

IMPLICATIONS OF INTERNET AND SOCIAL MEDIA ADDICTION ON THE PERFORMANCE OF MEDICAL PERSONNEL IN CIVILIAN AND MILITARY HEALTH FACILITIES

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This scientific paper aims to identify the links between the use of social networking sites and the professional performance of employees in the medical field, as well as the negative side effects arising from the use of social networks, including the emergence of social network addiction and anxiety disorders or personality, especially in the post-pandemic period of COVID-19. The research indicated a significant relationship, i.e., a weak positive correlation between the use of social networks, and Internet and social network addiction. Correlations were found between the mediators belonging to the secondary effects of social media use and employee performance. According to the model developed by the author, participants who reported higher levels of anxiety disorders or internet addictions reported lower levels of performance. Those addictions are significantly related to both social media use and individual performance, and thus meets at least some of the criteria for being a mediator.

Key words: professional performance, addiction, social networks, internet, medicine, anxiety disorders, health, personality disorders.

1. INTRODUCTION

In the realm of internet and social media addiction, there are reports of individuals playing computer games or spending time online for days on end. This happens without rest, without proper hydration and nutrition, or without social contact outside of the online environment, but often during work hours. Brand (2022) said some time ago that although the Internet offers

many opportunities, there is a downside, namely that some people suffer from diminished control over the use of certain Internet applications.

In the post-COVID-19 pandemic period, this has also raised concerns among other researchers about the problematic use of the Internet by healthcare workers, especially social media, and online gaming, resulting in functional impairment and distress in life every day, both

professionally and socially or psychologically.

Internet applications from the range of online games and social networks, which are often used problematically, give employees pleasure, and allow the reduction of negative mood, sometimes created by the suffering that is unconsciously emanated by patients, often accompanied by terrible visual or auditory sensations. These responses show parallels with the effects of drugs, which create addiction on the brain's reward system, examples being including the phenomena of phubbing or nomophobia.

In addition, patterns of compulsive use of social networks or mobile phones on the Internet may develop, with self-monitoring being an important factor in determining whether the enjoyment and compulsion to use certain Internet applications may lead to problematic use in healthcare personnel, from civilian and military health units.

Given the increased use of the Internet and social media in this era of social distancing and remote working, it is important to assess the harm caused by addictive online behaviors.

With the onset of digitization, online social networks have developed as virtual entities without which it would be difficult to imagine our daily lives. From a

purely formal point of view, online social networks are virtual channels that, based on Internet technologies, allow users, young or old, to interact.

In fact, the identity of the person is difficult to prove and accept, the communication in real time or asynchronously providing, timely or not, the relationship of third parties for obtaining an immediate or future benefit. Especially during the COVID-19 pandemic, where face-to-face contact has been drastically reduced by the recommendation to stay at home and work or study from home, online social networks have been used more than ever.

In this context, the objective of this scientific research is to study the psychological effects of the Internet on civilian and military employees in the medical field, in the period following the COVID-19 pandemic, as well as the emergence of addiction to the Internet and social networks, as a secondary effect of their use.

The decision-making problem of the scientific approach, related to the theoretical aspects addressed, consists in evaluating and identifying how the use of social networking sites generates addiction to them, as well as anxiety and personality disorders, respectively influences the performance of employees in the medical field, during post-pandemic COVID-19.

For this, it is important to study the negative side effects and their origin, being relevant to carry out an analysis of the impact that the use of social networks has on individuals.

2. EFFECTS OF SOCIAL MEDIA ADDICTION ON PERFORMANCE

The term addiction is linked in the collective consciousness mainly to smoking, alcohol, drugs, and gambling. However, with the increasing use of computers and the Internet, technology addiction has become a social problem since the mid-1990s.

Zhao (2021) argues that in recent decades Internet and social media addiction has attracted academic attention, referring to the obvious social and psychological damage caused by the excessive use of the Internet and social networks, which seriously damages the physical and mental health of users.

Due to the widespread use of the Internet and the evolution of technology, but also the trend of working and socializing online, since the post-COVID-19 pandemic, social networking websites are increasingly entering daily life by day. Individuals tend to use online social networks to participate in informational and social activities, including news channels, gaming, socializing, spending free time on

the Internet, communicating, and sending images or movies. Such attractive opportunities offered by online social networks play an important role in the lives of many people of different age groups and permanently affect their lives.

According to Bakioglu et al. (2022), in the last decade the use of smartphones and social networks has become more widespread around the world. Centralized data from the United Nations shows that in January 2024 there were 5.61 billion mobile phone users, 5.35 billion Internet users and 5.04 billion active social media users globally.

Social networking sites can thus be defined as virtual communities where users can create individual and general profiles, interact with their friends, and meet other people in accordance with common goals. These have brought about significant changes in the way people communicate with others, as developments in the characteristics of information technologies play a significant role in the widespread use of social networks and increasing addiction.

Zhao (2021) pointed out that in China, online social networks are widely used in almost all aspects of life, including communication, education, entertainment, information search, decision making, mobile payment, etc., and the number of social network users

exceeded one billion. China's local online social networks, represented by WeChat, not only have functions such as instant messaging, entertainment, and information sharing, but also mobile payment functions.

If individuals don't use social media in China, their life will be very inconvenient, like they can't get the information on time, they can't find out the latest news and even they can't make payments. Globally, the use of online social networks has become an important part of Internet use, with psychological research pointing out that if individuals use social networks excessively and cannot control their own activities, they are considered to have symptoms of social media addiction.

The use of online social networks can bring satisfaction to users, but it is the main reason for the addictive disorder developed on social networks. Due to the diversity of functions of online social networks, users may be addicted to social activities such as posting, sharing content or other activities, or such as gaming. The self-centered nature of social media pushes people toward problematic use, contributing to the development of addictive behaviors.

Online social networks cause individuals to look different from who they really are, and live delightful experiences. In addition,

the opportunities provided by social media make users happy, and create excitement, by filling a psychological void in individuals' lives. Along with the popularity of online social networks and the many benefits they offer to users, spending too much time on a social network is considered a sign of social media addiction, and can cause psychological disorders.

