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Journey in the Digital Era: Exploring Doomscrolling, Algorithmic Literacy, and Subjective Well-Being

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Engaging in the digital landscape has become an integral part of modern life, offering fulfilling experiences across various domains, from education to health. Yet, as individuals navigate this realm, a relatively new concern has emerged known as doomscrolling, the implications of which remain less understood. In this context, this study aims to investigate the levels of doomscrolling, algorithmic literacy, and subjective well-being (SWB) among higher education students. Additionally, it seeks to explore the factors influencing doomscrolling behavior, such as algorithmic literacy, SWB, daily hours of Internet usage, and Internet use patterns, while also considering gender differences. Employing a correlational research design, the study group consisted of 551 higher education students from various majors in Türkiye. Descriptive results indicate moderate levels of doomscrolling, relatively high algorithmic literacy, and lower SWB among participants. Gender differences in algorithmic literacy were significant, with male students displaying higher levels overall. However, no significant gender difference was observed in doomscrolling behavior. Notably, males reported higher levels of positive affect, while females reported higher levels of negative affect. Correlational analysis revealed significant associations between SWB dimensions, daily hours of Internet usage, and specific internet use patterns (particularly social and recreational), with doomscrolling. Regression analysis highlighted negative affect and social Internet use as significant predictors of doomscrolling.

Public Policy Relevance Statement

This study highlights how university students' subjective well-being and patterns of internet use, especially for social and recreational purposes, are linked to doomscrolling behavior. It also emphasizes the role of algorithmic literacy and negative affect in shaping how young people engage with online content. The findings can inform efforts to promote healthier digital engagement and emotional resilience among students.

Keywords: algorithmic literacy, doomscrolling, subjective well-being, Internet use patterns

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Engaging with the digital landscape has become an integral aspect of contemporary life, fundamentally shaping domains such as education (Aksu Dünya & Yıldız Durak, 2023) and health (Anderson et al., 2019). The proliferation of digital tools, particularly social media, has granted individuals a digital presence defined by their online behaviors and patterns of Internet use (Lee & Hancock, 2023). These behaviors have also drawn attention to emerging challenges, including Internet addiction (Kamalı-Arslantaş et al., 2024), nomophobia (Yasan Ak & Yıldırım, 2018), cybersecurity threats (Childers et al., 2023), and habits like doomscrolling (Hughes et al., 2024). Addressing such issues demands a balanced approach that fosters responsible and informed digital engagement while reducing potential risks.

Doomscrolling is a relatively new concept that gained prominence in early 2020 during the COVID-19 pandemic. It refers to the excessive use of smartphones as a primary platform for consuming online news, closely related to "doomsurfing," which highlights similar patterns of news consumption (Ytre-Arne & Moe, 2021). The term combines "doom," evoking notions of darkness, judgment, and fate, with "surfing," borrowed from television channel-switching, and "scrolling," reflective of smartphone usage (Watercutter, 2020; Ytre-Arne & Moe, 2021). Doomscrolling illustrates a compulsion to engage

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Nehir Yasan-Ak served as lead for conceptualization, data curation, and methodology. Tuba Livberber contributed equally to data curation. Tuğba Kamalı-Arslantaş served as lead for writing–original draft and writing–review and editing. Tuba Livberber and Tuğba Kamalı-Arslantaş contributed equally to conceptualization and investigation.

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with distressing news content, often driven by the infinite nature of social media feeds. Conceptualizations of this behavior include obsessive data consumption, "tragedy porn" (Markham, 2021), and habitual engagement with negative media, which can leave individuals feeling anxious, discouraged, or depressed (Sharma et al., 2022).

Empirical research has further highlighted the detrimental effects of doomscrolling on individuals' mental health (Vannucci et al., 2017) and well-being (Kaya & Griffiths, 2024; Satici et al., 2022; Sharma et al., 2022), often leading to feelings of overwhelm and burnout (Nguyen et al., 2021). Despite these findings, gaps remain in understanding the nuanced factors influencing doomscrolling behavior. A critical area for investigation is the link between algorithmic literacy and doomscrolling. As Sharma et al. (2022) suggest, examining how platform algorithms and users' understanding of these systems influence doomscrolling behaviors is essential. Algorithms not only shape online actions (Perrotta & Selwyn, 2020) but also curate information access through personalized recommendations (Shin et al., 2020), potentially increasing exposure to negative content. Furthermore, the commercial nature of social media platforms exacerbates these challenges by undermining transparency and making it difficult for users to critically evaluate how content is curated (Pasquale, 2015). A lack of algorithmic literacy in such contexts can cause the spread of disinformation, reinforce stereotypes, and perpetuate inequalities and discrimination (Zarouali et al., 2021).

