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La influencia de los problemas internalizantes en la adicción a las redes sociales en adultos jóvenes: Un estudio empírico

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Abstract

As social media use continues to expand, its potential effects on mental health have become a growing concern, especially for young adults who are among the most active users. This study explores the relationship between internalizing problems—anxiety, depression, and stress—and social media addiction among young adults. A total of 170 participants (aged 18–22 years) completed self-report measures for anxiety, depression, stress and social media addiction. Results indicated a significant relationship between internalizing problems and social media addiction. Participants with higher levels of anxiety, depression, and stress were significantly associated with greater social media addiction. Conversely, those with minimal or no internalizing symptoms had the lowest addiction scores, indicating a direct link between psychological distress and social media addiction.

Keywords: internalizing problems, social media addiction, behavioral addiction, young adulthood, psychological distress.

Resumen

A medida que el uso de redes sociales sigue expandiéndose, sus efectos en la salud mental preocupan cada vez más, especialmente a los adultos jóvenes, que son de los usuarios más activos. Este estudio explora la relación entre problemas internalizantes—ansiedad, depresión y estrés—y adicción a redes sociales en adultos jóvenes. Un total de 170 participantes (18-22 años) completaron medidas de autoinforme sobre ansiedad, depresión, estrés y adicción a redes sociales. Los resultados indicaron una relación significativa entre problemas internalizantes y adicción a redes sociales. Los participantes con niveles más altos de ansiedad, depresión y estrés estuvieron significativamente asociados con mayor adicción. Por el contrario, aquellos con síntomas mínimos o inexistentes presentaron los puntajes más bajos, indicando un vínculo directo entre malestar psicológico y adicción a redes sociales.

Palabras clave: problemas internalizados, adicción a las redes sociales, adicción conductual, adultez joven, distrés psicológico.

1. Introduction

With social media usage growing rapidly across the world (WHO, 2024), understanding the psychological factors and underlying mechanisms of social media addiction is imperative from both research and clinical perspectives. This study aims to clarify the role internalizing problems play, with the goal of informing interventions that, could be applied to reduce mental health problems that involve the overuse or addiction to social media.

In recent years, the growing social media usage and raised concerns over psychological effects, especially regarding mental health problems (Keles et al., 2020). Social media platforms went through a fundamental change from communication and socialization instruments to environments that promote harmful psychological consequences, including addiction-like behaviors (Sun & Zhang, 2021). Social media addiction (SMA) is conceptualized as a form of behavioral addiction, similar to gambling or gaming disorder, where individuals exhibit compulsive use of social media despite negative consequences on their personal, professional, or academic lives (Andreassen et al., 2017; Rahma & Setiasih, 2021). SMA is largely defined by compulsive use, withdrawal symptoms, and disruption of normal functioning; with results consistent with behavioral addictions (Karakose et al., 2023; Kuss & Griffiths, 2017). Due to the vast use of social media and its highly reinforcing nature, considerable efforts are being made toward the understanding of psychological constructs and the underlying problem of social media use (Karakose et al., 2023; Kuss & Griffiths, 2017; Leménager et al., 2018; Hussain & Starcevic, 2020; Shannon et al., 2022; White-Gosselin & Poulin, 2024).

Internalizing problems are generally defined as inwardly directed psychological difficulties that lead to anxiety, stress, depression, and emotional distress (Achenbach et al., 2016; Effatpanah et al., 2020). Internalizing problems, such as anxiety and depression, have been associated

with a variety of forms of maladaptive behaviors, including substance abuse, gambling, and, more recently, excessive social media use (Aalbers et al., 2019; Barrault et al., 2019; Devi, & Singh, 2023; Huang, 2020; Primack et al., 2017). Internalizing symptoms and disorders can have lasting effects, especially if they are left untreated, on social and emotional well-being, including educational underachievement, social and occupational problems, reduced life satisfaction, drug use, and suicide attempts (Kessler, 2012). The association between internalizing symptoms and problematic social media use has been established by many studies (Andreassen et al., 2017; Bányai et al., 2017; Brailovskaia, et al., 2020; Hussain, & Griffiths, 2021; Rahma & Setiasih, 2021; Kircaburun & Griffiths, 2019; Lin, et al., 2016; Marino et al., 2018; Puukko et al., 2020; White-Gosselin & Poulin, 2024; Yaqoob, et al., 2024). Research has demonstrated that individuals experiencing high levels of anxiety and depression are more likely to engage in problematic social media behaviors, including excessive usage and addiction (Andreassen et al., 2017; Boniel-Nissim et al., 2024; Brailovskaia, et al., 2020; Hussain, & Griffiths, 2021; Rahma & Setiasih, 2021; Marino et al., 2018).

