

The Mediating Role of Mukbang in the Association between Loneliness and Smartphone Addiction in Emerging Adulthood

Hasan KÜTÜK*, Sinan OKUR**

Abstract

Aim: The purpose of this study is to examine the mediating role of Mukbang viewing behavior in the relationship between loneliness and smartphone addiction in individuals in the emerging adulthood period. Recently, an important field of study has emerged due to the effects of loneliness on behaviors in technological environments and the examination of Mukbang videos on the mental health of individuals. In this context, the aim of this study is to examine smartphone addiction by exhibiting Mukbang viewing behavior in those experiencing loneliness.

Method: In this study conducted with 401 participants, 280 females (69.8%) and 121 males (30.2%), the average age of the participants is 24.443 years (age range = 18-26, *SD* = 1.682). Within the scope of the study, data were collected from the participants face-to-face using the UCLA Loneliness Scale, Smartphone Addiction Scale, and Mukbang Addiction Scale. Conditional process analysis was performed using the SPSS PROCESS macro plugin in the analysis of the data. Additionally, the statistical significance of the mediating variable was examined using the bootstrapping method.

Results: Correlation results indicated that there was a significant and positive relationship between all variables. Findings from the conditional process analysis suggest that Mukbang serves as a partial mediator in the connection between loneliness and smartphone addiction.

Conclusion: The study reveals that Mukbang videos are used as a tool to cope with the feeling of loneliness of individuals and that this situation triggers smartphone addiction. The results demonstrate that intervention programs for conscious media use should be developed for individuals with high feelings of loneliness.

Keywords: Loneliness, Mukbang, smartphone addiction, emerging adulthood.

Beliren Yetişkinlikte Yalnızlık ile Akıllı Telefon Bağımlılığı Arasındaki İlişkide Mukbang'ın Aracı Rolü

Öz

Amaç: Bu çalışmanın amacı, beliren yetişkinlik dönemindeki bireylerde yalnızlık ile akıllı telefon bağımlılığı arasındaki ilişkide Mukbang izleme davranışının aracı rolünü incelemektir. Son dönemde yalnızlığın teknolojik ortamdaki davranışları etkilemesi ve Mukbang videolarının bireylerin ruh sağlığı üzerine incelenmesi nedeniyle önemli bir çalışma alanı oluşmuştur. Bu bağlamda, yalnızlık yaşayanların Mukbang izleme davranışı sergileyerek akıllı telefon bağımlılığının incelenmesi bu araştırmada hedeflenmektedir.

Yöntem: 280 kadın (%69,8) ve 121 erkek (%30,2) olmak üzere 401 katılımcı ile gerçekleştirilen bu araştırmada katılımcıların yaş ortalaması 24.443'tür (Yaş aralığı = 18-26, *Ss* = 1,682). Araştırma kapsamında UCLA Yalnızlık Ölçeği, Akıllı Telefon Bağımlılığı Ölçeği ve Mukbang Bağımlılık Ölçeği kullanılarak katılımcılardan veriler yüz yüze toplanmıştır. Verilerin analizinde SPSS PROCESS makro eklentisi

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* Asst. Prof., Department of Psychological Counseling, Istanbul Sabahattin Zaim University, Istanbul, Türkiye.

E-mail: hasan.kutuk@izu.edu.tr [ORCID](https://orcid.org/0000-0001-7520-4559) <https://orcid.org/0000-0001-7520-4559>

** (Corresponding Author) Asst. Prof., Department of Educational Sciences, National Defense University, Turkish Air Force Academy, Istanbul, Türkiye. E-mail: sinan.okur@msu.edu.tr [ORCID](https://orcid.org/0000-0002-3439-5907) <https://orcid.org/0000-0002-3439-5907>

ETHICAL STATEMENT: This study was carried out with the approval of the Ethics Committee of National Defense University, dated 08/03/2023 and numbered E-54589112-824.99-2161053. A signed subject consent form in accordance with the Declaration of Helsinki was obtained from each participant.

kullanılarak koşullu süreç analizi gerçekleştirilmiştir. Ek olarak, aracı değişkenin istatistiksel anlamlılığı bootstrapping yönteminden faydalanılarak incelenmiştir.

