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Turkish Version of the Generative AI Dependency Scale: Validity, Reliability, and Psychometric Properties

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Abstract

With the increasing prevalence of generative artificial intelligence use, addiction behaviors toward this technology have begun to attract the interest of researchers. Furthermore, addressing the multidimensional structure of generative artificial intelligence addiction through context-specific measurement tools can provide significant contributions for both researchers and practitioners. This study aims to adapt the multidimensional Generative Artificial Intelligence Dependency Scale (GAIDS) for a Turkish sample and examine its psychometric properties. The research sample consists of a total of 411 Turkish participants, comprising 341 women and 70 men. Confirmatory factor analysis validated the three-factor structure consistently with the original scale: Cognitive Preoccupation, Negative Consequences, and Withdrawal symptoms. The GAIDS exhibited a high level of internal consistency ($\alpha = 0.88$; $\omega = 0.89$). Correlation analyses conducted to examine criterion validity revealed significant positive relationships between the GAIDS and the Short Form of Young's Internet Addiction Test and the Artificial Intelligence Chatbot Addiction Scale. These findings indicate that the Turkish adaptation of the GAIDS is a valid and reliable measurement tool for assessing generative artificial intelligence addiction.

Key Words

Artificial intelligence • Generative artificial intelligence addiction • Reliability • Validity

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Introduction

Humanity has continuously transformed its way of understanding and shaping the world through the tools it has developed. With the proliferation of the internet and digital technologies, not only our daily habits but also our mental processes and social interaction patterns have entered a period of profound redefinition (Karakose et al., 2022; Montag & Diefenbach, 2018). Today, humanity faces the limitless possibilities offered by generative artificial intelligence, one of the most sophisticated stages of this evolution. However, every major technological convenience brings about a new adaptation process and, occasionally, situations that exceed the boundaries of this comfort (Karakose et al., 2023). The uncontrolled realization of such technological integration paves the way for various psychological harms, such as technostress, increased cognitive load, and loss of self-regulation (Montag & Diefenbach, 2018). One of the most striking of these negative outcomes is addiction, where the individual's relationship with technology transcends healthy boundaries and reaches a pathological dimension. The concept of addiction, which was predominantly associated with chemical substances in the past, emerges today as a behavioral pattern that has transformed within the interactive platforms provided by the digital world (Brand et al., 2021; Kuss & Griffiths, 2017).

In the present day, addiction has assumed a multi-layered structure that is no longer limited solely to chemical substance use. Current literature addresses this condition as a repetitive behavioral pattern characterized by symptoms such as the weakening of willpower, constant mental preoccupation with the relevant action, increasing the 'dose' to achieve the same level of satisfaction (tolerance), and the distress that arises in cases of withdrawal (American Psychiatric Association, 2013; Sherer & Levounis, 2022). In particular, the inclusion of gambling disorder among clinical diagnoses served as a turning point in the legitimization of the concept of behavioral addiction, paving the way for the expansion of the addiction framework toward the digital world (Grant et al., 2010).

Smart devices and the internet, which have become an integral part of daily life, have introduced concepts such as technology addiction (Young, 1998) and problematic internet use (Davis, 2001) into the literature. This phenomenon, defined by Young (1998) as an uncontrollable condition that disrupts an individual's social, academic, or professional life, is examined through a broader perspective today. Research confirms that excessive technology use is directly correlated with low psychological well-being, depressive symptoms, and anxiety (Güraslan Baş & Karatay, 2020; Popescu et al., 2022). Particularly during emerging adulthood, weaknesses in self-regulation mechanisms are observed to increase psychological distress through social media addiction and the fear of missing out (Koç et al., 2023). Elements such as instantaneous feedback provided by digital platforms, variable reward mechanisms, and uninterrupted accessibility stimulate the brain's reward system, triggering the behavioral addiction cycle (Brand et al., 2021).

