Understanding social media use for work

Content, causes, and consequences

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Publication date
2017

Document Version
Other version

License
Other

Chapter 3

The chapter is under review: Van Zoonen, W. & Banghart, S. G. (2017). Work/life Boundary Management Preferences, Employee Engagement, and the Role of Social Media: A Three-Wave Panel Study. *Journal of Computer-Mediated Communication*.

Work/life Boundary Management Preferences, Employee Engagement, and the Role of Social Media: A Three-Wave Panel Study.

Abstract

The multivalent involvement of public social media platforms (e.g., Facebook, Twitter, etc.) in both social and organizational life has raised a number of questions about how, and to what extent and effects organizational members use these technologies for work-related purposes. Yet, research to date has fallen short of establishing causal relationships between individual antecedents, work-related social media use, and organizational outcomes. In this study, we draw from the literature on work/life boundary management and communication technology use to argue that employee preferences for work/life integration vs. segmentation influence work-related social media use, and ultimately, that this use increases employee engagement over time. Results from three waves of panel data (N = 361), with a 2.5-month time lag, support the hypothesized causal structure over alternative models, indicating a significant positive mediation effect of employee boundary preferences at T1 on engagement at T3, through social media use at T2. We discuss how these findings contribute to our understanding of boundary management preferences and employee engagement as communicatively constituted and enacted phenomena, rather than psychological states or cognitive predispositions.

Keywords: Work/Life Boundary Strategies, Social Media, Employee Engagement.

Introduction

As the use of social technologies in organizations has steadily become ubiquitous (Buscher, et al., 2013), scholars have increased their efforts to explain the work-related content, causes, and consequences associated with these technologies (Treem & Leonardi, 2012; van Zoonen et al., 2016a). One of the most widely discussed phenomena in the context of social media use is the blurring of boundaries between multiple life domains. Indeed, public social media are often used as vehicles for addressing work-related topics (van Zoonen, Verhoeven, & Vliegenthart, 2016a), and simultaneously, as personal channels for connecting with friends and family (e.g., Leonardi, Huysman, & Steinfield, 2013; Ollier-Malaterre, et al., 2013). Marwick and Boyd (2010) were among the first to suggest that the collapse of private/public contexts and blurring of personal/professional roles in the online environment might influence whether employees share or withhold specific information on social media. More recently, Ollier-Malaterre and colleagues (2013), proposed a framework linking employee boundary management preferences (i.e., integrating vs. separating work/life domains) to the use of social media for both personal/professional purposes. Yet, to date, there is little empirical support for the notion that employee boundary management preferences influence work-related social media use.

In turn, prior studies routinely correlate social media use with employee engagement through various mediators. For instance, studies have associated social media use in the workplace with job performance and job satisfaction (e.g., Moqbel, et al., 2013; Leftheriotis & Giannakos, 2014), often through indirect mechanisms such as increased work-life conflict (van Zoonen et al., 2016b) or information and communication benefits (Trimi & Galanxhi, 2014; Vitak, Lampe, Gray, & Ellison, 2012; Utz, 2015; Zhao & Rosson, 2009). These studies have in common that they assume that technology precedes specific psychological work outcomes and attitudes. However, it is also possible that employees' engagement causes social media use for work or that social media use and engagement are reciprocally related or both are caused by a third variable. Importantly, most social media research relies on cross-sectional survey data (e.g., Leftheriotis & Giannakos, 2014; van Zoonen et al., 2016b), interview studies (Vitak, Lampe, Gray, & Ellison, 2012; Gibbs et al., 2013), or are conceptual in nature (Ollier-Malaterre, et al., 2013; Treem & Leonardi, 2012). An important consequence of these studies is that research to date has fallen short of establishing causal relationships between social media use and individual antecedents or outcomes.

In this study, we examine the degree to which employee boundary management preferences influence work-related social media use, and whether these factors relate to employee engagement over time. In lieu of closely controlled experimental conditions, longitudinal inquiry to the boundary preferences – social media – engagement relationship is necessary to tease apart causal priority and rule out alternative explanations. Hence, this study makes two important contributions. The first is the causal priority. What is the causal ordering of the work/life boundary preference, social media, and employee engagement relationship? This is a fundamental, yet untested, question for understanding the role of social media in the workplace. Second, this study advances theory and research on the role of social media use in the workplace. This study helps to understand how boundary management preferences are enacted in an era of social media ubiquity, and how these preferences relate to engagement through social media use for work.

Theoretical Framework

Boundary preferences and social media use

In the context of social media use in the workplace, work/life boundaries have often been labeled a classical challenge (Ollier-Malaterre et al., 2013). Communication technologies have both been praised and criticized for their ability to blur boundaries between work and personal life domains (Park & Jex, 2011; Valcour & Hunter, 2005) On the one hand, social media use for work is associated with increased work-life interference (e.g., Vitak et al., 2012; Van Zoonen et al., 2016b). Employees may experience greater work and family distractions due to the frequent use of communication technologies to perform work and family-related roles. On the other hand, an advantage of communication technologies and social media is that it increases employees' ability to coordinate their work and family roles, improving work-life balance (e.g., Fieseler et al., 2015; Park & Jex, 2011). In other words, communication technologies both problematize the work/life boundary and provide resources for managing it (Golden & Geisler, 2007).

