The Impact of Social Media on Gen Z's Mental Health and Privacy

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Abstract

Over the last decade, the ever-growing increase in social media usage among Generation Z has significantly influenced their behavior and mental health. In this context, the present study investigates the relationship among extensive social media use, psychological disorders, and privacy concerns in this generation. Using a structural equation model (PLS-SEM), we examine the relationships variables such as information overload, online reputation, social media fatigue, psychological disorders, and privacy concerns. One of our key findings is a positive correlation between information overload and social media fatigue, which highlight the cognitive burden of excessive digital information. Interestingly, our results do not show that open researchability significantly contributes to social media fatigue, suggesting effective information management by users. Furthermore, we find that addictive flow and online self-reputation concerns are positively associated with social media fatigue, suggesting that intense engagement and image management can be exhausting. This fatigue significantly escalates into psychological disorders, underlining the profound mental health implications of social media use. Moreover, the impact of psychological disorders and privacy concerns on the reduced intention to use social media observed in the data highlights a growing self-awareness and regulatory behavior among Generation Z. Collectively, the results of the present study offer meaningful insights for mental health professionals and social media platform designers, emphasizing the need for healthier online environments and strategies to promote digital well-being.

1. INTRODUCTION

With the advent of the new digital era, over the past decade, the use of social media among young people has considerably increased (Correa et al., 2010; Singla & Agrawal, 2024), becoming thus a habit that has influenced and modified user behavior (Jarman et al., 2014; Phan et al., 2020). The generation most affected by the digital era with its extensive use of new technologies is Generation Z, which embraces individuals born between 1997 and 2013 (Strauss & Howe, 1991; Grau et al., 2019; Viţelar, 2019). Born in the age of technology, Generation Z users are more likely to use social media, mobile Apps, or AI methodologies in their daily lives (Al-Sharafi et al., 2013; Lisana, 2024; Sharma et al., 2023). Yet, a downside of extensive use of technologies is that it generates dopamine in the brain, a chemical that drives addiction (e.g., Sutcliffe & Virassamy, 2021). This addiction was previous reported to be also linked to the concept of fear of missing out (FOMO) (Khoiriyah &Tarsidi, 2022). For instance, Van den Eijnden et al. (2016) argued that excessive use of social media generates disorders in daily behavior. Another relevant study indicated that overexposure to large amounts of information can cause fatigue or anxiety (De Keyzer et al., 2024).

Furthermore, living in the vast interconnected ecosystem, Generation Z are becoming increasingly aware of potential actions that invade their privacy and experience personal weariness from maintaining a good digital reputation (Saura et al., 2021). The aforementioned factors can cause psychological fatigue, which, as indicated by (Lin et al., 2016), can sometimes lead to suicide. On top of that, in the new interconnected ecosystem, a particularly important role is played by corporations that, operating in the digital ecosystem, seek to increase their profitability through advertising, digital promotions, and personalized digital marketing directed at Generation Z as the most digitally literate demographic group (Arora et al., 2020; Ribeiro-Navarrete et al., 2021). Similarly to social media use, online marketing also generates dopamine (Yang et al., 2022). The more dopamine is generated by this type of content on social media, the greater is the psychological influence, also referred to as flow, of digital advertising on Generation Z. This flow generated by social media is linked to the time when a user is completely absorbed in an activity that generates pleasure and enjoyment, during which time passes quickly and actions, thoughts, and movements follow one another without pause (Miranda et al., 2023). Consequently, the more dopamine, the more addiction, and the more consumption of sponsored content and marketing actions, which results in increased profitability of companies in digital environments (Deutsch, 2013; Saura, 2021).

This situation not only adversely affects psychological behavior of millennials, but also poses serious concerns about privacy of their personal data (Saura et al., 2021a). These data-points are the most profitable elements of any campaign developed in digital environments. The mass sale of data has become one of the great businesses of the 21st century (Leskovec et al., 2020). Moreover, digital marketing and predictive algorithms are currently being optimized by the use of artificial intelligence (AI), which boosts profitability of this business (Shameem et al., 2023) and creates unethical design (Brough et al., 2020).

In this context, it should be noted that the influence of social media on human behavior has been studied on numerous occasions (Masrom et al., 2021). For example, digital marketing actions and personalized advertising on social media, which identify a high influence on millennials and Generation Z (Angmo & Mahajan, 2024), or the actions of programmatic advertising or mass listening of information (Palos-Sanchez et al., 2019), generate privacy concerns. There is also the example of the increase in addictions and lack of concentration due to social media (King et al., 2017), among others.

