Psychological exploration of audience's addiction to watching mobile short videos during Covid-19-Taking Chinese audience as an example

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Abstract: In recent years, short videos have shown a spurt of development, and they have become the "third language" of the Internet in addition to graphics and voice. Short video software can be easily used without threshold, and at the same time, it can be accurately pushed according to the needs of the audience, quickly covering every age group in China. However, there are many hidden dangers behind the explosion of short video popularity; since people have nothing to do at home due to the epidemic, there is a long-time addiction to it; consequently, falling into the trap of "entertainment to death". Short videos can easily make people feel emotional resonance when they are depressed by the epidemic. People can get some emotional comfort or release when they swipe short videos, so the phenomenon of short video addiction is especially obvious during the epidemic. While there are more and more studies on short videos, there are not enough studies on short video addiction at the audience level. Therefore, based on media dependence theory, this paper takes network belongingness as a mediating variable to explore the influence of the audience's motivation to watch short videos addictively on short video addiction. The audience was selected from Chinese viewers who watch Jitterbug or TikTok, and through the online questionnaire survey, the filtered questionnaires were quantitatively analyzed by using the SPSS software. The results showed that impulsivity, anxiety, and loneliness were significantly positively correlated with addiction to short videos, were significantly positively correlated with network belongingness, and were significantly positively correlated with short video addiction. The quantitative analysis of the screened questionnaires using SPSS showed that impulsivity, anxiety, and loneliness were significantly positively correlated with addiction to watching short videos, and were significantly positively correlated with the sense of belonging to the network.

Keywords: Short Video; Loneliness; Impulsivity; Anxiety; Belonging; Addiction

1. Introduction

At present, the scale of short video users in my country continues to expand. According to a survey by China Business Intelligence Network, from 190 million in 2016 to 873 million online short video users in 2020. At the same time, short video has become a powerful tool for users to "kill" time, the scale of short video users has expanded, and the market scale has grown rapidly. In 2016, the scale could only reach 1.9 billion yuan. In 2020, it has increased to 205.13 billion yuan, and it is expected to approach 300 billion yuan in 2021. Short video has a low threshold, is easy to watch, and has complete social functions, which is more in line with the current fast-paced lifestyle. my country's mobile netizens use short video applications for more than a quarter of the day.

It has been three years since the outbreak of the new crown pneumonia epidemic in 2020. During the epidemic prevention and control period, most college students and some working class were isolated at home, and the way of entertainment and leisure has become mainly indoor activities. During this period, a large number of original short videos also showed a blowout trend, and various themes were displayed. Therefore,

due to the new crown pneumonia epidemic, the number and duration of users watching short videos have increased significantly. 58 Tongzhen released the "Leisure and Entertainment Insights Report on China's Sinking Market Affected by the Epidemic", showing that most users choose to learn about the epidemic situation through short videos, but the data also shows that 49.83% of users watch videos longer than usual, 37.24% of users watch more types of videos, and 28.65% of users choose to watch more videos. platform to watch the video. Therefore, under the influence of the general environment, there will also be adverse effects. The long-term closure has an impact on the audience's psychology. Some audiences may become addicted to watching short videos.

Although short videos have shown an explosive trend in recent years, and the stock of the industry has increased dramatically, for the stage of short videos' high-speed development, there are still many problems that have not been solved, especially during the epidemic, most of them are still only on the level of discussing the current situation of the development and the technical means, etc., and do not really pay attention to the hidden dangers that are hidden behind them, and the obsession of the audience in the process of the development of the mobile short videos has not been given enough attention, therefore, this paper takes the Therefore, this paper takes Chinese users as the research object, and uses media dependency theory to propose several negative motives (impulsiveness, anxiety and loneliness) that may be possessed by addictive short video behaviours, and takes network belongingness as a mediating variable to explore the relationship between motives, network belongingness, and addictive behaviours. This study designed a research model based on prior research and research hypotheses. Data were collected through an online questionnaire. The questionnaire included demographic questions and questions to validate the research model, 300 questionnaires were collected and finally 300 questionnaires were analysed and SPSS.26 was used to analyse the influence relationship between the variables. While exploring the influence of audience's motivation to watch short videos addictively on short video addiction, it also provides more insights and suggestions for the development of short videos in the future.

The significance and uniqueness of this study lies in the fact that it is an innovation to extend media dependence research to the emerging field of short videos, and the current research on short videos in the academic world is almost all focused on the video content itself, and there is a lack of empirical research on the motivation of watching short videos, and most of the motivation research is aimed at the positive psychological benefits, and the negative psychology has not been explored too much, so it's a novel research topic, besides, this paper tries to find out the influence of audience addiction to short videos on addiction, and also provides more insights and suggestions for the future development of short videos. In addition to the research topic, this paper tries to find out the real reasons why audiences are addicted to short videos. These reasons can provide ideas for short video platforms to improve, optimise and monitor. How to avoid short videos from affecting one's life, work and relationships is an important aspect of both the audience's own demands and the state's desire to prevent Internet addiction and better protect the Internet. The prevention of Internet addiction among young people in particular is also a top priority at the moment.

