RESEARCH ARTICLE

DOES ARTIFICIAL INTELLIGENCE TRIGGER DIGITAL ADDICTION? THE RELATIONSHIP BETWEEN AI-DRIVEN SOCIAL MEDIA ALGORITHMS AND SOCIAL MEDIA ADDICTION

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This study complies with research and publication ethics.

Abstract

The study examines the relationship between artificial intelligence (AI) and AI-powered social media algorithms. The study aims to determine the relationship between AI technologies integrated with algorithmic systems in social media environments and social media addiction, as well as the factors that could cause addiction among university students. In this context, semi-structured interviews were conducted with twelve university students selected through purposive sampling. The interview data were analysed using descriptive analysis methods in the *MAXQDA* programme, resulting in three main themes: AI and social media, algorithmic attraction in addiction, and AI-supported addiction. The study, which involved 84 codings, found that AI-supported algorithms extended the time people spent on social media and influenced the formation of echo chambers through the presentation of personalized content. Furthermore, it has been determined that the opportunities offered by AI technologies have accelerated the flow of content production and consumption, causing individuals to experience FOMO and a loss of time control, and that these technologies can cause feelings of loneliness and laziness in users. The study is significant in terms of understanding the impact of the relationship between AI and algorithms on social media environments and emphasising the necessity of conscious social media usage in this regard. Furthermore, the research contains information that supports public health against social media addiction. It is recommended that, in order to raise awareness among university students about how they can use these environments without developing addictive behaviour, the healthy ways of using these systems be incorporated in detail into the educational curriculum within the context of digital literacy.

Keywords: social media addiction, artificial intelligence (AI), algorithm, personalized content, communication research.

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ARAŞTIRMA MAKALESİ

YAPAY ZEKÂ DİJİTAL BAĞIMLILIĞI TETİKLER Mİ? YAPAY ZEKÂ VE SOSYAL MEDYA ALGORİTMALARININ BAĞIMLILIK İLİŞKİSİ

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Bu çalışma araştırma ve yayın etiğine uygun olarak gerçekleştirilmiştir.

Öz

Çalışma, yapay zekâ (AI) ve yapay zekâ destekli sosyal medya algoritmalarının bağımlılık ilişkisini konu almaktadır. Çalışma, sosyal medya ortamlarında algoritmik sistemler ile bütünleşen yapay zekâ teknolojilerinin sosyal medya bağımlılığı ile ilişkisini ve üniversite öğrencileri üzerinde bağımlılık oluşturabilecek etkenleri saptamayı amaçlamaktadır. Bu bağlamda, amaçlı örneklem yoluyla seçilen on iki üniversite öğrencisi ile yarı yapılandırılmış görüşme gerçekleştirilmiştir. Görüşme verileri *MAXQDA* programında betimsel analiz yöntemiyle çözümlenerek AI ve sosyal medya, bağımlılıkta algoritmik cazibe ve AI destekli bağımlılık olmak üzere üç ana tema oluşturulmuştur. 84 kodlamanın yapıldığı çalışmada, AI destekli algoritmaların kişiselleştirilmiş içerik sunumuyla insanların sosyal medya ortamlarında geçirdiği süreyi uzattığı ve yankı odalarının oluşmasına etki ettiği bulgularına ulaşılmıştır. Ayrıca yapay zekâ teknolojilerinin sunmuş olduğu imkânlarla içerik üretim ve tüketim akışının hız kazandığı, bu durumun bireylerde FOMO ve zaman kontrolünün kaybedilmesine sebep olduğu ve bu teknolojilerin kullanıcılarda yalnızlık, tembellik gibi duygu durumlarına neden olabildiği de saptanmıştır. Çalışma, yapay zekâ ve algoritma ilişkisinin sosyal medya ortamlarına etkisinin kavranması ve bu doğrultuda bilinçli sosyal medya kullanımının gerekliliğini vurgulaması açısından önemlidir. Ayrıca araştırma, sosyal medya bağımlılığına karşı halk sağlığını destekleyen bilgiler içermektedir. Üniversite gençlerinin bu ortamları bağımlılık davranışı geliştirmeden nasıl kullanabileceklerine dair farkındalık kazandırması açısından, bu sistemlerin sağlıklı kullanım şekillerinin dijital okuryazarlık bağlamında ayrıntılı bir şekilde eğitim müfredatlarına eklenmesi, çalışma bağlamında önerilmektedir.

Anahtar Kelimeler: sosyal medya bağımlılığı, yapay zekâ, algoritma, kişiselleştirilmiş içerik, iletişim araştırmaları.

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Introduction

The integration of artificial intelligence (AI) technologies into social media environments has made these environments more functional and accelerated the production and consumption of personalized content. The term AI was first used by John McCarthy at the 1956 Dartmouth Conference (Tahiru, 2021, p. 1). McCarthy (2007) defines AI as "the science and engineering of making intelligent machines." When definitions related to AI are considered, the common goal is to mimic human intelligence or develop systems with human-like cognitive abilities (Temur, 2025, p. 571). The use of AI technologies in social media environments has increased the speed and functionality of algorithms in these environments.