As argued by Zheng and Ling (2021), various internal and external factors can cause social media fatigue, which, in turn, adversely affects social media users' well-being. The problem of social media use stems from the fact that, while there is a lot of freely accessible information, not all of this information is necessary (Meel & Vishwakarma, 2020). This suggests that open searchability may be one of the causes of mental health problems among Generation Z users. Furthermore, the accumulation of information, which causes information overload, can adversely affect users' mental health (Drahošová & Balco, 2017). Furthermore, several previous studies indicated that among the variables that may cause mental health problems among social media users are the addictive flow of social media (Zhao & Zhou, 2021), online self-reputation (Amin & Khan, 2021), and privacy concerns about one's data (Martínez-Navalón et al., 2021; Saura et al., 2021a). Furthermore, as indicated by previous research, there are several factors that lead to a reduced use of social media (e.g., Lin et al., 2020; Pradhan, 2022), many factors can influence the abandonment or reduced use of social media.

In this context, in becomes increasingly relevant, in psychological and marketing terms, to understand the relationship between social media consumption and digital marketing actions, along with their impact on the psychological behavior of online users born in Generation Z. Accordingly, the overarching aim of the present study is to understand the relationship between

the use of social media and psychological disorders in Generation Z. We also consider possible privacy concerns and their causes, as these are linked to digital marketing actions. The research questions addressed in this study are as follows: 1) Are psychological disorders of Generation Z caused by social media fatigue? 2) Can free access to the social media, collecting unnecessary information, and concerns about one's online reputation lead to social media fatigue? 3) Do psychological problems and the lack of security in social media of Generation Z reduce their intention to use social media? The originality of the present study is underpinned by the fact that, to the best of our knowledge, the link between the influence of social media, psychological disorders among Generation Z users, and the perception of privacy has not yet been studied in the literature.

To bridge this gap in the literature, in the present study, we use partial least squares structural equation modeling (PLS-SEM) to develop a model that is then tested using a sample of 916 students born during the period from 1997 to 2013. The tested model includes the variables Information Overload, Open Researchability, Addictive Flow, Online Self-Reputation, Social Media Fatigue, Psychological Disorders, Privacy Concerns, and Reduced Intention to Use Social Media (see Section 3 for further detail).

The remainder of this paper is structured as follows. Section 2 presents a review of relevant literature and the hypotheses tested in the present study. The methodology and data are described in Section 3. The results of the present study are reported in Section 4. Section 5 discusses the findings. Finally, conclusions, including an outline of theoretical and practical implications, are drawn in Section 6.

2. THEORETICAL BACKGROUND

2.1 Social media importance and influence

The development of the Internet, along with the current advances of generative AI tools, has propelled the social media industry (Benabdelouahed & Dakouan, 2020). At present, both individual users and companies have ample opportunity to generate content on social media. Accordingly, social media have become a key digital channel for marketing actions worldwide (Theodoridis & Gkikas, 2019; Gavurova et al., 2018; Gelashvili et al., 2022). In this respect, as noted by Donelan (2016), advantages of social media include strengthening professional and personal relationships, which can be advantageous for both users and companies, gaining direct and immediate access to information (Siddiqui & Singh, 2016; Drahošová & Balco, 2017), as well as the possibility to promote training or different actions of social interest (Espinel Rubio et al., 2021). Indeed, as argued by Ha et al. (2015), large social media networks such as Facebook, Twitter and Instagram support both human networking and integrate cultural and business functions.

However, social media use is also associated with several disadvantages. For instance, Lupinacci (2021) highlighted that, due to the effect of "infinite content" that drives the flow on social media platforms, users can develop psychological disorders. Another downside of social media sites is that they are frequently used by companies for their commercial purposes. By consuming companies' visions and ideologies through products, users' risk their own decisions being diminished (Mas-Tur et al., 2016). Zuboff (2023) referred to this phenomenon as behavior modification and linked it to the broader concept of surveillance capitalism. The latter concept entails that, owing to social networks and digital environments, large corporations and governments can massively influence societal behavior to establish their ideals (Saura et al., 2022). In addition, Rivera-Arrubla and Zorio-Grima (2016) highlighted that, as new generations get exposed to digital screens and, in the absence of appropriate teaching on their use in

education, innovation, or daily habits,, there emerges a deficit in their learning which, in the most acute cases, can drive psychological disorders (De Keyzer et al., 2024).

In recent years, with the development of AI, the role of digital marketing in social media has become increasingly intelligent. Today, companies' ability to generate real-time personalized content or adapt content according to user preferences is limitless (Dwivedi et al., 2021). This capability generates profitability due to constant advertising in these environments. However, another disadvantage is that increasing profitability at the expense of generating addictions and altering behavior in younger generations is generally termed as unethical design (Brough et al., 2020), which is harmful to individual users (e.g., Sharma et al., 2023).

As a solution to this concern, in relation to social networks and any connected device, Vorderer et al. (2016), highlighted the importance of the well-known concept of privacy by default (Saura et al., 2021b). This concept sets limits to the addictions caused by social networks and the dopamine generated by personalized content, as well as to the economic stimuli that companies generate using digital advertising.