The research team van den Eijnden et al. (2016) pointed out that, despite the fact that the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) recognizes Internet addiction only as a temporary disorder, in the appendix of this guide (American Psychiatric Association, 2013), social media addiction does not yet have a status in the DSM-5. In their opinion, the fact that social media addiction is not included in the DSM-5 creates the impression that social media addiction is not a psychological problem, and the fact that there are no explicit definitions and precautions for social media addiction negatively affects the conduct of research on these widespread behaviors.

Referring to the link between individual well-being and Facebook use, Böhmer (2022) highlighted that excessive use of social networks is associated with anxiety, frustration, intolerance, anger, low self-esteem,

impoverishment of social relationships, decreased performance, verbal aggression or physical and prone to depression. In addition, the researcher also found that excessive use of social media can lead to problems such as anxiety disorders or the emergence of social media addiction.

For example, Chashmi et al. (2023) argue that the overall use of the Internet and online social networks has increased dramatically in recent years. Although social media use has many beneficial effects, problematic online social media use, such as Internet use disorder, appears to have increased recently.

Fear of Missing Out (FoMO) was described by Przybylski et al. (2013) as a negative affect resulting from thoughts that one may be left out of the rewarding experiences of others, creating a scale to measure its intensity.

On the other hand, Chotpitayasunondh & Douglas (2018) explained that phubbing means the practice of ignoring the companion or companions in order to pay attention, to the phone or other mobile device. Przybylski et al. (2013) argued that fear of missing out is the negative affect that occurs when a user feels that others have rewarding experiences in their absence.

Research on FoMO shows that this construct is associated with a large number of psychological and behavioral problems (Przybylski et al., 2013). Specifically, FoMO is a construct introduced to explain why social networks often have adverse consequences.

Design elements such as push notifications and content time restriction could trigger the fear of missing out. It is worth noting that the FoMO process is being exploited by the technology industry, as the data business model behind social media platforms is aimed at extending time online, through the design of the platform.

Therefore, it is not surprising that the experience of FoMO appears to contribute to the negative consequences associated with problematic social media use (PSMU) and problematic smartphone use. Negative effects on productivity have been reported when users establish problematic patterns of social media use.

According to Przybylski et al. (2013), FoMO is a pervasive apprehension that others may enjoy rewarding experiences that one cannot participate in. FoMO has attracted much attention among researchers because the condition of FoMO is accompanied by distress, physical symptoms, and negative affect. Some studies indicate that FoMO is associated with social

media addiction or problematic social media use.

In fact, FoMO is unique in predicting PSMU beyond negative self-evaluations and low self-presentation skills. Very recent studies have shown the relationship between FoMO and PSMU, phubbing and depression. The studies of Veysua et al. (2023) also indicated that FoMO is associated with psychopathological symptoms such as loneliness and depression, anxiety, poor sleep quality, and alcohol consumption.

It should be noted that FoMO, PSMU, or phubbing are not found in DSM-5, the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). They are the subject of numerous studies aiming at their inclusion in the pathological area. The causal relationship between social media/internet use and FoMO remains unclear.

Some researchers argue that social media/internet use precedes FoMO, while others argue for the inverse relationship. The evidence provided by Rozgonjuk et al. (2020) suggest that FoMO tendencies could be closely related to the five factor model of personality, which represents a hierarchical organization of personality traits synthesized on five dimensions, namely extraversion, agreeableness,

conscientiousness, neuroticism, and openness to experience. Therefore, FoMO might be best conceptualized as a trait.

Although online social media use clearly has some beneficial consequences for communication and social connectedness, it is also associated with negative mental states such as FoMO (Wang et al., 2019). The relationship between FoMO and PSMU was examined, by treating FoMO as a direct predictor of overuse, or as a mediator, in the association between PSMU and psychopathology.

Less explored is the possibility that FoMO is, at least in part, the result of excessive social media use. Examining other potentially problematic behaviors, such as online disinhibition and inappropriate selfie sharing, in the context of FoMO is warranted, as these behaviors might mediate the relationship between FoMO and PSMU.

Compensatory Internet use theory conceptualizes excessive Internet use as a substitute for something the user lacks, such as social interaction. Negative emotions increase the likelihood of using social media to alleviate negative emotional states such as loneliness or depression.

However, social media can also exacerbate negative feelings, including FoMO, which could

ultimately lead to PSMU. When people feel disconnected from social information and events, they are likely to overuse social media to regulate these negative emotions and feel more socially connected, but such a strategy may be ineffective in the long run. Through a vicious cycle, it could lead to prolonged online use of social media platforms and PSMU.

Research by Chashmi et al. (2023) claimed a number of benefits associated with the use of social networks among young employees, starting from the premise that, viewed as a channel of communication and as a source of social support, social media play a crucial role in learning environments.

Social networking applications provide wide access to information and information resources, reduce barriers to group interaction, improve engagement between them and their managers, support active and social learning, increase motivation, encourage them to learn more about self-learning, and support collaborative learning activities.

Chashmi et al. (2023) considered that despite the benefits of facilitating and enhancing communication, online social networks also seem to present some threats. For example, problematic use of the social networks

WhatsApp, X (formerly Twitter), and Instagram is negatively correlated with performance, well-being, positive mood, and life satisfaction.

Social media can change a person's daily habits, and excessive Internet/social media use is associated with maladaptive psychological states and behaviors such as depression, anxiety, boredom, procrastination, loneliness, cognitive impairment, and interpersonal difficulties. Excessive social media use also predicts lower productivity and lower performance.

Chashmi et al. (2023) observed that an increase in psychological distress and social distancing during the COVID-19 pandemic appeared to increase social media use and addiction tendencies towards social media platforms. According to Pang (2018), well-being usually refers to an individual's overall perception and evaluation of their own life conditions or specific areas of life.

As a multifactorial construct, subjective well-being mainly includes the cognitive judgment of overall life satisfaction and the emotional evaluation of emotions and feelings. Because of these different dimensions of the concept (i.e., life satisfaction, positive emotions, and negative emotions) that reflect a person's subjective view of life experience, well-being

is often defined as subjective well-being.

Social media use was operationalized as a formative construct to investigate its impact on well-being. Given that people typically use more than one social media product at the same time, social media must be studied as an umbrella construct to better understand the relationship between social media use and individuals' well-being.