Regardless of the achieved balance or experienced conflict, technological advances over the past several decades have propelled boundary management preferences to become part and parcel to employees' daily lives. Indeed, there is general agreement that communication technologies—and social media, in particular—have made boundaries more permeable, weakened the separation between interpersonal and mass communication, and destabilized the enactment of domain-specific roles in time and space (e.g., Marwick & Boyd, 2010; Ollier-Malaterre et al., 2013). Boundary theory suggests that individuals maintain idiosyncratic preferences for segmenting or integrating elements from work and other life domains (Ashforth, Kreiner, & Fugate, 2000; Bulger, Matthews, & Hoffman, 2007; Nippert-Eng, 1996, Kreiner, 2006; Park & Jex, 2011). In other words, whether employees succeed in achieving work-life balance or experience boundary conflicts, they use strategies and preferences to manage the demands from different life domains (Nippert-Eng, 1996, Kreiner, 2006). Yet, as social media uses and affordances make previously private information more visible to personal/professional audiences and a variety of publics, work/life boundary management challenges are becoming more profound.

Communication technologies and especially social media are deeply rooted in our daily lives (Treem & Leonardi, 2012). As such individuals may develop their own rules and strategies for using these technologies for cross-role enactment (Marwick & Boyd, 2010; Ollier-Malaterre, et al., 2013; Park & Jex, 2011). For instance, Boswell and Olson-Buchanan (2006) show that individuals self-impose restrictions on their use of work-related communication technologies outside regular office spaces and during off time. Similarly, the desire to integrate or segment professional and personal life domains is an important driver for employees who are motivated to connect within online social networks and determines how they structure these ties (Ashforth, et al., 2000; Kreiner, 2006; Ollier-Malaterre, 2013). In turn, the composition of the online networks is likely to influence the content that employees share (Marwick & Boyd, 2010; *Chapter one*).

Building on these findings, we suggest that the extent to which employees use social media accounts for personal and professional purposes are a direct reflection of their preferences for integrating and/or segregating work and nonwork life domains. Specifically, we assume that individuals with a desire to integrate life domains will use their personal social media for work and as such allow their professional and personal lives to blend together online. People who want to integrate different life domains are enabled to stay connected to work and life while attending to demands from the other domain. The perpetual connectivity offered by social media allows individuals to stay connected to their work while at home, to attend to personal matters while at work, or to do both in the same timeframe (Duxbury, et al., 2014). Thus, we would expect individuals with segmentation preferences to refrain from using their social media for work, as this would involve collapsing different audiences (e.g., coworkers and friends) into one (Marwick & Boyd, 2010). Employees determine with whom they communicate in online social networks primarily based on whether they prefer to mentally organize their professional and personal identities as segmented or integrated (Rothbard, et al., 2005; Ollier-Malaterre, et al., 2013). In the case of integration preferences, employees maintain highly flexible and permeable domain boundaries. Work and personal life domains are allowed to freely interact, such that individuals address work domains while at home (Bulger et al., 2007). Social media can be a way in which employees enact boundary flexibility and permeability.

H1: Boundary strategy has a lagged positive effect on public social media use for work

Social media use and engagement

Social media are associated with increased political engagement (Anstead & O'Loughlin, 2015; Gil de Zúñiga, Jung, & Valenzuela, 2012), student engagement (Junco, Heiberger, & Loken, 2011), and corporate stakeholder engagement (Dijkmans, Kerkhof, Buyukcan-Tetik, & Beukeboom, 2015; Lovejoy & Saxton, 2012). However, the relationship between work-related social media use and work engagement has yet to be considered. Work engagement is defined as a positive fulfilling work-related state of mind characterized by high levels of energy and mental resilience while working, the willingness to invest efforts in one's work, and persistence even in the face of difficulties (Schaufeli, Bakker, & Salanova, 2006).

Social media use for work has been associated with a variety of conceptually similar concepts such as, organizational commitment, job satisfaction, and job performance (Cao, Vogel, Guo, Liu, & Gu, 2012; Charoensukmongkol, 2014; Leftheriotis & Giannakos, 2014; Moqbel, Nevo, & Kock, 2013). The rationale behind these associations is that social media are an important source of social capital (e.g., Ellison et al., 2007), can be used as a critical source of information, advice or assistance and afford the possibility to build stronger ties with coworkers (Cao, et al., 2012; Charoensukmongkul, 2014; Treem & Leonardi, 2012).

As such social media in organizations can be viewed as an important resource through which employees can obtain important personal goals (e.g., impression management: Erhardt & Gibbs, 2014; Ollier-Malaterre, et al., 2013), social goals (e.g., socialization: Treem & Leonardi, 2012) and professional goals (e.g., increased performance: Leftheriotis & Giannakos, 2014). This is, in turn, is likely to yield benefits for employees in terms of commitment and performance. Additionally, the social interactions employees have online or offline can also help alleviate work-related stress (Schreurs et al., 2012).

Although most studies on social media use assume social media precede specific individual work outcomes, such as commitment, performance, or satisfaction, there is little empirical support for this causal priority. Boswell and Olson-Buchanan (2007) found that communication technology use for work outside office hours was related to higher levels of job involvement. However, as they also note the specific direction of the effect remains unclear. Do employees with higher job involvement engage in more communication technology use after hours, or are individuals who use communication technologies after hours more likely to experience heightened levels of involvement? Similarly, social media use for work and engagement could be related in a way that higher levels of engagement will result in more social media use for work. Or higher levels of social media use for work might lead to higher levels of engagement.

Notably, to date research has not shown evidence of this relationship or its causal direction. Based on earlier findings of communication technology use and social media use on employees' psychological job evaluations – e.g., job commitment, job satisfaction - this study assumes that social media use for work has causal priority over engagement. The rationale here that social media is a resource that affords behaviors that potentially aid communication processes and be used to obtain work-related goals (e.g., Ellison, et al., 2007; Treem & Leonardi, 2012; Utz, 2015).

