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Research Paper

Algorithmic Recommendation induced Emotional Burnout among Digital Media Users

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ABSTRACT

The digital platforms that are pushed by algorithms have transformed young adult information consumption, socialization, and entertainment. Although AI-enabled recommendation engines provide tailored information to enhance interactivity, there is emerging evidence that longer exposure to these systems is associated with psychological stress levels, such as emotional burnout. The paper analyses AI recommendation-related emotional burnout in young adults living in the Delhi-NCR region of India, investigating the relationships between digital burnout, social media exhaustion, Information overload, and emotional burnout. A quantitative cross-sectional correlational design was used to sample 210 active users (18-30) of such platforms as Instagram, YouTube, and streaming services. Validated scales were the Maslach Burnout Inventory Emotional Exhaustion subscale (MBI-EE), Digital Burnout Scale, Social Media Fatigue Scale and Information Overload Scale. Analysis of data using SPSS was done through descriptive statistics, Pearson correlation analysis and multiple regression. The results reported moderate-to-high prevalence of emotional fatigue. The emotional exhaustion had a positive correlation with digital burnout ($r=.536$, $p<.001$), social media fatigue ($r=.422$, $p<.001$) and information overload ($r=.428$, $p<.001$). There was an association found between social media fatigue and information overload as important and significant predictors of emotional exhaustion and digital burnout, respectively, through regression models. These findings extend the burnout theory to the algorithmic digital ecosystems, and curated feeds are considered chronic stressors. The work proposes the ethical development of AI design, digital literacy, and sustainable digital well-being intervention by shedding light on cognitive-emotional strain-strain pathways in the behavior of young adults.

Keywords: *Algorithmic Recommendation, Digital Fatigue, Emotional Burnout, Information Overload, Personalized Recommendation*

Rise of Algorithmic Personalization in the Digital Era

The emergence of the 21st Century has seen the greatest change in human interaction, information sharing, and consumption of entertainment, majorly due to the speedy growth in digital technologies. The spread of smartphones, the high- speed internet, and the cloud-based platforms have completely transformed how people perceive information, social

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network, and content consumption. The Global Digital Report (2023) states that more than five billion individuals across the world actively use digital technologies, and a big part of their daily digital interactions is represented by social media platforms. The number of internet users has already gone beyond 750 million in India alone, with the largest category of active digital users- young adults, 18-30 years. (Statista, 2023)

The central part of this digital transformation is the widespread application of recommendation algorithms, the advanced computational networks that process user behaviour, likes, and interactions to provide personalized content, recommendations, and forecasting. Instagram, Facebook, YouTube, Netflix, Amazon, and Tik Tok are all platforms that use these algorithms to build personalized feeds, suggest videos, and suggest products, and predict interests in users with a high degree of accuracy. (Sundar & Limperos, 2013) Such algorithmic systems work under the principles of machine learning and data analytics and constantly improve their forecasts according to real-time user data, such as browsing history, click-through rates, time on content, likes, shares, and search history. (Gillespie, 2014)

Algorithms of personalization have firmly established themselves in the digital ecosystem that determine almost all online user interactions. As an example, the recommendation system at Netflix is responsible for selecting appealing content to be watched by more than 80% of viewers and YouTube suggestions taken by their algorithm occupy more time than users do. (Covington et al., 2016) In the same way, social media applications such as Instagram and TikTok have an algorithmic feed structure, which prioritizes a specific content according to the estimated user interaction, generating hyper- personalized spaces that optimize time-on-platform. (Van Dijck, 2013) Even though this personalization makes content discovery and commercial interaction more convenient for users, it has also presented psychological health challenges never seen before, such as emotional fatigue, cognitive overload, and addictive consumption habits. (Dhir et al., 2019)

