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# Intrinsic motivation as a double-edged sword: Investigating effects on well-being and the role of flex place practices as moderator to buffer adverse effects

**Mariella Stockkamp**[1] | **Angela Kuonath**[1] | **Jana Kühnel**[2] | **Silja Kennecke**[3] | **Dieter Frey**[1]

[1]LMU Center for Leadership and People Management, Department of Psychology, LMU Munich, Munich, Germany

[2]Department of Occupational, Economic and Social Psychology, Faculty of Psychology, University of Vienna, Vienna, Austria

[3]Bain & Company Inc, Boston, Massachusetts, USA

**Correspondence**
Mariella Stockkamp and Angela Kuonath, LMU Center for Leadership and People Management, LMU Munich, Geschwister-Scholl-Platz 1, 80539 Munich, Germany.
Email: mariella.stockkamp@psy.lmu.de and angela.kuonath@psy.lmu.de

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## Abstract

Ensuring employee well-being is a crucial task for organizations. While previous research has mainly focused on positive effects of intrinsic motivation, in this study, we took a more comprehensive view on intrinsic motivation and work-related well-being. More specifically, building on conservation of resources theory, we focused on two facets of work-related well-being (job satisfaction and emotional exhaustion) and examined direct (beneficial) and indirect (adverse) effects on well-being via detachment as an inconsistent mediation model. Furthermore, we took a closer look at how the use of flex place practices (FPPs), giving employees the opportunity to choose from where to work, can attenuate potential adverse effects of high intrinsic motivation. We collected data from 408 employees of a European manufacturer at two points of measurement, the first one before and the second one after the introduction of FPPs. Results showed that intrinsic motivation had a positive direct effect on changes in well-being, and an adverse indirect effect on changes in well-being via

reduced detachment. For employees using FPPs, this adverse indirect effect was dissolved. This research is among the first to explore potential downsides of intrinsic motivation and the role of FPPs in the functioning of intrinsic motivation.

**KEYWORDS**

detachment, flexible work, flex place practices, inconsistent mediation, intrinsic motivation, well-being

## INTRODUCTION

High demands in the working world such as constant time pressure or emotional stress (BKK, 2018) put employees' well-being at risk (Halbesleben & Buckley, 2016). As well-being is important not only in terms of mental health but also as a key success factor for organizations (e.g., as an antecedent of performance; Wright & Cropanzano, 2000), it is an important task for organizations to look out for employees' well-being. Intrinsic motivation is defined as a motivational state in which individuals engage in a task out of interest and desire to do so (Deci & Ryan, 2004). It has been repeatedly discussed as being crucial when it comes to employee well-being, and therefore, fostering employee intrinsic motivation has been proposed as a major aim of organizations to achieve (Deci & Ryan, 2000; Sheldon et al., 2004).

We propose that with previous studies being mainly restricted on cross-sectional (van den Broeck et al., 2013) and short-term effects of intrinsic motivation on employee well-being (Kammeyer-Mueller et al., 2013; see Fernet et al., 2010 for an exception), up to now, past research has presented a rather one-sided view on intrinsic motivation falling short of considering potential downsides of highly intrinsically motivated employees (e.g., due to working excessively and potential problems to replenish one's resources; Huyghebaert et al., 2018; Van den Broeck et al., 2011). Thus, in our longitudinal study, we take a more comprehensive view on intrinsic motivation and its effects on changes in work-related well-being by considering both positive (direct) and adverse (indirect) effects that may unfold over time. Finally, given this ambivalent view on intrinsic motivation, we take a closer look at potential boundary variables that may attenuate potential downsides of high intrinsic motivation over time. Specifically, we focus on flexible place practices (FPPs), as a moderator variable that should buffer adverse indirect effects of intrinsic motivation. Flexible work arrangements are widely implemented for organizational purposes and are linked to the goal of promoting well-being of employees (e.g., Thompson et al., 2015). Our study offers an explanatory approach to why flexible work arrangements might affect well-being and where flexible work arrangements come in.

Building on conservation of resources theory (COR theory; Hobfoll, 2001), we propose intrinsic motivation to be a resource crucial for work-related well-being. According to COR theory, individuals are drawn to protect their resources (such as being highly intrinsically motivated) and are drawn to acquire new resources and positive outcomes (such as well-being) resulting in so-called gain spirals (Halbesleben et al., 2014; Hobfoll, 2001). Indeed, previous (mostly cross-sectional) research has already shown intrinsic motivation to be negatively related to emotional exhaustion (Fernet et al., 2004, 2010; Gagné et al., 2014; Grant & Sonnentag, 2010)

and positively related to job satisfaction (Cho & Perry, 2011; Roche & Haar, 2020). There is also first evidence for the relation between intrinsic motivation and a *change* in emotional exhaustion over time, at least from a short-term, day-level perspective (Kammeyer-Mueller et al., 2013). Building on this research and in line with the gain-spiral perspective proposed by COR theory, we aim at confirming these previous results from a *longitudinal perspective*. This is of special importance as short- and long-term functioning of psychological variables do not necessarily have to correspond (Ohly et al., 2010). More specifically, we focus on job satisfaction and emotional exhaustion as two complementing indicators of work-related well-being (Hülsheger & Schewe, 2011) and propose that high intrinsic motivation will be associated with increased work-related well-being over time.

