Work Overload and Addictive Social Media Use: A Relationship with Depression Symptoms and Life Satisfaction

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Abstract

Work overload is highly related to mental health issues. Online social media are often used to escape the feelings of overload. In the current study, 291 employees from various job sectors completed an online survey related to work overload, addictive social media use (SMU), and mental health (i.e., depression symptoms, life satisfaction). Work overload was significantly positively associated with addictive SMU ($r = 0.209$, $p < 0.001$) and depression symptoms ($r = 0.190$, $p < 0.001$). The relationship between work overload and life satisfaction was significantly negative ($r = -0.175$, $p < 0.001$). Moreover, addictive SMU significantly mediated the association between work overload and depression symptoms (total effect: $p = 0.002$, direct effect: $p = 0.052$), and the association between work overload and life satisfaction (total effect: $p = 0.006$, direct effect: $p = 0.064$). The present result reveals that high work overload could foster addictive SMU that could impact employees' mental health. Therefore, the attention of employees and employers should be attracted to the potential negative consequences of intensive SMU. The integration of measures such as a temporary "social media detox" and enhanced physical activity in the policy of various organizations could be an important step to protect employees' mental health and to maintain their productivity.

Keywords Work overload · Life satisfaction · Depression symptoms · Addictive social media use (SMU) · Mental health

Introduction

Physical and mental overload at the workplace is part of the daily life of many employees in various job sectors (Khuong & Yen, 2016). Overload by tasks that exceed one's cognitive and physical capabilities is one of the main sources of stress at the workplace (Bamba, 2016; Khuong & Yen, 2016). In the longer term, experience of overload can significantly impact mental health. It contributes to burnout syndromes, decreases work and life satisfaction, and enhances depression and anxiety symptoms (Abbasi, 2015; Devi & Rani, 2016; Elshaer et al., 2018; Johnson et al., 2018). As

a consequence, one's work performance and productivity decrease (Dar et al., 2011).

In the twenty-first century, people who experience high levels of work overload often tend to engage in intensive use of online social media (SM) (Ryan et al., 2014; Zhang et al., 2019). Overall, about 4.62 billion people use SM around the globe. On average, they spend about 2 h 27 min on SM daily (DataReportal, 2022). Available statistics show that SMU intensity is negatively associated with age. Furthermore, female individuals tend to engage more intensively in SMU than male individuals. However, SMU of older persons and male individuals has remarkably increased in the past years (e.g., Pew Research Center, 2021).

The intrusion into the world of social platforms such as Facebook, Instagram, and Twitter allows some people to escape from the burdensome feelings of overload and failure at least temporarily (Brailovskaia et al., 2019c). Individuals who intensively use SM often perceive a high level of social support by online friends who set "Likes" on their uploaded photos and comment their status updates (Manago et al., 2012). In the short term, this positive experience can improve their mood and provide some relief (Frison & Eggermont, 2016; Verduyn et al., 2017). However, in the

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longer term, the private online activity – that many people engage in not only during their leisure time but also during working hours – can impact the work performance (Cao & Yu, 2019; Yu et al., 2018). Moreover, it can contribute to the development of a close emotional bond to the SM that is associated with a strong need to stay permanently online. The risk to develop this bond is especially high when SM are used to escape negative experiences and emotions in the world offline (Brailovskaia et al., 2020a).

This phenomenon has been termed as addictive social media use (SMU) and is defined by six typical characteristics that are common for various types of (behavioral) addiction: salience (permanent thinking of SMU), tolerance (time on SMU is increased to experience positive emotions), mood modification (mood improvement by SMU), relapse (reverting to previous use pattern after ineffective attempts to reduce SMU), withdrawal symptoms (growing nervousness and uneasiness without SMU), and conflict (interpersonal conflicts caused by excessive SMU) (Andreassen & Pallesen, 2014; Griffiths, 2005).