Bulgular: Korelasyon sonuçları, tüm değişkenler arasında anlamlı ve pozitif yönde ilişki olduğunu göstermiştir. Koşullu süreç analizinde ise, yalnızlık ile akıllı telefon bağımlılığı arasındaki ilişkide Mukbang'ın kısmi aracı rol oynadığı saptanmıştır.

Sonuç: Araştırma sonucunda, Mukbang videolarının bireylerin yalnızlık duygusuyla başa çıkmada bir araç olarak kullanıldığını ve bu durumun akıllı telefon bağımlılığını tetiklediğini ortaya koymaktadır. Elde edilen sonuçlar, yalnızlık hissi yüksek bireyler için bilinçli medya kullanımına yönelik müdahale programlarının geliştirilmesi gerektiğini göstermektedir.

Anahtar Sözcükler: Yalnızlık, Mukbang, akıllı telefon bağımlılığı, beliren yetişkinlik.

Introduction

Human beings are inherently social creatures. Communicating with other people, socializing, and having social support resources are important gains for the mental health of individuals. Because people can develop their coping power and mechanisms thanks to the social relationships they establish. In contrast, loneliness is a negative emotional state that occurs due to inadequate social life^{1,2}. When evaluated from this perspective, it can be said that loneliness is among the variables that can negatively influence the mental health of individuals. The concept of loneliness is defined as an individual's inability to establish close relationships with his/her environment, unwillingness to establish close relationships, or having difficulty establishing close relationships³. Marangoni and Ickes emphasize three important points regarding loneliness⁴. The first of these is that loneliness is different from social isolation. In other words, the concept of loneliness is an individual-specific and subjective experience. The second important point is that loneliness can create a negative psychological state for the individual. The third and last important point is that loneliness is a condition that arises from a lack of social relationships. According to Rokach, loneliness does not only occur when individuals are lonely⁵. Even if there are many people around, the individual may experience a feeling of loneliness. Based on this, it can be concluded that the experience of loneliness and the state of being alone are distinct concepts. While being alone may be preferable, feelings of loneliness are often undesirable and damaging⁶. In other words, while loneliness may denote an undesirable experience, being alone may be preferable. For instance, individuals may prefer to be alone to think creatively, concentrate, or develop various skills⁷. This demonstrates that wanting to be alone should not be confused with experiencing the feeling of loneliness.

Cacioppo and Cacioppo express loneliness as a public health problem⁸. A study emphasizes that loneliness can have destructive effects on an individual's physiological health as well as their psychological health⁹. When studies on the psychological effects of loneliness are examined, depression¹⁰, psychological distress¹¹, increased social isolation¹², and an increase in technology-based addictions¹³⁻¹⁵ stand out. Recently, technology-based addictions have also been among the concepts frequently studied in the literature.

Technology-based addictions generally occur due to the internet, mobile phones, games, and various gaming tools. Internet technology serves as a tool for today's people to perform certain behaviors online¹⁶. These behaviors often include gaming, shopping, and

social networking. From this point of view, various applications on the internet can serve as a new branch for individuals experiencing loneliness. Individuals experiencing loneliness can try to cope with this feeling through internet-based applications.

