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The Relationship Between Anxiety and TikTok Addiction Among University Students in China: Mediated by Escapism and Use Intensity

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Abstract

TikTok have been widely used in China by young adults among whom university students tend to spend a large amount of time on this social media platform leading to addictive behavior. The study regarding TikTok addiction and the third variable effects of the newly emerging social media tool is relatively few after China has relaxed its controls of the COVID-19 pandemic policy. The present study examined the relationship between anxiety and TikTok addiction and tested the mediation role of escapism and use intensity among TikTok users of Chinese university students. A sample of 420 Chinese undergraduate students participated in the study and completed anxiety, escapism, use intensity, and TikTok addiction measures. Structural equation modeling was applied to examine the hypothesized model based on questionnaire data. By using the integrative pathways model, it helped to explain the relationships of the four variables. The findings of correlation analysis indicated that anxiety was positively associated with escapism, use intensity and TikTok addiction. The results of structural equation model showed that escapism and use intensity both played a partial mediation role between anxiety and TikTok addiction. Meanwhile, escapism and use intensity also played a partial mediation role between anxiety and TikTok addiction in series.

Keywords: TikTok users' anxiety, escapism, use intensity, TikTok addiction, university students.

1. Introduction

The COVID-19 pandemic has brought unprecedented challenges for college students, who are inclined to stay at home and experience more online courses and social media use (Zhang et al., 2022; Yang, Hamed, 2022). Although China has relaxed its controls, there are still many people wearing masks everywhere in China in order to protect themselves from infection. The pandemic leads to anxiety and the uncertainty in people's everyday life has increased dramatically (Ge et al., 2023). When people perceive the uncertainties and threat, stress reaction, such as anxiety, will be automatically triggered.

As a popular social media tool, TikTok has permeated most of the individuals' life. It becomes an easy accessible means for them to seek information and relieve anxiety. It is a social media platform which enables users to watch and share videos owned by the Chinese company ByteDance. It is the international twin of Chinese mobile short video app, Douyin, and one of the fastest growing short video platforms in the world (Zulli, Zulli, 2020). In September 2021, it was shown that TikTok currently has over 1 billion users globally. In China alone, this app has over 600 million daily users who use, follow, and share the user-uploaded, mostly user-generated content.

As a popular social media tool, the reason why TikTok is so popular is its position as an entertainment app and its accessibility to content creation. By using this app, users can record and

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edit video content, annotate it with text and graphics, and post with captions and hashtags (Mordecai, 2023). Moreover, TikTok has risen to the forefront of social media usage both in usage intensity and the number of users, but there is limited research into the psychological mechanisms associated with this platform (Smith, Short, 2022), which results in increased interest by researchers. Previous study has shown that anxiety is consistently connected with social media addiction but little research has investigated how anxiety influences TikTok addiction by the psychological mechanisms (Ge et al., 2023). This research made contributions to the literature by investigating the underlying psychological mechanisms of TikTok addiction induced by anxiety after China has relaxed its controls of the Covid-19 pandemic policy.

2. Materials and methods

This study involved 420 undergraduate students who use TikTok in China and were recruited by random cluster sampling. Their age ranged from 18 to 23 years old ($M = 19.55$, $SD = 0.98$). The sample was slightly skewed toward sophomores and freshmen (28.6 % senior, 26.2 % junior, 23.8 % sophomore, 21.4 % freshman). Participants voluntarily completed the self-report questionnaires within normal class time.

TikTok users' anxiety scale. The scale was adopted from State-Trait Anxiety Inventory-Trait version (STAI-T) (Cronbach's $\alpha = 0.88$) from the previous researchers (Spielberger, Gorsuch, 1983). The scale includes 20 items that were rated on a four-point scale ranging from 1 (Almost never) to 4 (Almost always). Higher scores show higher trait anxiety levels.

Escapism scale. Escapism scale (Cronbach's $\alpha = 0.89$) including four items developed by previous researchers (Gao et al., 2017) was used to measure unpleasant realities, pressures, and problems using Internet apps or services. The scale is a four-point Likert scale ranging from 1= strongly disagree to 4= strongly agree. A higher score indicates a higher level of escapism.

