



## Social Media Addiction, Social Comparison and Counterproductive Work Behaviour

Ioan-Daniel Leucă  
University of Bucharest

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Corresponding author at: University of Bucharest, Department of Psychology, 90 Panduri Av, Bucharest, RO.  
Tel.: +40 (0) 31-425.34.45  
E-mail address: [leuca.p.ioan-daniel.119@s.fpse.unibuc.ro](mailto:leuca.p.ioan-daniel.119@s.fpse.unibuc.ro)

### ABSTRACT

The present study aims to identify the relationships between social media addiction, counterproductive behaviours encountered in the workplace and the mediating role of social comparison in relation to them, while also looking at the predisposition of socio-demographic aspects towards the manifestation of counterproductive behaviours. The study involved 263 participants aged 19-70 years,  $M = 39.37$ ,  $AS = 13.89$ , of whom 60 were men (23%) and 203 were women (77%). The instruments used were the Bergen Social Media Addiction Scale, the IOWA-Netherlands Comparison Orientation Measure and the Counterproductive Work Behavior Checklist. Results indicate that social media addiction is positively associated with organizationally oriented counterproductive behavior, but is not a predictor for person-oriented behavior. Also, the level of social comparison only mediates the relationship between social media addiction and organizationally oriented counterproductive behavior, not person-oriented counterproductive behavior, although it enhances both relationships. The study findings indicate that social comparison process intensifies underlying relationships and emphasizes the need to combat predictors of counterproductive behavior in the workplace, thus implying the need for future studies on the topic in the Romanian labor field.

**Keywords:** *counterproductive work behavior, social media addiction, social comparison*

### 1. INTRODUCTION

Deviant internet use is a common phenomenon nowadays (Taylor, 2017) and is often associated with various forms of disorders and high-risk behaviours (Shrivastava et al., 2018). One of the deviant forms of internet use is constituted by internet addiction, extensively

studied in the last two decades because of its implications on mental health and the quality of relationships of people who find themselves under this term, its negative effects influencing most aspects of life (Kumar & Mondal, 2018). In turn, within internet addiction, certain elements can be

observed that have evolved autonomously over time, having a different nature and a relatively independent direction from the others. One of these elements is social media addiction, an umbrella term that includes platforms such as social networks, messaging, microblogging and opinion forums, etc. (Aichner et al., 2021). Given the level of expansion of this field and the almost indispensable nature of some of its elements, studying and understanding it as an element in its own right is absolutely necessary to optimise, prevent and ameliorate its effects.

Social media addiction often interferes with work in the workplace, affecting both its quality and quantity, thus having profound effects on productivity and attitude towards work (Hou et al., 2019). Although counterproductive workplace behaviors come in different forms and have different orientations (Spector et al., 2006), studying them has identified several predictors (Şulea et al., 2010). Social media addiction not only plays a role through procrastination or jeopardizing cybersecurity (Zamir, 2022), but also on employees' health and well-being, it is often correlated with both predictors of counterproductive behavior and certain factors that might facilitate the fulfillment of personal needs (van Zoonen et al., 2022).

The relationship of social comparison with social media addiction has been extensively studied in recent years, showing that it plays an important role in this process (Murtaza et al., 2021). Also, upward social comparison, the most common type of comparison encountered in the use of social media platforms, is a primary predictor of high levels of envy and low well-being, both of which contribute to high levels of stress and thus engagement in counterproductive behaviors. Thus, studying the role that the social comparison process plays in the relationship between social media addiction and the frequency and direction of counterproductive behaviours in the workplace is an essential starting point for understanding these behaviours and preventing them by improving their determinants.

### **Social media addiction**

Social media has gained momentum with the evolution of the internet (Abbasi, 2019), and the rapid expansion of its use is due to the large number of advantages such as accessibility, efficiency, fast communication (Hou et al., 2019) and sharing of content (Nasrun et al., 2019), connection to large social networks and in some cases supporting (Öztürk & Özdil, 2022) and supplementation of beneficial social interactions (Brusilovskiy et al., 2016). In recent years, social media has expanded its sphere of influence, also becoming a means for influencing political outcomes (Zachlod et al., 2022) or public opinion (Samid & Shahin, 2017), a key reference item in e-commerce (Forbes, 2019), and a fulcrum in facilitating a sense of community resilience in the face of calamities or difficult situations (Xie et al., 2022). Defining the term social media can be

categorized as problematic (Obar & Wildman, 2015). Given its broad nature, the term has often been used to define a single element within it (Aichner et al., 2021), thus causing confusion as to the meaning with which it has been used in the literature that has addressed the topic over the past two decades (Bilgin & Taş, 2018). The continuous and often disproportionate evolution of the elements that make up social media, as well as the high degree of diversity they have acquired over time, has generated a fundamental need for clear separation and identification according to the individual utility and purpose of each element (Wartberg et al., 2020). Thus, the term can be understood by a set of Web 2.0 platforms and interactive technologies represented by social media, messaging apps, blogs and their subsidiaries (Wartberg et al., 2020). The precise identification of these elements in the literature reduces the chances of a confounded variable (Wang et al., 2015).

Given the complexity of the term and its composition, social media addiction itself has been loosely understood and often confused with other addictions related to the internet (Xin et al., 2018). Subsidiaries of social media include social networking and sharing networks, business networks, discussion forums and microblogs, bookmarking and review networks (Aichner et al., 2021). In a similar manner to the process of delineating its elements, social media has previously been involved in a terminological conflict, gaining autonomy within the term 'internet addiction' alongside online video game addiction (Wartberg et al., 2020). For this reason, the study of social media addiction and understanding its implications took off much later than in the case of online video game addiction.