So far, addictive SMU is not a recognized formal psychiatric disorder (see e.g., the International Classification of Diseases, ICD-11; World Health Organization, 2018). Therefore, no clinical diagnoses such as "addictive user" or "not addictive user" should be made (Billieux et al., 2015). Nevertheless, it is important to consider that addictive SMU can contribute to a decrease of work performance and to work-related burnout in employees. In addition, it can negatively impact their work-family balance (Cao & Yu, 2019; Zivnuska et al., 2019). Furthermore, available research provided evidence for a close association between the level of addictive SMU and variables of mental health (e.g., Sun & Zhang, 2020).

Notably, mental health is not only the absence of psychopathology (World Health Organization, 2021). Following dual-factor models (e.g., Keyes, 2005), it consists of two interrelated but distinct dimensions: positive and negative. To describe one's mental health level, it is important to focus on both dimensions (Suldo & Shaffer, 2008).

Previous cross-sectional studies reported a positive link between addictive SMU and insomnia (Andreassen et al., 2012), as well as symptoms of depression and anxiety (Atroszko et al., 2018; Brailovskaia et al., 2018a, b; Hong et al., 2014; Koc & Gulyagci, 2013) that represent the negative dimension of mental health. Moreover, in recent longitudinal research, addictive SMU was positively associated with the level of depression symptoms and insomnia up to 6 weeks later (Brailovskaia et al., 2019b), as well as suicide-related outcomes up to 1 year later (Brailovskaia et al., 2020c). Its association with life satisfaction – that represents the positive dimension of mental health – was negative (Błachnio et al., 2016; Marttila et al., 2021). Against this background, it could

be hypothesized that addictive SMU might impact both dimensions of users' mental health and, thus, contribute to its decrease (Brailovskaia et al., 2019c).

A decrease of mental health can cause high burden for the individual and for the society by restricting one's quality of life and by reducing one's work productivity. This can result in a substantial financial loss for the organization where the person works at (Rapaport et al., 2005). Thus, it can be hypothesized that addictive SMU could decrease work performance indirectly by affecting mental health. Moreover, addictive SMU might also directly impact work performance. One of the main characteristics of addictive SMU is a strong pathological need to stay permanently online. As reported by previous research, this need is often satisfied during working hours (Charoensukmongkol, 2014). This interrupts currently conducted work tasks. It lowers one's attention and accuracy of work performance that can result in enhanced work errors (Yu et al., 2018). As a consequence, the quality of work performance can decrease (Andreassen et al., 2014; Brooks, 2015; Brooks & Califf, 2017). A decrease of work performance can enhance the experience of work overload (Abbasi, 2015). The work overload could result in further excessive SMU to forget the negative experiences. This could foster addictive tendencies and close the vicious circle.

To sum up, it can be assumed that experience of daily work overload could contribute to an escape into the online world; positive experiences in the online world could contribute to the development of addictive SMU; addictive SMU could impact mental health and thus the work performance. However, to the best of our knowledge, the relationship between work overload, addictive SMU and mental health has not been investigated at once. Most available studies on addictive SMU focused on young student samples without significant work experience (Marino et al., 2018a). Furthermore, only little research that investigated the association between addictive SMU and mental health including both dimensions of mental health. Often, the focus was on the negative mental health dimension only (Sun & Zhang, 2020). Considering this research gap, the current study aimed to investigate the association between the three constructs – work overload, addictive SMU, and mental health (both dimensions). Findings of the present investigation may contribute to the understanding of the role of (addictive) SMU for the work-related context that increases in the present age of digitalization. Furthermore, they can provide empirical evidence on how to reduce the impact of work overload on mental health.

The dual-factor models of mental health emphasize that to assess general mental health, it is necessary to focus on its positive and negative dimension (e.g., Keyes, 2005; Suldo & Shaffer, 2008). Therefore, we operationalized mental health by depression symptoms that represent its negative

dimension and by life satisfaction that represents its positive dimension.