Going beyond the prevailing view of intrinsic motivation as a "never-draining resource" (Hobfoll, 2001), we take a closer look at possible downsides of intrinsic motivation that may occur on the long run. Indeed, first research questions the previously merely positive picture of intrinsic motivation by showing that—especially from a long-term perspective—intrinsic motivation can also show adverse effects on well-being (i.e., by increasing emotional exhaustion; Junker et al., 2020). As Macey and Schneider (2015, p. 25) state "there are limits to the pool of energy and resources available to employees." We propose that as intrinsically motivated employees like their job and find joy in their work tasks, it is likely that they will invest a lot of their resources in work-related goals. This high resource investment, however, may in turn impede the process of resource replenishment as people who invest a lot of (energetic and mental) resources while working tend to have difficulties to mentally detach themselves from work induring non-working hours (Halbesleben et al., 2014). Psychological detachment is defined as mentally distancing oneself from work-related thoughts during non-work time (Etzion et al., 1998; Sonnentag & Bayer, 2005). It is a crucial recovery experience and as such enhances well-being (Wendsche & Lohmann-Haislah, 2016). In fact, research has shown that employees who are highly intrinsically motivated tend to work more excessively (Van den Broeck et al., 2011), and this excessive investment of resourcess has been shown to be in turn associated with lower levels of psychological detachment (Huyghebaert et al., 2018). There also exists evidence that concepts related to intrinsic motivation and that go hand in hand with high effort investment into work, such as high job involvement and passion, are negatively related to detachment or rumination during non-work time (Donahue et al., 2012; Kühnel et al., 2009; Sonnentag & Kruel, 2006).

We therefore propose that besides its beneficial effects, high intrinsic motivation should also yield adverse consequences for employees' well-being through impaired employee detachment (cf. Huyghebaert et al., 2018; Van den Broeck et al., 2011). This differentiated pattern of functioning (a total positive effect that results from the combination of a negative indirect effect of a predictor variable through a mediator and a direct effect of the predictor variable that is positive) has been described as an inconsistent mediation in the literature (MacKinnon et al., 2000; Shrout & Bolger, 2002). Thus, we propose that although intrinsic motivation in general should produce a desirable effect on job satisfaction and emotional exhaustion, it will show adverse indirect effects when specific psychological processes (i.e., detachment) are considered.

Finally, given the potential downsides of intrinsic motivation over time, it is important to identify boundary conditions under which these adverse effects of intrinsic motivation are buffered. One important tenet of COR theory is that individuals seek control over their resources (Hobfoll, 2001). One possibility to increase employees' control over their job is the possibility to choose *when* (flex time practices) and *where* work is done (flex place practices; Hill et al., 2008). However, increased flexibility in terms of when and where work is done can be a double-edged sword of its own (Korunka, 2021). In general, for flex work practices, there are different

preconditions that need to be fulfilled to work in the favor of the employee. First, the flexibility of the work needs to be employee-centric (Avgoustaki & Bessa, 2019), that is, it has to leave it up to the employees to choose whether they want to use flexible work arrangements offered by the employer. Thus, demanded flexibility by the employer (e.g., being "on-call"; Bamberg et al., 2012) or working from home without being able to choose (e.g., because of pandemic-induced office closing) is unlikely to have beneficial effects for the employees. Second, the supply of the flexible work arrangement needs to fit the preferences of the employee. Accordingly, it might need time and reflection of the employee to figure out if the flexible work arrangement is working for them. Third, it is important to differentiate between flex time practices and flex place practices (FPPs). While flex time practices allows to shift the time in which work is done (and allows, e.g., working in the evening/night), FPPs leave it up to the employees from *where* they want to work. This yields different implications for employees: While both practices are positively related to job satisfaction, flex time practices more strongly relate to perceived work interference with one's family (Shockley & Allen, 2007). Thus, when it comes to supporting employees in mentally distancing themselves from work, FPPs seem to be the more promising approach. Thus, in the present study, we focus on FPPs, which provide employees with the possibility to choose their "ideal workplace" for task completion (Allen et al., 2013) and thus increase employees' control over how (where) to invest their resources (cf. Hall et al., 2006). We propose that FPPs allow employees to find the right place for their tasks (e.g., as tasks demanding concentration can be conducted at home rather than in an open-plan office) finish them more effectively and, thus, prevent rumination during after work hours due to unfinished work tasks (Smit, 2016). Using FPPs should thus help employees to use their work hours more efficiently to reach their work goals, rather than working longer hours to reach their work goals, what may be a downside of flex time practices. Importantly, in the present study, FPPs were introduced in an employee-centric way. In doing so, this flexibilization of one's workplace was completely voluntary. Furthermore, the measurement of the use of flexible work took place after a trial period and refers to the continued usage of FPPs, which indicates a preference of the employee for using FPPs. To sum up, we propose the use of FPPs to buffer the long-term effect of intrinsic motivation on detachment and thus to buffer negative indirect consequences on both indicators of work-related well-being.