The underlying mechanisms of this relationship have been suggested to involve the use of social media as a coping strategy for managing or regulating negative emotions, anxiety, stress, depression and generally internalizing emotions and behaviors, leading to the reinforcement of addictive behaviors (Andreassen et al., 2017; Brailovskaia, et al., 2020; Hussain, & Griffiths, 2021; Kircaburun & Griffiths, 2019; Lin, et al., 2016; Marino et al., 2018; Puukko et al., 2020). However, while social media use can offer short-term relief from these negative emotions, compulsive use can reinforce an addictive cycle, ultimately escalating emotional distress (Kircaburun et al., 2018; Keles et al., 2020; te Brinke et al., 2021).

The Gratification Theory (Katz et al., 1973) may be used to provide a useful framework for understanding the relationship between internalizing problems and social media addiction. According to this theory, individuals may actively seek out media content to satisfy specific needs, such as entertainment, socialization, or escape from reality. For individuals experiencing anxiety and depression, social media may serve as a tool for mood regulation, offering an easily accessible and socially accepted outlet for managing negative emotions (Elhai et al., 2017; Keles et al., 2020). However, while social media may fulfill these needs in the short term, over-reliance on this medium can lead to compulsive usage patterns that resemble addiction (Kircaburun et al., 2020).

Another way to explain the relationship between Internalizing problems and SM is that, for individuals suffering from anxiety, stress, and depression, social media may offer a way to mitigate feelings of social isolation or FoMO (Fear of Missing Out), as they can stay connected with peers and access real-time information without engaging in direct social interactions that might provoke further stress or discomfort (Gupta & Sharma, 2021; Przybylski et al., 2013; Wegmann et al., 2017). The continuous engagement with SM platforms allows for immediate feedback and a perceived sense of social inclusion, which can temporarily alleviate anxious and depressed feelings. However, over time, this reliance on social media for anxiety management and emotional regulation can evolve into excessive or compulsive behavior, contributing to the development of addiction (Elhai et al., 2017).

It's evident that previous research consistently highlights the complex interplay between internalizing symptoms and social media addiction. Anxiety, stress, and depression have been identified as strong emotional drivers of problematic behaviors on social media platforms. Individuals with elevated anxiety symptoms often experience heightened fear of missing out (FoMO), prompting compulsive checking behaviors and continuous engagement to ease their anxious feelings temporarily (Gupta & Sharma, 2021; Przybylski et al., 2013; Wegmann et al., 2017). Similarly, depressive symptoms have

been associated with maladaptive use of social media as individuals seek emotional relief, social validation, or distraction from negative feelings, thus reinforcing addictive cycles (Brailovskaia et al., 2020; Marino et al., 2018). Furthermore, chronic stress has been linked with the intensified use of social media as a coping mechanism, providing immediate but short-lived emotional respite (Andreassen et al., 2017; Rahma & Setiasih, 2021; Keles et al., 2020). While social media might initially offer emotional comfort, persistent engagement typically intensifies psychological distress, developing a reciprocal cycle wherein internalizing symptoms both initiate and reinforce addictive usage patterns.

Despite the growing interest in this area, the specific contribution of different internalizing symptoms to social media addiction remains underexplored, particularly about the roles of anxiety, stress, and depression as independent predictors. The present study seeks to address this gap, by examining the impact of internalizing problems, specifically anxiety and depression, on social media addiction.

The focus of this study is the association between internalizing problems like anxiety, stress, and depression and social media addiction. This study aims to provide a comprehensive analysis of how these internalizing symptoms contribute to problematic social media use.

Internalizing problems and social media/network addiction seem to be linked. The aforementioned antecedents underscore the interplay of Internalizing problems and social media/Network use in the psychological adjustment of youths. The present study aims to further explore the contemporary relationship between Internalizing problems (anxiety, stress, and depression) in young adults and social media/network addiction. Participants with Internalizing problems were expected to show significantly higher levels of social media/network addiction. Also, the participants who appeared to experience low or not all Internalizing problems were expected to show better control over social media/network use compared with the participants who experienced higher levels of stress, anxiety, and depression. Thus, higher levels of Anxiety, Depression, and

Stress will be associated with greater social media addiction, independently predicting social media addiction. Also, higher levels of anxiety will be associated with greater social media addiction. This study specifically aims to analyze how anxiety, depression, and stress contribute to social media addiction among young adults, providing

a clear understanding of these internalizing symptoms as potential predictive factors, with its clear objective being to examine whether and how specific internalizing symptoms, such as anxiety, stress, and depression, predict social media addiction behaviors among young adults.

2. Materials and methods

2.1. Participants

The participants were selected by convenience sampling among undergraduate English-speaking students, of the exclusively English departments of the university, from a variety of different disciplines (e.g. students of: software engineering, psychology, architecture, physiotherapy, etc.), of Athens Metropolitan College in Greece, from 18 to 22 years-of-age ($M = 19.75$, $SD = 1.36$). The total sample of the study is 170 ($n = 170$). 46.5% of the sample are men ($n = 79$) and 52.4% ($n = 89$) are women, and no participant is Transgender/Non-binary. The vast majority 97.6% of the sample is Caucasian ($n = 166$) and the rest ($n = 4$) is either Asian, African, or Mixed. The annual family income of the participants is 34.7% of the lower economic class, 28.2% of the middle class, 23.5% of the upper middle class, and 7.6% of the upper economic class. The participants resided in Athens and surrounding areas. Convenience sampling was used because it is the most common non-probabilistic sampling strategy (Jager et al., 2017).