Intensity of TikTok use scale. The TikTok use intensity scale (Cronbach's $\alpha = 0.716$) was adopted from social media use intensity questionnaire developed by prior researchers (Wen et al., 2016). The use intensity scale centered on objective concepts including the number of friends in the social media tool, the duration of social media use, and the frequency of social media use. The scale consists of four items with 5-point response choices: how many friends do you have? (1 = 200 or less, 2 = 201-300, 3 = 301-400, 4 = 401-500, 5 = more than 600); how many years have you used it? (1 = 2 or less, 2 = 2-3, 3 = 3-4, 4 = 4-5, 5 = more than 5); in the past week, on average, approximately how many minutes per day have you spent on it? (1 = 15 or less, 2 = 16-30, 3 = 31-45, 4 = 46-60, 5 = more than 60); approximately how many times do you log onto it per day? (1 = 3 or less, 2 = 4-6, 3 = 7-9, 4 = 10-12, 5 = more than 12).

TikTok addiction scale. The TikTok addiction scale (Cronbach's $\alpha = 0.87$) was adopted from the brief version of the Bergen Facebook Addiction Scale which has similarly good psychometric properties and also showed a good internal reliability (Park, 2022). The 5-point Likert-type scale (1 = very rarely, 5 = very often) consists of six items which are based on the six core addiction features of Facebook addiction (i.e., salience, conflict, tolerance, relapse, mood modification, withdrawal).

This study employed IBM SPSS 25.0 to conduct descriptive and correlation analyses, and Mplus 8.0 (Muthén, Muthén, 1998-2007) to test the hypothesized model of the relationships among study variables by using the structural equation model (SEM) technology. A confirmatory factor analysis was performed to evaluate whether items were loaded on the hypothesized factor. To evaluate the goodness of fit of the structural equation model, this study applied the following indices, chi-square statistic (χ^2), χ^2/df ratio, the Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI).

3. Discussion

The Integrative Pathways Model (IPM) which is usually used to elucidate the motivational aspects of social net working addiction was applied in this research (Billieux, 2015). There are three pathways which are proposed by IPM to account for the addiction formation. One of the pathway shows that the addiction is driven by obtaining relief and maintaining relationships with other people. In this research, IPM helps to explain that TikTok users' anxiety leads to their desire for obtaining relief which results in TikTok addiction.

Anxiety is a type of personality trait which is stable and sustaining. With this trait, people are prone to experience high anxiety and tension in stressful situations. In recent years, college students' study, employment and economic pressure may induce their anxiety (Islam et al., 2020) which enables them to engage in more social media use (Anashkina et al. 2022; Djumanova, 2022). A volume of studies showed there is a robust relationship when it comes to anxiety and social media addiction (Arikan et al., 2022; Yang, Hamed, 2022). The explanation for this relationship can be that anxious people use TikTok to relieve themselves. Meanwhile, college students are not capable of thinking critically in the context of new media (Muzykant et al., 2023), which will lead to a number of destructive consequences in the field of youth (Demidov, Lomteva, 2022), such as their addictive behavior (Alekseeva, 2021).

Besides, in the context of Covid-19 pandemic, social media can assist students to acquire knowledge conveniently (Chelysheva, Mikhaleva, 2023; Zulli, 2020). TikTok with increasing multi-functionality also intensifies the relationship between anxiety and users' addiction. It is an advanced and useful social media tool that allows users to obtain information, study online, kill time and interact with others. There is no doubt that people are likely to use TikTok when they feel stressed and anxious which leads to addictive behaviors. Based on the above literature review, the hypothesis is as follows:

H1: Anxiety is connected to TikTok addiction

Intensity of social media use refers to people's level of social media engagement, including users' amount of time they spent on social media, the number of online friends, and the frequency of social media use (Li et al, 2019). Various short videos on TikTok platform attract users by interactivity elements (Shesterina, Zvereva, 2023). Thus, university students tend to seek more entertainment through social media use which increases their use intensity when they feel anxious in reality (Park, 2022). Moreover, university students prefer to use social media tool as important means of interaction and studying (Muryukina, Gorbatkova, 2022). Due to the uncertainty of the pandemic which cause their anxiety, they are more likely to use TikTok to share information and interact with others to maintain their friendship. Hence, this situation causes the usage intensity of TikTok to increase.

