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Do behavioral intentions matter?
A diary study on work-related ICT-use after work hours

Work-related ICT-use after work hours

Ill-defined concept

“A clear, transparently communicated operational definition of work-related ICT-use outside work hours is a necessary starting point for the clarity, measurement and integration of future research.” – (Schlachter et al., 2018, p. 12)

Technology-assisted supplemental work (TASW: Fenner & Renn, 2004), voluntary work-related technology use during non-work time (Schlachter et al., 2018), availability for work (Dettmers et al., 2016), work contact (Schieman & Young, 2013)

Work-related ICT-use after work hours

Ill-defined concept

Definition

“Any voluntary interaction with a technological device for work purposes outside regular and/or contractual working hours.”

Very wide conceptualization: but...

- > Focus on ICT behaviors (instead of being on-call or mere perception of availability)
- > Broad: task-performance, information retrieval, communication-related,...
- > Voluntary: supplemental work, not part of regular contractual work hours or under compensation schemes
- > Subjective interpretation of what individuals considers his/her ‘regular/normal’ work hours, reasonable as most employees have a pretty regular work schedule (e.g. 88% of workers does not have highly unpredictable work hours: Van Aerden et al., 2015)

Work-related ICT-use after work hours: Literature

In general, associated with undesirable outcomes:

(+) Work-Life conflict: Chen & Karahanna, 2014; Derks & Bakker, 2014; Derks et al., 2014a,b ; Glavin & Schieman, 2012; Wajcman et al., 2010, Wright et al., 2014

(-) Psychological detachment: Barber & Jenkins, 2013; Derks et al., 2015; Richardson & Thompson, 2012

(+) Stress: Chesley, 2005; Schieman and Young, 2013

(-) Sleep/Recovery: Arlinghaus & Nachreiner, 2014; Barber & Jenkins, 2013. Lanaj et al., 2014

(-) Family satisfaction/performance: Chesley, 2005; Chen & Karahanna, 2014; Yun et al., 2012

But this is not always the case...

Work-related ICT-use after work hours: Literature

- Qualitative research (observations, interviews): Paint a picture of very paradoxical outcomes. Having full **autonomy/control** seems to be key (e.g. autonomy-paradox: Mazmanian et al, 2013, empowerment-enslavement paradox: Jarvenpaa & Lang, 2004)
- Ohly and Latour (2014)'s results would suggest the degree of autonomous (vs. controlled) **motivation** over ICT-use after hours determines impact on recovery processes
- Studies including moderators often find **buffering** effects (e.g. time-management skills: Fenner & Renn, 2010, integration preferences (Derks et al., 2016), supervisor expectations (Derks et al., 2014b; work pressure (Glavin & Schieman, 2012).
- Some papers find negative direct associations with work-life conflict (Wajcman et al., 2010; Derks et al., 2016).
- ICT-use helps in finishing a work task during the weekend: due to a sense of **closure**, sleep is not impaired (Syrek et al., 2017).

Work-related ICT-use after work hours: Literature

Research on antecedents is less advanced, and mostly limited to between-person differences:

(notable exception: Cambier, Derks, & Vlerick, 2019)

-> Personal characteristics:

ICT-attitudes (Fenner & Renn, 2010), aspirations (Glavin & Schieman, 2012), preference (Senarathne Tennakoon et al., 2013; Palm, Seubert, & Glaser, 2019; Park and Jex, 2011), time-management skills, ambition (Boswell and Olson-Buchanan, 2007)

-> Contextual factors:

Organizational expectations (Fenner & Renn, 2010), social support, (subjective) norms (Richardson & Benbunan-Fich, 2011; Palm et al., 2019; Park et al., 2014), work pressure and sector (Senarathne Tennakoon et al., 2013; Chesley, 2006; Arlinghaus & Nachreiner, 2014; Glavin & Schieman, 2012)

Limited understanding of

- 1) How these personal characteristics and contextual factors – which are considered quite stable over time – are linked with work-related ICT-use after work hours (e.g. what processes explain this?)
- 2) What explains day-to-day variations in work-related ICT-use after work hours

Behavioral intentions to engage in work-related ICT-use after hours

Behavioral intentions refer to people's subjective probability that they will perform a specific behavior (Fishbein & Ajzen, 1979; Konerding, 1999), in this case: daily work-related ICT-use after work hours.