Today, generative artificial intelligence, which has become one of the most influential components of this digital system, has initiated a new era in which technology transcends being merely a tool and transforms into a cognitive partner (Goh et al., 2025). Unlike traditional software, generative artificial intelligence (GenAI) tools establish an interactive partnership with the user through their capacity to produce text, code, and visual content. Although the dynamism and human-like interaction capabilities of these systems hold the potential to increase productivity and reduce cognitive load, they invite users into a deeper psychological bond than ever before (Alharthi, 2025; Campbell, 2021). This technological invitation has brought about a new behavioral, cognitive,

and emotional addiction risk—termed Generative AI Dependency—characterized by a state of cognitive preoccupation, loss of control in daily life or over technological devices, and various withdrawal symptoms (Goh et al., 2025; Zhou & Zhang, 2024).

Generative artificial intelligence addiction serves as a harbinger of a serious academic crisis, particularly in groups where performance and success expectations are high, such as in higher education. Especially the time pressure experienced in postgraduate education pushes students into a kind of productivity trap; individuals who feel academic control deprivation (Li & Jiang, 2025; Revesai, 2025) tend to take refuge in GenAI systems instead of managing the process themselves. Among young adults and teacher candidates, the acceptance of GenAI is shaped by personality traits and ethical uncertainties, and this situation causes students to experience ethical drift by distancing themselves from academic integrity (Alagöz-Hamzaj, 2025; Hariyanto et al., 2026).

In this age, where digitalization has peaked and the orientation toward technology is intense, the interaction established with artificial intelligence does not remain limited to academic boundaries; it can also act as a trigger for existential dissatisfaction by shaking the individual's life balance. The literature indicates that the blurring of boundaries between the digital world and reality decreases life satisfaction and causes individuals to remain more vulnerable to uncertainties (Erdemir & Atik, 2025). Indeed, previous studies have clearly demonstrated that individuals with high levels of intolerance of uncertainty experience ruminative processes and fear-focused mental preoccupations, which negatively affect their cognitive well-being and quality of life (Satıcı, 2022; Satıcı et al., 2020). In this context, it is considered that the addiction felt toward generative artificial intelligence systems passes through similar psychological processes and traps the individual's life satisfaction into a digital vortex.

Current literature indicates that generative artificial intelligence addiction is not merely comprised of excessive use but is a complex psychological process in which an individual’s autonomy is completely delegated to generative AI—in other words, to technological systems (Goh et al., 2025). This cycle creates a paradoxical effect on users: while the perceived usefulness of GenAI fuels addiction, it simultaneously triggers 'AI fear'—a feeling of cognitive decline and the risk of job loss (Liu, 2025). Research shows that when GenAI support is withdrawn, individuals' creativity levels do not simply return to their starting point; rather, they decline further, suggesting that users sustain a 'creative scarring' (Zhou et al., 2025). Furthermore, over-reliance on these tools leads to homogenization in content and weakens the 'muscles' for generating original ideas (Alharthi, 2025).

The interactive and personalized new world offered by generative AI technology today calls into question the ability of classical technology addiction scales to measure this new phenomenon (Goh et al., 2025). Existing scales remain limited in defining the cognitive and emotional relationship an individual develops with generative AI, making it difficult to properly conceptualize this specific type of addiction (Young, 1998; Kwon et al., 2013). Since traditional measurement tools usually focus on duration of use or access, they carry the risk of overlooking the dialogue-based relationship and the human-machine social bond established by generative AI. Consequently, there is a need for highly sensitive measurement tools in literature particularly in the fields of psychiatry and psychological counseling—that can both capture cultural nuances and encompass the structure of generative AI systems (Erdemir & Atik, 2025).