Burnout- From Occupational Settings to Digital Contexts

The psychological construct of burnout was first discovered in the world of occupational and human services careers, but since 1970s, its study has been prevalent. Christina Maslach, a pioneer researcher in this area, defined burnout as a long-term reaction to emotional and interpersonal job stressors which are characterized by emotional exhaustion, depersonalization, and a lack of personal accomplishment. (Maslach et al., 1997) The most important dimension of burnout is emotional exhaustion which is a perception of being emotionally overworked and fatigued by work or other long lasting stressful situations. (Maslach & Jackson, 1981) This construct is the Maslach Burnout Inventory- MBI, which is used in all professions. (Maslach et al., 1997)

Researchers in recent years have noted that there has been a remarkable change in the expression of the burnout discussed in the traditional occupation settings and expressed in the digital ones. The growing employment of digital technologies to work, communicate and entertain has removed the demarcations between professional and personal digital consumption and has created what is now widely known as digital burnout or technostress. (Tarafdar et al., 2007) Digital burnout builds on the classical model of burnout, to describe burnout due to excessive and extensive use of digital devices, platforms, technologies, which is manifested through emotional depletion, thinking strain, and disconnection with activities on the web. (Erten & Özdemir, 2020)

The introduction of Algorithm-based systems has increased the issue of digital burnout, with these tools being engineered to be as addictive and variable as possible and deliver highly personalized content to users. (Eyal, 2014). The algorithmic suggestions result in a use loop cycle, causing users to visit the site repeatedly, which causes the desire to know more and the fear of missing out (FOMO) that leads to emotional burnout. (Przybylski & Weinstein, 2017) This type of burnout brought about by algorithms is a unique kind of digital fatigue, which is distinguished by a general technostress through its connection with highly personalized content systems that prey on psychological susceptibilities to achieve maximum engagement. (Montag et al., 2019)

Algorithm-Induced Emotional Burnout

The endless stream of tailor- made content using algorithmic recommendation algorithms causes special psychological problems as opposed to the traditional digital stressors. In contrast to the static or chronologically arranged content, an algorithmic feed is constantly changing in response to user actions, with a continuously evolving environment of personal stimuli requiring an active cognitive response and an investment of emotions. (Sundar & Limperos, 2013) It is a dynamic personalization, which claims to increase the user experience, but to it this, cognitive overload, decision fatigue, and emotional depletion of the user are frequent outcomes that are antecedents of burnout. (Reinecke & Hofmann, 2016)

The studies have shown that users who encounter high volumes of algorithmic recommendations report much higher levels of emotional exhaustion that users who encounter lower volumes. (Dhir et al., 2019) As outlined by Nir Eyal (2014), the algorithmic hook model explains how technology firms create features that produce habit- forming behaviours and which take advantage of psychological vulnerabilities to include infinite scrolling, autoplay, and push notifications. (Eyal, 2014) Such characteristics of design and customized content delivery produce an endless loop of activity that surpasses the innate ability of users to pay attention or control their feelings, resulting in burnout. (Lukoff et al., 2021)

The algorithm-induced burnout phenomenon is the most applicable to young adults as they are the largest consumers of algorithm- driven web resources. Reports have shown that the average amount of time spent on social media and streaming platforms by people ages 18-30 is 3-5 hours per day, much of which is affected by algorithmic suggestions. (Twenge, 2017); (Statista, 2023) This particular generation is commonly known as digital natives or iGen, and it has grown up in the environment of algorithmic systems, making them quite vulnerable to fatigue and exhaustion brought about by the platform. (Twenge, 2017) A study by Kross et. al. (2021) observed that the greater the use of social media, most of which are algorithmic, the poorer the psychological health and the increase in cases of depression and anxiety in young adults. (Kross et al., 2021)

Digital Fatigue and Information Overload as Psychological Mechanisms

Digital Fatigue and Information Overload are two of the most important constructs that mediate the interrelationship between algorithmic exposure and emotional burnout. Social media fatigue or technology fatigue is a subjective sensation of fatigue, loss of interest, and emotional fatigue due to overuse and obsessive use of digital technologies. (Dhir et al., 2019) As an emotional, cognitive, and behavioural construct, this construct includes the following aspects: one feels exhausted after online communication, things that working with content online make them tired, and experiences less desire to communicate with technology. (Zhang et al., 2021)

