RESEARCH





Social media use by teachers during work and its effects on their performance: the role of teacher's wellbeing and social media addiction

Xin Chen¹, Jian Wang^{2*}, Lifu Jin³ and Yanhua Fan¹

Abstract

Background Although extant literature has investigated the impacts of social sites on employees' job performance in different sectors, scholars have given little attention to teachers' job performance (TJoP) in higher educational institutes.

Purpose We aimed to investigate the direct and mediating impact of social media use (SMU) on TJoP. Based on social cognitive theory, this study proposed a model that consists of six hypotheses.

Methodology : To empirically test the model, we develop a survey link to collect data from respondents working in universities in Jiangsu province, China. Partial least square structural equation modeling (PLS–SEM) using SmartPLS 4 has been used for analyzing 454 respondents.

Results Research findings demonstrate the significant effects of SMU on TJoP, well-being, and social media addiction (SMAdd). In addition, teachers' well-being and SMAdd have a positive and negative significant effect, respectively, on TJoP. Moreover, this research evidenced a significant partial mediation of teachers' well-being and SMAdd.

Conclusion This study points out the key role of SMU in the direct and indirect influences of TJoP through well-being and SMAdd. Further, it brings into view the urgency of higher education to prudently consider the implications of SMU on performance and general well-being among its faculty.

Keywords Teacher's wellbeing, social media addiction, social media use, teacher's job performance, higher education institutes

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Introduction

The teaching profession is usually identified as one of the most challenging and crucial in contemporary society [1]. Teachers are responsible for the student's academic performance and emotional and social development [2]. Keeping in view heavy demand and expectations in the form of students' achievement and their development, teacher's job performance (TJoP), which is connected to the student's performance [3], is of major concern for several stakeholders, including governments, principles, scholars, and society [4, 5]. Their performance is motivated by many factors, including communication, empowerment, organizational climate, quality of worklife, work-life business [6], leadership, and team (communication, trust, and creativity) [7], teachers' sense of meaning, and teacher-student relationships [1]. In the context of universities, we define a TJoP as a set of behaviors teachers perform towards achieving the goal of the institute they work in. Although TJoP has received substantial attention. It has been argued that there is still a need to explore this construct because of contextual and geographic differences [1, 5, 8]. Henceforth, the first objective of the study is to explore the effect of factors (i.e., social media addiction, well-being, and use) on TJoP.

There is no acceptable definition of social media [9]; however, scholars attempted in the context of communication, social and technical. It is defined as "a tool that encourages and facilitates collaboration, communication, and interaction via comments, discussion, sharing of information, posting, and voting" [9] (p.2). Organizations, irrespective of sector, are adopting social media as a formal and informal communication medium, which is altering the ways of an organization's operations and relationships with clients [10]. Additionally, it enables employees to circulate, design, exchange, and share information in various forms on different social media applications (i.e., Facebook, WhatsApp, WeChat, Snapchat, LinkedIn, etc.) with different stakeholders [11]. Social media use (SMU) is gradually increasing due to its observed positive effects on firm performance in terms of improved relationships with partners and customers [12]. Additionally, it has been evidenced that employees can use social media applications for several reasons, including communicating with students and colleagues, research alliance, knowledge sharing, and problem-solving [13, 14], which can increase their job performance [14]. In the context of the education sector, especially universities, there is a need to examine the encouraging and opposing effects of SMU [15-17]. Therefore, the second objective of this research is to explore the effects of SMU on TJoP in the context of universities.