Social media addiction is not currently recognized as a mental health disorder (Schivinski et al., 2020). However, multiple studies indicate the high degree of risk it demonstrates in relation to sustaining the onset or exacerbation of a number of pathologies or impairments (Robinson, et al., 2019), especially for adolescents (Cerniglia et al., 2017), such as depressive or anxiety disorders (Primack & Escobar-Viera, 2017), sleep disorders (Mérelle et al., 2017), lack of life satisfaction (Sha et al., 2019), low self-esteem (Berry et al., 2018), reduced productivity (Rozgonjuk et al., 2020), and addictive behavior (Pontes, 2017). Brand et al. (2016) refer to its inclusion within the category of "other specified disorders due to addictive behaviours" in DSM-5 (American Psychiatric Association, 2013).

Social media addiction can be defined as the inability to regulate the use of social media (Ryan et al., 2014). This has a negative impact on the time allocated to eating, sleeping, learning, working, exercising and general life organization (Kojima, et al., 2018) influencing other addiction-specific characteristics such as emotional instability, low self-esteem, stress, anxiety, depression, reduced satisfaction (Satici & Uysal, 2015). Also, the need to use social media

more and more often and the inability to control the desire to use social media (Simsek et al., 2019) point to two other characteristics that draw similarities between social media addiction and other addictive disorders that have gambling, alcohol or substance use as their focal point and implicitly gaming addiction (Hormes et al., 2014), in line with both Griffiths' (2005) aforementioned model of addiction identification and that provided by the ICD-11 (WHO, 2019).

### **Counterproductive work behaviour**

Counterproductive work behaviour can be defined as a set of voluntary behaviours that deviate from social or organisational rules, norms and values (Spector et al., 2006) or employee behaviours that act against the interests of colleagues and the employer (Robinson & Bennett, 1995). Although it is uncertain whether there is a consensus on its internal organization, depending on its orientation, counterproductive behavior encountered in the workplace can be manifested towards both the organization and colleagues (Robinson & Bennett, 1995). Along with organizational citizenship behavior, counterproductive workplace behavior is one of the main dimensions in the domain of job performance (Lowery et al., 2021). Among the types of counterproductive behaviours directed towards people can be identified violence in all its forms, gossiping or spreading rumours about other people aimed at damaging their image, stealing or destroying other people's property (Runge et al., 2020). Some examples of counterproductive organisationally oriented behaviours are destroying and stealing organisational assets and materials, slowing down work pace and absenteeism, discrediting and invalidating the company's image through claims made outside the company (Runge et al., 2020), and sharing confidential information that can have a detrimental effect on the company's image and, in extreme cases, can lead to bankruptcy (Hadlington et al., 2021). At the same time, the effects of counterproductive behaviours can be diffuse, with a tendency in some cases to stigmatise close colleagues or the work group in which the employee exhibiting this type of behaviour works (Wurthmann, 2019). Behaviours specific to phenomena such as mobbing, characterised by a high level of hostility, violence, harassment and isolation towards one or more employees by a group of colleagues (Akca & Kucukoglu, 2020), constitute counterproductive person-oriented behaviour, but its effects are also felt on the work climate (Inandi & Büyüközkan, 2022) and thus on productivity. Cyberloafing significantly increases the level of risk towards a cyber attack (Luo et al., 2022). Thus, cyberloafing can affect both the productivity and image of the firm and the confidential data of employees, making it a counterproductive work behaviour oriented towards the organisation, but with obvious negative effects on other employees. The association of cyberloafing with phubbing (Saritepeci, 2020) may also indicate a high level of

cybersecurity risk, but its real problem arises in the context of productivity.

Between 50% and 75% of employees have exhibited at least one form of counterproductive behaviour at work (Bennett & Marasi, 2015). The damage to companies from counterproductive behaviour in the workplace is estimated at 5% loss of annual earnings (Zaki, 2020), in some cases associated with financial losses of up to US\$200 billion annually (Atamanik-Dunphy, 2009) and US\$40.7 daily (Hollinger & Davis, 2001).

The risk factors of counterproductive workplace behaviour have been extensively studied in recent decades (Ferreira & do Nascimento, 2016). Some risk factors encountered at the personality level, such as a low level of conscientiousness or high emotional instability may indicate a predisposition to emotional fatigue caused by work involvement, with counterproductive behaviors observed in response to unfavorable job-related judgment (Parker et al., 2010).

The study of risk factors for counterproductive workplace behaviour has been conducted in recent years through models such as Five Factor and HEXACO (Runge, 2020), succeeding the previous focus on demographic data and characteristics (Zettler, 2017). Academic consensus indicates that the manifestation of counterproductive behaviours is driven by both implicit reasons (Murray, 1938; McClelland et al., 1989) and explicit factors (Allport, 1931). Including implicit motives in the analysis provides an opportunity to predict performance and career success (Apers et al., 2018). Current studies provide constructive directions for understanding counterproductive behaviors by highlighting the role of managerial control systems, organizational behavior of members (Bellora-Bienengräber et al., 2022), and workplace climate (Burney et al., 2017).