One behavior that has recently attracted attention as a technology-based addiction is Mukbang. Mukbang, which has an increasing interest day by day, is an online experience in which an individual broadcasting on the internet eats a large amount of food while other individuals watch and comment on it^{17,18}. Hawthorne states that thousands of people watch Mukbang videos today¹⁹. Considering today's frequency of smartphone and internet use, it is thought that this behavior may be more dominant in people who are lonely. So much so that Kircaburun et al. emphasize that watching Mukbang can have an effect that reduces loneliness and social isolation¹⁷. Individuals who experience loneliness may tend to follow Mukbang broadcasts in order to relieve this feeling. Studies in the literature emphasize that the communication established between the broadcaster, called Mukbanger, and the viewer during the Mukbang broadcast eliminates loneliness and increases social satisfaction²⁰. Similarly, Rosen defines this situation as electronic closeness, stating that communication established during online broadcasting can reduce the feeling of loneliness by strengthening the social relationships between the broadcaster and the audience²¹. Based on the findings of these studies, it can be concluded that loneliness plays a role in increasing the tendency to watch Mukbang content. Although there is no study in the literature examining the effect between these two concepts, studies on similar concepts partially support this idea^{17,19,21}.

Another technology-based addiction that can be caused by loneliness is smartphone addiction. In addition to serving as a means of communication, smartphones are advanced technological devices that provide various functions, including photography, video recording, gaming, and access to the internet and social media platforms. Many applications that were previously performed using multiple technological tools can now be performed using a single smartphone. Despite all these positive effects, smartphones can also have an addictive effect as a result of excessive and uncontrolled use. Research suggests that different dimensions of loneliness, such as emotional and social loneliness, may play distinct roles in the development of smartphone addiction. While emotional loneliness refers to the absence of close emotional bonds, social loneliness stems from a lack of broader social interactions. Individuals experiencing emotional loneliness may turn to smartphones for parasocial interactions or digital companionship, whereas those with social loneliness might engage more in social media and online communities to compensate for their isolation. Increasing desire to use the phone, restlessness when unable to reach the phone, inability to stop using the phone, and daily procrastination due to phone use are indicators of smartphone addiction^{22,23}. Matar-Boumosleh and Jaalouk emphasize that smartphone addiction could be related to pathological problems such as depression, stress, and anxiety in individuals²⁴. According to Horwood and Anglim, smartphone addiction has a reducing effect on well-being²⁵. Pathological smartphone use can negatively influence individuals' daily work and cause maladaptive behaviors²⁶. Fino and Mazetti also emphasize that, while smartphones offer numerous benefits that facilitate daily life, it is essential to consider their potential negative effects on mental health²⁷.

Individuals with high levels of loneliness are likely to use smartphones as a tool to relieve these feelings. Jiang et al. emphasized that loneliness can increase smartphone addiction²⁸. Shen and Wang also reported results supporting the positive relationship between the two concepts²⁹. Likewise, Mahapatra stated that loneliness is an important antecedent of smartphone addiction³⁰. Considering the findings of all these studies in the literature, it can be concluded that there is a significant relationship between loneliness and smartphone addiction. In addition, the Mukbang viewing behavior that individuals engage in to combat loneliness can trigger smartphone addiction, as it is done via smartphone. Therefore, individuals who experience loneliness may experience smartphone addiction both because of these feelings and through Mukbang viewing behavior. When the relevant literature was examined, no study was found examining this relationship between the concepts. As Mukbang is a relatively recent concept in the psychology literature, research on this topic can significantly contribute to its conceptualization and theoretical understanding. This study can also reveal the effects of various variables that may have negative effects on the mental health of individuals. In this context, this study aims to examine the mediating role of Mukbang in the relationship between loneliness and smartphone addiction. For this purpose, answers to the following hypotheses will be sought:

H1. Loneliness significantly predicts smartphone addiction.

H2. Mukbang mediates the relationship between loneliness and smartphone addiction.

Material and Methods

The aim of the study was to examine the relationships between loneliness, Mukbang viewing behavior and smartphone addiction and to investigate the mediating role of Mukbang viewing behavior in the relationship between loneliness and smartphone addiction. This research was designed as a quantitative study based on the correlational survey design. This correlational survey design, which examines the relationship between multiple variables, includes predictor, predicted, and mediator variables³¹. In this study, loneliness was considered as the predictor variable, smartphone addiction as the predicted variable and Mukbang viewing behavior as the mediator variable. In this section, information about the study group, data collection tools, data collection process, and statistical analysis was shared, respectively.