H2: Public social media use for work has a lagged positive effect on engagement

Boundary preferences and engagement

Finally, we argue that the relationship between boundary management strategies and engagement is mediated by social media use for work. Kossek and colleagues (2006) noted that boundary strategies were more likely to be related to personal well-being outcomes such as *engagement* (Schaufeli & Bakker, 2004). However, Kossek and colleagues (2006) were unable to confirm a significant relationship between employees with integration preferences and well-being but did confirm this relationship for those with segmentation preferences. In turn, boundary strategies were associated with affective wellbeing, through work-life interference (Lapierre and Allen, 2006). In turn, we assume that if social media are used to enact boundary strategies social media use for work is likely to mediate the relationship between integration preferences and work engagement. This reasoning is supported by findings from Park, Fritz and Jex (2011), who found that communication technology use, partially mediated the relationship between segmentation preferences and psychological detachment.

H3: The effect of boundary strategy on engagement is partially mediated by public social media use for work.

Method

Procedure and participants

A full panel design with three-panel waves was conducted: participants supplied data at three measurement points in time with a time lag 2.5 months between waves. Data were acquired through a web-based survey administered by PanelClix (Dutch-based research company)[3].

At time 1, 7,000 Dutch employees received the questionnaire and after two days the survey was closed having obtained 1,008 responses. At time 2, 578 employees of the 1,008 returned the questionnaire (57.3% response rate). Finally, at time 3, 361 out of the 578 employees who completed in wave 1 and 2 completed the questionnaire (60.1% response rate). This percentage of non-response is in line with the literature about panel data non-response (Hagenaars, 1990; De Jonge, et al., 2001). Hence, the final sample consisted of 361 employees. A breakdown of the demographic characteristics of the sample shows 56% of the respondents were male. The average age of the respondents was 47 years (SD = 11.06). The mean organizational tenure was 14.89 years (SD = 11.98), and employees worked 36.72 hours on average per week (SD = 8.56).

[3] The panel is ISO26362 certified.

Selective drop-outs was examined by comparing the scores of drop-outs (N = 648) to the scores of survivors in the panel - i.e., those who have that completed all waves (N = 361). Men were slightly overrepresented in the follow-up data, as 56% were male, compared to 45% among the non-respondents ($\chi^2 = 12.23$, $p > .001$). Additionally, survivors were slightly older than drop-outs ($M = 42.95$, $SD = 11.52$; $M = 47.00$ $SD = 11.06$; $t = -5.42$, $p > .001$).

Additionally, we assessed whether disappearance from the sample is an outcome of a causal dynamic that is different from those that remained in the sample, by checking the causal homogeneity in the sample. Cross-sectional multisample structural equation analysis of the relationships between drop-outs and survivors indicated that the relationship between boundary preference and social media use for work was slightly stronger for the survivor group (b*= 0.391, BC95% [.255; .537] $p = 0.001$) than for the drop-out group (b*= 0.195, BC95% [.104; .303] $p = 0.001$).

There were no differences in any of the other relationships in the model; hence disappearance from the sample was not likely to be the result of different causal dynamics. Notably, the causal relationships for the panel group and the drop-out group show a similar trend (De Jonge, et al., 2001). Hence, selective drop-out is not of substantial concern in our data.

Measures

The variables in the model were measured using three to five items indicators per latent construct, based on five-point Likert scales. Table 1 includes descriptive statistics, alpha coefficients (α range 0.85 - 0.93), and zero-order correlations between the study variables.

Boundary preference was measured using three items based on the desire for segmentation between work and family scale (Rothbard et al., 2005). The scale measures desire for integration by asking for acceptable rather than ideal amounts to avoid ceiling effects (Edwards & Rothbard, 1999). Respondents were prompted to indicate how much of a 'characteristic' they personally felt is acceptable or just enough to give them what they want. The scale was comprised of 1) not being required to work while at home, 2) being able to forget about work while at home and 3) not being expected to take work home. These items were rated on a five-point scale ranging from "not at all" to "very much". Factor loadings at T1 ranged from λ .76 – λ .87, at T2; λ .81 – λ .87, and finally at T3; λ .80 – λ .89.

Public social media use for work was measured using five items derived from van Zoonen et al. (2016). The scale measures the frequency with which users conduct work related behaviors on personal social media accounts. Respondents were asked to indicate the extent to which they did either of the following things on their social media in the past week: 1) give updates about my work projects 2) share information about the organization 3) share information about products or services of the organization 4) provide information about the industry and 5) share information about daily work activities. These items were rated on a five-point scale "never" to "very often (multiple times a day)." Factor loadings at T1 ranged from λ .74 – λ .92, at T2; λ .76 – λ .92, and finally at T3; λ .71 – λ .89.

Finally, engagement was measured using five items from the Utrecht Work Engagement Scale, representing the core dimension vigor (UWES; Schaufeli & Bakker, 2004; Schaufeli et al., 2009; Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 72; ter Hoeven et al., 2016). This scale included items such as '*While at work, I am bursting with energy*.' The items were rated on a seven-point scale ranging from "never" to "always" (daily). Factor loadings at T1 ranged from λ .76 – λ .94, at T2; λ .72 – λ .95, and finally at T3; λ .70 – λ .94.

Data analysis

Curve estimations for all hypothesized relationships in our model show these relationships are linear and could thus be tested using a covariance-based algorithm. The three waves of panel data were analyzed using covariance-based structure modeling in AMOS. To assess the longitudinal mediated relationships, we used cross-lagged structural equation modeling following the procedures outlined by Maxwell and Cole (2003; 2007). This involves (1) testing the measurement model. Step (2) includes tests of equivalence (i.e., equality across waves; establishing equilibrium and factorial invariance). After estimating the measurement model we established longitudinal factorial invariance to make sure the factor structure is equivalent across waves. If the models would be non-invariant our structural model would be flawed. Subsequently, steps 3) test of added components, 4) test of omitted paths and 5) estimating meditational (and direct) effects - are examined through testing several competing models.