2. Theoretical background and literature review

2.1. Media Dependence Theory

The theory was put forward in 1975 in the book "Theory of Mass Communication" by American scholar De Fleur et al. The theory argues that the more changes and conflicts in the social environment, the greater the uncertainty an individual faces. Uncertainty makes people search for various information to understand what is happening in social life, and the mass media system is rich in information and is a necessary resource for information collection activities. When they study the interaction and interdependence among the media system, social system and audience system, they find that the audience obtains certain satisfaction or achieves certain goals through the use of mass media. According to this theory, there is an intrinsic link between media, audiences, and the larger social system, as shown in [Figure 1]. The audience for learning from real life is limited, since people have the purpose of "understanding", "orientation" and "entertainment", they can use the media to obtain more information to meet their needs. Widespread use of media among audiences Dependencies are created. Media can also use their media power to build dependencies with target audiences to achieve their goals. The whole process is that interdependent media provide information to meet their needs and achieve their goals, and the degree of this dependence depends on It depends on the information resources provided by the media to the audience. The more an individual depends on the use of the media to meet their needs, the more

important the role the media plays in the person's life, and the greater the influence the media has on the person. And the new The essence of media dependence is the worship of information and communication technology. The theory of media dependence is extended from the theory of use and satisfaction.

In the previous research, Guo Xiaozhen (2019) pointed out that media dependence is a kind of psychological and behavioral addiction of the audience to the media. The objective reason is that because of technological progress, the times promote development. The subjective reason is the psychological needs of people in the entertainment era.

Yin Fangyuan (2020) defines the concept of media dependence as: the unreasonable use of certain media by users, including: unable to resist the use, affecting their work and studies; often spending most of their time on the media, but There is no benefit in your own life. Song Shuangfeng (2020) showed through data analysis that the strong relationship between users and online media is greater than the relationship between traditional media and audiences. Chen Tingting's (2014) survey found that college students are highly dependent on mobile media, and the frequency and time of their use highlights the status of mobile media in their lives. Yu Minsheng (2012) pointed out that due to the application of new media, audiences will have some strong and continuous needs and dependent psychology and behavior, which will affect their daily life. Specifically, it means that the audience is too invested in new media and cannot get rid of it; the choice of value and action must be based on the new media; they are satisfied with the communication in the "virtual" society of the new media, but are not interested in the communication in the real society.

In a prior study of media dependence theory and short videos, Jiang Zhaojun (2020) explored the effects of social networks and media dependence on older adults' subjective well-being. Both social network size and strong relationships were found to significantly increase older adults' subjective well-being during the New Crown Pneumonia epidemic, and the detachment and absence of face-to-face socialising reinforced older adults' media dependence during the New Crown Pneumonia epidemic.Zhao Liangliang,Wang Shichao,Liu Yu (2023) showed through the results of the study that the stronger the media experience, the higher the dependence of mobile short video users on the application. The media image plays a positive mediating effect in experience and reliance. Therefore, this paper will be explored with some theoretical basis.

2.2. Short video

Short video refers to the video content that is played on various new media platforms, suitable for viewing in the mobile state and short-term leisure state, and is frequently pushed, ranging from a few seconds to a few minutes. Its production process is simple, the content is flexible, and the interaction is strong, making it easier for users to accept and disseminate, and can provide brands with diverse and rich advertising and marketing services.

Before 2011, in the early stage of the development of the mobile Internet, smartphones were not yet fully popularized, and most users still used computers to watch and share medium and long videos. Although short video products had their prototypes, they still existed in the form of online short films or micro-movies. With the reduction of mobile traffic tariffs, short video products have begun to appear on mobile terminals, and short video content production and aggregation platforms have begun to appear. With the sharp reduction in the price of mobile phones and the efficiency of content distribution, the scale of short videos has grown rapidly, bringing huge traffic gains, and short videos have also entered a rapid development track, and users have experienced a blowout growth. At the same time, with more and more problems, short videos have also led to the problem of excessive addiction of many audiences in the process of entering a mature stage.

In 2021, the China Internet Network Information Center (CNNIC) will release the 48th "Statistical Report on Internet Development in China". The report pointed out that as of December 2021, the per capita online time of Chinese netizens reached 28.5 hours per week, an increase of 2.3 hours compared with December 2020. Among them, the number of short video users reached 934 million, and the utilization rate of short video users reached 90.5%. The daily usage time is as long as 125 minutes, and more than half of the people watch short videos every day. Today, the number of users of short videos has surpassed the number of users of online shopping and online games. In the age distribution of short video users, users aged 18-35 are the main force for watching short video content. In addition, post-00s have emerged, and they have a strong desire to consume short video and other content.

2.3. Internet addiction

The term addiction originally came from drug dependence, a mental state produced by the interaction of drugs and the body. Today, addiction has covered both substance (drug) addiction and behavioral addiction. Behavioral addiction is when you know your behavior is harmful but cannot control it effectively. Internet addiction refers to the long-term and habitual immersion of Internet users in the Internet, a high dependence on the Internet, so that people indulge in a state of mind and action that cannot be escaped. There are several manifestations: such as Internet pornography addiction, Internet relationship addiction, Internet shopping addiction, Internet gaming addiction, etc. Chen Anxin (2019) pointed out that addiction is an uncontrollable dependence caused by excessive addiction, which causes certain damage to the physical and mental health of the behavior subject, resulting in a serious imbalance in the behavior of the subject's life and work order. Shi Yinan (2020) pointed out that social media addiction is a compulsive online activity caused by users exceeding their normal use time and excessively satisfying their own psychological needs.