- **Behavioral expectations:** "individual's self-prediction of his or her future behavior" (Warshaw & Davis, 1985)
- **Goal intentions:** "the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior" (Warshaw & Davis, 1985)

Definition: The degree to which an employee expects and/or plans at the end of his/her regular work hours to engage in work-related ICT-use after work hours later that day.

H1: Daily behavioral intentions is related positively with their actual work-related ICT-use after hours that day

- Based on TPB (Theory of Planned Behavior)
- We expect daily variations in work-related ICT-use can be explained by earlier processes of intention-formation (e.g. planning and anticipation processes) to (not) engage in these behaviors.
- Qualitative research already suggested that processes of planning, anticipation and prior awareness can precede work-related ICT-use after hours. For instance:
 - Golden & Geisler (2007) note how some employees exercise agency by purposefully engaging in work-related ICT-use after work hours.
 - Nansen et al. (2010) also illustrate how some employees actively plan to work outside the regular work hours.

Earlier research on antecedents

Earlier research has shown that employees are more likely to engage in work-related ICT-use after hours when

1) they have a more positive attitude towards transitioning between the home and work role (i.e., work-home **integration preferences**): Derks et al., 2017; Gadeyne et al., 2018; Olson-Buchanan & Boswell, 2006; Park et al., 2011).

2) they perceive this behavior to be more expected in their organization (i.e., organizational **integration norms**): Adkins and Premeaux 2014; Gadeyne et al., 2018; Mellner, 2016; Park, Fritz, & Jex, 2011).

-> Descriptive organizational integration norms, i.e., people's beliefs about how prevalent this behavior is in the organization (e.g. Derks et al., 2015; Li & Yuan, 2018; Richardson & Benbunan-Fich, 2011)

-> Injunctive norms, i.e., individuals' perceptions about whether (influential) others expect them to engage in this behavior (e.g. Derks et al., 2015; Fenner & Renn, 2010; Piszczek, 2017)

H2: People's intentions to engage in work-related ICT-use after hours mediate the relationship between work-home integration preference, descriptive organizational integration norms, injunctive organizational integration norms on the one hand and work-related ICT-use after hours on the other hand.

- This way, we apply TPB to the literature on work-related ICT-use after hours.
- We thus propose that intention formulation forms a mechanism through which attitudes and social norms are related to work-related ICT-use after hours.
- Daily work demands and boundary control are added as a control variables.

H3: We expect that on days when people more strongly intend to engage in work-related ICT-use after work hours, this behavior is likely to have a less adverse impact on their daily work-home conflict and psychological detachment.

Although this expectation is largely exploratory, there is some literature that seems to support our expectations.

- For instance, Fenner & Renn (2010) found people who are good at goal-setting and prioritization experience lower work-home conflict when engaging in higher levels of work-related ICT-use after work hours compared with individuals with less of such abilities.
- A few studies have found that people tend to experience more negative affective outcomes in cases of intention-behavior inconsistency (Pieters & Zeelenberg, 2005; Verbruggen & van Emmerik, 2020).

What's the unanswered question?

Is work-related ICT-use after hours to some degree an intentional act in that people expect and plan it beforehand, and if so, are on those days less undesirable consequences associated with with such ICT-use?

Method: Data collection and sample

- Daily diary study.
- Inclusion criteria: 1) Dutch-speaking, 2) Employees 3) Use ICT (e.g. laptop, smartphone, e-mail...) for work-related purposes at least occasionally.
- Diary study took place just before Belgian COVID-19 regulations in 2020.
- Two daily measurement points (t1 and t2) during one workweek.
- Respondents free to chose to respond in online-mode (online surveys through daily e-mails) and offline-mode (one word-document for whole week).
- Final sample: 186 respondents, 783 daily responses.

Method: Measures (survey)

- **Integration preferences:** four-item scale of Kreiner (2006).
E.g. "I don't like work issues creeping into my home life" (1-7, R.C.).
- **Descriptive integration norms:** three-items of the segmentation supplies scale of Kreiner (2006) - modified in line with Palm, Seubert, & Glaser (2019) and Park et al. (2011).
E.g. "The people I work with are able to prevent work issues from creeping into their home life" (1-7, R.C.).
- **Injunctive integration norms:** four items used by Palm, Seubert, & Glaser (2019).
E.g. "In my work, my employer expects from me to work in the evenings, at night and at weekends" (1-7).