### **The relationship between social media addiction and counterproductive work behaviour**

The manifestation of counterproductive workplace behaviours is found in a wide range, given the criteria that define such behaviour (Marcus et al., 2016). However, most counterproductive behaviours have a negative effect on productivity (Zhou, 2018). A company's earnings depend on productivity, with reduced productivity affecting all branches of the company (di Mauro et al., 2017). Also, the tendency to frequently engage in counterproductive behaviors correlates with a low level of work quality (Macovei, 2016). Absenteeism, procrastination, the concept of "mobbing" (Vveinhardt & Sroka, 2020), sabotaging the quality or quantity of one's own or colleagues' work, destruction of work equipment are just one example of factors that affect a company's productivity (Krischer et al., 2010). Other factors affecting productivity that can be influenced by counterproductive behaviour in the workplace are workplace climate (Bellora-Bienengräber et al., 2022), employee health

and well-being (Anjum et al., 2020), level of resilience to stress and level of work engagement (Chen et al., 2020). Counterproductive behaviour can be encountered at any level in a company (Sypniewska, 2020). Weak managerial skills and abusive supervision of coordinators are a predictor for the occurrence of counterproductive work behaviors (Szostek et al., 2020), but not a condition (Newton & Perlow, 2021).

One of the most common counterproductive behaviors in the workplace is procrastination. The most common form of procrastination is spending time on social media (Alblwi et al., 2020), especially on social networks (Alblwi, McAlaney, Al Thani, et al., 2021). Appel et al. (2020) identify that social media notifications are a distraction from activities, not discriminating between time off or time at work. In a study by Becton et al. (2017), 72% of participants stated that they used social media at least once during working hours, while 55% of participants stated that they access social media several times a day.

Characteristics of social media addiction can both directly and indirectly influence the emergence or exacerbation of counterproductive work behavior (Labban & Bizzi, 2022). Social media addiction is associated with characteristics such as increased stress levels (Hawi & Samaha, 2018), disorganized lifestyle (Kojima et al., 2018), impaired sleep schedule and sleep quality (Mérille et al., 2017), inability to concentrate (Subramanian, 2017), high levels of narcissism (Brailovskaia & Teismann, 2020) and low productivity (Rozgonjuk et al., 2020), all of which are also associated with counterproductive behaviour encountered in the workplace. The manifestation of social media addiction symptoms also affects cognitive ability, physical and emotional reactions, general mood (Błachnio et al., 2015), as well as the ability to manage problems of an interpersonal or psychological nature (Hou et al., 2019). Both the phenomenon of phubbing, defined as obsessive phone use and correlated with social media addiction (Franchina et al., 2018; Błachnio & Przepiorka, 2019), fear of exclusion or missing out events in groups (Balta et al., 2020) and with giving up social settings and conversations with others (Chi et al., 2022), as well as counterproductive behavior correlates with high levels of neuroticism and low levels of conscientiousness (Erzen et al., 2019). The use of social media for communication with noncompany related individuals has negative effects on productivity, while communicating with colleagues in the same way can have beneficial and motivational effects on employee tasks (Oksa et al., 2020; Labban & Bizzi, 2022). Paradoxically, however, employee satisfaction levels increase concomitantly with fatigue, marking the duality of social media platforms use (Labban & Bizzi, 2021).

A major risk that the presence of social media addiction in the organisational setting implies arises in cybersecurity through the concept of cyberloafing (Luo et al., 2022),

defined as the use of internet access for personal purposes during work (Askew et al., 2014). Phubbing is associated with cyberloafing (Saritepeci, 2020). Social media addiction is associated with both cyberloafing (Turan et al., 2021) and low levels of responsible internet use (Hadlington, 2017), with the possibility of a phishing or similar attacks being exponentially high, putting the safety of company data and the entire workforce at risk, especially in situations where employees do not truly comprehend cybersecurity rules (Parsons et al., 2017). It is estimated that approximately 71% of all security breaches in the US organisational environment are attributed to human error or accidents (Shred-it, 2018), with a similar 75% proportion found in the same context in the UK (Department for Digital, Culture, Media, 2018).

In the opposite direction, counterproductive behaviour, especially its reasons, can stimulate increased stress levels, the emergence of negative feelings or emotions (Orr & Seter, 2020) related to the workplace and can alter the perception of the employer-company, facilitate the emergence of situations that can cause or exacerbate anxiety disorders, depressive disorders and symptoms specific to post-traumatic stress (Tatar & Yüksel, 2018). The use of social media intervenes in this case as a coping mechanism, this being one of the factors that determine the emergence of social media addiction in both early and latter stages (Andreassen et al., 2016).

Taking into account the above, we formulate our first hypothesis:

H1. *Social media addiction is a significant positive predictor of counterproductive work behavior.*

H1a. *Social media addiction is a significant positive predictor of organizationally oriented counterproductive work behavior.*

H1b. *Social media addiction is a significant positive predictor of person-oriented counterproductive work behavior.*

### **Social comparison**

Comparisons are some of the most fundamental cognitive processes (Baldwin & Mussweiler, 2018), playing a key role in identifying social and cultural norms, values and trends (Burke et al., 2020), and are the benchmark of 'normality'. Several definitions have been proposed for the concept of social comparison. Both Vogel et al. (2015) and Gibbons and Buunk (1999) state of the concept that it refers to individual differences in the process of social comparison, involving the reporting of the behaviours and abilities of others to those encountered in the self. Wood (1996) refers to social comparison as the process by which a person thinks about other people in relation to themselves. Greenwood (2017) considers the process of social comparison to be defined by engaging in comparisons with other individuals present in the same social environment.