Furthermore, it has been argued that SMU during work could make employees attentive and happy and enhance their wellbeing [18–20], which translates into beneficial

work behaviors, such as increased collaboration and communication [21, 22]. Additionally, it has been evidenced that excessive SMU leads to an addiction to it, which can create negative emotions (i.e., anxiety, depression, and fatigue) [23], which make them involved in counterproductive work behaviors [24] such as during classes teachers could connect with social circle, check emails, and share information, which can decrease the performance of both students and teachers. Although the impacts of SM have been gradually investigated in a positive light, there is extant literature related to exploring the negative aspects of SMU among employees, where the outcomes are fatigue and guilt [24], decreased job performance, and health problems [25], social media addiction (SMAdd) and teacher's wellbeing (TW-B) [26]; and mobile phone addiction and phubbing [19]. Based on the above discussion, we argue that SMU can indirectly influence the TJoP. Therefore, the third objective of this study is to explore the mediating role of teachers' wellbeing and SMAdd in the relationship between SMU and TJoP. Based on the aforementioned discussion and objectives. This research has threefold questions: What could be a predictor of a teacher's performance? Does SMU affect teacher's performance? A TW-B and SMAdd can mediate the relationship between an SMU and a TJoP.

The implications are, therefore, that this research makes the following key contributions to the literature on social media use and teacher performance. First, this research furthers the application of social exchange theory into the educational sector, whereby an in-depth understanding will be provided of how SMU, directly and indirectly, affects TJoP through well-being and addiction to social media. Compared with the extant literature, usually considering either the positive or negative impacts of SMU, this study provided a unique analysis by examining both the positive and negative sides of SMU from a balanced perspective. It also provides empirical evidence on the mediating effects of TW-B and SMAdd, which may help to elucidate the complex relationship between SMU and TJoP. This study fills the geographical and contextual gap in the literature by focusing on teachers at the higher education level, targeting Chinese universities, providing insight to inform policy-making, and supporting strategies for managing SMU among educators to improve performance and well-being.

Among the following work of this research. Typically, Sect. 2 comprises a literature review and formulation of assumptions based on social cognitive theory. Section 3 covers methodology. Section 4 includes an analysis of the results, while Sect. 5 explains and interprets the findings in detail. Finally, in Sect. 6, the implications of the current research are highlighted, with limitations and suggestions for further investigations.

Literature review

Theoretical support

The social cognitive theory was given by Bandura [27], which posits that individual behavior can deviate from how she/he perceives the environment and how an individual interacts with the environment. This theory supports constant and mutual interaction between behavior, environment, and individual factors [28]. Research-based on social cognitive theory often emphasizes these factors of the theory [14]. We also employed social cognitive theory, given that there is an interaction between behaviors such as addiction, well-being, technology usage, and personal (performance). Typically, we emphasize the effect of individual behavior on the environment instead of the fact that it can also influence behavior. The reciprocal model of the social cognitive theory states that individual behavior could change how the environment (e.g., individual culture, personal environment, and workplace) is forecasted and how an employee, in turn, interacts with the environment [26]. According to social cognitive theory, excessive personal use of technology, especially social media applications (i.e., WeChat, TikTok, etc.), leads to an addiction to using it (behavior) and also affects their work environment (e.g., performance). Thus, we predict that those who excessively utilize social applications during the job could be addicted to their usage, which in turn influences their task performance.

Hypotheses development *SMU and TJoP*

Social media refers to applications, digital tools, and websites that enable teachers to communicate and interact. Typically, it offers a useful platform for employees to connect, develop a network, and share useful information [23]. Social media has come up with new practices for all types of organizations, including educational institutes, from establishing new teaching and learning models to communicating and collaborating for different purposes, such as scholars' research, faculty training, and knowledge sharing. Previously, it has been observed to have both positive (i.e., improved relationships with stakeholders [12], reaching a large audience, and gaining competitive advantage [29]) and negative (i.e., anxiety, depression, fatigue, and guilt) effects [24]. In the work setting, it has been evidenced that SMU can improve employees' job performance and outcomes [25, 30-32]. Additionally, it has been argued that positive outcomes depend upon how employees use social media [31]. Research by Jafar et al. [33] evidenced that social media enables employees to improve their performance by connecting with their colleagues and sharing information. However, the effects of SMU effects on teachers' performance among universities still require empirical evidence [16, 17, 34]. Thus, we posit that.

H1: SMU has a positive and significant effect on TJoP.