Participants

The study group consisted of individuals in the emerging adulthood period. A total of 401 individuals participated in the study, 280 females (69.8%) and 121 males (30.2%). The age range of the group ranged from 18 to 26, and the mean age was 24.443 ($SD = 1.682$). When the perceived socioeconomic levels of the participants were examined, 47 individuals (11.7%) stated that it was very low, 38 individuals (9.5%) stated that it was low, 292 individuals (72.8%) stated that it was medium, and 24 individuals (6%) stated that it was high. In addition to this information, the participants' daily technology use levels were also examined. The findings revealed that 26 participants (6.5%) utilized technological tools for 0–2 hours daily, while 166 participants (41.4%) engaged with them for 2–4 hours. Additionally, 104 participants (25.9%) reported using these tools for

4–6 hours, 78 participants (19.5%) for 6–8 hours, and 27 participants (6.7%) for more than 8 hours per day.

Data Collection Tools

UCLA Loneliness Scale: This scale was developed by Hays and DiMatteo to determine the level of loneliness³². The responses given on the scale, which is scored in a four-point scale, range from “never” to “always”. The scale, which has a total of eight items (e.g., “I have no one to turn to”), has two reverse scores. The scale consists of one dimension. After these reverse items are arranged, a total score can be obtained from the scale. Possible high scores that can be obtained from the scale indicate that the individuals have a high level of loneliness. It is seen that the factor structure of this scale, which was adapted to Turkish by Doğan et al. shows a good fit and the Cronbach alpha reliability coefficient is .72³³.

Smartphone Addiction Scale: This scale was developed by Kwon et al. to determine the level of smartphone addiction³⁴. The responses on the scale, which is scored in a six-point scale, range from “strongly disagree” to “strongly agree”. The scale, which has a total of 10 items (e.g., “I disrupt my planned work due to using my smartphone”), does not have any reverse items and a total score can be obtained. The scale consists of one dimension. High scores that can be obtained from the scale indicate a high level of smartphone addiction. The factor structure of the scale, which was adapted to Turkish by Noyan et al. shows an acceptable level of fit and the Cronbach alpha reliability value is .86³⁵.

Mukbang Addiction Scale: This scale was developed by Kircaburun et al. to determine the level of Mukbang addiction¹⁷. The answers on the scale, which is scored in a five-point scale, range from “very rarely” to “very often”. The scale has a total of six items (e.g., “Have you spent a lot of time thinking about or planning to watch Mukbang in the past year?”) and does not have any reverse items. A total score can be obtained from this one-dimensional scale. Possible high scores that can be obtained from the scale mean that the level of Mukbang addiction is high. It has been reported that the factor structure of the scale is well-matched and the Cronbach alpha internal consistency coefficient is .87.

Data Collection Process

Data for this study were gathered in 2024 through a convenience sampling method. Researchers held face-to-face interviews with the participants, explaining the study’s purpose and emphasizing their right to withdraw at any stage. Informed consent was obtained from all participants before they participated in the study, and no compensation was paid to the participants. The entire process was conducted voluntarily, strictly adhering to the principles of the Declaration of Helsinki This study was carried out with the approval of the Ethics Committee of National Defense University, dated 08/03/2023 and numbered E-54589112-824.99-2161053, and each step of the research was carefully monitored to ensure compliance.