Another critical area that requires deeper exploration is the relationship between doomscrolling and subjective well-being (SWB), which refers to individuals' cognitive and emotional evaluations of their lives (Diener, 2000). Studies have shown that doomscrolling can negatively impact SWB by heightening negative emotions and impairing life satisfaction (Satici et al., 2022). This relationship underscores the need to further investigate the psychological and behavioral implications of doomscrolling, as it can contribute to the erosion of mental well-being. Moreover, Internet use patterns, whether academic, social, or recreational, also play a significant role in shaping doomscrolling behavior, as these patterns influence how users engage with content online and their emotional responses to it (Büchi et al., 2019). Understanding how these patterns intersect with doomscrolling could shed light on the underlying factors that fuel this behavior.

This study is among the first to investigate factors influencing doomscrolling behavior, including algorithmic awareness, SWB, daily Internet usage, and Internet use patterns among higher education students. While previous research has mainly examined general patterns of excessive Internet and social media use (e.g., Müller et al., 2016; Škařupová et al., 2016), limited attention has been paid to doomscrolling as a specific behavior and its unique psychological, behavioral, and educational implications. This demographic was chosen because higher education students, characterized by their extensive daily digital media engagement and reliance on algorithmically curated content for news and social interaction (Rosen et al., 2013), are particularly susceptible to the information overload and potential negative reinforcement loops (Sayili et al., 2023) inherent in doomscrolling. Furthermore, their immersion in these digital environments makes their algorithmic literacy a critical factor in understanding their online navigation and information processing. Simultaneously, the unique pressures of young adulthood and academic life often impact their SWB, a construct potentially influenced by and interactive with their media consumption habits and online behaviors. The study is driven by the following three research questions:

Research Question 1: What are the undergraduate students' doomscrolling, algorithmic media content awareness (AMCA), and SWB levels?

Research Question 2: Do the levels of doomscrolling, AMCA, and SWB differ with regard to gender?

Research Question 3: How do SWB, AMCA, daily hours of Internet usage, and Internet use patterns predict undergraduate students' doomscrolling level?

Theoretical Framework

The theoretical basis of the current study lies in social cognitive theory (Bandura, 1986), which elucidates the interaction between individuals, their behavior, and the environment. According to this theory, individual and environmental factors play a significant role in shaping behavior. Given the pervasive influence of social media on individuals, social cognitive theory provides a valuable lens for understanding how media environments shape behavior by highlighting the complex interplay between these elements.

Within the context of this study, users' SWB, Internet use patterns, and algorithmic awareness are proposed as critical factors influencing doomscrolling behaviors. Social cognitive theory situates social media as the environmental context in this dynamic interaction, emphasizing how algorithmically curated content can impact users' actions and experiences. This curated digital environment may affect SWB, leading to a reinforcement of doomscrolling behaviors. By grounding this research in social cognitive theory, the study examines the interplay of individual and environmental factors that contribute to doomscrolling.

Algorithmic Literacy

The increasing variety of platforms and technological devices available for accessing news requires users to develop advanced technological skills to navigate and utilize the diverse tools that now constitute their media repertoires (Hasebrink & Domeyer, 2012). In recent years, this need has been closely tied to the concept of algorithmic literacy, which encompasses an awareness of the existence and impact of algorithms on online platforms, an understanding of how algorithms operate, the ability to critically analyze algorithmic decision making, and the skills to manage or even influence algorithmic processes (Dogruel et al., 2022). As algorithms shape trends on social media, they expose users to curated content that significantly influences how users perceive and interact with information (Altin & Mühling, 2024; Schulte et al., 2025; Sharma et al., 2022; Swart, 2021). Young individuals, particularly those under the age of 25, rely on personalized media platforms like Facebook, YouTube, and Instagram for news (Swart & Broersma, 2024). This reliance increases the influence of algorithms on their understanding of the world, yet little is known about their awareness and experiences with algorithmic news selection (Swart, 2021).

Research suggests that user attitudes and platform usage are shaped by their experiences with algorithmic filtering and their level of algorithmic literacy (Sharma et al., 2022). This connection highlights the need to explore how users' algorithmic awareness influences doomscrolling behaviors, particularly its potential to decrease the adverse effects of excessive social media consumption (Swart, 2021; Zarouali et al., 2021). However, studies show that

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users' awareness of algorithmic processes varies significantly depending on the context. For example, Dogruel et al. (2022) found that while users are less conscious of algorithms in areas like news, job hunting, and navigation, they are more aware of their presence in advertising, online shopping, and media consumption. This uneven awareness leaves many users vulnerable to negative individual and societal consequences, including the inability to critically engage with algorithmic systems (Gran et al., 2021). Developing algorithmic awareness is critical for addressing these vulnerabilities. Users with a strong understanding of how algorithms operate are better equipped to navigate their influence and critically assess their applications in various online contexts. Understanding how algorithmic awareness relates to doomscrolling is, therefore, not only timely but also vital for addressing broader psychological and societal challenges arising from pervasive social media use.