At the same time, the most serious problem in the past few years is Internet game addiction. Internet game addiction refers to being addicted to various computer and online games, usually in the form of role-playing, to experience the exciting and thrilling process and gain a sense of accomplishment and self-esteem sense. Playing online games for a long time is a common symptom of Internet addiction among young people. According to a study by the China Internet Network Information Center, 32.3% of netizens go online for "entertainment" purposes. While the primary cause of Internet relationship addiction is satisfying the need for love and belonging, Internet gaming-addicted teens seek more satisfaction and self-esteem. It can be boiled down to three psychological motivations: curiosity satisfaction, achievement satisfaction and self-confidence satisfaction. As of December 2018, the number of game addicts in China has reached 27.5%. Among them, teenagers are the hardest hit population with Internet addiction, with a proportion as high as 30.5%. That is to say, one out of three teenagers is an "Internet Addicted Teenager". Wei Hua (2012) pointed out that addiction to online games can damage real interpersonal relationships, hinder academic development, and increase hostility to reality. People addicted to online games are more likely to develop negative psychological and social problems, such as aggressive personality, low self-esteem, truancy and conflict avoidance. Wang Qing (2015) pointed out that when college students play online games, game upgrades or various virtual material rewards can stimulate self-confidence and a sense of achievement, and these seemingly positive emotional experiences further increase online game addiction. Mark D. Griffiths (2012) Internet gaming addiction can lead to a variety of psychological problems and has been shown to lead to behaviors such as loneliness and introversion, social inhibition, increased tendency toward boredom, and low self-esteem. Antonius J. van Rooij (2011) through experiments comparing heavy Internet addicts and light Internet users, found that addicted people are more emotionally lonely, anxious and negative self-esteem, and have a stronger tendency to depression.

As for people over-indulging in them, Richard T. A. Wood (2007) believes that the most likely reason for excessive video game play is insufficient time management concept, or escape from other things, rather than the inherently addictive nature of games.

2.3.1. Short video addiction

Yin Fangyuan (2020), in response to the definition of short video addiction, pointed out that media dependence is currently defined by academics as the irrational use of a medium by users, which is specifically manifested in the inability to resist the impulse to use it, reducing the quality of their lives or the efficiency of work and study, and often spending a lot of time immersed in the medium without any benefit to their own lives and other behaviours. Therefore, irrational dependence on short videos often manifests itself as an inability to control the amount of time one spends on short videos, which can easily lead to misbehaviour and problems.

With the rise of mobile short videos, the addiction phenomenon of mobile short videos has become more and more serious, which needs to be paid attention to. Short videos use the algorithm mechanism to recommend to users the types of videos they like, constantly attracting users' attention, users can release pressure, meet their needs and identify themselves. Qiu Jinghan (2020) selected Douyin and Kuaishou, which are more popular in mobile short videos, to conduct research and survey, showing that continuous use intention is affected by satisfaction and perceived usefulness, and convenience is also one of the roles. Li Ruiqing and Zhou Li (2021) pointed out that surrounded by the information cocoon room, the audience changed into short video dependence, "short video people" appeared one after another, and they swiped different videos to like, just to meet their spiritual needs and conformity psychology. Wang Xiao (2016) pointed out that college students are "addicted

to screen-scrolling", which leads to hidden dangers in their studies, thinking and values. Short videos satisfy their expressive demands and social desires, so they are unable to extricate themselves from it. Jiang Ningze (2020) through the investigation Research points out that the usefulness, fun, and ease of use of mobile short videos will make the audience get an immersive experience. Xiong Kairong, Liu Chao, Gan Zimei (2021) pointed out.

Algorithmic technology traps audiences in a cycle of getting more and more addicted, and they will push users' favorite content, making users unable to extricate themselves. Xiaoxu Tian's (2022) findings suggest that short videos affect addiction by activating users' perceived enjoyment and withdrawal. Users must repeatedly interact in short videos to maintain positive emotions and reduce negative emotions. But ultimately, this practice will lead to addiction.

Table 1. Addictive Behavior Measurement Questions

Independent Variable	Measuring project	Reference
addictive behavior	1. I find myself wasting more and more time watching short videos 2. Every time I turn off the short video to do something else, I can't help but turn it back on 3. If I can't watch a short video, I feel lost and don't know what to do 4. More than one person told me I spend too much time on short videos	Hyundeok Lee(2011) Peng Chen (2020) Qiu Shourui (2019) Zhang Zhiyun(2019)

2.4. Impulsivity

Impulsivity refers to doing things recklessly without considering the consequences. Feelings are particularly strong, and rational control is very weak psychological phenomenon. It can be behavioral or ideological.Impulsivity is a multi-dimensional neuropsychological structure, and its simple definition is "a behavioral tendency to act prematurely without deep thought". Impulsive behavior is always a manifestation of the loss of volitional supervision over one's actions, and this manifestation should be fought. Tian Xiaolin (2017) pointed out that impulsiveness refers to the tendency to appear reckless under the premise of not considering it. JamesA. Roberts (2015) pointed out that impulsive people rarely consider future consequences and often make rash decisions. Wang Qing (2015) pointed out that impulsiveness is considered to be a personality trait that reacts quickly without thinking, which may lead to different negative consequences due to ill-consideration.