SMU and TW-B

In general, the term well-being is one of the most complex [35]. It is defined as a state of being comfortable, happy, motivated, and relaxed. In the context of work, it was described as part of an individual's overall wellbeing that they perceive to be recognized by work and affected by the workplace environment [36]. Previously, it has been evidenced that TW-B is influenced by different contextual factors, including student's behavior in the classroom and workload [37], teacher's sex, region, level of education, and length of services [38], students' academic, emotional, and social outcomes [39]. In the context of the education sector, it has been observed that SMU significantly contributes to the wellbeing of students [40]. Additionally, in the organizational context, it has been evidenced that SMU has both positive (when used effectively) and negative (when addicted to using) effects on employees' well-being [41]. The existing literature related to the effect of SMU on teachers' well-being is limited. In this context, we argue that when teachers effectively use social media for communication, sharing information, and collaborating with each other and their students, they feel satisfied. Wellbeing is the experience of happiness, positive impacts, and life satisfaction [42]. Therefore, we posit that

H2: SMU has a positive and significant effect on TW-B.

SMU and SMAdd

Addiction refers to the overuse of any object, which could have negative consequences. For example, excessive use of bears has negative consequences for health, and overuse of smartphones has undesirable impacts on eyesight. Accordingly, overuse of social media is often used as a form of addiction [43]. From the organization's perspective, we argue that when employees increase their SMU during work, it will demand more time and could be converted into addiction. According to Majid et al. [44], social site addiction is "an internet-based addiction involving excessive use of social networking site and resulting in detrimental effects experienced by the user". Considering this, this study defines SMAdd as an employee's excessive use of an SM during work and its negative impacts on their performance and inability to control their behavior. Previously, many scholars have reported that social networking sites addiction to psychological well-being [19, 26, 45-47]. Furthermore, it has been evidenced that SMAdd results in task distraction

and decreased productivity [48]. However, many studies tested the connection between SMU and SMAdd. However, there are limited studies in educational institutes [47]. Thus, we posit that

H3: SMU has a positive and significant effect on SMAdd.

TW-B and TJoP

A review study by Van Zoonen et al. [41] in the organizational context evidenced that SMU has a positive effect on employees' wellbeing (i.e., job satisfaction, employee engagement, positive emotions, motivation, eudaimonic, and hedonic wellbeing). Likewise, another review study by Best et al. [35] also highlighted the positive effects of well-being on productivity and increased self-esteem, safe identity, increased social capital and social support, and increased opportunity for self-disclosure. Previously, a few studies observed the significant effect of worker well-being on productivity. For example, Isham et al. [49-51]. Pagán-Castaño et al. [52] review study emphasized the significance of wellbeing in the organization's context and pointed out the correlation between employee wellbeing and task performance. Typically, it has been argued that well-being is a multitude of predictors (i.e., leadership, autonomy, resilience, empowerment, burnout, and stress) [53, 54]. In this way, we argue that SMU satisfies their lives, engages them in social relations, and increases their happiness [19]. Thus, we proposed that.

H4: TW-B has a positive and significant effect on TJoP.

SMAdd and TJoP

Employee performance refers to the extent to which an individual performs her/his tasks as defined in the job description. Employee performance is affected by several factors, including work engagement [55], knowledge sharing and leadership competencies [56], and social media usage [57]. It has been argued that most research work is devoted to predictors that have positive impacts, whereas limited attention is given to factors that have negative impacts, such as SMAdd [58]. Research by Zivnuska et al. [59] evidenced an adverse connection between employees' SMAdd and work-family balance while encouraging between SMU and job burnout. Many scholars reported a negative correlation between SMAdd and employee performance [60, 61]. However, studies have rarely been conducted on the impacts of SMAdd on TJoP in the context of educational institutes [47]. Furthermore, grounded in social cognitive theory, we posit that SMAdd can create troubles for practitioners and their work environment. Additionally, we hold that when teachers are addicted to social media, they could perform worse given the fact that they have to inject more effort and time into social media applications and avoid job tasks. Thus, we propose that.

H5: SMAdd has a negative and significant effect on TJoP.