Statistical Analysis

Within the scope of the research, first preliminary analyses and then correlation analysis were performed. Conditional process analysis was performed to test the mediation

relationship between the variables. This analysis was performed using the PROCESS Macro add-on developed by Hayes³⁶. Conditional process analysis can be expressed as regression-based mediation analysis³⁷. This approach examines the interaction between dependent and independent variables along with the contribution of mediating or moderating variables, allowing researchers to uncover more complex relationships so that they can see not only direct effects but also indirect effects under different conditions. Age, gender, and socioeconomic status were incorporated into the established model as covariates. Adding a covariance variable to the model aims to evaluate the actual relationship between the dependent and independent variables more accurately by removing potential confounding effects. Demographic variables such as age, gender, and socioeconomic status were included in the model due to their known effects in the literature, in case they distort the results. After the mediation analysis, the bootstrapping test, which is accepted as a contemporary approach, was applied³⁸. In this study, in the bootstrapping analysis conducted to test the significance of the mediator variable Mukbang, 5,000 resampling confidence intervals were calculated. Hayes and Preacher emphasized that the absence of a zero value between the lower and upper limits of the confidence interval values indicates significance³⁸.

Results

First, preliminary analyses were conducted. In this context, descriptive statistics and Cronbach's alpha reliability values of the variables were calculated. Then, Pearson product-moment correlation coefficients of the variables determined to have normal distribution were determined and are shown in Table 1. As a result of the analysis, it was determined that loneliness was positively and significantly correlated with both Mukbang ($r = .215, p < .01$) and smartphone addiction ($r = .189, p < .01$). In addition, Mukbang was positively and significantly correlated with smartphone addiction ($r = .198, p < .01$).

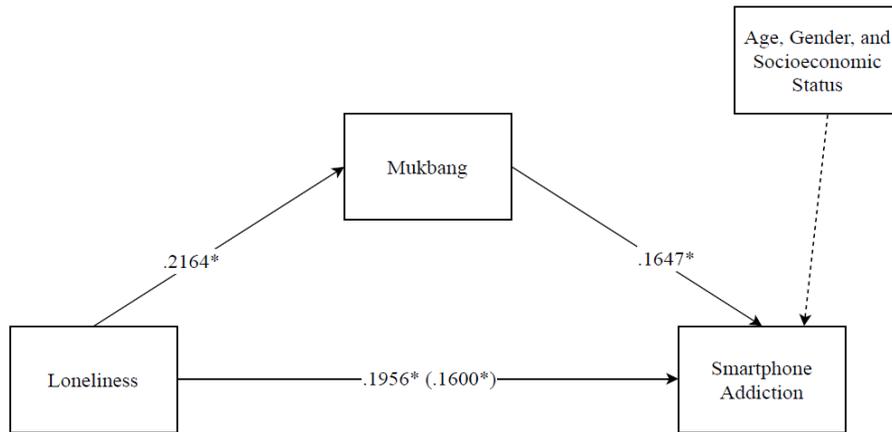
Table 1. Mean, standard deviation, and correlation values of the variables of the study

Variables	Mean	SD	1	2
1. Loneliness	11.937	2.192		
2. Mukbang	6.975	1.426	.215*	
3. Smartphone Addiction	16.221	6.766	.189*	.198*

* $p \leq .01, n = 401$

Following these analyses, the hypothetical model established in line with the ultimate purpose of the research was tested with conditional process analysis and is shown in Figure 1.

Figure 1. The mediating role of Mukbang in the relationship between loneliness and smartphone addiction, * $p \leq .05$



As seen in Figure 1, the path coefficient from loneliness to smartphone addiction was calculated as .1956 ($p < .05$). When Mukbang was included in this relationship, it was seen that the path coefficient from loneliness to smartphone addiction decreased to .1600 and statistical significance continued. The decrease in the path coefficient and the continued significance indicate that Mukbang plays a partial mediating role in the relationship between loneliness and smartphone addiction. In addition, the path coefficient from loneliness to Mukbang was calculated as .2164 ($p < .05$) and the path coefficient from Mukbang to smartphone addiction was calculated as .1647 ($p < .05$). All these findings demonstrate that Mukbang, like loneliness, plays an important role in explaining smartphone addiction.