Content calculated through algorithms on social media and presented according to user preferences encourages individuals to be active on these networks. Algorithms, defined as abstract, effective, finite, and composite control structures capable of achieving specific decisions and objectives (Hill, 2016, p. 58), have become more effective and efficient with the development of AI techniques. AI algorithms are used for interaction among users. This situation leads to content production tailored to users' beliefs, attitudes, and preferences, and as a result of this usage, most users are deprived of different perspectives and content (Verma, 2024, p. 153). With the use of these technologies in social media environments, the traces users leave behind in these environments are calculated through algorithms, and similar content is displayed on users' profiles (Kürtünlü & Ilgaz Büyükbaykal, 2025, p. 249). This situation carries the risk of harming and restricting the function of the internet and its extension, social media, to provide unlimited content and enable every user to access the information they want through algorithms and filtering (Bilgici, 2023, p. 222). The addictive use of these environments further increases these risks. AI-powered algorithms, in particular, can increase the time users spend in these environments by delivering personalized content. Ünal (2015, p. 93) defines social media addiction by examining it in the context of cognitive, affective, and behavioural processes. Social media addiction is a psychological problem that develops during these processes, causing problems such as mood regulation, repetition and conflict, and creating preoccupation in many areas of a person's daily life, such as personal, work, academic and social spheres. Social media addiction can increase harmful effects in individuals in terms of psychological, emotional and physical responses due to the influence of AI-supported algorithms.

Algorithms increase the likelihood of individuals exhibiting addictive behaviour by encouraging users to spend more time in these environments. Algorithms maximize addictive effects in social media environments, while technology companies also support these environments becoming more addictive for users (Bhargava & Velasquez, 2021, p. 333). AI-based content recommendation systems not only fuel dependency but also raise serious ethical concerns for young users. According to Jha (2024), social media platforms

continuously deliver content targeting specific age groups or interests based on advertisers' expectations in order to increase their revenue, thereby maximizing the time users spend on their screens. Data obtained from individuals' browsing behaviour or private messaging is sometimes used to target harmful diet approaches, fake videos, extreme views, or content that affects mental health. This situation can cause users to be negatively affected psychologically, leading to increased anxiety and the emergence of depressive symptoms (De et al., 2025, p. 2). Individuals who are addicted to social media may not devote sufficient time to their work, family, and social circle because they spend most of their time on these platforms. This situation can lead to many negative consequences for most individuals, both socially and psychologically.

In their study (2025), Goh et al. found that AI dependency reflects not only excessive technology use but also a deeper mismatch between psychological needs and the strategies employed to meet them.

With the integration of AI-powered algorithms into social media platforms, these environments have become capable of producing personalised content and analysing data related to these platforms more rapidly. The more functional advancement of algorithmic infrastructure in these environments has also been the subject of numerous studies. Dekker et al. (2025) conducted a study aimed at understanding the potential of algorithms to increase retention and engagement in social media environments through personalised content delivery. The study involved 88 *TikTok* users who formed a two-week test group. A baseline week featured a highly personalised content stream, followed by an experimental week with a less personalised content stream. Daily experiences were evaluated through daily surveys, and objective *TikTok* usage data was obtained through screenshots. Findings indicate that both the daily frequency and duration of *TikTok* usage have decreased, self-regulation has increased, and participants derive less enjoyment from its use. Another study analysed the accuracy and outcomes of algorithms' gender inference mechanisms in social media environments, revealing systemic biases that disproportionately affect marginalised communities (Fosch-Villaronga et al., 2025). In a study conducted by Guess et al. (2023), it was observed that switching from an algorithmically personalised feed to a chronologically ordered feed on *Facebook* and *Instagram*, where reverse chronological content streams were assigned instead of default algorithms, reduced the time spent on these platforms.

While these studies examine the algorithmic infrastructure from different contexts, the framework generally limits itself to one or two reasons, such as personalised content, time increase and interaction, for how these algorithms create an addictive effect. This study stands out from other studies in that it offers a broader perspective and a more in-depth insight into how AI-supported algorithms cause correlation. Furthermore, no direct studies have been found on the addictive effects of social media and AI-supported algorithms.

Considering the negative effects of social media addiction, identifying addictive usage patterns in the context of AI and algorithm concepts as an encouraging factor makes this study significant. The selection of university students, chosen through purposive sampling and representing a group with a high level of dependency, and the comprehensive evaluation of the subject based on their views further highlight the importance of this study.

The research aims to determine the relationship between AI technologies integrated into algorithmic systems on social media platforms and addiction, as well as their addictive functions on university students. In the study, semi-structured interviews were conducted with 12 students from the 2nd, 3rd, and 4th grades of the New Media and Communication Department at Yalova University. The interview data were processed using the *MAXQDA* program to create themes and sub-themes, establishing relationships between themes and a relationship map, and evaluated using descriptive analysis methods.

Method

A qualitative research method was selected for the study in order to better and more accurately identify participants' experiences and emotional responses. In qualitative interviews, the aim is to evaluate the research topic from the participants' perspective and to understand why and how they developed this perspective (Gürbüz & Şahin, 2015, p. 396). The purpose of selecting university students is that the rate of social media usage is high among university students. Studies conducted also confirm this. A study found that the level of social media addiction among university students was 18.4% in a global context. In Asian countries, this rate is 22.8%. In light of these data, university students' addiction to social media environments should be considered a significant public health issue, and the necessary sensitivity and policies should be developed to reduce its prevalence (Salari et al., 2025). In a study conducted by Soomro et al. (2025), it was found that there is a significant relationship between social media addiction and increased levels of hopelessness and anxiety, and that the concept of AI also functions as a mechanism that reinforces addictive behaviours in young adults. The rise in social media addiction among university students has the potential to cause serious problems for the healthy development of the next generation. For this reason, examining the addictive patterns of social media usage, particularly in the context of young people, which have become more prevalent with the advent of AI technology, has emerged as a necessary area of study. In recent years, with the integration of AI technologies into social media environments, the scope of use of these environments has gained a faster and more personalised appearance, and the time spent on social media environments has increased with the innovations and applications offered by AI technologies. This increase creates an environment that may trigger addiction, as well as problems such as anxiety and hopelessness based on addiction in individuals, and may threaten public health.