Method: Measures (daily t2)

- **Daily work-related ICT-use after work hours:** four-item adapted scale of Piszczek (2017). Cronbach's alpha ranged from .91 to .95 across the 5 days.

E.g. "Today, after my standard working hours, I used technology (e.g. computer, smartphone, tablet...) to keep up with work-related matters" (1-5).

- **Daily work-to-home conflict:** four items based on Carlson et al. (2000) and Delanoeije, Verbruggen, & Germeys (2019). ($\alpha_{min} = .81$; $\alpha_{max} = .87$).

"Today, the time I spend on work responsibilities interfered with my responsibilities at home" (1-5).

- **Daily psychological detachment:** four items based on Sonnentag & Fritz's (2007) Recovery Experience Questionnaire. ($\alpha_{min} = .80$; $\alpha_{max} = .83$).

"Today, after my regular work hours, I don't think about work at all" (1-5).

Method: Measures (daily t1)

- **Daily intentions for work-related ICT-use after work hours:** 6-items (self-made)
 - > We followed recommendations by Sheeran (2002) who stated that intentions should be measured with statements like “I intent to do X”, “I will do X”, or “I plan to do X”.
 - > We aimed at measuring intentions for specific behaviors, as this fits the notion by Ajzen & Fishbein (1969) that specific behaviors need to be considered for behavioral intention to be accurate.

Method: Measures (daily t1)

- **Daily intentions for work-related ICT-use after work hours:** 6-items (self-made)

We asked to what degree respondents planned on using information- and communication technology (e.g. smartphone, laptop, tablet,...) for work-related purposes that evening after their standard work hours to:

- (1) continue working on work-related tasks
- (2) finish work-related tasks
- (3) search work-related information
- (4) check mails or messages
- (5) respond or answer to work-related mails or messages
- (6) communicate directly (e.g. phone call, videoconference) for work-related purposes.

High Cronbach's Alpha: ($\alpha_{min} = .90$; $\alpha_{max} = .95$)
Five point Likert scale.

Method: Measures (daily t1)

Daily intentions for work-related ICT-use after work hours

Self-generated validity or “a self-prophecy due to measurement reactivity” (Chandon, Morwitz, & Reinartz, 2005): A potential problem?

40% of respondents were randomly classified in a control group and were not asked to assess intentions during the workweek. The experiment group was asked to assess intentions on 2 of the 5 work days.

Using independent sample T-tests, no significant difference was observed on these two days (neither on other days; $p > .10$) between both groups.

No, measurement reactivity does not seem to impact the occurrence of work-related ICT-use after hours.

Results

ICC-scores for all daily measures were good.

- 51% of variance in intentions explained by daily variations, 60% for ICT-use.
- Likewise, little over half of variation explained on daily level for both work-to-life conflict and psychological detachment.

CFA confirmed measurement model.

Results

MLMED macro for SPSS (Rockwood & Hayes, in press) to test H1 & H2.

- Restricted Maximum Likelihood estimations are adopted.
- **In line with H1**, intentions to engage in work-related ICT-use after hours are related positively with actual work-related ICT-use after hours.
 - > On a within-person level ($\gamma = 0.51$; $p < .01$)
 - > On a between-person level ($\gamma = 0.95$; $p < .01$)

	<i>Model 1: Intentions to engage in work-related ICT-use after hours</i>		<i>Model 2: Actual work- related ICT-use after hours</i>		<i>Model 3: Actual work- related ICT-use after hours</i>	
	Estimate	<i>p</i>	Estimate	<i>p</i>	Estimate	<i>p</i>
<i>Within-person effects</i>						
Constant	2.03**	.00	1.97**	.00	1.92	.00
Work demands	0.07	.22	0.08	.09	0.07	.10
Behavioral intentions					0.51**	.00
<i>Between-person effects</i>						
Work demands	0.20*	.02	0.28**	.00	0.08	.12
Behavioral intentions					0.95**	.00
Integration preferences	0.14**	.00	0.15**	.00	0.01	.80
Injunctive Integration Norm	0.15**	.00	0.14*	.01	0.00	.98
Descriptive Integration Norms	0.18**	.00	0.20**	.00	0.02	.43
Boundary Control	0.02	.77	-0.02	.79	-0.02	.62

Results

MLMED macro for SPSS (Rockwood & Hayes, in press) to test H1 & H2.
In line with H2:

- 1) Integration preferences ($\gamma = .14$; $p < .01$), descriptive integration norms ($\gamma = .18$; $p < .01$) and injunctive integration norms ($\gamma = .15$; $p < .01$) are positively related with behavioral intentions.
- 2) In a model without behavioral intentions, integration preferences ($\gamma = .15$; $p < .01$) and descriptive integration norms ($\gamma = .20$; $p < .01$) and injunctive integration norms ($\gamma = .14$; $p < .01$) are positively related with actual work-related ICT-use after hours
- 3) All these variables become insignificant in Model 3, in which behavioral intentions are included.