The term Information Overload is a similar yet separate concept that defines the situation when the volume of incoming information surpasses the capability of the individual to process it, causing cognitive load as well as lowering the quality of the decision-making process and leading to emotional exhaustion.(Bawden & Robinson, 2020) On algorithm-based platforms, information overload is reflected in the excess of personalized messages put forward to users via personalized recommendations, and suggestions. (Karr-Wisniewski & Lu, 2010) The large amount of content, and the cognitive load of receiving personalized recommendations, drain mental resources and adds to burnout. (Lee et al., 2016)

The mediating effects of digital fatigue and information overload has been supported by empirical research in predicting burnout. A Cao and Sun study (2018) has established that social media use intensity has a significant relationship with the organization of discontinuous usage intentions with overload levels mediating the relationship (45) (p=0) showing emotional exhaustion. (Cao & Sun, 2018) Likewise, Zhang et. al. (2016) has established that digital fatigue explains 35% of variation in emotional exhaustion between social media users, and one of the primary predictors is the overload of algorithmic content. (Zhang et al., 2016) These results highlight the significance of investigations into digital fatigue and information overload as the crucial channels of the contribution of algorithmic recommendations towards emotional burnout.

Withdrawal Behaviours and Disengagement Outcomes

Burnout caused by algorithms is likely to be reflected in withdrawal symptoms, such as a decrease in platform activity, emotional detachment, avoidance, and full indifference to online platforms. Withdrawal behaviours are one of the coping responses in which the users seek to curb burnout by decreasing or avoiding digital communications. (Turel & Serenko, 2012) Such actions may include small steps, like switching the sound on and off, disliking the accounts, or larger steps like uninstalling apps, shutting down accounts, or spending a significant amount of time offline. (Masood et al., 2022)

It has been found that there is a highly positive relation between emotional exhaustion and withdrawal behaviours of users of the digital platform. Masood et. al. (2022) discovered that predicting burnout by discontinuance intentions was significant (e=0,61, p<0,01), and the avoidance behaviours were reported by users as a major coping mechanism. (Masood et al., 2022) In a similar study, Bright and Logan (2021) revealed that the correlation between burnout and results in the emotional numbing of the users owing to excessive exposure to these algorithms. (Bright & Logan, 2021) These withdrawal behaviours are not only end results of burnout but also pose a serious impact on the continuity of a platform, its retention and wellbeing of a person. (Rains & Brunner, 2015)

Young Adults as Vulnerable Populations

The young adults (18 to 30 years old) are the most digitally connected group across the world, so they are especially susceptible to burnout caused by algorithms. Algorithms being the main feature of daily life, whether in form of social media feeds or recommended streams, have become the upbringing of this generation often called Millennials (1981-1996) and Generation Z (1997- 2012). (Twenge, 2017) It has been found that average time spent by young adults on mobile per day is at 4.6 hours, with social media and streaming platforms taking a considerable share of it.

Young Adults are the individuals who are susceptible to being affected by burnout induced by algorithms due to a number of reasons. First, the given demographic shows the highest

activity on algorithm-based platforms, with findings indicating that nine out of ten 18-29 year olds are users of at least one social media platform on a regular basis. (Pew Research Center, 2025) Second, youngsters tend to follow disruptive or obsessive digital consumption habits, such as over-scrolling, binge-watching, and fear of missing out (FOMO), which increases risk of burnout. (Przybylski & Weinstein, 2017) Third, young adults are more vulnerable to the psychological manipulations that lie within the framework of an algorithmic system because of the stage of their developmental process emerging adulthood, which is marked by identity exploration, instability, and increased sensitivity to social feedback. (Arnett, 2014)

In India, young adults are especially exposed to algorithmic platforms in urban cities such as Delhi-NCR because of strong smartphone ownership rates (more than 80% in urban India) and low pricing of data plans that ensure connection at all times. (IAMAI, 2023) The collective identity and social connectedness of the Indian culture can be another factor contributing to burnout due to being affected by the effects of algorithmic social comparison and expectations. (Sunil et al., 2022) These dynamics are important to understand to formulate the interventions to make young Indians more likely to engage in healthier digital consumption.