First, a model without cross-lagged structural paths but with autoregressive paths was specified $M_{(baseline)}$, allowing us to examine the temporal stability of the variables in the model.

This model was compared with the causality model $M_{(causal)}$, the reversed causation model $M_{(reversed)}$ and the reciprocal model $M_{(reciprocal)}$.

$M_{(causal)}$: This model is identical to $M_{(baseline)}$ but also includes cross-lagged structural paths from boundary preference to social media use at T2 and T3 and from social media use to engagement at T2 and T3. This model represents the hypotheses posed in this paper.

$M_{(reversed)}$: This model represents the reversed causation including cross-lagged structural paths from engagement to social media use at T2 and T3 and from social media use to boundary strategies at T2 and T3.

$M_{(reciprocal)}$: This model includes the reciprocal relationships between boundary strategies, social media use for work and engagement. This model includes all paths of the $M_{(causal)}$ and $M_{(reversed)}$.

The nested models were compared by means of using a $\Delta\chi^2$ test (Hu & Bentler, 1999; Kline, 2011). Furthermore, to gauge model fit incremental and absolute fit indices are presented. Two incremental fit indices are used to evaluate the model fit: The Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI). Two absolute fit indices are examined: a standardized version of the root mean squared residual (SRMR) and the root mean square of approximation (RMSEA). We use Maximum Likelihood (ML) estimation with bootstrapping to estimate model parameters, confidence intervals of (in)direct effects and standard errors by extracting 5,000 bootstrap samples from the data.

Results

Measurement model

The measurement model for all observed and unobserved variables simultaneously shows satisfactory model fit: χ^2 (666)=1928.68; CFI= 0.90; TLI=0.90; SRMR= 0.05 and RMSEA= 0.073 (CI: 0.069, 0.076). Discriminant validity was examined through within wave cross-factor correlations. The high correlations ranging from .55 to .80 between the same factors across waves imply relative stability of individual differences across time. All the other correlations ranged from 0.08 to 0.32 (Table 1), which demonstrates the distinctiveness of the latent constructs in the model (Kline, 2011).

Convergent validity was assessed by examining factor loadings and squared multiple correlations. All the loadings on the intended latent constructs were significant and sizable, ranging from 0.70 to 0.95 (Figure 1) indicating satisfactory convergent validity (Kline, 2011). In sum, the retained measurement model adequately measures all the latent constructs in the model; so further examination of the structural model is justified.

Longitudinal factorial invariance

Before assessing the structural models, longitudinal factorial invariance is established by examining 1) configural invariance, 2) loading invariance, 3) intercept invariance, and 4) residual invariance (Little, Preacher, Card, & Selig, 2007). Factorial invariance was assessed by fitting a sequence of models, starting with the unconstrained model and then progressing to more restricted (and nested) models, to evaluate the tenability of each set of additional constraints. Testing and establishing longitudinal factorial invariance provides empirical evidence that the fundamental meaning of the constructs has not changed over time. Hence the structural findings are not biased by violations of the stationarity assumption (Cole & Maxwell, 2003).

First, configural invariance was examined by using a scale-setting constraint for the mean and the covariance structure of each construct, assuming equivalent structures across waves. The models were invariant over time ($\Delta\chi^2$ (20)= 25.10, p = 0.198), suggesting that the fundamental meaning of the construct has not changed across time. Second, loading invariance (i.e., weak factorial invariance) was tested by equating the loadings of corresponding indicators across time. Loading invariance was established as the constrained model fits well relative to the model without equality constraints ($\Delta\chi^2$ (46)= 43.36, p = 0.583).

Third, intercept invariance (strong factorial invariance) was established ($\Delta\chi^2$ (58)= 52.73, p = 0.671) by equating the intercepts and loadings of corresponding indicators across time. This implies that any changes in the mean levels of the indicators are adequately captured as changes in the underlying means of the latent constructs. Finally, we tested whether the residual variances of corresponding indicators are equal across time. Residual invariance was also established ($\Delta\chi^2$ (84)= 101.58, p = 0.093), suggesting that the sum of item-specific and random sources of measurement error variance for each indicator do not change over time. In sum these findings imply that the meaning of the manifest and latent variables have not changed over time, causal parameters are stationary across time, and that causal processes have had the time to reach equilibrium.

Table 1. Descriptive statistics and correlations

Variable	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12
Time 1													
1. Integration T1	2.26 (0.85)	**.85**											
2. Social media use T1	1.54 (0.83)	.28*	**.93**										
3. Engagement T1	5.24 (1.19)	.31*	.18*	**.93**									
Time 2													
4. Integration T2	2.27 (0.86)	*.74**	.29*	.26*	**.88**								
5. Social media use T2	1.50 (0.81)	.24*	*.56**	.10	.27*	**.93**							
6. Engagement T2	5.15 (1.21)	.32*	.18*	*.79**	.32*	.11*	**.93**						
Time 3													
7. Integration T3	2.24 (0.84)	*.75**	.25*	.20*	*.72**	.22*	.23*	**.89**					
8. Social media use T3	1.48 (0.74)	.27*	*.55**	.08	.25*	*.62**	.08	.30*	**.91**				
9. Engagement T3	5.13 (1.21)	.31*	.18*	*.78**	.28*	.13*	*.80**	.25*	.15*	**.92**			
Controls at Time 1													
10. Gender	1.44 (0.50)	.02	-.07	.02	.03	.00	-.06	.03	-.01	-.06	-		
11. Age	47.00 (11.06)	.07	-.01	.14*	.07	-.01	.16*	.01	-.07	.16*	-.20*	-	
12. Working hours p/w	36.72 (8.56)	.08	.10	.16*	.12*	.16*	.17*	.07	.08	.16*	-.36*	.01	-
13. Tenure	14.89 (11.98)	.05	-.12*	.06	.02	-.06	.14*	-.02	-.12*	.10	-.19*	.52*	-.08

Note: Values on the diagonal are alpha coefficients. Values in italics represent stability coefficients of the same constructs across waves. Significant correlations are flagged *.