TW-B and SMAdd as a mediator

Recently, several researchers have highlighted or noted the direct effect of SMU on employee and organizational performance, well-being, and SMAdd. However, a few studies explored the indirect effect of SMU. For example, Abdullah et al. [53] reported the mediating role of wellbeing on the connection between job satisfaction and job performance in the health sector. Likewise, Rasool et al. [62] reported its mediating role between a toxic workplace environment and employee engagement. Regarding the mediating role of SMAdd [19] reported the direct and indirect effects of smartphone addiction between SMU and psychological well-being [19]. Wang et al. [46] empirically tested and reported a significant mediating role of SMAdd on the association between social networking site use and mental and psychological status. From the employee perspective, the Zivnuska et al. [59] study concluded that SMU and employee performance could be mediated by many other factors, including balance and burnout. In this context, we argue that the mediating role of both factors is still unearthed in the educational literature. Therefore, we posit that

H6: The SMU and a TJoP relationship is significantly mediated by [a] TW-B and [b] SMAdd.

Figure 1, given below, demonstrates the relationship among constructs in the pictorial form. In particular, a dotted line shows mediation, and a direct line shows a direct association.

Research methodology

Sampling and collection of data

To empirically test the proposed hypotheses. We have used the random sampling approach because it's widely employed in educational studies [63] and suggested reducing the influence of uncontrolled factors [64]. Additionally, it improves the generalization of findings and minimizes biases [65]. We designed a closed-ended questionnaire through [www.wjx.cn], which was initially formulated in the Chinese language and then translated into English to interpret the results. Additionally, a survey link was shared with teachers and professors (assistant, associate, and full) among universities located in Jiangsu



Fig. 1 Graphical representation of relationships

Table 1	Demographical	information	of the p	participants
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	Frequency	%
Female	268	59.0
Male	186	41.0
18–25	12	2.6
26-35	191	42.1
36–45	162	35.7
Over 45	89	19.6
Less than 1	159	35.0
1–2	192	42.3
3–4	65	14.3
Over 4	38	8.4
Less than 1	50	11.0
1–2	124	27.3
3–4	87	19.2
Over 4	193	42.5
Lecturer	203	44.7
Assistant/Associate professor	136	30.0
Professor and others	115	25.3
	Female Male 18–25 26–35 36–45 Over 45 Less than 1 1–2 3–4 Over 4 Less than 1 1–2 3–4 Over 4 Less than 1 1–2 3–4 Over 4 Lecturer Assistant/Associate professor Professor and others	Frequency Female 268 Male 186 18–25 12 26–35 191 36–45 162 Over 45 89 Less than 1 159 1–2 192 3–4 65 Over 4 38 Less than 1 50 1–2 124 3–4 87 Over 4 193 Lecturer 203 Assistant/Associate 136 professor 115 Professor and 115

Province. Social media applications, especially WeChat and QQ, are employed to share the link. We used the survey link for several reasons, such as the COVID-19 pandemic [66], ease and speed of way share and accumulation of data, and its cost-effective nature [9, 67]. A survey link was open for 15 days in May 2022.

Respondents information

We approached 600 participants who are currently working at different universities, including Jiangsu University and Jiangsu University of Science and Technology in Jiangsu province. Out of the 600 respondents targeted, only 454 completed a survey in due time; thus, the response rate is 75.67%. 41% (186) were male, and 59% (268) were female. Table 1 provides further details of the respondents related to age distribution, social media use at work and on a daily basis, and their role.

Instruments

A five-point Likert scale was adapted from the previous research to measure the scale items. Three items for SMU and four items for TJoP were adapted from the previous work by Yu et al. [68]. Five TW-B items were adapted from Ostic et al's work [19]. Four items for SMAdd were adapted from the work of Moqbel & Kock [26]. Refer to the supplementary file for the details of each construct item.