Meanwhile, high intensity of social media use was found to be the main cause of addictive behaviors (Brailovskaia et al., 2020). Many university students frequently engage themselves in intensive social interaction on TikTok by posting updates in their daily life and by commenting updates of other members. The online exchange may contribute to their feelings of connectedness, social support and belonging (Li et al., 2015; Luchtefeld, Jordan, 2022), which helps to strengthen their use intensity (Park, 2022). University students are more likely to become addictive when they spend a large amount of time on TikTok. Hence, the hypothesis is as follows:

H2: Intensity of TikTok use mediates the connections between anxiety and TikTok addiction

Because of the concern as well as fears of the pandemic, the public has to spend a lot of time focusing on the relevant information online which is posted on different platforms (Frolova, Rogach, 2022). University students are reported to have addictive TikTok use. Surprisingly, the mean number of hours spent on TikTok per day was 106.69 (Smith, Short, 2022). Although TikTok use provides a wide range of benefits, people's overuse can be detrimental to physical and psychological health, social relationship and academic performance (Atiş Akyol et al., 2021). Initial qualitative research has shown that TikTok may lead to anxiety and depression and the content can be addicting to young people (Chen, 2019).

Some researchers (Yee, 2006) described escapism as using the online environment to avoid thinking about real life problems while other researcher defined escapism as a behavior employed to distract himself from real life problems (Young et al., 2017). Escapism was considered as a motivation of social media addictive use. Researches indicate that engaging in problematic social media use to escape may play an important role in social media addictive use (Atiş Akyol et al., 2017). Moreover, users' intensity of TikTok will increase when they intend to use this app escape (Park, 2022). However, researchers have investigated addictive social media use but they did not investigate general TikTok use (Young et al., 2017). This limits the conclusions that can be drawn regarding escapism and addiction within TikTok use, indicating a gap in the literature. Based on the above literature review, the hypotheses are as follows:

H3: Escapism mediates the connections between Anxiety and TikTok addiction;

H4: Escapism and Intensity of TikTok use sequentially mediate the connections between Anxiety and TikTok addiction.

The hypothesized model was depicted in [Figure 1](#). The present study endeavored to test whether the relationship between anxiety and TikTok addiction and the mediation effects of escapism and intensity of TikTok use.

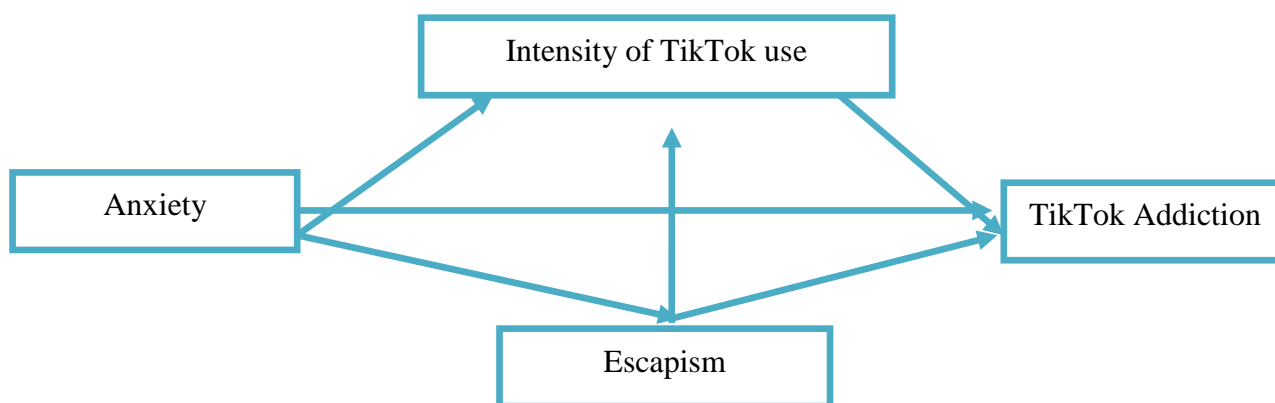


Fig. 1. The Hypothesized Model

4. Results

Descriptive and correlation analysis were performed by the Statistical Package for the Social Sciences (SPSS) software 25.0. [Table 1](#) presents the descriptive and Pearson correlation results for the four research variables in the hypothesized model. Skewness and kurtosis scores ranged from -0.44 to 1.09. The skewness coefficients of study variables were smaller than 2 and kurtosis were smaller than 7, which indicated that all variables were relatively normally distributed. Based on the precondition of SEM analysis ([Hu, Bentler, 1999](#)). Correlation analysis showed that all study variables were positively correlated.