Social comparison theory (Festinger, 1954) suggests that people have a native internal need to evaluate themselves, often by relating to those around them. Social comparison has been conceptualized in terms referring to orientation and direction, indicating a tendency to compare positively or negatively when relating to others (Faranda & Roberts, 2019). Comparing can be done bottom-up, upwards, towards people considered superior in one or more dynamic ways by the self. The second direction is top-down, downward reporting, where social comparison is thus directed towards people considered inferior by the self. The third direction, supported by some literature, is lateral comparison (Buunk & Gibbons, 2007), aimed at identifying traits and characteristics of people considered in a similar range of reference to the self. The direction that individuals tend to exhibit in the social comparison process is correlated with the level of motivation (Talwar et al., 2019), with a high level of motivation being associated with a tendency to compare upwards (Cramer et al., 2016). The reasons for engaging in social comparison can be different, and the cultural element plays an important role in its outcome (Song et al., 2019). The outcome of social comparison tends to be in line with the personality traits of the initiator, but also with the specific context in which the process takes place (Rosenthal-von der Pütten et al., 2019).

Social comparison is viewed in some studies as a two-sided process (Buunk & Gibbons, 2007), encountering an automatic, unconscious element based on instinct and reaction, and a second, conscious element that has a strictly cognitive basis and acts as a "decomparison", providing justification for the outcome of the process (Gilbert et al., 1995). While the automatic element triggering the comparison process has been studied extensively (Bocage-Barthélémy et al., 2018), the conscious element remains a future direction in the field.

The social comparison process, and thus its outcomes, are associated with a wide range of behaviors related to physical health and psychological balance (Litt et al., 2021). It is directly associated with feelings of emotional fatigue, high levels of self-doubt, low levels of self-esteem and high scores in depression (Tandon et al., 2021), low levels of self-clarity (Servidio et al., 2021), with high levels of stress (Yue et al., 2022), with low levels of well-being (Vogel et al., 2015) and has a negative impact on achieving an optimal level of self-image attractiveness (Liu et al., 2019). Social comparison also mediates brand addiction (Le, 2020), supports addiction-specific behavior (Dittmar, 2005), shows evidence that indicates it may play a moderating role in bingeing alcohol use and bingeing-alcoholism (Litt et al., 2015), correlates with deviant social media use (Holmgren & Coyne, 2017), and may be a key component in the relationship between social media and high levels of loneliness (Dibb & Foster, 2021). A high level of social comparison correlates with a high level of empathy, self-

doubt, and sensitivity to the environment (Gibbons & Buunk, 1999). In parallel, a high level of self-doubt leads to a higher level of social comparison (Dibb & Foster, 2021).

Social media use is a predictor for higher levels of social comparison (Boer et al., 2021). Likewise, the interaction of social comparison with both isolated elements within the term "social media" and with social media in the general sense has been studied extensively in recent years, particularly within the relationships of deviant social media use and social media addiction (Holmgren & Coyne, 2017), and is correlated with a high potential for triggering or exacerbating psychological disorders (Sharma et al., 2022; Faranda & Roberts, 2019).

The theory of compensation through internet use elaborates on the idea that deviant internet use can be explained by certain social and emotional deprivations (Kardefelt-Winther, 2014). Wang et al. (2018) elaborate on this, also noting the applicability of the theory in the specific setting of social media, mainly social networkings, where compensation occurs over the lack of social attention felt. Also, compensatory social media use indicates a high level of negative emotions (Wolniewicz et al., 2018). Subsequently, Tandon et al. (2020) confirm the theory in relation to deviant social media use, indicating negative effects on self-esteem, sleep quality and well-being, with Elhai et al. (2020) extending the relationship to compulsive smartphone use.

Social comparison is directly associated with emotional fatigue (Tandon et al., 2021), this being one of the main elements of the concept of burnout (Seidler et al., 2014), this concept being associated with counterproductive behaviours (Smoktunowicz et al., 2015; Ugwu et al., 2017). In the context of social media, Facebook users tend to view other users as superior, thus comparing themselves upwards (Latif et al., 2021). This is due to the fact that social media users tend to personalize their profiles in such a way as to present an idealized version of themselves (Waterloo et al., 2018). Thus, the orientation of the social comparison process within social media is bottom-up, with self-orientation being associated in the social media context with feelings of loneliness (Dibb & Foster, 2021) and emotional fatigue (Hui et al., 2022). At the same time, upward comparison in social media can raise levels of envy and increase feelings of frustration (Yoon et al., 2019) and is associated with higher anxiety scores than people who do not use social media as often (Wheaton et al., 2020), particularly during the COVID-19 pandemic (Yue et al., 2021). A high social comparison score is also associated with a high level of neuroticism (van der Zee et al., 1999)

Passive social media use, a fundamental feature of social media addiction, also leads to increased levels of stress (Yue et al., 2022) and negatively affects well-being (Verduyn et al., 2021). Gong and Sanfey (2017) indicate that the effects of social comparison are felt even when the

process is carried out in relation to actions, qualities or traits in which the self does not show interest. Although the relationship between social media use and social comparison is mediated by the level of self-esteem (Hui et al., 2022), social media use and the conduct of the social comparison process within social networks is associated with low self-esteem (Tandon et al., 2021), a lack of clarity in self-image estimation, and a lack of satisfaction with the self (Servidio et al., 2021).

The characteristics presented above in the relationship between social media addiction and social comparison, such as high levels of neuroticism, stress, anxiety, and the potential for increased levels of frustration are also risk factors for counterproductive behavior.