SWB

SWB, often referred to as happiness (Diener et al., 2018), is a key indicator of overall well-being (OECD, 2013) and reflects how individuals perceive and evaluate the quality of their lives (Veenhoven, 2013). This concept encompasses both cognitive and affective dimensions (Kettlewell et al., 2020), providing a comprehensive understanding of how individuals experience life. The cognitive dimension relates to an individual's overall satisfaction with life, while the affective dimension encompasses emotional responses to life events, including both positive and negative emotions. Positive emotions such as confidence, joy, and hope contribute to higher SWB, whereas negative emotions like guilt, sadness, and anger diminish it. Cognitive evaluations of life satisfaction and the balance between positive and negative emotions are critical factors in determining SWB (Diener, 2000).

Several factors have been found to negatively impact SWB, with excessive Internet use (Büchi et al., 2019; X. Cheng et al., 2024) and doomscrolling (Kaya & Griffiths, 2024; Satici et al., 2022; Watercutter, 2020) standing out due to their particularly harmful effects. Doomscrolling, the habitual act of continuously consuming negative or distressing news, has been linked to a decline in both affective and cognitive well-being. Research suggests that the constant exposure to alarming or depressing content can heighten feelings of anxiety, sadness, and stress, which are key components that diminish SWB (Luo et al., 2021; Schuster et al., 2001). The negative emotional reactions associated with doomscrolling can lead to emotional exhaustion, while the cognitive aspect, which involves the evaluation of life satisfaction, becomes more skewed toward dissatisfaction as individuals feel overwhelmed by the persistent stream of negative information. This pattern not only contributes to lower mood states but also impairs individuals' ability to engage in positive life experiences and evaluations, thereby reducing their overall sense of well-being. Similarly, understanding how SWB is linked to doomscrolling, as well as the role of algorithmic literacy, is crucial in addressing these issues.

Internet Use Patterns and Daily Hours of Internet Usage

The Internet has become an integral part of daily life, encompassing a wide range of activities systematically categorized into three primary patterns: academic, social, and recreational use (Caner-Yıldırım & Yıldırım, 2023). Academic use involves leveraging the Internet for educational purposes, such as accessing diverse sources of information, which has been linked to improved academic outcomes (Jelenchick et al., 2014). Social use pertains to interactions through social media platforms, reflecting the significant role of online socialization in contemporary life (Giunchiglia et al., 2018). Recreational use, on the other hand, focuses on leisure activities, including streaming movies, listening to music, engaging with entertainment content, and playing online games (Li & Tsai, 2015).

Understanding Internet use patterns is crucial, as they significantly influence various dimensions of human behavior and well-being. Research indicates that excessive time spent online for social and recreational purposes correlates with the emergence of problematic behaviors, including compulsive use and psychological distress (Balhara et al., 2021). These findings have spurred interest in examining doomscrolling behavior in relation to daily hours of Internet usage and specific Internet use patterns. Investigating these connections provides valuable insights into the drivers of doomscrolling.

Method

Design

The present research adopted a descriptive-correlational design to investigate the associations among doomscrolling behavior, algorithmic literacy, and SWB among higher education students. The descriptive component aimed to summarize participants' levels of each variable, while the correlational aspect focused on identifying potential associations among them. This approach is appropriate for investigating naturally occurring variables without manipulation, allowing for the exploration of existing patterns and relationships. The study design aligns with the guidelines outlined by Creswell (2012), who emphasizes the utility of correlational research in understanding the direction and strength of associations between constructs in social and behavioral sciences.

Data Collection Procedure

Data collection for the study took place in the spring semester of the 2022–2023 academic year, shortly after two major earthquakes occurred in Türkiye. Initially, 578 students were recruited for the study. During the data screening process, 22 univariate outliers and five multivariate outliers were identified, resulting in a total of 27 exclusions. Consequently, the final sample comprised 551 undergraduate students from a public university in Türkiye, representing 22 different faculties and all grade levels.

The data collection instruments were developed using Google Forms and distributed to participants through convenience sampling. Unlike probabilistic methods such as random or stratified sampling, convenience sampling limits the ability to generalize findings to a larger population (Creswell, 2012). However, as the primary objective of the study was not to produce generalizable results and due to the impracticality of implementing random sampling in this context, convenience sampling was deemed appropriate. Eligibility criteria for participation included: (a) current enrollment in an undergraduate program, (b) voluntary consent to participate, and (c) ownership of a smartphone. Participants were informed that their involvement was voluntary and that they could withdraw at any time during the online survey process. To maintain data quality, the survey was configured to accept only fully completed responses and to restrict submissions to one per participant.