It was thought that these students, particularly as they were studying new media and communication and frequently covered topics such as AI and social media in their classes, would express more opinions in this regard. Therefore, first-year students studying new media and communication were excluded from the sample, and interviews were conducted with second-, third- and fourth-year students. Within this context, semi-structured interviews were conducted with 12 university students selected through purposive sampling. One of the key benefits of semi-structured interviews is that they provide the researcher with the autonomy to explore ideas that may arise during the interview and allow the interviews to remain focused (Adeoye-Olatunde & Olenik, 2021, p. 1).

Within the context of the research, the researcher reviewed the relevant literature and developed semi-structured interview questions. The data obtained from the semi-structured interview were analysed using descriptive analysis methods in the *MAXQDA* program. In this method, the data obtained under the headings determined by the researcher are summarized and evaluated by creating themes (Coşkun et al., 2015, p. 324). The coding performed in *MAXQDA* was subsequently compared with the coding performed by a second academician working in the field, and as a result of the adjustments made, the coding was found to be 74% consistent with each other according to the *Kappa* analysis. Ethical committee approval for the research was obtained by decision number 399 dated 20.10.2025 of the Ethics Committees Coordination Office of Yalova University. Within the scope of the research, answers were sought to the following questions:

- What is the relationship between AI-powered algorithms and social media addiction?
- What changes have AI technologies brought about in social media environments?
- How do AI-powered algorithms trigger addiction in social media environments?

Findings

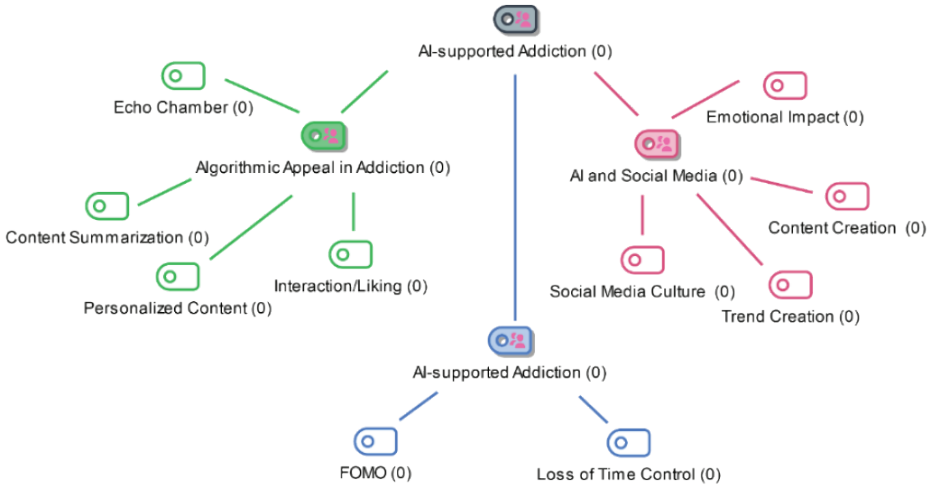
Table 1. Demographic characteristics of the participants

Participant Number	Age	Gender	Class
P1	19	Female	2
P2	22	Male	2
P3	21	Female	2
P4	22	Male	2
P5	22	Male	3

P6	21	Female	3
P7	22	Male	3
P8	22	Female	3
P9	23	Male	4
P10	25	Female	4
P11	24	Female	4
P12	23	Male	4

Table 1 shows the participants' age, gender, and class information. Participants' information has been kept confidential and coded as *P1*, *P2*. The number of classes and gender participation were kept equal, and interviews were conducted with 6 males and 6 females. This aims to prevent any potential imbalance.

Figure 1. AI and social media addiction relationship main code theme



The main themes in the process of analysing the relationship between AI and social media addiction were algorithmic appeal in social media addiction, AI and social media, and AI-supported addiction, resulting in a total of f=84 codes.

Descriptive analysis of the dependency relationship between AI and social media algorithms

Figure 2. Memo explanations

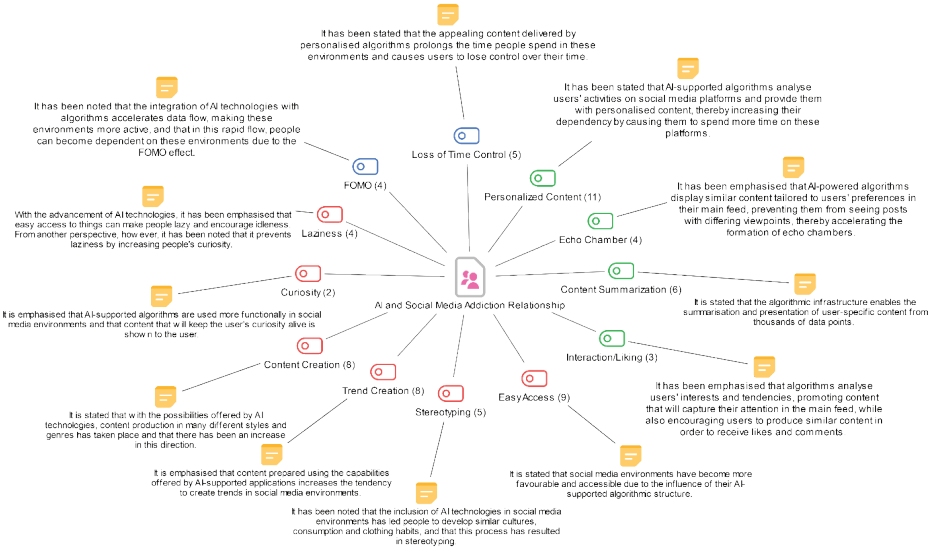
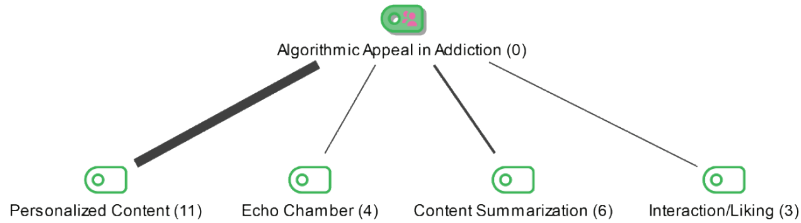


Figure 3. The theme of algorithmic appeal in addiction



Participants were asked whether AI-powered algorithms increase social media addiction and what role these algorithms play in these environments. Nearly all participants stated that the presentation of personalized content (f=11) triggered dependency. Some participants stated that algorithms cause echo chambers (f=4) and that initiatives such as content summarization (f=6) and interaction/liking (f=3) can trigger addictive behaviours.