2.2. Hypothesis development

As argued by Ali et al. (2018), the use of social media is associated with privacy and security risk. Accordingly, cybersecurity may compromise the exposure of personal information of social media users. Furthermore, there is evidence to suggest that, given that there is the possibility of circulation of fake and irrelevant news that can affect decision-making ability, not all information provided through different online channels is relevant (Wang et al., 2021),. Furthermore, as noted by Li and Chan (2022), the accumulation of unnecessary information generates information overload that can adversely affect individuals' well-being. In addition, a relevant literature review on the influence of social networks and mental illnesses such as depression or psychological distress revealed a positive relationship between social media and mental problems in teenagers, although this relationship was argued to be quite complex and it was acknowledged that it could be influenced by several variables (Keles et al., 2020).

In particular, one of the key factors affecting users' well-being is *social media fatigue*, defined as a feeling of tiredness from social media marketing activities (Miranda et al., 2023; Ravindran et al., 2014; Sheng et al., 2023). Among various factors causing social media fatigue, there are internal and external factors. While the former include psychological stressors, the latter comprise relational, environmental, or commercial promotions (Zheng & Ling, 2021). Interestingly, in a study on the drivers of social media fatigue, Ou et al. (2023) found that behavioral and psychological stressors showed greater social media fatigue effects. Based on this evidence, we formulate the first hypothesis to be tested in the present study is as follows:

> **H1.** *Information overload of Generation Z has a positive and direct impact on social media fatigue.*

Furthermore, open researchability, broadly defined as the possibility of making research or different types of resources available online to the public, allows different types of users to have access of resources free of charge (Davis & Walters, 2011). One of the functions of social media is to provide access to all kinds of information (Meel & Vishwakarma, 2020). However, as a source of information, social media may contain fake news, rumors, opinion spam, content marketing, or miss information, all of which can adversely affect users. Excessive information was also mentioned as one of the negative factors associated with social media use (Drahošová & Balco, 2017). To date, previous research has largely focused on the advantages afforded by open researchability (Davis & Walters, 2011), thereby neglecting its disadvantages—and

especially those affecting users' well-being. To fill this gap in the literature, in this study, we examine the relationship between open researchability and social media fatigue. Accordingly, our second hypothesis is as follows:

H2. *Open researchability of Generation Z has a positive and direct impact on social media fatigue.*

Next, a previous study on the addictive use of social media among college students during the COVID-19 pandemic revealed that the stress caused by the pandemic had pushed young people into excessive use of social media (Zhao & Zhou, 2021). Such excessive social media use was also found to be positively related to social media flow (Zhao & Zhou, 2021), or a state during which a person gets intensely engaged in an activity, to the point of exclusion of all other thoughts (Hoffman & Novak, 1996). Importantly, the addictive flow of social media is a pleasant psychological experience that produces gratifying feelings at the moment; yet, its downside is that it makes people dependent on social media, causing time loss, jeopardizing user privacy, and generating health problems (Pelet et al., 2017). As argued by Hattingh et al. (2022), online social media marketing campaigns adversely affect well-being and generate social media fatigue. Based on this evidence, our third hypothesis is as follows:

H3. *Addictive flow of Generation Z has a positive and direct impact on social media fatigue.*

In recent years, while several studies explored the importance of reputation of social media users (Bok et al., 2017; De Ridder, 2021), in-depth studies on this subject are still lacking. As argued by Schweitzer et al. (2020), social media users' reputation is typically measured by the number of followers. Furthermore, as noted by Talwar et al. (2020), social network users are concerned about their online image, i.e. they are worried about the image they have and how others perceive them (e.g., Amin & Khan, 2021), which generates social media stress. Whenever users are concerned about their online reputation, their well-being is affected, which, in turn, leads to social media fatigue. Taking all this into account, we formulate our next hypothesis to be tested in the present study:

H4. *Online self-reputation of Generation Z has a positive and direct impact on social media fatigue.*

In today's digital age, social media fatigue is a new phenomenon assumed to affect and be affected by individual, relational, and environmental factors (Zheng & Ling, 2021). One of the individual factors affected by social media fatigue is social media users' well-being (Dhir et al., 2018). For instance, Sheng et al. (2023) demonstrated how information overload on social networks, digital marketing activities, invasion of privacy and personalized advertising, or cyberbullying lead users to emotional exhaustion which, in turn, causes social media fatigue. There is also evidence to suggest that social media fatigue can lead to depression (e.g., Pradhan, 2022), insomnia and anxiety (Malaeb et al., 2021). Based on the evidence briefly reviewed above, we hypothesize that:

H5. *Social media fatigue of Generation Z has a positive and direct impact on their psychological disorders.*

As documented by Pradhan (2022), social media fatigue leads to the intention to discontinue social media use. Similarly, Lin et al. (2020) reported that social media fatigue positively influences social media users' discontinuance intentions. This suggests that users' psychological discomfort associated with excessive social media use can lead to a decision not to use social networks. While several other studies did not replicate this trend (e.g., Vannucci et al., 2017), in this study, we expect to find a positive relationship between psychological

disorders caused by the use of social media and the reduced intention of social media use. Accordingly, our sixth hypothesis is as follows:

H6. *Psychological disorders of Generation Z have a positive and direct impact on reduced intention of social media use.*

Finally, in recent years, several studies documented the importance of user privacy in social media (Martínez-Navalón et al., 2021). Using social media profiles can negatively affect users' privacy and security (Gupta & Saraf, 2023; Saura et al., 2021a). Interestingly, however, although previous studies documented a strong relationship between excessive social media use and users' psychological health (Chu et al., 2023; Pelet et al., 2017), which was found to be drive the intention to reduce social media use, previous research failed to document a relationship between privacy concerns and the intention to reduce social media use (e.g., Jung et al., 2011). Yet, a study on non-students behavior on social media revealed that among the factors that led users to engage in precautionary behavior were use habits, perceived risk, and risk dimensions (Van Schaik et al., 2018; Zhou & Liu, 2023). This means that if users perceive a security risk to their data or content on social media, they are likely to take precautionary measures to mitigate that risk. Based on the above, the last hypothesis to be tested in the present study is as follows:

H7. *Privacy concerns of Generation Z have a positive and direct impact on Reduced Intention to Use Social Media*

The research model based on the hypotheses discussed above is shown in Figure 1.
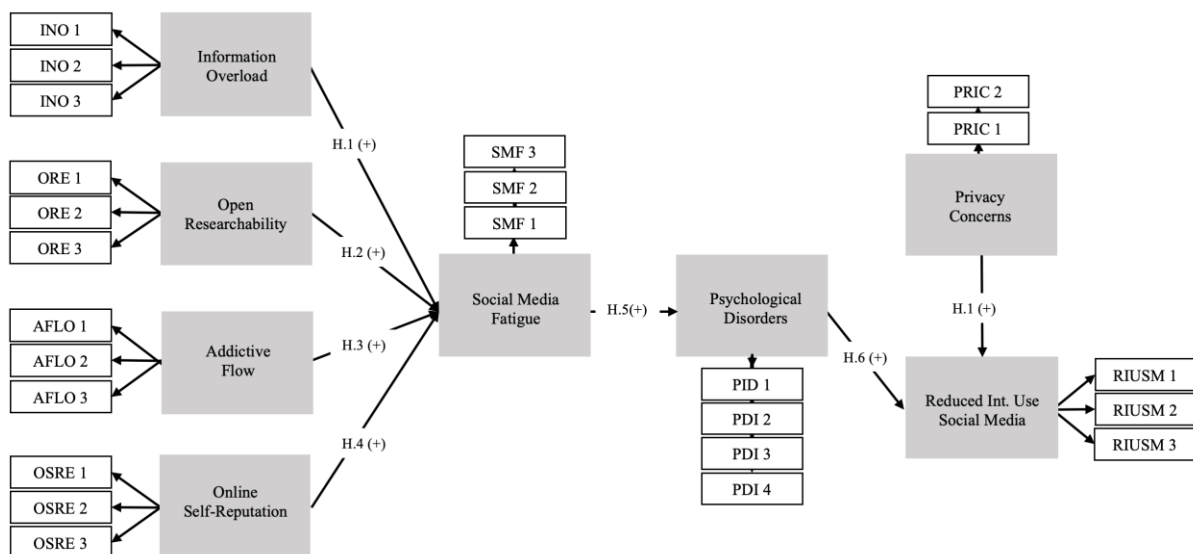

Figure 1. Research model

Source: The authors

3. RESEARCH METHODOLOGY AND DATA

3.1. Methodology

In this study, we used structural equation modeling (SEM)—a widely used statistical technique that combines elements of regression, along with factorial and multivariate analysis (Weijters

et al., 2020; Zhang, 2022). The use of SEM is highly recommended in research with qualitative variables and complex models of the relationships between different latent and observed variables (Hair et al., 2021). One of the functions of the SEM is to measure both direct and indirect relationships between variables (Henseler, 2020). Among different SEM techniques, we chose PLS, as it tends to offer the most robust and complete models (Hair et al., 2014). In addition, PLS-SEM model is known for its flexibility and suitability to the analysis of models with a larger number of variables and with a relatively small sample size (Hallak et al., 2018). Depending on the structure of the data and research objectives, the PLS-SEM analysis can take different methodologies.

The model proposed in the present study encompasses several pivotal variables, each scrutinized for its impact on social media use and psychological disorders among Generation Z. First, Information Overload examines the impact of excessive digital marketing campaigns on social media fatigue, suggesting cognitive challenges. Furthermore, Open Researchability evaluates the accessibility of online resources and their potential effect on users' decision making and fatigue. Next, Addictive Flow explores intense social media engagement and its correlation with user dependency and potential mental health effects. Online Self-Reputation captures the stress associated with maintaining an online image and its consequent impact on user fatigue. Next, Social Media Fatigue assesses the exhaustion arising from prolonged social media use and its link to psychological distress. Using the variable of Psychological Disorders, we explore mental health issues emerging from extensive social media use. Finally, Privacy Concerns delve into users' apprehensions about data security and how these emotions affect users' social media usage patterns. Collectively, the variables included in the model tested in the present study capture the multifaceted interactions between social media usage, psychological well-being, and behavior among Generation Z, highlighting critical areas for future research and intervention.