At the same time, the audience's impulsive emotions may also cause Internet addiction. According to the prior research Roberts and Pirog (2012), it is pointed out that a strong impulsive tendency, especially in a bad mood, is likely to lead to addiction. Ren Yujia (2021) pointed out that those individuals with high impulsiveness and lack of sufficient thinking prefer to use mobile phones as a way of timely gratification, which leads to the tendency to become addicted. Deng Linyuan (2014) proved that impulsivity and addiction were positively correlated by studying the joint effect of impulsive personality and parent-child communication on adolescent Internet addiction, and found that the characteristics of impulsive personality were more harmful to adolescent Internet addiction. big. Lin Xuanhui and Yan Consolidation (2001) defined Internet addiction as the uncontrollable impulse to surf the Internet. At the same time, many scholars have also confirmed that online game addicts will also show higher behavioral impulsiveness, and those online game addicts will show higher impulsiveness, and obtain pleasure in virtual games that is not available in real life. In a paper addressing short video impulses leading to addiction, Choi J S (2019) states that impulses lead to craving for the virtual world and therefore escape from reality and immerse themselves in the video. Liu Lifang (2012) pointed out that college students' online deviant behavior is closely related to their psychological needs. Humanistic psychologist Maslow proposed five basic needs of human beings: physiological needs, safety needs, belonging and love needs, respect needs and self-actualization needs. The need to seek belonging is one of the psychological needs pursued by deviant behavior. Mei Songli (2008) pointed out that communication, belonging and respect are the basic needs of individuals. The social reality of interpersonal alienation makes these basic needs of individuals unsatisfied in real life, resulting in a strong internal driving force. The driving force is obtained from instinct, and the main source of instinct is people's needs and impulses, and then It

prompts individuals to turn to the virtual environment of the Internet to seek satisfaction, which leads to the tendency to become addicted to online games.

Table 2. Impulse Measurement Questions

Independent Variable	Measuring project	Reference
Impulsivity	1. I am often told that I am not calm 2. Sometimes I regret the things I say without thinking 3. I get distracted easily and can't concentrate 4. If I don't do what I want right away, I feel like I'm going to have a nervous breakdown 5. I can't control myself so I often act like myself	ChangminGeu (2012) LimJongmin (2016)

2.5. Loneliness

Loneliness is a subjectively conscious feeling and experience of isolation and alienation from others or society. It is the self-enclosure of a person's living space and living state. A lonely person will be separated from the social group and live in a negative state. There are many reasons for loneliness, such as lack of emotion, doting, narcissism, lack of self-confidence... (Baidu) Qiu Shourui (2019) defines loneliness as a negative emotion caused by the lack of satisfaction in some aspects, and this Emotions are sad and painful. Yang Chunhong (2016) also pointed out that when an individual's expected social interpersonal relationship cannot be satisfied, a negative experience will occur, and this unpleasant experience is loneliness. LAI LEI LOU ZHENG YAN (2012) pointed out that the less interaction of some addicted audiences with friends or family, the worsening of loneliness.

And people who feel more lonely will use mobile phones or virtual networks to satisfy their hearts. Dr. Monica T. Whitty & Ms. Deborah McLaughlin (2007) found that relatively lonely people are more likely to be attracted by the entertainment information on the Internet.Janet Morahan Martin (2003) pointed out that lonely people are more willing to use the Internet to regulate their negative emotions, because the Internet provides an ideal social environment for lonely people. Through research, it has also been found that the more loneliness a person is, the more dependent they are on the Internet. Junghyun Kim, Ph.D (2009) pointed out that loneliness can lead to intense and compulsive Internet use behavior in individuals, and this psychological disorder can lead to addiction tendencies. Tang Wenqing (2018) proved through research that loneliness acts as a mediator between interpersonal distress and addiction tendency, and some addicted people will seek solace in the virtual world in order to satisfy their inner pain. Cui Siyu (2015) pointed out that when a person can only face difficulties alone, and no one understands and helps, he will seek protection and understanding through the Internet, and then vent his negative emotions. Liu Xianlan (2015) also pointed out in the study that loneliness has become the most important emotional problem for college students. In the virtual online world, people pursue interpersonal understanding and friendship, and over time, they are related to the real world. The distance is farther and farther, farther and farther away from the real world, farther and farther away from the real interpersonal relationship, the loneliness will become stronger and stronger, they will slowly immerse in the virtual interpersonal relationship, unable to get rid of their own fantasy, become a person who is more likely to be addicted to the Internet.

Table 3. Loneliness Measurement Questions

Independent Variable	Measuring project	Reference
Loneliness	1. When I need help, I can't find anyone in my life who is willing to help me 2. When I'm upset or distressed, I can't find a friend to talk to 3. Although there are many friends around, they don't care about me 4. I often feel that my interests and ideas are different from those around me 5. I always feel lonely	Lee Hyun-duk (2011) Jang Jeong-jeong (2016) LiYuanwen (2013)

2.6. Anxiety

Anxiety is an irritable emotion caused by excessive worry about the safety of relatives or one's own life, future and destiny, etc. It contains anxiety, worry, worry, tension, panic, anxiety and other ingredients. (Baidu) Anxiety is an emotional reflection of people's serious deterioration in the value characteristics of real or future things. Liu Jie (2015) pointed out that social anxiety refers to emotional reactions and avoidance behaviors with strong anxiety, nervousness or fear of one or more interpersonal situations, that is, fear of looking at people, fear of losing face due to inappropriate words and deeds, fear of being in the face of others. Eating in front of people and writing.