## THE PRESENT STUDY

The complete study model is depicted in Figure 1.

In a first step, we propose *positive total* effects of employee intrinsic motivation on changes in both indicators of employee well-being (i.e., emotional exhaustion and job satisfaction). Thus, we propose:

**H1a.** Intrinsic motivation negatively predicts change in emotional exhaustion.

**H1b.** Intrinsic motivation positively predicts change in job satisfaction.

In a further step, going beyond this mere positive view on intrinsic motivation and its effects on employee well-being, we propose intrinsic motivation to predict impaired employee well-being via reduced psychological detachment over time.

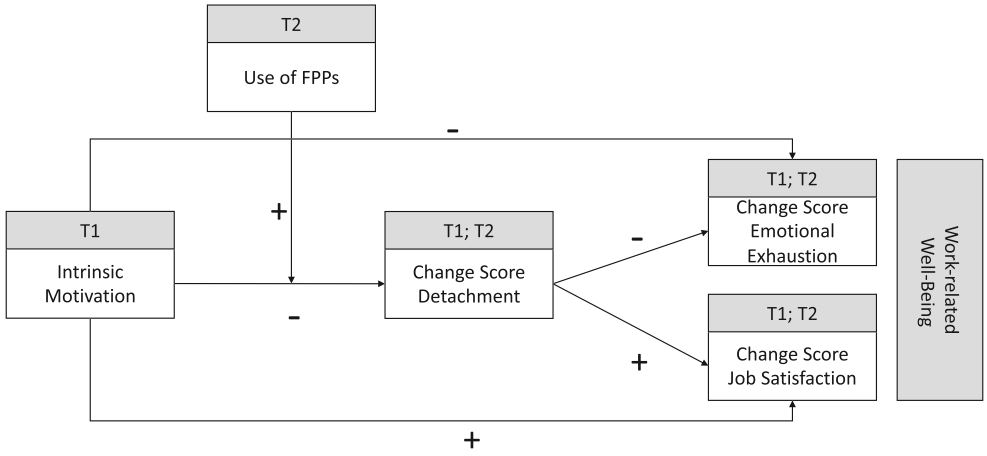


**FIGURE 1** Overview of conceptual model

**H2a.** Intrinsic motivation will have a (statistically) positive indirect effect on changes in emotional exhaustion via the impairment of psychological detachment.

**H2b.** Intrinsic motivation will have a (statistically) negative indirect effect on changes in job satisfaction via the impairment of psychological detachment.

Finally, focusing on FPPs, we propose that employees' flexibility as to where work is done will make it easier for highly intrinsically motivated employees to nevertheless psychologically detach from work during non-work hours. Consequently, we propose that FPPs will, in a further step, attenuate the adverse indirect effect of intrinsic motivation on employee well-being via reduced detachment.

**H3.** Use of FPPs moderates the relationship between intrinsic motivation and detachment such that relationship between intrinsic motivation and lack of detachment is dissolved when FPPs are used (rather than not used).

**H4a.** Use of FPPs moderates the indirect effect of intrinsic motivation on emotional exhaustion via detachment by moderating the relation of intrinsic motivation and detachment (first-stage moderation), such that the indirect effect of intrinsic motivation on emotional exhaustion via reduced detachment is weaker when FPPs are used (rather than not used).

**H4b.** Use of FPPs moderate the indirect effect of intrinsic motivation on job satisfaction via detachment by moderating the relation of intrinsic motivation and detachment (first-stage moderation), such that the indirect effect of intrinsic motivation on job satisfaction via reduced detachment is weaker when FPPs are used (rather than not used).

To sum up, the contribution of the current study is threefold. First, this study expands first longitudinal findings on the effects of intrinsic motivation (Fernet et al., 2010; Kammeyer-

Mueller et al., 2013) on two facets of work-related well-being (job satisfaction and emotional exhaustion). In line with the influential conceptual consideration of well-being by Diener (1984), job satisfaction and emotional exhaustion capture well-being that is subjective (resides within the experience of individuals), includes positive measures (not just the absence of negative measures), and includes a global assessment of a person's work life (in terms of encompassing emotional and cognitive aspects of well-being). We build on those two crucial indicators of work-related well-being and propose that taking a longitudinal view helps to gain a deeper understanding of the functioning of intrinsic motivation over time and will underline its importance in the work context. To capture how intrinsic motivation predicts changes in well-being over time, we realized a study design with a 6-month time lag and two measurement occasions.

Second, building on COR theory (Hobfoll, 2001), we introduce limitations to the proposed gain spirals by investigating intrinsic motivation as a double-edged sword. More specifically, we propose that in addition to the desired positive effects of intrinsic motivation on increased well-being over time, intrinsic motivation can also trigger adverse psychological processes. We focus on psychological detachment and propose that highly intrinsically motivated employees run the risk of having difficulties to mentally detach themselves from work during non-work hours. This impaired detachment will in turn impede the replenishment of resources and therefore will reduce employee well-being over time. By examining this indirect adverse effect in addition to the direct positive effect of intrinsic motivation, we contribute to a more holistic view on potential consequences of high intrinsic motivation.