Kim et al. (2020) said so, in general, the use of online social networks can have a positive impact on employees, and some research has pointed out that social networks could help users build social capital, reduce loneliness, or improve well-being.

However, some studies (Andreassen et al., 2016) have claimed that if individuals use social media too often, they may develop social media addiction, which will affect their physical and mental health, while other studies have even suggested that there is a non-significant relationship, between social media use and subjective well-being.

Under these conditions, Wang et al. (2019) believe that based on the main functions of serving users, the use of social networks can be divided into two types, namely social use (communication and interaction, update status,

commenting, etc.) and entertainment use (accessing games, listening to music, surfing the web, etc.).

Böhmer (2022) pointed out that whether it is for social use or entertainment, users need to spend a lot of time on social media, which can lead to social media addiction. The results of the research carried out by Wang et al. (2019) showed that social use and entertainment use have different effects on social media addiction and subjective well-being.

As such, entertainment use is more likely to lead to social media addiction, and social use tends to improve individual well-being. Additionally, social media addiction has a negative impact on well-being.

This inconsistency may be due to different types of social networks, and different types of use may have different effects on well-being. In addition, there may be differences in the perception of well-being between addicted and non-addicted users. However, there are few empirical studies to verify these views.

In this context, Pang (2018) studies have focused on the social use of different social media services, and the results show that social use has a positive impact on the subjective well-being of users. For example, the social use of social media could improve users' perceived bonding social capital and

subjective well-being, with positive impact on performance.

Basically, researchers Kim et al. (2020) demonstrated that individuals communicate with a wide range of people on social networks, which is positively related to their subjective well-being and performance. Even though online social media use for social purposes sometimes helps foster social connections and has a positive impact on personal life, the relationship between online social media use and performance, or personal happiness, can become extremely weak or irrelevant when use online social networks for personal, entertainment and recreational purposes, such as playing online games or browsing online content.

Chandani et al. (2019) pointed out that employees' use of WhatsApp for gaming purposes has a negative impact on their physical well-being and performance. Furthermore, if these users are addicted to the game, it may have a negative impact on their subjective well-being and performance at work.

Online social media addiction means that users spend a lot of time on social media, including at work, and ignore the people and things around them, which affects their physical and mental health and reduces their performance and subjective well-being. A meta-analysis of 70 primary studies shows

that users with Internet addiction have more negative emotions, lower performance, and less subjective well-being (Lei et al., 2019).

Empirical research by Ko & Turan (2020) indicates that addiction to online social networks is negatively associated with individuals' subjective well-being, with negative impact in the sphere of professional performance and workplace engagement. Directly, social media addiction does not significantly influence activity engagement scores.

However, there are significant indirect inverse effects on engagement. Depressive symptoms and self-esteem mediate these effects. Social media addiction increases depression symptoms, which in turn decreases activity engagement scores.

Dependence on online social networks lowers self-esteem, which serves as a variable that significantly increases engagement. Overall, the findings suggest that online social media addiction has a total inverse effect on engagement and performance, with depressive symptoms and self-esteem mediating this relationship.

Landa-Blanco et al. (2024) argue that extensive and excessive engagement with online social networks can lead to a form of addictive behavior. In such a case, many individuals risk developing an

obsessive need to stay online that interferes with their daily lives.

This addiction often results in the individual overlooking fundamental needs such as sleep, personal interactions with loved ones, and daily tasks at work, affecting professional and mental performance. It also manifests itself in various adverse emotional and behavioral states, including interpersonal conflicts at work or in the private environment.

At the same time, social media addiction induces effects similar to the consumption of psychoactive substances, contributing to the deterioration of self-esteem, mental health and performance. Additionally, individuals tend to underestimate the amount of time they spend on social media, and abstaining from it can cause restlessness, irritability, and withdrawal symptoms.

Self-esteem, a subjective assessment of an individual's self-worth, can have a significant impact on well-being and performance. It is important to note that self-esteem is not necessarily an objective reflection of a person or how others evaluate them. Greater use of online social networks has been consistently associated with lower self-esteem scores, which in turn are correlated with lower performance.

This link between social media use, self-esteem, and job

performance underscores the far-reaching consequences of online social media addiction on people's lives. In this context, addictive Internet use is also linked to increased depressive and anxiety symptoms.

Depression is a negative result of the inability to cope with the stresses of life; its symptoms involve persistent and intense feelings of helplessness, hopelessness, dissatisfaction, sadness, pessimism, and worthlessness. These symptoms are associated with adverse effects on emotions, thoughts, motivations, social relationships, and physical well-being.

Symptoms of depression are a prevalent problem faced by many young workers and beyond. Anxiety is a reaction with cognitive, psychological, and behavioral components, which is characterized by physical and mental agitation.

Emerging research suggests that online social networking and Internet addiction exerts a multifaceted influence on performance and psychological well-being. While its impact on professional performance is indirect, it directly contributes to increased levels of stress and anxiety among users.

This increased stress can further exacerbate anxiety, which in turn has a negative impact on performance. In addition, stress

directly contributes to anxiety, which can lead to depression.

These findings underscore the importance of social media addiction and its potentially substantial impact on employee performance and psychological well-being and career trajectories.

According to Landa-Blanco et al. (2024), engagement encompasses the extent to which individuals actively participate and are involved in activities within their formal education and the fulfillment of their duties at work. Commitment appears as an essential factor in the evaluation of well-being and professional performance.

Numerous scientific studies delve into this issue from various perspectives, including institutional factors, individual aspects, basic psychological needs, legal vulnerability, absenteeism, and employability of individuals addicted to the Internet and online social networks. Commitment correlates with successful performance and integration of employees into the professional environment, regardless of age.

High engagement drives superior performance and productivity, facilitates positive adaptation, and improves physical and mental well-being, while reducing the likelihood of career dropout. Individual engagement can be influenced by various factors, including individual

characteristics, relationship philosophy, methods used by trainers or managers, inter-personal relationships, and the general context in which the practices are implemented.

Individuals with high self-esteem tend to have more confidence in their abilities, increasing their motivation, which leads to better performance. Consequently, there is a positive relationship between self-esteem, commitment, and performance.

However, research indicates that addiction to online social media can negatively affect mental health, performance, and career outcomes. Other studies indicate that excessive social media consumption is linked to greater procrastination and distraction, and decreased productivity, negatively impacting overall performance.

