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Plant Tree in the *Forest* to Grow Yourself

- A case study of Chinese young people's everyday practice of *Forest* use

Rucai Peng

Supervisor: Fredrik Schoug
Examiner: Michael Bossetta

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Abstract

Unlike in the past, the path to adulthood has become more complex and varied for young people today than ever before. Twenty-somethings must be ready to adapt to the challenges and difficulties of this period. Over the last decade, with the development of the digital age, smartphones have become an indispensable part of people's lives, especially for young people. In China, the use of smartphones has expanded and profoundly influenced how people live their daily lives. The case study of *Forest*, a screen-control app, provides insights into the experiences of contemporary Chinese young people in their everyday practices and the new pressures and challenges they face in adulthood. Qualitative interviews were used to explore their motivations for using *Forest*, the experiences they gained, and the role of *Forest* in their daily lives. The Chinese examination system, smartphone addiction, digital disconnection, medical regulation, self-presentation, collectivism and individualism, face *(脸 lian)* in traditional Chinese culture, parenting and the sense of independent and autonomous self are some topics explored in the study.

Through qualitative, in-depth interviews with eleven participants, the author understands that stages characterise the context in which young people use *Forest*s. For young people in their twenties, the pressure from the many exams in their daily lives becomes a factor that makes them procrastinate on the matter of studying. Message notifications from *WeChat* and unequal power relations make them want to engage in digital disconnection. The dangers of addiction and the lectures about medicine conveyed to them by their families and social institutions, in turn, make them form false perceptions of their abilities. At the same time, in the small collective formed by the group, the face *(脸 lian)* in the Chinese cultural context is the main reason for the young people's active participation and conscientiousness in giving, as it is the image projection of their selves in the public space. The study also found that those who give for the collective interest and those who place more importance on pursuing personal values coexist among contemporary Chinese young people. In addition, because they were not encouraged to develop a sense of responsibility for themselves during adolescence, using *Forest* is also a process of awakening and creating an understanding of independent self-consciousness among young Chinese. Meandering but still moving upwards, *Forest*, for them, has gone from being a management tool to a means of self-expression. In conclusion, this study suggests that young Chinese people are facing both new challenges characteristic of the times and old problems prevalent as they move towards adulthood in the context of the digital age.

Key words: Adulthood, smartphones, young people in China, smartphone addiction, parenting, medical regulation, collectivism, face *(脸 lian)*

Acknowledgement

This study is very Chinese, which includes family education and the examination system, and there will also be a little bit of the Chinese concept of hierarchy. It is not necessarily comprehensive nor necessarily represents the whole picture of young people in contemporary China. However, what I have written here is the experience of the people I have observed happening here now, and it is also the imprint of my own life. In the two years since I came to China to study in Sweden, I have occasionally felt like I was re-parenting myself. This doesn't necessarily mean that the way my parents raised me was wrong, but there must be a little bit of special meaning behind it, and that's where this research started.

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Table of Contents

Figure content

1. Introduction

Traditionally, a person's path to becoming an adult is widely recognised as consisting of five stages: leaving home, completing school, entering the workforce, getting married and having children. Unlike in the past, many social scientists have argued over the last two decades that the transition of young people becoming adults has become more complex, multifaceted, and extensive than ever before, to the point where it deserves to be studied as a unique time in the life course (Hartmann & Swartz, 2006, p.253). During this period, young people in their mid-twenties face challenges and difficulties, both large and small, and need to readily adjust themselves to adapt and learn how to get by independently. Academic research on exploring the main challenges faced by young people during this period has been conducted in Europe, Asia and the United States, focusing on individualistic norms of adulthood (Arnett, 1998; Arnett, 2001), the impact of social institutions (Shanahan, 2000), the role of social systems (Settersten & Ray, 2010) and adult identity (Lowe et al., 2013; Shanahan et al., 2005). It is worth noting that within this, research perspectives from China have not been updated to focus on the everyday practices and characteristics of emerging Chinese young adults in adulthood in the context of the digital age (Nelson, Badger & Wu, 2004; Yeung & Hu, 2013).

During this decade, with the development of the digital age, smartphones have become an integral part of people's lives, especially among young people. Among them, social media engagement constitutes the main mobile activity of young people (Carrier et al., 2009; Lenhart et al., 2010). Despite the convenience of instant connectivity and user-friendly interfaces provided by media technologies, over-reliance on smartphones has emerged (Khang, Kim & Kim, 2013). In China, the high popularity of smartphones has also profoundly affected people's daily lifestyles and is highly valued by the state, especially for minors[1]. From 1 January 2024, the

[1] According to Chinese law, citizens under the age of eighteen are legally regarded as minors and their ability to act is limited to a certain extent.

Regulation on the Protection of Minors on the Internet stipulates that Internet service providers are required to set up a minors' mode and provide services by the relevant state regulations and standards in terms of usage time, duration, functions and content (The state council of the people's republic of China, 2023). In the Mobile Internet Minor Model Construction Guidelines (draft for comments) (Cyberspace Administration of China, 2023), there is a detailed classification of different hours of use of mobile intelligent terminals for minors of varying age groups, ranging from 40 minutes to 2 hours per day between 6 am and 10 pm. It can be seen that China has a normative approach to managing teenagers' use of smartphones, supported by clear regulations. For Chinese teenagers, the threshold of 18 years of age means the opportunity to use smartphones freely and autonomously after that. In this case, can college students who have just become legal adults control their smartphone use? The results of some previous studies say that about 21.3% of Chinese college students have smartphone addiction problems, with a potential addiction rate as high as 58.33% (Long et al., 2016; Chen et al., 2016). Then, do contemporary Chinese young adults still face longer and more complex transitions as they move towards becoming adults, as previous studies have found? Do they face new challenges and temptations different from those they encountered before? Moreover, what role does the smartphone play, and how does it impact their growth practices and experiences?

Unlike in Europe or the Americas, the environment in which young people from China find themselves is unique. In Chinese society and culture, individuals place more excellence value on respect and support from the family (Oyserman, Coon & Kemmelmeier, 2002, p.5). At the same time, the influence of Confucian and patriarchal systems emphasises obedience and compliance to family obligations and collective values in the family education of children from childhood to adulthood (Hwang, 1999, p.170). Against this background, young Chinese are not encouraged to take personal responsibility during adolescence. Instead, they are subject to their parents' light or heavy supervision and guidance. The situation continues until they

make themselves independent of the sphere of influence that their parents can exert. Furthermore, young people who have ended adolescence with the expectation of adulthood will suddenly find themselves having to learn how to take care of themselves. The long-held fantasy of being able to become independent from parents upon reaching adulthood is shattered at this moment. The notion of growing into an independent individual seems to be not something achievable solely by moving away from the family. Taking responsibility and becoming independent is a unique proposition for Chinese youth as they move towards adulthood.

Therefore, it is necessary to explore the challenges that contemporary Chinese young people face as they learn to take responsibility and become independent in adulthood, as well as their possible responses. To achieve this aim, this study takes *Forest* as an example and tries to understand the experiences and perceptions of young Chinese people from their daily life practices. *Forest* is a paid app that ranks second in the efficiency category of the iOS App Store in China and is widely supported by users in China[2]. It uses a dynamic setup to help users put down their mobile phones and stay focused on the real world. The app aims to control the user's smartphone usage, as its tagline says: Stay focused, be present. The popularity of such a smartphone screen control app in China seems to imply a different kind of message: many young Chinese people need something to take care of managing themselves. Behind it are the efforts and attempts of contemporary Chinese young people to cope with the potential challenges of everyday life in adulthood.

On this ground, this study uses *Forest* as an entry point to explore, through qualitative interviews, the daily practices and experiences of young Chinese people who use this app. I examined these young people's motivations for using *Forest*, the experiences they gained, and what role *Forest* played in their daily lives. In doing so, I explored

[2] As of 15 November 2023 there are already 230,000 users who have rated it with 4.9 out of 5 points.

China's examination system (Fish, 2015), addiction (Giddens, 2013), digital disconnection (Mols & Pridmore, 2021), medical regulation (Zola, 1976), the self-presentation (Goffman, 2023), collectivism (Chu & Chu, 2010), face *(脸 lian)* in traditional Chinese culture (Ting-Toomey, 1988), and Chinese self-construction (Lu, 2003). The theme is extended to the relationship between growing up and smartphone use among young people in a postmodern society. It is synthesised to suggest a topic that deserves more exploration: the new pressures and challenges facing contemporary young people in China in the digital age as they cross into adulthood. The specific research questions are:

1.What are the habits of the participants in using their mobile phones in their daily lives?

2.How do participants understand their experiences when using *Forest* in their daily lives?

3.How do participants manage themselves while using *Forest?*

1.1. *Forest*

According to *Forest*'s introduction on its website, *Forest*'s function is effortless: let the user's mobile phone be taken over by setting the concentration duration, during which the tree seeds on the app will slowly grow into a big tree. If the goal is reached, the user will see a *Forest* formed on that day. The tree will die if the user opens another mobile phone app during this period. Meanwhile, the history review function in the app lets users know how often they use their mobile phones in the form of a timeline; custom task labels help users manage their time independently; the leaderboard function lets users see how long other users or their friends around the world have been focusing on this week; and the group function allows users to develop a *Forest* together with other people. Several other internal settings (deep focus mode, extended timer, reverse and forward timer, white noise in the background) help users put down their phones and focus on their lives.

In addition to the cost of installing the app, *Forest* also provides free gold coins to users who have achieved a certain level of achievement by planting trees, which can be used to unlock other tree species in the app's mall. Of course, users can also buy more advanced and rare tree species by recharging their account.

Figure 1. The normal tree.

Figure 2. The *Forest* for one month.

Figure 3. The dead tree.

2. Reviewing adulthood and addiction

2.1. Concerns about adulthood

To gain a deeper understanding of the challenges and difficulties that contemporary Chinese young people face in adulthood, as well as their daily practices and experiences when using *Forest*, a screen control app, it is necessary to start with an understanding of past studies conducted by scholars on the main challenges that twenty-somethings face in adulthood. These studies have been undertaken in different socio-cultural contexts and have focused on various themes. To gain a fuller understanding of the relevant research findings, it is first necessary to understand the development of the key concept of what constitutes becoming an adult.

Markers of adulthood for young Americans a half-century ago, including leaving parents, getting marriage, parenthood, financial independence, and homeownership, have been considered by many scholars two decades ago to be things that do not correspond to the realities of the present (Arnett, 1998; Furstenberg, Rumbaut, & Settersten, 2005; Fussell & Furstenberg, 2005). Many studies have argued that young people's transition to adulthood takes longer than usual and that there is more uncertainty and impermanence in the timing and sequencing of entry into traditional adult roles (Shanahan, 2000; Furstenberg et al., 2004; Goldscheider & Goldscheider, 1999). To understand at what point young people begin to place themselves in the position of an adult and view themselves, social scientists have made many efforts and have started to question the extent to which moving into adult roles affects young people's ability to become adults (Côté, 2000; Arnett, 2003; Shanahan et al., 2005). In examining this complex change in life course characteristics in this way, the American scholar Arnett (1998, p. 302) thus defined a new developmental stage of "*emerging adulthood*" and argued that the delay in young people's transition to adult roles is well documented as a result of socio-cultural and economic factors. In his study, young people's perceptions of adult roles and experiences were obtained

through five subscales, and it was found that young people placed more emphasis on three criteria reflecting individualism: responsibility for oneself, the ability to make decisions independently, and financial independence than on acquiring adult roles (Arnett, 2001).

Following this, a cross-sectional study attempted to corroborate young people's rejection of role transitions as a marker of adulthood and to rank the critical criteria for adulthood (Arnett & Galambos, 2003). Completion of school, starting an independent family, and obtaining a full-time job were also identified as relatively essential criteria considered by young people in Furstenberg et al.'s (2004) study, while marriage and parenthood were less critical. A similar view was expressed in a comparative study of young and middle-aged adults (Arnett, 2001). It is worth noting that these studies were conducted with cross-sectional data and can only speculate on why young people do not value role change over individualism. Furthermore, Shanahan et al.'s (2005) study, in addition to analysing the influence of individualism, was further extended by suggesting that traditional markers of family transitions were closer predictors of self-perceived adulthood. Scheer & Palkovitz (1994) found in their study that young people's subjective views of adulthood were based on their own attained adult role status and personal qualities. Lowe et al.'s (2013) study found that young people who were older had significantly higher subjective perceptions of adulthood. These three studies suggest that individualistic qualities no longer predict young people's judgements about their adulthood or lack thereof, in the case of considering young people who have taken on more adult roles than their peers. Regarding adult role transitions, Benson & Furstenberg's (2006) study further suggests that their meaning varies depending on the young person's social status and their concurrent roles.

Having explored the development of this meaning of adult norms across different studies, attention must be paid to relevant research addressing other topics. For

example, in Shanahan's (2000) study, the topic of young adulthood is situated within the broader context of social structure, suggesting social institutions' impact on young people's lives as a potential research direction. Crawford (2009) indicates the importance of developing a new conception of adulthood beyond a narrow focus on individualism to fit the times in the new world following the economic crisis. On the other hand, Settersten, Ottusch & Schneider (2015) argue that families and higher education institutions have a more significant influence in helping young people move towards adulthood in changing times. Meanwhile, Hartmann & Swartz's (2006) study makes a similar point, arguing for a broader perspective that sees adulthood for young people not just as a new stage in life but as a dynamic, vibrant mix of social roles and personal qualities that change with society. A broader range of scholars has recognised the focus on transformational and changing zeitgeist developments and social structures in the study of young people's perceptions of adulthood (Molgat, 2007; Settersten & Ray, 2010). This further reflects that research on young people's coming of age and social development continues to gain attention and change with the times.

Some studies consider the subjective perceptions of adulthood among young people from different social backgrounds and ethnicities. For example, completing school was a marker of adulthood as perceived by young women from working-class backgrounds in a study of females (Aronson, 1998). Through a survey of community college students' social responsibilities, Katsiaficas (2017) argued that caring for others may be included in the criteria for adulthood for young people. At the same time, adult roles and personal traits were found to be different for European Americans, African Americans, Asian Americans, and Latinos (Arnett, 2003). While in other countries and regions besides the United States, such as Israel (Mayseless & Scharf M, 2003), the Czech Republic (Macek, Bejcek & Vanícková, 2007), India (Seiter & Nelson, 2010), the United Kingdom (Jones, O'Sullivan, & Rouse, 2006), France (Cicchelli & Martin, 2004), Austria (Sirsch et al., 2009), and China (Nelson,

Badger & Wu, 2004; Nelson et al., 2013) have all considered the different perceptions of the concept of adulthood developed by young people in various socio-cultural contexts. For example, in a survey of young people's perceptions of adulthood in the Czech Republic, freedom was emphasised, which is considered to be the result of social change in Czech society (Macek, Bejcek & Vanícková, 2007).

2.1.1. Adulthood in China

In studies of Chinese young people's adulthood, researchers have considered the impact of the social context and economic conditions on young people's perceptions. Unlike other countries, Chinese society is heavily influenced by traditional Confucian culture. According to Confucianism, individuals are encouraged to grow up respecting their parents and teachers, being kind to others, controlling their personal needs or desires, and placing the group's interests before personal pursuits (Triandis, 1995). Thus, unlike the individualism of American and European societies, Chinese culture is often described as collectivist (Chao, 1994). Under the influence of collectivism, individuals in Chinese society will also be more inclined to respect and value advice, support and help from the small collective of the family (Oyserman, Coon & Kemmelmeier, 2002). Children are more likely to listen to those in power in Chinese families. At the same time, there is also an essential concept of face *(脸 lian)* in the Confucian tradition, which refers to an individual's ability to gain the respect of others by their relative position in the social activities of the moment (Ting-Toomey, 1988). Maintaining face *(脸 lian)* is a series of communicative behaviours that an individual undertakes to preserve his or her social self-image and maintain social relationships. In this cultural context, it has been suggested that young Chinese people perceive adulthood differently from those in Western cultures, with a relatively greater emphasis on the needs and interests of the family and the community, with specific cultural standards (Nelson, Badger & Wu, 2004).

Regarding Chinese family values and standards of adulthood, it has been argued that

Chinese young people will place relatively more emphasis on role transitions, norm adherence, and family competence (Fuligni & Zhang, 2004; Badger, Nelson & Barry, 2006). Chinese tradition encourages marriage and childbearing within marriage. The importance of the children's gender after marriage varies in traditional Chinese culture, where son preference is considered more common (Banister, 2004; Das Gupta, 2010). Coupled with the emphasis on marriage and the obligations to family members in traditional Chinese culture, some scholars have placed their research perspectives on the attitudes of young people in China towards the transition to adult roles (Nelson & Chen, 2007). For example, Yeung & Hu's (2013) study compares the attitudes towards cohabitation, marriage, and childbearing in adulthood among twenty-year-olds over 40 years to understand the paths to adulthood that Chinese young people are exploring. Their study considers the changing attitudes of young Chinese people due to national policies such as social and economic development. It suggests that young people are becoming more open to cohabitation and premarital sex.