Third, we add to research on FPPs (Hill et al., 2008) by examining how employees might benefit from the use of FPPs. We shed light on how the use of FPPs will have beneficial effects on the work–home interface (Beigi et al., 2018). More specifically, we propose that the use of FPPs can support employees who are highly intrinsically motivated to detach from work while at home, which will in turn buffer adverse indirect effects of high intrinsic motivation on employee well-being.

# METHOD

## Sample and procedure

We collected data at two points of measurement with a time lag of 6 months at a large German vehicle, engine, and machine manufacturing company before and after FPPs were implemented in the company. Ethics approval was not required for this study as participation in this survey-based study without any manipulation was voluntary and participants were able to withdraw their participation at any given time. European data protection laws were followed in consultation with the works council. Informed consent of the participants was obtained. Implementation of FFPs means that employees could choose if and how often they wanted to work from another place than the office in coordination with their supervisor. We contacted all employees in every department in which FPPs were implemented. In total, 3645 employees were contacted. At the first point of measurement (T1), 741 employees (20.33%) and at the second point of measurement (T2), 417 employees completed the questionnaire, which results in a dropout rate between the two points of measurement of 43.72%. We then excluded participants with missing values in the focal variables. Following this approach, the final sample consisted of 408 employees. The data

that support the findings of this study are openly available in OSF Storage at https://osf.io/hjy2w/?view_only=72189a1242934ce898c7f32233574e91.

Most of the participants were male (71.1%). Concerning participants' age, 2% of participants were younger than 25 years, 43% were between 26 and 35 years, 31% were between 36 and 45 years, 19% were between 46 and 55 years, and 5% were older than 55 years. Concerning weekly working hours, 89% were full-time employees.

The two surveys were administered online. At the first point of measurement, we assessed participants' intrinsic motivation, detachment, emotional exhaustion, job satisfaction, and control variables (age, gender, working hours). At the second point of measurements, 6 months after FPPs had been introduced, we asked the participants to again rate their levels of detachment, emotional exhaustion, and job satisfaction. At this second measurement point, participants also indicated whether they used FPPs.

## Measures

All items were provided in German. For scales with no validated German translation, we used the back-translation method (Brislin et al., 1973). If not indicated otherwise, all items were rated on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

### Intrinsic motivation

Intrinsic motivation was assessed using the German validated three-item subscale of the Multidimensional Work Motivation Scale (MWMS; Gagné et al., 2014). An example item is: "I have fun doing my job." Cronbach's alpha of the scale was .88.

### Use of FPPs

Use of FPPs was assessed by one item asking the participants whether they were using FPPs after their introduction in the company. Participants indicated whether they did or did not use FFPs (0 = *no, I do not use FPPs* and 1 = *yes, I use FPPs*).

### Psychological detachment

We assessed detachment using the four-item psychological detachment subscale of the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). Items refer to time away from work. An example item is: "During time after work, I forget about work." Cronbach's alpha of the scale was .90 and .92 at T1 and T2, respectively.

### Emotional exhaustion

We used five items of the exhaustion subscale from the Oldenburg Burnout Inventory (OLBI; Demerouti et al., 2003) to assess emotional exhaustion. For reasons of parsimony and in order

to prevent artificial factors and other psychometric problems, we chose to omit recoded items (Podsakoff et al., 2003), that is, items that refer to low degrees of emotional exhaustion (e.g., "There are days where I feel tired before I arrive at work"). Following this procedure, scoring high on the five items of emotional exhaustion in this study means to be emotionally exhausted to a high degree. Cronbach's alpha of the scale was .83 and .86 at T1 and T2, respectively.

### Job satisfaction

To assess job satisfaction, we used the three items of the job satisfaction subscale from the Michigan Organizational Assessment Questionnaire (MOAQ-JSS; Camman, Fichman, Jenkis, and Klesh, as cited in Bowling & Hammond, 2008). We slightly adapted the items by including the company's name. An example item is: "All in all, I am satisfied with my job at [company name]." Cronbach's alpha of the scale was .75 and .89 at T1 and T2, respectively.

### Control variables

We assessed gender, age, and weekly work hours at T1 to repeat our analyses including these variables as control variables.[1] For anonymity reasons and restrictions imposed by the works council, we measured age (1 = *younger than 25 years*; 2 = *26–35 years*; 3 = *36–45 years*; 4 = *46–55 years* and 5 = *older than 55 years*) and weekly work hours (1 = *less than 50%*; 2 = *50%*; 3 = *75%* and 4 = *100%* of 35–40 h per week) as categorical variables. Gender was coded 1 = *male* and 2 = *female*.

## RESULTS

Table 1 shows the means, standard deviations, and correlations between the variables.