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Participants

The sample consisted of 551 undergraduate students from a public university in Türkiye, spanning across 22 different faculties and all grade levels. Among them, 370 (67.2%) were female and 181 (32.8%) were male. The mean age of the total sample was 22.45 ($SD = 5.22$), ranging from 18 to 53. The freshman class constituted the highest proportion of the sample with 188 students, making up 32.5% of the total. Closely following were the sophomores, numbering 187, which was 32.4% of the sample. The representation diminished as we moved to higher grade levels, with juniors making up 20.2% of the sample with 117 students. Lastly, seniors and others (including those taking courses across different grade levels) made up the smallest proportion, with 86 students accounting for 14.9% of the total. The distribution across grade levels was illustrated with corresponding frequencies and percentages in Table 1. On the academic front, the grade point average (GPA) of students exhibited a mean value of 2.82 with a standard deviation of 0.52. The GPAs spanned a range from as low as 0.96 to a perfect score of 4.00. The mean daily hours of Internet usage was found to be 6.53 hr with a standard deviation of 3.49 hr, ranging from a minimum of 1 hr to a maximum of 24 hr. In relation to Internet usage patterns among participants, the data revealed varying trends across different purposes. The academic-related Internet use duration had a mean of 2.33 hr with a standard deviation of 2.00 hr, spanning a range from no usage to 20 hr. Social Internet use duration had a slightly higher mean of 3.45 hr with a standard deviation of 2.49 hr, with the range also varying from no usage to a high of 24 hr. Lastly, recreational Internet use duration showed a mean of 2.37 hr with a standard deviation of 2.2 hr, extending from no usage to 20 hr. These data provide a comprehensive overview of how Internet utilization diverges based on the distinct needs and priorities of the undergraduate students in the study.

Data Collection Tools

In this research, data were gathered using a personal information form and three standardized scales.

Table 1
Demographic Characteristics of the Sample (N = 551)

Variable	*f*	%
Gender		
Female	370	67.2
Male	181	32.8
Study year		
Freshman	180	32.7
Sophomore	178	32.3
Junior	113	20.5
Senior and others	80	14.5

Variable	*M*	*SD*	Minimum	Maximum
Age	22.45	5.22	18.0	53.0
GPA	2.82	0.52	0.96	4.00
Daily hours of Internet usage	6.53	3.49	1.0	24.0
Internet use patterns (in hours)				
Academic use	2.33	2.00	0.0	20.0
Social use	3.45	2.49	0.0	24.0
Recreational use	2.37	2.20	0.0	20.0

Note. GPA = grade point average.

Personal Information Form

This form consisted of nine questions, divided into two sections. The first section gathered demographic data, including variables such as gender, age, academic grade level, faculty affiliation, and GPA. The second section explored participants' Internet usage behaviors, specifically the average number of hours spent online daily, as well as time allocated to academic, social, and recreational activities on the Internet.

Doomscrolling Scale

The original scale, developed by Sharma et al. (2022), consists of a 15-item long form and a four-item short form, both utilizing a 7-point Likert response format ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The Turkish adaptation of the scale was carried out by Satici et al. (2022), with a reported Cronbach's α of .94, indicating high internal consistency. In the present study, the 15-item single-factor Turkish version was employed. Consistent with previous findings, the scale demonstrated a high level of reliability in this study, with a Cronbach's α coefficient of .94, in accordance with the threshold suggested by Nunnally and Bernstein (1994).

Satisfaction With Life Scale (SWLS) and Positive and Negative Affect Schedule (PANAS)

SWB is commonly assessed in the literature using two widely recognized instruments: the SWLS and the PANAS. A specific equation is employed to obtain a total value score as proposed by Sheldon and Bettencourt (2002): SWB = (life satisfaction + positive affect [PA]) − negative affect (NA).

SWLS. The SWLS was originally developed by Diener et al. (1985) to identify individuals' satisfaction level with their lives. It comprises five items, rated on a scale of 1 = *strongly disagree* to 7 = *strongly agree*). Durak et al. (2010) conducted the Turkish adaptation of the scale and reported a Cronbach's α of .81, indicating adequate internal consistency. In this study, both the factor structure and internal reliability of the Turkish version were reexamined. The scale maintained strong psychometric properties, with a Cronbach's α of .81, aligning with the reliability standards proposed by Nunnally and Bernstein (1994).

PANAS. Developed by Watson et al. (1988), the PANAS is a widely used tool for assessing individuals' emotional states, consisting of 20 descriptors—10 for PA and 10 for NA. Respondents indicate the extent to which they have experienced each emotion over a specified time frame using a 5-point Likert scale (1 = *very slightly or not at all* to 5 = *extremely*). PA represents feelings of enthusiasm, energy, and engagement (e.g., excitement, interest, inspiration), whereas NA captures unpleasant emotional states such as anger, guilt, fear, and nervousness. The Turkish version of PANAS was validated by Gençöz (2000), who reported Cronbach's α values of .83 for PA and .86 for NA. In the current study, reliability analyses yielded similar results, with α coefficients of .87 for PA and .86 for NA, indicating good internal consistency (Nunnally & Bernstein, 1994).

AMCA Scale

The original scale, developed by Zarouali et al. (2021), aims to measure people's awareness of how algorithms influence media content on digital platforms. While the construct is initially framed as

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algorithmic awareness, the scale's developers also suggest its applicability in evaluating algorithmic literacy. As Zarouali et al. (2021, p. 10) states: "The AMCA-scale can also be used to examine the overall 'algorithmic literacy' of a given population. …" Based on this description, we used the terms algorithmic awareness and algorithmic literacy interchangeably throughout the current study. The AMCA scale includes 13 items with four dimensions. Each factor with its corresponding number of items is as follows: content filtering (FIL/four-item); automated decision making (ADM/three-item); human–algorithm interplay (HAI/three-item); and ethical considerations (ETCs/three-item).