3.2. Data

The sample of this study consisted of a total of 916 observations collected over several years. The study participants included the Erasmus+ students enrolled at different European universities between the years 2018 and 2023. With regard to gender distribution, almost 54% of the participants were men, while 46% were women, so the sample was balanced in terms of gender. With regard to the dates of data collection, a total of 355 responses were obtained in 2018-2019; in 2020-2021, we collected 275 observations; and finally, in the years 2022-2023, 286 responses were obtained. According to the European Commission (2024), in the last 6 years, over 90 million students have benefited from Erasmus+ mobility. Based on a sampling error of 5% and a confidence level of 95%, we determined that the sample size of at least 385 samples would be needed. Previous studies analyzing similar topics on Erasmus students and mobility used sample of similar size. For instance, in a study on the perceived employability of Erasmus students, Soares and Mosquera (2020) analyzed a total of 196 responses. Similarly, in a study on the effect of Erasmus mobility on students, Dolce et al. (2023) analyzed a sample of 170 participants for a specific year. Based on the above, it can be concluded that the sample analyzed in the present study was academically representative. Furthermore, in terms geographic representation, most observations in our dataset were collected in Spain, Germany, Italy, Croatia, Portugal, Netherlands, and Lithuania. The survey was sent to Erasmus+ students through institutional e-mails, and the responses were collected through the survey platform. The survey, completing which required 4-5 minutes, was divided into two blocks. In the first block, the respondents provided demographic information. In the second block, the study participants answered the questions related to the variables analyzed in the study. Most of the questions asked in the second block were items rated in a Likert scale.

4. RESULTS AND DISCUSSION

4.1 Measurement model

First, we validated the measurement scale, starting with the analysis of individual reliability of items as suggested by their loadings (λ). As noted by Carmines and Zeller (1979), loadings should exceed 0.708. Meanwhile, according to Hair et al. (2011), the items with the loadings exceeding 0.4 and relevant to the model should be retained. Table 1 shows that three of the items included in the survey did not meet the first criterion, but met the second and thus were retained. The remaining items that did not meet the aforementioned criteria were removed from the dataset.

Next, we analyzed composite reliability of the proposed model, which included measuring its consistency based on its indicators (Hair et al., 2020). This criterion is rigorous regarding the measurement of items of the same latent variable. The criterion we used was the rho_A ratio. To be accepted, all items had to have their cutoff index at 0.7 (Dijkstra & Henseler, 2015). This criterion was also met by all indicators of the model.

Furthermore, in the analysis of convergent validity, the most used criterion is the AVE (Average Variance Extracted) (Del-Castillo-Feito et al., 2020). This criterion sets the minimum value at 50% or higher, indicating that a construct explains more than half of the variance of its own indicators (Henseler et al., 2016). In our model, all indicators exceeded this value.

Table 1. Measurement items

Constructs	Items	Correlation Loading	CA	rho_A	AVE
Information overload (INO)	1. I receive unnecessary information from SNSs*, which hinders my daily life.	0.732***			
	2. On SNSs, the number of irrelevant information increases excessively, and one needs a lot of time to search for relevant information.	0.751***	0.705	0.756	0.54
	3. The information I see on social networks modifies or affects my daily habits.	0.722***			
Open researchability (ORE)	1. My SNS site is always open to others, so there is a lot of information from others.	0.652***			
	2. I think that, by using SNSs, I am always open to others.	0.748***	0.723	0.724	0.525
	3. I often organize my social time through social networks.	0.768***			
Addictive flow (AFLO)	1. I feel a sense of duty to SNS activities.	0.869***			
	2. I feel pleasure when using SNSs.	0.621***	0.718	0.796	0.614
	3. I feel emotionally attached to SNSs.	0.838***			
Online self-reputation (OSRE)	1. I share various information needed to maintain my reputation on SNSs.	0.859***			
	2. I constantly manage my SNS information that can have negative or positive effect on my reputation.	0.876***	0.792	0.791	0.707
	3. Normally I feel influenced by the activity of others, such as influencers, in social networks.	0.785***			
Social media fatigue (SMF)	1. I frequently get tired of SNSs.	0.661***			
	2. After using SNSs for a certain amount of time, I feel weak and guilty.	0.841***	0.708	0.712	0.578
	3. I sometimes feel fatigue and tiredness from spending time on social networks.	0.843***			
Psychological disorders (PDI)	1. Because of SNSs, I neglect family or friends.	0.804***			
	2. Because of SNSs, I place less importance on hobbies, leisure activities, and sports.	0.741***	0.743	0.751	0.562
	3. Because of SNSs, I frequently experience difficulties with falling asleep or go to bed later than I planned.	0.717***			
	4. Excessive use of SNSs has a negative impact on my life.	0.734***			
Privacy concerns (PRIC)	1. Somebody who I do not know shared my SNS information in the unauthorized way.	0.920***	0.815	0.815	0.844
	2. Somebody illegally used a photo from my SNS account.	0.917***			