### Test of measurement model

We conducted confirmatory factor analyses for our measures at T1 and T2. For T1, the four-factor model (intrinsic motivation, detachment, job satisfaction, and emotional exhaustion) fit the data well, $\chi 2\ (98) = 331.42$, $p < .001$, CFI (comparative fit index) = .93, RMSEA (root mean square error of approximation) = .076. The fit of the four-factor model was better than the best-fitting three-factor model ($\chi 2\ (101) = 478.94$, $p < .001$, CFI = .89, RMSEA = .096), the best-fitting two-factor model ($\chi 2\ (103) = 1057.72$, $p < .001$, CFI = .72, RMSEA = .151), and the one-factor model ($\chi 2\ (104) = 1917.72$, $p < .001$, CFI = .47, RMSEA = .207). For the second point of measurement, the three-factor model (detachment, job satisfaction, and emotional exhaustion) fit the data well ($\chi 2\ (62) = 248.10$, $p < .001$, CFI = .95, RMSEA = .086). The fit of the three-factor model was better than the best-fitting two-factor model ($\chi 2\ (64) = 767.19$, $p < .001$, CFI = .79, RMSEA = .164), and the one-factor model ($\chi 2\ (65) = 1565.77$, $p < .001$, CFI = .56, RMSEA = .238).

**TABLE 1** Means, standard deviations, and correlations of study variables

| | Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Intrinsic motivation | 3.93 | 0.76 | | | | | | | | | | |
| 2 | Use of FPPs | 0.62 | 0.49 | .06 | | | | | | | | | |
| 3 | Detachment T1 | 3.45 | 0.80 | .08 | −.09 | | | | | | | | |
| 4 | Job satisfaction T1 | 4.19 | 0.63 | .62 | −.01 | .19 | | | | | | | |
| 5 | Emotional exhaustion T1 | 2.47 | 0.78 | −.35 | .06 | −.43 | −.43 | | | | | | |
| 6 | Detachment T2 | 3.46 | 0.82 | −.04 | −.08 | .63 | .09 | −.30 | | | | | |
| 7 | Job satisfaction T2 | 4.01 | 0.81 | .42 | .03 | .21 | .47 | −.32 | .28 | | | | |
| 8 | Emotional exhaustion T2 | 2.47 | 0.81 | −.22 | .01 | −.34 | −.26 | .53 | −.49 | −.54 | | | |
| 9 | Gender | 1.29 | 0.45 | .03 | .11 | −.07 | .05 | −.01 | −.05 | −.01 | .05 | | |
| 10 | Age | 2.82 | 0.92 | −.02 | −.08 | .08 | .02 | −.01 | .07 | .11 | −.10 | −.09 | |
| 11 | Weekly working hours | 3.85 | 0.47 | .06 | −.03 | −.09 | −.00 | .10 | −.08 | −.00 | .12 | −.38 | −.06 |

*Notes*: $N = 408$. Use of FPPs was coded 0 = *no use of FPPs*; 1 = *use of FPPs*. Gender was coded 1 = *male*; 2 = *female*. Age was coded 1 = *younger than 25 years*; 2 = *26–35 years*; 3 = *36–45 years*; 4 = *46–55 years*; and 5 = *older than 55 years*. Weekly working hours was coded 1 = *less than 50%*; 2 = *50%*; 3 = *75%*; and 4 = *100%* of 35–40 h per week. Correlations equal to and greater than .10 are significant on a level of $p < .05$, correlations equal to and greater than .21 are significant on a level of $p < .001$.
Abbreviations: FPPs, flex place practices; T1, Time 1; T2, Time 2.

## Analytical approach

To test our hypotheses, we build a conditional indirect effects model using Mplus 8.2 (Muthén & Muthén, 1998-2017). We centered the independent variable intrinsic motivation at its grand mean prior to entering it into the model and prior to building the interaction term, following the recommendations by Enders and Tofighi (2007). To take into account that all participants came from one company and that employees were nested in teams, we build a multilevel model in which we modeled the relationships of interest on Level 1 and group means of all variables on Level 2.[2] Table 2 shows results for the conditional indirect effects model using Bayes' estimation.

## Test of hypotheses

In H1a and H1b, we proposed a total effect of intrinsic motivation at T1 on changes in emotional exhaustion and job satisfaction from T1 to T2. To test these hypotheses, we computed total effects of intrinsic motivation on both emotional exhaustion and job satisfaction at T2, controlling for the respective T1 measures of emotional exhaustion and job satisfaction. The total effect of intrinsic motivation on change in emotional exhaustion was not significant (estimate = −0.04, $SD = 0.05$, $p = .488$). Thus, H1a was not supported. The total effect of intrinsic motivation on change in job satisfaction was positive and significant (estimate = 0.23, $SD = 0.06$, $p < .001$), supporting H1b.