Likewise, anxious emotions can be addictive symptoms. Ding Qian, Wei Hua, Zhang Yongxin, and Zhou Zongkui (2016) pointed out that the convenience and evasion of the Internet allow individuals with social anxiety to escape the embarrassment of real life. He Jinbo, Chen Changrun, He Siqi, and Zhou Zongkui (2014) pointed out that in the face of evaluation fear, people with high reality anxiety participate more frequently in social networking. Liu Jie (2015) also verified that the social anxiety of college students is positively correlated with Internet addiction, and has a predictive effect on Internet addiction. Individuals with severe social anxiety will choose to use the Internet to cover up their resistance when faced with setbacks in real life. Anonymity and strangeness allow them to become more free to cover up their deficiencies. A sense of gap can deepen the symptoms of addiction. Asli Enez Darcin, Samet Kose, Cemal Onur Noyan, Serdar Nurmedov, Onat Yilmaz & Nesrin Dilbaz (2016) Smartphone addiction is associated with social phobia and loneliness in a sample of university students in Istanbul, Turkey. It has been found that people with psychosocial problems such as social phobia or loneliness may be prone to excessive use of Internet technology devices. Bedhead Foroughi (2021) argues that social anxiety is characterized by an extreme fear of being judged negatively. So according to research, people who use intensive Facebook are at risk of developing anxiety. At present, some of them will relieve their anxiety by watching short videos. Guo Miao and Wang Lihao (2021) pointed out that Douyin restricts people's choice of watching videos through a kind of "algorithmic anxiety", restricts people's freedom, and falls into media dependence. During the update and improvement of the software, the user's product addiction is cultivated, and the way of thinking and behavior of dependence is shaped. Zhang Yuchen, Liu Xuemin, and Chen Wanqi (2019) also pointed out that the longer the daily viewing time of short music videos, the more serious the anxiety problem.

Table 4. Anxiety Measurement Questions

Independent Variable	Measuring project	Reference
Anxiety	1. Assuming I don't have time to do everything, I won't get anxious 2. I'm less likely to worry about things 3. Life, work or study situations make me worry 4. I know I shouldn't worry about something, but I just can't control it 5. I get anxious when I'm under stress	MinjaCho (2011) YoungsimKwon (2013) So young Kwon (2003) Peng Chen (2020)

2.7 Belonging

The sense of belonging, also known as the sense of belonging, refers to an internal connection between the individual and the group to which it belongs. Psychological manifestations of identification and retention. The sense of belonging also refers to the feeling of being recognized and accepted by others or groups. Psychological research shows that everyone is afraid of loneliness and loneliness, and hopes to belong to one or more groups, such as family, there is a work unit, and I hope to join an association or a group, so that I can get warmth, help and love, so as to eliminate or reduce loneliness and loneliness, and gain a sense of security. (Baidu) Zeliha Tras (2019) pointed out that a sense of belonging is an innate emotional need, to the group, to the family, and finally to the country. But when a sense of belonging is not met, the individual becomes lonely and anxious. Paul Benjamin Lowry, Linda Wallace, Merrill Warkentin (2017) pointed out that many emotions people experience, whether positive or negative, are related to belonging. Research shows that acceptance and inclusion lead to a variety of positive emotions (such as happiness, joy, and contentment), while rejection, rejection, or neglect can lead to negative emotions (such as anxiety, depression, sadness, jealousy, and loneliness) Douglas Smith, Trinity Leonis & S. Anandavalli (2021) pointed out that when the need for belonging is not

met, isolation, restlessness and alienation may occur. Ruchi Dubey Chaturvedi (2015) pointed out that people with low need for belonging have more independent personalities. They do not have a strong desire to relate to others and have difficulty finding adequate social support. Megan L. Knowles (2015) pointed out that people with social anxiety disorder, their need to belong will increase their frequency of using the Internet, they prefer to communicate online. Fallon B. Moberg and Michael D. Anestis (2015) Those with a high sense of belonging frustration feel lonely and anxious.

A lack of belonging can also lead to different addiction tendencies. Bayram GÖKBULUT (2020) Excessive mobile phone use has been shown to lead to introversion, anxiety, depression, and a lack of belonging. ZHOU, Selina Xingyuan (2010) It has also been proved in the study that game addiction is because of a sense of belonging and a sense of satisfaction obtained from it. Zeliha Tras (2019) studied people's excessive use of Facebook and found that individuals use the Internet to meet certain needs, one of which is a sense of belonging. People with a low sense of belonging may try to meet their belonging needs through social media platforms such as Facebook. Because individuals spend too much time online, they make up for the lack of their hearts by forming relationships with other users. Yuan Wenping (2021) The lack of a sense of belonging is the most important reason for being addicted to the Internet. The worse the individual's sense of belonging, the more serious the tendency of Internet addiction. In real life, if you don't get a sufficient sense of belonging, you will find your own sense of belonging through the Internet, thereby making up for the lack of personal belonging to reality, leading to personal Internet addiction. PENGCHENG WANG (2017) The findings show that adolescents with a high need for belonging use smartphones more than those without a need for belonging, which puts them at greater risk for addiction. The quest for belonging can prompt people to engage in a range of activities that may strengthen their social bonds.