The first sub-theme of algorithmic attraction in addiction is personalized content (f=11). Especially with the support of AI technologies, the speed at which algorithms analyse and synthesize has increased, and this development has made personalized content delivery faster and more functional. *P8* states that AI-powered algorithms analyse users' activities on social media platforms and provide them with personalized content, which can lead to increased dependency by causing users to spend more time on these platforms:

> I believe that AI-powered algorithms increase addiction in social media environments. As I mentioned in the previous question, I said that algorithms deliver content based on users' service areas. I think this also directly affects their behaviour. To give an example, on social media platforms such as *Instagram* and *YouTube*, algorithms recommend and display new videos based on users' viewing history. I believe this situation prevents users from focusing on specific tasks and causes them to spend more time in these environments.

P11 states that AI algorithms cause shopping addiction. *P11* also states that content tailored to users in social media environments encourages users to make purchases and that when users search for items such as shoes or glasses on *Google*, these items also appear on social media. According to Teepapal (2025, p. 2), content personalisation through AI-supported personalised content and targeted advertising has become an important interaction element that provides more effective digital marketing strategies.

P7 and *P9* emphasize AI-powered videos. *P4* highlights the dependency stemming from the way AI technologies operate, while *P3* states that personalized content draws users completely into that cycle. *P2*, *P5*, *P6*, *P10*, and *P12* specifically stated that personalized content can lead to addiction by prolonging the time spent in these environments. Some of the key points are as follows:

> I also definitely think algorithms affect addiction. We have even become addicted to shopping. The reason for this is that shopping sites like *Trendyol* show us similar products to those we have previously purchased on our social media accounts. Seeing them on our social media accounts makes us want to buy them. And even if we don't have the money, we feel like we must buy it anyway. (*P11*)

> They increase addiction by using artificial intelligence to present us with videos that we could imagine in real life but cannot make or shoot ourselves because everyone sees what they want to see, what they imagine, or rather, they try to see it. For this reason, strange, personalized videos originating from Instagram's discovery democracy can appear before us... (*P7*)

> Especially with these artificial intelligence algorithms, this personalized content constantly prevents us from leaving that circle. In addition to these, I can say that there is such a well-established, well-planned system that comes with artificial intelligence support. Without letting anything become outdated, without allowing us to get bored with them, they give us something new. (*P3*)

> Artificial intelligence acts according to culture. Because it analyses everything down to the finest detail—from the IP address you're connected to, the specifications of the device you're using to ask questions, which country you're in, and what you like and dislike based on the cookies on your computer to the conversation you're having—and provides answers tailored to every culture and language. He acts as if there were no stranger in front of him because he learned about your culture seconds ago and is advancing the conversation accordingly... Adapting this technology to social media naturally triggers addictive behaviours because it increases the time you spend there by offering more personalized content... (*P4*)

> Now, thanks to artificial intelligence, content that interests us appears on plat-

> forms like *Netflix*, *Instagram*, and *YouTube*. So, the video style that catches our attention or the glasses we're looking for on *Instagram*- anything we look at just pops up in front of us. This means that we are under the influence of digital addiction through artificial intelligence. (*P9*)

According to Kang and Lou (2022, p. 1), in the context of content consumption, algorithms analyse users' past online behaviour to create personalized content streams, thereby providing user-specific experiences. Algorithms make posts from people with whom users have close relationships more visible by evaluating social connections between users; they also highlight engaging short videos on the homepage through systems that learn user preferences. In their study on personalized content recommendation technologies, Lopakov et al. (2022) found that these technologies have negative effects on censorship issues, information restrictions or information corridors, and attention and thought intensity. Personalized content also carries potential risks related to privacy concerns, lack of autonomy and control, and limited information diversity (Eg et al., 2023). Another study found that in ethnographic interviews conducted on *Facebook* and *X* platforms, most participants conceptualised personalisation as a functional process of social media platforms aimed at providing relevant information. It was also found that when users perceived the algorithm as agenda-driven, political radicalisation and echo chamber effects intensified (Maragh-Lloyd et al., 2025).

Another sub-theme of the main theme of algorithmic attraction in addiction is echo chambers (f=4). According to Varol (2022, p. 460), echo chambers are described as communication environments in which participants with similar views only hear their own voices, similar to the reflection of a person's voice off a wall. P5 states that AI-powered algorithms increase the formation of echo chambers in social media environments, while *P10* states that these echo chambers create a safe environment for users, resulting in a comfort zone effect. The other participants' statements regarding echo chambers are as follows:

> I believe that algorithms often lead to polarization in our lives. It only directs users toward a certain perspective. Considering recent events in our country, I started watching videos about women's rights and solidarity, and I began seeing this type of video constantly. I've never been able to look at this situation from a different perspective. Because as the videos kept popping up, I started watching them as I scrolled through, and I began to agree with this idea. I never had another perspective. (*P8*)

> ...We can better understand how artificial intelligence systems trigger our addiction because of the constant flow of content on social media that caters to our own desires and needs. Because each one follows the other in a series of systems, and within this algorithm, people get lost. It works the same way for me. And at some point, it starts turning into echo chambers... (*P2*)