The AMCA scale uses a 5-point Likert scale ranging from 1 = *not at all aware* to 5 = *completely aware*. This scale was adapted to the Turkish context by Researchers (in press) and Cronbach's alpha values of four dimensions indicate a good internal consistency. The reliability coefficients of the four-factor structure lie between .74 and .81. The overall Cronbach α value of the scale shows very good internal consistency and reliability at .90 (Nunnally & Bernstein, 1994). Individuals with higher scores on the scale are indicative of a high algorithmic literacy level.

Data Analysis

Subsequently, descriptive analyses were performed to address the first research question. Following this, a one-way multivariate analysis of variance (MANOVA) was carried out to investigate the differences between genders regarding AMCA and its four subfactors: FIL, ADM, HAI, and ETC. Similarly, to examine the gender differences in doomscrolling, SWB and its elements—PA, NA, and SWLS, independent *t* tests were performed for each group. The normality and homogeneity of variance assumptions were checked for each test. No violations were detected for normality, although there were some adjustments made due to some violations of the homogeneity of variance assumption. Specifically, for MANOVA, the α level was adjusted to .04 from .05 for certain variables to address this violation, as per Wickens and Keppel's (2004) recommendation. For independent *t* tests, the degree of freedom was corrected, and results were reported based on unequal variances. Furthermore, unequal sample sizes necessitated the use of Pillai's criterion. Lastly, a multiple regression analysis was run to address the final research question. The following assumptions were checked for conducting multiple regression analysis, and no violations were identified: adequacy of sample size, normality, linearity, multicollinearity, homoscedasticity, and independence of errors. All analyses were performed using IBM SPSS 28 and IBM AMOS 20.

Results

Undergraduate Students' Doomscrolling, AMCA, and SWB Levels

Descriptive analyses revealed that the mean of the undergraduate students' doomscrolling scores was 3.17 on a scale ranging from 1 to 7, while the score for AMCA was 3.91 for AMCA on a scale ranging from 1 to 5. The mean scores of subfactors of AMCA were found to be as high as the total AMCA score. The subfactors from highest to lowest mean scores were as follows: HAI ($M = 4.05$), FIL ($M = 4.04$), ETC ($M = 3.89$), and ADM ($M = 3.67$). Furthermore, the mean of the students' SWB scores was found to be lower at 3.61 on a scale where −3.0 was the minimum and 10 was the maximum. When examining the components of SWB, the mean score for PA was 2.89, and for NA, it was 2.64, both on a scale from 1 to 5. The mean score for students' SWLS was 3.32, on a scale of 1 to 7.

Gender Differences in Undergraduate Students' Doomscrolling, AMCA, and SWB Levels

A one-way MANOVA was conducted to examine whether there was a significant difference in algorithmic literacy between male and female students. The results indicated a significant gender difference, Pillai's trace = .064, $F(4, 546) = 9.26$, $p = .00$, $\eta_p^2 = .064$. According to Cohen's (1988) effect size benchmarks (small, $\eta^2 = .01$; medium, $\eta^2 = .09$; large, $\eta^2 = .25$), gender, accounting for 6% of the combined dependent variables, exhibited a small effect size. The univariate analysis results are detailed in Table 2, showing significant gender effect on total AMCA scores, $F(1, 549) = 14.51$, $p < .05$, $\eta_p^2 = .03$; FIL, $F(1, 549) = 20.01$, $p < .05$, $\eta_p^2 = .04$; auto decision making (ADM), $F(1, 549) = 10.65$, $p < .05$, $\eta_p^2 = .02$; and ETC, $F(1, 549) = 15.09$, $p < .05$, $\eta_p^2 = .030$. The effect sizes of gender on these variables were small, as per Cohen's benchmarks. The data revealed that male students scored significantly higher on these aspects compared to female students. However, gender had no significant impact on the human algorithm (HAI).

Independent *t* tests were run to find whether doomscrolling and subject well-being levels of male and female undergraduate students differ (see Table 3). There was no significant difference in doomscrolling level for male ($M = 3.09$, $SD = 1.51$) and female ($M = 3.19$, $SD = 1.44$) students, $t(549) = 0.78$, $p = .362$. Employing an independent samples *t* test, a significant variance in subject well-being levels was discerned between male ($M = 3.95$, $SD = 2.35$) and female students ($M = 3.45$, $SD = 2.44$), where male student scored higher than female students, $t(549) = -2.33$, $p = .02$. Furthermore, each component of SWB was also examined through independent *t*-test analyses. There were significant differences in PA level of female student ($M = 2.81$, $SD = 0.81$) and male students ($M = 3.06$, $SD = 0.80$), $t(549) = -3.49$, $p = .001$; in NA level of male students ($M = 2.52$, $SD = 0.78$) and female students ($M = 2.69$, $SD = 0.87$),