Structural models

Table 2 shows the model fit statistics of competing models. In general, all models indicate a reasonable model fit as the threshold values for both incremental and comparative fit indices as outlined by Hu and Bentler (1990) and Kline (2011) are met. We will first concentrate on the model comparisons.

The causal model (M_{causal}) shows better model fit than the baseline model ($M_{baseline}$) $\Delta\chi^2$ (4)= 18.89, p = 0.001. This suggests that added cross-lagged effects from boundary strategy to social media use, and from social media use to engagement is substantial. Subsequently, the reversed causation model ($M_{reversed}$) was fitted to the data. This model included cross-lagged effects from engagement to social media use, and from social media use to boundary strategies. This model did not improve model fit compared to the baseline model that only includes the autoregressive effects ($\Delta\chi^2$ (4)= 4.01, p = 0.405). Finally, the reciprocal model ($M_{reciprocal}$) was fitted to the data. This model includes cross-lagged effects in both directions between boundary strategy and social media use and between social media use and engagement. The reciprocal model shows significant improvements to model fit compared to the baseline model ($M_{baseline}$: $\Delta\chi^2$ (8)= 24.89, p = 0.002) and the reversed model ($M_{reversed}$: $\Delta\chi^2$ (4)= 19.88, p = 0.001).
The reciprocal model did not show improved model fit compared to the causality model (M_{causal}; $\Delta\chi^2$ (4)= 5.00, p = 0.287). Both models show almost equal model fit statistics; based on the rule of parsimony the causal model should have preference over the reciprocal model.

In examining the structural relationships of the causal model in it is important to note that the autoregressive components between the same construct across waves indicate relative stability over time. The autoregressive weights for boundary strategy between T1 and T2 (b*= 0.886, BC95% [.832; .926] p = 0.001), and between T2 and T3 (b*= 0.840, BC95% [.788; .882] p = 0.001) indicate stable boundary preferences over time. Social media use shows a bit less stability over time between T1 and T2 b*= 0.530, BC95% [.419; .637] p = 0.001 and between T2 and T3 (b*= 0.482, BC95% [.349; .607] p = 0.001). Finally, the autoregressive effects for engagement between T1 and T2 is (b*= 0.828, BC95% [.788; .882] p = 0.001) and between T2 and T3 (b*= 0.604, BC95% [.484; .723] p = 0.001).

Hypothesis 1 asserted that boundary strategy would have a cross lagged effect on social media use. The causal models show significant direct effects of boundary strategy at T1 on social media use at T2 (b*= 0.094, BC95% [.016; .180] p = 0.044), as well as a direct effect of

Table 2. Fit statistics for the study models

Model	Description	χ^2	*df*	TLI	CFI	RSMEA (90% CI)	SRMR	$\Delta\ \chi^2\ (\Delta df)$	Model comparison
M_m	Measurement model	1928.68	666	0.90	0.91	0.073 (0.069; 0.076)	.06		
$M_{baseline}$	Only autoregressive structural paths	2016.00	688	0.90	0.90	0.073 (0.070; 0.077)	.08		
M_{causal}	$M_{baseline}$ + cross-lagged effects boundary strategy -> smu -> engagement	1997.11	684	0.90	0.90	0.073 (0.069; 0.077)	.06	18.89** (4)	$M_{baseline}$ vs M_{causal}
$M_{reversed}$	$M_{baseline}$ + cross-lagged effects engagement -> smu -> boundary strategy	2011.99	684	0.90	0.90	0.073 (0.070; 0.077)	.07	4.01 *n.s.* (4)	$M1_{baseline}$ vs $M1_{reversed}$
$M_{reciprocal}$	$M1_{reversed}$ + $M2_{causal}$	1992.11	680	0.90	0.90	0.073 (0.069; 0.077)	.06	24.89** (8) 5.00 *n.s.* (4) 19.88** (4)	$M1_{baseline}$ vs $M1_{recirpocal}$ $M1_{causal}$ vs $M1_{reciprocal}$ $M1_{reversed}$ vs $M1_{reciprocal}$

* = 0.10 ** = 0.05

boundary strategy at T2 on social media use at T3 (b*= 0.090, BC95% [.030; .161] p = 0.013). The reversed causality was not supported because social media use at T1 did not cause boundary strategy at T2 (b*= 0.070, BC95% [-.009; .143 p = 0.147). Similarly, as evidenced in the $M_{reciprocal}$ social media use at T2 did not influence boundary strategy at T3 (b*= -0.003, BC95% [-.071; .067] p = 0.928).

Hypotheses 2 assumed that social media would have a cross lagged effect on engagement. The effect for social media use at T1 on engagement at T2 was not significant (b*= 0.070, BC95% [-.025; .163] p = 0.223). However, the effect of social media use at T2 on engagement at T3 was significant (b*= 0.130, BC95% [.047; .224] p = 0.012). In turn, engagement at T1 had no significant relationship with social media at T2 (b*= -0.046, BC95% [-.122; .026] p = 0.295), and engagement at T2 did also not affect social media use at T3 (b*= -0.038, BC95% [-.109; .024] p = 0.322). These results provide partial support for hypothesis 2.