## 2. METHODOLOGY

### Participants and procedure

A total of 263 people aged 19 to 70 years,  $M = 39.37$ ,  $SD = 13.89$ , participated in the present study, of which 60 men (23%) and 203 women (77%). In terms of participants' length of service, it ranged from one to 52 years,  $M = 17.61$ ,  $SD = 13.57$ . Of the total number of participants, 214 are from urban areas (81%) and 49 are from rural areas (19%). 100 participants are single (38%), 28 are in a relationship (11%), 135 are married (51%). In terms of field of activity, 127 participants work in socio-human fields (48%), nine in economic fields (3%), 65 in services (25%), 42 in technical fields (16%), 20 in other fields (8%). In terms of education, 61 participants have secondary education (23%), 139 have higher education (53%), and 63 have post-graduate studies (24%).

The questionnaire was created and then distributed via Google Forms, and access to it is therefore conditional on having an active account on the Google platform. Participants were able to take part in the survey by accessing a link generated within the application. They were selected both by distributing an access link on several social media platforms and within several companies or institutions, both private and state-owned. The mandatory criteria through which the eligibility level of participants was determined were current employment status and the use of one or more forms of social media on a frequent basis. The selection of participants via social media platforms largely ensured one of the two mandatory criteria, thus increasing the number of eligible applicants exponentially. Also, the distribution of the questionnaire among private institutions, mainly in the technical and some service sectors, managed to counterbalance the high volume of responses received from state institutions, where the link to the questionnaire was distributed much more easily due to the much higher number of employees in the health or education public sectors.

Social comparison, being often associated with social media addiction, could mediate the relationship between social media addiction and counterproductive behaviour in the workplace, considering the reciprocal nature of the variables, so we formulate our second hypothesis:

H2. *Social comparison mediates the relationship between social media addiction and counterproductive work behavior.*

H2a. *Social comparison mediates the relationship between social media addiction and organization-oriented counterproductive work behavior.*

H2b. *Social comparison mediates the relationship between social media addiction and person-oriented counterproductive work behavior.*

Participants were presented with the selection criteria, the average time taken to complete the survey and the topic addressed, and they voluntarily committed to participate in the survey. Subsequently, they were introduced to the legislative procedure in line with EU data protection law and the confidential nature of their data, while being given the opportunity to withdraw from the study at any time. Following this, participants went through the process of filling in some private data relevant to the study, such as length of employment, age and field of activity. Participants were not asked for identification or contact details, as their email address was not recorded as part of the Google Forms response, although it was necessary to access the survey link.

Given both the method of data collection and the structure of the study, it can be seen that it has a cross-sectional, differential and correlational design.

### Instruments

*Social media addiction.* The Bergen Social Media Addiction Scale (BSMAS), a six-item scale to which participants respond by self-report, was used to measure social media addiction. The BSMAS was originally constructed as an instrument to measure Facebook addiction by Andreassen (2012) based on the model provided by Griffiths (2005) of the six essential characteristics of an addiction: salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse. The scale has been adapted to measure social media addiction per total by Andreassen (2016), the validity of the scale in Romanian being confirmed by Stănculescu (2022). Considering the application of this instrument on a Likert scale with five response variants, where one equals "Very rarely" and five equals "Very often", the maximum score is 30 and social media addiction is directly proportional to the score obtained. Each score falls into a range that coincides

with one of the three proposed levels of dependence. Scores in the range of six and 12 translate to a lack of social media dependence, scores in the range of 13 and 19 as moderate dependence, and scores in the range of 19 to 30 are attributed to high social media dependence, according to Bányai et al. (2017).

*Social comparison.* The Iowa-Netherlands Comparison Orientation Measure (INCOM) was used to identify the level of social comparison experienced by participants, consisting of 11 essential items completed by self-report on a five-point Likert scale, where one equates to "Strongly Disagree" while five represents "Strongly Agree". Designed by Gibbons and Buunk (1999), the test measures core aspects of the self, others, and how the two interact, and its validity has been demonstrated by a large number of empirical tests (Schneider & Schupp, 2011). In detail, the 11 items address: (1) comparing with loved ones; (2) paying attention to personal successes and those of others; (3) evaluating success by comparison; (4) comparing sociability; (5) denying comparison with others; (6) comparing success in life; (7) sharing opinions and experiences with others; (8) interest in the thoughts of other similar people; (9) interest in coping strategies of similar people; (10) gaining knowledge

through the thoughts of others; (11) avoiding comparisons in personal life situations, items five and 11 being reversed. Scores are directly proportional to the level of social comparison, with a high score indicating a high level of social comparison.

*Counterproductive work behaviour.* The Counterproductive Work Behavior Checklist (CWB-C) was used to measure the level of counterproductive workplace behavior. The instrument designed by Spector et al. (2006) aims to address counterproductive workplace behavior in a multi-sided way. The two main strands of counterproductive behaviour encountered in the workplace addressed by the tool are organisation orientation and person orientation. The 45 items measure specific behaviours such as stealing, absenteeism, bullying, sabotage and deliberately trying to hinder productivity. The scoring is on a 5-point Likert scale. Scores are directly proportional to the level of frequency of counterproductive behaviors at the workplace where the participant engages, with a score as high as possible for each subscale or a high total score indicating the manifestation of counterproductive behaviors often. The validity of the instrument is confirmed and demonstrated in a large number of empirical studies.

### 3. RESULTS Descriptive

statistics Table 1.