According to Jawad et al. (2024, pp. 536-537), social media users who are constantly exposed to idealized themes of success, beauty, or happiness may

experience a decrease in self-esteem or feelings of inadequacy through social comparison. Additionally, algorithms encourage individuals to cling tightly to their pre-existing views by creating an echo chamber effect while limiting exposure to different perspectives. This situation can lead to significant changes in self-perception, sense of belonging, and online social relationships. A study conducted by Peng et al. (2025) found that addiction stemming from personalized technologies can lead to the risk of information bubbles forming. This bubble occurs when access to diverse and comprehensive information is limited by an excessive focus on information that aligns with current interests and preferences. In their study on echo chambers, Meng and Wang (2025) found that users tend to interact with individuals who share similar views unless there is a strong incentive to persuade others. These findings demonstrate how information and influence shape social networks and contribute to the persistence of ideological division.

In content summarization, another sub-theme of the main theme of algorithmic attraction in addiction, f=6 coding, has been applied. While *P2*, *P12*, *P6*, *P7*, and *P5* indicate that algorithms facilitate the synthesis and presentation of content, they also note that this can increase the time spent on social media platforms. *P9*, on the other hand, states that AI technologies generally facilitate the presentation of content by summarizing it. *P3* emphasizes the change in this process:

> Based on my experiences, this is what I think. Before AI technologies became widespread, I was a bit reluctant to research things that I was curious about and interested in now. Because getting straight to the point wasn't very fast online, and there was no algorithm that gave me the summary sentence I wanted. However, with artificial intelligence, being able to access everything so quickly satisfies my curiosity so quickly... (*P3*)

AI-powered algorithms that summarize and deliver personalized content protect individuals from the overwhelming flow of information while also extending the time users spend in these environments. Algorithms continuously update themselves by considering new behaviours exhibited by users over time, making these recommendation systems more accurate. Therefore, this cycle can lead to addiction by extending the time users spend on social media applications.

In the theme of interaction/liking, which is another sub-theme of the main theme of algorithmic attraction in addiction, f=3 coding has been applied. *P1* states that people's desire to like and engage has increased due to algorithmic structures in social media environments. The views of *P12* and *P5* are as follows:

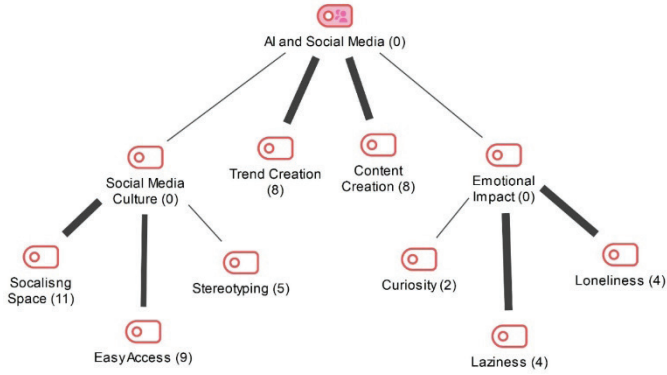
> …We spend a lot of time on social media because of the content shared by my close friends or anyone else, the number of likes they receive, who we follow, and engagement rates. One of the main reasons is this... (*P5*)

> For example, on *X*, when something bad happens, it gets more views, while some-

> thing good gets less interaction. For example, when there is bad news, it stands out more, while good news is less prominent. People are engaging with something negative. Because seeing something beautiful makes us less happy, while seeing something ugly makes us sadder and engages people more. (*P12*)

AI-powered personalization algorithms form the foundation of digital platforms, deeply analysing user data such as browsing history, interaction records, and search preferences. These algorithms rank content based on these analyses to suit the individual's interests. This mechanism is used across a wide range of platforms, from social networks to streaming services and even e-commerce sites. Algorithms aim to increase overall user satisfaction and engagement and thus extend the time individuals spend on the platform by predicting which posts will receive more likes, comments, or views (Peng et al., 2025, p. 157). Social media platforms use a multi-stage algorithmic process to determine the content they present to users. In the first stage of this process, users' behaviour on the platform is monitored in detail. Users' behavioural tendencies and social circles are taken into account, such as the time periods during which they are active and the types of content with which they interact more frequently. Based on this collected data, algorithms prioritize content. In this ranking, content that matches the user's previous preferences is highlighted, while current posts and highly engaging shares are also given priority. In the final stage, the content stream is tailored for each user to provide a personalized experience. Individuals are divided into different groups based on their age, gender, interests, or habits on the platform, and thus encounter more targeted content (Mondal & Kumar, 2025, pp. 116-118).

Figure 4. AI and social media theme



Participants were asked to evaluate the relationship between AI and social media and indicate what effects and functions it has in use. Within the main theme of AI and social media, there are four sub-themes: social media culture (f=25), trend creation (f=8), content creation (f=8), and emotional impact (f=10). A total of f=51 encodings have been made in this main theme.