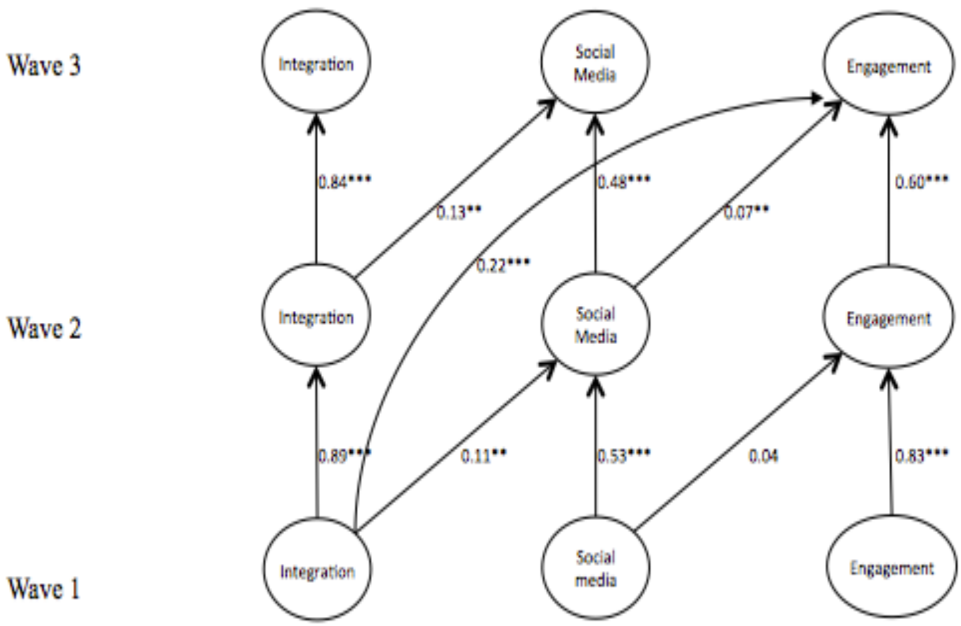

Figure 1: Regression model

Note: Simplified representation of the cross-lagged autoregressive structural model. Measurement part and correlations between factor in the same wave are omitted for sake of clarity. Significance levels are flagged *** p < .001; ** p < .05.

Finally, the third hypothesis asserted that the boundary strategies would be indirectly related to engagement through social media use for work. To examine this hypothesis and the exact nature of the mediation the direct effects were estimated. First, it must be noted that the indirect effect of boundary strategy at T1 had a significant indirect effect on engagement at T3, through social media use at T2 (b*= 0.012, BC95% [.002; .032] *p* = 0.026). In the model without mediators boundary strategy at T1 had a significant effect on engagement at T3 (b*= 0.237, BC95% [.125; .376] *p* = 0.001). This effect was smaller in the model with the mediators (b*= 0.215, BC95% [.102; .360] *p* = 0.002), suggesting partial mediation. See Figure 1 for a graphical display of the model.

Discussion

This longitudinal study was designed to examine the role of social media use for work in the relationship between boundary management preferences and engagement. The findings bring forth some key contributions to understanding these relationships. Perhaps one of the most important findings is that boundary management preferences were a determinant of work-related social media use, which in turn increased employee engagement. These effects were not reciprocal, nor did we find any support for the reversed causality. As shown in the results of the cross-lagged SEM-analysis, boundary management strategy had a cross-lagged (10 weeks) effect on social media use for work, while controlling for previous levels of social media use for work. In turn, social media use for work (at T2) had a cross-lagged (10 weeks) effect on engagement (at T3), while controlling for prior levels of engagement. Additionally, we found a significant cross-lagged effect of boundary management preference at T1 on engagement at T3 (20 weeks). This effect, although somewhat smaller remained significant when including social media use for work, thus suggesting partial mediation. The findings thus suggest that integration preferences can be enacted through public social media use for work. In turn, both integration preferences and social media use for work are related to engagement suggesting that the integration of life and work domains increases engagement.

Theoretical implications

This study shows that employees' boundary management preferences influence future levels of social media use for work. Specifically, employees with a desire to integrate life domains use their personal social media to share work-related content. This is in line with earlier findings that suggest that boundary preferences are enacted through communication technology use (Park et al., 2011). This study provides further support for the role of communication technologies – i.e., social media – as resources employees may use as they attempt to achieve balance between work and non-work roles (Kreiner et al., 2009; Moqbel, et al., 2013).

Hence, social media are part of employees' boundary tactics. Importantly, this study shows that social media use for work is also related to work engagement. This is the first study to demonstrate a relationship between public social media for work and employee engagement. Previous studies have found associations to related concepts such as job satisfaction (Charoensukmongkul, 2014; Moqbel, et al., 2013). Several explanations for this relationship can be sought in the literature. First, using public social media for work may make work related issues a more salient part of employees' daily lives. By making organization and work-related issues more explicit on social media work itself may be experienced more vigorously.

Second, the relationship between social media use for work and engagement may be better understood from an affordance perspective. Social technologies offer new ways to stay connected to the workplace (e.g., Treem & Leonardi, 2012). The increased connected afforded by social media and other communication technologies are found to have a positive effect on engagement (e.g., Ter Hoeven et al., 2016). This study supports the notion that social media may induce feelings of proximity and connectedness, which facilitate engagement. In sum, the findings suggest that boundary preferences and social media use are a useful framework to examine employees' engagement.

Practical implications

This study demonstrates yet another manifestation of the progressively interconnecting work and home domains in today's mediated societies and organizations. The findings suggest that employees with a preference to integrate life domains use social media to do so. This allows employees to address demands for work and home simultaneously and collapse contexts and audiences into one social network. Although many organizations are still struggling with employees' public social media use, often imposing prohibiting constraints on its use in organizations (Stohl, Etter, Banghart, & Woo, 2015), our findings suggest that this might limit employees' opportunities to enact their boundary preferences, and in turn limit work engagement.