To test H2, we tested the indirect effect of intrinsic motivation on change in emotional exhaustion (H2a) and job satisfaction (H2b) through change in detachment. The indirect effect of intrinsic motivation on change in emotional exhaustion through change in detachment was

**TABLE 2** Results for conditional indirect effects model

| | Detachment T2 | | | Emotional exhaustion T2 | | | Job satisfaction T2 | | |
|---|---|---|---|---|---|---|---|---|---|
| **Variable** | **Estimate** | **SD** | ***p*** | **Estimate** | **SD** | **p** | **Estimate** | **SD** | ***p*** |
| Detachment T1 | 0.60 | 0.05 | <.001 | | | | | | |
| Emotional exhaustion T1 | | | | 0.39 | 0.04 | <.001 | | | |
| Job satisfaction T1 | | | | | | | 0.38 | 0.06 | <.001 |
| Intrinsic motivation T1 | −0.19 | 0.07 | .006 | −0.11 | 0.05 | .004 | 0.27 | 0.06 | <.001 |
| Use of FPPs | −0.004 | 0.08 | .952 | | | | | | |
| Intrinsic motivation T1 × use of FPPs | 0.18 | 0.09 | .032 | | | | | | |
| Detachment T2 | | | | −0.38 | 0.04 | <.001 | 0.25 | 0.04 | <.001 |
| $R^2$ | .45 | | | .34 | | | .23 | | |

*Notes*: Estimates are unstandardized coefficients. Two-tailed *p*-values are reported. Use of FPPs was coded 0 = no use of FPPs; 1 = use of FPPs.

Abbreviation: FPPs, flex place practices; T1, Time 1; T2, Time 2.

positive and significant (estimate = 0.07, *SD* = 0.03, *p* = .006, 95% CI [0.024, 0.130]). Thus, H2a was supported. The indirect effect of intrinsic motivation on change in job satisfaction through change in detachment was negative and significant (estimate = −0.05, *SD* = 0.02, *p* = .006, 95% CI [−0.087, −0.014]). Thus, H2b was supported.

The moderating effect of use of FPPs on the relationship between intrinsic motivation and change in detachment is displayed in Table 2. The interaction term of intrinsic motivation and use of FPPs significantly predicted change in detachment (estimate = 0.18, *SD* = 0.09, *p* = .032). The pattern of the interaction is depicted in Figure 2. Following the procedure by Preacher et al. (2006), we tested the simple slopes of intrinsic motivation predicting change in detachment for conditional values of use of FPPs. Results showed that for people who did not use FFPs, intrinsic motivation was significantly and negatively related to change in detachment (estimate = −0.19, *SD* = 0.07, *p* = .001). For people who did use FFPs, intrinsic motivation was not significantly related to change in detachment (estimate = −0.01, *SD* = 0.06, *p* = .808). Thus, H3 was supported.

To test H4a and H4b, we tested indirect effects of intrinsic motivation on change in emotional exhaustion and change in job satisfaction via change in detachment for conditional values of FPPs (conditional indirect effects). For people who did not use FPPs, intrinsic motivation had an adverse indirect effect on change in emotional exhaustion through change in detachment (Estimate = 0.07, *SD* = 0.03, *p* = .006, 95% CI [0.023, 0.130]). By contrast, for people who used FPPs, the adverse indirect effect of intrinsic motivation on change in emotional exhaustion was not significant (Estimate = 0.005, *SD* = 0.02, *p* = .808, 95% CI [−0.036, 0.050]). Thus, H4a was supported. Table 2 shows that when the indirect effect through detachment is taken into account, the direct relationship of intrinsic motivation on change in emotional exhaustion is negative and significant (Estimate = −0.11, *SD* = 0.05, *p* = .004).

For job satisfaction, there was an adverse indirect effect of intrinsic motivation on change in job satisfaction via change in detachment for people who did not use FPPs (Estimate = −0.05,

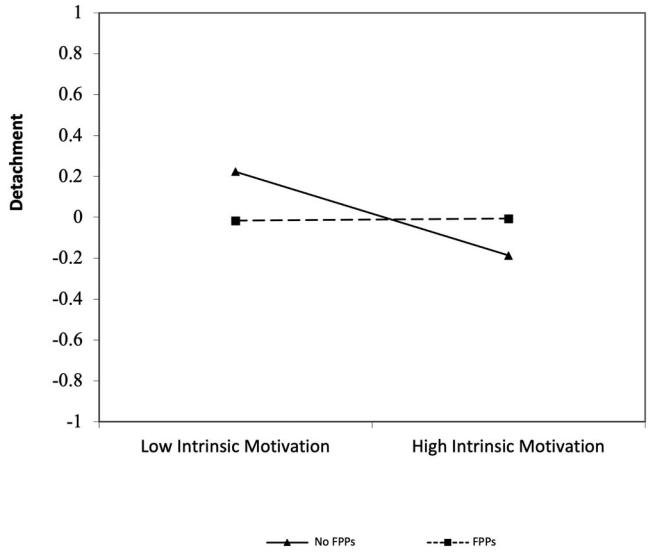


**FIGURE 2** Effect of intrinsic motivation on detachment when FPPs were used versus not used

*SD* = 0.02, *p* = .006, 95% CI [−0.087, −0.014]). This adverse effect of intrinsic motivation on change in job satisfaction was not significant for people who did use FPWs (Estimate = −0.03, *SD* = 0.01, *p* = .808, 95% CI [−0.033, 0.023]). Thus, H4b was supported. Table 2 shows that when the indirect effect through detachment is taken into account, the direct relationship of intrinsic motivation on change in job satisfaction is positive and significant (Estimate = 0.27, *SD* = 0.06, *p* < .001).