Constructs	Items	Correlation Loading	CA	rho_A	AVE
Reduced intention to use social media (RIUSM)	1. I will reduce using SNSs. 2. I will not continue using SNSs. 3. I want to have a certain period of time without thinking about SNSs.	0.812*** 0.714*** 0.838***	0.704	0.729	0.624

*Note. SNSs: Social Networks. Source: The authors

Table 2. Measurement of the fist-order model (discriminant validity)

	AFLO	INO	ORE	OSRE	PDI	PRIC	RIUSM	SMF
AFLO								
INO	0.404							
ORE	0.699	0.411						
OSRE	0.774	0.407	0.705					
PDI	0.510	0.576	0.448	0.502				
PRIC	0.252	0.226	0.310	0.334	0.342			
RIUSM	0.142	0.316	0.096	0.097	0.370	0.284		
SMF	0.295	0.544	0.236	0,403	0.812	0.321	0.586	

*Note. Source: The authors

Table 2 summarizes the results of the heterotrait-monotrait (HTMT) discriminant validity analysis. This represents the average of the correlations among indicators measuring different variables in relation to the correlations of the same variable (Hair et al., 2019). In the model, all values were below 0.85 (Kline, 2011).

4.2 Structural model analysis

On validating the scale, we checked the model to exclude multicollinearity in the model and ensured that the predictor constructs were in order tested the hypotheses included in the model. This was verified by ensuring that all Variance Inflation Factors (VIF) were below 3 (Hair et al., 2020). In addition, we also reviewed the approximate model fit (SRMR), which measures discrepancy between the observed correlation matrix and the correlation matrix implied by the model, with a threshold below 0.08 being desirable (see Table 3). In our results, the SRMR amounted to 0.078.

Table 3. Comparison of hypotheses. Source: The authors

	Path Coeff ($\mathscr{B}$)	Statistics T ($\mathscr{B}$/STDEV)	Supported
H1 Information overload → Social media fatigue	0.274***	8.106	Yes
H2 Open researchability → Social media fatigue	-0.038	1.074	No
H3 Addictive flow → Social media fatigue	0.08*	1.869	Yes
H4 Online self-reputation → Social media fatigue	0.206***	4.922	Yes
H5 Social media fatigue → Psychological disorders	0.601***	26.186	Yes
H6 Psychological → Reduced intention to use social media	0.268***	7.535	Yes
H7 Privacy concerns → Reduced intention to use social media	0.138***	3.829	Yes

Note. R^2: Social media fatigue = 0.175; Psychological disorders = 0.361; Reduced intention to use social media = 0,112
***$p < 0.001$; * $p < 0.05$

This was followed by testing H1-H7. Table 5 summarizes the results of hypotheses testing. As can be seen in Table 5, all hypotheses except for H2 were supported by the results. Specifically, the results concerning H1, H4, H6, and H7 suggested a moderate relationship between the variables, whereas the relationship predicted by H5 was strong. The results concerning H3

showed a very weak relationship. Of note, we used a one-tailed analysis to establish the direction of the hypotheses and a bootstrapping calculation of 50,000 samples.

With regard to the determination coefficients R2, as shown in Table 5, the variables Social Media Fatigue and Reduced Intention to Use Social Media were found to have a weak predictive power, while the variable Psychological Disorders had a moderate one. On testing the hypotheses, we also initially planned to analyze whether there were significant differences according to the year of data collection. However, upon analyzing the samples using the MICOM invariance criterion, we decided not to perform this analysis, since invariance could not be guaranteed. Specifically, considering that the data collection was conducted in pre-pandemic and post-pandemic periods, the respondents could have perceived the variables differently, which precluded our analysis. The final model based on the results of hypotheses testing is shown in Figure 2, with indication of the relationships among the variables and the corresponding significance levels.
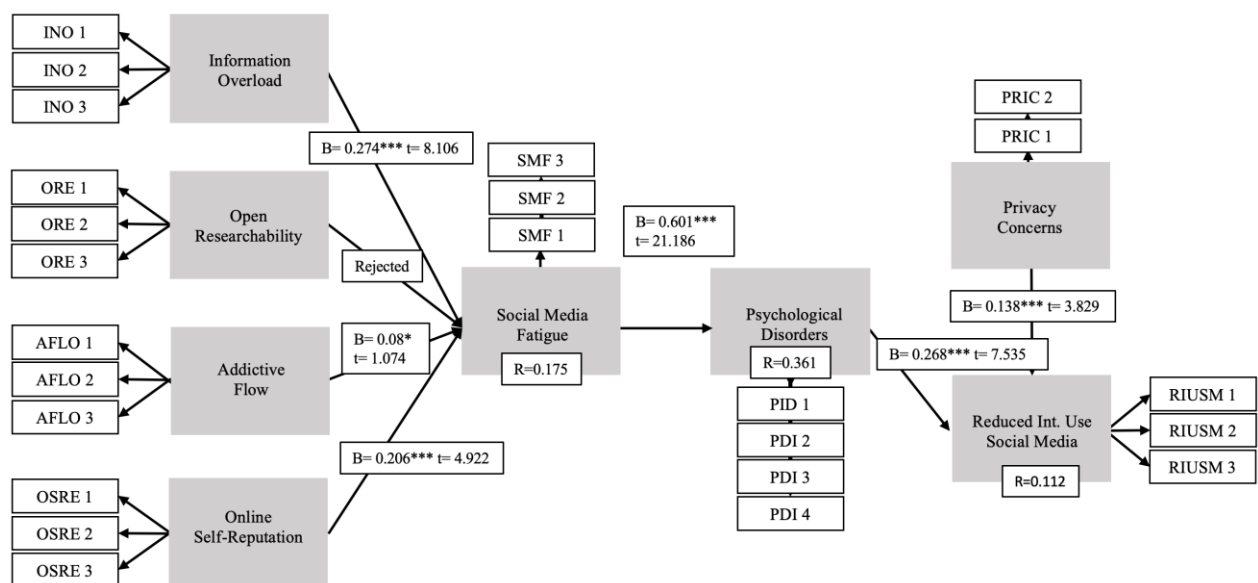