After this analysis, the statistical significance of the mediator variable was examined by the bootstrapping method. This method is used to test the significance of the indirect effect in the established hypothetical model³⁹. In the study, 5,000 resampling operations were performed to determine the significance of Mukbang. As a result of the analysis, it was determined that there was no zero value between the lower and upper limits in the 95% confidence interval, and therefore Mukbang had a statistically significant partial mediator role in the relationship between loneliness and smartphone addiction (bootstrap effect = .0356, 95% CI [.0072, .0721]).

Discussion

There is a side of human beings that feels and is affected by what they feel. Feeling lonely is one of the most individual-specific experiences and is one of the phenomena that can deeply influence a person. Investigating the effects of loneliness on people and revealing its negative effects on the individual is important for the psychology literature. When the literature is examined, it is possible to come across various studies indicating that loneliness causes various psychological problems^{10,11}. One of the most notable of these problems is behavioral addictions caused by loneliness. With the advancement of technology in the 21st century, it is observed that there has been a serious increase in technology-based behavioral addictions in lonely people^{13,14}. Smartphone addiction is also one of the types of addiction frequently observed in individuals experiencing loneliness today³⁰. In this study, the relationship between loneliness and smartphone

addiction and the effect of Mukbang viewing behavior that may mediate this relationship were examined.

Individuals may turn to various alternative behaviors in order to escape the feeling of loneliness they experience. One of these alternative behaviors is watching Mukbang. Increasing the level of Mukbang viewing by an individual to interact and get rid of the feeling of loneliness may cause the time spent on the smartphone to become uncontrollable. Findings revealed that Mukbang viewing is an important concept that mediates the relationship between loneliness and smartphone addiction. These findings are discussed in detail below in the light of the literature.

The first finding of the study is that there is a positive relationship between loneliness and Mukbang. Research on the Mukbang variable, which is a new concept in the literature, reports that the number of people watching Mukbang is increasing day by day¹⁹. There is no study in the literature that directly examines the relationship between loneliness and Mukbang. Although studies on the concept of Mukbang are still very limited, indirect findings have been reached in a few different studies that suggest that individuals experiencing loneliness may be more likely to watch Mukbang. For instance, Kircaburun et al. emphasize that watching Mukbang may be more common in individuals experiencing loneliness¹⁷. Mukbang viewing may reduce social isolation and loneliness, so Mukbang viewing may be more common in lonely individuals. Liu et al. stated that the interaction established during Mukbang broadcasts is good for the loneliness level of individuals; therefore, lonely individuals are more likely to watch Mukbang²⁰. Rosen also emphasized that people who are lonely tend to watch more Mukbang²¹. Based on all these studies in the literature, it can be interpreted that loneliness is a variable that increases watching Mukbang. This suggests that Mukbang content may serve as a coping mechanism for individuals experiencing loneliness, fulfilling their social and emotional needs through virtual interactions.

The second finding of the study is that there is a positive relationship between loneliness and smartphone addiction. Feeling lonely leads individuals to behave differently. Individuals seek environments where they can interact with other people to escape the loneliness they feel, to socialize, or to express themselves. To achieve this, it requires various communication tools, social media applications, and the internet. Smartphones are devices that can meet this need in the most economical way. Many activities such as social media monitoring, participating in live broadcasts, and interacting in a virtual environment can be carried out with these devices, which work as mini computers. Individuals may spend more time on their smartphones to relieve the emotional burden of loneliness they feel. Studies in the literature indicate that loneliness is one of the variables that can increase smartphone addiction²⁸. Hu and Xiang state that there is a positive relationship between loneliness and smartphone use¹³. Similar studies also emphasize this relationship between the two concepts^{29,30}. These studies in the literature support the first finding of the study. Based on this, it can be concluded that loneliness is a variable that increases smartphone addiction. This highlights the importance of developing alternative social support mechanisms to reduce excessive smartphone use driven by loneliness.