2.2. Instruments

The study incorporated three standardized psychological instruments forming a battery of questionnaires to receive the desired datasets.

The Depression Anxiety Stress Scale-21 (DASS-21), was developed by Lovibond and Lovibond in 1995 and has been widely used in research and clinical practice to measure psychological distress. It is a self-report questionnaire measuring levels of depression, anxiety, and stress in individuals. This is a 4-point Likert-type scale that consists of

21 items that form 3 subscales ($\alpha = .92$, $\omega = .92$). Subscale of Anxiety ($\alpha = .86$, $\omega = .86$), Stress ($\alpha = .79$, $\omega = .79$) and Depression ($\alpha = .87$, $\omega = .87$). This is a shortened version of the original DASS, which consisted of 42 items. This instrument has consistently been validated across various cultural contexts (Lovibond & Lovibond, 1995).

Developed by Spitzer et al. (2006) the Measure for Assessing Generalized Anxiety Disorder (GAD-7) is a brief, 7-item, self-report questionnaire designed to assess the severity of generalized anxiety disorder (GAD), in a 4-point Likert-type scale. Each item asks the respondent how often they have experienced various anxiety-related symptoms over the past two weeks, such as feeling nervous, uncontrollable worry, or physical symptoms like restlessness, the GAD-7 has demonstrated excellent internal consistency ($\alpha = .90$, $\omega = .90$) and strong validity (intraclass correlation = .83) when compared with clinical evaluations by mental health professionals. The scale is widely recognized as reliable for screening generalized anxiety disorder symptoms across clinical and research settings (Spitzer et al., 2006).

The Social Media Addiction Scale Student Form (SMAS-SF, Sahin, 2018), the SMAS-SF is a 5-point Likert-type scale which consists of 29 items and they are forming 4 sub-dimensions (Sahin, 2018). Each addressed behaviors and experiences related to social media use, such as preoccupation, mood modification, withdrawal symptoms, and the impact on daily life. Respondents rate their agreement with each statement on a Likert scale ranging from 1 (strongly disagree) to 5

(strongly agree). The SMAS-SF demonstrated excellent internal consistency overall ($\alpha = .91$, $\omega = .91$). Subdimensions also presented robust psychometric properties. The items 1-5 are within the “Virtual Tolerance” subdimension ($\alpha = .70$, $\omega = .71$), 6-14 items are within the “Virtual Communication” subdimension ($\alpha = .79$, $\omega = .79$), 15-23 items are under “Virtual Problem” ($\alpha = .82$, $\omega = .82$), sub-dimension and 24-29 items are under “Virtual Information” sub-dimension ($\alpha = .79$, $\omega = .79$). All of the items in the scale are positive. The highest point that can be scored on the scale is 145, and the least is 29. The higher scores indicate that the participant perceives themselves as a “social media addict” (Sahin, 2018). The original version showed good internal consistency ($\alpha = .91$) and the scale’s reliability has been consistently supported in diverse populations (Sahin, 2018).

2.3. Procedure

Before entering the study, the participants gave their informed consent through a form adapted to this study with the aid of the Ethics Committee of the National University of Distance Education (UNED for Universidad Nacional de Educación a Distancia). The Ethics Commission of UNED authorized the study (Reference: 01-SEC-PSI-2023) and its compliance with the ethical and data protection standards required by European legislation. The median time for survey collection was 30 minutes and the participants didn’t receive any compensation for their participation, the confidentiality and anonymity of the data were maintained at all times, and the

participation in the study was voluntary. The data collection from the participants took place in the classrooms of the university campus. The researcher shared data links with the participants via QR codes. The importance of responding honestly and answering all questions was also emphasized.

Data analysis

For this study and their variables an ex-post facto prospective design was used (Fontes de Gracia et al., 2001). The dependent variables are the Social Media Addiction Scale Student Form (SMAS-SF). The independent or predictor variables are the Measure for Assessing Generalized Anxiety Disorder (GAD-7), and Depression Anxiety Stress Scale-21 (DASS-21). All the statistical analyses were performed in SPSS, version 21.0 for Windows. The researchers performed a multivariate analysis of variance (MANOVA) using the Measure for Assessing Generalized Anxiety Disorder (GAD-7), and Depression Anxiety Stress Scale-21 (DASS-21), as predictors. To interpret the magnitude of the effect size, the criteria of Cohen (1998), were followed ($\eta^2 = 0.01$ indicates a small effect; $\eta^2 = 0.06$ medium effect; $\eta^2 = 0.14$ large effect). MANOVA was chosen due to its robustness in analyzing multiple dependent variables simultaneously, reducing Type I error and efficiently capturing interactions among variables. This method is especially relevant given the interrelated nature of internalizing symptoms (anxiety, depression, stress) in predicting the multifaceted dimensions of social media addiction.