Additionally, this study demonstrates a positive relationship between social media use for work and engagement. Similarly, technological boundaries were found to aid psychological detachment from work (Park et al., 2011). However, it should be noted that the use of communication technologies and social media for work might also negatively affect employee well-being through increased work/life conflicts (*Chapter six*) and increased interruptions (Ter Hoeven, van Zoonen, & Fonner, 2016). Therefore, it is important for management and organizations to carefully examine the prevalence of employees' work-related communication activities on social media to ensure that employees do not get overwhelmed with information, demands and have enough opportunities to 'switch-off' (Park et al., 2011).

Limitations and future research directions

Several limitations of this study need to be acknowledged. A first limitation is that this study cannot exclude the possibility that the relationships found here are due to confounding factors not included our models such as positive affect or organizational identification. However, this three-wave panel study allows for more robust interpretations of the causal relationships than previous cross-sectional studies. Additionally, by examining cross-lagged autoregressive models using linear structural modeling, we controlled for the effects of a stable third variable.

Second, there is a potential drop-out bias as the results from the initial cross-sectional multisample structural equation analysis shows that effects of boundary management strategies on social media use are significantly smaller in the drop-out group compared to the panel survivors.

Third, this study examined the direct relationship between social media use for work and engagement. Although finding partial support for this relationship, previous studies on communication technology use and wellbeing often show that this relationship might be more complex (e.g., ter Hoeven et al., 2016; *Chapter six*). Future studies might examine additional mediators between social media use for work and engagement.

Conclusion

Despite these limitations, this three-wave study contributes to current knowledge by showing how boundary management strategies are enacted through social media use for work, and how this is related to engagement. This study contributes to earlier findings that showed that segmentation preferences were related to psychological detachment from work through technological boundary enactment (Park et al., 2011). The findings provide further support for the notion that individuals use communication technologies to enact their boundary preferences. Furthermore, the findings shed light on the relationship between social media use and individual level outcomes in this case engagement.

References

Anstead, N., & O'Loughlin, B. (2015). Social media analysis and public opinion: The 2010 UK general election. *Journal of Computer‐Mediated Communication*, *20*(2), 204-220.

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management review*, *25*(3), 472-491.

Boswell, W. R., & Olson-Buchanan, J. B. (2007). The use of communication technologies after hours: The role of work attitudes and work-life conflict. *Journal of Management*, *33*(4), 592-610.

Bucher, E., Fieseler, C., & Suphan, A. (2013). The stress potential of social media in the workplace. *Information, Communication & Society*, *16*(10), 1639-1667. DOI: 10.1080/1369118x.2012.710245

Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and personal life boundary management: boundary strength, work/personal life balance, and the segmentation-integration continuum. *Journal of occupational health psychology*, *12*(4), 365.

Cao, X., Vogel, D. R., Guo, X., Liu, H., & Gu, J. (2012, January). Understanding the influence of social media in the workplace: An integration of media synchronicity and social capital theories. In *System Science (HICSS), 2012 45th Hawaii International Conference on* (pp. 3938-3947). IEEE.

Charoensukmongkol, P. (2014). Effects of support and job demands on social media use and work outcomes. *Computers in Human Behavior*, *36*, 340-349.

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: questions and tips in the use of structural equation modeling. *Journal of abnormal psychology*, *112*(4), 558.

de Jonge, J., Dormann, C., Janssen, P. P., Dollard, M. F., Landeweerd, J. A., & Nijhuis, F. J. (2001). Testing reciprocal relationships between job characteristics and psychological well‐being: A cross‐lagged structural equation model. *Journal of Occupational and organizational Psychology*, *74*(1), 29-46.

Dijkmans, C., Kerkhof, P., Buyukcan‐Tetik, A., & Beukeboom, C. J. (2015). Online Conversation and Corporate Reputation: A Two‐Wave Longitudinal Study on the Effects of Exposure to the Social Media Activities of a Highly Interactive Company. *Journal of Computer‐Mediated Communication*, *20*(6), 632-648.

Duxbury, L., Higgins, C., Smart, R., & Stevenson, M. (2014). Mobile technology and boundary permeability. *British Journal of Management*, *25*(3), 570-588.

Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer‐Mediated Communication*, *13*(1), 210-230.

Erhardt, N., & Gibbs, J. L. (2014). The Dialectical Nature of Impression Management in Knowledge Work Unpacking Tensions in Media Use Between Managers and Subordinates. *Management Communication Quarterly*, *28*(2), 155-186.

Fieseler, C., Meckel, M., & Ranzini, G. (2015). Professional Personae‐How Organizational Identification Shapes Online Identity in the Workplace. *Journal of Computer‐Mediated Communication*, *20*(2), 153-170.

Gibbs, J. L., Rozaidi, N. A., & Eisenberg, J. (2013). Overcoming the "Ideology of Openness": Probing the Affordances of Social Media for Organizational Knowledge Sharing. *Journal of Computer-Mediated Communication, 19,* 102-120. Doi 10.1111/jcc4.12034

Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer‐Mediated Communication*, *17*(3), 319-336.

Golden, A. G., & Geisler, C. (2007). Work–life boundary management and the personal digital assistant. *Human Relations*, *60*(3), 519-551.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1)*,* 1-55. DOI: 10.1080/10705519909540118

Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of computer assisted learning*, *27*(2), 119-132.

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford Press.

Kossek, E. E., & Lautsch, B. A. (2012). Work–family boundary management styles in organizations A cross-level model. *Organizational Psychology Review*, *2*(2), 152-171.

Kossek, E. E., Lautsch, B. A., & Eaton, S. C. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. *Journal of Vocational Behavior*, *68*(2), 347-367.