Landa-Blanco et al. (2024) argue that the COVID-19 pandemic has had significant effects on the mental health of the population, with high levels of obsessive-compulsive symptoms, anxiety and interpersonal sensitivity being reported. The COVID-19 pandemic has also triggered a series of health restrictions that have limited spaces for social interaction and increased virtualization, including in the relationship with employers.

As a result, there has been a significant increase in the use of

social media, an issue that, if neglected, has the potential to be detrimental to people's performance, well-being, and mental health.

3. TOOLS FOR STUDYING THE EFFECTS OF INTERNET ADDICTION

Considering the psychological, social, economic, cultural, and educational losses caused by social media addiction, it is significant to determine the level of social media and Internet addiction. Van den Eijnden et al. (2016) pointed out that when research is reviewed, it is possible to get the impression that Facebook addiction has the same meaning as social media addiction, which is wrong.

Addiction scales developed in this regard are focused on Facebook addiction or problematic Facebook use (Andreassen, 2015) and have become intense. Currently, the multitude of social networks are widely used and have different characteristics in terms of functionality and convenience.

For this reason, it is important to have distinct psychological tools to be able to identify a possible social media addiction early. However, the diversity of social networks makes studies of social media addiction problematic, especially due to the rapid changes in the social media environment and the expansion of

interactive features, which will make measurement tools targeting specific social networks out of date.

At the same time, van den Eijnden et al. (2016) pointed out that the criteria that can cause social media addiction may vary, which will cause problems in the process of comparing related research conducted. The distinctive nature of each social networking environment and the differences in the opportunities it provides reveal that social media addiction should be considered as distinct from Internet or Facebook addiction.

Therefore, they argued that the development of studies on social media addiction requires the development and validation of a general scale of social media addiction.

Even though in recent years various scales have been developed regarding the addiction to social networks, the insufficient amount of research in the field and the need to develop scales in this sense have been the main problem. However, it can be seen, that some of the measurement tools developed are aimed at youth and adults, while others are aimed at adolescents and young adults. For example, the Social Media Disorder Scale developed by van den Eijnden et al. (2016) involves the 10-17 age group.

The Bergen Social Media Addiction Scale (BSMAS) is a

modified version of the Bergen Facebook Addiction Scale (BFAS) previously published by Andreassen et al. (2012). In fact, Andreassen et al. (2016) replaced the word Facebook with the term social media, defined as X (formerly Twitter), Instagram, etc. and the Bergen Facebook Addiction Scale was adapted as the Bergen Social Media Scale.

The six-item BSMAS was used to assess social media addiction. This scale, which considers salience, mood, modification, tolerance, withdrawal conflict, and relapse, is based on the components model of addiction and assesses social media addiction based on symptoms and associated adverse effects caused by problematic use during the year previous.

A five-point Likert scale ranging from very rarely (1) to very often (5) was used to answer each question on the BSMAS. Raw scores for each item are summed to produce the final score (range 6–30), with a higher score indicating greater degrees of social media addiction.

In the overall evaluation, it is observed that the scales for social media addiction differ from each other in terms of the target group. The original scale involved young adults. Therefore, there is a need for an easy-to-apply scale that involves a target population with a wider age range.

The presence of social media addiction can be discussed depending on the definition of addiction used. However, there is evidence that some social media users experience addiction-like symptoms due to excessive use. In addition, many studies have shown that social media is addictive.

It can be seen in the literature that researchers investigating social media addiction primarily focus on Facebook addiction. However, it has been discussed that Facebook is only a social network and therefore there is a need for valid scales involving other social networks that measure social media addiction (Andreassen et al., 2016).

Although social networks, as a subdimension of the Internet, have similar characteristics in terms of intended use, they differ in their individual and purpose-specific uses (van den Eijnden et al., 2016). In the specialized literature, it could be observed that the scales have differences in terms of factor structures and target groups, and the range of total explained variance varied between 35% and 59%.

The factor structures of these scales, which were developed for different age groups, differ from each other. For criterion validity in measurement tools developed to measure social media addiction van den Eijnden et al. (2016) used the compulsive internet use scale.

The Smartphone Addiction Proneness Scale (SAPS) was developed by Jung & Kim (2014) and later used to assess social network addiction proneness in the form of the Social Network Site Addiction Proneness Scale (SNSAPS) construct.

The SNSAPS was made by modifying the items of existing scales that assess smartphone, internet, and Facebook addiction, having 24 items and four factors, namely 1) tolerance and concern, 2) avoidance of negative emotions, 3) disruption of daily life and loss of control and 4) virtual life orientation and withdrawal.

The Reasons for Using Social Media Scale (SUMS), developed by Shin & Lim (2018) and used to measure reasons for using social networking sites, consists of 30 items, each representing one of six subscales: information, enhancement, social, conformity, entertainment, and adaptation motive.

Respondents are asked whether they use such sites for the specified reason on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). In another version, the SUMS has a four-factor structure consisting of information-enhancement, enjoyment, social-compliance, and adaptation motives.

Regarding FoMO, based on the specialized literature, its reliable and valid measurement is an extremely relevant topic. Over time, several

scales have been developed to measure FoMO. Przybylski et al. (2013) introduced an initial ten-item, single-factor scale measuring individuals' overall FoMO experience.

Using Przybylski's FoMO scale as a starting point, Alt (2015) developed a FoMO scale containing three factors, namely Social FoMO, News FoMO and Commercial FoMO.

Zhang et al. (2020) developed an eight-item scale with social and personal dimensions after Wegmann et al. (2017) assessed FoMO with a 12-item bidimensional scale, whose psychometric properties were established on a group of Instagram users (Veysuei et al., 2023).

Al Abri (2017) developed a scale to assess FoMO related to alcohol consumption and after Li et al. (2021) developed for FoMO a new scale, FoMO was considered a distinct negative emotion by Ma et al. (2021), who developed a 15-item scale. The FoMO scale (Przybylski et al., 2013) has been used in recent years and developed by Gil et al. (2015).

According to Sela et al. (2020), the FoMO scale is a self-report questionnaire developed based on self-determination theory. In addition to the original English edition, translations included Romanian, Italian, Spanish, Arabic, Turkish and others. In previous studies, test-retest reliability and internal consistency of the various versions were good, but structural validity was inconsistent.