3. Results

3.1. Internalizing problems (GAD and DASS as independent variables) and social media-addiction

A multivariate analysis of variance was conducted to analyze the effects of Generalized

Anxiety Disorder (GAD-7) and Depression Anxiety Stress (DASS-21), on social media addiction. Table 1 presents, the main effects of GAD-7 and Depression, Anxiety, and Stress on social media Virtual Tolerance, Communication, and Problem (Subscales of SMAS)

Table 1: Main effects of Generalized Anxiety Disorder (GAD-7) and Depression, Anxiety, and Stress (DASS-21) on Social Media Addiction (SMAS-SF subscales).

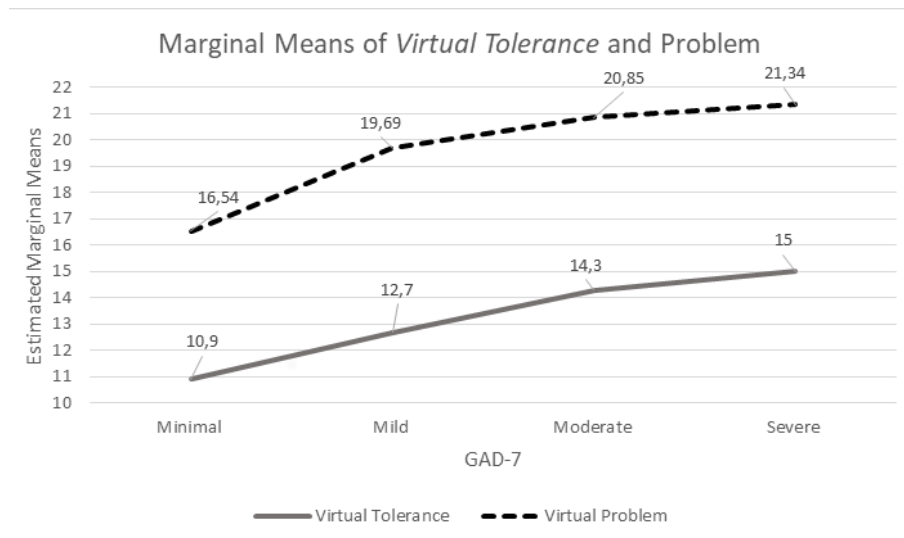
Source: Own elaboration

Variable	N	Tolerancia virtual				Problema virtual				Comunicación virtual			
		M (SD)	F	p	η²	M(SD)	F	p	η²	M(SD)	F	p	η²
GAD-7													
Minimal GAD	31	10.9 (3.61)				16.54 (5.45)							
Mild GAD	49	12.7 (3.42)	8.46	<.01	.13	19.69 (5.21)	4.51	< .01	.076				
Moderate GAD	47	14.3 (3.40)				20.85 (6.22)							
Severe GAD	41	15.0 (4.35)				21.34 (6.72)							
DASS-Stress													
Low	57	11.8 (3.75)				17.25 (5.44)				18.41 (4.52)			
Moderate	74	13.9 (3.71)	8.07	< .01	.09	20.15 (5.72)	24.0	< .01	.11	20.67 (5.39)	12.07	< .01	.12
DASS-Anxiety													
High	35	14.8 (4.01)				22.86 (6.35)				24.26 (7.13)			
Low	50	11.86 (4.08)	5.82	< .01	.08	16.78 (4.90)	10.4	< .01	.11	18.90 (5.26)	3.96	.02	.02
Moderate	38	14.02 (3.83)				20.18 (5.58)				20.51 (4.86)			
High	80	13.66 (6.52)				21.54 (6.39)				21.88 (6.52)			
DASS-Depression													
Low	54	12.57 (4.03)	2.35	< .01	.02	17.12 (4.63)	10.2	< .01	.11	18.40 (4.40)	7.95	< .01	.08
Moderate	70	13.49 (3.85)				20.21 (6.27)				20.98 (5.96)			
High	43	14.30 (3.95)				22.40 (6.32)				23.00 (6.62)			

Note: Table 1: GAD-7 = Generalized Anxiety Disorder Scale; DASS-21 = Depression Anxiety Stress Scale-21; SMAS-SF = Social Media Addiction Scale-Student Form. η^2 indicates effect size (small = .01, medium = .06, large = .14, Cohen, 1988). Significant values ($p < .05$) are in bold. Low, moderate, and high categories reflect clinical cutoffs defined by respective authors. Source: Own elaboration.