Table 2 shows the results of four constructs, namely SMU, TW-B, SMAdd, and TJoP, measured 454 times each. The range of minimum and maximum for all

Construct	N	Minimum	Maximum	Mean	Standard deviation	Kurtosis	Skewness
Social media use (SMU)	454	1.00	5.00	3.531	1.047	-0.603	-0.319
Teacher's wellbeing (TW-B)	454	1.00	5.00	3.205	1.303	-1.021	-0.267
Social media addiction (SMAdd)	454	1.00	5.00	2.870	1.147	-0.799	-0.236
Teacher's job performance (TJoP)	454	1.00	5.00	3.873	0.901	0.889	-0.843

Table 2 Descriptive statistics of constructs

Table 3 Measurement model

Constructs	Items	Loadings	Cronbach's alpha	Composite reliability	Average variance extracted	Inner VIF	f ²
Social media use (SMU)	SMU1	0.894	0.899	0.937	0.832	1.172	0.127
	SMU2	0.937					
	SMU3	0.905					
Teacher's wellbeing (TW-B)	TW-B1	0.887	0.921	0.940	0.759	1.194	0.026
	TW-B2	0.825					
	TW-B3	0.893					
	TW-B4	0.875					
	TW-B5	0.873					
Social media addiction (SMAdd)	SMAdd1	0.818	0.903	0.931	0.771	1.120	0.054
	SMAdd2	0.891					
	SMAdd3	0.909					
	SMAdd4	0.891					
Teacher's job performance (TJoP)	TJoP1	0.867	0.897	0.929	0.765		
	TJoP2	0.879					
	TJoP3	0.916					
	TJoP4	0.834					

constructs falls from 1 to 5. Also, the means fall between 2.870 and 3.873 for SMAdd and TJoP, respectively, indicating a variation in the response level. The standard deviation range of 0.901 (TJoP) and 1.303 (TW-B) also indicates dispersion in the choices of the respondents in relation to the item statements. Kurtosis ranges between -1.021 and 0.889, while the value of skewness ranges between -0.843 and -0.236, showing that these constructs are normally distributed because, for normality, usually acceptable values lie between -2 and +2. Hence, the data for the constructs mentioned above seem to achieve the benchmarks for normality, which in turn can now mean that this data will be valid for further statistical analysis.

Common method bias

Regarding the bias issues, this research used Harman's single factor and full collinearity approach, which is called inner variance inflation factors (VIF) tests. Typically, SPSS has been used to test Harman's single factors, resulting in 29.63% variance, below the recommended threshold of 50% [69]. Additionally, inner VIF test values were retained at less than 3.33, an acceptable adequate level [70] (see Table 3). Hence, we claim the present study data is free from common method bias and multicol-linearity issues.

Data analytical tool

Partial least square structural equation modeling (PLS– SEM) was used for the analysis. PLS–SEM is an analytical tool which enables researchers to examine the complex connections among constructs [71]. PLS–SEM using SmartPLS 4.0 is a widely used approach nowadays and is recommended across disciplines, including business, social sciences, and education [12, 70]. In addition, we used it because it is regarded as the most comprehensive approach to variance, simple to use, and run analysis on a small sample [70].

Moreover, educational sector-based studies also used this approach. For example, Riady et al. [72] explored the factors influencing teachers to use social media in Indonesia. Guillén-Gámez et al. [73] investigated the predictors that impact the integration of ICT in the educational sector of Spain by collecting data from 1,740 teachers. More recently, Yiming et al. [65] examined the predictors influencing educators' job satisfaction in China's higher education context. Not only this, but due to the wide acceptance of this approach, recent studies also used PLS–SEM in several other sectors, such as in manufacturing [74], hospitality [75, 76], and healthcare [77, 78].