Regarding the concurrent validity of the FoMO scale (Przybylski et al.,

2013), previous studies have found that FoMO is associated with problematic online behaviors such as Internet addiction (Sela et al., 2020), problematic smartphone use (Elhai et al., 2020), PSMU (Rozgonjuk et al., 2020), psychopathological symptoms (Tsai et al., 2019), poor psychological well-being (Dutot, 2020), poor sleep quality (Adams et al., 2020), poor performance (Whelan et al., 2020) and phubbing behavior (Fang et al., 2020).

Conclusively, the FoMO scale (Przybylski et al., 2013) shows a positive association with PSMU and a positive association with negative emotionality, facts that support the concurrent validity of the scale. A robust factor analysis by Sette et al. (2020) aimed to develop and validate a modern FoMO scale, under the acronym ON-FoMO, which captures four distinct core dimensions of FoMO among social media users, namely the need for belonging, the need for popularity, anxiety and addiction.

The new scale correlated highly with the FoMO scale, the main tool used in previous studies, as well as with other assessments of smartphone and social media addiction, finding associations with low life satisfaction, depression and suicide attempts.

Carmona-Halty et al. (2019) recommend that the Utrecht Work Engagement Scale (UWES-9S), a nine-item Likert-type questionnaire with a seven-point answer set (0 = never; 6 = always), be used to measure engagement, as and the

Patient Health Questionnaire (PHQ-9), a nine-item Likert scale measuring depressive symptoms experienced in the past two weeks, with each item scored on a scale from 0 (not at all) to 3 (almost every day).

The total score for each item, which ranges from 0 to 27, is calculated by summing all responses. A score of 10 or more was considered indicative of depression, while a score of less than 10 was considered to indicate no depressive symptoms.

The Generalized Anxiety Disorder Scale (GAD-7), a seven-item Likert-type scale that uses a four-point scoring system (0 = not at all; 3 = almost every day) and measures the prevalence of anxiety symptoms experienced in the last two weeks is recommended by Camargo et al. (2023). A subject can receive a score from 0 to 21, with a higher score indicating more severe anxiety symptoms, with those scoring 10 or more being considered to have anxiety symptoms.

In the current context, disrupted by the COVID-19 pandemic and the socio-economic effects generated by it, the use of social networks has seen a significant increase. In this scientific research, we aim to study the psychological effects of this evolution on the performance of civilian and military employees in the medical field.

4. THE OBJECTIVE AND HYPOTHESES OF PRESENT SCIENTIFIC RESEARCH

The objective of the scientific research is to study the psychological effects of the Internet on the performance of civilian and military employees, from the medical field, in the period following the COVID-19 pandemic, as well as the emergence of addiction to social networks as a side effect of their use.

The decision-making problem of the scientific approach, related to the theoretical aspects addressed, consists in evaluating and identifying the way in which the use of social networking sites generates addiction to them and anxiety or personality disorders, respectively influences the performance and well-being of individuals in the period after the COVID-19 pandemic. For this, it is important to study the negative side effects and their origin, being relevant to carry out an analysis of the impact that the use of social networks has on the condition and performance of individuals.

The goal of scientific research, considering these aspects, is to identify the links between the use of social networking sites and the condition of individuals, as well as the factors that generate negative

side effects, as a result, of the use of social networks, including the emergence of social network addiction and sleep disorders. The establishment of the goal was premised on the idea that the fundamental human need is to belong to social groups.

The relationship between the use of social networking sites and the individual's performance and well-being is not so easy to explain, with several studies investigating the relationship between the use of social networks and aspects of well-being but finding different results. On the one hand, social media use appears to have a negative influence on performance or well-being, or aspects related to it, and social media use has been significantly associated with increased depression in employees in stressful work environments. Spending too much time on social media reduces life satisfaction, but on the other hand, social media use can have some positive effects on well-being.

As shown by the previously mentioned studies, the use of social networks can increase the well-being of users by giving them a sense of community, but it is not conclusive how it affects professional performance. Online social media use encourages social connections, improving well-being.

However, negative and positive effects of social media use can coexist, so the present study aims to

identify the circumstances under which social media use can be beneficial and the circumstances under which social media use can be detrimental to users' well-being. Assuming that, social media use has a direct, one-sided impact on well-being could be misleading, so it is important to consider the context of social media use in a user-oriented way.

It is imperative to keep in mind that most social media users are young adults. As the majority of social media users are young adults, and various studies such as those already discussed in the previous chapter show that the use of social media influences their performance and well-being, this study focused on a group of 316 civilian and military employees of some medical institutions, taking into account the context of use social networks and determining different motivations for their use and subsequent consequences.

Social media users are goal-oriented and actively use these sites to satisfy their individual needs, from the fact that the individual needs belonging, as he wants to understand the social world, control, self-enhancement, and trust in others. In the theoretical context addressed, we observed that the informational and social and professional fulfillment needs of users are the basic expectations for the use of social networking sites and that determine their use.

The occurrence of FoMO symptoms may influence performance

and well-being, given that social media use encourages social connectedness and thus satisfies users' need for belonging. Based on this, it can be suggested that different needs can be reasons for using social networks, which can vary in intensity and thus can be fulfilled to different degrees or measures.

Starting from the assumption that social networks serve as tools for satisfying the needs of individuals, it could be deduced that the use of different social networks can lead to an improvement in the well-being of those who perceive their individual needs to be satisfied. At the same time, the intensive use of social networks can generate unwanted effects, with various implications in the sphere of well-being, including decreasing the quality of sleep and the appearance of depression symptoms.

This plan also includes the appearance of anxiety disorders and personality disorders, which can decisively affect the professional performance of the employee in the medical field. Information needs, also called cognitive needs, are related to finding information, deepening understanding and gaining new knowledge, information seeking being an important reason for using social networks.

Users' entertainment needs, labeled as emotional or affective needs, demonstrate users' tendencies to seek positive experiences such as enjoyment and fun on social media. Users' need for entertainment is one of

the main motivators for using social media, with most individuals using social media for humor and enjoyment, which is also part of the need for entertainment.

Apart from looking for fun, some individuals also access social media to pass the time. Since many social media platforms are designed for entertainment purposes, on which many pages become popular by posting funny texts, videos, or images, it is assumed that social networks have the potential to satisfy the entertainment need of users.