Regarding the effect of GAD on Social Media addiction the MANOVA analysis (Figure 1) indicated significant results (Wilks' $\Lambda = 0.82$, $F = 2.72$, $p = .001$). The tests of the between-subjects effect showed a significant effect of GAD for the

“Virtual Tolerance” subdimension ($F = 8.46$, $p = <.01$, $\eta^2 = .13$), and for Virtual Problem ($F = 4.51$, $p = <.01$, $\eta^2 = .076$). The effect size for both variables was medium. It is clear that, the higher the anxiety levels the higher “Virtual Tolerance” and “Virtual Problem”.



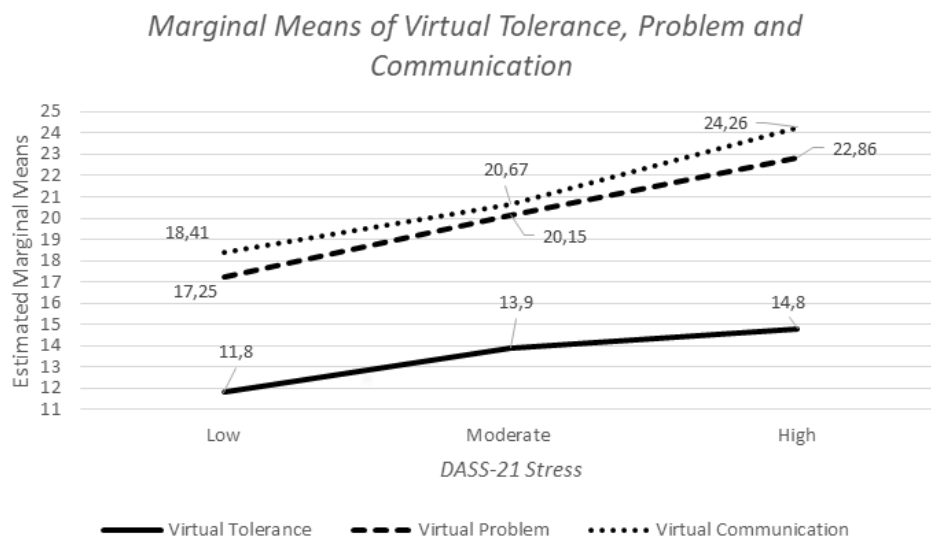
Note. Higher GAD severity is significantly associated with increased scores in social media addiction dimensions. GAD severity categories are based on standardized cutoffs: Minimal (0-4), Mild (5-9), Moderate (10-14), Severe (15-21).

Figure 1: Levels of Social Media Addiction (“Virtual Tolerance” and “Virtual Problem” subscales) by Generalized Anxiety Disorder severity (GAD-7).

Source: Own elaboration.

Also, the MANOVA results (Figure 2) showed significant effects of the DASS-21 subdimensions, namely of Stress (Figure 2) (Wilks' $\Lambda = 0.82$, $F = 3.99$, $p = .000$, $\eta^2 = .09$), of Anxiety (Figure

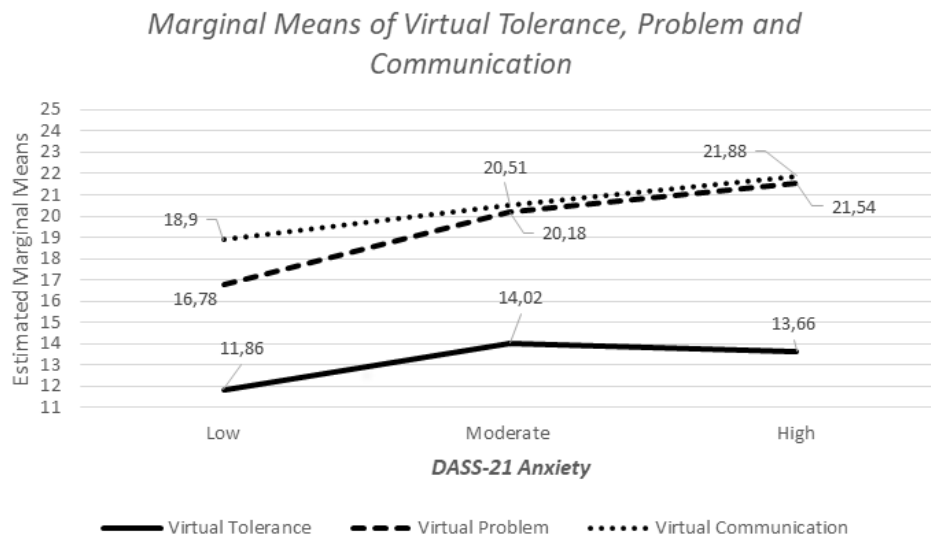
3) (Wilks' $\Lambda = 0.86$, $F = 3.13$, $p = .002$, $\eta^2 = .07$) and of Depression (Figure 4) (Wilks' $\Lambda = 0.86$, $F = 3.14$, $p = .002$, $\eta^2 = .07$) on Social Media Addiction, with a medium effect size.