## DISCUSSION

In the present study, we examined intrinsic motivation as a double-edged sword in its relation to changes in well-being and in the context of FPPs use. We therefore did not only examine a proposed beneficial effect of intrinsic motivation on two facets of work-related well-being (i.e., reductions in emotional exhaustion and increases in job satisfaction), but we also investigated potential adverse effects of intrinsic motivation on impaired well-being that unfold through diminished detachment. In a last step, we took a closer look at the question whether the use of FPPs can attenuate the adverse effect of intrinsic motivation on work-related well-being that unfolds through diminished detachment.

As expected, we found an overall beneficial effect of intrinsic motivation on change in job satisfaction. However, contrary to our prediction, intrinsic motivation did not have a total effect on change in emotional exhaustion. Thus, our findings concerning the total effect of intrinsic motivation on well-being over time are mixed. Concerning the inconsistent mediation via detachment, as expected, intrinsic motivation showed beneficial direct effects and adverse indirect effects through diminished detachment on both facets of work-related well-being (i.e., job satisfaction and emotional exhaustion). Finally, we found these detrimental effects of intrinsic motivation on well-being that unfold through detachment to not account for people who used FPPs.

The overall beneficial effect of intrinsic motivation on increases in employees' job satisfaction is in line with the concept of so-called gain spirals (Hobfoll, 2001) and expands prior cross-sectional findings on the relation between intrinsic motivation and job satisfaction (Cho & Perry, 2011). However, we did not find a significant total effect of intrinsic motivation on change in emotional exhaustion. Our results showed that the indirect adverse effect via diminished detachment and the direct beneficial effect of high intrinsic motivation balance each other out. This finding contradicts previous mostly cross-sectional findings linking high intrinsic motivation and low emotional exhaustion, which might seem surprising at first glance (Fernet et al., 2004, 2010; Gagné et al., 2014; Grant & Sonnentag, 2010; Van den Broeck et al., 2011). On closer examination, this finding underlines the importance of examining not only cross-sectional relationships but also *changes* in crucial outcome variables. Our results show that—especially when taking a longitudinal perspective—potentially beneficial direct effects of intrinsic motivation on emotional exhaustion may be overshadowed by adverse indirect effects.

Our findings emphasize the importance of detachment for the recovery process and the restoration of resources that are reflected in well-being at work. Concerning the adverse effects of intrinsic motivation on well-being via diminished detachment our, results indicate that resource gain spirals may not always occur for intrinsically motivated employees, since for them, impaired recovery after work may threaten their work-related well-being in the long run. This finding is in line with previous research on highly job involved employees (Kühnel et al., 2009)

and expands their findings by investigating the mediating effect of detachment over a longer period of time.

Together, these findings show that impaired detachment from work can accompany desirable work states (e.g., high involvement and high intrinsic motivation) and can attenuate or even negate their positive consequences for well-being and performance at work. Our results therefore reemphasize the central role that detachment from work has and should have in research on work-related well-being.

Notably, using FPPs appeared to dissolve the adverse indirect effects of intrinsic motivation on changes in both facets of work-related well-being. This finding supports the idea that FPPs can help employees to gain control over where and how they finish their work tasks (Kelly & Moen, 2007), which in turn may facilitate the process of mentally switching off from work during non-work time. This finding contributes to the broader discussion of the effects of FPPs (Kossek & Thompson, 2016). Our results indicate that the use of FPPs seems to be beneficial for intrinsically motivated employees who choose to use FPPs and thus seem to prefer working flexibly.

## Theoretical and practical implications

The theoretical and practical implications of this study are manifold. First, we extended COR theory (Hobfoll, 2001) by identifying constraining factors to the gain spirals of resources. Our results are partially in line with the assumptions derived from COR theory, as intrinsic motivation was positively related to change in job satisfaction. However, the nonexistent total effect of intrinsic motivation on change in emotional exhaustion over a longer period underlines the need to investigate changes in outcome variables rather than cross-sectional correlations and to take a more differentiated look at intrinsic motivation and its functioning. Following from this more differentiated look at intrinsic motivation, our research is among the first to also investigate adverse effects of intrinsic motivation. Intrinsically motivated employees who seem to have difficulties detaching might need organizational support to benefit from high intrinsic motivation. As a first step, organizations need to create awareness that intrinsic motivation also yields negative consequences when it comes to the ability to detach. As a second step, organizations have the responsibility to implement measures to mitigate those adverse effects. One possibility to foster employees' ability to detach is the trainings dedicated to improving this crucial recovery experience (Hahn et al., 2011). Moreover, organizations may support employees' detachment by ensuring that employees face an appropriate and thus manageable amount of work. A manageable amount of work should result in work goals being met, which in turn should foster psychological detachment from work during non-work times.