Also, the use of social networking sites is driven by users' personal identity needs or, similarly, personal integration needs. The need for personal identity is perceived as users' desire to present their true or inner self to the outside world and to have others know them as they know themselves.

Social networks offer many possibilities for expression, as users can create their own profiles, upload pictures and videos, and share information about themselves. To a certain extent, users can decide for themselves who they want to be or how they want to be perceived by others, as they are free to choose what they want to share. Thus, social networks provide the opportunity to create an identity that is different or similar to the one in real life.

Assuming that, social networks fulfill the informational, social, and professional needs of users, offering the freedom to know and shape their own image or personality in the

virtual environment, the following research hypothesis is issued:

Hyp1: The relationship between social media use and individual performance is mediated by the fulfillment of informational, social, and professional needs.

An important side effect is social media addiction, which can also be described as an internet addiction, where individuals show a compulsion to overuse social media, with the daily duration of social media site usage being an indicator of social media addiction. Social media use can be assumed to become addictive if it provides the user with positive feelings that encourage further use, such as rewards in the form of likes or access to restricted links. Thus, we can consider that problematic use of social networks has a negative effect on performance and well-being.

As such, social media use may not directly lead to decreased performance or well-being, but it may lead to negative side effects, which in turn may lead to decreased well-being. A side effect resulting from intensive use of social media is the emergence of anxiety or personality disorders, as users often sleep with their smartphones in the bedroom and are disturbed by incoming messages or perceive pressure and fear of losing relevant messages, which prevents them from to fall asleep or sleep well, with negative effects of an anxious nature.

Assuming the idea that an important predictor of individual well-

being is anxiety, we can formulate the following research hypothesis:

Hyp2: The relationship between social media use and individual well-being is mediated by the occurrence of

social media addiction and anxiety and personality disorders.

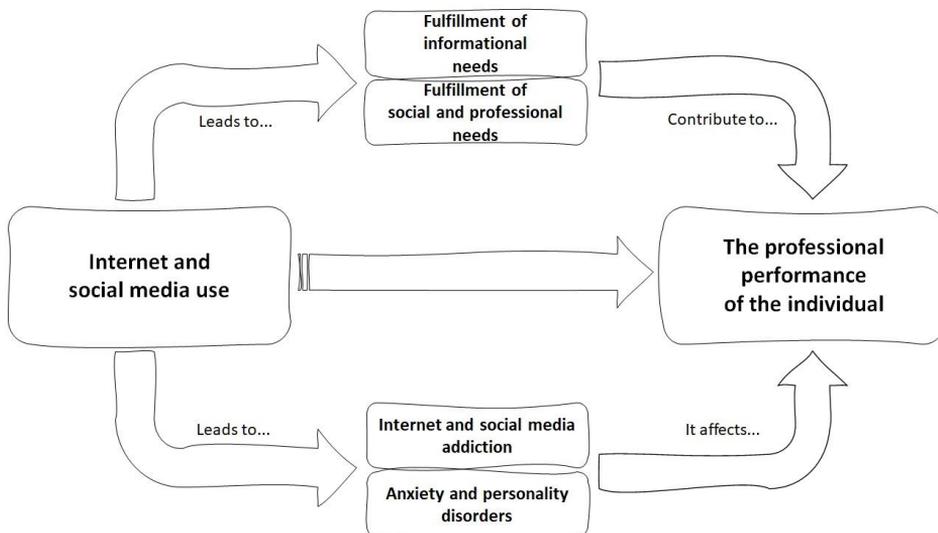


Fig 1. Theoretical research model

5. SCIENTIFIC RESEARCH METHODOLOGY

Based on the formulated research hypotheses we developed a research model containing possible mediators of social media use and individual performance (Figure 1). In this model, a positive influence of the use of social networks on the satisfaction of personal needs is assumed, as well as a negative influence on the well-being of the individual, generated by the secondary effects of the use of social networks.

In addition, need satisfaction is hypothesized to be positively related to performance, and generated side effects are negatively associated with job performance.

The establishment of the scientific research plan was achieved after the objective was defined and the research hypotheses were stated, this plan being structured in three stages.

Thus, in the first stage, investigating the specialized literature, the objectives of the scientific approach were represented by the identification and evaluation of the theoretical aspects related to social networks, respectively by the identification of the study tools of social networks. The use of scientific research tools led to the evaluation of

the psychological effects of social networks.

In the second stage, the objective was to achieve a state of the art, by identifying and evaluating reference studies related to social networks, with an emphasis on current affairs. In this context, several international studies on the chosen topic were analyzed.

In the third stage, the quantitative research, the evaluation of the relationship between the use of social networks and the performance of the individual, mediated both by the fulfillment of needs and by side effects, was carried out. For this purpose, a questionnaire was placed on a group of 316 civil and military employees from medical institutions and the factor analysis was carried out.

The researched collective was represented by adults, having the capacity of civil or military employee of a medical institution. The observation unit is represented in the research carried out by the person who provided the researcher with personal data and information and gave his consent to participate in the scientific research. The survey unit coincides in this research with the observation unit. The sampling method used in the quantitative study was simple random sampling. The selection of participants in the scientific research took into account two criteria, availability and accessibility.

The duration of completing the questionnaire, applied online, was

about 10-15 minutes. The data collection period was between January 1st, and February 29th, 2024. The collection method was online. A correlational survey design was chosen to conduct the research to answer the objective and purpose of the research as well as to test the four research hypotheses.

The independent variable chosen was the use of social networks (U), the dependent variable chosen was performance (B) and the mediating variables consisted of the fulfillment of users' needs, which were the fulfillment of informational needs (ND) and the fulfillment of social and professional needs (NP), respectively social media addiction (D) and anxiety and personality disorders (T). The participants completed the same online questionnaire, agreeing to the processing of the data for exclusively scientific and anonymous purposes.

The study comprised a group of 316 adults connected to social networks, the criteria for voluntary participation including the condition that their place of work was a medical institution. The questionnaire was distributed online. Non-random sampling was used to recruit participants by providing the link to the questionnaire. In addition, participants were recruited through the snowball technique, as participants were invited to share the study link with their friends.