Note. Higher stress levels correspond significantly to increased scores across all measured social media addiction subscales (Virtual Tolerance, Virtual Communication, Virtual Problem). Stress categories are classified as Low, Moderate, and High according to DASS-21 recommended cutoffs.

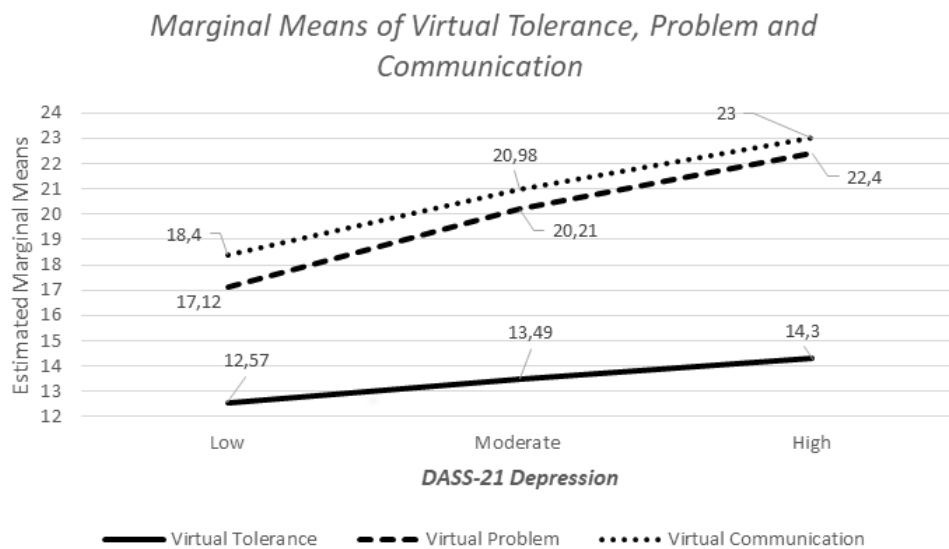
Figure 2: Levels of Social Media Addiction by Stress Severity (DASS-21 Stress subscale).

Source: Own elaboration.



Note. Elevated anxiety significantly predicts greater addiction to social media across all subscales. Anxiety severity is categorized into Low, Moderate, and High based on standardized DASS-21 clinical thresholds

Figure 3: Levels of Social Media Addiction by Anxiety Severity (DASS-21 Anxiety subscale)
Source: Own elaboration.



Note. Increased depression levels significantly relate to higher social media addiction scores. Depression categories (Low, Moderate, High) follow standard clinical cutoff points from the DASS-21.

Figure 4: Levels of Social Media Addiction by Depression Severity (DASS-21 Depression subscale).
Source: Own elaboration.

The results showed that higher levels of DASS-21 had a significant effect on Social Media Addiction behaviors. The stress, anxiety, and depression pairwise comparison, indicates that for

“Virtual Tolerance”, “Virtual Communication” and “Virtual Problem” the participants who experienced higher levels of stress, anxiety, and depression tended to be more social media addicted.

4. Discussion

The results of this study provide a better understanding of the relationship between internalizing problems— anxiety, stress, and depression—and social media addiction. The findings offer empirical support for the hypothesis that anxiety, stress, and depression, as measured by the Generalized Anxiety Disorder-7 (GAD-7) and Depression Anxiety Stress Scales-21 (DASS-21), significantly predict social media addiction, as assessed by the Social Media Addiction Scale – Short Form (SMAS-SF). Especially for the three subscales of SMAS-SF, Virtual Tolerance, Virtual Communication, and Virtual Problem. These results align with prior research suggesting that individuals with internalizing problems are more likely to engage in excessive social media use as a form of emotional regulation (Karakose et al., 2023; Kuss & Griffiths, 2017; Marino et al., 2018).

The study found that anxiety and stress, as measured by the GAD-7 and DASS-21, are linked to social media addiction. This finding supports earlier work by Vannucci et al. (2017) and Kircaburun and Griffiths (2018), which showed that individuals with high levels of anxiety are more likely to develop problematic social media usage patterns. A possible explanation for this relationship lies in the very nature of social media platforms. Individuals with anxiety and stress often experience heightened levels of Fear of Missing Out (FoMO) and social comparison, which drive them to frequently check their social media accounts and trends (Gupta & Sharma, 2021; Przybylski et al., 2013; Wegmann et al., 2017). In addition, all social media platforms may provide an environment where users can receive immediate feedback, validation, and support from peers, or serve as an escape from reality which may, at least temporarily, alleviate stress and anxiety symptoms (Elhai et al., 2017; Karakose et al., 2023; Keles et al., 2020; Kuss & Griffiths, 2017; Leménager et al., 2018; Hussain & Starcevic, 2020; O'Day & Heimberg, 2021; Shannon et al., 2022; White-Gosselin & Poulin, 2024).