We also investigated a new and emerging context for applying COR theory to work: The use of FPPs has been shown to diminish adverse effects of intrinsic motivation on work-related well-being. As the Covid-19 pandemic has drastically changed the way we work (Rofcanin & Anand, 2020), the current need for flexible work arrangements due to the unpredictable environment adds to the importance of our findings. The introduction of FPPs to organizations seems to be a promising measure to prevent intrinsically motivated employees from experiencing impairments in well-being due to a lack of detachment. Since use of FPPs in the present study was on a voluntary basis, our results point in the direction that favorable effects occur when FPPs are used *voluntarily* and thus in accordance with employees' personal preferences.

Mandatory use of flexible work practices (e.g., fixed and mandatory "work from home" days or flexible schedules), however, might yield different results (cf. Kaduk et al., 2019).

Our research implies that allowing employees to choose their preferred workplace can be beneficial. To support employees in shaping their preferred working environment organizations should encourage reflection of work-place preferences. Additionally, organizations need to implement a safe way for employees to communicate their flex work needs (e.g., through surveys) and find ways to normalize the individuality of such preferences (e.g., by openly communicating different flex work options).

For future research, we therefore recommend investigating different flexible work place arrangements, employees' personal preferences, and their fit with each other. Since many companies are currently shifting from home–office settings (due to the pandemic) to hybrid settings, which may or may not limit flexibility, scientific monitoring of this shift would also be a promising avenue for future research.

## Limitations and future research

We acknowledge several limitations to our study. First of all, our study design, to some degree, brings along the risk of common method variance (Podsakoff et al., 2003). More precisely, there are two concerns: First, we only used self-reports, which carries the risk of common method variance and a subsequent inflation of relationships between variables (Podsakoff et al., 2003). On the other hand, self-reports are preferable if we seek to investigate personal attitudes such as job satisfaction and intrinsic motivation. However, future research could also investigate more distal outcomes of intrinsic motivation. As well-being already has been shown to be associated with performance (Wright & Cropanzano, 2000), investigating the indirect effect of intrinsic motivation on changes in performance would be an interesting addition to the model examined in the current study.

Second, we like to acknowledge that our data come from one organization. Thus, future studies should examine the generalizability of our results to other organizations and countries. Generalizability of our results is also limited by the self-selection of participants to take part in our study. A full survey within the company would be desirable, but is not possible for ethical reasons.

Third, due to practical constraints, our mediator and outcome variables were measured at the same point of time. However, the moderating effect of FPPs is not prone to potential common method effects. Additionally, the two points of measurement allowed for a separate data collection for our predictor variable, reducing the issue of common method variance (Podsakoff et al., 2003). An additional strength in the study design is that for detachment and both components of well-being, initial levels were considered. Thus, our results depict actual changes in the mediator and outcome variables.

Another limitation to this study is that by accompanying the initial introduction of FPPs, we focused on the measurement of FPPs as a dichotomous variable (used vs. not used at Time 2). On the one hand, this measurement is close to actual employee behavior and therefore less prone the biases affecting self-reported measures, such as social desirability. On the other hand, in order for FPPs to work in a beneficial way, there are certainly certain conditions that have to be met. As described in our introduction, the introduction of FPPs certainly has to be employee-centric and has to take employee preferences into account (Avgoustaki & Bessa, 2019), which is reflected in our measure as it taps the actual usage of FPPs after

employees had the choice to actually use FPPs. In a further step, future research could focus more closely on the conditions (e.g., frequency of FPPs and preferences of the employee) in order to derive more specific recommendations for companies how FPPs should be designed and introduced in order to work in favor of the employees.

Finally, additional moderating effects as well as other motivational facets should be considered in future research. As flexible work practices are often discussed as a bundle of practices consisting of both "flex time" and "flex place," it would be interesting how policies such as availability during non-work hours could be of additional importance. While FPPs attenuated adverse effects in the present study, flex time might yield different effects as the combination of flex place and time could break down boundaries between work and home and even enhance the adverse relation between intrinsic motivation and detachment by furthering excessive work practices. Also, future research may take extrinsic motivation (i.e., being motivated by external incentives) into account, which has been viewed as a much more critical motivational state (Ryan & Deci, 2004). Although extrinsic motivation surely brings along a lot of downsides, taking a closer look of how it interacts with the supply of flexible work arrangements and how it relates to changes in work-related well-being surely would be an interesting extension of the present study.

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## CONFLICT OF INTEREST

We have no conflicts of interest to disclose.

## ETHICS STATEMENT

APA ethical guidelines were followed throughout the study. Ethics approval was not required for this study as participation in this mere survey-based study without manipulation was completely voluntary and participants were able to withdraw their participation at any given time. European data protection laws were followed in consultation with the works council. Informed consent of the participants was obtained (see also page 11 of the manuscript).

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF Storage at https://osf.io/hjy2w/?view_only=72189a1242934ce898c7f32233574e91.

## ORCID

*Mariella Stockkamp* https://orcid.org/0000-0002-8024-531X

## ENDNOTES

[1] We observed the same pattern of results when including the control variables gender, age, and weekly work hours in the analyses.

[2] The pattern of results was the same when the nesting of employees in teams was not taken into account.

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