*Descriptive statistics*

	M	SD	$\alpha$	DSM	COSO	CCMO	CCMP
DSM	12.82	4.83	.81	1			
COSO	31.38	8.50	.84	.48**	1		
CCMO	31.29	8.71	.88	.29**	.26**	1	
CCMP	27.35	6.65	.89	.10	.08	.69**	1

\*\* .p < .01

DSM - Social media addiction, COSO - Social comparison, CCMO – Counterproductive work behavior organisation-oriented, CCMP - Counterproductive work behaviour person-oriented

It can be observed that participants' scores on social media addiction are relatively low, M = 12.82, SD = 4.83, and scores on social comparison are also low, M = 31.38, SD = 8.50. In terms of counterproductive behaviour, there were higher scores for organisation-oriented, M = 31.29, SD = 8.71, than person-oriented, M = 27.35, SD = 6.65, but overall the scores obtained by participants are low.

Kurtosis and skewness are not in the range (-2, 2), reflecting a normal distribution of the data.

The study design is cross-sectional, descriptive, correlational.

IBM.SPSS.24 statistical analysis software (IBM Corp, 2016) and Jamovi's medmod module (The jamovi project, 2022) were used to organize the data and test hypotheses.

#### Hypotheses testing

H1. *Social media addiction is a significant positive predictor of counterproductive work behaviour.*

H1a. *Social media addiction is a significant positive predictor of organizationally oriented counterproductive work behavior.*

H1b. *Social media addiction is a significant positive predictor of person-oriented counterproductive work behaviour.*

In order to test this hypothesis, two simple linear regression analyses were conducted with social media addiction as a predictor and CCMO (Organization oriented counterproductive work behavior) and CCMP (Person oriented and counterproductive work behavior) as alternative dependent variables.

Table 2. Simple linear regression analysis for social media addiction as a predictor of CCMO

		B	ES	$\beta$		
1	(Constant)	24.67	1.46		16.85	.00
	DSM	.52	.11	.29	4.83	.00

R<sub>2</sub> = .08

DSM – Social media addiction

It is observed that social media addiction accounts for 8% of the variation in the CCMO, with the regression equation being statistically significant,  $F(1, 261) = 23.32, p < .01$ .

Social media addiction is significantly positively associated with CCMO,  $\beta = .29, p < .01$ .

Table 3. Simple linear regression analysis for social media addiction as a predictor of CCMP

		B	SE	$\beta$		
1	(Constant)	25.59	1.16		22.02	.00
	DSM	.14	.09	.10	1.62	.11

R<sub>2</sub> = .10

DSM – Social media addiction

It is observed that social media addiction is not a significant predictor of counterproductive behavior towards people at work, the regression equation is statistically insignificant,  $F(1, 261) = 2.63, p = .11$ .

Given this result, we can say that Hypothesis H1a is supported by the analyzed data, while Hypothesis H1b is not supported, in the sense that social media addiction is a significant predictor only for counterproductive organization-oriented workplace behavior, not for counterproductive person-oriented behavior.

H2. *Social comparison mediates the relationship between social media addiction and counterproductive work behavior.*

H2a. *Social comparison mediates the relationship between social media addiction and organization-oriented counterproductive work behavior.*

H2b. *Social comparison mediates the relationship between social media addiction and person-oriented counterproductive work behavior.*

In order to test this hypothesis, two mediation analyses were conducted with social media addiction as a predictor, counterproductive organization-oriented work behavior and counterproductive person-oriented work behavior as alternative dependent variables, and social comparison as a mediator variable.

Table 4. Mediation estimates for social comparison in the relationship between social media addiction and counterproductive organizationally oriented work behavior.

Effect	Label	Estimate	SE	95% CI		Z	p	% Mediation
				Lower	Upper			
Indirect	a × b	.13	.06	.01	.25	2.21	.027	25.71
Direct	c	.38	.12	.15	.62	3.18	.001	74.29
Total	c + a × b	.52	.11	.31	.73	4.85	< .001	100.00

Table 5. Path estimates for social comparison in the relationship between social media addiction and counterproductive organizationally oriented work behavior

	Label	Estimate	SE	95% CI		Z	p
				Lower	Upper		
DSM → COSO	a	.85	.09	.66	1.04	8.96	< .001
COSO → CCMO	b	.16	.07	.02	.29	2.28	.023
DSM → CCMO	c	.38	.12	.15	.62	3.18	.001

DSM - Social media addiction, COSO - Social comparison, CCMO – Counterproductive work behaviour oriented towards organisation



Social comparison is found to mediate the relationship between social media addiction and counterproductive organizationally oriented work behavior, with the indirect effect being statistically significant,  $\beta = .13$ , CI95%(.01, .25),  $Z = 2.21$ ,  $p < .05$ . Social media addiction is

positively associated with social comparison,  $\beta = .85$ , CI95%(.66, 1.04),  $Z = 8.96$ ,  $p < .01$  and, in turn, social comparison is positively associated with counterproductive organization-oriented work behavior,  $\beta = .16$ , CI95%(.02, .29),  $Z = 2.28$ ,  $p < .05$ .