With the changes in China's economic structure and the influence of Western individualism, scholars have begun to argue that more and more Chinese people are gradually transitioning from collectivism to individualism (Chen & Wang, 2010). According to Nelson et al.'s (2013) findings, young Chinese people also tend to integrate individualism and other-orientated culture. A more recent study of Chinese youth by Kuang et al. (2024) confirms this tendency and suggests that age, gender, hukou status (rural vs. urban), and educational status all influence young people's perceptions of adulthood. Thus, it is necessary to consider multiple factors in the context of the times when studying the challenges and perceptions of young Chinese people in adulthood.

Generally speaking, in the past, some scholars have noticed that young Chinese people, influenced by unique cultural values and social systems, have a different

perception of adulthood from that of other countries. Moreover, a series of studies have shown that with the development of the times and changes in the economic structure, young Chinese people heading towards adulthood show more and more individualistic tendencies and even a fusion of individualism and collectivism.

2.2. Concerns about addiction

As *Forest* falls into the screen control category, it aims to help users kick their smartphone addiction and encourage them to focus on their lives. Understanding research on mobile phone addiction, compulsive behaviours, and digital well-being is more helpful in understanding the daily practices of young people using *Forest*. This type of research has been developed in the disciplines of medicine, psychology, media communication and social sciences, with different emphases studied. And before understanding the results of relevant research in various subject areas, it is necessary to first develop some understanding of specific concepts such as addiction and compulsive behaviours, and how these definitions have led researchers to question them.

2.2.1. Definition of addiction

The concept of "*addiction*" has been debated to date (Foddy & Savulescu, 2010; Horne, 2010; Goodman, 1990; Mathews, 2010; Nordenfelt, 2010; Shaffer, 1997). In its original definition, "*addiction*" referred to a "*high level of involvement*" in an activity or person that produces negative or positive effects (Alexander & Schweighofer, 1988). According to Goodman (1990), addiction is defined by repeated uncontrollable behaviours and the continuation of the behaviour despite serious negative consequences. Immediately following this some statements began to associate addiction with strong, overwhelming urges and increasingly moved closer to a symptom that required means of control, and in this way, research linked to knowledge of the central nervous system and psychology emerged (Orford, 2001;

Goodman, 2009; Bechara, 2005; Heather, 1998; Panova & Lleras, 2016; Alavi et al., 2011).

Characteristics of addiction according to Griffiths (1995) are altered mood, emergence of tolerance and salience, withdrawal reactions, conflict, and relapse. Saunders et al. (2017) on the other hand, stated that the main characteristics of substance dependence in the draft ICD-11 are (a) a strong intrinsic motivation to use the substance, coupled with impaired ability to control that use; (b) increased prioritization of the use of the substance over other activities; and (c) persistence in use despite harm and adverse consequences. Meanwhile, Kardefelt-Winther et al. (2017) propose a two-component definition of (a) severe dysfunction or distress as a direct consequence of the behaviour, and (b) persistence over time. Thus, the theoretical definition of addiction can be summarized from different sources through two key points: the (severe) harm, damage, or negative consequences as well as the psychological (craving, salience, and loss of control) and physical dependence (tolerance and withdrawal) that lead a person to continue the behaviour.

It is worth noting that "*compulsions*" have a long history in addiction discourse and need to be carefully identified and differentiated (Hirschman, 1992; Figee et al., 2016; Lüscher, Robbins & Everitt 2020). According to Hirschman (1992), compulsive behaviours involve (a) a spontaneous desire to act in a particular way, (b) a subjective feeling of temporary detachment from the normal state, (c) psychological conflicts related to imprudent behaviours, (d) "*settling for less*" in order to achieve the same, and (e) disregard for negative consequences. Meanwhile, other researchers use the term "*compulsion*" more narrowly. Some may define the term as a simple but strong urge to do something, for example as Hartney (2011)argues, which is only one aspect of addiction but is at the heart of the definition of OCD. It may even be more accurately defined as a strong urge to engage in a simple, repetitive activity to eliminate anxiety (Brewer & Potenza, 2008), as a form of ego dysregulation

(separation from self). In addition, the behaviour may temporarily remove anxiety, but it is not enjoyable at any point while engaging in the behaviour (Hartney, 2011). Instead, by definition, addiction involves attempting to achieve certain effects and satisfaction by engaging in certain behaviours. For example, it is more likely that addiction involves some more purposeful behaviours in order to gain satisfaction (Sussman et al., 2011).

As time has progressed, research on addiction has led from the specific since of chemicals such as alcohol and nicotine to the study of gambling (Griffiths, 1990; Blaszczynski & Nower, 2002), playing video games (Sadeghian, 2006; Lemmens, Valkenburg & Gentile, 2015), eating disorders (Lesieur & Blume, 1993; Hauck, Cook & Ellrott, 2020), exercise and physical activity (Morgan, 1979; Krivoschekov & Lushnikov, 2011), media use (Horvath, 2004; Kubey, Lavin & Barrows, 2001; Carbonell & Panova, 2017; Singh et al., 2021), sex addiction (Griffiths, 2001 ;Ley, 2012), pathological work (Vaugeois, 2006) and various other aspects. And with the popularity of the Internet and smartphones, researchers are calling attention to the harmful effects of smartphone overuse, Internet addiction and social media addiction (Elhai, et al., 2016; Gligor & Mozoş, 2019; Jiang., Huang & Tao, 2018; Shih et al., 2012 ; Tomczyk & Lizde, 2023; Li & Cho, 2023). It can be seen that as modernity deepens, the topic of discussion on addiction is moving towards broadening and it seems that more and more things in society are going to be defined as addiction (Giddens, 2013). In order to understand this issue as it relates to research, there is a need to take a look at internet addiction in an effort to gain a comprehensive perspective.

In addiction studies related to Internet addiction, there are multiple definitions and concepts for various technological behavioural addictions. Almost all definitions have similar core elements that describe the symptoms of addiction exhibited by individuals who use technology-addictive behaviours. In other words, the use of

mobile devices and web-based technologies and their applications (e.g., social software, video games, and gambling sites) constitute the most important and frequent activities in their daily lives. Negative feedback at the physiological and psychological level after repeating activities regularly performed in daily life and obtaining a short period of comfort is considered dangerous and requires interventions in various types of related studies (Goodman, 1990; Alavi et al., 2011; Saunders et al., 2017). Addiction through smartphones and the Internet is considered a biopsychosocial phenomenon that needs to be integrated in a number of medical, psychological and sociological aspects (Fernandez, 2019).

2.2.2. Internet addiction in medicine

Since Ivan Goldberg first suggested in 1995 that internet addiction might be considered a disease (Block, 2008), medical concerns about "*internet addiction disorder*" (IAD) have evolved to include "*internet addiction*", "*pathological internet use* (PIU)", "*problematic internet use*" have all been widely included in research (Tao et al., 2010).

Similar to earlier medical research on drug addiction or nicotine addiction, medical research on Internet addiction has focused on the phenomenon of mental dependence and physical dependence of the brain's nervous system in response to repeated use of the Internet. The focus of research has mostly included studies of the relationship between addiction and brain structure, biomarker measures, pharmacological interventions, and behavioural therapies. For example, in the study by Banz et al. (2016), the clinical features of PIU are summarised from a variety of perspectives, including neurocognitive, electrobiological, MRI, neurochemical, and genetic perspectives, and the possibility of using pharmacological and behavioural treatments is explored.

Since there is no definitive statement of IAD in the most recent version of the

Statistical Manual of Mental Disorders (DSM-5, 2013), there is still an ongoing debate in the medical community about how to diagnose and recognise IAD. With the full integration of the Internet into modern life, the highly lifelike nature of the scenarios in which it is used has rendered the classification of IAD proposed by Young in 1996 inapplicable to the current diversity of the Internet ecosystem (Musetti et al., 2016). Currently, many researchers are still exploring how to use various diagnostic criteria to clearly identify individuals with IAD through patients' clinical characteristics. As an example, in Tao et al.'s study in 2010, they formulate hypotheses that would help standardise the diagnosis of IAD by incorporating three additional criteria (exclusion, clinically significant impairment and course).

In general, the medical community's research on Internet addiction has focused on a pathologising perspective and follows the same line of research on drug, nicotine and narcotics addiction, linking Internet addiction to the brain's nervous system and various biological indicators. In addition, with the high degree of lifestyle use of the Internet, the medical community lacks a set of diagnostic criteria for Internet addiction that are applicable today.

2.2.3. Internet addiction in psychology

Similar to the medical community, the psychological community's understanding of Internet addiction is evolving. Currently, the psychology community is using similar data scales to try to target more subgroups from multiple perspectives of personality factors, emotional tendencies, social relationships, and combining various psychological theories.

Most of the published psychological studies related to smartphone use and internet addiction have focused on assessing different issues through quantitative research methods. Lin et al. (2013) took various approaches such as demographics, Chen's Internet Addiction Scale and Chalder's Fatigue Scale in an attempt to explore the

association between fatigue levels and Internet addiction among female nurses. While Meshi et al.'s (2019) study focused on addictive behaviours in response to Facebook. Jiang's (2014) study sought to explain patterns of Internet use and addiction among Chinese adolescents.

At the same time, psychology researchers have continued to develop more precise measurement scales in an attempt to explain the various addictive behaviours triggered by Internet addiction. For example, Lemmens, Valkenburg, and Peter (2009) attempted to explain the link between Internet addiction and online gaming addiction in adolescents by developing a new scale. Using another measurement scale, Brunborg et al. (2013) attempted to account for possible differences between game addicts and highly engaged gamers.

In terms of theories, self-regulation theories are often used, which also have a great deal to do with the general focus on the importance of self-control in addictive behaviours within the psychology community. In studies on related topics, different researchers have explored possible influences in relation to Internet addiction from different self-control perspectives. Bayer et al. (2016) discussed personality factors and level of media awareness, Sun (2018) explored the role of personality and self-esteem, and Dutot (2020) attempted to examine this from the perspective of collective self-esteem. Further, Foroughi et al.'s (2019) study suggests the possible role of personal needs in Facebook addiction, while Gökçearslan, Yildiz Durak & Esiyok (2023) attempt to link emotion regulation to smartphone addiction.

Social identity theory and attachment theory have also enriched psychology researchers' understanding of the diversity of Internet addiction. According to Greene & Brownstone (2023), self-quantification and self-tracking on social media may be able to help individuals with eating disorders to enhance social identity and extend self-control in the online world. Venkatesh et al. (2019), on the other hand, used

attachment theory in an attempt to explain the impact of parenting behaviours on children's online addiction. Cao et al. (2020) explained the possible reasons for individuals' addiction to social media platforms through emotional and functional attachment, while Zhang, Wu and Liu (2019) highlighted the possible role of interpersonal attachment in addiction to short-form video applications.

In general, research in the field of psychology has attempted to explore the causes and relationships between multiple factors behind Internet addiction and smartphone addiction from an individual perspective (personality traits, emotional tendencies, personal needs) through various addiction measurement scales and various theories. Similar to research in the medical field, research in psychology has also identified the individual as the problem with addiction, and the individual as suffering from a "*disorder*" that must be treated. From the critical perspective of sociologist Giddens (2013, p. 63), medical and psychological research has mostly treated internet addiction as a recognised illness, only providing "*medical funding*" and "*research support*" to interested researchers. However, while the medical scientist explains the "*disease*" and seeks treatment from the biological perspective, the psychologist focuses on the psychological needs of the individual and the understanding of the mental "*disorder*". This may be the difference but similarity between the medical and psychological understanding of Internet addiction and smartphone addiction.

2.3. Concerns about addiction in the media communication and social science

After moving on to the media field and social science research on Internet addiction and smart phone addiction, the first thing that can be found is the lack of results to explore the topic of Internet and smartphone addiction from a single perspective of media research. Most of the published studies apply the uses and gratifications theory or the concept of media habits to explain Internet addiction. This is perhaps because most researchers in the field of media, like those from the fields of medicine and

psychology, consider the individual users themselves as the cause of addiction and the main problem. The uses and gratifications theory, which focuses on the intrinsic needs of individuals, and the media habitus theory are among the media theories that are commonly used to try to explain the analysis.

For example, Li et al. (2018), in their study of *Weibo* addiction factors, confirmed the differential impact of content gratification and social gratification on social media addiction, identifying addiction as a negative psychological outcome of "*uses-gratifications*". Following this, Chen, Cohen & Sundar (2022), in their study, emphasised that Instagram usage was positively correlated with gaming gratification gained from the software, while Li & Cho (2023) found that the perceived realism provided by social media had an impact on internet addiction. Thus, all of these studies use the theory of uses and gratifications to support further the idea that the choice in Internet addiction and media addiction is an active outcome from the users themselves.

If uses and gratifications theory can explain media consumers' rational choice of media to satisfy their specific needs, the concept of media habitus is used to complement the explanation that users remain conscious in the face of a situation where they lose self-control over their Internet use (Katz, Blumler & Gurevitch, 1974). As a perspective from social cognitive theory, media habitus combined with reflexivity research has mostly been used to explore users' automatic responses to Internet addiction in unconscious situations. For example, the role of self in online gaming addiction was explored in Rebecca-Clark's (2023) study by having students' reflexive studies of their own online gaming habits. Xu, Lin & Haridakis (2015), on the other hand, revealed that users have a clearer understanding of loss of self-control by examining the relationship between users' own predicted self-reaction outcomes and social media addiction latitude. Whether it is the concept of media habitus or the uses and gratifications theory, both encompass the individual user's long-term or

short-term expectations of the extent of Internet use. (LaRose & Eastin, 2004; Wood & Neal, 2007).

In addition, some media scholars also try to discuss from multiple perspectives during the research process, drawing on other knowledge from across disciplines as a supplement to the study. In Jiang, Huang & Tao's (2018) research, risk behaviour theory and media dependence theory were considered together, and a comprehensive analysis of personality traits, online games, online connectivity and demographics was conducted, highlighting the fact that adolescents' dependence on a certain social software and their online addictive behaviours do not only have their own choice of reasons, but are a comprehensive phenomenon that involves multiple dimensions of society. It is worth noting that Jiang, Huang & Tao's study attempts to extend the key point of the question from a perspective confined to the individual and looks at the wider society that is relevant to the individual that explores the impact of internet connectivity, although this is only one single aspect of society.

2.3.1. Digital well-being and digital disconnection

When we leave the research perspective from the individual level of the user (brain structure, personality factors, emotional tendencies, personal needs, inner feelings, personal choices and expectations) and try to take a more macro view of Internet addiction, we should first understand the new changes brought about by the development of the Internet. Firstly it can be seen that it is the improvement of mobile communication technology that allows people to consider anytime, anywhere connectivity as a habit and consume media content on demand, a social phenomenon that was completely different in the past (Vanden Abeele, De Wolf & Ling, 2018).

In the mass era of television in the past, the nature of media communication allowed messages to be disseminated from the media organisation to the general public without any personalisation of the message (Campbell & Park, 2008). Whereas at this

stage, when almost everyone is inseparable from their mobile phone, personal communication technologies offer users the opportunity to wear them on their person at all times and are even seen as highly personalised as an extension of the self (Campbell & Park, 2008; Jenkins, 2011). When media content serves only the individual, quantified social interaction becomes a highly valuable commercial resource. Companies, organisations and government opportunities then sell personal data from mobile and wearable devices through economic activities, causing a new wave of digital security fears (Van Dijck, 2014).

In response to such commodified surveillance and control of private personal information, disconnection in the context of the technology and health industries has become a compelling potential solution. From digital detox programmes to screen time monitoring apps, such disconnections seem to be achieved through additional interventions in an attempt to maintain the user's balance in terms of mobile connectivity (Vanden Abeele, 2021). Further, digital wellbeing is also defined as an emerging concept by Vanden Abeele (2021) as "*a subjective individual experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity*." For example, Sanders (2017) argues in his study that Digital Self-Tracking Devices (DSTDs) extend an individual's self-awareness and self-care capabilities, in the form of being able to take resistance or temporary terminals to maintain their digital well-being. The common goal of all these interventions is to help users "*regain control*" of their screen time. Digital disengagement has also been identified as a behaviour that may benefit digital well-being (Fast, 2021; Nguyen, 2021).

Significantly, all digital disconnection programmes are described on the premise that current patterns of user use of electronics are "*dangerous and unhealthy*" (Syvertsen & Enli, 2020). This premise makes self-optimisation a theme of advocacy and promotes social responsibility. Through various social advocacy texts, the tendency

towards responsibility places the potential problems of digital media on the user, meaning that if the user does not take action (make a digital disconnection), then they need to be held responsible (Talks, 2013; Gray, 2009). According to Syvertsen & Enli's research (2020), it can be seen that the notion of supposedly maintaining the user's equilibrium in terms of mobile connectivity is linked to the improvement of self-regulation of thoughts, emotions and behaviours and the adaptability of workers in work scenarios, as well as providing users with a commercial promise of authenticity of life through commercial software and taking them offline in the form of nostalgia. According to their research, the concepts of digital disconnection and digital well-being are promoted with self-optimisation, pressured in the middle with responsibilisation, commercial software as an option offered to users and the pursuit of digital well-being as the ultimate mantra. Does this suggest a new perspective, whether addiction is also a scheme to misdefine a collectively constructed problem as an individual one? Therefore, research needs to be sought from a social science perspective that focuses on broader social norms and structures.