Table 2
Univariate Analyses of Variance F Ratios for Gender for AMCA Scale

Source	Dependent variable	*df*	*MS*	*F*	*p*	η^2
Gender	AMCA (total)	1	4.17	14.51	.00	.03
	FIL	1	7.41	20.01	.00	.04
	ADM	1	5.80	10.65	.00	.02
	HAI	1	0.02	0.04	.85	.00
	ETC	1	8.49	15.09	.00	.03
Error	AMCA (total)	549	0.29			
	FIL	549	0.37			
	ADM	549	0.55			
	HAI	549	0.47			
	ETC	549	0.56			
Corrected total	AMCA (total)	550				
	FIL	550				
	ADM	550				
	HAI	550				
	ETC	550				

Note. AMCA = Algorithmic Media Content Awareness Scale; MS = mean square; η^2 = effect size; FIL = content filtering; ADM = automated decision making; HAI = human–algorithm interplay; ETC = ethical considerations.

Table 3
t-Test Results for Gender

Variable	*F*	*df*	*t*	Significance (two-tailed)	$M_{difference}$
SWB	0.42	549	−2.33	.02	−.51
PA	0.033	549	−3.49	.001	−.25
NA	**4.20**	**402.97**	**2.29**	**.02**	**.17**
SWLS	2.97	549	−0.67	.51	−.09
Doomscrolling	0.83	549	0.78	.36	7

Note. Boldface indicated homogeneity of variance. SWB = subjective well-being; PA = positive affect; NA = negative affect; SWLS = Satisfaction With Life Scale.

$t(402.97) = 2.29$, $p = .023$. While PA levels of male students were higher than female students, NA of female students were higher than male students. However, there is no difference in SWLS levels of male ($M = 3.41$, $SD = 1.56$) and female students ($M = 3.32$, $SD = 1.39$), $t(549) = -0.666$, $p = .362$.

Predictors of Undergraduate Students' Doomscrolling Levels

Correlations

Initially, bivariate correlations were performed between the dependent variable (doomscrolling) and all predictors. These include AMCA and its four subfactors, as FIL, ADM, HAI, and ETC; SWB and its three components, as PA, NA, and SWLS; and daily hours of Internet usage and Internet use patterns, including academic, social, and recreational Internet use duration. The objective was to understand the direction and extent of relationship between these variables (see Table 4). The correlation strength was classified as weak ($r = .1$–$.3$), moderate ($r = .4$–$.6$), strong ($r = .7$–$.9$), and perfect ($r = 1.0$) following the guidelines by Dancey and Reidy (2011). Predictors not significantly correlated with doomscrolling ($p > .05$, two-tailed tests) were excluded from the regression analysis. Based on the correlation results, five predictors (NA, SWLS, daily hours of Internet usage, recreational, and social Internet use duration) were selected for the regression analysis, as they were the only variables found to have a significant association with doomscrolling.

Regression Analysis

A multiple regression analysis was performed to predict the participants' doomscrolling level based on the level of SWB, NA, SWLS, daily hours of Internet usage, recreational and social Internet use duration. As shown in Table 5, the regression results revealed that the model significantly predicted undergraduate students' doomscrolling level ($R^2 = .23$), $F(5, 545) = 31.625$, $p < .01$, accounting for 23% of the total variance. Upon evaluating the contribution of each variable, it was found that NA had a significant partial effect ($\beta = .734$, $t = 9.99$, $p < .01$), predicting 14% of the total model variance. This indicates that students with higher levels of NA exhibited more doomscrolling levels compared to those with lower NA. Among Internet use patterns, social Internet use also significantly predicted the model ($\beta = .08$, $t = 3.25$, $p < .01$), predicting 2% of the total model variance. It implies that students who use their mobile phones for social media have a higher doomscrolling level than others. On the other hand, SWLS, daily hours of Internet usage, and recreational Internet use duration did not emerge as significant predictors within the model.

Discussion

The literature highlights a growing concern known as doomscrolling among Internet users, which has been linked to adverse effects on users' behaviors and psychology (Kaya & Griffiths, 2024; Satici et al., 2022; Sharma et al., 2022). Additionally, research suggests various factors that may influence individuals' doomscrolling tendency, including algorithmic literacy (Swart, 2021; Zarouali et al., 2021), SWB (Watercutter, 2020), daily hours of Internet usage (Sharma et al., 2022), and Internet use patterns (Satici et al., 2022). The current study aims to contribute to this emerging field by examining the levels of doomscrolling, algorithmic literacy, and SWB among higher education students. Furthermore, the purpose is to investigate how these factors, in conjunction with daily

Table 4
Intercorrelations of the Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
DS (measure)	−.02	−.05	−.03	−.02	.02	−.31**	.46**	−.08	−.20**	.09*	−.02	.22**	.13**
1. AMCA	—	.78**	.75**	.77**	.79**	.04	−.03	.12**	−.02	.06	.05	.03	.09*
2. FIL		—	.50**	.50**	.49**	.05	−.05	.11**	−.01	.05	.03	−.03	.04
3. ADM			—	.40**	.40**	.09*	−.07	.13**	.04	.04	.02	.03	.10*
4. HAI				—	.52**	−.00	−.01	.05	−.03	.08	.08	.09*	.06
5. ETC					—	−.02	.04	.09*	−.06	.03	.01	.00	.06
6. SWB						—	−.69**	.68**	.89**	−.13**	.02	−.16**	−.20**
7. NA							—	−.27**	−.42**	.16**	.02	.23**	.20**
8. PA								—	.42**	.02	.11*	.02	−.07
9. SWLS									—	−.13**	−.02	−.14**	−.17**
10. DIU										—	.34**	.46**	.31**
11. AIU											—	.07	.06
12. SIU												—	.34**
13. RIU													—