The sub-theme of social media culture has three sub-themes: socialization

space (f=11), easy access (f=9), and stereotyping (f=5). In the socialization space sub-theme, one person (*P6*) stated that she did not view these environments as socialization spaces, while other participants described these environments as socialization spaces. In this context, some participants' statements will be included:

> I think we are overly dependent on social media for economic reasons. So, for example, we can't meet up with a close friend who lives in another city. Naturally, on social media, we communicate with each other by sending posts and video chatting. At the same time, we kill time and socialize. (*P10*)

> ...Social media and AI-powered communication tools have significantly changed human interaction. Meetings that used to take place face-to-face can now be held in virtual environments. Our social spaces have changed and moved to these environments. (*P3*)

P11 and *P1* state that there has been an increase in social media use alongside COVID-19 and that these platforms are seen as spaces for socializing, while *P7* and *P5* indicate that the perception of these platforms as spaces for socializing during the COVID-19 process has been effective in the display of addictive behaviours:

> Especially with the onset of Covid, people have been staying home a lot more. I think they see social media as a space for socializing. I think this level of dependency increased significantly with Covid, and that people really developed a social media addiction after the coronavirus. (*P7*)

> ...It met a very large proportion of people's need for social interaction during the Covid period. At some point, we all became part of this system, along with AI algorithms and other algorithms, and began turning within this wheel. (*P5*)

Another sub-theme, easy access (f=9), includes statements such as overcoming the restrictive nature of physical spaces to easily access content online (*P4*, *P5*); reducing costs to provide cheap and easy access (*P10*); summarizing desired content for easy presentation (*P9*, *P12*, *P8*); interacting with other people by providing easy access (*P3*); and extending the time spent in these environments through easy access (*P6*, *P2*).

In the sub-theme of stereotyping (f=5), *P5* and *P8* state that there is a global stereotyping of cultures and that similar eating and drinking habits are developing, while P10 indicates that there is a stereotyping effect on people's perspectives due to the influence of echo chambers. The statements related to this theme are as follows:

> So, with every new technology, cultures disappear a little bit more. I think AI also makes these faster. So, everyone is thinking in a uniform way, thinking like the West. (*P1*)

> There's a trend of matcha on social media right now. Matcha isn't something that's part of our culture. Lately, there's been a lot of talk about how to make and drink matcha... Videos like this have started to appear. Now this has become the new trend. People are starting to become stereotyped. (*P3*)

Dağdaş (2008, p. 165) addresses the stereotyping process through the privatization of telecommunications and communication infrastructure worldwide by nation states. The opening up of these areas to privatization has led multinational media companies to seek control over them, resulting in investments and partnerships for this purpose. This situation has led to a concentration in the ownership structures of global telecommunications and media companies. This development has led to stereotyping rather than media diversity. This stereotyping is particularly evident in products. According to Çoban (2012, p. 688), the stereotyping of society is achieved by the media concealing or trivializing all differences and contradictions within society. The meaning attributed to the social phenomenon defined by the ruling power causes society to perceive itself as a whole and to adopt the dominant ideas of the ruling social class as its own. Thus, the media produces not only homogeneity but also stereotyping through the discourse it creates, and it continues to do so by reproducing this in every communication. As can be seen from the interview data, there is a high degree of uniformity in consumer products and in people's mindsets. Today, it is possible to speak of the existence of an anti-diversity trend. While people seeking difference are labelled as deviant or nonconformist, there is a social approval mechanism that promotes conformity among individuals who consume similar brand products and whose worldview aligns with that of the society in which they live. With the opportunities provided by digital technologies in particular, consumer products have gained a global perspective, encouraging most individuals to consume in this direction, while similar worldviews and lifestyles are becoming increasingly visible worldwide.

The trend creation theme, a sub-theme of the main theme of AI and social media, has been coded as f=8. It has been stated that content created using AI technologies creates trends and encourages addiction (*P9*), and that eating and drinking habits spread more quickly with AI technologies due to the influence of trends created on social media (*P3*, *P12*). It has also been noted that these trends encourage young people to participate in these environments (*P10*) and that these trends bring cultures closer together (*P5*). It has been emphasized that these trends influence individuals' daily lives, communications, behaviours, and habits (*P6*, *P8*) and that these trends often serve the capitalist system and constitute a marketing strategy (*P2*).

The content creation sub-theme has been coded as f=8. It has been stated that content produced by reviving deceased individuals using AI technologies is open to ethical debate (*P3*) and that the proliferation of certain content produced using AI technologies on social media platforms can negatively affect children (*P7*, *P5*). It has been stated that content production is possible with videos that are unimaginable in real life (*P4*, *P9*), that content production is easier and faster thanks to these technologies, and that this situation increases dependency and content production (*P12*, *P1*, *P10*).

The sub-theme of emotional impact, which is a sub-theme of the main theme of AI and social media, includes the sub-themes of curiosity (f=2), laziness (f=4) and loneliness (f=4). Under the theme of curiosity, participants stated that curiosity is now very quickly satisfied in the social media environment with AI (*P3*) and that their curiosity is kept alive in this environment with similar content (*P5*).

Under the sub-theme of laziness, *P3* stated that while previously being reluctant to look at content that interested them, she has become more active thanks to AI technologies, which provide quick access and personalized content. *P11*, *P9* and *P5*, however, expressed a different opinion:

> People who used to research and think about any subject beforehand have been driven into laziness by AI technologies. I see that there is a generation that makes no effort, believing that everything will happen at the touch of a button. I particularly think that AI has a greater impact on young people and children. I believe it hinders them from effectively using their imagination. (*P11*)

> It makes people lazier, in my opinion. I mean, people aren't bothering to do anything anymore. People use artificial intelligence to read summaries instead of reading entire articles or books in their complete form and then get on with their work. (*P9*)

> People used to spend a couple of hours working on content to share on social media, but now, with artificial intelligence, they can do it much more quickly and share it. This also encourages the user to become somewhat lazy. In other words, we could also call this free riding. (*P5*)

Under the theme of loneliness, *P6* stated that social media environments do not socialise people but rather isolate them. *P1* stated that these environments were seen as socialising spaces during Covid, but that dependence on this environment subsequently increased and people became increasingly isolated.