Table 5. Belonging Measurement Questions

| Independent Variable	Measuring project	Reference
Belonging	1. When watching short videos, I feel like I can get a lot of my friends and I have a sense of connection with them 2. As a user of mobile short videos, I am very warm 3. I have a strong feeling that I'm part of a mobile short video 4. Mobile short video makes me have a kind feeling 5. When watching short videos, I feel that other people have a good interaction with me	WangYoung-mae(2018) Jung Seung-won (2012) Deng Yunwen (2021) Tao Lingzhi (2015)

The purpose of this study was to determine the psychological motivations that influence the addictive behavior of watching short videos. Therefore, on the basis of prior research, set anxiety, loneliness, and impulsivity as independent variables, set belongingness as mediating variable, and set addictive behavior as dependent variable to determine the relationship between variables; on the basis of prior research, In order to establish a measurement tool, an online questionnaire was used to collect data; in terms of research, the questionnaire was reconstructed on the basis of prior research. The target of the questionnaire was Chinese viewers who watched short videos using a short video app (Tiktok or TikTok), and the questionnaire was online through Questionnaire Star. Data was collected for one week. Regression analysis was performed with SPSS.26 to verify the hypothesis.

Assumptions:
H1: Anxiety has a positive (+) effect on addictive behavior
H2: Loneliness has a positive (+) effect on addictive behavior
H3: Impulsivity has a positive (+) effect on addictive behavior
H4: Anxiety has a positive (+) effect on belonging
H5: Loneliness has a positive (+) effect on belonging
H6: Impulsivity has a positive (+) effect on belonging
H7: Belonging has a positive (+) effect on addictive behavior

For a more intuitive understanding, the following figure is the model diagram of this research.
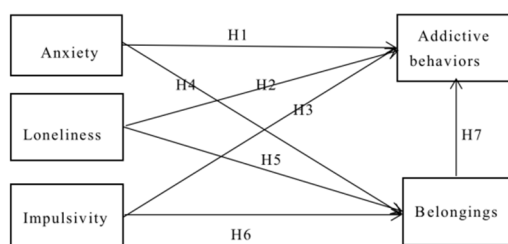
Figure 1. Research model

3.Result

3.1 Characteristics of specimens

This paper adopts the most widely used and authoritative questionnaire star92 online survey website in China for data collection. This paper takes the Chinese audience as an example, and does not specifically select the audience of a certain platform, but selects the audience who watch short videos, so the questionnaire will have some deficiencies at the initial stage. Through preliminary testing, the questionnaire content that was difficult to understand was modified to make it easier for the respondents to understand. The questionnaires were also edited to the extent that the original intent of the questionnaires was not compromised. A pre-survey was conducted with 150 respondents over a period of 15 days from 5 February 2022 to 20 February 2022 to confirm the reliability and appropriateness of the questions on the measurement of each variable. After that, the formal survey was conducted for about one month from 1 March to 1 April 2022 on the online questionnaire special website, Questionstar. A total of 320 questionnaires were returned, with 303 valid questionnaires and 17 dishonest responses excluded. The composition of the questionnaire consisted mainly of the following: 15 questions measuring impulsivity, anxiety and loneliness, 5 questions measuring sense of belonging, and 4 questions measuring measures of addictive behaviour. IBM SPSS 26.0 was used in this study to validate the characteristics of the specimens used in the study. In this study, the questionnaire will be used for reliability analysis, correlation analysis, confirmatory factor analysis, and regression analysis to test the hypotheses. To understand the demographic characteristics of the samples used in this study, a frequency analysis was performed. The results of the analyses are in [Table 6].

Table 6. Demographics

		Frequency	**The percentage %**
Gender	Male	138	45.54
	Female	141	69.8
Age	Under the age of 18,	15	4.95
	At the age of 18 to 24	38	12.54
	25 to 30	104	34.32
	31-35 years old	82	27.06
	More than 35 years old	64	21.12
Record of formal schooling	Under the high school	40	13.2
	College	152	50.17
	Undergraduate course	94	31.02
	Master	13	4.29
	Doctor	4	1.32
Professional	Students	53	17.49
	General office staff	56	18.48
	Civil servants or public institutions	142	46.86

	The private owner	50	16.5
	other	2	0.66
Duration of Douyin use	Within half an hour	24	27.72
	Half an hour to an hour	20	33
	An hour to two hours	11	18.48
	More than two hours	28	20.79
	Total	303	100

3.2 Answer the research questions through factor analysis

Reliability analysis was first performed to verify the reliability of the measurement items used, in this study, anxiety (0.927); loneliness (0.899), impulsivity (0.904); belonging (0.913), addictive behavior (0.908), Cronbach' The sα coefficients are all above 0.8. According to the dimensionality reduction factor analysis, the independent variable and the dependent variable KMO>0.6 are suitable for factor analysis. It is suitable for factor analysis.