As previously discussed, anxious or stressed individuals may find solace in social media as a means of avoiding real-world social interactions, which by many, can be perceived as overwhelming and out of their control. This avoidance of real-world social stimuli may further worsen their reliance on social media as a coping mechanism (Elhai et al., 2017; Keles et al., 2020). The compulsive needs to check social media and the emotional reliance on feedback from these platforms reinforce addictive behaviors, which may lead to social isolation, and a vicious cycle of increased anxiety and stress, leading to further addiction (Andreassen et al., 2017; Rahma & Setiasih, 2021; Keles et al., 2020).

It is also worth mentioning that some studies have found that social media aggravates existing anxiety and stress symptoms. For example, Escobar-Viera et al. (2018) suggest that individuals who already experience high levels of anxiety may become further distressed by negative or ambiguous social interactions on social media platforms, such as receiving fewer likes or negative comments, especially when using them passively. This can increase feelings of insecurity and worry, contributing to a vicious cycle where social media use both relieves and worsens anxiety and stress (Keles et al., 2020).

As the results suggest, depression as measured by the DASS-21 was found to be significantly linked to social media addiction, as expected. This finding is consistent with the literature, which suggests that individuals with depressive symptoms are more likely to use social media as a means of escapism and to seek social support (Bányai et al., 2017; Marino et al., 2018; Yaqoob, et al., 2024), similar feelings of anxiety and stress. Additionally, depressed individuals more often lack motivation to engage in face-to-face social interactions, and social media may be used as a less demanding and “relaxed” alternative for seeking social connection or self-validation. The so-called convenience of social media allows users to participate in social activities without

any of the physical and emotional effort required for in-person interactions, which may seem particularly appealing for those experiencing low mood, fatigue, and lack of motivation, symptoms usually associated with depression (Primack et al., 2017).

As for anxiety and stress, also for depression, social media use may evolve into a vicious cycle, where individuals use social media to alleviate symptoms of depression and at the same time exacerbate these exact symptoms and feelings. One possible mechanism for the relationship between depression and social media addiction is the upward social comparison. Because depressed individuals might be particularly vulnerable to comparing themselves with others on social media, where users often present idealized versions of their lives (Appel et al., 2016; Feinstein et al., 2013). Therefore, social media use guarantees constant exposure to these seemingly perfect portrayals, and that can lead to feelings of inadequacy and low self-worth, further worsening depressive symptoms and feelings (Appel et al., 2016; Feinstein et al., 2013; Lin et al., 2016). In such a manner, social media use may not only fail to reduce depressive symptoms but could also worsen them, resulting in greater reliance on social media platforms and the development of addictive behaviors (Andreassen et al., 2017; Brailovskaia, et al., 2020; Hussain, & Griffiths, 2021; Rahma & Setiasih, 2021; Kircaburun et al., 2020; Marino et al., 2018).

Another matter lies in the modern way that social media platforms perform to captivate users' attention, time, and use. Therefore, the algorithms used by social media platforms to tailor content to users' preferences, most likely contribute to the reinforcement of depressive thinking patterns (Tufekci, 2015). Thus, depressed individuals may be more likely to interact and draw in negative content, such as news about disasters, personal failures, or other distressing topics, which can further preserve and even amplify negative mood and ironically increase their probability of turning to social media for comfort (Appel et al., 2016; Feinstein et al., 2013; Lin et al., 2016; Stirnberg et al., 2024). This mechanism creates a feedback loop in which social media usage deteriorates depressive symptoms, leading individuals to use

social media platforms more frequently to escape from these negative emotions and amplify their negative way of thinking.

A key contribution of this study is that it identifies the distinct roles that anxiety and depression may play in social media addiction. While both are internalizing symptoms and were found to be significantly linked to social media addiction, it can be argued that they follow two different pathways. Individuals who experience anxiety may turn to social media to stay constantly connected to others, which can temporarily reduce their fears of missing out on important social information or events (Gupta & Sharma, 2021; Przybylski et al., 2013; Wegmann et al., 2017). Meanwhile, depression appears to contribute to social media addiction through different mechanisms, such as escapism and emotional avoidance. Depressed individuals may use social media to distract themselves from their negative emotions or to seek validation from others, which can short-term improve their depressive symptoms but ultimately reinforce addictive behaviors and worsen the symptoms (Andreassen et al., 2017; Brailovskaia, et al., 2020; Hussain, & Griffiths, 2021; Karakose et al., 2023; Kircaburun & Griffiths, 2019; Kuss & Griffiths, 2017; Lin, et al., 2016; Marino et al., 2018; Puukko et al., 2020). Therefore, while anxiety may drive more compulsive and frequent use of social media, depression may contribute to a longer-term pattern of reliance on these platforms for emotional support and mood regulation. However, ultimately, both anxious and depressed individuals seem to be developing a vicious cycle with social media use, that in the end reinforces both the social media addiction and the anxiety and depressive symptoms respectively (Keles et al., 2020).