Table 6. Mediation estimates for social comparison in the relationship between social media addiction and counterproductive person-oriented work behavior

Effect	Label	Estimate	SE	95% CI		Z	p	% Mediation
				Lower	Upper			
Indirect	a × b	.03	.05	-.06	.12	.59	.556	20.01
Direct	c	.11	.10	-.08	.30	.14	.254	79.99
Total	c + a × b	.14	.08	-.03	.30	.63	.104	100.00

Table 7. Path estimates for social comparison in the relationship between social media addiction and counterproductive person-oriented work behavior

	Label	Estimate	SE	95% CI		Z	p
				Lower	Upper		
DSM → COSO	a	.85	.09	.66	1.04	8.96	< .001
COSO → CCMP	b	.03	.05	-.08	.14	.59	.555
DSM → CCMP	c	.11	.10	-.08	.30	1.14	.254

DSM - Social media addiction, COSO - Social comparison, CCMP – Counterproductive work behaviour oriented towards people

We find that social comparison does not mediate the relationship between social media addiction and counterproductive person-oriented work behavior, with the indirect effect being statistically insignificant,  $\beta = .03$ , CI95%(-.06, .12),  $Z = .59$ ,  $p = .556$ . Social media addiction is positively associated with social comparison,  $\beta = .85$ , CI95%(.66, 1.04),  $Z = 8.96$ ,  $p < .01$ , but social comparison is not significantly associated with counterproductive

person-oriented work behavior,  $\beta = .03$ , CI95%(-.08, .14),  $Z = .59$ ,  $p < .555$ .

Given these results, we can say that hypothesis H2a is supported by the data analyzed, while H2b is not supported by the data, in that social comparison mediates the relationship between social media addiction and counterproductive organizationally oriented work behavior, but not the relationship between social media dependence and counterproductive person-oriented work behavior.

#### 4. DISCUSSION

The present study aimed to identify the mediating role of social comparison in the relationship between social media addiction and counterproductive behavior.

Regarding the testing of social media addiction as a positive predictor of counterproductive work behavior through the first hypothesis, the results are partially confirmatory in the sense that it can only be categorized as a predictor for organizationally oriented counterproductive behavior. The scores for the person-oriented counterproductive work behaviour component indicate that social media addiction does not play a significant role. Although at the time of writing we have not been able to identify a study analyzing the same exact variables, we can

see the trend in scores from relatively similar studies. One of the reasons why precise identification is difficult stems precisely from the vague definition of social media. For example, Shrivastavaa et al. (2018) explore internet addiction, pointing to procrastination on social media and spending long periods of time on messaging apps as a strong indicator of it. Another indicator is also the significant correlation they found between internet addiction and problematic smartphone use. Results from the study also indicate an indirectly proportional relationship between high internet addiction scores and scores on the work productivity test. Although this study does not draw a clear distinction between counterproductive behaviour orientations, it can be

seen that, as in this study, the highest scores are found in behaviours such as 'change in productivity at work', 'postponing work tasks', which are found in the category of behaviours towards the organisation, in line with the model provided by Andreassen et al. (2014).

It also confirms, at the same time, the negative link of social media addiction on factors that correlate with predictors of counterproductive workplace behaviours, such as impairment of mental health (Underwood & Ehrenreich, 2017) and quality of life and sleep (Schivinski et al., 2020), stress levels and well-being (Mérrelle et al., 2017), following the path previously explored by other studies.

According to Statista (2022), approximately 15.5 million Romanians use the internet, of which 14.17 million are also users of at least one social media platform. According to Eurostat (2019), about 17.3% of households connect daily to at least one social media platform, with social media dependency in Romania being lower than in other European countries, a trend found in Eastern Europe. However, according to Datereportal (2022), at least 62.6% of Romanians use one or more social media platforms, with Statista (2022) identifying around 74% of the country's population as social media users, with the average time spent online daily in Romania being seven hours and 26 minutes, of which three hours and 44 minutes are spent on the phone. Thus, one of the possible reasons why the scores obtained in the current study are lower both compared to other studies that have explored this variable and compared to initial expectations can be explained by the lack of precise understanding of the term social media and, more precisely, what this term includes, taking into account its overall nature (Obar & Wildman, 2015). Another aspect that could identify why social media addiction tends to be relatively low in this study is the fact that participants completed the data through self-report, a study by Burke et al. backed by Meta (2020) examining the tendency for people to underestimate the amount of time they spend on social media and therefore the effects of social media on time management. Another reason may be the age distribution of social media use in Romania, with people aged between 14 and 17 years having the highest average amount of time spent on social media, in line with research (Sohn et al., 2019), estimated at around eight hours per day, as they are not in employment. However, they represent only five percent of the total population.

The results of testing the second hypothesis is also partially demonstrated in that, although social comparison significantly mediates the relationship between social media addiction and counterproductive organizationally oriented work behaviors, this mediation could not be identified in relation to person-oriented behaviors. As no other studies have been identified that directly highlight the relationship addressed by the current study, the results cannot be directly compared with those obtained from other research, but similar issues can be drawn on the basis of these results that indicate common directions. Despite the low scores, the relationship identified in the current study is similar to the findings made by Tandon et al. (2021) regarding the effect

of cyberloafing and cyberslacking, both of which are counterproductive workplace behaviours associated with social media addiction. Bao et al. (2021) identify the social comparison process as the main factor affecting social media-influenced well-being. In another study that addresses the variables of the current study, Wekmen et al. (2021) identify a strong relationship between how other employees' tasks are perceived, whether easier or harder, and job satisfaction, with social comparison profoundly influencing levels of well-being and emotional fatigue. It is noteworthy that their study is the first in the literature to advance research on the impact of social comparison in this report and identifies a statistically significant relationship, thus providing an opening for future studies. Lam et al. (2011) note the negative effect of a high level of social comparison on the productivity of workplace teams, associating it with harmful interpersonal behaviors in teams where the level of cooperation toward a goal was low. Badawy and El-Fekey (2017) consider not only the level of comparison but also its orientation, succeeding in highlighting the moderating role that this factor of social comparison plays in the relationships between organizational justice, performance, organizational citizenship behavior, and counterproductive workplace behaviors.