In this context, with the aim of filling this gap in the literature, the Generative Artificial Intelligence Dependency Scale (GAIDS), developed by Goh et al. (2025), provides a holistic tool for measuring this new generation of addiction. It is considered essential to bring this scale—which demonstrates the motivational,

behavioral, and psychological correlates of GenAI addiction through dimensions such as mental preoccupation, negative consequences, and withdrawal with high reliability and validity in its original study—into the Turkish culture and language. Accordingly, this study aims to adapt the Generative Artificial Intelligence Dependency Scale to Turkish culture and to comprehensively determine its psychometric properties in Turkish sample.

Method

Participants

A total of 411 university students living in different provinces of Türkiye, with ages ranging from 18 to 49, were included in the study (M= 22.34, SD= 4.49). The participants comprised 341 women (83.0%) and 70 men (17.0%). Within the research sample, there were 289 participants (70.3%) residing in city centers, 77 (18.7%) in district centers, and 45 (10.9%) in rural areas. When the participants' proficiency in generative artificial intelligence use was examined, it was observed that 16 people (3.9%) had very low, 78 (19.0%) low, 275 (66.9%) medium, and 42 (10.2%) high levels of proficiency. Regarding the distribution of generative artificial intelligence tools used by the participants, ChatGPT was the most used tool with 380 users (92.5%), followed by Copilot (113, 27.5%), NotebookLM (90, 21.9%), Claude (13, 3.2%), and Genspark (3, 0.7%), respectively. When the distribution of the participants' artificial intelligence subscription status was analyzed, it was observed that 248 people (60.3%) did not have any subscription, 11 (2.7%) used a subscription belonging to someone else, 100 (24.3%) had their own subscription, and 82 (20%) used artificial intelligence tools through a school or institutional subscription.

Procedure

Initially, permission to translate and adapt the scale into Turkish was obtained via e-mail from the authors of the original version (Goh et al., 2025). After receiving approval from the corresponding author, an application was submitted to the university ethics committee (Necmettin Erbakan University Social and Human Sciences Scientific Research Ethics Committee [2026-16]), and the data collection process was initiated following ethical approval. The translation and adaptation procedures were carried out in line with the guidelines for test adaptation published by the International Test Commission (ITC, 2018).

In the first stage, the scale was translated from English into Turkish. The preliminary translation was examined based on the feedback of three independent experts in translation and interpretation, and discrepancies between translations were discussed and reconciled. Subsequently, the Turkish version was back-translated into English by two professional linguists. In total, five independent translators, excluding the authors, participated in the forward and backward translation stages. The original version and the back-translated version were then compared carefully to identify and resolve any inconsistencies. The translated draft was later reviewed by three experts in psychological counseling, and their feedback was incorporated. As a result, the final set of items for the Turkish version of the GAIDS was established. To assess the clarity, comprehensibility, and cultural appropriateness of the translated items, a pilot study was conducted with 11 undergraduate students from the English Language Teaching department who were proficient in both English and Turkish. Based on their feedback, minor wording revisions were made to several items before proceeding to the main validation study.

Data were collected online using Google Forms distributed through platforms such as e-mail, WhatsApp, and social media. Participation was anonymous, and all participants were informed that their responses would be used solely for scientific purposes and kept confidential. Participants were also informed that they could withdraw from

the study at any time. The data collection instruments included a demographic information form, the Turkish adaptation of the Generative Artificial Intelligence Dependency Scale, the Internet Addiction Scale, and the Artificial Intelligence Chatbot Addiction Scale. Criterion validity was examined by analyzing the correlations between the adapted GAIDS and the two theoretically related constructs.

Measures

Demographic Information Form

Information regarding the participants' gender, place of residence, level of generative artificial intelligence use proficiency, generative artificial intelligence tools utilized, and artificial intelligence subscription status was collected through a demographic information form developed by the researchers.