We expected a positive association between work overload and depression symptoms (Hypothesis 1a). Furthermore, we assumed a negative association between work overload and life satisfaction (Hypothesis 1b). Against the described background, we assumed a positive relationship between addictive SMU and work overload (Hypothesis 2a) as well as depression symptoms (Hypothesis 2b). The relationship between addictive SMU and life satisfaction was expected to be negative (Hypothesis 2c). Moreover, we assumed that addictive SMU mediated the relationship between work overload and depression symptoms (Hypothesis 3a), as well as the relationship between work overload and life satisfaction (Hypothesis 3b). Specifically, the higher the work overload, the higher the level of addictive SMU, and the higher the level of addictive SMU, the higher the depression symptoms or the lower the life satisfaction.

Figure 1 visualizes the hypothesized associations between the investigated variables.

Methods

Procedure and Participants

Data were collected between April and June 2019. Overall, 291 employees (age (years): $M = 29.41$, SD = 10.29, range: 18–62) from various job sectors participated in

Table 1 Demographic data of the investigated sample

	n (%)
Gender (women)	189 (64.9)
Marital status	
Single	98 (33.7)
With romantic partner	152 (52.2)
Married	41 (14.1)
Employment sector	
Health care	82 (28.2)
Trading, economy, and finances	72 (24.7)
Education and research	52 (17.9)
Gastronomy	28 (9.6)
Information and technology	15 (5.2)
Art, culture, and recovery	11 (3.8)
Other	31 (10.7)

$N = 291$; due to rounding, sums are not always 100%

the online survey that was provided in German language. Table 1 shows the demographic data of the sample. The survey included overall 30 items and was conducted on the research platform *unipark* (www.unipark.de). Participants were recruited by participation invitations displayed at public places in Germany such as bakeries and on social platforms (Facebook, Xing, LinkedIn, Twitter). Participation was voluntary and not compensated. The participation invitation included the survey link and the participation requirements that were legal age according to German law (i.e., 18 years), being employed (at least eight working

Fig. 1 **a** Hypothesized mediation model with work overload (predictor), addictive social media use (mediator), and depression symptoms (outcome). **b** Hypothesized mediation model with work overload (predictor), addictive social media use (mediator), and life satisfaction (outcome)
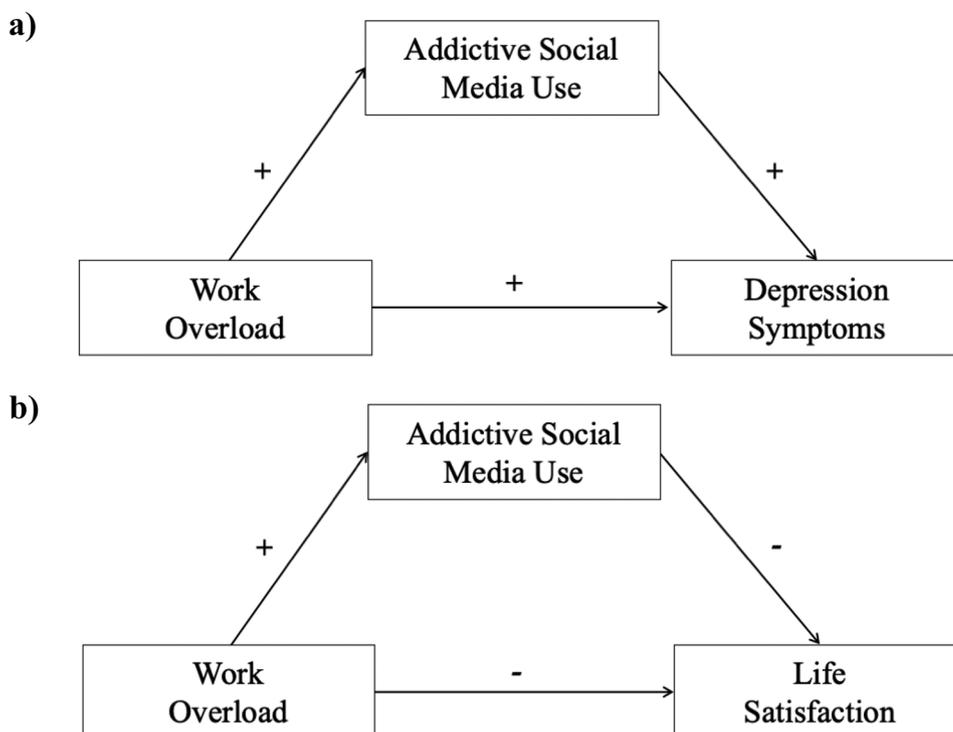
hours per week) and the membership on at least one social platform. All participants fulfilled the requirements. They were properly informed about the study and provided informed consent to participate via an online form. All data sets were complete. No data sets were excluded. The responsible Ethics Committee approved the implementation of the present study. A priori conducted power analyses (G*Power program, version 3.1) revealed that the correlation analyses required the largest sample size (at least $N = 76$; power > 0.80, $\alpha = 0.05$, Cohen's effect size for Person's r: small effect = 0.1) for valid results (Mayr et al., 2007). Thus, the present sample size was sufficient.