Results

MLMED macro for SPSS (Rockwood & Hayes, in press) to test H1 & H2.
In line with H2:

- > 1) + 2) + 3) suggest full mediation model (on between-person level).
- > Sobel tests confirm this and finds significant indirect effects through mediation by intentions for integration preferences ($z = 3.17, p < .01$), descriptive integration norms ($z = 4.04, p < .01$) and injunctive integration norms ($z = 3.39, p < .01$)

Results

Linear mixed models in SPSS (Rockwood & Hayes, in press) to test H3.
For H3 (regressed on daily work-to-home conflict):

Positive correlation between work-related ICT-use after work hours and work-home conflict ($\gamma = 0.30, p < .01$).

Daily intentions were not related significantly, but did moderate the effect of ICT-use on conflict ($\gamma = 0.12, p < .01$).

Results

Linear mixed models in SPSS (Rockwood & Hayes, in press) to test H3.
For H3 (regressed on daily psychological detachment):

Negative relationship between work-related ICT-use after hours and daily psychological detachment ($\gamma = -0.28, p < .01$)

Up and above that effect, also daily intentions significantly related with daily detachment ($\gamma = -0.22, p < .01$).

We also find significant interaction effect between daily work-related ICT-use after hours and daily intentions to engage in this behavior ($\gamma = -0.18, p < .01$)

Results

Linear mixed models in SPSS (Rockwood & Hayes, in press) to test H3.
For H3: significant moderation, but in opposite direction as expected.

Discussion

We adopt insights from TPB (Theory of Planned Behavior) as a new perspective and our results confirm this is a valid theoretical foundation to look at work-related ICT-use after hours.

- > Our results find support for claim that work-to-home integration preferences and norms impact work-related ICT-use after hours through mediation by behavioral intentions.
- > Results support behavioral intentions as antecedents on the daily level, suggesting that processes of anticipation and planning can, at least to some degree, precede actual work-related ICT-use after hours.

Discussion

Outcomes of daily ICT-use were found to be more adverse (i.e., stronger work-to-home conflict and lower detachment) when the ICT-use was preceded by stronger intentions to engage in this behavior

- > Contradictory to our expectations (H3).
- > When ICT-use is not intended, planned or anticipated, and thus more spontaneous in nature, the adverse effects of it are lower.
- > Some potential alternative explanations...

Discussion

- (1) When employees have prior intentions to engage in supplemental ICT-use for work, actually doing so later may be experienced more as a burden and a necessary act to meet self-set or other's expectations, which can increase strain associated with the integration of work into personal time through work-related ICT-use after work hours (Ammons, 2013; Cooke & Rousseau, 1984; Ohly & Latour, 2014).
- (2) High intentions could allow for planning and anticipation processes to avoid work-to-home conflict, yet some individuals may be inefficient/ineffective in doing so (e.g. Fenner & Renn, 2010).
- (3) Unplanned and more spontaneous episodes of work-related ICT-use after work hours could have less adverse effects because employees then engage in these behaviors during idle time or when it suited them or felt like it (e.g. time slicing and time shifting: Govindaraju & Sward, 2005) or that it concerns more urgent interruptions which are therefore easier to justify.

Discussion

Direct effect of intentions on psychological detachment.

- > Merely higher behavioral expectations and intentions to engage in work-related ICT-use after work hours, irrespective of whether one actually does so later during the day, hinders detachment after hours.
- > This could be explained through more work-related rumination during off-work time (Sonnentag & Fritz, 2015; Vahle-Hinz, Mauno, de Bloom, & Kinnunen, 2017; Wendsche & Lohmann-Haislah, 2017).

Limitations

- > Self-report measures (e.g. common method bias).
- > No causality design, although lagged design allows for stronger claims about directionality.
- > Solely Dutch-speaking employees
- > Pre-Covid, still valid post-covid?

Thanks for listening