Results

Measurement model

Aforementioned PLS–SEM is a most comprehensive system of variance which can run a complex model; we used

Table 4 Discriminant Validity (HTMT ratio criterion)

	HTMT rat	io				
Constructs	SMAdd	SMU	TJoP	TW-B		
Social media addiction (SMAdd)						
Social media use (SMU)	0.183					
Teacher's well-being (TW-B)	0.207	0.392				
Teacher's job performance (ToJP)	0.248	0.326	0.334			

Table 5 Discriminant Validity (Fornell-Larcker criterion)

Fornell-Larcker				
Constructs	SMAdd	SMU	TJoP	TW-B
Social media addiction (SMAdd)	0.878			
Social media use (SMU)	0.170	0.912		
Teacher's well-being (TW-B)	-0.194	0.352	0.875	
Teacher's job performance (ToJP)	-0.215	0.299	0.305	0.871

PLS-SEM, which involves assessment of measurement and structural model. In particular, the PLS-algorithm approach aims to estimate the latent variables' scores by an iterative procedure [79]. In addition, this approach is used to assess the measurement model by producing values for reliabilities and validities [70]. Typically, internal consistency is the measure of reliability that refers to "the extent to which items within an instrument measure various aspects of the same characteristic or construct" [80]. It has been suggested that Cronbach's alpha, factor loading, and composite reliability should be used to assess the reliability and recommended that each construct value must be ≥ 0.70 using SmartPLS 4.0 [70]. Additionally, to assess the validity, we used convergent and discriminant validity. Convergent validity refers to "how closely the new scale is related to other variables and measures of the same construct" [81]. We used the average variance extracted to measure the convergent validity, which must be ≥ 0.50 [70]. Table 3 demonstrates that all of the construct's reliabilities and validity are up to the standard; hence, we conclude that the model is satisfactory.

We also used discriminant validity, which was carried out to determine that the construct does not duplicate its representativeness through other variables. In particular, the Heterotrait Monotrait (HTMT) ratio and Fornell Larcker criterion are used to assess discriminant validity. HTMT ratio is preferable because it evidences that there are no multicollinearity problems [70]. In this research, HTMT ratio values were retained between 0.057 and 0.431, which is very far from the threshold of 0.85 [70] (see Table 4).

According to Fornell and Larcker's [82] criterion, it has been evidenced that all of the construct's average variance extracted values on the diagonal were higher than their off-the-diagonal values (see Table 5). Therefore, we conclude the adequate discriminant validity of the constructs.

Structural model

We used four measures: path testing, coefficient of determination (\mathbb{R}^2), predictive relevance (\mathbb{Q}^2), and standardized root mean square residual (SRMR) [10, 29, 70] for the assessment of structural model.

Following Hair et al. [70] 's suggestions, our research employed 5000 subsamples and ran bootstrapping techniques to create the paths and their significance level (see Fig. 2). Results reflect that all of the direct and indirect assumptions were supported. Typically, out of 5 direct hypotheses, SMU was found to strongly influence TJoP (β =0.343, t-value=6.896) (see Table 6).

 R^2 is another measure used to assess the structural model. It is used to explain the power of the proposed model. According to Chin [83], R^2 0.60, 0.33, and 0.19 values are considered substantial, moderate, and weak, respectively. Falk and Miller [84] argue that an R^2 value equivalent to 0.10 is also acceptable. Accordingly, Hair et al. [85] argued that the R^2 value is subjective and can be <0.10. Our research R^2 value reflects that SMU, TW-B, and SMAdd cumulatively explained 0.21, almost 21% variance in TJoP (see Table 6).

Furthermore, we used the blindfolding technique to generate a cross-redundancy relevance Q^2 score to report the predictive relevance of our model. It has been suggested that if a Q^2 value is greater than zero, it has a predictive relevance [86]. Typically, a value of 0.50, 0.25, and >0 stated that a model has a large, medium, and small predictive relevance [70]. Our study Q^2 value of 0.156 stated that it has a weak predictive relevance. Finally, we used the PLS-Algorithm to generate SRMR results and identify the goodness of the model file. The present study SRMR value is 0.050, <0.08 [70] acceptable benchmark.

Mediation analysis

Following Baron and Kenny [87], the mediation approach and processes used by Matthews et al. [88] suggested that if both direct and indirect paths are significant, there is a partial mediation. If direct paths are significant but indirect is insignificant, there is no mediation, while if indirect is significant but direct path is insignificant, there is full mediation [89]. Thus, we conclude that teachers' well-being and SMAdd partially mediated the relationship between SMU at work and TJoP (see Fig. 3).