By clicking on the link, the participants were directed to the online questionnaire, with an

invitation to complete the questionnaire and an information message regarding the acceptance of data processing for exclusively scientific and anonymous purposes. The participants were informed in advance that this questionnaire is addressed exclusively to employees of medical institutions.

The questionnaire applied to the group of respondents consisted of scales related to the use of social networks by the participants, the importance of their needs, the satisfaction of perceived needs, side effects, performance, and a demographic section. For reasons of consistency and analytical treatment, the items in sections A, B, C, D and E of the questionnaire were rated on a five-point Likert scale, ranging from 1= strongly disagree, to 5= strongly agree, for the construction of the mediation variables, the average score of each scale being used.

The importance of social and professional needs was measured with four items in section A, the importance of informational needs was measured with four items in section B, the occurrence of anxiety and personality disorders was measured with four items in section D with reference to the last year spent on social networks, and performance was assessed with five items in section E.

Occurrence of social media addiction was measured with six items in section C, items that were based on the Bergen Scale for Social Media Addiction (Andreassen et al., 2016),

but transformed into statements, using a scale Five-point Likert (1= strongly disagree to 5= strongly agree) instead of the original frequency scale, to make the study more consistent and not to mislead the participants. In section C of the questionnaire, the six items referred to the last year spent by the participants on social networks.

Two items in section F measured participants' social media use by asking about the number of days per week they use social media and the minutes per day spent on social media. To create the independent variable U, both elements were used, which were multiplied and converted into the number of hours spent per day by users on social networks.

The items in section A of the questionnaire were A1: For me, social media is important, because I feel that it is part of my image, at work and at home, A2: For me, social networks are important, to present or give my image to others, colleagues, or friends, A3: For me, social media is important because people can use it to rate me or get to know me, at work or in my free time, A4: For me, social media is important, to gain favorable approval, among colleagues or others.

The items in section B of the questionnaire were B1: For me, social networks are important, to inform me, B2: For me, social networks are important, to waste time, B3: For me, social networks are important, to learn, B4: For me, social networks are important, to relax.

The items in section C of the questionnaire were C1: Over the last year I have spent a lot of time thinking about social media or using it, C2: In the last year I felt the need to use social networks more and more, C3: In the last year I used social media to forget about my personal problems, C4: In the last year I have tried to reduce my use of social networks without success, C5: In the past year I have become restless or distressed if I have not been able to use social media, C6: In the past year I have used social media so much that it has had a negative impact on my professional activities or my ability to work.

The items in section D of the questionnaire were D1: In the last year I have had problems with anxiety, D2: In the last year I have sometimes felt anxious or felt that way all day, D3: In the last year I have had trouble falling asleep at night or had nightmares, D4: In the last year I have had mood swings, even every day.

The items in section E of the questionnaire were E1: I don't feel particularly happy with the way I am or present myself at work, E2: I am very satisfied with everything in my career and what I have done in my professional life, E3: I don't think I'm as good as others, E4: I am fine with any task I get, E5: I feel fully active mentally.

The items in section F of the questionnaire were F1: My gender is male/female, F2: My job is in a medical institution, F3: I have been a

user of social networks for years, F4: The device I mostly use to connect to social networks is a smartphone / laptop (PC) / other type of device, F5: I use social media a number of days a week, F6: I use social media a number of minutes a day.

In total, including the six demographic questions in section F, the questionnaire contained 29 items and took participants no more than 15 minutes to complete. To make the questionnaire more coherent, it was written from a first-person perspective. The obtained data set consisted of data from 307 participants, 184 women (60%) and 123 men (40%), responses from nine participants being excluded from the data set because they stated that they did not work in an institution in the field medical. The age of accepted respondents was between 20 and 65 years, and the mean age was 34 years (SD=4.8). Considering the characteristics of social media use, 298 participants stated that they access mobile networks via smartphone (97%) and nine respondents accessed social networks via laptop/PC (3%). On average, the respondents stated that they have been using social networks for about seven years (SD=2.3).

6. RESEARCH RESULTS. INTERPRETATION OF RESULTS

The answers obtained from the group of 316 respondents were first

analyzed from the content point of view, on which occasion the answers given by nine respondents were eliminated, as shown above. An exploratory factor analysis was performed to verify that the associated items were distinct from each other and unrelated to the same concepts, with no changes made to the originally developed scales.

Factor analysis was performed with 23 items belonging to the scales measuring the importance of the two needs, side effects and performance. Because social media use was measured by two string variables, they were not included in the factor analysis.

The scale measuring social media addiction showed good reliability, with a Cronbach's alpha coefficient $\alpha=0.78$ for the six items in section C. Regarding the assessment of needs, the four items of scale A of the questionnaire showed good reliability, with Cronbach's alpha coefficient $\alpha=0.83$.

At the same time, the scale made with the four items in section B showed good reliability, with Cronbach's alpha coefficient $\alpha=0.81$. Regarding side effects, the four-item scale in section D indicated good reliability, with Cronbach's alpha coefficient $\alpha=0.79$.

The five-item scale measuring performance in section E has good reliability, Cronbach's alpha coefficient being $\alpha=0.82$. On average, participants scored close to 4 on the independent variable U (social media

use), indicating that participants spend approximately four hours per day on social media.

However, as shown by the standard deviation, the differences between participants are large in terms of time spent on social media. The mean score on the dependent variable B (performance) was around 3, which shows an average level of performance.

Considering the descriptive statistics of the mediating variables belonging to the satisfaction of needs, it can be observed that the informational needs are fulfilled, to a greater extent than the social and professional ones, which were fulfilled through the using of social networks only to a small extent.

Looking at the side effects of social media use, participants scored on average high on social media addiction. None of the side effects appeared to be highly prominent in this sample, as none of the mean scores were greater than 3. The average participant could neither agree nor disagree if they experience one of the side effects of using social media.

To check how the variables are related to each other, Pearson correlations were performed. The correlation matrix showed insignificant correlations between the independent variable U and the dependent variable B. However, significant relationships could be found between the use of the

independent variable U and some of the mediating variables.