The Indian Context and Emerging Research Gaps

Despite the growth of literature about Digital Burnout and Social Media Fatigue, there are also some acute gaps in the research of direct influence of algorithmic recommendations on emotional burnout. To start with, much of the existing literature relies on the data of Western population (e.g., United States, Europe), and few pieces of information about non-Western populations refer to India in particular. (Sunil et al., 2022). This is also worrisome given that India is rapidly becoming digitized and over five hundred million social media users already consume the content offered by the algorithms on a daily basis. (Statista, 2023) Second, despite the already conducted research on the overall use of social media and burnout, there are not many that directly isolate the mediating effect of unending customized recommendations, one of the primary features of contemporary recommendations-based services, and project them on emotional burnout. Most of the studies presuppose a unitary approach towards the concept of social media use, and they do not differentiate between passivity, active engagement, and algorithm-based exposure. (Kross et al., 2021) This differentiation is critical and algorithmic advice generates distinctive psychological needs that vary with platform use in general. Third, there is a lack knowledge of mechanisms that relate to the relationship between algorithmic exposure, digital fatigue, information overload, and withdrawal behaviour, especially among young adults in urban India. Even though the theoretical frameworks have been applied, such as the Uses and Gratifications Theory and the Technology Acceptance Model, in the scenario of digital burnout, little literature has examined the mediating nature of the algorithmic personalization in the relationships.(Sundar & Limperos, 2013) One of the most digitally connected cities in India is the city of Delhi-NCR that can be studied to get a special environment in order to investigate these processes. Delhi-NCR is an ideal place to study the phenomenon of algorithm-induced burnout, as the percentage of all internet users in the country is more than 30%, and the number of young adults in the online population is large. (IAMAI, 2023) The information that the region provides is multicultural, has high prevalence of smartphone users, and the culture of the region is social-connectivity based, making it a perfect place to conduct the expansion of the research on digital burnout into the non-Western context.

Significance of Study

The study addresses the gaps in the literature of significance in that it studies the relationship between exposure to algorithmic recommendations and emotional burnout in young adults in Delhi-NCR. This study is three-fold valuable: **Theoretical Significance-** This article adds to the theoretical framework of studying burnout through introducing an extension of the traditional theories of occupational burnout to the digital environment through assessing the emotional exhaustion induced by algorithms. The research adds to the current paradigm on models of technology-induced stress and future of theoretical developments on digital wellbeing in that digital fatigue and information overload may be a predictor and withdrawal behaviour outcomes of stress, respectively. **Practical Significance-** The implications of the findings of the study will have considerable importance to platform developers, policymakers, mental health practitioners, and teachers. The research will have a positive impact by assisting in developing a more personalized and ethical algorithm-based personalization system, policy development regarding digital wellbeing, and informed interventions aimed at helping young adults make healthier digital consumption decisions. **Social Impact-** In the era of increasing impact of digital technologies upon daily life, the scientific importance of the research on the psychological influence of the algorithm systems is crucial the safeguarding of individuals' mental health. The study is timely with regards to the high public health concern, particularly in India, where the adoption of technologies is at a very fast pace without the worry that the related psychological risks are being addressed.

METHODOLOGY

Aim

To assess the emotional implications of personalized AI recommendations on young adults.

Objectives

1. To test the connection between digital burnout and emotional exhaustion in young adults
2. To investigate the correlation between social media fatigue and emotional exhaustion
3. To test the relationship between information overload and emotional exhaustion
4. To determine whether social media burnout and information overload are major predictors of emotional exhaustion among young adults.