Table 1. Descriptive and Pearson Correlations for all Variables

Variables	M	SD	Skewness	Kurtosis	Correlation			
					1	2	3	3
Anxiety	46.60	9.06	0.03	0.08	0.904***			
Escapism	2.94	0.56	-0.05	1.09	0.045	0.761***		
TikTok use intensity	3.12	0.59	0.47	-0.13	0.488	0.289	0.830***	
TikTok addiction	3.30	0.73	0.03	-0.44	0.586	0.002	0.622	0.858***

Notes: N=420; *** $p < 0.001$.

The confirmatory factor analysis was conducted to verify the measurement model. According to previous researchers ([Hu, Bentler, 1999](#)), $\chi^2/df < 3$, RMSEA < 0.08 , SRMR < 0.10 , TLI > 0.90 and CFI > 0.90 , the model is acceptable. The results of confirmatory factor analysis showed that $\chi^2/df = 2.897$, RMSEA = 0.067, SRMR = 0.040, TLI = 0.956, CFI = 0.965, suggesting that the measurement model was adequate.

[Figure 2](#) illustrates the path diagram of the final model, which exhibited satisfactory goodness of fit ($\chi^2/df = 2.897$, RMSEA = 0.067, SRMR = 0.040, TLI = 0.956, CFI = 0.965). The path diagram of the final model was shown in [Figure 2](#). The pathways of anxiety- escapism ($\beta = 0.460$, $p < 0.001$), anxiety- intensity of TikTok use ($\beta = 0.662$, $p < 0.001$), anxiety- TikTok addiction ($\beta = 0.338$, $p < 0.001$), escapism-TikTok addiction ($\beta = 0.343$, $p < 0.001$), intensity of TikTok use-TikTok addiction ($\beta = 0.456$, $p < 0.001$), escapism-TikTok addiction ($\beta = 0.261$, $p < 0.001$) were all significant.

Bias-corrected percentile bootstrap procedure was used to test the mediation effect with 1000 bootstrap samples was generated using random sampling with replacement. The results were shown in [Table 2](#). Escapism and intensity of TikTok use were mediators of the relation between anxiety and TikTok addiction. The 95 % confidence interval of the mediation effect of escapism ($\beta = 0.170$) between anxiety and TikTok addiction was [0.024, 0.210], accounting for 41.28 % of the total effect.

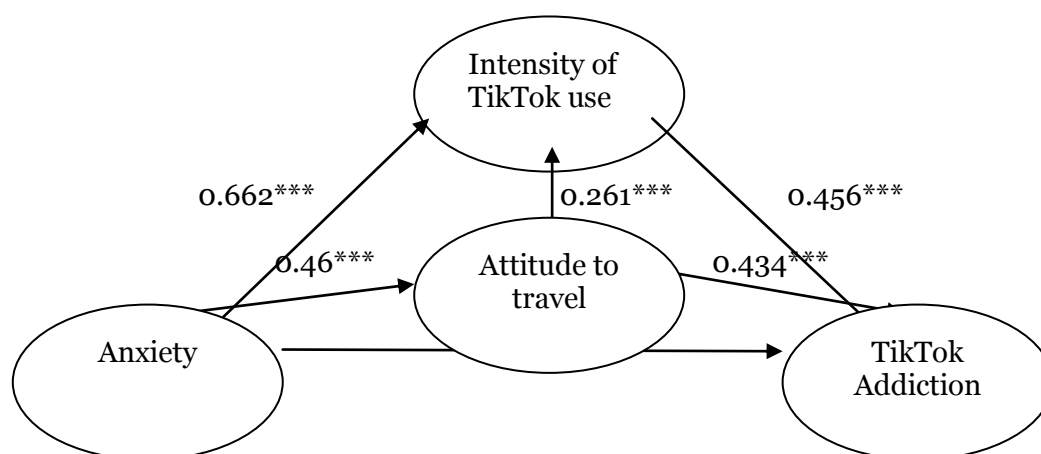


Fig. 2. Path Diagram of the Final Model

Notes: *** $p < 0.001$

The 95 % confidence interval of the mediation effect of intensity of TikTok use ($\beta = 0.21$) between anxiety and TikTok addiction was [0.140, 0.300], accounting for 51.6 % of the total effect.

