncommon in time management apps, and users may be positively motivated by others' data to some extent, the phenomenon of data climbing eventually emerges. In this context, self-regulation becomes distorted, and checking others' rankings transforms into a covert competition rather than self-improvement, leading to an alienation of time.

“Seeing how long others focused makes me feel very nervous. We are all studying for professional graduate school, and they could be my competitors. I can't afford to lose to them. (6)”
“I even used to include sleep in my usage time, worried that others would surpass my focus length. I compared my focus data with them daily. Eventually, I realized that I was being controlled by the tool, which didn't seem right. I wasn't feeling good about myself, so I quit the study group. (24)”

7. Conclusion

We create the tools, and the tools, in turn, shape us. Despite the numerous issues associated with time management apps, disconnection when using these apps has become a luxury in an era characterized by fluid mediatization. Their existence establishes a rationalized disconnection within our lives—an “absence” that is considered normal, providing a buffer for individuals to evade societal control.

Some users continue to experience time anxiety even after utilizing time management apps. They indulge in self-reflection and self-questioning, frequently feeling lost. Yet, these challenges may not necessarily arise from insufficient personal efficiency, but rather from overwhelming workloads. Among the structural time anxiety brought forth by contemporary society pressures, individual time management tactics only form an onerous and laborious struggle. In addressing the time management paradigm in the media era, it is crucial to move beyond a simple “use” or “discard” interpretation and explore deeper socio-cultural issues at play.

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