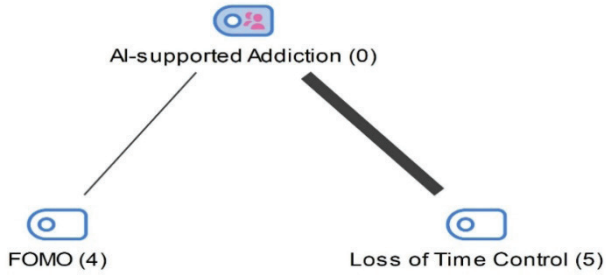
> Let's say a person who wants to lose weight is browsing Instagram and sees diets. They see people who have lost weight and people living happily and luxuriously and constantly think, 'Why am I not like that? Why am I living like this?' This inevitably leads to depression and makes one feel lonely. (*P8*)

> Actually, I think we are becoming increasingly isolated inside. So, in my opinion, nothing can replace the activities we do outside. Yes, we aren't stepping outside our comfort zone, but I think we're experiencing a deep sense of loneliness. (*P10*)

As can be seen, AI-supported dependency can lead to certain negative emotional state transformations. Advanced machine learning techniques, particularly natural language processing, linear regression and clustering methods, can analyse users' emotional states and areas of interest by examining their behaviour in digital environments. This analysis significantly increases user engagement by providing personalized content recommendations and instantly organising feeds. However, this situation carries various risks, particularly for adolescents who are in a developmentally vulnerable period. Individuals

in this age group undergo significant psychological and behavioural changes, becoming more sensitive to reward mechanisms. This also makes them more vulnerable to the negative effects of social media (De et al., 2025, p. 2). Increased time spent in these environments makes the negative effects more apparent and increases the risk of individuals becoming addicted to them. The common factor in internet addiction is the amount of time the addict spends online. As the dependent individual spends time in these environments, the time they would otherwise spend socialising face-to-face with work, school, sleep, family communication and friends gradually decreases. This situation weakens family and other face-to-face social relationships, leading to the individual becoming increasingly isolated (Bhargava & Velasquez, 2021, p. 329).

Figure 5. AI-supported addiction



The sub-themes of the AI-supported addiction main theme are FOMO (the fear of missing out on innovations) (f=4) and loss of time control (f=5). Under the sub-theme of fear of missing out on innovations, *P10* stated that AI-powered algorithms enable faster flow in social media environments and that staying away from these environments makes people feel like they are missing out on something. The views in this regard are as follows:

> The faster pace of social media seems to be pushing us towards greater dependency. So, everyone nowadays consumes things that are fast, and this speed is causing our addiction. I can see that. When we leave here, one feels as if we are missing out on something. The speed of AI also increases dependency. Similarly, the presence of AI within social media also stems from this. (*P1*)

> …Without allowing anything to become outdated, without letting us grow tired of them, they give us something new. Consequently, this leads to the agenda being constantly updated and us being directed towards what is constantly current. When we fall short of this, it makes us feel like we are missing out on so much. This situation causes fear of missing out, or FOMO, which is something we discuss in our lessons. I believe the biggest reason we develop an addiction to these AI-powered platforms is FOMO. Our dependency inevitably increases impulsively because it constantly directs us towards current events, and when it doesn't, we constantly feel left behind. (*P3*)

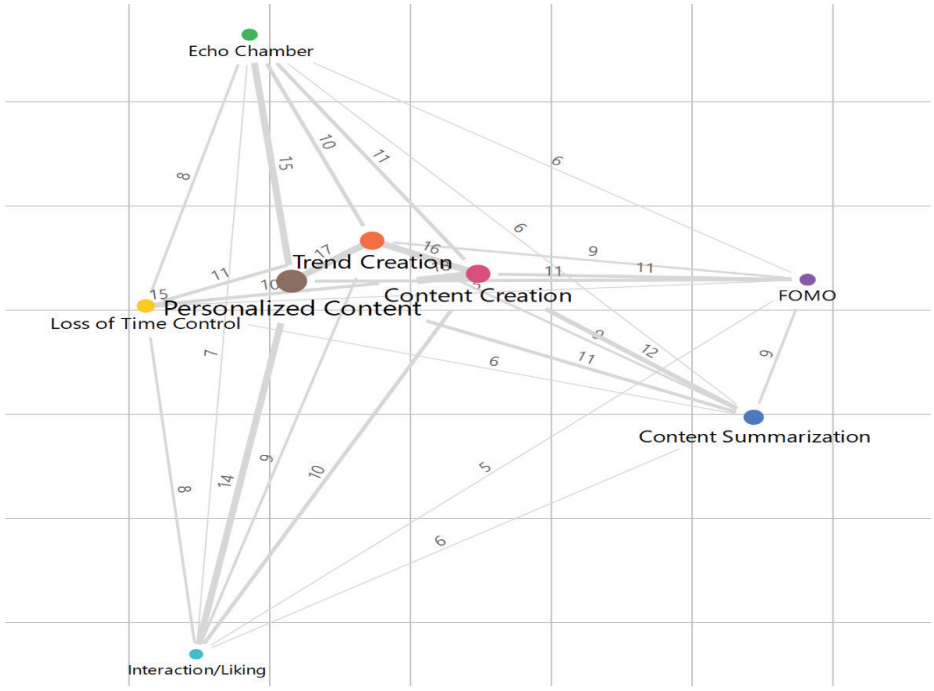
> As we saw when we discussed McLuhan's global village theory, in addition to people sharing a common culture, I believe that people are now compelled to become part of this social media culture. Because when you are excluded from this, you are

pushed to the margins of society and left on the sidelines. If you wish to join them or be part of it, you must be like them. (*P12*)

FOMO (Aliçavuşoğlu & Boyraz, 2019, p. 684), which corresponds to the concepts of fear of missing out on developments, current events, opportunities and innovations, is an effective emotional state regarding social media usage. Studies have found a positive correlation between FOMO and social media addiction, with higher levels of fear of missing out correlating with higher levels of addiction. They also found that limiting social media use reduced loneliness, depression, anxiety, and fear of missing out (Baker et al., 2016; Brailovskaia & Margraf, 2024; Hunt et al., 2018).