Figure 2. Final model
Source: The authors

5. DISCUSSION

In the domain of digital communication, the phenomenon of information overload becomes increasingly pertinent, particularly as it relates to the relationships showed in H1. The significant positive relationship we observed between information overload and social media fatigue is well aligned with cognitive overload theory, which highlights the stress caused by social media users' being bombarded by excessive information, which generates fatigue. This relationship underscores the growing need for strategies to effectively manage digital information to mitigate fatigue. Our results are largely consistent with previous findings that have linked information overload with reduced efficiency in information processing and increased stress levels (Keles et al., 2020; Li & Chan, 2022).

Furthermore, with regard to the issue of accessibility of information explored in H2, our results revealed a contrasting scenario. Specifically, our failure to find a significant relationship between open researchability and social media fatigue suggests that the ease with which information can be found on these platforms does not necessarily contribute to user fatigue, which could be attributed to the balancing effect of its perceived benefits. This finding also suggests that users might be developing coping strategies or becoming more adept at navigating

digital environments, which decreases the risk of fatigue. This explanation is consistent with the previous argument that efficient information retrieval can empower users and thus counteract the negative aspects of digital engagement (Drahošová & Balco, 2017; Li & Chang, 2022).

As concerns user engagement, our results on testing H3 shed new light on the concept of addictive flow in social media use. The established significant relationship underscores the double-edged nature of deep engagement: while, on the one hand, it can be highly engaging, on the other hand, it can also lead to increased fatigue, particularly due to prolonged and intense interaction with social media platforms. This finding is well aligned with the concept of "flow" in psychology, where deep engagement was reported to lead to both positive experiences and negative outcomes like fatigue (e.g., Sheng et al., 2023; Zhao & Zhou, 2021).

Furthermore, our findings concerning the issue of online identity, as tested in H4, suggest a strong association between concerns about online self-reputation and social media fatigue. These findings highlight the exhausting nature of maintaining a desirable online image, which can amplify the feelings of fatigue associated with social media use. Said differently, individuals experience the ever-increasing pressure to curate their online presence, which frequently results in stress and fatigue. This finding is consistent with the growing body of research on the psychological impact of maintaining a digital persona (Talwar et al., 2020; Viţelar, 2019).

Furthermore, in H5, we focused on the link between social media fatigue and psychological disorders. The results revealed a strong positive relationship between the two aforementioned variables, highlighting the need for more mindfulness and moderation in social media use to safeguard mental health. In line with our results, several previous studies found that social media use can generate psychological disorders, including anxiety and depression, and argued for the need for greater awareness and more effectively intervention strategies (Dhir et al., 2018; Malaeb et al., 2021).

In addition, the results of our testing H6 revealed that users' experiences of psychological distress linked to social media can lead to a reduced desire to engage with these platforms. This relationship might reflect a self-protective mechanism where individuals reduce their social media use to mitigate negative psychological impacts. The finding is consistent with recent studies suggesting a link between mental health concerns and changes in digital behavior (Masrom et al., 2021; Lyngdoh et al., 2023).

Finally, addressing the growing concern over digital privacy, in testing H7, we focused on the influence of privacy concerns on social media behavior. The results showed a positive correlation between the two, highlighting the important role of privacy considerations in shaping Generation X users' decisions to limit their engagement with social media platforms. This finding is particularly relevant in the current digital era, where privacy concerns are becoming increasingly prominent (Saura et al., 2022). Collectively, the results of hypotheses testing highlight a complex network of interactions between social media usage, its psychological impacts, and consequent user behaviors, thus highlighting the multifaceted nature of digital social interactions. Our results also underscore the importance of addressing privacy concerns to promote healthier social media usage patterns among Generation Z users.