Generative Artificial Intelligence Dependency Scale

The Generative Artificial Intelligence Dependency Scale (GAIDS), adapted into Turkish in this study, was developed by Goh et al. (2025) to evaluate individuals' levels of dependency on generative artificial intelligence. The GAIDS is based on Goodman's (1990) behavioral addiction framework. The scale consists of 11 items, which are rated on a five-point Likert-type scale. Each item is scored between 1 (strongly disagree) and 5 (strongly agree). Total scores or subscale scores can be calculated from the instrument. The scale comprises three subdimensions: cognitive preoccupation, negative consequences, and withdrawal. It includes items such as 'My decisions are mostly influenced by generative artificial intelligence' and 'I feel a sense of disconnection when I cannot access generative artificial intelligence.' The psychometric properties of the scale exhibited a high level of internal consistency (Cronbach α =.92-.93) in the original study (Goh et al., 2025). In the present study, Cronbach's alpha internal consistency coefficient was found to be .88.

Young's Internet Addiction Test

The Short Form of Young's Internet Addiction Test (YIAT-SF) was developed by Young (1998) and transformed into a short form by Pawlikowski et al. (2013). The Turkish adaptation of the scale was conducted by Kutlu et al. (2016). The scale consists of 12 items and has a unidimensional structure, with items rated on a five-point Likert-type scale. Each item is scored between 1 (never) and 5 (always), and higher scores obtained from the scale indicate a higher level of internet addiction. The scale includes items such as 'Do you feel depressed, moody, or nervous when you are off-line?' The Cronbach's alpha internal consistency coefficient was reported as .91 among university students in the Turkish adaptation study (Kutlu et al., 2016). In the present study, Cronbach's alpha internal consistency coefficient was found to be .88.

Artificial Intelligence Chatbot Addiction Scale

The Artificial Intelligence Chatbot Addiction Scale was developed by Zhang et al. (2025) to measure individuals' addiction levels toward AI-based chatbots and was adapted into Turkish by Yıldız-Durak and Balıkçı (2025). The scale consists of 8 items and has a unidimensional structure, with items rated on a seven-point Likert-type scale. Each item is scored between 1 (strongly disagree) and 7 (strongly agree), and higher scores indicate a higher level of addiction to AI chatbots. In the original form of the scale, the Cronbach's alpha reliability coefficient was reported as .88 (Zhang et al., 2025). In the Turkish adaptation study, the Cronbach's alpha internal

consistency coefficient was calculated as .90 (Yıldız-Durak & Balıkçı, 2025). In the present study, Cronbach's alpha internal consistency coefficient was found to be .91.

Data Analysis

Confirmatory Factor Analysis (CFA) was performed to validate the structure of the Turkish adaptation of the GAIDS. The CFA was conducted using the maximum likelihood estimation method. To evaluate model fit, the chi-square ($\chi 2$) test, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Comparative Fit Index (CFI) were utilized. Analyses were performed using Jamovi 2.6.13. The following criteria were taken as a basis for evaluating model fit: the $\chi 2$/sd ratio being less than 5, both RMSEA and SRMR values being below .08, and the CFI value being at least .90 (Hu & Bentler, 1999; Kline, 2015). To examine the internal consistency of the scale and its subscales, Cronbach's alpha and McDonald's Omega coefficients were calculated. According to the criteria specified by Hair et al. (2010), alpha values of .60 and above are acceptable, while values of .70 and above indicate a good level of reliability. To evaluate criterion-related validity, correlations between the Generative Artificial Intelligence Dependency Scale, the Short Form of Young's Internet Addiction Test (YIAT-SF), and the Artificial Intelligence Chatbot Addiction Scale were examined using Pearson correlation analysis. These scales were selected due to their theoretical relationships and strong psychometric properties. Specifically, while the YIAT-SF measures the general level of internet addiction, the Artificial Intelligence Chatbot Addiction Scale assesses addiction to AI-based chatbots; both constructs are theoretically related to generative artificial intelligence addiction.