2.3.2. Addiction and Reflexivity

Addiction is conceptualised by sociologist Giddens as a control mechanism that is both liberating and constraining (2013). His research begins with female sexuality, and rather than seeing the individual as the problematic centre of addiction, as other scholars have done, he looks at the everyday lives and societies in which men and women find themselves, and explains why we tend to see the individual as the problem in terms of social norms and structures. According to his conception addiction represents the individual's rejection and non-acceptance of his or her destiny in the postmodern social public order, making choices about the way he or she lives to constitute a reflexive narrative by playing on the reflexive character of the self (Giddens, 1991; Giddens, 2013). From this point of view, the medical and psychological emphasis on the pathological character of addiction ignores what is essentially an individual's choice of self-lifestyle and exploration of self-identity.

Then why is an individual's reflexive narrative of self recognised as an addiction? After all, in a fixed and continuous society, it is a daily habit to keep doing what you did yesterday. According to Giddens, in a post-traditional society, the construction of the self actually requires constant reshaping of change along with actual life practices for security, but each individual's life practices and perceptions are one-sided and restricted (2013). In this context, personal narratives constructed by individuals based on their own life experiences that reflect the self become common and diverse. For this reason, the academic discussion of addictions to various behaviours and subjects in everyday life is becoming increasingly rich; after all, in a postmodern society "*any pattern or habit can become an addiction*" (Giddens, 2013, p. 75). It is also these self-identifying patterns of behaviour that make it pointless to discuss addiction in the traditional cultural context of the past (Giddens, 2013). From this it can be seen that in Giddens' conception addiction is an outcome that occurs in the context of a postmodern society where individuals make free choices that are then defined by social rules.

It is worth noting that according to Giddens, addiction is a defence response, a recognition of one's lack of autonomy (2013). Habitually performed patterns of behaviour that are rich in personal characteristics are as sudden and absurd as learning that what one is used to do turns out to be wrong when defined as an addiction by broader social norms. And this group-sourced definition of addiction represents a societal level in which an individual's behaviour is identified as harmful and in need of being treated (Giddens, 2013). This is perhaps why the goal of much research in medicine and psychology is to find ways to treat and alleviate addictions of all kinds. Further, he argues that when the integrity of the self is threatened there is a sense of shame or "*an ironic admission*" (Giddens, 2013, p. 76). This avoidance and a degree of self-contempt can affect an individual's perception of their own capabilities, creating perceptions such as "*I'm addicted to this*". Whereas, when a clear social crisis

environment intervenes, such addictions, which are not accepted by social norms, are easily identified and subsequently faced with treatment programmes by academics from a variety of professions, including medicine and psychology (Giddens, 2013).

Overall, the analysis from social scientist Giddens on reflexivity and addiction starkly puts forward a viewpoint that is different from the medical and psychological communities: addiction is essentially a reflexive narrative of an individual's choice of self-lifestyle and self-identity, and an unacceptable outcome that occurs in the context of a postmodern society defined by social norms, and a major factor in influencing perceptions of the self's capabilities . According to him, this concept of addiction is a complex socio-cultural phenomenon that imposes social norms and standards on the individual.

2.4. Research gaps

Generally speaking, scholars have been concerned that Chinese young people have different perceptions of adulthood than those of other countries because of their unique cultural values and social systems. A series of studies conducted in the past have shown that with the development of the times, Chinese young people show more individualistic tendencies in such a collectivistic society. However, existing research has not taken into account the impact of the digital age on young people's perceptions of adulthood and the challenges they face, especially given the increasing prevalence of smartphones. In such a context, there is a need to explore the impact of the digital age on young adulthood and the new challenges it brings by understanding the everyday practices and feelings of contemporary young people using *Forest*.

Forest belongs to the screen control category of apps that are designed to help users kick their smartphone addiction and encourage them to keep their focus on their lives. Academic research on the topic of internet or smartphone addiction has been numerous and has touched on various aspects of medicine, psychology, media and

communication, and social sciences. In medicine, researchers have included smartphone and internet addiction in the pathologisation of what is considered a physiological disease, and therefore have focused more on human brain development, biomarkers, and other aspects of the disease. Due to the lack of a precise medical definition and categorisation of internet addiction, researchers also dispute which measurement scale more accurately distinguishes a user's state of use. Researchers in the psychology community have focused on smartphone addiction from the perspective of a mental "*disorder*" dealing with obsession or distress, combining personality factors, mood changes, and a number of other psychometric measures. Considering the individual as the problematic aspect of smartphone addiction is a common starting point for medical and psychological researchers, and seeking a cure or relief is the aim of many studies.

In the research related to this topic in the field of media studies, it can be found that there is not much discussion using the single media theory, and what is used is basically the uses and gratifications theory and the concept of media habits. This group of scholars, like psychological and medical researchers, places the problem of Internet addiction on the individual user. At the same time, some media scholars try to take an interdisciplinary perspective and attempt to explore the causes of internet addiction from a broader societal level, although the attempts made only involve one aspect of society (Jiang, Huang & Tao, 2018). The rise of the concepts of digital disconnection and digital well-being has accompanied the development of the digital age sparking the attention and discussion of many scholars. Among them, Syvertsen and Enli (2020), in their study, suggest that the essence of these two concepts is to impose social responsibility on individuals and to conduct business in this way. This study sheds new light on whether Internet addiction, which is closely related to digital disconnection and digital well-being, falls into the same socially misdefined category.

Giddens, the sociologist, provides a clear answer on this point and criticises the

neglect of self-lifestyle choices, the blind pursuit of pathologies and treatment options, and the over-exploration of various types of addictions in related research from the medical and psychological communities. In his discourse, the reflexivity of the individual in postmodern society both manifests personal characteristics and is not accepted by social norms because of the one-sidedness of lived experience (Giddens, 2013). Addiction is conceptualised by him as an encroachment of social norms and standards on the autonomy and integrity of the individual. This groundbreaking view of explaining individual patterns of addictive behaviour from a wider social perspective will throw fresh light on exploring smartphone addiction and mobile phone use. Taken together, academics' understanding of contemporary Chinese young people's encounters with adulthood in the digital age needs to be completed and updated on the impact of smartphones. In updating young people's new challenges in adulthood, social scientist Giddens's personal reflexive interpretation of addiction deserves to be taken into account.

3. Qualitative research on Forest

3.1. Case study

This research takes young Chinese people's everyday practice of *Forest* as its subject and adopts a qualitative research methodology. According to Flyvbjerg (2001, p.70), specificity can be seen in the practice experience in a particular context by digging into a single case in detail. Only by following specific practical and context-dependent knowledge can a comprehensive understanding of things be gained by standing in the same context. Because most young people in contemporary China are still students at twenty or so, they must prepare for more examinations (Gaokao, university final exams, and College English Tests). Even for those who have already graduated from university, many are still preparing for the National Postgraduate Entrance Examination or the Civil Service Examination. Smartphones may be a temptation when studying for these young people who need to prepare for exams. Nowadays, the functions of smartphones in the daily lives of young Chinese people are more comprehensive than just entertainment or communication. With a high dependence on smartphones and many exams to prepare for, perhaps other help from the outside is needed, such as some apps with specific functions.

Several smartphone apps in China offer this kind of help to young people, such as *Forest*, *Tomato to Do*, *FreeTime offline beans*, *Sleeptown* and many others. These apps all have different designs and attractive promotional focuses, such as helping to establish healthy sleep habits before bedtime, task management based on the Pomodoro Technique[3], planting trees to help stay focused, and disconnecting directly from the Internet. Their ultimate goal is to temporarily take over the mobile phone screen while the user is using the app so that they have to focus on their things instead of being addicted to the phone. The popularity of these apps in China can be expected

[3] The Pomodoro Technique is a time management method that uses a kitchen timer to break work into intervals, typically 25 minutes in length, separated by short breaks (Cirillo, 2003).

considering the dual premise of the Chinese government and society's concern over the use of smartphones by minors, as well as the freedom and pressure young people feel they are getting as adults. They are ranked second, 42nd, and 14th in the efficiency category, and second in the health category in the iOS app store in China. Among them, *Forest*, as a study-related and top-ranked app, is relatively more suitable to investigate the daily life feelings and stresses of young people in their twenties in China who still need to prepare for multiple exams. Young people who choose to use *Forest* may be faced with a dilemma of choosing when to use *Forest* and for how long to use it. How do they divide their time between studying and using their mobile phones? Can they manage not to unlock their phones? Behind these questions may lie the ability of young people to manage themselves, take personal responsibility, and any other possibilities during adulthood.

Thus, investigating how contemporary young people in China use *Forest* allows us to gain a bottom-up, contextualised understanding of the participants' everyday practices. This access and understanding of the case is subliminal and contextually relevant (Flyvbjerg, 2001, p.71). This is because it allows us to approach reality and to observe and learn within it to gain a deeper understanding. It follows that using a case study as an entry point enables us to pay meticulous attention to the characteristics of young people when they use *Forest* in a realistic encounter. This aligns with the social sciences' requirement for concrete, context-dependent knowledge (Flyvbjerg, 2001, p. 42). After all, storytelling narratives that are as close as possible to the reality being studied to stand on the context in which they occur are stable. In this context, therefore, the choice of a case study that addresses young people's experiences and feelings about *Forest* use is appropriate and reasonable.

3.2. Collecting and analysing data

Qualitative in-depth interviews are recognised as having high utility in social science research (Atkinson & Silverman, 1997, p.305). As an opportunity to gain insight and

develop interpretations, the open-ended interviews allow for an understanding of the context in which the participants find themselves to gain an accurate understanding. I interviewed young Chinese people aged 18-28, often referred to as Gen Z. This group has been exposed to the Internet from childhood and has a deeper understanding of the use of smartphones in everyday life. Given the representativeness of the participants' data, the study chose young people who had been using *Forest* for more than three weeks and more than three times a week. In the Chinese context, this age group is generally adults who have just entered undergraduate school or have been working for some time and will use *Forest*, an efficiency app, relatively more often.

In order to gain a comprehensive understanding of young people's experiences with *Forest* in China, the study included both those who continue to use the app and those who no longer use it. It may be possible to obtain different information from young people who have given up than that provided by those who use it consistently. Gender was considered, but as people's motivations and feelings about using *Forest* may differ due to gender norms, the research did not deliberately aim for a gender-balanced sample at the data collection stage. Potential gender differences may have implications for some questions. However, given Lorber's (1993, p.571) view, grouping people in the study according to behavioural patterns may have been more appropriate rather than presupposing a gender dichotomy under each grouping. The authenticity and rigour of this study are better demonstrated by listening to the data and analysing it without prior assumptions.

As the topic explored was about sociality, the study used both direct recruitment of volunteers and snowballing to find participants, which ensured the salient features of the users in the study and enabled most participants to share the features examined with others (Faugier & Sargeant, 1997, p.793). In practice, I first posted a message recruiting invitation in the *Forest* super-topic[4] on *Weibo* and sent private message

[4] It is a type of public discussion group on *Weibo*, where discussions are held on a

invitations to several active users in the super-topic. It is worth noting that such an approach may be seen as flawed in other studies, as potential participants who are not visible on social media will inevitably be overlooked when invitations are sent to active users. However, for my research, those who were invisible on social media were less likely to be characterised by social media "*addiction*" than those who were active, and this was not necessarily even a problem for them. Their level of attention and commitment to smartphones in their daily lives is relatively low, and they are less likely than others to be affected by their smartphones and experience difficulties in their daily lives. Therefore, investigating such a group of inconspicuous people is not significantly helpful for my research; instead, more information can be obtained by focusing on the active group. According to Rubin & Rubin (2011, p.5), selecting knowledgeable people as interviewees for qualitative in-depth interviews leads to more significant and representative data. Such an approach also ensures that the participants thus recruited are motivated to share and express themselves. I contacted six participants through this volunteer recruitment method and asked them to introduce me to other *Forest* users they knew. In a snowballing chain of referrals, the trust I built with the participants supported their willingness to talk to me and show me what they did in their daily lives. Ultimately, given the quality of the information obtained, I chose 11 participants aged 22-26, including two men and nine women, as my interviewees. As Creswell and Poth (2016, p.133) state, candidates willing to share information openly and honestly and tell their stories need to be selected to provide credible information for the study.

As both the participants and I are from China, conducting the interviews using Chinese, which both parties are familiar with, might increase the emotional connection between me and the participants. Due to practical constraints, I conducted the entire interview through *Tencent* meetings and *Zoom*'s online video, hoping to achieve a digital face-to-face conversation that would be comfortable for the

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particular topic or celebrity.

participants. The best outcome was to create conditions in the interviews where participants could "*ideally enjoy their engagement*" (Miller et al., 2016, p.34). However, in the actual interviews, only three participants were willing to turn on the camera and communicate face-to-face across the physical distance. I understood the other participants' apprehension about opening the camera. At the same time, I still had my camera on in the hope that by doing so, I could make them willing to trust me as much as possible. To ensure that I understood the participants' contextual information and to gain a complete understanding, I extended my interviews with them by thirty minutes. After each interview, I encouraged the participants to send me screenshots of what they had mentioned about *Forest* during the interview. This additional information helped me to gain a deeper understanding of their use of *Forest* in their daily lives and to supplement information that could not be gathered through the audio interviews. This was also motivated by the desire to maintain "*a perpetual feeling of uncertainty*" (Hine, 2020, p.4) during the data collection phase. After all, embracing any eventuality and anticipating the information that comes with it is the fascination that qualitative interviews can bring. As this study may involve personal information, I sent informed consent forms to the participants after contacting them, explaining in detail the purpose and process of the study and emphasising their rights and the protection of their privacy.

It is worth noting that the original intent of this study was to focus on the feelings and practices of young people who were using *Forest* while in college and just entering the workforce, but as I communicated more deeply with the participants, I found that the stages of *Forest* use were primarily from their first year of high school to six years into the workforce. The broader and enduring stages of use were at odds with the information I had gained at the time of the research design, but always being prepared for whatever might happen was something I needed to do, "*experiencing and embracing that uncertainty*" (Hine, 2020, p.5) and consequently adjusting the research programme to allow the data to lead me. Instead of obsessing about this after realising

it, I was surprised that this gave me a long-term perspective encompassing high school, undergraduate, postgraduate or work. I could better focus on participants' experiences and feelings about *Forest* at all stages of their lives with a longitudinal timeline, which was more helpful in achieving the research goals and was an unexpected blessing.

Instead of following a list of questions meticulously, I preferred a semi-structured interview to understand what young people were thinking, which entailed "*reading the situation, interpreting the metacommunication*" (Boyd, 2015, p.90). The semi-structured interviews also allowed participants to speak in their own way, encouraging positive sharing. Before the formal interviews, I designed the questions for the pilot interview to be open and flexible, containing 13 topics. These topics were simply my ideas and hunches about the areas that might be covered in the interviews, some of which emerged from consultations with relevant academic and non-academic literature. I refined the interview guide through an iterative process after conducting a pilot interview with a participant who was willing to open the video and had three years of consistent *Forest* use. The final interview guide was developed following dialogue between all participants and me, and it has been continually improved as a result.

I also asked the participants about consumption in the interviews, considering that *Forest* is now available for purchase in the Apple App Store for 25 RMB[5], an unavoidable consumption that comes with using the app. As a result, it was found that none of the participants made any additional purchases on *Forest*, except for the initial installation, which consisted of a top-up in the shop to obtain a limited number of tree species. Some participants felt that planting trees was just a form of expression for them and did not care about the style of the trees. Other participants said that they could plant trees in teams to get more species that they lacked from their temporary

[5] If 1 RMB equals 1.51 SEK, that's about 37 SEK.

team members, so they did not need to spend extra money. Finally, a small number of participants thought that it was enough to spend the necessary amount of money when purchasing the app. Their consumption concepts made them reluctant to spend too much money on software, especially on content that was not necessary to consume. Most participants think that the current purchase price of 25 RMB is acceptable, especially considering the functionality involved. In subsequent interviews, the participants' responses allowed me to shift my focus from *Forest*'s consumption to the value of *Forest* in their minds. As Rapley (2003, p.18) states, the list of questions in a qualitative interview constantly "*mutates*" with the specific person being interviewed. Ultimately, all interviews were manageable, ranging from 60 to 90 minutes.