Thus, weak positive correlations could be observed between the use of the U variable and the informational and social and professional need satisfaction variables. *Regarding the secondary effects of social media use, a significant relationship, namely a weak positive correlation, was detected between social media use and social media addiction.*

In addition, correlations could be found between the mediators belonging to the secondary effects of social media use and performance. Anxiety and personality disorders, and social media addiction showed weak negative correlations with performance. *No significant relationship could be found between the mediating variables of need satisfaction and performance, but significant correlations were detected between the different mediating variables.*

Starting from the mediating variables belonging to need fulfillment, there was a weak positive correlation between informational need fulfillment, social and professional need fulfillment, and social media addiction. *Fulfillment of social and professional needs was weakly positively correlated with social media addiction.*

When considering the secondary effects of social media use, each of the associated mediating variables

showed significant correlations with each other. Anxiety and personality disorders were weakly positively correlated with social media addiction.

Overall, *no moderate or strong correlations could be found between any of the variables.*

Multiple mediation analysis was conducted to investigate whether the relationship between the independent variable U and the dependent variable B is explained by the mediators ND and NP and the negative side effects of social media use, namely anxiety and personality disorders, and social media addiction, respectively.

After revising the hypotheses through linear regressions, the hypotheses were tested, *finding that social media use positively affects user need satisfaction and the secondary effects of social media use. In addition, need satisfaction was found to positively affect user performance and side effects to negatively affect it.*

Therefore, different mediators should explain the negative and positive relationships between social media use and performance. At the same time, an insignificant relationship was found between the independent variable U and the dependent variable B.

The regression analysis showed significant relationships between the independent variable U and some of

the mediators. Participants who reported higher levels of social media use also reported significantly higher levels of need satisfaction.

Furthermore, *social media use is a significant and positive predictor of social media addiction.*

Considering the mediating variables and their influence on the dependent variable B, the secondary effects of social media use were found to be significant. Overall, no evidence was found that social media use has a beneficial influence on user performance, which rules out possible mediating effects.

Consistent with the theoretical model, *participants who reported higher levels of anxiety or personality disorders, or social media addiction reported lower levels of performance.*

7. CONCLUSIONS, LIMITATIONS OF RESEARCH AND FUTURE DIRECTIONS

Because the scientific management literature is divided on the likelihood that online social media use will lead to Internet or social media addiction, anxiety or personality disorders, or impaired performance, the purpose of this scientific paper was to find the conditions that explain this relationship.

Therefore, through the scientific study carried out, the authors of the

paper aimed to investigate to what extent the satisfaction of needs and the negative side effects of the use of online social networks can explain the relationship between the use of social networks and the emergence of addiction to them or if this fact affects the professional performance of users, respectively of employees, civil or military, from institutions in the medical field.

The results obtained indicated that the use of social networks can lead to addiction or the emergence of anxiety or personality disorders and does not have a significant influence on the performance of users. However, regression analysis showed that medical employees who spend more time on social media have need fulfillment, even if they perceive higher levels of informational, social, or professional.

In addition, higher levels of social media use were associated with higher levels of social media addiction in healthcare workers. Another important finding was that users experiencing higher levels of anxiety and personality disorders, or social media addiction, reported significantly lower levels of job performance.

The results are similar to those of other studies that did not find a direct association between social media use and mental health among young adults (Ali et al., 2020).

However, the results fit the theoretical model, with social media use being significantly related to satisfying informational, social, or professional needs. Thus, social media use is a significant positive predictor of need fulfillment and social media addiction.

In this study, online social networks had the potential to meet users' entertainment and personal identity needs to a certain extent. This is in accordance with a study by Wang et al. (2019), who found that online social networks satisfy users' needs. Additionally, they found that user needs accumulate over time and drive social media use in the future.

Therefore, it cannot be ruled out that the relationship between social media use and need satisfaction is bidirectional, as it may be that high-need users automatically spend more time on social media because they feel a stronger need for satisfaction.

This suggestion is underscored by the fact that none of the mediating variables belonging to need satisfaction was significantly associated with performance. Thus, it can be concluded that need fulfillment has no influence on users' performance, but it could predict users' further use of social media.

By the secondary effects of online social media use, social media addiction was positively predicted by social media use. The

participants already had a lot of experience in using social media, as they had been using it for many years. Therefore, it could be suggested that they are aware of the risks of using social media, which could protect them from developing negative side effects.

Notably, social media addiction is the only variable that is significantly related to both social media use and performance, and thus meets at least some of the criteria for being a mediator.

Correlations showed significant relationships between information need satisfaction and social media addiction.

Al-Menayes (2016) found that satisfaction with time spent on social media is positively related to social media addiction, which further leads to worsened performance. In conclusion, it appears that need satisfaction triggers further social media use, which in turn may lead to more social media addiction.

These results show that users of social networks should become aware of why they use them and ask whether using social networks is the only way to satisfy informational, social, and professional needs.

For example, medical institutions should offer alternatives to meet these needs, such as informative or training programs to meet informational, social, and professional needs, to prevent the

development of social media addiction.

In general, attention should be directed to anxiety and personality disorders because they significantly decrease the performance of the employee, civilian or military.

Regarding limitations, the respondent pool was relatively small, and the measure for social media use could be improved, as users may show differences in online social media interaction, not measured by time spent per week.

Results were based on participants' self-reported estimates, which may not be an accurate and reliable indication of actual screen time, and participants may not be fully capable of properly assessing their needs, as some of these may be unconscious stimuli for social media use, and participants may not be completely honest about their responses. So, the results could be biased.

Future research should focus on hypothesizing a bidirectional relationship between social media use and individuals' need satisfaction, which could lead to social media addiction. In addition, researchers should be open to different study designs, including experience sampling, and adding a control group to obtain stronger results.

Particular attention should be paid to the measures of using online

social networks that must be met, in order to increase reliability. Also, more studies should be conducted in different population groups, including the elderly, with less experience in using social media, to identify differences between different users.

The importance of the research is highlighted by the design and implementation of an original research model for the study of phenomena that transcend the intensive use of social networks and the induced psychological effects, including addiction to online social networks, in the post-pandemic context of COVID-19, at the level of employees from the medical field.

At the same time, the scale developed by the authors, based on their own research model, is useful in studying the dependence on social networks of civil and military employees of these institutions.

In addition, the addiction to social networks could be identified as a risk factor of their use, the study demonstrating the connection between the use of social networks and the change in the level of professional performance.

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