Table 6 illustrates that the total effect of SMU on TJoP (β =352, *t*=7.704) was significant. After the involvement of mediators (TW-B and SMAdd), the effect of SMU on TJoP decreased from 0.352 to 0.343 (c') without any change in the significance level, which signals partial mediation. Thus, we supported the *H6(a–b)* and evidenced that both mediators (well-being and SMAdd) partially mediate the link between SMU and teacher's performance.



Fig. 2 Structural equation modeling

Tuble of Hypotheses testing and strength of the mode	Table 6	Hypotheses	testing and	strength of	the mode
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Hypothesis	Proposed relationships	β	SD	t-value	<i>p</i> -value	Decision
Direct effect						
H1	$SMU \rightarrow TJoP$	0.343	0.050	6.896*	0.000	Supported
H2	$SMU \rightarrow TW-B$	0.299	0.046	6.486*	0.000	Supported
H3	$SMU \rightarrow SMAdd$	0.170	0.050	3.397*	0.001	Supported
H4	TW-B \rightarrow TJoP	0.156	0.048	3.236*	0.001	Supported
H5	SMAdd \rightarrow TJoP	-0.218	0.047	4.622*	0.000	Supported
Indirect effect						
Н6 (а–b)	$SMU \rightarrow TW-B \rightarrow TJoP$	0.047	0.017	2.784*	0.005	Supported
	$SMU \rightarrow SMAdd \rightarrow TJoP$	-0.037	0.014	2.620*	0.009	Supported
Total effect						
		0.352	0.046	7.704*	0.000	Supported

Notes:

Critical values. *p-value<0.001

R² (TJoP)=0.210

 Q^{2} (TJoP) = 1-(SSE/SSO) = 1-(1532.863/1816.000) = 0.156

Goodness of fit \rightarrow SRMR=0.050; d_ULS=0.337; d_G=0.221; Chi-Square=625.843; NFI=0.881

Discussion

Our result evidenced that SMU has a positive impact on TJoP (β =0.343, *t*=6.896, *p*=0.000); thus, *H1* was supported. This finding implies that when teachers effectively use social media tools for communication and information sharing, they can complete their job duties. This study finding aligns with [33], who reported that SMU among organizations helps employees enhance

their performance by connecting and sharing information with their colleagues.

In addition, this research evidenced a positive and significant effect of SMU on TW-B (β =0.299, *t*=6.486, *p*=0.000); thus, *H2* was supported. Path coefficient states that if SMU increases by a single unit, teachers' well-being will increase by 29.9%. This result infers that when teachers effectively use social media tools for



Fig. 3 Mediation effect

collaboration, sharing information, and connecting with students and scholars, they will feel satisfied, engage in social relations, and increase happiness. This finding is consistent with the results of [40, 41].

Furthermore, our research evidenced positive and significant correlations between SMU and SMAdd (β =0.170, *t*=3.397, *p*=0.001); thus, *H3* was supported. This finding infers that a single unit change in SMU leads to a 17% increase in SMAdd. Further, it states that when teachers gradually increase their SMU during classes and for entertainment, they will become addicted. Consequently, SMAdd decreases performance and causes several health problems, such as eyesight [19]. This study's findings align with the previous work of [48].

Regarding the effect of TW-B and SMAdd on TJoP, this research evidenced the positive effects of TW-B (β =0.156, *t*=3.236, *p*=0.001) and adverse effects of SMAdd (β =-0.218, *t*=4.622, *p*=0.009) on TJoP; thus. *H4* and *H5* were supported. These findings infer that if a TW-B increases by a single unit, TJoP will increase by 15.6%. Accordingly, if SMAdd increases by a single unit, TJoP will decrease by 21.8%. These results are consistent with prior work [19, 47, 53].