6. CONCLUSIONS

In this study, we sought to analyze the factors causing social media psychological disorders in Generation Z. We also explored whether there is a relationship between social media and psychological disorders. To this end, seven hypotheses on the relationship between social media

use and psychological disorders of Generation Z were formulated. In H1, we tested whether there was a direct and positive relationship between information overload received through social media and social media fatigue. The results supported H1. Furthermore, in H2, we explored the relationship between open researchability and social media fatigue. Based on the findings, H2 had to be rejected, as we found that having unlimited access to various resources through social media did not influence social media fatigue of Generation Z. In our third hypothesis, H3, we tested whether there was a positive relationship between the addictive flow variable and social media fatigue. The results provided evidence, albeit weak, in support of this prediction, so H3 was accepted. In H4, we investigated whether there was a positive and direct relationship between Generation Z's online self-reputation and social media fatigue. The results of our statistical analysis revealed a strong relationship between these variables, hence H4 was accepted. Furthermore, H5 focused on whether there was a positive relationship between social media fatigue and Generation Z's psychological disorders. According to the results, social media fatigue indeed strongly affects Generation Z's mental, so H5 was accepted. Similarly, we obtained confirmatory evidence in support of H6 where we expected a strong correlation between Generation Z's psychological disorders and the reduced use of social media. Finally, the results of testing H7 where we explored whether the feeling of privacy in social media would lead to the reduced intention to use social media also confirmed our prediction, so H7 was also accepted.

Taken together, the results of the present study provide meaningful insights about both advantages and disadvantages caused by the use of social media. As discussed previously, these insights are particularly important to consider for the cohort of Generation X, who were born in the digital age. Accumulation of unnecessary information, trying to maintain one's reputation on social media, or addictive flow can cause social media addiction or even fatigue. This, in turn, can result in psychological disorders and symptoms, including but not limited stress, anxiety, insomnia, or other serious illnesses. Another central aspects highlighted by our results is user privacy. As demonstrated by our results, whenever privacy of Generation Z is compromised, users pertaining to this generation try to reduce their use of social media. In addition, as we observed in the data, psychological disorders caused by inappropriate or excessive use of social media can lead to reduced use of online platforms. This is an important aspect to consider when looking for measures to reduce anxiety, stress, or other psychological symptoms. Since the relationship between open researchability and social media fatigue was largely overlooked in previous research, this issue needs to be more closely analyzed in future studies.

6.1 Theoretical implications

This study offers several important theoretical contributions. First, considering that previous research focused on analyzing the advantages and disadvantages of excessive use of social media (Drahošová & Balco, 2017; Li & Chan, 2022), but largely overlooked the final consequences of such use, the results of the present study offer a deeper reflection on the excessive use of social media and the main disadvantages that, in most cases, cause irreparable damage. Second, to best of our knowledge, the variables of open researchability, addictive flow, privacy concern, or psychological disorders linked to social media use were not previously studied together in the literature. Accordingly, the present study offers a viable model that can be employed in further research on the topic. Thirdly and finally, our results contribute to the academic literature (Dhir et al., 2018; Pradhan, 2022) by giving visibility to the important problem—namely, that of psychological disorders caused by social media use—currently faced by several generations including Generation Z.

6.2 Practical implications

The results of the present study provide several practical implications for various stakeholders. First, social media users should be aware of the danger of inappropriate or excessive use of these platforms, such as vulnerabilities related to data privacy, health problems, or addictive flow of social media use. Second, the results of this study may be of great interest to medical professionals in terms of preventing or managing health issues in patients suffering from psychological disorders caused by the use of social media. Third, our finding highlight universities should promote actions to make their students aware that excessive use of social media can adversely affect their academic performance. Finally, our results have implications for entrepreneurs who invest in social media or social media marketing, who should consider using business strategies that would minimize negative aspects of social media by Generation Z, including but not limited to working with social media channels that are minimally invasive or analyzing applications and techniques that allow technological disconnection and anonymization of user data.

6.3 Limitations

This study has several limitations. First, the sample analyzed in the present study came from the years preceding and immediately after the COVID-19 pandemic, which could have affected the findings, as the aforementioned period was marked by the lack of personal communication and the increased the use of social media. Second, to analyze the data, we employed the PLS-SEM, which a very common analysis for this type of data. However, robustness of the findings should be rechecked using other types of analysis. Third, considering that the study participants' location, knowledge, and culture could have influenced their perception, the patterns observed in the data could not be generalized to all demographic groups. Finally, to reinforce generalizability of our findings, in future research, it would be meaningful to compare the samples of Erasmus+ and non-Erasmus+ students, which could better predict the drawbacks of using social media. Accordingly, in future studies, it would be necessary to address all limitations presented above.

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