The 95 % confidence interval of the serial mediation effect of escapism and intensity of TikTok use ($\beta = 0.05$) was [0.007, 0.210], accounting for 11.5 % of the total effect.

Table 2. The Mediation Effect of Escapism and Intensity of TikTok Use.

Path	Mediation effect	95% Confidence Interval	
		Lower	Upper
Anxiety → Escapism → TikTok Addiction	0.17***	0.024	0.210
Anxiety → Intensity of TikTok use → TikTok Addiction	0.21***	0.140	0.300
Anxiety → Escapism → Intensity of TikTok use → TikTok Addiction	0.05***	0.007	0.210

Note: ns not-significant; ** $p < 0.01$; *** $p < 0.001$

5. Conclusion

The present study aimed to investigate the relationship between anxiety, escapism, intensity of TikTok use and TikTok addiction among TikTok users of Chinese university students after China has relaxed its controls of the Covid-19 pandemic policy. Results showed significant correlations between study variables. The final mediation model supported all the hypotheses.

Findings of correlation analysis supported that anxiety was positively related to TikTok addiction. This finding is consistent with a battery of previous studies (Ge et al., 2023). For example, some researchers (Yue et al., 2022) found a higher level of anxiety caused smart phone addiction among adolescents. Other researchers (Ran et al., 2022) also reported a significant positive correlation between social anxiety and mobile phone addiction through a three-level meta-analytic model.

Besides, the simple partial mediation effect of escapism in the association between anxiety and TikTok addiction is in congruent with previous studies (Atış Akyol et al., 2021). Moreover, intensity of TikTok use partially mediates the relationship between escapism and TikTok addiction which is also consistent with previous research that use intensity plays an mediator in the relationship between the fear of missing out and depression (Park, 2022). Individuals tend to spend a large amount of time on TikTok when they feel anxious during the pandemic which makes them have addictive behaviors (Brailovskaia et al., 2020). Based on IPM, anxiety makes TikTok users escape from the reality and engage themselves in TikTok use, eventually leading to TikTok addiction.

In summary, intensity of TikTok use caused by escaping from the reality is an essential part of the TikTok addiction process which is consistent with IPM. The serial mediation model was proposed and supported in the context of COVID-19, which suggests that even if China has relaxed its controls of the Covid-19 pandemic policy, anxiety induced by COVID-19 may still affect a series of cognitive functions and ultimately lead to TikTok addiction. This also suggests that university

students are supposed to adopt an appropriate way to relieve anxiety, such as spending more time with friends and family.

This study has several limitations. Firstly, this study mainly focused on university students. Future studies can involve in more people with different ages. Secondly, this study is cross-sectional in design, which makes it unable to uncover causal relationships between study variables. Future studies can employ longitudinal design to investigate causal relation between study variables.