Finally, regarding the mediating role of TW-B and SMAdd. Our research evidenced that both factors (wellbeing and SMAdd) can significantly mediate the relationship between SMU and a TJoP (*p*-value < 0.05); thus, H6a-b was supported. This result infers that teachers' well-being and SMAdd significantly deviate (or reduce) the overall effect of SMU on teachers' performance. This mediation is supported by previous work [16, 53, 62].

Conclusion

Theoretical implications

This study has several theoretical contributions. Several studies have identified the effect of SMU on employee productivity in organizations operating in different sectors [21, 68]. Still, our research is a rare study grounded on social cognitive theory and proposes a model for the educational sector. Besides, evidence that teachers' wellbeing and SMAdd, incurred due to heavy use of social media during work, lead to decreases in productivity. Furthermore, the extant literature has examined the positive impact of SMU [25, 30-32]. Our research has recently examined both the positive and negative consequences of SMU at work. Our study witnessed that SMU at work initially improves the TJoP, but its excessive use distracts the task and makes them addicted to using it, which leads to a decrease in their performance. Moreover, our study added the mediating role of teachers' well-being and SMAdd to scant literature and evidenced the partial mediations between SMU and teachers' job performance in the context of universities.

Practical implications

Empirically, this research reflects evidence of the significant positive impact of SMU on teachers' performance, teachers' well-being, and SMAdd. Not only this, but our results also reflect that when employees are addicted to SMU, their productivity will be affected. Thus, it is suggested that educational institutes design a strategy to develop some applications and instruct employees to install them on their smart devices so that their activities can be traced. In addition, institutes can intervene in the SMU during working hours by imposing some penalties to restrict and limit social site usage. Additionally, practitioners must design and formulate awareness programs covering both positive and negative consequences of SMU in terms of work environment and health settings. Moreover, effective use of social media can improve the productivity of the employees as well as overall organizations in the form of faster communication, information sharing, and work engagement. From this perspective, it is suggested that educational institutes must allocate a few hours or allow some applications to be used that can only be used for communication purposes, such as Tencent meetings for online classes.

Limitations and future studies

Our research also has some limitations which offer avenues for upcoming scholars. As our research explores the factors influencing employee performance in the context of universities operating in Jiangsu province, China, this could be one of the limitations. Thus, we suggest that future studies can replicate the model in other industries such as telecommunication, banking, manufacturing, etc. Data collection using a web-based survey could be another limitation because those who do not have internet accessibility do not have to be involved. In this context, we suggest that future studies should include web-based and in-person surveys. This research explored how teachers' well-being and SMAdd mediate between SMU at work and TJoP. The TW-B can mediate the relationship between SMAdd and TJoP. Hence, we suggest that future studies can explore this direction. Finally, our research only proposed the mediated model; we suggested that the frequency and hourly use of social media can significantly moderate the relationship between SMU, TW-B, and SMAdd. Besides, we suggest that gender can be used as a moderator.

Supplementary Information

The online version contains supplementary material available at https://doi.or g/10.1186/s40359-024-02115-8.

Supplementary Material 1

Author contributions

Conceptualization, XC and JW; formal analysis, LJ; investigation, LY and JW; theoretical framework and hypotheses development, XC and JW; data collection, LJ and YF; methodology and data analysis, LJ and YF; supervision, XC; validation, JW; writing—original draft, JW; writing—review and editing, XC, JW, LJ, and YF. All authors have an equal level of contribution.

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Data availability

Data will be available at the request of the authors.

Declarations

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Ethical approval

This study was carried out in accordance with the recommendation of the Ethical Principles of Psychologists and Code of Conduct by the American Psychological Association (APA). All participants gave written informed consent in accordance with the Declaration of Helsinki. The employees' councils approved the protocol of the participating organizations and the ethics committee of Jiangsu University. This research was approved by the Jiangsu University Ethical Committee of the School of Finance and Economics with approval number JU-ECSFE-2024-01.

Consent to participate

The participants consented to participate in this study.

Conflict of interest

The authors declare that they have no competing interests.

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