Hypotheses

1. **H1-** Among young adults, there will be significant positive association between digital burnout and emotional exhaustion.
2. **H2-** Emotional exhaustion will significantly have a positive relationship with social media fatigue.
3. **H3-** Emotional exhaustion will have a positive correlation with information overload with is significant.
4. **H4-** The emotional exhaustion in young adults will be considerably predicted by social media fatigue and information overload.

Research Design

The proposed study employed a quantitative, correlational research design to examine the impact of constant personalized algorithmic recommendations on emotional burnout. A cross-sectional survey-based approach, where data was collected at a single point in time using standardized self- report measures, was used to facilitate the efficient collection of data from a large number of participants and allow examination of patterns of relations among variables at a specific time frame.

Since the primary objective was to establish relationships and predict effects between variables, such as digital burnout, information overload, and emotional burnout, a quantitative design was deemed appropriate. The correlation design allowed for investigation of the interconnectedness between exposure-related factors and emotional exhaustion. The study aimed to assess naturally occurring phenomena and thus experimental manipulation was neither feasible, nor required.

Variables

Independent Variables

1. Digital Fatigue (measured through the Social Media fatigue scale), refers to "subjective feeling of tiredness, reduced interest, and compulsive use of digital technologies, particularly algorithm- driven platforms, leading to cognitive overload and behavioural disengagement." (Dhir et al., 2019)
2. Information Overload is "The state in which the amount of information input exceeds the processing capacity of individual. Leading to cognitive strain, reduced decision-making quality, and emotional exhaustion." (Bawden & Robinson, 2020)

Dependent Variables

1. Emotional burnout is "a prolonged response to chronic emotional and interpersonal stressors on the job manifested by emotional exhaustion, depersonalization, and reduced personal accomplishment." While emotional exhaustion is defined as "feelings of being emotionally overextended and exhausted by one's work." (Maslach et al., 1997)
2. Digital Burnout is "The state of emotional exhaustion, cynicism towards digital interactions, and reduced personal efficacy resulting from prolonged and intensive use of digital technologies, characterized by feelings of being overwhelmed and disengaged from online activities." (Reinecke & Hofmann, 2016)

Sample

The study consisted of 210 participants between the ages of 18 and 30 years. All participants were active users of algorithm-driven digital platforms, such as social media applications and content streaming platforms.

Inclusion criteria

1. Age between 18 to 30 years
2. Active users of algorithm-driven platforms
3. Willingness to participate.

Exclusion criteria

1. Individuals below the age of 18 or above 30 years
2. Non-regular users of digital platforms
3. Incomplete responses

Sampling Technique

A convenience sampling technique was used for participant recruitment, where participants were selected based on accessibility and voluntary willingness to participate. The survey was conducted through online distribution of links across digital platforms commonly used by young adults. Convenience sampling was considered appropriate due to practical constraints and exploratory nature of the study. Since the data was collected through self-reporting, link sharing over digital platforms was the best approach.