Table 7. Factor Analysis Reliability Analysis

Factors	Questionnaire	Factor loading	Cronbach's alpha
Anxiety	Assuming I don't have time to do everything, I won't get anxious	.855	.927
	I'm less likely to worry about things	.826	
	Life, work or study situations make me worry	.852	
	I know I shouldn't worry about something, but I just can't control it	.853	
	I get anxious when I'm under stress	.857	
Loneliness	When I need help, I can't find anyone in my life who is willing to help me	.781	.899
	When I'm upset or distressed, I can't find a friend to talk to	.814	
	Although there are many friends around, they don't care about me	.850	
	I often feel that my interests and ideas are different from those around me	.834	
	I always feel lonely	.765	
Impulsivity	I am often told that I am not calm	.838	.904
	Sometimes I regret the things I say without thinking	.819	
	I get distracted easily and can't concentrate	.792	
	If I don't do what I want right away, I feel like I'm going to have a nervous breakdown	.823	
	I can't control myself so I often act like myself	.790	
Belonging	When watching short videos, I feel like I can get a lot of my friends and I have a sense of connection with them	.845	.913
	As a user of mobile short videos, I am very warm	.853	
	I have a strong feeling that I'm part of a mobile short video	.826	
	Mobile short video makes me have a kind feeling	.842	
	When watching short videos, I feel that other people have a good interaction with me	.785	
Addictive behaviors	I find myself wasting more and more time watching short videos	.867	.906
	Every time I turn off the short video to do something else, I can't help but turn it back on	.821	

	If I can't watch a short video, I feel lost and don't know what to do	.841
	More than one person told me I spend too much time on short videos	.845
KMO		.913
Barlett	approximate chi-square	5036.891
	degrees of freedom	276
	salience	.000

3.3. Correlation analysis

In order to study the hypothesis proposed in this study, the correlation analysis was carried out on Douyin users' preference degree, use motivation, use satisfaction and attention intention. The results are as follows:

Table 8. Correlation Analysis

Variable information	1	2	3	4	5
Anxiety	1				
Loneliness	.319**	1			
Impulsivity	.313**	.370**	1		
Belonging	.306**	.322**	.329**	1	
Addictive behavior	.338**	.303**	.363**	.327**	1

According to the correlation analysis, it is proved that there is a relationship between the variables, and the coefficient is between 0.2 and 0.7. The correlation coefficient values between loneliness and anxiety, impulsivity, belonging, and addictive behaviors were 0.319, 0.313, 0.306, and 0.338, respectively. The correlation coefficients between loneliness and impulsivity, belonging, and addictive behaviors were 0.370, 0.322, and 0.303, respectively. The correlation coefficients between impulsivity and belonging, and addictive behaviors were 0.329 and 0.363, respectively. The correlation coefficient between the sense of belonging and addictive behavior is 0.327. There is a positive correlation between the variables, showing significance.

Hypothesis testing was carried out using regression analysis and the results are shown below:

Table 9. Regression analysis

Model	Non-standardized coefficients		Standardized coefficients	t	significance	Covariance statistics	
	B	standard error				Tolerance	VIF
(constant)	.842	.206		4.081	.821		
Anxiety	.234	.060	.216	3.875	.000	.854	1.170
Lonely	.172	.067	.145	2.544	.011	.817	1.224
Impulsivity	.271	.064	.241	4.239	.000	.821	1.219
	R:.452a	R2:.205	F:25.649	P:.000			

a Dependent variable: Addictive behavior

According to regression analysis, it can be obtained that the significance of significance, loneliness, and impulsiveness to addictive behaviors are 0.000, 0.011, and 0.000. All are less than 0.05. Therefore, when a person is more anxious, he is more likely to have a tendency to become addicted. When a person is lonely and feels lonely, he will get rid of the emptiness of reality by indulging in short videos. And a person's impulsiveness will also have adverse effects, lack of thinking before behavior, leading to addiction. So H1,H2 and H3 are valid.

H1: Anxiety has a positive (+) effect on addictive behavior
H2: Loneliness has a positive (+) effect on addictive behaviors
H3: Impulsivity has a positive (+) effect on addictive behavior

Table 10. Regression analysis

Model	Non-standardized coefficients		Standardized coefficients	t	significance	Covariance statistics	
	B	**Standar d error**				**Tolera nce**	**VIF**
(constant)	4.907	.186		26.325	.000		
Anxiety	-.176	.054	-.182	-.3.224	.001	.854	1.170
Lonely	-.199	.061	-.189	-.3.268	.001	.817	1.224
Impulse	-.203	.058	-.202	-3.508	.001	.821	1.219
R:.428a R2:.183 F:22.368 P:.000							

a Dependent variable: sense of belonging

Sense of belonging as a mediator variable, the significance of anxiety on sense of belonging was 0.01 (p<0.05), T was -3.224, beta was negative, and VIF was less than 10, suggesting that the more anxious you are, the more sense of belonging you will feel, and that the strengthening of the sense of belonging, the symptoms of anxiety will be reduced. Consistent with the findings of Weiss (1974), Marangoni and Ickes (1989) and Russell et al. (1984) prior studies. The significance of loneliness on belongingness is 0.01 (p<0.05),T is -3.268, beta is negative and VIF is less than 10, similarly it means that the more loneliness is, the more belongingness will be created, and the symptoms of loneliness will be lessened by the enhancement of belongingness. The significance of impulsivity on belongingness is 0.01 (p<0.05),T is -3.508, beta is negative and VIF is less than 10, the relationship is consistent with the above. Therefore hypotheses are all valid.