References

- Alekseeva, 2021 – Alekseeva, L.V. (2021). Developing critical thinking skills of students in the media environment. *Media Education*. 17(2): 189-200.
- Anashkina et al., 2022 – Anashkina N. Shmatko, M. Anashkina, S. (2022). Media-Communicative occupational guidance based on the platform of online game. *Media Education*. 18(1): 14-23. DOI: 10.13187/me.2022.1.14
- Arikan et al., 2022 – Arikan, G., Acar, I.H., Ustundag-Budak, A.M. (2022). A two-generation study: The transmission of attachment and young adults' depression, anxiety, and social media addiction. *Addictive Behaviors*. 124: 107-109. DOI: <https://doi.org/10.1016/j.addbeh.2021.107109>
- Atış Akyol et al., 2021 – Atış Akyol, N., Atalan Ergin, D., Krettmann, A.K., Essau, C.A. (2021). Is the relationship between problematic mobile phone use and mental health problems mediated by fear of missing out and escapism? *Addictive Behaviors Reports*. 14: 100384. <https://doi.org/10.1016/j.abrep.2021.100384>
- Billieux et al., 2015 – Billieux, J., Maurage, P., Lopez-Fernandez, O., Kuss, D.J., Griffiths, M.D. (2015). Can disordered mobile phone use be considered a behavioral addiction? *An Update on current evidence and a comprehensive model for future research*. *Current Addiction Reports*. 2(2): 156-162. DOI: 10.1007/s40429-015-0054-y
- Brailovskaia et al., 2020 – Brailovskaia, J., Bierhoff, H.W., Rohmann, E., Raeder, F., Margraf, J. (2020). The relationship between narcissism, intensity of Facebook use, Facebook flow and Facebook addiction. *Addictive Behaviors Reports*. 11: 100265. DOI: 10.1016/j.abrep.2020.100265
- Chelysheva, Mikhaleva, 2023 – Chelysheva, I., Mikhaleva, G. (2023). University students' readiness for teaching media competence. *Media Education*. 19(1): 17-23.
- Chen, 2019 – Chen, A. (2019). From attachment to addiction: The mediating role of need satisfaction on social networking sites. *Computers in Human Behavior*. 98: 80-92. DOI: <https://doi.org/10.1016/j.chb.2019.03.034>
- Demidov, Lomteva, 2022 – Demidov, A., Lomteva, E. (2022). Behavior of young people in the media environment. *Media Education*. 18(4): 552-561. DOI: 10.13187/me.2022.4.552
- Djumanova, 2022 – Djumanova, S. (2022). Media consumption and media literacy level of Uzbek youth. *Media Education*. 18(2): 157-168. DOI: 10.13187/me.2022.2.157
- Frolova, Rogach, 2022 – Frolova, E., Rogach, O. (2022). Media competence of modern students: problems and possibilities of its formation in the system of higher education. *Media Education*. 18(1): 46-54.
- Ge et al., 2023 – Ge, J., Liu, Y., Zhang, A., Shu, T. (2023). The relationship between anxiety and smartphone addiction in the context of Covid-19: The mediating effect of attentional control and executive dysfunction. *Heliyon*. 9(2): e13273. DOI: <https://doi.org/10.1016/j.heliyon.2023.e13273>
- Hu, Bentler, 1999 – Hu, L.T., Bentler, P.M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model*. 6: 1-55.
- Islam et al., 2020 – Islam, M.S., Sujana, M.S.H., Tasnim, R., Sikder, M.T., Potenza, M.N., van Os, J. (2020). Psychological responses during the COVID-19 outbreak among university students in Bangladesh. *PLoS One*. 15(12): e0245083. DOI: 10.1371/journal.pone.0245083
- Li et al., 2015 – Li, X., Chen, W., Popiel, P. (2015). What happens on Facebook stays on Facebook? The implications of Facebook interaction for perceived, receiving, and giving social support. *Computers in Human Behavior*. 51: 106-113. DOI: <https://doi.org/10.1016/j.chb.2015.04.066>
- Li et al., 2019 – Li, B., Wu, Y., Hao, Z., Yan, X., Chen, B. (2019). The effects of trust on life satisfaction in the context of WeChat use. *Telematics and Informatics*. DOI: <https://doi.org/10.1016/j.tele.2019.101241>
- Luchtefeld, Jordan, 2022 – Luchtefeld, C., Jordan, K.D. (2022). Individual differences influencing the relationship between online social support and addictive use of social media. *Telematics and Informatics Reports*. 8: 100025. DOI: <https://doi.org/10.1016/j.teler.2022.100025>

Mordecai, 2023 – *Mordecai, C.* (2023). Anxiety: A multimodal discourse analysis of narrations of anxiety on TikTok. *Computers and Composition*. 67: 102763. DOI: <https://doi.org/10.1016/j.compcom.2023.102763>

Muryukina, Gorbatkova, 2022 – *Muryukina, E., Gorbatkova, O.* (2022). Media educational technologies in teaching schoolchildren and students in the age of digital transformation. *Media Education*. 18(4): 617-623. DOI: [10.13187/me.2022.4.617](https://doi.org/10.13187/me.2022.4.617)

Muthén, 1998-2007 – *Muthén, L.K., Muthén, B.O.* (1998-2007). Mplus user's guide. 5th ed. Los Angeles: Muthén & Muthén.