Measures

Use of Social Media

Participants were asked how much time (in minutes) they overall spend daily on social media use and which social platforms they use daily.

Addictive Social Media Use

Addictive SMU was measured with the brief version of the Bergen Social Media Addiction Scale (BSMAS; original version: Andreassen et al., 2016; German version: Brailovskaia et al., 2020a) that consists of six items (e.g., "Felt an urge to use social media more and more?") according to the six typical characteristics of addictive behavior (i.e., salience, tolerance, mood modification, relapse, withdrawal, conflict). Items are rated on a 5-point Likert-type scale (1 = very rarely, 5 = very often; current reliability: $\alpha = 0.87$). Higher scores indicate higher levels of addictive SMU.

Work Overload

Work overload was assessed with the subscale "qualitative and quantitative overload" of the Salutogenic Subjective Working Analyses Questionnaire (SALSA; original German version: Rimann & Udris, 1997) that consists of five items (Scherf, 2006). The five items are rated on a 5-point Likert-type scale (i.e., "Sometimes the work is too difficult", "So many things happen at once that one can hardly deal with them all", "At work some things are too complicated", "There is so much to do that I am getting out of my depth", "Sometimes I have to do things for which I am not sufficiently trained"; 1 = not at all, 5 = very strong; $\alpha = 0.79$). The higher the total score, the higher the level of experienced work overload.

Depression Symptoms

Depression symptoms were assessed with the depression subscale of the Depression Anxiety Stress Scales 21 (DASS-21; original version: Lovibond & Lovibond, 1995; German version: Nilges & Essau, 2015). The seven items are rated on a 4-point Likert-type scale (e.g., "I found it difficult to work up the initiative to do things."; 0 = did not apply to me at all, 3 = applied to me very much or most of the time; $\alpha = 0.90$). Higher scores indicate higher levels of depression symptoms.

Life Satisfaction

To measure life satisfaction the unidimensional satisfaction with life scale (SWLS; original version: Diener et al., 1985; German version: Glaesmer et al., 2011) was included. This instrument consists of five items that are rated on a 7-point Likert-type scale (e.g., "In most ways, my life is close to my ideal."; 1 = strongly disagree, 7 = strongly agree; $\alpha = 0.91$). The higher the total score, the higher the level of life satisfaction.