To record complete information, audio recordings and interview notes were used to transcribe the interviews. According to Kusenbach's (2003, p.465) guidance, this captured the subconscious responses of the participants, which could be contextualised to gain a complete understanding and help enrich the data for the qualitative study. The interviews were completed and coded using the qualitative text analysis method, which is particularly suited to researching question-centred data, ensuring that the research is understood in detail (Kuckartz, 2014, p.70). In practice, I began by reading through the entire transcribed text of the interviews. I used different colours to highlight and differentiate what was important and kept track of my comments and thoughts in memos to gain an initial understanding of the data. The main categories developed from the research questions and the interviews began with deductive category construction, allowing me to gain a "top-down logic" (Kuckartz, 2014, p. 83). To initially test the applicability of the main categories, I selected one participant's interview data as an initial test. Following this, I coded all of the data using the main categories and created subcategories based on data generalisation. This process was always centred on the research topic as my code of conduct. After successfully defining the category system I used this system to code data from all 11 participants, excluding my pilot interview data. By re-reading all the data I

systematically made sense of the meanings expressed by the participants and gained insight. Through such thematic qualitative textual analysis, I structured and systematised the data to ensure that subsequent analyses conducted in this way focused primarily on what participants said. The qualitative textual analyses created from this narrative data further ensured the authenticity and reliability of the research (Kuckartz, 2014, p. 70).

Finally, I would like to reflect on my position in the study. I downloaded and used the app in my 2nd year of undergraduate when I tried it for a day purely out of curiosity and then uninstalled it. It is fair to say that I was not particularly familiar with *Forest* before doing this research. To gain a more in-depth understanding I have been using *Forest* more than three times a week since November 2023. Even though I did not use an ethnographic research method, this experience allowed me to get to know the app from the inside out. It gave me an insider's perspective as I interacted with them and later analysed the data. At the same time, it was easier to analyse socio-culturally relevant themes later on, as my participants and I shared the same cultural background and similar social contexts. Therefore, I was also conscious of trying to be more questioning throughout the research process, as I needed to not overemphasise internal identities in "*familiar settings*" (O'Reilly, 2011, p.98). Only by not taking the familiar for granted can more nuanced gains be made.

4. Plant Tree in the Forest to Grow Yourself

4.1. Exam and Procrastination

To answer the main research questions, the first thing that needs to be understood is the users' reasons and needs for using *Forest* in the first place, namely the scenarios and conditions under which they chose *Forest* and the purposes for which they used the app in the corresponding scenarios. Even though I grew up in the same socio-cultural environment as the participants, a more specific understanding of the context and purpose of their use of *Forest* was necessary.

When talking about the initial scenarios of using *Forest*, all participants mentioned that it happened at a stage when they had a focused study task and were under pressure to prepare for various exams: "*Preparing for the National College Entrance Examination (Gaokao)*", "*Final week at university*" "*I had to take College English Test (CET) at that time*", "*I needed to prepare for National Postgraduate Entrance Examination*", "*It was during the preparation for the Civil Service Examination*".

In China's education system, the Gaokao at the end of high school is the national exam that determines where to go to university; the CET-4 is the national exam that most undergraduates must pass to obtain their final certificate; the National Postgraduate Entrance Examination is the national exam that undergraduates must prepare for if they want to move up the academic ladder; and the Civil Service Examination is the national or local exam that those who want to work for a state organisation and get a stable salary must pass. Through interviews with hundreds of young Chinese people, journalist Eric Fish (2015, p.20) has found that merit selection through examinations has become a stable and high-stakes trait of China's education system and has remained narrow in nature. From primary school, junior high school, senior high school, undergraduate to postgraduate, every academic advancement of a student means passing an examination, competing with peers from the district, the city,

the province and the whole country. The fierce and narrow character of Chinese examination competition can be seen in the popular description of the Gaokao as "*thousands of people are forcing themselves across a narrow footbridge*".

Examinations have become the most convenient talent selection mechanism in a country with a huge population, which is reflected in the first column of job adverts, the requirement for high academic qualifications: high-paid jobs often require a Bachelor's Degree or above. Under such pressure, for the average family (with low-risk tolerance), there is often only one way to achieve a better lifestyle: take and pass examinations. Failure to pass the exams often means that the road to this goal becomes much more winding and is often associated with negative social judgements such as "*fidde arround*" or "*idle*". In contrast, the definition of "*proud*" points to a better life, represented by a stable and well-paid job, such as becoming a national civil servant. To become a civil servant, one has to start by entering a good undergraduate university, graduate from that university with a successful undergraduate degree, and then become a master's student at a better university in order to obtain a higher qualification (which is a more significant competitive advantage), or take the national civil service examination directly. It is in this context passing one exam after another and going up one narrow footbridge after another becomes the solution for most people.

The names of these important exams, which took place when the participants were between the ages of 18 and 26, were repeated throughout the interviews, and the amount of time needed to prepare for each exam was also strongly linked to their use of *Forest*. Participants who had given up using *Forest* at some point in the past said that part of this was related to a reduced need for focused study. As Participants 1, 2, 9 and 11 made clear to me, they no longer needed to prepare for any exams at that stage. Participant 1 said there was "*not the same heavy study load and pressure as at the time*". The participants drew pressure from these major exams to connect with the

use and control of *Forest*. The three exams that brought the most pressure were the Gaokao, the National Postgraduate Entrance Examination and the Civil Service Examination. These three crucial exams involve the future direction of life. All spent three years in high school preparing for the Gaokao, and the 9 participants who prepared or prepared for the last two exams spent a period ranging from 1 to 2 years for them.

Moreover, during these times, each participant devotes almost entirely to revising anything that might appear in the exam. When communicating with Participant 8 about the timing of the online interviews, she repeatedly asked me to make sure that the interviews were scheduled to take time, as this would affect her study schedule. While talking to Participant 10 about her ongoing preparation for the National Postgraduate Entrance Examination, she mentioned, "*I have been preparing for the exam since 2022. During this period, I went out to work part-time for a while, which affected my studies too much. So I have been preparing for the exam full time at home afterwards with one eye on the exam*." It is therefore inappropriate to refer to the participants' use of *Forest* in terms of a "*short period*" of concentrated learning needs and will be generalised in the research to refer to the period of exam preparation when participants needed intensive focused studying.

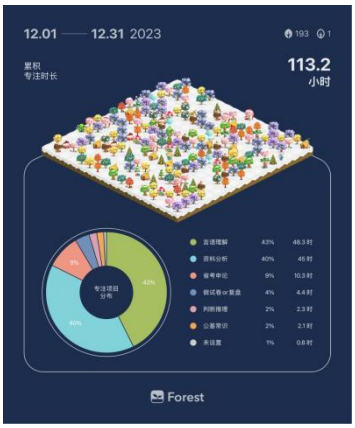


Figure 4 and Figure 5. Participant 10's use of *Forest* during her part-time job in November 2023 and during her exam preparation in December.

During this period of intensive and focused study in preparation for exams, the feature

that all participants found most helpful was *Forest*'s ability to control their mobile phones either by creating psychological cues or by technically preventing them from trying to use other apps. Restricting the functionality in this way made participants unable to access information from their smartphones when they needed to concentrate. For the participants, the smartphone, which they passively refused to use at this point, may have been an "*impending thrill*" (Ainslie, 2010, p. 2). As Participant 5 explicitly mentioned to me, "*I procrastinate on studying things. I know it is wrong, but mobile phones are so much fun!*" and Participant 3 said, "*I am not a self-controlled person. I always think about procrastinating on studying, but Forest can be a reminder that I cannot procrastinate any more!* ".

In their narratives, it was clearly expressed that the smartphone was stimulating and less rewarding for them in a short period, whereas completing the study became a bigger but later reward for them with the unpleasantness of the burden. Especially when the outcome of the study took the participants 1 to 3 years of preparation time to produce, while the pleasure and stimulation gained from playing the mobile phone could be obtained in the present moment and in time, the taskbar of the study invariably dropped one position in the participants' minds. According to the Temporal Decision Model, motivation to engage in a task declines when the reward for the task is located in the distant future (Zhang & Feng, 2020, p.312). At the same time, the anxiety that students experience as a result of test results is related to their academic procrastination, according to Cassady and Johnson (2002, p.291). What goes even deeper in their argument is that here our participants' academic task was to cope with an important upcoming examination, and the anxiety that arose as a result was related to the importance of the examination itself, and the aversion that it brought with it. It is therefore reasonable to conclude that the anxiety associated with the participants' academic procrastination is one that encompasses both anxiety about the exam as a task in itself and the outcome of the exam.

The participants' judgements and narratives about their procrastination came purely from their knowledge and their excavation of themselves. Firstly, about the judgement of procrastination, it is clear from their accounts that the participants could recognise that deciding to procrastinate was damaging, generating feelings of guilt and shame, but could not overcome the emotional urge to do so. Secondly, the participants reflected on the issue of smartphone use in their lives through their awareness of procrastination. As Frank (1998, p.200) argues in his narrative research on illness, people find satisfactory explanations for those unusual things that happen to them from all aspects of their self-life under the concept of narrative. In this case, the notion of self-consciousness became the source of the participants' explanations of their procrastination and was selectively presented to me. None of their narratives were logical or were simply scene descriptions of a moment of procrastination. Participant 5's further description of her procrastination was, "*Whenever I have a task that is not so important or urgent, I will dutifully sit down in front of my computer and create a new blank document, and then when the day passes this document will still be blank.*"

When I asked if the procrastination they described resulted from a professional medical diagnosis, they indicated that these were purely subjective judgements from themselves formed by the Internet. Theories and treatments from amateurs became the participants' beliefs, and the sharing of information through the Internet reinforced this belief and further challenged the dominance of medical treatment. A more detailed analysis will follow.

4.2. Notification system, Pressures and Digital Disconnection

Due to *Forest*'s ability to control the screen, participants found a solution to their procrastination during the exam preparation stage of intensive, focused study. Moreover, the function of the control screen helped them to be less connected to the digital world. Specifically, what was on the smartphone that made reducing

distractions from the digital world more necessary in the exam preparation stage? Or what made it so they needed external help to refuse at this stage? What did the brief but strong stimuli from the digital world point to specifically for the participants when they decision to procrastinate? A better understanding of the participants' motivations for using *Forest* will enable a better understanding of their habits in everyday life.

When I asked what apps on their smartphones attracted them the most, the app that every participant mentioned was *WeChat*. "*I did not block WeChat's private chat notifications but blocked the group chat notifications... Someone will reach me through private chat if an important message happens. At this point, wherever I am, I have to interrupt what I am doing and go back to WeChat to reply. Alternatively, I am already affected when I see the notification system pop up*."

Participant 11 told me this when referring to the use of *WeChat* in his daily life. It can be seen that in his daily life, the portability feature of smartphones is reflected anytime, anywhere. Schrock (2015, p.1236) argues that breaking through the boundaries of time and space is the most frequent thing in human communication in the smartphone era. The "*notification*" system that interrupts him reflects the dialogic nature of mobile technology. Through the message notification bar, participants could see the person who sent the message and the brief content of the message at first glance, bringing a sense of interaction similar to face-to-face communication. Further, from the participants' statements in this research, smartphone notifications bring a sense of urgency and seriousness when the message is from a one-on-one private chat window. Despite conveying dynamic information about the latest update, this still activates a state of alertness in the user, necessitating a break from what would otherwise be other things. After all, notifications, by their very nature, are interruptions.

Regarding the forms of messages that often appear in the notification system,

participants mentioned that they usually consisted of three types: text-only SMS, voice within 60 seconds, or direct phone invitations. The three message forms usually represent different urgency levels and bring corresponding emotions.

"*SMS words are usually used between friends or family members to communicate when the other person is emotionally stable at that time, which is the most frequent; voice, on the other hand, is usually used by close friends who would use it and send it to me when they are emotional. If it is a 60-second voice, it makes me especially curious about what is going on; phone invitations rarely come up and are only used when my university counsellor contacts me with something. Showing up means he wants me to come to his office, which I dislike*."

Through Participant 7, the different forms of *WeChat* message notifications allow the receiver to know in advance the current mood of the person sending the message and the urgency of the situation. Message notifications from *WeChat* that appeared on the participants' smartphones displayed as text on the screen, and depending on the participants' personality they chose to be presented as a text-only SMS with the specific content, "*Received a message*", "*Received a Voice with x seconds*", or "*X invites you to make a phone call*". Meanwhile, the notification of *WeChat* phone invitations retain vibration and solid visual feedback even under conditions where the phone is set to mute, which brings a more intuitive stimulus from a physiological perspective than the others. As mentioned in Yoon and Lee's (2015, p.78) study, notification can create physiological stress for the message recipient. It is precisely the stress from message notifications that participants have already felt both visually and tactilely in terms of physical.

According to past research, message notifications can also be stressful for users when they receive ubiquitous connectivity from the digital world without negotiating boundaries of connectivity that both parties can receive (Vanden Abeele, 2021, p.943).

The boundaries must be clarified, mainly when digital connections compete with personal goals and obligations. As in this study, the message notifications that participants mentioned appearing while preparing for exams conflicted with their individual learning goals. The conflict then presented participants with a dilemma: whether to stop studying at the moment and respond to the message or to ignore it and try to return to studying after being interrupted. The pressure to make a choice can cause participants who are already procrastinators to give in to their long-term learning goals in favour of short-term rewards such as responding to messages. In such cases, to resolve the conflict that arises when receiving message notifications, users must actively negotiate the connectivity figures, clarifying the boundaries between presence and absence (Mols & Pridmore, 2021, p.423). In messaging applications, where all conversations are located in the same digital space, and there are no clear boundaries between different contexts, conversations and interactions with anyone become part of the same collection of message flow figures. People on *WeChat* may simultaneously have private chats with their loved ones and follow messages in their work groups. As can be seen, the permeability and flexibility of the boundary between work and private life are increased with the help of smartphones. At this point, constructing and maintaining socio-cognitive boundaries between different contexts in daily life is a power that can be exercised by individuals, who can develop strategies according to their needs (Ashforth, Kreiner & Fugate, 2000, p.474). For example, disconnecting from work at weekends or holidays.

However, favourable negotiation and communication with the message's sender was not possible in most cases in the participants' experiences. *WeChat* carries the participants' need to communicate with family and friends, study and work, and social and personal relationships. For students, *WeChat* is an essential source of information for student identity, as most universities keep in touch with students through *WeChat* group chats. For employees, *WeChat* is the choice of most companies, although some Chinese companies now use other professional office software as a platform for work

communication. The two social roles of student and employee prevent participants from being equally powerful with the message sender in communication, but rather as passive bearers. They are oppressed by norms, expectations or availability policies in groups and institutions, becoming at the bottom of a potential power hierarchy (Vanden Abeele, 2021, p.944). In such a context, messages from work or school can then realise the invasion of private life and time through unequal social relations. Nonetheless, out of fear of negative comments given by groups and institutions, participants, such as staff and students, had to respond to messages from work and school. As a result, most of the participants had a psychological condition called "f*ear of missing any message that may exist on WeChat*".

As a result of this psychology, they had to check their smartphones frequently or regularly in order to prevent missing any messages from those in power in their social relationships, which could lead to more serious consequences. "*I'll be checking for message notifications every half hour... The timing isn't mandatory but a habit I've formed invisibly... If I don't check I always feel like I'm going to miss something*." As can be seen from Participant 3's description, the pressure to be notified of messages that cannot be mitigated through negotiation still exists, and is even exacerbated by the unequal power situation. The behaviour of having to check the notification bar frequently with the "*fear of missing out"* and "*had to reply*"simultaneously caused anxiety for the participants. In the current research such interruptions from the notification system that could not be rejected became problematic for the participants during the preparation for the exam phase of intense focused study.

The first thing that came to the participant's mind was the ability to control the screen through *Forest*. Participant 11 said, "*I would like to install Forest on my computer*". As *Forest* is currently only supported on smartphones and iPad, the electronic screen of the computer was a territory that the participants could not defend through *Forest*, given that all participants had three electronic screens. Participant 3 said, "*I open*

Forest on my mobile phone when I study, and I study on my computer without my iPad. However, as soon as I get a message notification on my computer's WeChat, my attention is still drawn to it, thus distracting me."

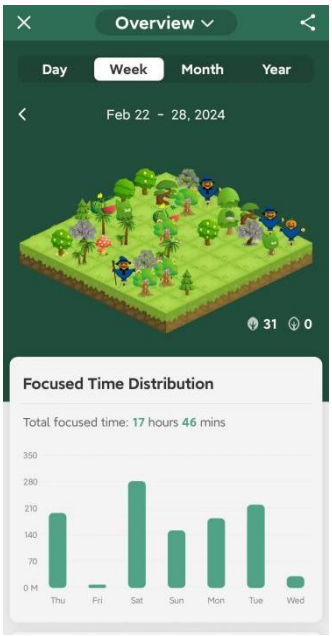
Through her expression, *WeChat*, which had to stay online at the computer, still achieved interruption through message notifications. It can be seen that in real-life practical use, *Forest*'s characteristic of only being able to control the user's one electronic screen became a possible limitation as perceived by the participants. Participant 11 gave his opinion: "*I think this is the most important thing that Forest needs to improve at the moment. It does not take into account the fact that nowadays everyone has more than one screen*." In this statement, the participants showed a strong dependence on *Forest*, losing control from *Forest* they still needed other ways to help control themselves.