Under the sub-theme of losing control of time (f=5), *P4* states that the adaptation of AI technologies to social media has reinforced addictive behaviours and increased the time spent here with personalized content, and that sometimes people spend hours here without realising it. *P2* stated that personalized content constantly appeared in front of them, capturing their interest, and that they often lost track of time. *P6* stated that time control is becoming increasingly difficult in these environments and that this situation is the greatest indicator of addiction. *P8* noted that increased interaction in these environments erodes the perception of time, while *P12* emphasised that they spent hours in these environments due to the constant stream of engaging content.

Figure 6. Code relationship map



When the code relationship map is evaluated, a close relationship is observed in the sub-codes of content summarization, echo chambers, and content creation. At the intersection of these themes lies the sub-theme of losing control over time, while the sub-theme of personalized content can be said to be at the intersection of all sub-themes and to have a close relationship with all codes.

Conclusion

The proliferation of social media platforms and their global reach have led people to transfer their social spheres and communication activities to these environments. This transition may increase the amount of time spent on social media platforms, potentially leading to the development of addictive behaviours. The rise in social media addiction worldwide, particularly among university students, poses risks that could threaten the health of future generations (Salari et al. 2025). There is research indicating that the increase in university students' internet usage time increases their dependence on these environments (Yılmazsoy & Kahraman, 2017) and causes poor sleep quality and sleep problems (Wolniczak et al., 2013), and that there is a positive and significant correlation between social media addiction and depression (Shanshal et al., 2024). In the AI-centred study, it was found that positive AI attitudes are associated with excessive use of social media, which is assessed within the framework of addiction. The effect size of this relationship was stronger in males than in females, and it was found that positive attitudes towards AI, which are known to be positive in terms of adopting new technologies, may also increase the risk of developing addictive technology usage patterns, such as social media (Montag & Elhai, 2025). Another study emphasises that AI is increasingly steering social media environments (Kaplan, 2022). According to Guitton (2020, p. 2), many new technological applications are actually designed to be addictive, meaning they are developed following active, rational, and data-driven efforts by developers to keep users engaged for longer periods or to increase their consumption. As is already clearly evident, technology addiction will become a worrying problem over the next decade.

As can be seen from the studies conducted, social media addiction leads to many negative consequences. The inclusion of AI technologies in these environments and their integration with algorithmic systems can remove these networks from the realm of technological tools, endowing them with human-like cognition and creating a sense of closeness in people's perceptions through personalised content. The personalized content that AI offers to people keeps users engaged on these networks, thereby increasing the time spent in these environments, which can lead to social media addiction. There is evidence that personalized content leads to censorship issues and information restrictions (Lopakov et al., 2022). In this context, the study provides a comprehensive assessment of the relationship between AI-supported algo-

rithms and social media addiction from the perspective of university students.

The research questions prepared for the study were answered as follows based on the data obtained from the participants:

- What is the relationship between AI-supported algorithms and social media addiction?

AI-powered algorithms create an allure for users, keeping them engaged in these environments with personalised content (f=11) and offering similar content, thereby creating echo chambers (f=4) that limit users' perspectives and provide a comfort zone. Users display an active profile at the point of interaction/liking (f=3) within this fast-paced flow, while all these attractive algorithmic infrastructure capabilities influence users to remain in social media environments for extended periods. Spending excessive amounts of time in these environments increases the likelihood of developing addictive behaviour. Participants expressed the view that all these algorithmic developments lead to social media addiction.

- What changes have AI technologies brought about in social media environments?

With the addition of AI technologies to social media environments, more fluid and easier access (f=11) has been provided to these environments, creating an active socialisation area (f=11). The production and consumption of content through these technologies leads people to adopt similar approaches and become homogenised (f=5). Thanks to AI technologies, content creation in social media environments (f=8) has become easier and faster, while content created with AI-supported applications contributes to the trend creation (f=8) process. When considering the emotional dimension of this change, it can be seen that although university students' curiosity (f=2) is maintained, it can lead to the development of negative emotions such as laziness (f=4) and loneliness (f=5) in individuals.

- How do AI-powered algorithms trigger addiction in social media environments?

AI-powered algorithms, with their structure enabling rapid content production and consumption, cause FOMO (f=4) among university students and lead to the development of an impulsive need to use these platforms. Algorithms' personalised content delivery and rapid production and consumption cycle may cause students to lose control of their time in these environments (f=5).

The inclusion of AI-supported algorithms in social media environments has been shown to increase the time spent in these environments, the frequency of use, and interaction (Dekker et al., 2025), reveal systemic biases (Fosch-Villaronga et al., 2025), and indicate that personalised content streams affect the time spent in these environments (Guess et al., 2023). While there

are numerous studies examining the situations arising from the impact of algorithms in social media environments, this study offers a comprehensive and holistic approach by bringing together various reasons for how these systems create dependency in these environments from a broader perspective. Algorithmic appeal has been observed to influence users to remain in these environments for extended periods and lose track of time through personalised content, to create echo chambers by directing users, to increase engagement by summarising content, and to increase dependency by causing users to fear missing out on new developments (FOMO) over time. As can be seen, unlike other studies, this study not only addresses the subject within a broad framework but also offers a subjective perspective by examining the subject within the context of AI technologies. The integration of AI technologies into algorithmic infrastructure makes it important to identify the addictive effects of these environments, as this raises awareness among young people about how these systems operate.

Updating university curricula to promote the conscious use of social media environments could be proposed as a measure to prevent the addictive use of AI-supported algorithms on social media. In this update, it is essential to correctly understand the nature of artificial intelligence technologies and to ensure their controlled and balanced use. The study limited the subject matter to university students. Conducting the study by selecting samples from different age groups will be beneficial in determining the addictive effect of these AI-supported algorithms on different groups.

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