Statistical Analyses

Statistical analyses were conducted with the Statistical Package for the Social Sciences (SPSS) 28 and the macro Process version 4.0 (www.processmacro.org/index.html). After descriptive analyses of the investigated variables, their associations were assessed by zero-order bivariate correlations. Next, two mediation models were run (process: model 4). Both models included work overload as predictor and addictive SMU as mediator; age, gender, employment sector, and time spent daily on SMU were included as control variables in the mediation models. Depression symptoms served as the outcome in the first model, life satisfaction was the outcome in the second model. In both models, the basic relationship between work overload and depression symptoms or life satisfaction was denoted by c (the total effect). The path of work overload to addictive SMU was denoted by a, the path of addictive SMU to depression symptoms or life satisfaction was denoted by b. The combined effect of path a and path b represented the indirect effect. The direct effect of work overload to depression symptoms or life satisfaction after inclusion of addictive SMU in the model was denoted by c'. The mediation effect was assessed by the bootstrapping procedure (10.000 samples) which provides percentile bootstrap confidence intervals (95% CI).

Results

Table 2 summarizes descriptive statistics and correlations of the investigated variables.

Table 2 Descriptive statistics and correlations of investigated variables

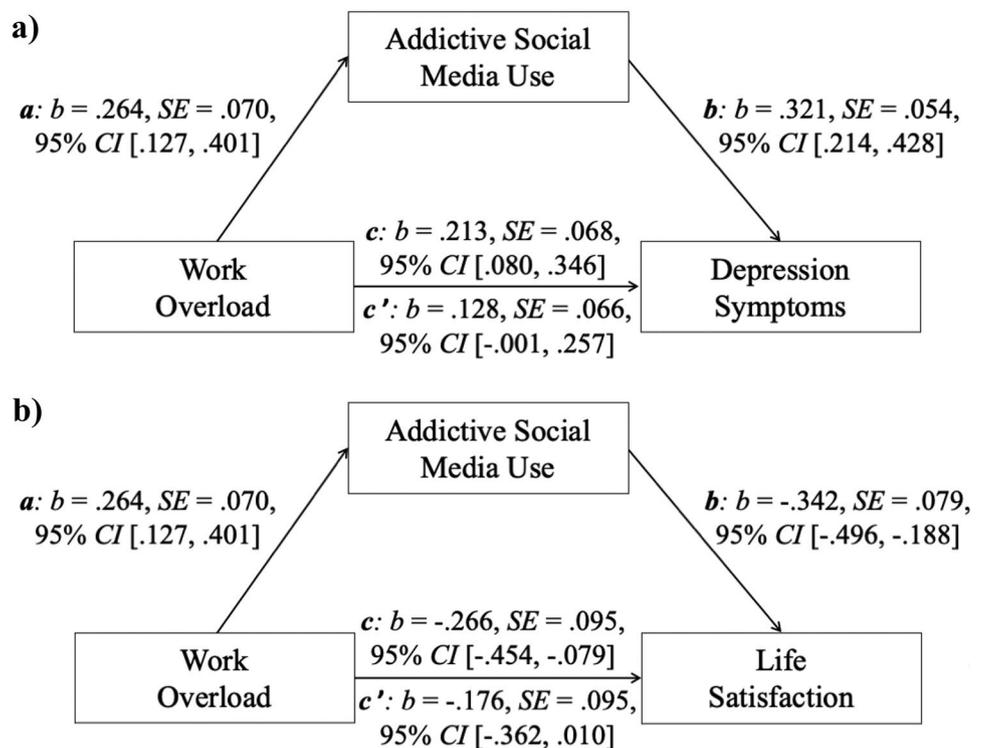|	M (SD)	Min–Max	(2)	(3)	(4)	(5)
(1) Daily social media use (in minutes)	115.25 (151.96)	5–1200	.450**	.051	.323**	-.169**
(2) Addictive social media use	11.81 (5.03)	6–29		.209**	.444**	-.312**
(3) Work overload	11.53 (3.68)	5–22			.190**	-.175**
(4) Depression symptoms	4.41 (4.53)	0–21				-.645**
(5) Life satisfaction	25.74 (6.16)	6–35				