Four of the 11 participants also found other ways to disappear from the digital world in a short period. They achieved this through more coercive ways during the intensive study phase:

1. Going out entirely without a mobile phone for a whole day.
2. Uninstalling all entertainment apps.
3. Swapping mobile phones with friends who did not know the unlock code for a whole day.
4. Attending a " *No Mobile Phone Class*" for 8 hours a day

According to Meier & Reinecke (2021), in conjunction with the participants' blocking of notifications for *WeChat* group chats in the previous section, it can be seen that such voluntary digital disconnections were differentiated into three types of disconnections: from the whole device, from social media platforms, and the messaging level. Regardless of this, however, it represents that participants are disengaging from mobile devices, platforms and messaging through personal choice at high or low frequency for long or short periods. Such management behaviour is

even more strict and extreme compared to *Forest*, whose whitelist function allows users to keep the app they need running in the background, so it is possible to continue using *WeChat* while using *Forest* at the same time if they wish to do so. However, all participants did not use the whitelisting feature. This shows intense determination to use *Forest* to control their disengagement from the digital world. This is also similar to the results of Nassen et al.'s (2023) study on users' motivation to disconnect voluntarily digitally, which is closely related to the need to increase productivity levels. The participants' behavioural motivation for voluntary digital disconnection at this point and the determination to increase learning productivity also included the need to address distractions, interruptions, and diversions caused by being notified of messages and the procrastination mentioned above.



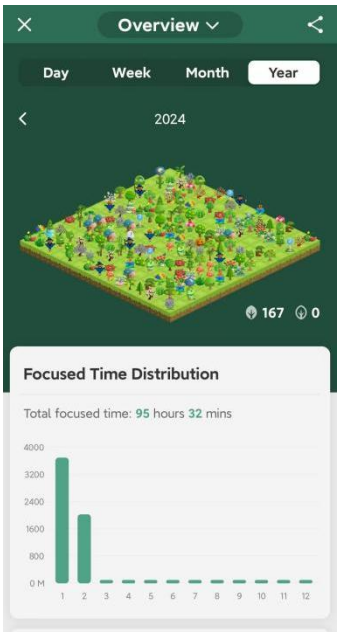


Figure 6 and Figure 7. Participant's hours of *Forest* use during the week of 22-28 February 2024 and the first two months of 2024.

4.3. Smart phone addiction and medicalisation

Participants' motivation to use *Forest* initially was linked to their learning effectiveness because they used it in a very focused exam preparation stage. If we try to broaden our perspective and look at it from a broader perspective, can we get more information from the participants' daily lives? With this question in mind, I learnt

more about the participants' use of mobile phones and their habits. In the interviews, it can be found that participants mentioned that their motivation for using *Forest* was partly due to a perceived overuse, in addition to wanting to improve their learning. Participant 10 said, "*Mobile phones are fun. Sometimes, I play with them until I want to throw up, and I do not want to put them down even though I am tired of playing with them.*"

When she joined the six-month "*No Mobile Phone Class*", she felt "*I was initially very uncomfortable; I was fidgety in the classroom. It took three or four days for it to get better*." Participant 1 also said that she would play with her mobile phone with a vengeance, staring at the screen without caring about anything else during this period "*Totally sucked in by my phone, I feel like a bit of internet addict.*" This precise description of what happens when using a smartphone and explicitly equating the behaviour with "*smartphone addiction*" appeared several times throughout the interviews. 9 out of 11 participants explicitly mentioned that they considered themselves to have or to be smartphone-addicted, and either before or after the explicit mention, they added various details from their lives to fill in the conclusion that they had gained about "*smartphone addiction*". According to Lupton (2012, p.87), the form of "*storytelling*" is widely used by patients to make sense of their experiences and to formulate new life situations and identities. During the participants' narratives, details from their lives helped them manage their self-image by drawing a front-of-stage impression of themselves in front of me, namely that they had a smartphone addiction and had the details to back it up. According to Goffman (2023, p.22), the selves that people perform usually include both frontstage and backstage components, as well as public and private aspects. It was through their descriptions of the phenomenon of smartphone addiction and their responses to my communication that the participants constructed their selves in front of me, performing on a linguistic level. By describing and emphasising, the participants were able to give me a frontstage impression that they seemed to have a "*smartphone*

addiction".

However, all of this is predicated on the fact that the participants assign themselves the dual roles of patient and doctor based purely on their own lay and subjective judgements. They tell stories as patients uncover possible details from the minutiae of their lives and then immediately seek possible treatments based on these stories as doctors. According to Lupton (2012, p.85), the power differential between the roles of "*doctor*" and "*patient*", as constituted by medical discourse and practice, ensures the authority of medical judgements. However, the participants constituted both sides of the power differential, causing medicine to lose its professionalism and authority in this context. In particular, the core of their identity as smartphone addicts throughout the process came from the participants' medical knowledge of various truths and falsehoods gained from the Internet and the world around them. This is partially similar to the techno-scientific identity Sulik (2009, p.1062) referred to in her study, in which people spontaneously identify with a certain biomedical standard and fully integrate their identity to develop a whole new self as information proliferates. The difference, however, is that the participants in the current study did not seek endorsement from a professional field throughout, and the biomedical knowledge they endorsed was not sufficiently specialised. Their techno-scientific identities were limited to individuals positioning themselves within a techno-scientific framework using terminology derived from medicine.

Why did the participants seek knowledge from medicine to explain and define their use of the Internet and smartphones? According to Zola (1976, p.210), the primary institution of social control is medicine. When people seek an explanation for their possible transgressions, unconscious thoughts from society intervene using seemingly neutral medicine. Remarkably, for such human weaknesses as addiction to something, the medical profession has emerged to expand what is associated with good medical practice and retain the exclusive licence to treat the mind and body (Zola, 1976,

p.211). When I attempted to ask the participants further about their reasons for making judgements about themselves, none were able to pinpoint a specific reason other than to vaguely say, "*It is right because I really cannot let go of my phone; my parents have told me many times because of that.*" Alternatively, "*Since I was a kid, I was told not to get addicted to my phone or play with it for a long time. It is not good for my health either*."

From the participants' descriptions, it is clear that in their upbringing, there were vague but strict requirements from family and school regarding the use of smartphones, which were associated with physical health in the form of disciplinary discourse. According to Foucault's (1990, p.113) section on discipline, discipline from the surroundings of a person's behaviour is interwoven into a tightly-knit world where the power of healthcare reinforces corrective discourses and forcefully prescribes behaviours. Instead of enforcing this power often, the participants' parents, teachers, classmates, TV, and Internet populated the medical system in everyday life as the lowest level of social control. Parents and schools, in particular, infiltrate participants in both domestic and social spaces. The expression "*it is good for my health*" also represents the health-seeking norm as a medical lure that draws us into experiencing ourselves through a medical lens. Surveillance technologies connected to the body are training our bodies to be more flexible and adaptable to modern society. As Foucault (1990, p.120) emphasises, medical disciplines attempt to directly instruct us through the body on how to live. Further, the medical disciplines related to bodily health structure our ways of thinking in everyday discourses and details and subconsciously make our bodies and behaviours the subject of medical practice.

Why did the participants then use the concept of addiction to explain their behaviour? According to Giddens (2013, p.75), addiction is an individual's reflexive narrative of self and a result of being defined by societal rules. Combined with the longstanding discipline of medical power over people's daily lives, it might be possible to include

addictions as well. Participant 7 said, "*When I was a kid, I still saw all the news on the TV about treatment for internet addiction, and it was scary. I do not think it is as serious as I feel myself, but I should need to be aware of it all the time as well.*"

Combining the participants' statements, it can be seen that the concept of smartphone addiction and the possible solutions they perceived all came from what social institutions or their families told them. The definition of addiction represents an individual's behaviour that is perceived by society as harmful and requires treatment to deal with (Giddens, 2013, p.76). This point further explains whether or not an individual's behaviour is transgressive in medical regulation. In turn, the publicity in the life narratives about the medical or psychological treatment required following addiction was widespread and impressed upon them. When they realise that they may be in a similar situation, even without the judgement of any professional agency, internal feelings of shame or fear of being identified can produce a false perception of self-competence. When the social standards of addiction are not met in the individual, the individual's autonomy can easily be compromised. This is why Participant 7 began to self-retain when he realised that he had such a condition. In this way, there is double pressure on the individual from the medicalised power of regulation and the social standards of addiction. Under such pressure, participants judged that they were overusing their mobile phones and acted accordingly, which they found from their practical life experience.

4.4. Parent-agent style usage of *Forest*

Since all participants initially used *Forest* in preparation for exams with intense and focused study, such use was followed by peaks and valleys of usage as the preparation progressed. Will participants continue to use *Forest* once they no longer need to study intensively? If so, what kind of presence does *Forest* have for them? Will it continue to be used as a tool to control the mobile phone screen, or will it have other uses?

Through communication with them, it was learnt that by the end of the exams they were preparing, the reduced need to study and the reduced pressure they faced made some participants give up using *Forest* after that. Some of these reasons for giving up were linked to the fact that the features of the *Forest*-controlled mobile phone were not applicable in study scenarios or work scenarios, such as the rise in the need for paperless studying or office work, as well as unique professional or special industry regulations. For example, Participant 4 studied a major during her undergraduate studies that required almost all her learning through laboratory manipulation. At the same time, Participant 11 lost his access to *Forest* after graduating from university when he entered an industry with stricter regulations on the use of electronic devices. In this context, using *Forest* as software on a mobile device is not without environmental constraints. This is especially the case when all participants initially used it in scenarios where it was used to support their studies. Later on, higher levels of study (master's degree) and work faced more complex environments. Participant 9 describes his use of *Forest* at a later stage: "*I used to use Forest in my free time to help me control my phone. Later on, my profession and work required me to use other mobile phone software regularly, and at this time, it would be inconvenient to use Forest again. So I didn't use it anymore after that*." Even though the need to concentrate on studies declined, the decline in the need to control the mobile phone directly impacted the abandonment of the use of Forest.

It is worth noting that not all participants abandoned *Forest* when the need for intensive study diminished. 7 of the 11 participants changed their focus on *Forest* from helping them manage their smartphones to using the history function of the app to help them keep track of and manage their lives. They found the bar charts combined with the labels in the history review feature particularly helpful in reviewing their day before going to bed each day, reviewing the past at each important point (usually in days and years). The app's display of data and graphs allowed them to see the passing of time intuitively. For these participants, help

managing their smartphones was only the primary need in a focused study preparation environment. Once removed from the high-pressure environment of exam preparation, it meant the loss of enforced management of time allocation from the outside world; there would no longer be a set time for classes each day, and there would be no set time for homework or relaxation. When the boundaries (albeit formed through the outside world) between study and life were blurred, these participants consequently lost control of their lives. Participant 1 described his feelings as "*I felt very confused... For the first time, I did not know how to distinguish between life and study and did not know when to study and when to rest.*"

In the participant's description, all of her confusion came from having just left China to go to a European country for postgraduate studies. The guidance and counselling from her parents, which had proved helpful countless times in her past experiences, could no longer guide her because of the time difference and physical distance. In Chinese society, dependence on parent-child relationships is maximised by frequent top-down guidance (Triandis et al., 1988, p.325). Unlike individualist cultures, collectivist cultures care more about vertical and relatively unequal power relationships than horizontal ones. Consequently, the most common way for parents to deal with their children is to provide comprehensive counselling on their personal goals, social relationships, social activities, and private life. Such guidance, although condescending, is still a manifestation of the greater interdependence of internal members in a collectivist culture.

More than half of the participants in this study agreed that at least before they were adults, the family voice was in the hands of their parents. Choices made by parents instead were common, as Participant 1 told me about her weekend time as a child being organised by her parents. "*At that time, my parents would send me to various tuition classes, and they were the ones who helped me plan. Even though it wasn't out of my will, I wasn't opposed to it.*" Growing up, Participant 1's parents

single-handedly organised her life for every possible consideration on her behalf. The findings of Triandis et al. (1988, p.335) show that the theme of collectivism is to define the self as a part of the group and to place the interests and goals of the collective above those of the individual. On such a definition, it can be seen that it is not the individual who achieves in a collectivist society, but rather the individual who helps the group achieve and realise its goals and takes pride in their group's achievements. Further, the interdependence between internal members in a collectivist culture is based on responsibilities and obligations to the group. Thus, behind the series of transgressive behaviours of the participants' parents, who have been personally involved since they were children, arranging study tasks instead, there are considerations of responsibility for the family's achievements as a collective on an academic, career or other level. The willingness of the higher power in a collectivist culture to take responsibility for and serve the family as a whole drives them to encourage people in the same collective to join in, to work together to achieve, and to gain a sense of pride.

At the same time, this is also similar to Chao's (1994, p. 1113) view of parental roles in his study, that is, in collectivist cultures, parental control, preference, and advice are more significant, and that parents are frequently make decisions for their adolescents. In his interpretation, parental control in Chinese culture needs to be distinguished from the notion of "*authoritarianism*" and is behaviour motivated by responsibility and care for the child. However, the essence of the behaviour is still a discretionary decision on behalf of the child, and, indeed, participants are not encouraged to try to take responsibility during adolescence. The nature of the behaviour still affects the growth of the adolescent's sense of self, and the resulting conceptual conflict with parents and the consequent stress in the home environment is possible. According to Elder (1994, p.11), relationships within the family and stress potentially impact the adolescent. Taken together in such an environment, it is to be expected that individuals, because of the lack of opportunities to practise their internal

thoughts while growing up, develop a more substantial reliance on their parents at a time when they should be taking personal responsibility. Thus, in Participant 1's description of the aftermath of living on her own, it can be observed that even though she had become an adult in terms of her actual age, she still lacked autonomy.

This was improved by using *Forest* in combination with other pathways. Participant 1 said, "*Once I started using Forest, I found that it helped me be independent and find a rhythm in my life that works for me.*" Participant 4 also mentioned that in addition to using *Forest*'s charts and data to understand herself, she also designs and manages her schedule in other scheduling apps or in handwritten form through a bullet journal. This shows that *Forest* exists as a part of their self-management. At the same time, the participants also mentioned that they felt lost when they were away from the strict management of the outside world and that they were temporarily addicted to the world of the internet and smartphones. Participant 1 said, "*I was so disoriented that I could sit in one place all day and play with my phone all the time. It was just an infinite fall into the world of mobile phones*". It is worth noting that the weakening of management from the outside in the antecedent condition did not occur at an absolute time but at a relative life stage.

Outside authority they refer to usually includes two parties: school and family. Several of the participants' confusion and smartphone addiction occurred in their first year of undergraduate study when they had just left the coercive management and strict control of their lives by their parents and school to enter a completely new environment where their parents were gradually losing control, and where there were essentially no restrictions on smartphone use on college campuses. Some of them did not experience this until they were working or in postgraduate school. They called this stage "*having freedom*".

Participant 7 said, "*When I was in my first year of university, it was like having*

freedom, and everything I played on my mobile phone was new. I played all those mobile games that had been popular for a long time because my university housemates told me about them. I often played them for a whole night."

It can be seen that most participants fell into the trap of open craving for the Internet at the beginning of the "*freedom*" stage after becoming dependent on their parents. Like birds that have not sprouted wings but need to fly, they can only indulge in the virtual world and escape the fact they always need to face. That is, until the arrival of an important exam they have to pass forces them to choose *Forest* to act as a surrogate parent, to differentiate between study and entertainment time, and to manage the time they spend on their mobile phones. In this context, 9 out of 11 participants started using *Forest* when they started their CET exams in their second year of college. That was the first significant exam they needed to self-manage after being released from parental management. Thus, *Forest* became a surrogate parent for the participants, helping them to get through the exams and helping them manage themselves in the absence of their autonomy.

4.5. The virtual study room: collectivism and face *(脸 lian)*

In addition to the two *Forest* functions of controlling mobile phones and recording life, the group function was mentioned several times when communicating with the participants. The group tree planting required participants to actively communicate with other users about specific details such as focus time and duration that were appropriate for both parties. These antecedent requirements contradicted the participants' original intention of using *Forest*. Therefore, to fully understand this feature, it is necessary to further explore it based on the participants' expressions.