Muzykant et al., 2023 – *Muzykant, V., Burdovskaya, E., Muzykant, E., Muqsith, M.A.* (2023). Digital threats and challenges to netizens generation media education (Indonesian Case). *Media Education*. 19(1): 97-106.

Park, 2022 – *Park, H.J.* (2022). Impact of Facebook usage intensity on fear of missing out and depression: Moderated mediating effect of Facebook usage behaviour. *Telematics and Informatics*. 74: 101878. DOI: <https://doi.org/10.1016/j.tele.2022.101878>

Ran et al., 2022 – *Ran, G., Li, J., Zhang, Q., Niu, X.* (2022). The association between social anxiety and mobile phone addiction: A three-level meta-analysis. *Computers in Human Behavior*. 130: 107198. DOI: <https://doi.org/10.1016/j.chb.2022.107198>

Shesterina, Zvereva, 2023 – *Shesterina, A., Zvereva, E.* (2023). Means of emotional impact on the audience in user media content. *Media Education*. 19(1): 179-189.

Smith, Short, 2022 – *Smith, T., Short, A.* (2022). Needs affordance as a key factor in likelihood of problematic social media use: Validation, latent Profile analysis and comparison of TikTok and Facebook problematic use measures. *Addictive Behaviors*. 129: 107259. DOI: <https://doi.org/10.1016/j.addbeh.2022.107259>

Spielberger, Gorsuch, 1983 – *Spielberger, C.D. Gorsuch, R.L.* (1983). Manual for the State-Trait Anxiety Inventory (Form Y): Self-Evaluation Questionnaire. Palo Alto, CA: Consulting Psychologists Press.

Stănculescu, Griffiths, 2022 – *Stănculescu, E., Griffiths, M.D.* (2022). Social media addiction profiles and their antecedents using latent profile analysis: The contribution of social anxiety, gender, and age. *Telematics and Informatics*. 74: 101879. DOI: <https://doi.org/10.1016/j.tele.2022.101879>

Wen et al., 2016 – *Wen, Z., Geng, X., Ye, Y.* (2016). Does the use of WeChat lead to subjective well-being?: The effect of use intensity and motivations. *Cyberpsychology Behav. Soc. Netw.* 19: 587-592.

Yang, Hamed, 2022 – *Yang, Y., Hamed, M.A.* (2022). The Addiction use of wechat among young adults in China during the Covid-19 pandemic. *Media Education*. 18(4): 645-655. DOI: [10.13187/me.2022.4.645](https://doi.org/10.13187/me.2022.4.645)

Young et al., 2017 – *Young, N.L., Kuss, D.J., Griffiths, M.D., Howard, C.J.* (2017). Passive Facebook use, Facebook addiction, and associations with escapism: An experimental vignette study. *Computers in Human Behavior*. 71: 24-31. DOI: [10.1016/j.chb.2017.01.039](https://doi.org/10.1016/j.chb.2017.01.039)

Yue et al., 2022 – *Yue, Y., Aibao, Z., TingHao, T.* (2022). The interconnections among the intensity of social network use, anxiety, smartphone addiction and the parent-child relationship of adolescents: A moderated mediation effect. *Acta Psychologica*. 231: 103796. DOI: <https://doi.org/10.1016/j.actpsy.2022.103796>

Zhang et al., 2022 – *Zhang, Y., Hou, Z., Wu, S., Li, X., Hao, M., Wu, X.* (2022). The relationship between internet addiction and aggressive behavior among adolescents during the COVID-19 pandemic: Anxiety as a mediator. *Acta Psychologica*. 227: 103-112. DOI: <https://doi.org/10.1016/j.actpsy.2022.103612>

Zulli, Zulli, 2020 – *Zulli, D., Zulli, D.J.* (2020). Extending the Internet meme: Conceptualizing technological mimesis and imitation publics on the TikTok platform. *New Media & Society*. 229.