H4: Anxiety has a positive (+) effect on belonging
H5: Loneliness has a positive (+) effect on belonging
H6: Impulsivity has a positive (+) effect on belonging

Table 11. Regression analysis

Model	Non-standardized coefficients		Standardized coefficients	t	significance	Covariance statistics	
	B	**Standard error**				**Toleran ce**	**VIF**
(constant)	3.801	.225		16.922	.000		
Belonging	-.367	.061	-.327	-6.013	.000	1.000	1.000
R:.327a R2:.107 F:36.162 P:.000							

a Dependent variable: Addictive behavior

H7: The sense of belonging has a positive (+) effect on addictive behavior, with a significance of 0.000 (p<0.05), T is -3.224, beta is negative, and VIF is less than 10. So in reality, if the sense of belonging is not satisfied, it will seek the satisfaction of the sense of belonging with the help of short videos to compensate the individual The lack of a sense of belonging in reality will thus lead to a higher tendency for individuals to become addicted.

Therefore, based on the research data, the following results are drawn.
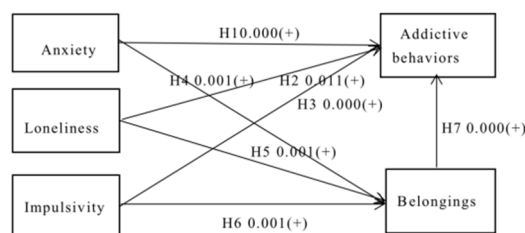
Figure 2. Research Model Result

4. Discussion and Conclusions

4.1. Research conclusion

Based on the media dependence theory, this study studies the addiction factors of Chinese viewers' short video content, and analyzes and proves how the addiction factors affect the addictive behavior of watching short videos. Based on the previous research on ultra-short video content addiction at home and abroad, a total of 5 items were set as variables to construct a research model. Seven hypotheses were developed based on anxiety, loneliness, impulsivity, belonging, and addictive behavior towards short videos. In order to prove the establishment of the hypothesis, a questionnaire was designed to conduct a questionnaire survey, and a total of 303 valid questionnaires were collected. The questionnaire survey was mainly based on the groups who watched short videos in China. SPSS Statistics 26 was used for statistical analysis, and factor analysis and reliability analysis were carried out. Linear regression analysis was performed with conversion factors. The results were sorted as follows: anxiety had a positive (+) effect on addictive behavior, loneliness had a positive (+) effect on addictive behavior, and impulsivity had a positive (+) effect on addictive behavior. Anxiety had a positive (+) effect on belonging, loneliness had a positive (+) effect on belonging, and impulsivity had a positive (+) effect on belonging. A sense of belonging has a positive (+) effect on addictive behavior. It can be seen that anxiety, loneliness, and impulsiveness are important factors for addiction to short video content, and belongingness is a significant mediating effect between anxiety, loneliness, impulsiveness and other emotions on short video addiction. Likewise, a lack of belonging itself is one of the important contributing factors to addictive behaviors.

It can be seen that, under the influence of the epidemic, part of the people who work at home will choose to amuse themselves through short videos due to the suppression of their personal psychological emotions, and at the same time, the lack of communication in life, people are addicted to it without realising it, which leads to their falling deeper and deeper into it, and they can only find a sense of belonging in the short videos to alleviate themselves in the time that the epidemic has not yet disappeared completely, and at the same time, they also become addicted to the short videos and can't extricate themselves from it. This study verifies the possibility of media dependence theory applied to short videos, and, at the same time, verifies the important role of network belonging as a mediating variable in the dependence model in the study of short-video addiction, which provides a valuable reference for future academic research. At the same time, personal psychological factors, impulsivity, anxiety and loneliness, continue to exert the same effectiveness in the mediator dependence model in online addiction.

While exploring the relationship between the variables, this paper also aims to provide more insights and suggestions for the media dependence phenomenon of mobile short-video users from three aspects: the government, media platforms and individual users. Media platforms should take the main responsibility in the overuse of users, and find a balance between harvesting traffic and positive user experience. Society and the government should increase the control of short video platforms, and set up an anti-addiction system modelled on that of games, and also give more realistic care and understanding to the users; and provide psychological counselling. From the user's point of view, individuals should improve their media literacy, rationally judge and decide the role of short videos in their own lives, and also actively participate in real life, paying more attention to real life in today's era when the epidemic has quietly faded away.

4.2. Study limitations

The limitations of this study are: 1) In the process of the questionnaire survey, the research was conducted with the audience in China as the center, and there was insufficient research on other countries and regions. In future research, it is necessary to collect samples from a wider field 2) Most of the respondents are using similar apps (Tik Tok), and lack of exploration of other types of short videos. 3) Most of the research variables are psychological variables. In future research, the influence of the characteristics of short videos on addiction should be considered, and more meaningful research should be carried out.

Conflicts of Interest: The authors declare no conflict of interest. The founders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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