N = 291, M mean, SD standard deviation, Min minimum, Max maximum

**p < 0.01

On average, participants used SM for about 1 h and 55 min (with a median of 60 min) daily. Most participants used the social platform Facebook daily (83.2%), followed by Instagram (69.1%), Pinterest (45%), Xing (31.3%), LinkedIn (25.1%), and Twitter (18.9%). The correlation analyses revealed that daily time spent on SM was significantly positively correlated with addictive SMU and depression symptoms; its correlation with life satisfaction was significantly negative. Work overload was significantly positively correlated with depression symptoms (confirmation of Hypothesis 1a) and with addictive SMU (confirmation of Hypothesis 2a). Furthermore, there was a significant positive correlation between addictive SMU and depression symptoms (confirmation of Hypothesis 2b). Life satisfaction was significantly negatively correlated with work overload (confirmation of Hypothesis 1b) and with addictive SMU (confirmation of Hypothesis 2c) (see Table 2).

Figure 2 presents the results of both bootstrapped mediation analyses. As shown in Fig. 2a, addictive SMU mediated the relationship between work overload and depression symptoms significantly after controlling for age, gender, employment sector, and time spent daily on SMU (total effect, c: p = 0.002; direct effect, c': p = 0.052). The indirect effect (ab) was significant, b = 0.085, SE = 0.027, 95% CI [0.036, 0.140] (confirmation of Hypothesis 3a). As shown in Fig. 2b, addictive SMU also mediated the relationship between work overload and life satisfaction significantly after controlling for age, gender, employment sector, and time spent daily on SMU (total effect, c: p = 0.006; direct effect, c': p = 0.064). The indirect effect (ab) was significant, b = −0.090, SE = 0.033, 95% CI [−0.161, −0.033] (confirmation of Hypothesis 3b).

Fig. 2 **a** Mediation model with work overload (predictor), addictive social media use (mediator), and depression symptoms (outcome). **b** Mediation model with work overload (predictor), addictive social media use (mediator), and life satisfaction (outcome). c = total effect, c' = direct effect; b = standardized regression coefficient, SE = standard error, CI = confidence interval

a)

Addictive Social Media Use

a: b = .264, SE = .070, 95% CI [.127, .401]

b: b = .321, SE = .054, 95% CI [.214, .428]

Work Overload

c: b = .213, SE = .068, 95% CI [.080, .346]

c': b = .128, SE = .066, 95% CI [-.001, .257]

Depression Symptoms

b)

Addictive Social Media Use

a: b = .264, SE = .070, 95% CI [.127, .401]

b: b = -.342, SE = .079, 95% CI [-.496, -.188]

Work Overload

c: b = -.266, SE = .095, 95% CI [-.454, -.079]

c': b = -.176, SE = .095, 95% CI [-.362, .010]

Life Satisfaction

Discussion

Work overload is highly related to mental health problems (López-López et al., 2019). The present study investigated the mechanisms that might explain this relationship. Our findings reveal that addictive SMU could foster the impact of work overload on depression symptoms and life satisfaction that represent the positive and the negative dimensions of mental health. This is of importance considering the high involvement of SMU in everyday life at home and at the working place in the age of digitalization (DataReportal, 2022).

In line with previous research (e.g., Johnson et al., 2018; Kirkcaldy & Athanasou, 2018; Köllner, 2014), we found a positive association between work overload and depression symptoms (confirmation of Hypothesis 1a), as well as a negative association between work overload and life satisfaction (confirmation of Hypothesis 1b). The current results demonstrate that inflated demands on employees beyond their capabilities could impact both dimensions of mental health. This, however, can enhance the risk for mental disorders (Keyes, 2005) that result in high burden for the individual and the organization where the person works at (Capone & Petrillo, 2020).