Results

Confirmatory Factor Analysis

The multi-factor structure of the GAIDS was tested using CFA. The model exhibited adequate fit indices ($\chi 2$/sd = 3.03, p <0.01, CFI = 0,96; RMSEA = 0,07; TLI = 0.95; SRMR = 0.04), and the three-factor structure of the GAIDS was confirmed. Factor loadings of the items were observed to range between .31 and .87 (Table 1). The fact that the obtained factor loadings were above .30 indicates that these values are at an adequate level (Seçer, 2015). The AVE and CR findings indicated that the first and third factors demonstrated acceptable convergent validity and composite reliability, whereas the second factor yielded relatively low values.

Table 1

Descriptive statistics for items, item-total correlations and factor loadings

	Item	M	SD	Item-total	Std. β	Z	*p*	AVE	CR
Cognitive Preoccupation	1	2.90	1.00	0.53	.62	13.01	<.01	.58	.80
	2	2.56	1.10	0.67	.86	19.85	<.01		
	3	2.42	1.08	0.63	.78	17.44	<.01		
Negative Consequences	4	2.40	0.95	0.32	.31	5.84	<.01	.38	.68
	5	2.56	1.07	0.66	.79	17.38	<.01		
	6	2.33	1.02	0.65	.78	17.29	<.01		
	7	2.62	1.02	0.37	.42	8.24	<.01		
Withdrawal	8	2.16	0.97	0.73	.86	21.24	<.01	.64	.88
	9	2.07	0.92	0.73	.87	21.41	<.01		
	10	2.20	1.04	0.67	.73	16.40	<.01		
	11	1.89	0.86	0.65	.73	16.41	<.01		

Internal Consistency and Criterion-Related Validity

Internal consistency analyses were conducted to evaluate the reliability of the GAIDS and its subscales. The total Cronbach's alpha coefficient of the scale was calculated as .88, and the McDonald's Omega coefficient was .89, indicating a high level of internal consistency. Cronbach's alpha coefficients for the subscales ranged between .67 and.88, while Omega coefficients ranged between .68 and .89; this indicates a level of reliability ranging from acceptable to good across the dimensions.

The results obtained from the Pearson correlation analyses provide evidence supporting the criterion-related validity of the GAIDS. As expected, statistically significant positive correlations were found between the scale's total scores and the Short Form of Young's Internet Addiction Test (YIAT-SF) ($r = .51$, $p < .01$) and the Artificial Intelligence Chatbot Addiction Scale ($r = .72$, $p < .01$). These findings indicate that the scale exhibits significant relationships in the predicted direction with theoretically related constructs and that criterion-related validity is ensured (Table 2).

Table 2

Descriptive statistics, internal consistency, and criterion validity results

	M	SD	α	ω	YIAT	AICAS
1. Generative AI Dependency Scale	2.37	.69	.88	.89	.51**	.72**
2. Cognitive Preoccupation	2.63	.89	.79	.80	.44**	.65**
3. Negative Consequences	2.48	.72	.67	.68	.42**	.54**
4. Withdrawal	2.09	.82	.88	.89	.43**	.61**

*** p <.01, YIAT: Young's Internet Addiction Test, AICAS: Artificial Intelligence Chatbot Addiction Scale*

Discussion, Conclusion, and Recommendations

The main objective of this study was to adapt the GAIDS, developed by Goh et al. (2025), into Turkish culture and to comprehensively examine its psychometric properties. The goodness-of-fit indices demonstrated that the model met the widely accepted thresholds in the literature (Hu & Bentler, 1999; Satıcı et al., 2025), confirming the achievement of construct validity. The resulting three-dimensional structure exhibits a theoretical parallel with the Interaction of Person-Affect-Cognitive-Execution (I-PACE) model proposed by Brand et al. (2019).