Note. DS = doomscrolling; AMCA = Algorithmic Media Content Awareness Scale; FIL = content filtering; ADM = automated decision making; HAI = human–algorithm interplay; ETC = ethical considerations; SWB = subjective well-being; NA = negative affect; PA = positive affect; SWLS = Satisfaction With Life Scale; DIU = daily internet use; AIU = academic internet use; SIU = social internet use; RIU = recreational internet use.
* $p < .05$. ** $p < .01$.

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Table 5
Multiple Regression Analysis Summary

Variable	*B*	*SE B*	β	*t*	sr^2	R^2	ΔF
Model						.23	31.625*
NA	.73	.07	.42	9.99	.14*		
SWLS	−.01	.04	−.01	−0.28	na		
Daily hours of Internet usage	−.02	.02	−.10	−1.18	na		
Social Internet use duration	.08	.03	.14	3.25	.02*		
Recreational Internet use duration	.01	.03	.01	0.341	na		

Note. $N = 551$. NA = negative affect; SWLS = satisfaction with life scale; na = not applicable.
* $p < .01$.

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hours of Internet usage and Internet use patterns, impact the likelihood of engaging in doomscrolling behavior. Guided by social cognitive theory (Bandura, 1986), which emphasizes the reciprocal interaction between personal factors, environmental influences, and behaviors, this study conceptualizes doomscrolling as a learned behavior shaped by internal cognitive processes. Through this research, it was aimed to enhance the understanding of doomscrolling and its associated factors, thereby informing potential strategies for dealing with its negative effects on individuals' well-being.

The descriptive results of the current study indicate a moderate mean score of doomscrolling among higher education students. Additionally, students demonstrate a relatively high mean score in algorithmic literacy, suggesting awareness of algorithms influencing their behavior. Subfactors of algorithmic literacy, HAI, FIL, ETC, and ADM, demonstrated varying mean scores, with HAI and FIL scoring the highest. While some research suggests higher education students may lack algorithmic awareness or critical engagement with online information (Brodsky et al., 2020), our findings present a contrasting picture of relatively high algorithmic literacy. This elevated awareness is likely attributable to factors inherent to their demographic and educational environment, including exposure to contemporary curricula integrating digital literacy and data ethics, extensive daily engagement as digital natives with algorithm-driven platforms, and the critical thinking skills fostered by academic inquiry. As Cotter (2019) suggests, such awareness ideally promotes critical reflection on algorithmic benefits and risks. While confirming high literacy, its nonprediction of doomscrolling points to other complex behavioral drivers, as previously discussed. Moreover, the study reveals a lower level of SWB among students, encompassing both low levels of positive emotions and high levels of negative emotions, indicating the need for interventions to promote psychological health in these demographics.

In terms of algorithmic literacy, male students displayed significantly higher scores compared to female students, except in the dimension of HAI, which did not show a gender difference. The literature offers mixed findings on gender differences in digital skills. While some studies suggest that males tend to demonstrate greater proficiency in digital competencies (Aesaert & van Braak, 2015; Cai et al., 2017), others report no significant gender differences in these areas (Claro et al., 2012). As highlighted by Campos and Scherer (2024), variations in gender gaps across different dimensions of digital literacy may be influenced by geographical, cultural, and socioeconomic factors. These contextual influences underline the importance of examining regional and demographic nuances when interpreting gender disparities in algorithmic literacy. On the other hand, no significant gender differences were observed in doomscrolling behavior, a finding consistent with previous research (Satici et al., 2022). This lack of disparity suggests that doomscrolling may be a pervasive phenomenon driven more by psychological factors, such as stress or anxiety, than by gender-specific traits. This aligns with the social cognitive theory view that behaviors are shaped not solely by demographic attributes but by interactions between cognitive-emotional states and environmental stimuli, such as algorithmically curated news feeds, that trigger and reinforce such patterns. It highlights the universal nature of this behavior across demographics, emphasizing the need to focus on underlying psychological mechanisms rather than demographic differences.

The study also revealed significant gender differences in SWB. Males reported higher levels of PA, while females reported higher levels of NA. This aligns with findings by Yoon et al. (2023) and Piccinelli and Wilkinson (2000), which highlight that females are more likely to experience depressive symptoms throughout their lifespan. Biological factors, such as hormonal differences, and social factors, such as higher exposure to caregiving roles or societal pressures, may contribute to these disparities. Interestingly, no gender difference was observed in SWLS scores, suggesting that while emotional experiences differ between genders, overall life satisfaction may be less influenced by gender. The inconsistency in gender effects on SWB, as observed in prior research (Kelley & Stack, 2000), may stem from cultural norms and their influence on emotional expression and coping mechanisms. For instance, cultures that emphasize traditional gender roles might discourage males from openly expressing negative emotions, potentially leading to inflated reports of PA. Similarly, females in such cultures might face more societal stressors, contributing to higher levels of NA.