Kreiner, G. E. (2006). Consequences of work‐home segmentation or integration: a person‐environment fit perspective. *Journal of Organizational Behavior*, *27*(4), 485-507.

Lapierre, L. M., & Allen, T. D. (2006). Work-supportive family, family-supportive supervision, use of organizational benefits, and problem-focused coping: implications for work-family conflict and employee well-being. *Journal of occupational health psychology*, *11*(2), 169.

Leftheriotis, I., & Giannakos, M. N. (2014). Using social media for work: Losing your time or improving your work?. *Computers in Human Behavior*, *31*, 134-142.

Leonardi, P. M., Huysman, M., & Steinfield, C. (2013). Enterprise social media: Definition, history, and prospects for the study of social technologies in organizations. *Journal of Computer‐Mediated Communication*, *19*(1), 1-19.

Leonardi, P. M., Treem, J. W., & Jackson, M. H. (2010). The connectivity paradox: Using technology to both decrease and increase perceptions of distance in distributed work arrangements. *Journal of Applied Communication Research, 38*(1)*,* 85-105. DOI: 10.1080/00909880903483599

Little, T. D., Preacher, K. J., Selig, J. P., & Card, N. A. (2007). New developments in latent variable panel analyses of longitudinal data. *International Journal of Behavioral Development*, *31*(4), 357-365.

Lovejoy, K., & Saxton, G. D. (2012). Information, community, and action: How nonprofit organizations use social media. *Journal of Computer‐Mediated Communication*, *17*(3), 337-353.

Mäkikangas, A., Kinnunen, S., Rantanen, J., Mauno, S., Tolvanen, A., & Bakker, A. B. (2014). Association between vigor and exhaustion during the workweek: A person-centered approach to daily assessments. *Anxiety, Stress, & Coping, 27*(5)*,* 555-575. DOI: 10.1080/10615806.2013.860968

Marwick, A. E. & Boyd, D. (2010). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, *13*(1), 114–133. doi:10.1177/1461444810365313

Moqbel, M., Nevo, S., & Kock, N. (2013). Organizational members' use of social networking sites and job performance: An exploratory study. *Information Technology & People*, *26*(3), 240-264.

Nippert-Eng, C. (1996, September). Calendars and keys: The classification of "home" and "work". In *Sociological Forum* (Vol. 11, No. 3, pp. 563-582). Kluwer Academic Publishers-Plenum Publishers.

Ollier-Malaterre, a., Rothbard, N. P., & Berg, J. M. (2013). When Worlds Collide in Cyberspace: How Boundary Work in Online Social Networks Impacts Professional Relationships. *Academy of Management Review*, *38*(4), 645–669. doi:10.5465/amr.2011.0235

Park, Y., & Jex, S. M. (2011). Work-home boundary management using communication and information technology. *International Journal of Stress Management*, *18*(2), 133.

Park, Y., Fritz, C., & Jex, S. M. (2011). Relationships between work-home segmentation and psychological detachment from work: the role of communication technology use at home. *Journal of occupational health psychology*, *16*(4), 457.

Rothbard, N. P., Phillips, K. W., & Dumas, T. L. (2005). Managing multiple roles: Work-family policies and individuals' desires for segmentation. *Organization Science*, *16*(3), 243-258.

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*(3)*,* 293-315. DOI: 10.1002/job.248

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire a cross-national study. *Educational and psychological measurement*, *66*(4), 701-716.

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30*(7)*,* 893-917. DOI: 10.1002/job.595

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*(1)*,* 71-92.

Schreurs, B. H. j., Van Emmerik, H., Günter, H. et al., (2012). A weekly diary study on the buffering role of social support in the relationship between job insecurity and employee performance. *Human Resource Management, 51*(2), 259-279.

Stohl, C., Etter, M., Banghart, S., & Woo, D. (2015). Social media policies: Implications for contemporary notions of corporate social responsibility. *Journal of Business Ethics*, 1-24. doi:10.1007/s10551-015-2743-9

Ter Hoeven, C. L., van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee burnout and engagement. *Communication Monographs*, *83*(3), 1-25.

Treem, J. W., & Leonardi, P. M. (2012). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook, 36,* 143-189. DOI: 10.2139/ssrn.2129853

Trimi, S., & Galanxhi, H. (2014). The impact of enterprise 2.0 in organizations. *Service business, 8*(3), 405-424.

Utz, S. (2015). Is LinkedIn making you more successful? The informational benefits derived from public social media. *new media & society*, 1461444815604143.

Valcour, P.M., & Hunter, L.W. (2005). Technology, organizations, and work-life integration. In E.E. Kossek & S.J. Lambert (Eds.), *Work and life integration: Organizational, cultural, and individual perspectives* (pp. 61–84). Mahwah, NJ: Erlbaum.

Van Zoonen, W., Verhoeven, J. W., & Vliegenthart, R. (2016a). How employees use Twitter to talk about work: A typology of work-related tweets. *Computers in Human Behavior*, *55*, 329-339.

Van Zoonen, W., Verhoeven, J. W., & Vliegenthart, R. (2016b). Social media's dark side: Inducing boundary conflicts. *Journal of Managerial Psychology*, *31*(8), 1-15.

Vitak, J., Lampe, C., Gray, R., & Ellison, N. B. (2012). Why won't you be my Facebook friend?: Strategies for managing context collapse in the workplace. In *Proceedings of the 2012 iConference* (pp. 555-557). ACM.

Zhao, D., & Rosson, M. B. (2009, May). How and why people Twitter: the role that micro-blogging plays in informal communication at work. In *Proceedings of the ACM 2009 international conference on Supporting group work* (pp. 243-252). ACM.