Person-oriented counterproductive work behaviors are more strongly related to agreeableness, while organizational orientation is more related to conscientiousness level (Zhou, 2018). A high level of conscientiousness is also negatively associated with social media addiction (Tang et al., 2016), while a high level of neuroticism is one of the main predictors (Marciano et al., 2022). However, further study of the hypothesis is needed to identify differences between predictors of counterproductive behavior orientations.

As with the second hypothesis, the explanation for low scores can be attributed to several factors. The fact that both social media addiction and social comparison and counterproductive behavior scores were self-reported may explain the underreporting bias that would lead to lower actual total scores. Also, in the case of CWB-C, although the conditions of mandatory anonymity were explained at length, there is a possibility that some of the participants avoided honest completion because of the possibility of identification, although they did not provide identifying information. Despite this, the data indicate that the underlying relationship between counterproductive behaviour and social media addiction is intensified by social comparison.

## Conclusions

The results provided by testing the first hypothesis confirm the role that social media dependence plays in engaging in counterproductive behaviours targeting the organisation, with the current study not observing a relationship between this and the orientation of behaviours towards other employees or other people. Regarding the second hypothesis, the results provide an important insight into the effect that social comparison has on the relationship

between social media addiction and counterproductive organization-oriented behavior, not identified as relevant in orientation toward other people. However, social comparison enhances the underlying relationship in both orientations of counterproductive behavior.

### **Practical implications**

Identifying these relationships plays a vital role in improving and preventing counterproductive behaviour in the workplace. Direct financial damage is only one side of the problem raised by this type of behaviour. The effects felt at the collective level, the relationship between managers and employees, the punishment of employees, all play a role in both long-term productivity and the company's image. A broad understanding of the predictors can help prevent their occurrence by identifying them early. Reducing workplace stressors is essential, especially by using company resources and developed management capabilities. Building and maintaining a democratic feeling among employees can help prevent upward comparison situations, especially when they relate to other employees' tasks. Another important point is to ensure the proper functioning of the Human Resources department and its intensive training for prevention, mediation and support in necessary cases. Not tolerating discrimination or providing a comfort zone for bullies, actively intervening to prevent bullying and educating employees about the effects such behaviour can have on the whole workforce. Human Resources and IT departments should also regularly organise courses on the dangers posed to cyber security by counterproductive behaviours such as cyberloafing and other deviant forms of internet use.

Another important issue that needs to be tackled is the excessive use of social media in the workplace. Currently, the literature shows that, although this activity has a mainly negative impact on productivity, among many other things, it can facilitate several aspects of work group cohesion and well-being if used appropriately. Although appropriate management can mitigate this factor, further study of the implications of social media on counterproductive behaviours may facilitate more concrete responses in this direction.

### **Personal contribution**

Our contribution of effort in this study was mainly aimed at studying the relationships between the variables in order to understand them in depth and, therefore, to combat its effects as much as possible. Also, another factor of the personal contribution on which this study was built was to draw attention to the study of these variables in Romania. Although in previous years they have been targeted, with some Romanian researchers documenting the variables very similarly to the current study, the small number of studies needs attention, as counterproductive behaviour affects productivity regardless of the country, but the cultural element is not unique and, as also mentioned in the theoretical framework, it can have effects on the work of

organisations. Thus, we have tried to identify as many eligible participants as possible to reflect reality as closely as possible. This study also helps to identify future directions in the research of the variables addressed and, in particular, provides a benchmark both for possible scores in Romania and for the trend of completion of the instruments used and their relation to data from outside the country.

### **Limitations and future directions**

While the current study may provide a guiding point, future studies that will address the same issue may evade some of the obstacles present in it, with the end result being more accurate and closer to reality. From a statistical point of view, one of the main limitations of this study is the non-homogeneity found in the number of participants, which is caused by the low number of men. In the future, focusing on selecting a larger number of men among the participants will improve the quality of the study and help to provide a broader picture of the variables and their interactions, while confirming gender differences. Another problem identified at the statistical level was the low scores obtained, which could be caused either by not fully understanding the variables or by underestimating confidentiality criteria. Extensive clarification of terminology, particularly in relation to the term social media, and reaffirmation of confidentiality principles regarding the frequency of counterproductive behaviour could reduce this effect and therefore lead to higher scores. Self-reporting data could also fit into explaining the low scores, but this could be prevented in the future, at least specifically for the level of social media addiction, by adding hours spent in social media apps, which is data that appears in every app on the spectrum. To facilitate this, there are a number of apps on both phone and other devices that count the total time spent on these platforms, with participants simply having to report the total number of hours identified by the app.

Another aspect that should be taken into account is that this study is conducted after the start of the COVID-19 pandemic and, like other social media-based studies that have appeared during this period, the data is certainly influenced by context. Although all statistical sources used in this article project the increased effect of social media use by quarantine periods, depending on the future and the changing global context, these data could change.

Other research directions that the current study has considered, at the socio-demographic level, are first of all the effect that seniority in the labour force could have on this relationship, as studies indicate that this could ameliorate the effects, but also the comparison of different fields and areas of work and the identification of those most vulnerable to the effects of this relationship in Romania.

Last but not least, the results obtained in this study are limited by the lack of a concrete comparison with a study addressing the same variables both in Romania and abroad. Although this does not depend on the quality of the current study, future study of the variables through the same prism may facilitate both current results and future approaches..

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