Based on the correlation analysis, it was determined that algorithmic literacy does not serve as a predictor of doomscrolling. Given the absence of existing literature exploring this association, this study marks a novel contribution to the field. This unexpected result can be further understood through the lens of social cognitive theory, which posits that human behavior is a product of reciprocal determinism among personal factors, behavioral factors, and environmental factors. While algorithmic literacy falls under personal cognitive factors, its limited predictive power suggests that other components of this reciprocal interplay exert a more dominant influence on doomscrolling. For instance, personal traits such as impulsivity, anxiety, or a tendency toward negative affectivity may play a more substantial role in driving doomscrolling behaviors than cognitive awareness of algorithmic processes. Additionally, background experiences, such as exposure to specific media narratives or previous digital habits, might overshadow the influence of algorithmic literacy.

The results of the regression analysis revealed that NA and social Internet use emerged as significant predictors of doomscrolling behavior among students. This suggests that individuals with higher levels of NA tend to exhibit elevated levels of doomscrolling compared to those with lower NA, which aligns with existing literature (Satici et al., 2022; Sharma et al., 2022). It can be inferred that individuals with NA may cope with their emotions by seeking out negative news through doomscrolling. Thus, a negative bias appears to be associated with doomscrolling behavior (Price et al., 2022), highlighting the role of NA in driving this online behavior pattern. Considering these findings, we propose that interdisciplinary interventions, combining psychological support services with digital citizenship education, may offer a promising avenue for addressing doomscrolling tendencies within educational contexts. Moreover, the results suggest that students who engage extensively in social media use are more susceptible to experiencing increased levels of doomscrolling compared to those who use social media less frequently. This observation may be attributed to the fact that the participants were higher education students, a demographic known to exhibit regular and potentially problematic usage of mobile devices and social media. This demographic's heavy reliance on social media platforms for communication, entertainment, and information dissemination could contribute to their heightened vulnerability to doomscrolling behaviors. Interpreted through the lens of social cognitive theory (Bandura, 1986), these findings reflect how personal factors (such as NA), environmental contexts (such as algorithmically curated social media environments), and behavioral habits (such as prolonged social media use) interact to shape doomscrolling behavior. Negative emotional states may reduce self-regulation and increase susceptibility to reinforcement mechanisms embedded in social media, creating a feedback loop that sustains and amplifies the behavior. These findings underscore the importance of considering both psychological factors, such as affect, and behavioral patterns, such as social media usage, in understanding and addressing doomscrolling tendencies among higher education students.

Based on the findings, several strategies can be proposed to promote healthier digital behaviors in relation to doomscrolling. Media literacy programs, particularly those emphasizing algorithmic literacy and critical engagement with digital content, can empower students to recognize how platforms curate information to capture attention and manipulate emotional responses. In addition, behavioral self-regulation strategies and promoting intentional social media use can be recommended to help individuals manage their online habits more effectively.

Limitations and Suggestions

This study has several limitations. First, the data were collected through self-reported scales, which may not fully capture participants' experiences and could introduce response biases. This limitation may be particularly pronounced among individuals directly affected by significant events, such as earthquakes, as their perspectives might differ. Repeating the study multiple times would help account for such variations. Additionally, incorporating alternative data collection methods in future studies could provide a more nuanced and comprehensive understanding.

Second, the study employed a descriptive and correlational design, which does not establish causality between the variables of doomscrolling, AMCA, and SWB. Moreover, the findings are specific to higher education students in Türkiye, limiting the generalizability of the results. While this study focused on this demographic, different age groups and populations with varied demographic profiles might yield different findings. To achieve a broader understanding, future research should include participants from diverse cultural and contextual backgrounds.

Conclusion

In conclusion, this study underscores the complex relationship between doomscrolling, algorithmic literacy, and SWB among higher education students, emphasizing the need for a deeper understanding of the psychological, cognitive, and behavioral factors that influence digital media consumption. The findings suggest that NA and social media use significantly predict doomscrolling behavior, highlighting the importance of addressing SWB and online habits in decreasing the harmful effects of digital content. Social cognitive theory (Bandura, 1986) provides a useful framework for understanding how personal factors, behavior, and environmental influences interact in shaping individuals' online behavior. The cultural nuances and gender differences observed in the study further emphasize the need for future research to consider how gender, SWB, and digital behaviors interact across diverse populations. In light of these complexities, additional studies should explore the indirect role of algorithmic literacy and its potential mediating effects on doomscrolling. By examining these factors in greater detail, future research can provide more effective strategies for addressing doomscrolling and its detrimental impact on mental health, particularly in educational settings.

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