Psychometric Tools

- **Maslach Burnout Inventory (MBI)**: MBI was developed by Christina Maslach and Susan E. Jackson, the Maslach Burnout Inventory- Emotional Exhaustion Subscale (MBI-EE) used for this study is a subscale of the full MBI, focused on the emotional depletion aspect of burnout. The subscale consists of 9 items, which are graded on a 7-point likert (0 to 6) with scores ranging from 0 to 54; Thresholds- low (0 to 16), Moderate (17 to 26), High (26+). Reliability analysis for the scale shows internal consistency values ranging from 0.87 to 0.91. (Maslach et al., 1997)
- **Digital Burnout Scale (DBS)**: DBS by Erten and Özdemir, assesses burnout due to the use of digital technologies in daily life. The Emotional Exhaustion subscale used includes 6 items which are assessed on 5-point likert (1 to 5) with minimum and maximum scores bring 6 and 30, respectively. The Cronbach's alpha coefficient was calculated at 0.86 for the subscale. (Erten & Özdemir, 2020)
- **Social Media Fatigue Scale (SMFS)**: SMFS, developed by Zhang, Shen, Xin, Wang, Zhang, and Ren, assesses fatigue specific to algorithm-driven platforms and social media related strain. The Cognitive and Emotional Experience subscales used encompasses 10 statements with each rated on a 7-point likert (1 to 7). Total scores ranging from 7-70. The scale shows high internal consistency, with Cronbach's alpha= 0.94 overall and the subscale alphas ranging from 0.88 to 0.91. (Zhang et al., 2021)
- **Information Overload Scale (IOS)**: Pamela Karr-Wisniewski and Ying Lu developed this scale to measure the perceived strain from exposure to excessive data. The Information overload subscale used here consists of 3 statements rated over a 9-point likert (1 to 9). The total scores range from 3 to 27 for the subscale and higher scores indicate greater information overload. The scale has an overall consistency of 0.93, with the subscale alpha at 0.72. (Karr-Wisniewski & Lu, 2010)

Data Screening and Assumption Testing

Data was analyzed using Microsoft Excel and SPSS software and the following techniques were applied-

1. Descriptive Statistics- Means and Standard Deviations were computed for all the variables to summarize Central Tendency and Dispersion.
2. Pearson's Correlation Analysis- Pearson's Correlation was applied to examine the relationship between the variables to prove our hypothesis.
3. Multiple regression Analysis- Regression analysis was conducted in 2 models.

- MODEL 1-
  Dependent Variable- Emotional Burnout
  Predictors- Social Media Fatigue, Information Overload
- MODEL 2-
  Dependent Variable- Digital Burnout
  Predictors- Social Media Fatigue, Information Overload

RESULTS AND DISCUSSION

The SPSS was used to analyze the data obtained on 210 young adults aged 18 to 30 with the help of descriptive statistics, Pearson correlation analysis, and multiple regression analysis. Even the initial examination of the data showed that it was appropriate for parametric testing. The value of skewness and kurtosis of all variables were not out of the acceptable range (under or over 1) suggesting that the data is normally distributed. Assumptions of

normality, linearity, and homoscedasticity were also confirmed by visual inspection of histograms, Q-Q plots and scatterplots.

Descriptive statistics showed that there was moderate to high emotional exhaustion among the participants. The Maslach Burnout Inventory subscale (Emotional Exhaustion subscale) scores were 21- 69 with a mean of 47.33 (SD = 10.58) indicating significant emotional overload among young adult users of algorithm-based digital platforms. On the same note, the scores of digital burnout were between 6 and 28 (M = 16.30, SD = 4.83), which indicates the presence of moderate technology-related burnout. The scores of social media fatigue were between 10 to 70 (M = 35.76, SD = 11.36), and the information overload scores were between 3 and 27 (M = 14.88, SD = 5.68). These results suggest that the respondents had an average emotional and cognitive stress related to the use of digital media.

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Maslach Burnout Inventory	210	21	69	47.33	10.579	111.925
Digital Burnout Scale	210	6	28	16.30	4.826	23.294
Social Media Fatigue Scale	210	10	70	35.76	11.360	129.044
Information Overload Scale	210	3	27	14.88	5.683	32.300

Note. N= 210

The study variables were correlated with each other, and the hypothesized relationships were supported by the results of the correlation analysis. Digital burnout significantly positively correlated with emotional exhaustion (r =.536, p <.001), meaning that individuals that had higher levels of technology-related exhaustion had higher chances of reporting greater emotional depletion. The social media fatigue (r = -.422, p =.001) and information overload (r = -.428, p =.001) were also greatly correlated with emotional exhaustion, which implies that emotional fatigue due to social media interactions and cognitive exhaustion due to information overload are contributing factors to emotional burnout. Moreover, social media fatigue and information overload were highly correlated with one another (r =.644, p <.001), which implies that emotional and cognitive pressures in the digital environment can and do co-occur but are different constructs.