The third and final finding of the study is that loneliness may increase Mukbang viewing and cause smartphone addiction. In other words, the relationship between loneliness and smartphone addiction is mediated by watching Mukbang broadcasts. People who struggle with the emotional burden of loneliness can develop different strategies to cope with it. As one of these strategies, a person may want to interact and relieve loneliness by participating in live broadcasts in the virtual environment. This is where the mediating effect of watching Mukbang comes into play. One can try to cope with the feeling of loneliness by watching broadcasts of people eating and engaging in various interactions. However, the motivations for watching Mukbang may vary across cultures. In many Asian societies, Mukbang is often associated with communal eating experiences, where viewers seek a sense of connection and shared dining, whereas in Western societies, it may be more linked to entertainment, curiosity, or even dietary control strategies. These cultural differences may shape how loneliness influences Mukbang consumption patterns and its subsequent impact on smartphone use. This step, which is essentially taken to get rid of a negative situation, can have a more negative impact on the individual when it gets out of control. A person who loses control over watching Mukbang may feel the need to watch more and more or interact in the virtual environment with each passing day. This may cause the individual to use the smartphone more or lose control over smartphone use. In short, it can pave the way for smartphone addiction. When the literature is examined, no studies on this triple relationship between the concepts are found. However, based on the indirect studies mentioned above, it can be said that watching Mukbang mediates the relationship between loneliness and smartphone addiction. This finding underscores the need for further research on digital consumption habits as potential coping mechanisms and their unintended consequences on mental well-being.

Based on all these research results, some implications should be mentioned. The findings obtained from this study offer important implications in terms of understanding the effects of digital consumption habits on individuals' psychosocial well-being. First of all, it has been revealed that loneliness can lead individuals to watch Mukbang and that this can serve a function of reducing social isolation. However, excessive consumption of such content can make individuals' coping mechanism for loneliness dependent on virtual environments. Similarly, the fact that loneliness is associated with smartphone addiction suggests that individuals may use digital environments as an escape or a means of establishing social connections. More importantly, the fact that Mukbang viewing behavior mediates the relationship between loneliness and smartphone addiction offers a new perspective on how digital consumption patterns play a role in coping with loneliness. In this direction, encouraging healthier social support mechanisms in coping with loneliness can reduce the risk of individuals developing digital addiction. In addition, developing awareness programs for the conscious and balanced management of digital content consumption can contribute to individuals establishing healthier relationships with digital environments. Future research can examine the dynamics between Mukbang viewing and smartphone addiction in more depth, revealing the long-term effects of these behaviors and possible intervention strategies.

Finally, there are some limitations of this study. First, the study examined the relationships among loneliness, Mukbang viewing, and smartphone addiction using cross-sectional data. Therefore, it is not possible to definitively determine the causal relationship between the variables; future studies can better analyze the direction of these relationships over time by using longitudinal designs. Second, Mukbang viewing habits and smartphone addiction were assessed using self-report scales. Data based on participants' self-reports may be susceptible to social desirability bias, which may lead to under- or over-reported usage. Third, the study was conducted with a specific sample group, and the demographic characteristics of this group may limit the generalizability of the findings. Replication with more diverse samples considering different age groups, cultural contexts, or psychosocial factors may increase the applicability of the findings to a wider audience. Finally, the type of Mukbang content and viewing motivations were not examined in detail. However, individuals' reasons for watching Mukbang may differ, and the effects of these motivations on the addiction development process should be addressed in more detail. Considering these limitations, it is recommended that future research use more comprehensive and methodologically diversified designs.

Conclusion

This study revealed that Mukbang viewing behavior plays a partial mediating role in the relationship between loneliness and smartphone addiction. The findings demonstrate that lonely individuals turn to Mukbang content to meet their need for social connection, which may increase smartphone use. These results provide important contributions to understanding the effects of time spent in digital environments on individuals' psychological well-being. In future studies, similar mediating effects of different media content can be examined, and strategies can be developed to combat digital addiction.

Consent to Participate: Informed consent was obtained from all the individual participants that were included in the study.

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