This study has several limitations. First, the sample is small and data collection was conducted only in Athens (Greece), so the findings of this study should be generalized with caution to other cultures or countries. In this regard, the measurements were conducted in English and the participants use English as a second language, although all of them are university-level English speakers and can read and understand the statement of the items. Second, the range of age of

participants was small, and would be interesting to compare their results with wider age ranges that allow us to compare the process of internalizing problems from younger and older age groups. It also could be improved using longitudinal data instead of cross-sectional one. Third, the students that participated, were from a private university with mainly medium-high socioeconomic status, thus certain socioeconomic groups might be excluded from participating. Fourth the results may be affected by social desirability, for the self-reports of both internalizing problems and social media addiction. Finally, the role that culture, beliefs, and attitudes play in internalizing problems should be considered. Interpretation of internalizing behavior could be different from an adult or an adolescent perspective. For example, in that context, studies on social media use show that many young people even justify the abuse as a common everyday practice, normalizing the possible addiction as part of adolescent social life, which is blurring the lines between the perceived healthy social engagement and problematic addicted usage for the users (Karakose et al., 2023; Kuss & Griffiths, 2017).

Despite its limitations, the present study sheds light on the roles of anxiety stress, and depression in social media addiction. The results highlight the importance of understanding the motivations behind excessive social media use and suggest that individuals with internalizing problems may be particularly vulnerable to developing addictive behaviors. The implications of these findings are far-reaching. The findings can be used to strengthen the current scientific knowledge in the area of mental health and social media and to better understand the underlying mechanism of the vast array of behaviors, symptoms, and conditions that are connected and may lead to social media addiction and mental health problems. The results of the study may also be used in clinical interventions on adolescents and young adults, to form educational programs and interventions to improve both their academic achievement as well as their personal and social life. Also, these findings may contribute to the design of prevention programs for different disorders or behavioral problems. Particularly, clinicians working with individuals suffering from anxiety, stress, and depression should be

aware of the potential for social media addiction to develop as a maladaptive coping mechanism. Hence, integrating assessments of social media use into clinical practice could help identify those at risk and guide interventions aimed at promoting healthier digital habits. Moreover, the development of psychoeducational programs targeting FoMO and upward social comparison may help reduce the reliance on social media among individuals with internalizing symptoms. From a practical standpoint, the current findings underscore significant implications for mental health professionals, educators, and policymakers involved with young adults. Recognizing that internalizing symptoms such as anxiety, depression, and stress substantially increase vulnerability to social media addiction, targeted interventions could significantly benefit this population. Specifically, integrating strategies aimed at enhancing emotional regulation skills, mindfulness-based interventions, and cognitive-behavioral techniques within educational and clinical settings may serve to mitigate the excessive reliance on social media as a maladaptive coping mechanism. Additionally, psychoeducational campaigns highlighting the negative impacts of compulsive social media use, coupled with programs designed to improve resilience, could help individuals manage their emotional states effectively, thereby reducing their susceptibility to developing problematic social media behaviors

This study employed convenience sampling among university students, predominantly of medium-high socioeconomic status within a specific geographic area (Athens, Greece). Consequently, caution must be exercised in generalizing these findings broadly to diverse populations or cultures. Future research would benefit significantly from employing more representative sampling methods, such as stratified or random sampling, across varied demographic groups, socioeconomic statuses, and cultural contexts. Additionally, broader age ranges and longitudinal designs could offer valuable insights into how the relationship between internalizing symptoms and social media addiction evolves over time, potentially identifying critical developmental periods for targeted intervention.

As the world becomes increasingly digital, understanding the psychological underpinnings of social media addiction will become ever more critical. This study provides a foundation for future research into the emotional and cognitive processes that drive social media addiction and offers valuable insights into the development of

interventions aimed at mitigating the negative mental health effects of excessive social media use. By further exploring the interplay between internalizing problems and social media addiction, researchers and clinicians can better support individuals in navigating the challenges of the digital age while safeguarding their mental health.

5. Conclusions

As the digital landscape continues to expand, understanding the psychological mechanisms underlying social media addiction has become increasingly important. This study provides empirical evidence of significant associations between internalizing symptoms—specifically anxiety, stress, and depression—and social media addiction among young adults. The findings clearly highlight the need to address emotional difficulties through targeted preventive interventions and therapeutic strategies designed to enhance emotional regulation and resilience. However, due to the study's reliance on self-report measures, subjective biases may have influenced results, highlighting the value of integrating objective measurements, such as tracking actual social media usage or employing physiological indicators, in future research. Additionally, while this study clarifies a robust relationship between internalizing symptoms and social media addiction, longitudinal research is essential to establish causality and directionality.

Future investigations should also explore the role of personality traits and demographic variables, further refining intervention strategies.

Ethical Approval

All procedures performed in the study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Besides, the Research Ethics Board of the National University of Distance Education (UNED) authorized this research (Reference: 01-SEC-PSI-2023). This article does not contain any studies with animals performed by any of the authors.

Informed Consent

Informed consent was obtained from all individuals who participated in the study.

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7. Additional information

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