The Preoccupation dimension of the scale represents cognitive biases, while the Withdrawal dimension represents emotional reactivity, suggesting that generative artificial intelligence may be perceived as more than a tool, potentially functioning as an external memory system or cognitive partner integrated into the individual's cognitive processes. Indeed, Li and Jiang (2025) stated that excessive engagement with artificial intelligence, particularly among university students, may be triggered by time pressure created by academic tasks and a sense of loss of academic control. In the present study, the fact that a remarkably high proportion of participants (92.5%) actively use these tools supports the rapid adoption process of artificial intelligence in the field of education, as highlighted by Alagöz-Hamzaj (2025). However, these findings also align with discussions in the literature regarding the potential for cognitive offloading (Liu, 2025) that accompanies the prevalence of such tools.

The reliability analyses of the scale exhibited a high level of internal consistency for the total score. These results demonstrate that the scale is a reliable instrument for assessing generative AI-related usage patterns within the Turkish sample. In particular, the reliability observed in the Withdrawal dimension suggests that the distress

or discomfort reported by individuals when they cannot access generative artificial intelligence tools is a measurable construct in the digital age. This situation is consistent with contemporary technological use frameworks (Kuss & Griffiths, 2017; Zhou & Zhang, 2024), which discuss intensive technology use as a potential coping mechanism.

In the criterion-related validity analyses, the positive correlations of GAIDS scores with the Internet Addiction Scale and the Artificial Intelligence Chatbot Addiction Scale confirm the validity of the nomological net. As established by these correlations, GAIDS shares theoretical ground with established technological dependency constructs. The instantaneous solutions offered by generative artificial intelligence tools reflect the challenges regarding digital life balance expressed by Erdemir and Atik (2025). Furthermore, they indicate that these tools, which function as digital partners, may lead to problematic usage patterns if not managed with self-regulation. As discussed by Revesai (2025), the immediate feedback and problem-solving capabilities provided by such tools can lead individuals to rely heavily on these systems, which may impact their sense of self-efficacy. Consequently, our findings reveal that the GAIDS is a distinctive and robust instrument for evaluating generative artificial intelligence-specific usage behaviors within Turkish culture.

Limitations and Recommendations

The findings obtained from this research should be evaluated within the framework of several limitations. First, the study consists predominantly of female participants, which constitutes a limitation in terms of gender representation. Conducting future research with more heterogeneous and balanced samples will provide significant contributions to the generalizability of the GAIDS. Second, since the data were collected based on self-report scales, the possibility of participants responding in accordance with social desirability bias should be considered. Furthermore, as this study was conducted with a cross-sectional design, it is not possible to draw definitive conclusions regarding the longitudinal change in artificial intelligence dependency or causal relationships.

In light of the empirical evidence obtained and current trends in the literature, it is recommended that psychological counselors working in higher education institutions monitor students who may rely excessively on artificial intelligence tools due to academic performance anxiety and a sense of academic control deprivation (Li & Jiang, 2025). Intervention programs could focus on promoting the balanced use of artificial intelligence to prevent excessive cognitive offloading (Liu, 2025), which may otherwise impact students' self-efficacy. Specifically, psycho-educational activities aimed at protecting students' digital autonomy against risks such as "creative scarring" (Revesai, 2025) should be explored. For future study, examining the longitudinal relationships of generative artificial intelligence dependency with variables such as academic integrity, ethical drift, and life satisfaction is of strategic importance for understanding the psychological effects of this phenomenon from the perspective of user behavior discussed by Zhou and Zhang (2024).

Conclusion

The findings obtained demonstrate that the Generative Artificial Intelligence Dependency Scale (GAIDS) exhibits a high level of validity and reliability within the Turkish adult sample. These findings suggest that the GAIDS can be utilized as a standardized assessment instrument in both academic and applied psychological settings, providing a robust foundation for future research on problematic artificial intelligence use.

Ethical Approval

Approval for the research protocol was granted by the Social and Human Sciences Scientific Research Ethics Committee of Necmettin Erbakan University (Approval Date: January 09, 2026; Decision No: 2026/16).