Based on my observations of *Forest*, the group function allows users to plant a tree with others for a set period, and if no one unlocks their phone to use another app during that time, then everyone in the group gets a tree. If someone unlocks their

phone during this period, breaking *Forest*'s rules, the tree will die for the entire team. It can be seen that in *Forest*'s teaming feature, a sense of school-like normality is created through uniform rule-setting. Such fair rules and systems can make participants feel it is in their favour and create a sense of identity. In this respect, this research, unlike Goodenow (1993), suggests that a similar relationship between the fairness of school rules and students' sense of belonging is likely to exist in the virtual "*study room*" linked to *Forest.* According to the participants' descriptions, 5 out of 11 of them felt that they studied more efficiently using the group function because "*there was a sense of ambience in studying with the group, and in this environment, I was unconsciously in a state of learning."* The "*ambience*" expressed by the participants refers to the "*magnetic field*" of the academic atmosphere in the "*study room*", where everyone is studying seriously, which creates an attraction for the participants. The fairness of the rules further enhanced this attraction. At the same time, the participants' descriptions suggest that a positive learning environment is related to the student's level of academic engagement and emotional competence.

Forming a virtual "*study room*" does not require a lot of steps or verbal communication. All one needs to do is share the invitation link to a *WeChat* group chat and wait for other people to reply to the request to join the group. During this process, you must follow the requirements of the *WeChat* group chat and the rules of the *Forest.* Such double rules and modes of interaction are similar to the school's overall rules and the classroom's detailed rules when entering school, completing the ritual practice of entering a virtual "*study room*". According to Rappaport (1971, p.67), rituals can help to build collective latitude in social settings. The ritual requires that it takes place in a situation where both parties can perceive and recognise it as a prerequisite. The fulfilment of this condition requires the participants to express themselves in a language that conforms to the rules and identifies them as belonging to the same group. Thus, the rituals constructed following the requirements of the *WeChat* group chat and *Forest*'s group rules help individuals quickly acquire an

identity in the "*study room*", and following the regulations brings a sense of belonging to the group.

Figure 8 and Figure 9. In the group chat called "*2024 Forest Exam Base Camp*", the rule is to send out a link inviting to plant a tree and state the start time (13:40) and wait for other people to join. If you want to join, tell the person via *WeChat*'s tap function (xxx tapped xxx) and go to the invitation link on time. In the meantime, if you need others to send a new invitation link, then you can say in the group chat "*waiting for carpool*".

It is worth noting that several participants, referring to the group feature that allowed them to complete their learning tasks efficiently, also said, "*I am embarrassed that my slacking off affects other people. When I'm planting trees alone in Forest, if a tree dies, I just let it go. But when planting trees as a team, I can't do that.*" It can be seen that the status of the virtual "*study room*" in the minds of the participants was transformed into a temporary social group. The needs and interests of the group overrode and guided the needs of the individual. The sense of honour and responsibility to the group became a force for the participants to learn. This is also similar to Luo, Tamis-LeMonda, and Song's (2013, p.845-846) argument that the requirement to adhere to social norms and maintain harmonious relationships is deeply rooted in traditional and contemporary Chinese culture. Growing up in an environment where obedience and respect for authority are valued, participants shared collectivist values that made them champions of discipline and norms in small groups and endeavoured to enforce them. When participants follow the rules with their temporary teammates and succeed in planting a tree, the planted tree becomes a reward for them for complying with the collective needs and norms, which further

strengthens their social and moral responsibility and sense of belonging to the group thing. The rewards thus gained will, in turn, continue to motivate the participants to be more active in group studying. For example, Participant 8 said, "*I like planting trees in a group. It gives me a sense of satisfaction.*" She could not say precisely how much each part of the components of the satisfaction she received through teaming accounted for. However, she believed it mainly came from her successful focus, the rewards she received through teaming, and the pleasure she felt from fulfilling the collective expectations.

Figure 10. After successfully planting a tree in a group, you can see your temporary group member's avatar and the tree you have obtained by working together.

The terms "*thin-skinned*" and "*care my face*" were repeated by Participants 5 and 6 when talking about the feature of planting trees in a group, and were the reasons why they thought they were stage-serious about learning. "*I still care face, and I get serious when I plant trees together.*" According to Ting-Toomey (1988, p.4), face *(脸 lian)* in the Chinese cultural context is associated with public projection of the self. The corresponding facework is the set of communication behaviours individuals use to present an excellent social self-image of themselves and maintain relationships. Thus, face *(脸 lian)* is a concept associated with social evaluation systems such as respect, honour, status, reputation, credibility, competence, and, therefore, shame and pride. Specifically, participants' in this research sense of shame discouraged them from behaving badly or being disapproved of by others in small group. It is in consideration of their external identity in the public "*study room*" that the idea of

"b*eing embarrassed not to be serious*" drove participants to engage in appropriate behaviours that were more in line with the needs of the current context, that is to say, to be serious in their study so as not to let the tree die. By maintaining their face in the public space, participants' self-esteem was well groomed, which was more conducive to creating an excellent front-stage impression. According to Goffman's (2023) theory of the everyday self, the stage image is a carefully maintained performance presented in a public space. This group activity was conducted through a *WeChat* group chat for tree planting; often, the teammates encountered strangers. This suggests that the starting point for both participants was to design and maintain a sound "*front stage*" image (e.g., a severe learner) in front of strangers on stage. This front-stage image can be very different from the backstage self, which is the individual's self, and it is all due to the participants' design of their self-image. This also connects to the previous paragraph about meeting collective expectations, where the combination of social belonging and Chinese self-identity management made the participants more adaptable to meeting the expectations of the people around them and getting feedback from them.

Through interaction with the participants, it was found that, similar to the results of Chu and Chu's research (2010, p.153), the value of collectivism made the participants more sensitive in a small virtual collective. They followed the rules and gained emotional value in the collective, which further contributed to their level of participation and even dependence. Since most users in the *WeChat* Tree Planting group chat are preparing for various important exams, those who often plant trees together through the group function can quickly develop a sense of "*comradeship*". Further, this strong collectivism also fuelled interpersonal and even close emotional ties between participants and other *Forest* users. As stated by the creator of one of the *Forest* group chats included in the participants, active group members have become close friends. The relationships between people can be seen to draw closer and gain a sense of strength from each other due to shared experiences and similar goals in a

high-intensity stressful environment. The presence of their peers became a source of support in combating stress and anxiety and regulating their emotions.

Participant 7 said, "*Whenever I am in a group, it is nice to see someone studying with me simultaneously. I feel like I am not alone*". Such a feeling is also gained from *Forest*'s friend leaderboard feature. Users can see their friends' concentration and data on the Friends leaderboard during the day. Because it is people they know well, it gives participants a more authentic sense of connection. Participant 10 said, "*When I see other people working so hard, I want to catch up with them too.*" Participants like her can gain support through the friends' leaderboard, which has even become a goal she is trying to achieve.

At the same time, some participants believe that external distractions interfere with their focus. Whether it is the laxity of temporary teammates, the temporary small group schedule, or the various large group communications (*WeChat* Tree Planting group chat), they all belong to unavoidable disturbances. They believed that the so-called collective responsibility in a small group, like successfully planting a virtual tree in *Forest*, is an additional feeling and that the most incredible sense of achievement and reward should come from themselves. Participant 9 said, "*The rest of this is just an outward expression, and the only way to use Forest is to focus on it for so long and get something out of it*".This suggests that a cheerful "*study room*" atmosphere and environment may have less impact on participants with lower levels of collectivism. For this group of participants, striving to fulfil themselves was more important than the perceptions of those around them and the group's interests.

4.6. *Forest*: The First Step as Self

From initially having to use *Forest* because of the intensive and focused task of preparing for exams to later developing the app as a surrogate parent to manage themselves, participants' purposes and habits of use underwent multiple changes

during the process of using *Forest*, which also coincided with the participants' transition from adolescence to adulthood. Does the state of the participants' use of *Forest* during this particular period reflect their growth stage? Furthermore, did they gradually develop into an independent, mature person in terms of actual age and psychological age during this period? In order to answer these questions, a timeline of the participants' use of *Forest* shows that their selves are gradually being revealed.

Before using *Forest*, they were in a period of "*smartphone addiction*" after "*having freedom*", when they were at a loss because they felt the disappearance of control from the outside world. They had not yet developed a sufficiently clear sense of themselves as separate parts at this stage. Because earlier, the participants were "*controlled*" by their parents. According to Confucius (Waley, 2012), filial piety to parents is the basis for later benevolence to others. What is meant here is that one can only love others if one first loves (filial piety) their parents. This shows that the role of parents in the Chinese family is associated with filial piety *(孝 xiao)* in traditional Chinese culture, which represents the children's obedience and respect for their parents. Children may be unable to support or honour the family at a very young age, but showing obedience and respect to their parents is a feasible goal. When a parent and child disagree, the child needs to follow the parent's advice out of respect, even though the parent's expectations may not be correct or reasonable. In this sense, the participants' parents were standing at the top of the family's power over them from top to bottom, not just in terms of guidance but the transgression and expansion of power.

From Chao's (1994, p.1112) research, it can be learnt that Chinese parents under the influence of Confucianism strongly believe that the future development of their children depends on parental effort and love, and can be expressed in various forms and contents of nurturing and training for their children. Parents under the influence of traditional culture are willing to give much time and energy to nurture their children. This is because, in Confucianism, human beings can be improved through

education and cultivation and achieve perfect development in all aspects (Zhu & Hu, 2011, p.417). The child's growability and adherence to education make parents more willing to pay for their children's development. Therefore, training children is considered a necessary and acceptable form of education. This form of education encompasses the pursuit of academic achievement and a more profound and overbearing control of the child's life through direct scheduling on their behalf. When I talked to the participants about their lives before undergraduate school, each one told me that their parents had enrolled them in extra training classes in addition to their high school schedule: "*At that time, I only had half a day in the week on Sunday afternoons when I could go home, but it was only to take a shower, and then I had to go to the training class that my parents had arranged for me. You could say that half day was the only time I could take a break*."

The time management by parents from the authoritative side instead of scheduling gave the participants, who were children, no opportunity to exercise their independence in high school, and they could only passively obey what their parents had arranged in the high-pressure environment at that time.

Thus, Participant 7's use of the term "*having freedom*" to define a period of freedom from parental control also expresses the participants' concern about their parents' over-involvement in their past lives and their desire for a new life. According to Lu & Gilmour (2006, p.39), the contemporary Chinese self contains not only social orientation, which emphasises roles, status, commitment and responsibility in relationships, but also an autonomous self. The autonomous self, in turn, includes ego, autonomy, independence, and equality, and it is a trait different from the collectivist culture that emphasises the priority of collective interests over individual interests. Some of the participants who perceived self-realisation to be higher than collective interests, as seen in the previous section, belonged to this category. In their perceptions, the drive to realise one's values is much higher than collective values.

This indicates the emergence of young people in China under the influence of a collectivist culture that embraces both the pursuit of the independent self. It further suggests that there are both socially oriented and autonomously oriented selves in contemporary Chinese people. Thus, it can be seen that the pre-freedom to be owned participants' obedient selves are still flowing in the parent-child relationship and that they are interdependent with their parents. In contrast, their independent selves are suppressed and neglected under the traditional notion of obedience.

Because of the exam tasks that had to be completed, they started to use *Forest* to alleviate the overuse of mobile phones by using the control of the phone to allow themselves to study more efficiently and cope with exam stress, notification pressure and procrastination. At this stage, participants used *Forest* to seek help from outside sources. They perceived their inability to complete study tasks independently without parental supervision and control and recognised the need and urgency of passing exams. When I asked the participants about their perceptions of themselves, everyone was able to articulate clearly, "*I do not think I am considered to be a person with much self-control*," "*I do not sign up for a Tiktok account because I know that once I open it, I will not be able to control myself. So I cannot indulge myself.*", "*I do not have too much self-control, and I do not think people with self-control would need to use Forest*"

From their expressions, it is evident that in this process of leaving their extended accustomed family environment of the past and getting in touch with the broader society, participants started to recognise themselves and try to look at themselves with rational eyes. Although the influence of medicalised discipline on self-awareness emerged during this process, it did not prevent the participants from gradually developing independent self-awareness in the longitudinal sense. Using *Forest* to help themselves during the highly focused and stressful preparation stage was an autonomous judgement and choice that they accomplished in a state of clear

self-awareness. It was a precursor to their independent self-construction and developing self-awareness.

While using *Forest*, participants were more prominently developing traits of the independent self while also intertwining with interdependent self-constructs in the flow of relationships. In this phase, participants began by mimicking and experimenting with how to manage themselves. Participants who were preparing for exams told me about their schedules during the preparation period, and the most common schedule was to study and relax at fixed times. Participant 7: "*I usually scheduled complex study tasks in the morning and afternoon, with a 10-minute break every 40 minutes or a 15-minute break every hour, depending on my studying condition. In the middle of the day, I took a two-hour break to eat lunch and used my mobile phone for a while.*"

This schedule is very similar to her high school schedule. Participants' time management for themselves began by mimicking the most familiar patterns because the familiarity of past experiences made it easier for them to begin the first step. Once they succeeded, participants gained confidence and used this to shape future behaviour patterns. Participant 4 expressed that she is now fully accustomed to her schedule and can consciously carry it out. "*I often ignore Forest now that it is open and sitting there, as though I have been able to do it without its supervision.*" For the vast majority of their preparation time, participants made their arrangements, and this was a process by which they exercised independent analytical thinking and personal responsibility.

Constructing an independent self also sometimes requires constant adjustment until they find a rhythm that works for them. Participant 8 tried to use the function of group planting to help her get into the learning state in the early stage of using *Forest.* However, she gave up after a few tries: "*I found that people usually set a focus time of*

1 to 2 hours if I grouped trees, and I could keep up with it at first. Nevertheless, I realised my back would not allow me to sit still for long periods. So, I stopped grouping and slowly reduced the focus time but increased the focus frequency. Now my habit is to study in sets of 30 minutes with a 5-minute break, from 8 a.m. to 5 p.m., with a 40-minute break for lunch and a 20-minute walk."

Her experience finding her rhythm demonstrates how developing a sense of autonomy in independent self-construction continues to meander forward with practice. It is also a way for participants to formally manage themselves from a purely egoistic perspective when faced with an important issue and to organise their time independently as a first step.

In addition to the self-construction of independence that was taking place in the form of imitation to adaptation, the interdependent self of some of the participants was also being developed in the small group of tree planting teams. This part of the participants was more collectivistic, trying to maintain a harmonious relationship with the temporary team members. Participants even developed a dependency, conforming to the rituals in the collective and using the collective's greater responsibility and group interest than the individual to force themselves to play the role they were in. Whether focusing on the interests of the collective over the self or from the idea of saving face, the other from this environment becomes the underlying logic of their actions. Even throughout the process, this group of participants thus developed socio-emotional ties to social relations in the collective, such as a sense of belonging to the *WeChat* Tree Planting group chat and a sense of closeness to their acquaintances. Thus, for them, the extrinsic motivation from the group tree planting became a reason to continue using *Forest* to help them get through the exams they had to complete.

Did any of the participants achieve the development of a fully independent sense of self, starting with their own intrinsic motivation? I believe that there are. When

communicating with Participant 2, she seemed to have realised that she could move away from having to use *Forest* and instead use her own will. Participant 2 had been using *Forest* for seven years, during which time her life had taken her through university, work, and some career success. However, she still used *Forest* every week: "*Using Forest has become a habit for me, even though I do not need it to help me with anything at all... I turn it on when sporting, reading, or relaxing.*" In Participant 2's description, we can see that for her, using *Forest* is no longer an option for coping with exams but has become an enjoyable part of everyday life. She has expanded her use of *Forest* from the "*study room*" to more personal details of her life. In addition to her, Participant 10 also expressed individualism in her use of *Forest*. She developed her collection of the various species of trees in the *Forest* and cited this as the main reason: "*I will never uninstall this app*". Over an extended period, participant 10 shifted her attention to the external forms of self-expression in the app and used them to satisfy her need and hobby of collecting objects. At the same time, three other girls mentioned that the aesthetically pleasing design of the tree species in the *Forest* made them take more time to design the colour and shape combinations when using it carefully. As Yan (2018, p.199) argues, designers can construct their own architectural identity through their layout. In this, it is through the design and layout of the *Forest* that participants can be seen to self-express, exercising on their power and presenting their identity. Further, this process of gaining autonomous control and constructing one's own identity is a process of expressing individualism. Therefore, any form of design and collocation made by the participants in *Forest* is an expression of their independent self-will.

Figure 11, Figure 12 and Figure 13. Participant 10's collections.

Overall, among the participants, their independent selves are being constructed in a meandering manner, starting with the use of the *Forest*, and there are already some who have achieved freedom, autonomy, and selfhood. At the same time, the interdependent selves of some participants who grew up in a collectivist culture were also constructed through *Forest*'s group function. Both differentiated selves were an exercise in developing self-awareness and attempting to take responsibility for themselves. Since their parents did not encourage them to build self-awareness and independence during adolescence, they experienced a tortuous process from forced management to active self-expression during the use of *Forest*. In this sense, using *Forest* was a teaching experience for the participants who lacked autonomy and independent living skills after leaving their families and parents. At the same time, the process was overwhelmed by the pressure from the digital world, the influence of the collective culture, the succession of exams and the shadow of medical discipline in society. Thus, using *Forest* is a first attempt to cope with new challenges when contemporary Chinese young people are just entering adulthood and raising an independent self on their own.