Furthermore, addictive SMU was positively related to work overload (confirmation of Hypothesis 2a). This result emphasizes that people who experience high levels of work overload could be at risk to develop addictive tendencies of online behavior. Use of social platforms such as Facebook that can distract from negative emotions may contribute to a temporary recovery from overload at the workplace (Ryan et al., 2014). However, an intensive engagement in online activity could foster addictive tendencies that can impact mental health (Brailovskaia et al., 2019b). In the current study, these tendencies were positively linked to depression symptoms (confirmation of Hypothesis 2b). Their association with life satisfaction was negative (confirmation of Hypothesis 2c). Against this background, it can be assumed that social support perceived on SM may enhance mood, foster feelings of belonging and connectedness that some people miss in the world offline (Deters & Mehl, 2013; Sinclair & Grieve, 2017; Utz & Breuer, 2017; Verduyn et al., 2017). The more supportive feedback a person receives online, the more likely this person will further engage in intensive SMU to maintain and to enhance the positive experiences. However, this can contribute to the development of a close emotional bond to the online world that can impact one's mental health negatively (Brailovskaia et al., 2019b; Marino et al., 2018b).

The further results provided evidence of potential mechanisms that could underlie the association between work overload, addictive SMU, and mental health.

Addictive SMU could serve as a mediator of the relationship between work overload and mental health variables. It significantly mediated the association between work overload and depression symptoms (confirmation of Hypothesis 3a), as well as the association between work overload and life satisfaction (confirmation of Hypothesis 3b). Previous studies showed that addictive SMU can contribute to a work-related burnout in employees (e.g., Cao & Yu, 2019). The present mediation model expands these findings. It allows the assumption that work overload that is associated with negative emotions could foster an escape into the online world. The relief experienced in the online world could contribute to the development of addictive tendencies that could impact mental health and contribute to a burnout. Addictive SMU could be positively linked to interpersonal conflicts due to the neglect of obligations at home and at the working place (Brailovskaia et al., 2019a). The conflicts could further foster burnout symptoms and negatively impact the work–family balance of the employees (Cao & Yu, 2019; Zivnuska et al., 2019). Furthermore, considering that a decrease in mental health could result in a decrease of work performance and quality (Rajgopal, 2010; Shultz et al., 2010), we can hypothesize that addictive SMU could impose significant costs on various employment sectors in the longer term. This hypothesis should be investigated by future research.

Notably, many employees and employers are not aware of the potential negative effects of addictive SMU (Zhang et al., 2019). The present findings emphasize the importance to make addictive SMU and its mediation role in the relationship between work overload and mental health a topic of discussion of team-meetings and coaching programs in different employment sectors. However, the providing of information is a necessary but not sufficient step. Individuals with enhanced addictive tendencies are often not able to break the vicious circle of work overload, intensive SMU, and decrease of mental health that fosters further feelings of overload on their own. Thus, in addition to an improvement of specific work conditions (e.g., working hours, work environment) that can foster the experience of work overload (Abbasi, 2015), they need external support in managing the intensity of their SMU.

Recent experimental research (Brailovskaia et al., 2020b; Hunt et al., 2018) showed that a conscious and controlled reduction of time spent on SMU for 2 or 3 weeks can decrease addictive use tendencies significantly. Moreover, the intervention enhanced the mental health level of the participants. While depression and anxiety symptoms decreased, life satisfaction increased. The effects remained stable over 3 months. Notably, both experimental studies worked mainly with young student samples. Therefore,

future research should replicate the promising intervention with employees to assess its effectiveness in the work-related context. The investigation could be realized in collaboration with for example an organization that invites its employees to participate in a joint "social media detox week". During that week, the employees could be asked to reduce their daily SMU time for 30 min and to write down their emotions linked to the reduction. All employees of the organization could respond to surveys on mental health and work-related variables prior to the intervention week and shortly after it. A comparison of the variables between employees who reduced their SMU time and those who used SM as usual could provide evidence of the effectivity of the intervention. Moreover, it could help employees who want to change their SMU habits but need external support in doing so.