Table 2 Correlation Analysis

		Maslach Burnout Inventory	Digital Burnout Scale	Social Media Fatigue Scale	Information Overload Scale
Maslach Burnout Inventory	Pearson Correlation	1	.536**	.422**	.428**
Digital Burnout Scale	Pearson Correlation	.536**	1	.516**	.456**
Social Media Fatigue Scale	Pearson Correlation	.422**	.516**	1	.644**

Information Overload Scale	Pearson Correlation	.428**	.456**	.644**	1

.** Correlation is significant at the 0.01 level

The multiple regression analysis was done to find out whether the emotional exhaustion was predicted by social media fatigue and information overload. The general regression equation turned out to be statistically significant, F(2, 207) = 29.18, p <.001 which explains the factors of emotional exhaustion to the tune of roughly 22 percent (R 2 =.220). The two predictors contributed greatly to the model. Emotional fatigue was also found to be highly predicted by social media fatigue (250 = 0.002), which means that emotional fatigue due to extended use of social media is directly related to emotional depletion. The most predictive one was the information overload (=.267, p =.001), which indicates that cognitive pressure because of too much personalized content only exacerbates emotional burnout. These findings point to the fact that algorithm-oriented digital spaces cause both emotional and cognitive strains, which in combination lead to burnout-like experiences.

Hypothesis: There is a positive correlation between the predictors and digital burnout.

Table 3 Model 1 Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.469[a]	.220	.212	9.389

a. Predictors: (Constant), Information overload Scale, Social Media Fatigue Scale
b. Dependent Variable: Maslach Burnout Inventory

Table 4 Model 1 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5144.797	2	2572.398	29.181	.000[b]
	Residual	18247.532	207	88.152		
	Total	23392.329	209			

a. Dependent Variable: Maslach Burnout Inventory
b. Predictors: (Constant), Information overload Scale, Social Media Fatigue Scale

Table 5 Model 1 Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	31.604	2.202		14.350	.000
	Social Media Fatigue Scale	.233	.075	.250	3.114	.002
	Information overload Scale	.498	.149	.267	3.330	.001

The second regression model was used to test predictors of digital burnout. It was statistically significant, F(2, 207) = 42.82, p <.001, which describes about 29.3 percent of the variance in digital burnout (R 2 =. 293). Social media fatigue was the most predictive variable (2 =.381, p <.001), whereas information overload had a major impact on digital burnout (2 =.211, p =.006). These results indicate that the effect of emotional fatigue caused

by social media interactions is specifically strong in influencing the technology-related experiences of burnout.

Table 6 Model 2 Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.541[a]	.293	.286	4.079

a. Predictors: (Constant), Information overload Scale, Social Media Fatigue Scale
b. Dependent Variable: Digital Burnout Scale

Table 7 Model 2 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	1424.777	2	712.388	42.821	.000[b]
	Residual	3443.718	207	16.636		
	Total	4868.495	209			

a. Dependent Variable: Digital Burnout Scale
b. Predictors: (Constant), Information overload Scale, Social Media Fatigue Scale

Table 8 Model 2 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
2	(Constant)	7.859	.957		8.214	.000
	Social Media Fatigue Scale	.162	.032	.381	4.980	.000
	Information overload Scale	.179	.065	.211	2.758	.006

a. Dependent Variable: Digital Burnout Scale

The results confirm the theoretical approach that the burnout is not exclusive to the workplace but can also occur in digital places with continuous stimulations and the need to be engaged. Platforms powered by algorithms provide a constant stream of customized ideas, updates, and specific streams of content that generate constant cognitive and emotional needs in their users. This constant exposure in the course of time can drain psychological reserves leading to emotional exhaustion.