5. Conclusion

In this research, I use *Forest* as an entry point to understand how contemporary Chinese young people use screen control apps like *Forest* in their daily lives in an attempt to explore the new pressures and challenges that young people in China face as they move towards adulthood in the digital age. As a stage-by-stage continuum characterises the context of young people's use of *Forest*, I look at the daily practices of Chinese young people to understand the role of *Forest* in this context and to answer three main research questions.

5.1. Procrastination, notification, digital disconnection and addiction

For young people in China, preparing for a wide range of exams is one of the most common occurrences in their daily lives. The stress and anxiety of exams linked to future jobs and salaries are exhausting. At the same time, the high level of stimulation and timely pleasure provided by smartphones overcomes the more significant but later rewards for completing studies. This combination of factors leads youth to procrastinate when studying because of smartphone use. It is worth noting that the procrastination mentioned by the participants is the result of a dominant sense of self, which is reinforced by the affirmation of subjective judgement through reflection on the use of smartphones in daily life.

For young people in China, the issue that they would most like *Forest* to address is *WeChat*'s message notifications. This app's message notifications created a strong sense of urgency and seriousness for the participants, with both visual and tactile stimuli simultaneously creating a more visceral environmental pressure. The sudden appearance of the notification forced participants to choose between continuing their studies and viewing the content of the message. However, the two social identities of student and employee put the participants on unequal footing with the message sender, making it impossible for them to negotiate effectively with the message sender. After

the failure of digital disconnection through *Forest*, the participants tried other more extreme methods, which undoubtedly demonstrated their determination to disengage from the digital world for a short time.

It is noteworthy that participants explicitly used "*smartphone addiction*" as a definition of their behaviour in the narratives. This developed self-identity has no real core but is merely a techno-scientific shell. However, it is the social institutions and families that exist in the daily lives of young Chinese people that communicate the definition of the dangers of addiction. The medical profession, which holds the exclusive right to interpret this, is training people's bodies under the pretext of physical health through propaganda organisations. Moreover, under the influence of the training, individuals can quickly develop false perceptions of their abilities and be moulded into subjects of medical practice. Thus, the use of smartphones in everyday life puts young Chinese people under double pressure under social standards of discipline and addiction.

5.2. *Forest*: surrogate parent and virtual study room

For some of those who continued to use *Forest* even after they were removed from the demands of exams, *Forest*'s function of managing their lives replaced the previous function of managing their mobile phone screens and achieved the mandatory management of themselves. The study found that this group of young Chinese people were not encouraged to take personal responsibility before they officially became adults and did not have the opportunity to practice their self-worth and pursue themselves, so they were at a loss as to how to manage themselves when they left their families. Young Chinese risk falling into the Internet trap as the constraints on them from home and school diminish. However, with several essential exams that must be passed after entering a university campus, participants have to find alternatives to put the reins on themselves to cope with the exams. Transferring personal responsibility to *Forest* was the method this group of participants used. Thus,

Forest was these participants' surrogate parent, helping them manage themselves without autonomy.

At the same time, the group function on *Forest* creates a virtual "*study room*" by binding participants and other unfamiliar peers into a collective with a guilt-by-association system. The rituals of joining a group and the rules of fairness shape the collective latitude of the social environment, thus supporting these young people further to confirm their social identities in the "*study room*". The Chinese cultural context of the face *(脸 lian)* was why participants were serious about their commitment to the group. Face *(脸 lian)* is about projecting their self-presentation in the public space, resulting from personal design. Participants sense of shame about the possibility of being judged negatively and the idea of "*being embarrassed not to be serious*" would drive them to make a "*good student*" outward appearance in the virtual "*study room*" that is more in line with the needs of the current environment. Young Chinese people have grown up in an environment where obedience and respect for authority are valued, and they share collectivist values that they are motivated to obey and uphold. At the same time, some participants are not interested in collectivism and the virtual "*study room*", for whom collective interests and rules need to give way to the realisation of self-consciousness. Thus, in the virtual digital world, young Chinese people's sense of community and individuality coexist without interfering.

5.3. From managing to express

When we look at each stage of the participants' use of *Forest* in a timeline, we can see that the way they use *Forest* is changing, and their self-awareness is evolving. Before using *Forest*, the participants' parents were at the top of the family's power to overstep and expand their power over them in the name of mentoring. As a result, the children's independence needed to be re-established, even after reaching legal adulthood. At this stage, the participants' "*submissive*" selves were dependent on parental control, and their independent selves were suppressed and neglected.

As the participants moved from high school to college and society, the role of their parents seemed to diminish, but they were still attached to *Forest* by the participants themselves. As a prerequisite, they had a clear perception of their autonomy and recognised the necessity and urgency of the examination. Their rational understanding of self was still developing despite the emergence of the impact of medical-based regulation on their sense of self in the process. Choosing *Forest*'s help for management is a prelude to their independent self-construction. For young Chinese at this stage, *Forest* is a managerial role that helps manage the self and helps develop personal responsibility.

After this, participants begin by imitating and experimenting with how to manage themselves to their own volition. Making their schedule and executing it consciously is their first step to managing themselves from a purely self-perspective. There have also been participants who have been using *Forest* for a long time in a process of explicit self-construction. For them, *Forest* has completely changed from a functional management tool to a channel for self-expression. At the same time, some of the participants' interdependent selves were developed through the small group formed by the group. These participants were more collectivist, conformed to and obeyed the group's rules, played their roles and "*front*" images well, maintained harmonious relationships, and thus developed a strong social bond.

Overall, this research takes *Forest*'s user practices as a specific research subject to explore the new challenges and difficulties that young Chinese people may encounter in their formative years in the digital age. The study shows that participants' habits and ways of using *Forest* are different at different stages and states. In particular, as they transitioned to adulthood, *Forest* went from being a management tool for them to develop their independent selves to a means of self-expression. This process has meandered, but the overall direction is still moving forward. Thus, using the example

of users' everyday practices of using *Forest* is not just an example of discussing control of screen functions or digital media addiction but also provides new perspectives for reconsidering how young people move through adulthood in a postmodern digital society.

5.4. Evolving over time and relatively stable

This case study shows that with the development of postmodern society and the high prevalence of digital technology, new challenges are emerging as Chinese young people move towards adulthood that are different from those of the past and that these emerging challenges are intertwined with old and already pervasive problems that are placing more pressure on young people. These new challenges include the procrastination that accompanies the spread of smartphones, the stress and anxiety of notifications, the determination of digital disconnection, and the obsession with smartphone addiction. These new challenges and temptations are more contemporary than the old problems that prevail. They have emerged as companions to the development of various technologies in this digital age and will evolve as technologies evolve. Therefore, this section's new challenges and temptations are subject to future variability. The old and pervasive problems include the pressure of the Chinese examination system, parental guidance during the teenage years, the long-term influence of medical regulation at the social level, and the individual's concern for face *(脸 lian)* in a collectivist culture. Some of these old and pervasive problems are attached to Chinese society and are intertwined with traditional Chinese culture. They flow in the blood of Chinese culture and are every cornerstone of social existence. Therefore, this part of the old problems is characterised by relative stability and cannot be roughly cut up.

From a comprehensive perspective, some of the challenges and temptations that emerge during the formative years of contemporary Chinese youth are partly due to the development of time and technology, which are still variable in the future, and

partly due to traditional culture and China's unique social system, which is relatively stable. As the development of Chinese society is accompanied by different stages, past studies on young Chinese people have taken into account era-specific factors specific to the social environment at the time, such as economic reforms and the one-child policy (Yeung & Hu, 2013), male-female gender ratios (Yu & Su, 2006), and the urban-rural youth gap (Sheehan, 2017). These specific era-specific policies and social issues in the past years have gradually declined in significance in present-day society due to the passage of time and are much less contemporary and significant than they used to be. The research in this thesis attempts to expose the new zeitgeist encountered by young people in adulthood in the current digital age through the example of contemporary young people's practice of using *Forest*. It can be said that this study follows the footsteps of previous scholars, taking the pulse of the times while taking into account the old challenges posed by the relatively stable Chinese socio-cultural characteristics. It further demonstrates that the experiences and challenges of young Chinese people as they pass through adulthood are closely aligned with the times and social development. In a broad sense, people are always social beings and will be influenced by social culture.

This study shows that young Chinese people also exercise initiative in transitioning to adulthood, finding opportunities to construct their independent selves based on daily life practices. *Forest*s have entirely changed from tools to channels for self-expression in their hands. It can also be seen that the ability of young people in their twenties to adapt quickly to an independent life at the beginning of adulthood is related to the distribution of power they had with their parents. As seen in the case of Chinese young adults, when parents do not encourage their children to develop a sense of self while they are still adolescents, they may enter adulthood without autonomy and the ability to take personal responsibility. This state can easily lead them to become addicted to smartphones or other entertainment until a reason arises that they must pull themselves together.

Of course, there is a specific socio-cultural element to Chinese parents' guidance of their children from an early age, which constitutes the particularity of the case in this study. It can be seen that *Forest* is being used as a vehicle to reflect how contemporary young Chinese people coming of age are helping themselves to become independent individuals. During this journey, their self-awareness and ability to take responsibility are developed by themselves, not their parents. In this sense, the deluge of the digital age has fuelled their ability to manage and take care of themselves, even though everything has been forced upon them.

It is also for this reason that this study has some limitations as well. The subjects were young people born between 1998 and 2002 from China. The discussion of Chinese parents, traditional Chinese culture, and collectivism that appears in the analysis and conclusion sections is highly culturally and chronologically limited and highly Chinese and contemporary. Therefore, whether the results involved in the study have value for broader discussion needs to be determined on a case-by-case basis. However, there is still some value in focusing on the challenges contemporary young people in China encounter as they move through adulthood and develop their sense of independent self in the digital age. The floodgates of the times can be revealed through research. Of course, suppose subsequent research can explore the pressures and challenges contemporary young people encounter as they pass through adulthood in different cultures worldwide. In that case, it can serve as a comparative study that can provide a deeper understanding of different societies and cultures and better prepare them for a better future.

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Empirical images

Figure 1, 3 and 10 are screenshots of the author's Forest app.
Figure 2, 4, 5, 6, 7, 11 and 12 are images offered by the participants.
Figure 8 and 9 are screenshot of author's WeChat app.

Appendices

Appendix 1: List of interviewees

Name	Sex	Age	Occupation	Whether to use the app now	Mainly used time period
1	Female	24	Master Student	Yes	First year of postgraduate studies - present
2	Female	26	Office Worker	Yes	Third year of university - present
3	Female	23	Master Student	Yes	Second year of university - present (not used in third year of university)
4	Female	25	Preparing for the National Postgraduate Entrance Examination	No	Second year of university - December of 2023
5	Female	24	Master Student	Yes	Beginning of high school - present (off and on, will use 3-4 days a week)
6	Female	22	Bachelor Student	No	Third year of high school - no more exams
7	Female	22	Bachelor Student	Yes	Third year of high school - present
8	Female	24	Preparing for the Civil Service Examination	No	2022 (preparation for exams) - habit has been built
9	Male	22	Bachelor Student	No	First year of high school - third year of high school
10	Female	25	Preparing for the Civil Service Examination	Yes	Second year of university - present
11	Male	22	Office Worker	No	Third year of high school - second year of university

Appendix 2: Consent Form

Thank you for agreeing to participate in this research project from 10 December 2023 to 13 May 2024. This informed consent form will provide a brief overview of the study and your rights as a participant. This Informed Consent Form will give you brief information about the study and your rights as a participant. The information obtained through this study will be used solely to prepare Rucai Peng's graduation thesis for the Master of Science Programme in Media and Communication at Lund University. This research aims to understand how young people feel about the *Forest* and how they know the relationship between their personalities, electronic screens, smartphones, and actions.

Your Participation:

Your study participation will last approximately 1 hour to 1.5 hours. You will be invited to show your daily use of *Forest* and your *Forest* interface, and you will be asked questions about how you feel about using *Forest*, your daily use of smartphones, and what you think is behind this.

You are not required to answer these questions. You have the right to ask any question that makes you uncomfortable and to stop the interview, and there will be no consequences for stopping the interview.

At the end of the interview, the researcher will write a summary of the case, which you can view at your discretion and ensure that the researcher's summary and explanations remain true to your original intentions.You may view it and ensure that the researcher's summary and explanations remain consistent with your original intent.

Confidentiality:

The entire interview will be audio-recorded and transcribed via handwritten notes. The researcher will not share your responses with anyone. I will ensure that your *Forest* ID will not be recorded and that your identity and personal information will remain anonymous and confidential throughout the study.

Please fill in the blanks below if you consent and allow me to record the interview.

If you have any questions or concerns, please feel free to contact the researcher at pe6121ru-s@student.lu.se

Full name: Signature:

Forest ID: Date:

Appendix 3:Interview guide

Personal background
Can you tell me briefly about yourself?
What is your present status? How old are you now?
What stage of university are you in?

Basic Information
Approximately how long have you been using *Forest*?
Under what situations are you using it? How often do you use it?
Why did you start using *Forest*, and what made you start using *Forest*?
Where did you learn about this app?
What kind of electronic devices do you use?

Functions of *Forest*
What mode of *Forest* do you usually use when you use it? (Countdown or forward?)
Do you invite your friends to join you when you use *Forest*?
Have you ever teamed up with others to plant trees in *Forest*?
Do you usually use deep focus mode or normal mode?
Do you use the background white sound that it provides?
What features do you value/use the most?
Do you pay attention to the achievements and history review on *Forest* feature?
Do you pay attention to the leaderboard part?
Have you managed to grow real trees by staying focused for a long time through *Forest*?
Do you force yourself to plant trees by controlling screen time for goals like leaderboards and achievements?

Consumption in *Forest*
Would you spend money in *Forest* so that you could plant better looking and more advanced trees?
Does spending money on *Forest* make you want to show your *Forest* to other people more?
Would you spend money in *Forest* so that you could show off the great looking trees you've spent money on in *Forest* by letting them control the screen?
Would you stay focused to show off the great looking trees you paid for on *Forest*?

Stay Focused
Would you force yourself to stay focused in order to plant a tree on *Forest*?
Would you literally not unlock your phone screen during tree planting?
Would you do something else (other than focusing) so as not to interfere with tree planting?
Do you find the design of *Forest*'s control screen to stay focused useful?

What percentage of the time are you really concentrating while using *Forest*?
Do you think you learn more efficiently when you use *Forest* to plant trees?

Sense of achievement/satisfaction
Do you feel happy when you plant a tree by letting *Forest* control your screen?
Would you share this feeling with others?
How do you describe *Forest* when you share it with others?
What kind of thoughts did you have in mind when you shared it?
Do you share after you have succeeded in staying focused or do you share as soon as you have succeeded in planting a tree?

Giving up on *Forest*
What made you give up on continuing to use *Forest*?
What other apps did you try after giving up on *Forest*?
What was the difference between the other apps and *Forest*?
Why did you prefer to use other apps instead of *Forest*?
In what ways did the other apps work better for you than *Forest*?
Which do you think keeps you more focused when you compare *Forest* to other apps?
Have you thought about giving up using *Forest*?
Under what circumstances do you usually want to give it up?
And why did you choose to stick with it in the end?

Habits of using mobile phones
What is the first app you open if you unlock your screen? Why?
What is the most common app you use? Why?
What is the app you can't put down on your mobile phone? Why?
Do you find your mobile phone particularly fun during online classes?
Does the app you are most addicted to interfere with your ability to plant trees on *Forest*?
Would you uninstall these apps that you are particularly addicted to, in order for you to plant a tree on *Forest*?

Habits of using digital devices
What are some of the electronic devices you use regularly besides your mobile phone?
What do you do on each of these electronic devices?
Do you install *Forest* on these electronic devices?

Entertainment Habits
Do you fix a daily entertainment time for yourself during your exam preparation?
For how long? What apps do you usually open during this time?
Do you continue to play on your mobile phone beyond this time?
Are you a little happier when you get through this time?
Which makes you happier, this happiness or your success in staying focused and

planting a tree while using *Forest*?

Rules, restrictions and expectations for mobile phone use at school, at home, among friends, etc.

Are you restricted in any way from using your mobile phone at school/home?
Do you follow these restrictions at all times?
Do you have restrictions on using your mobile phone when you spend time with friends/study together?
If it were you, what rules do you think would make it better to use your mobile phone at school/at home?
How do you think it would be better to use your mobile phone when you are with your friends?
What other times/scenarios have you been restricted from using your mobile phone?
Do you think such restrictions are reasonable?
How do you think it is reasonable to use mobile phones in everyday life?

Self-awareness

Do you have a clear awareness of whether or not you are in control of yourself?
Do you anticipate that you will be able to stick with it when you use *Forest*?
Are your self-expectations accurate and what is your success rate?

Appendix 4: A part of interview transcript

Participant 10

What device do you normally use this software on?
On my mobile phone. I also have this app installed on my iPad.