Considering available literature (Brailovskaia et al., 2018b; Rebar et al., 2015), a conscious increase of physical activity could be a further step to reduce the negative impact of work overload and addictive SMU on mental health. The World Health Organization (2020) recommends adults aged 18–64 years to engage for at least 150 min in moderate physical activity per week (e.g., jogging, cycling, yoga) to maintain and to improve physical and mental health. Regular engagement in physical activity can reduce the experience of overload at work and contribute to the experience of positive emotions (Hansen et al., 2010). This can reduce the need to search for mood improvement on SM and therefore weaken the emotional bond to the online world (Brailovskaia et al., 2018b). Furthermore, the experience of a steady improvement of own physical performance can enhance one's self-efficacy and self-esteem (McAuley et al., 2000; McKercher et al., 2009). This can foster the individual resilience to master the work tasks and thus reduce the experience of work overload. Against this background, future research in collaboration with employers should work on interventions that enhance physical activity and can be implemented in the work-related context in various employment sectors. A specific focus should be on vulnerable employees who tend to excessive SMU when they experience a high level of work overload.

The current study has some limitations that are important to mention. First, due to its cross-sectional design only hypothetical conclusions on causality of the found relationships can be drawn. Therefore, future research should extend our design by longitudinal (several measurement time-points) and experimental elements (manipulation of the independent variables). Second, the present data were collected by online self-report surveys that are prone to perception mistakes and socially desirable responding. Future studies should include instruments measuring the tendency of social desirability (e.g., Balanced Inventory of Desirable Responding, BIDR; Musch et al., 2002), as well as objective measures and physiological markers, such as blood pressure and heart rate, to tackle this limitation at least partly. SMU time could be tracked by specific applications that can be installed on the different technical devices (e.g., laptop, smartphone, tablet) typically used for online activity. Third, the comparatively young composition of our sample that includes more women than men reduces the generalizability of the current findings to other population groups. To tackle this limitation at least partly, age and gender were included as control variables in the calculations. For more generalizable conclusions, future research is advised to replicate present results in a more age and gender representative sample. Fourth, work overload can be associated with various characteristics of one's employment and workplace such as length of the employment, employment status, payment, and work environment (Judge et al., 2020). In the present study, we assessed the employment sector of the participants only and controlled for it in the mediation analyses. Notably, the effect of the employment sector was not significant in both mediation analyses. Nevertheless, future studies should extend the present findings by the investigation of the role of specific employment and workplace characteristics for the development of addictive tendencies of SMU and its relationship with mental health. Furthermore, they should assess further factors such as having several jobs, individual commitments, and responsibilities (e.g., childcare, elder care) that could also influence the experience of work overload.

Conclusion

Work overload can result in intensive use of SM when searching for some relief (Zivnuska et al., 2019). The present findings allow the hypothesis that this could contribute to the development of addictive tendencies that can impact mental health negatively. Low mental health can decrease one's work productivity and thus further increase the experience of work overload (Capone & Petrillo, 2020). Therefore, it is important to attract the awareness of employees and employers to potential negative consequences of intensive SMU and to introduce measures for its reduction. Measures such as temporary "social media detox" and enhanced physical activity have been previously shown to reduce addictive SMU and to improve mental health. They could be integrated in the policy of various organizations to protect employees' mental health and to maintain their productivity.

Availability of Data and Material The dataset and further material analyzed during the current study will be available from the corresponding author on reasonable request.

Declarations

Ethics Approval The responsible Ethics Committee approved the present study.

Consent to Participate All participants were properly instructed and gave online their informed consent to participate.

Consent for Publication All participants were properly instructed that data gained in the present study will be used for publication in an anonymous form and gave online their informed consent for publication.

Competing Interests The authors declare no competing interests.

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