Author Contributions

This study was prepared with the collective contributions and collaborative work of the authors.

Conflict of Interest

The authors report no potential conflicts of interest with respect to the research, authorship, or publication of this study.

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References

Alagöz Hamzaj, Y. (2025). Generative AI acceptance among future educators: Personality and behavioral insights. *Education and Information Technologies*, *30*, 23165–23188. https://doi.org/10.1007/s10639-025-13678-3

Alharthi, S. A. (2025). Generative AI in game design: Enhancing creativity or constraining innovation? *Journal of Intelligence*, *13*(6), 60. https://doi.org/10.3390/jintelligence13060060

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Brand, M., & Potenza, M. N. (2021). How theoretical models can inspire advances in research and clinical practice: The example of behavioral addictions. *Sucht*, *67*(4), 187-194. https://doi.org/10.1024/0939-5911/a000721

Brand, M., Wegmann, E., Stark, R., Müller, A., Wölfling, K., Robbins, T. W., & Potenza, M. N. (2019). The Interaction of Person-Affect-Cognitive-Execution (I-PACE) model for Internet-use disorders: Update and clinical implications. *Neuroscience & Biobehavioral Reviews*, *104*, 1–10. https://doi.org/10.1016/j.neubiorev.2019.06.032

Erdemir, N., & Atik, S. (2025). Validity and reliability analysis of the Artificial Intelligence-Digital Life Balance Scale. *Psychiatric Quarterly*. Advance online publication. https://doi.org/10.1007/s11126-025-10167-1

Goh, A. Y. H., Hartanto, A., & Majeed, N. M. (2025). Generative artificial intelligence dependency: Scale development, validation, and its motivational, behavioral, and psychological correlates. *Computers in Human Behavior Reports, 20*, 100845. https://doi.org/10.1016/j.chbah.2025.100845

Grant, J. E., Potenza, M. N., Weinstein, A., & Gorelick, D. A. (2010). Introduction to behavioral addictions. *The American journal of drug and alcohol abuse*, *36*(5), 233-241. https://doi.org/10.3109/00952990.2010.491884

Gürarslan Baş, N., & Karatay, G. (2020). Effects of technology usage on the addictive behaviors of secondary school students. *Perspectives in Psychiatric Care*, *56*(4), 871-877. https://doi.org/10.1111/ppc.12504

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.

Hariyanto, D., Rafiq, A. A., Triyono, M. B., Murniati, D. E., Adinda, D., & Prihandini, T. F. (2026). Generative AI in Academia: How Engineering Students Perceive and Approach Ethical Challenges. *International Journal of Online & Biomedical Engineering*, *22*(2). https://doi.org/10.3991/ijoe.v22i02.59281

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

ITC Guidelines for Translating and Adapting Tests (Second Edition) (2018). *International Journal of Testing, 18*(2), 101-134, https://doi:10.1080/15305058.2017.1398166

Karakose, T., Demirkol, M., Yirci, R., Polat, H., Ozdemir, T. Y., & Tülübaş, T. (2023). A conversation with ChatGPT about digital leadership and technology integration: Comparative analysis based on human–AI collaboration. *Administrative Sciences*, *13*(7), 1-19. https://doi.org/10.3390/admsci13070157

Karakose, T., Tülübaş, T., & Papadakis, S. (2022). Revealing the intellectual structure and evolution of digital addiction research: An integrated bibliometric and science mapping approach. *International Journal of Environmental Research and Public Health*, *19*(22), 14883. https://doi.org/10.3390/ijerph192214883

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *World Journal of Psychiatry*, *14*(3), 1-17. https://doi.org/10.3390/ijerph14030311

Kutlu, M., Savcı, M., Demir, Y., Aysan, F. (2016). Turkish adaptation of Young's Internet Addiction Test-Short Form: A reliability and validity study on university students and adolescents. *Anadolu Psikiyatri Dergisi*, *17*(1), 69-76. https://doi.org/10.5455/apd.190501