The findings also correspond to the stressor-strain framework that postulates that technological stressors like information overload and social media fatigue may result in psychological distress. Personalized recommendations in the framework of algorithmic digital ecosystems can cause one to become more exposed to emotionally stimulating content, which requires more cognitive processing and emotional engagement. A combination of this cognitive overload and emotional exhaustion can eventually result in burnout-like symptoms.

Besides, the results indicate the dual-process character of digital stress. Emotional exhaustion that arises during social interactions and cognitive overload caused by too much exposure to information seem to interplay in influencing emotional exhaustion. Instead of being prompted by the duration of time spent online, burnout can be caused by the qualitative experience of being engaged with the streams of algorithm-mediated content.

Overall, the findings demonstrate that the digital spaces operated by algorithms can be considered unceasing psychological stress situations in young adults. Infinite scrolling, autoplay, and personalized feeds among others are created to facilitate maximum engagement but are likely to make the brain more active and more emotionally stimulated. With repeated exposure to these stimuli, there is a possibility that such stimuli lead to gradual depletion of the emotional resources of users, which causes the formation of online burnout.

CONCLUSION

The current paper has considered the connection between online worlds of algorithms and emotional exhaustion in the young adult population using social media. As the popularity of algorithmic recommendation systems continues to grow in daily online interactions, users are subjected to personalized streams of content that increasingly aim to ensure the user is as engaged as possible. Although these systems can improve user experience and relevance of the content, the results of this study indicate that such uninterrupted exposure can equally be a cause of psychological stress.

The findings revealed that digital burnout, social media fatigue, and information overload had a strong relationship with emotional exhaustion. The degree of emotional exhaustion was also higher in those participants who had higher rates of fatigue caused by social media engagement and cognitive burden caused by the continuous exposure to information. These results imply the importance of both emotional and cognitive stressors in online settings in developing burnout-like experiences in users.

Regression analyses also indicated that social media exhaustion and information overload were also key predictors of emotional exhaustion and digital burnout. The phenomenon of social media fatigue proved to be one of the strongest predictors, which implies emotionally demanding online conversations and the expectation of being constantly a contributor of psychological strain. The overwhelming amount of the content created by the algorithm was also a significant predictor of burnout, which implies that the saturation of the cognitive processing capacity by information and the resulting mental fatigue can be facilitated by the sheer high amounts of the algorithmically filtered content.

Combined, the results pose the assumption that burnout is not limited to the workplace but may also arise in digitally mediated spaces, which involves unceasing stimulation and interaction. The functions of an algorithmic recommendation system, including customized feeds, auto-playing media, and infinite scrolling, might inadvertently stipulate the circumstances of the augmented cognitive load and emotional engagement in the long-term. With time, such requirements can exhaust the emotional resources of the users and cause exhaustion and disengagement.

The research adds to the existing literature about digital well-being by pointing out the psychological consequences of content consumption through algorithms. It highlights the importance of more awareness about the psychological impacts of extensive use of algorithmic platforms. In practical terms, the results indicate that platform designers, policymakers, and mental healthcare experts need to consider strategies that can encourage healthier digital use habits. They can enhance openness of recommendation systems, digital well-being devices minimizing excessive exposure, and the user education on conscious media consumption.

The study has some limitations despite its contributions. The cross-sectional type does not allow establishing the causal relations between the results of algorithmic exposure and burnout. Also, self-report measures could lead to biases through the use of such measures. Certain longitudinal studies could be employed in the future to investigate the longitudinal effects of long-term exposure of algorithmic environment on psychological well-being. More research can also focus on other moderating variables including personality traits, coping strategies or digital literacy.

To sum up, the current paper illuminates the psychological implications of the algorithm-based digital ecosystems. With the ongoing influence of algorithmic technologies on the user experience of the Internet, it is becoming more significant to comprehend how it may affect emotional well-being. Digital fatigue and information overload can thus be critical issues involving healthier relationships with technology and defending the user against digital burnout in the long term.

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