So when do you generally use it on your phone and when on your iPad?
It probably depends on the scenario I'm using it in. If I'm going to a study room to revise, I usually watch my study videos on my ipad. That's when I use *Forest* on my phone. If I am at home and I can use my computer to watch the videos, I will use *Forest* on my iPad, but now I don't use my iPad anymore, I use *Forest* on my mobile phone, I think I can carry my mobile phone with me, so I can check it anytime I want. Sometimes I also like to add other people's friends on *Forest*, it's easier to do it on my phone.

Where do these friends meet from?
I've met one or two of my close friends through group tree planting. The rest are through *Weibo* or other friends of mine. I usually add friends to see how much time they spend focusing on it, and if someone spends more time than me, I want to hurry up and catch up with them.

So you'll be paying a lot of attention to the friends Rankings?
Yes, I will pay special attention.

When you're using this software, do you generally use the Deep Focus mode?
Yes, I basically use Deep Focus.

Do you use the whitelist feature?
I've only used the whitelist once and I don't use it anymore. I think it's quite useful, but because I sometimes go to look up information, it's troublesome to cut out often. In fact, all the apps I had to use at that time were also for studying, but I found it a bit troublesome to keep switching them around.

Do you think this design of the control screen like *Forest* is effective in keeping you focussed?
I think it depends on the individual, if he has self-control, then I think this software is a very good binding force for him. If it's true that he himself doesn't have enough willpower, and his attention is easily distracted and interrupted, I don't think that this would work very well. And there's a lot of similar apps out there, aren't there, what with Tomato to do and all that. I've used one or two of them, and then I'm still sticking with *Forest* because I've planted so many trees before, and if I don't plant them all of a sudden I don't think it's going to be coherent, and I don't feel comfortable with it.

Can you briefly describe how you feel after using it in comparison to other software?
I've been using Tomato to do for a while, I think its advantage is that it supports you to make detailed classification, which is very convenient to use. It's easy to use and reminds you of what you need to do for the day, while *Forest*'s main function is to focus, I think it can add a function to refine the classification, of course it's just my personal idea.

So have you thought about giving up using *Forest*?
No, I haven't. Because in fact the Tomato to do's refinement of categories is replaceable. There's a lot of apps out there that can do it. But my tree collection on *Forest* is not something that can be easily abandoned, especially since it also helps me stay focused.

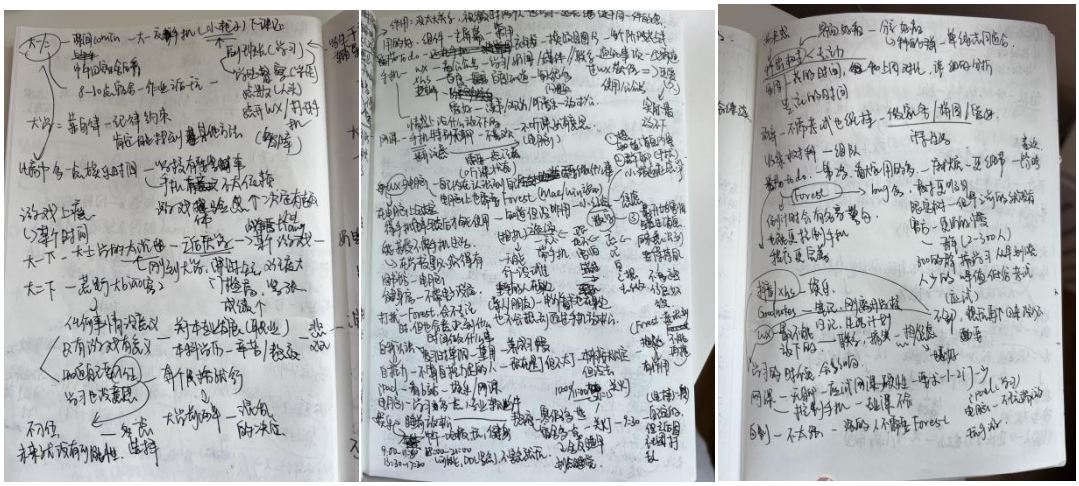
How long do you really stay focused when using *Forest*?
I feel like probably less than 60%. I feel like I may have forgotten the original reason for using the software in the first place. My favourite thing about it is the section on collecting tree species. It's not like I want to share them with other people when I'm done collecting them, I just get a sense of satisfaction for myself.

What's the most enjoyable moment you've had while using *Forest*?
It's every night when I see that the *Forest* that I planted that day is full of colours that I really like. I think about how I'm going to mix and match the colours and the species of the trees, and I want the colours to look good in the *Forest*. I just love to pursue these aesthetic things.

Do you spend a long time on matching colours and tree forms?
I'll probably spend a good ten minutes or so every once in a while messing around with this part of the process. I'll figure out in advance which learning task goes with which colour of tree, set it up once and then go back a week later and redesign it.

If *Forest* doesn't continue to come out with new tree species after that, will you continue to use the software?
No, then I would likely give up.

Appendix 5: Interview notes



(As I am from China with all the participants, it is more appropriate to record the interview notes in Chinese, the language I am more used to, in the Chinese interviews.)

Appendix 6: Interview points

1. As there was no deliberate attempt at gender balance, two interviewed were male and eight were female. The ages ranged from 22 to 26, with four of the 22-year-olds.

2. The main stages of *Forest* use occur when there is a need for intensive study and pressure (mainly preparation for Chinese National College Entrance Examination, undergraduate exam weeks, and vocational exams after undergraduate study - mainly civil and postgraduate exams).

3. Some of them changed the use of *Forest* in the later stages. They moved the focus of their use from learning to more lifestyle situations (e.g. developing their hobbies, expanding their professional knowledge, keeping fit)

4. Their purposes for using the app differed as well. One person's purpose for using it changed from helping her control her mobile phone in the beginning to collecting tree species on the app. Others used it to keep a more honest record of their lives and time allocation to help them manage their lives in a quantifiable way. While the majority of people use it for purposes related to helping them study, specifically some of them push themselves through the sense of responsibility and burden that comes with the group function, while others focus on the psychological cues that come with the screen control function to control their procrastination

5. More than half of all participants have or had in the past, abandoned the app for some time. The reasons for abandonment were related to a reduced need for focused learning (partly related to the careers of the participants), but also to the fact that the learning environment and requirements they faced later on made controlling this function of the mobile phone no longer applicable (paperless learning, professional learning needs for mobile phone use). Some of them also mentioned the limited use of mobile phones due to entering industries where the use of electronic products is strictly regulated. In addition, a participant who owns a tree-planting group chat mentioned that she stopped using *Forest* because of the emotional impact of online public opinion

6. About half of the participants thought that the feature of planting trees in a group would be useful for them to improve their study efficiency because they are not willing to affect other people's concentration due to their slacking off. (In group mode, if one of the team members uses other apps, the trees of all team members will die). Of course, a few participants also mentioned that the reason why they did not want to plant trees in a team was that they preferred to organise and manage their time according to their own needs.

7. Regarding procrastination, 3 out of 11 people believe that they have very serious procrastination, especially in the matter of playing mobile phones. They think that mobile phones are particularly fun and that they can sit in a stationary position and play with their mobile phones all the time if they have the chance

8. Regarding the feature of tagging, 4 out of 11 people mentioned it was very helpful. In addition to helping themselves manage their time by tagging their time on this app, they keep a clear record of how their day is organised and conducted in other apps or handbooks. They think this feature gives them a better understanding of themselves. One of the interviewees mentioned that she was particularly uncomfortable when she moved from the undergraduate level to the postgraduate level (in Sweden) because she lost a clear division between life and study in her life. This made her feel lost and addicted to the world of electronics for a long time, affecting her daily life and studies. It was not until she started using the app to help herself try to find a balance between her life and her work that "I took back control of my life" - a point that perhaps connects to the development of self-reliance/independence in Chinese people, as roughly 3 people mentioned moving from high school (where the school and parents forcefully manage the student's life) into the first year of university (when parents lose control and the school becomes less strict), they don't manage their time and become addicted to their mobile phones.

9. Regarding the gamification of *Forest*, 6 interviewees mentioned that this app's design of tree planting as a process and aesthetics made them feel good about using it. Among them, 1 respondent mentioned that this gamification process and the shape of the tree planting brought fun to his learning and became the reason for him to continue using it. The aesthetic design is more popular with girls, with 4 respondents mentioning that the aesthetics of the tree species make them spend time (either long or short) designing the colour scheme when they use it. For example, one respondent would match the colour of the tree species to the type of work, the season she was in and the colour of the tree species. One respondent, in particular, has taken the reason for collecting tree species to the point of never uninstalling the app (she says she can't let go of the collection)

10. Regarding the sense of achievement and the act of planting trees, most users agreed that the greatest sense of achievement comes from themselves and that planting trees is just a form of expression. This also leads to the fact that some interviewees do not put much effort into planting trees in the *Forest*, as it is just an "added value".

11. Regarding the tree planting group chat, the interviews involved two group members and one chat creator. The chat creator started by observing the way other group chats acted and then optimised and managed them herself. She concluded that the characteristics of people who are willing to team up in such

chats are those who are facing a long period of intensive studying (usually for exams). Because such exams usually take a long time to prepare for, many of the people who frequently appear in the group chat give her the impression of being old acquaintances, close friends, and comrades in arms. As a member of the group, she finds this kind of group chat very helpful in getting back into study mode, especially when she finds that there are a lot of people studying with her at the same time (a kind of psychological implication: you are not alone).

12. Regarding spending, no interviewee would make additional purchases on *Forest*. And the initial installation fee for this app was considered acceptable by all, "Although it seems a bit expensive to spend this amount of money on the app, it will be worth it to use it"

13. Regarding the function of controlling the screen, the majority of interviewees agreed that it was useful during intense study, whether it formed a mental cue or blocked the use of other apps. However, some participants mentioned that this feature needs to be smarter or more detailed. For example, it can only manage one of the user's screens, whereas all interviewees have 3 electronic screens (mobile phone, iPad and computer); and it manages too absolutely at some times, as some specialised learning needs to be supplemented by the use of other apps (and the whitelisting is too complicated to set up). At the same time, most of the interviewees think that this feature can only be described as a help, and it is mainly necessary for the user to be aware of it (it's a tool after all)

14. Regarding the leaderboard feature, 3 interviewees mentioned having explored it. 2 of them found that the people on the world user leaderboard were using *Forest* all day and night, which is simply not possible (defeats the purpose of focusing on one thing in the first place). Another interviewee said she occasionally follows her friend’s leaderboard, which helps her get motivated (seeing other people working so hard makes me want to catch up with them)

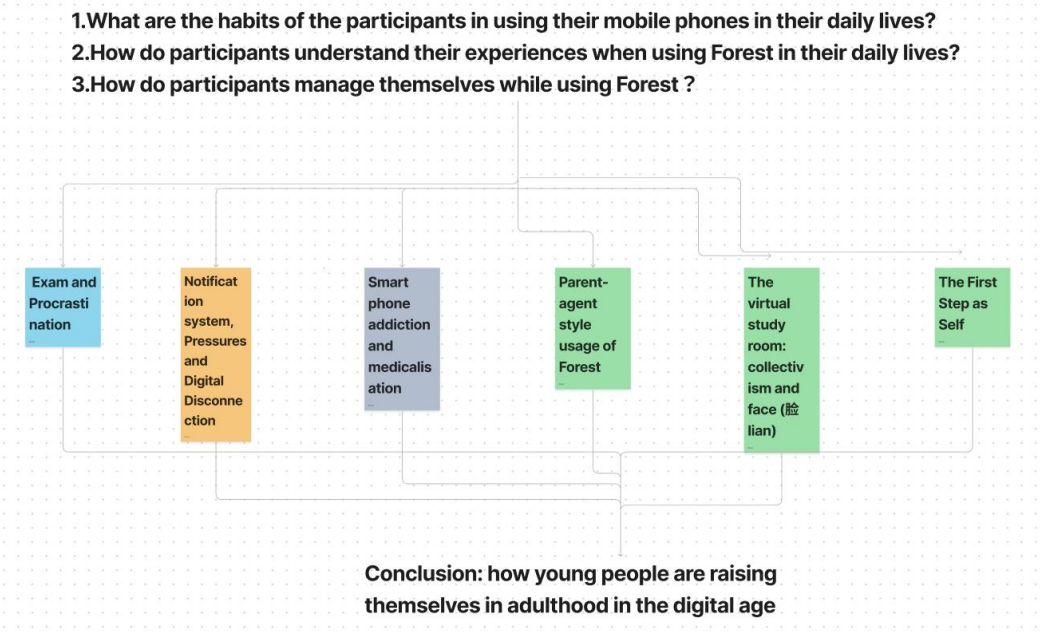
15. Regarding the part about the interviewee's addiction to mobile phones/internet. It can be found that more than 2/3 of the 11 users consider themselves to be addicted to the internet, they find mobile phones/games particularly fun especially when they need to study and it affects their purpose of using *Forest*. Some of the users felt that they had good self-control and that they didn't find their mobile phones fun, but only partially fulfilled their needs. Some of the users could manage to go to the school library all day without their smartphones or swap their phones with their friends while studying to achieve a complete detachment from their phones, while some respondents could manage to uninstall all the entertainment apps on their phones when they were concentrating on their studies and were under a lot of pressure. One of the participants used a study organisation such as "No Mobile Class" to help force herself to disconnect from her mobile phone for half a year when she was preparing for her exams.

16. All those interviewed admitted that they can't live without *WeChat* on their smartphones due to the need to connect with family/friends/work, which leads all to believe that this app should never be uninstalled. Even, there are about 3 of the interviewees will place *WeChat* in the whitelist because they can't/fear missing important messages. They would also resort to turning off message notifications, for example, to help themselves be less disturbed by *WeChat* (most users would block messages from group chats and keep notifications for private chats)——【Almost all universities in China inform important messages through *WeChat* group chats. Some companies also inform important messages through *WeChat* group chats - there is no clear dividing line between work and life in China - "996 working schedule", which means working 6 days a week from 9 a.m. to 9 p.m. every day】

Appendix 7: An example of coding process

Theme	Category	Sub-category	Code
Digital disconnection	Conflicts of Connections	Voluntary, proactive	Use *Forest*; swap mobile phones with friends; challenge to go out for a day without a mobile phone
		WeChat	I had to reply to messages, especially group chats; switching between different software; it must have caused interruptions for me; I blocked all group chats; that's what I have to do
Procrastination	self-diagnosis		I'm a procrastinator I know it; it's obvious I don't want to study just want to play on my phone; ddl is the last of my productivity
Medical regulation	Influence from outside	Social media and parents	Since I was a kid, my parents have been saying it's bad; internet addiction; wasn't there a news story about a school for internet addiction; it really does affect the feeling of normal life; muddled; confused; dishevelled

Appendix 8: Mind map



Appendix 9: The recruitment advertisement and invitation letter on *Weibo*

Recruitment advertisement

Hello everyone! I am doing my masters in media andcommunication at Lund University in Sweden. Recently I've been trying to do a study on users' experiences and perceptions when using *Forest*, focusing mainly on the 18 to 28 year olds, and I'm looking for suitable respondents now.

My three main research questions are:
What are the habits of the participants in using their mobile phones in their daily lives?
How do participants understand their experiences when using *Forest* in their daily lives?
How do participants manage themselves while using *Forest*?

If you are interested in this topic and would like to be interviewed, please be sure to let me know. The interview will be conducted via *Zoom* or *Tencent* conference, and you will be asked some questions about why you chose to use *Forest*, how often you use it, what you experience before and after using it, etc. The whole interview will last about 1 hour to 1.5 hours.

Of course, I will do my best to guarantee your rights and protect your privacy, and will ask you to sign an informed consent form before the interview. If there's anything you feel uncomfortable about, let me know and I'll stop immediately. If you are interested, please don't hesitate to contact me at any time, my *WeChat* is xxxx. Thank you~ !

Invitation letter

Hello, I'm sorry to bother you so suddenly. I am a master student studying media and communication at Lund University in Sweden, my name is Rucai. Recently I've been trying to do a study on users' experiences and perceptions when using *Forest*, focusing mainly on the 18 to 28 year olds, and I'm looking for suitable respondents now.

My three main research questions are:
What are the habits of the participants in using their mobile phones in their daily lives?
How do participants understand their experiences when using *Forest* in their daily lives?
How do participants manage themselves while using *Forest*?

If you are interested in this topic and would like to be interviewed, please be sure to let me know. The interview will be conducted via *Zoom* or *Tencent* conference, and you will be asked some questions about why you chose to use *Forest*, how often you use it, what you experience before and after using it, etc. The whole interview will last about 1 hour to 1.5 hours.

Of course, I will do my best to guarantee your rights and protect your privacy, and will ask you to sign an informed consent form before the interview. If there's anything you feel uncomfortable about, let me know and I'll stop immediately. If you are interested, please don't hesitate to contact me at any time, my *WeChat* is xxxx. Thank you~ !