Li, Y., & Jiang, J. (2025). How time pressure intensifies artificial intelligence addiction among graduate students: Exploring the role of academic control deprivation and self-reflexivity across engagement profiles. *Higher Education*. Advance Online Publication. https://doi.org/10.1007/s10734-025-01559-0

Liu, J. (2025). When usefulness fuels fear: The paradox of generative AI dependence and the mitigating role of AI literacy. *International Journal of Human–Computer Interaction*. Advance online publication. https://doi.org/10.1080/10447318.2025.2544006

Montag, C., & Diefenbach, S. (2018). Towards homo digitalis: important research issues for psychology and the neurosciences at the dawn of the internet of things and the digital society. *Sustainability*, *10*(2), 415. https://doi.org/10.3390/su10020415

Pawlikowski, M., Altstötter-Gleich, C., Brand, M. (2013). Validation and psychometric properties of a short version of Young's Internet Addiction Test. *Computers in Human Behavior, 29*(3), 1212-1223. https://doi.org/10.1016/j.chb.2012.10.014

Popescu, A. M., Balica, R. Ș., Lazăr, E., Buşu, V. O., & Vaşcu, J. E. (2022). Smartphone addiction risk, technology-related behaviors and attitudes, and psychological well-being during the COVID-19 pandemic. *Frontiers in psychology*, *13*, 997253. https://doi.org/10.3389/fpsyg.2022.997253

Revesai, Z. (2025). Generative AI dependency: The emerging academic crisis and its impact on student performance. *Cogent Education*, *12*(1), 2549787. https://doi.org/10.1080/2331186X.2025.2549787

Satıcı, B. (2022). Intolerance of uncertainty and mental wellbeing: Serial mediation by rumination and fear of COVID-19. *International Journal of Mental Health and Addiction, 20*(5), 2731–2742. https://doi.org/10.1007/s11469-020-00305-0

Satıcı, B., Göçet-Tekin, E., Deniz, M. E., & Satıcı, S. A. (2021). Adaptation of the Fear of COVID-19 Scale: Its association with psychological distress and life satisfaction in Turkey. *International Journal of Mental Health and Addiction, 19*(6), 1980–1988. https://doi.org/10.1007/s11469-020-00294-0

Satıcı, S. A., Okur, S., Yılmaz, F. B., & Grassini, S. (2025). Psychometric properties and Turkish adaptation of the artificial intelligence attitude scale (AIAS-4): evidence for construct validity. *BMC Psychology*, *13*(1), 297. https://doi.org/10.1186/s40359-025-02505-6

Seçer, İ. (2015). *Psychological test development and adaptation process: SPSS and LISREL applications*. Anı Publishing.

Sherer, J., Levounis, P. (2022). Technological addictions. *Current Psychiatry Reports*, *24*(9), 399-406. https://doi.org/10.1007/s11920-022-01351-2

Yıldız Durak, H. Y., Balıkçı, H. C. (2025). Turkish Adaptation of the Artificial Intelligence Chatbot Addiction Scale. In 3 rd International Conference on Trends in Advanced Research, Konya, Türkiye.

Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & Behavior*, *1*(3), 237-244. https://doi.org/10.1089/cpb.1998.1.237

Young, K.S. (1998). *Caught in the Net: How to recognize the signs of Internet addiction and a winning strategy for recovery.* John Wiley & Sons.

Zhang, X., Yin, M., Zhang, M., Li, Z., Li, H. 2025. The development and validation of an Artificial Intelligence Chatbot Dependence Scale. *Cyberpsychology, Behavior, and Social Networking, 28*(2), 126-131. https://doi.org/10.1089/cyber.2024.0240

Zhou, T., & Zhang, C. (2024). Examining generative AI user addiction from a CAC perspective. *Technology in Society, 78*, 102653. https://doi.org/10.1016/j.techsoc.2024.102653