

Personal Costs and Benefits of Employee Intrapreneurship: Disentangling the Employee Intrapreneurship, Well-Being, and Job Performance Relationship

Jason C. Gawke and Marjan J. Gorgievski
Erasmus University Rotterdam

Arnold B. Bakker
Erasmus University Rotterdam and University of Johannesburg

Ample studies have confirmed the benefits of intrapreneurship (i.e., employee behaviors that contribute to new venture creation and strategic renewal activities) for firm performance, but research on the personal costs and benefits of engaging in intrapreneurial activities for employees is lacking. Building on job demands–resources and reinforcement sensitivity theories, we examined how employees' reinforcement sensitivity qualified the relationship among their intrapreneurial behavior, subjective well-being, and other-rated job performance. Using a sample of 241 employee dyads, the results of moderated mediation analyses confirmed that employee intrapreneurship related positively to work engagement for employees high (vs. low) in sensitivity to rewards (behavioral approach system), which subsequently related positively to innovativeness and in-role performance and negatively to work avoidance. In contrast, employee intrapreneurship related positively to exhaustion for employees high (vs. low) in sensitivity to punishments (behavioral inhibition system), which subsequently related positively to work avoidance and negatively to in-role performance (but not to innovativeness). Theoretical and practical implications are discussed.

Keywords: BIS–BAS, job performance, moderated mediation, proactive work behavior, work engagement

Modern organizations increasingly depend on the entrepreneurial activities of their employees (i.e., intrapreneurship) to maintain and maximize organizational effectiveness and competitiveness (Antoncic & Hisrich, 2003; Ireland, Kuratko, & Morris, 2006a, 2006b). Indeed, ample studies have shown that organizations with a strong emphasis on intrapreneurship are more profitable and have a better return on sales and assets (Bierwerth, Schwens, Isidor, & Kabst, 2015). In contrast, studies seeking to understand the potential implications of an employee's intrapreneurial behavior for employee well-being and job performance are lacking. Yet, because employee intrapreneurial activities are the microfoundation of intrapreneurship, the costs and benefits of such behavior for employee well-being and job performance are important to address (Belousova & Gailly, 2013; Ireland, Covin, & Kuratko, 2009). Our study aims to expand the current intrapreneurship literature to the individual level by providing theoretical and empirical insights

into how an employee's intrapreneurial behavior, a phenomenon we coin *employee intrapreneurship* (EI),¹ relates to employee well-being and job performance.

The contribution of this study to the literature is threefold. First, this article adds to the current literature by providing empirical insights into how EI relates to positive and negative facets of employee well-being, namely, work engagement and exhaustion, and different types of indicators of employee job performance (Fineman, 2006), namely, innovativeness, in-role performance, and work avoidance. Second, we contribute to the theoretical development of the job demands–resources (JD-R) theory by testing the generalizability of the motivational process and the health impairment process in the context of EI (Bakker & Demerouti, 2014, 2017). Specifically, we test and expand its core predictions regarding two separate pathways relating employee behavior at work, employee well-being, and job performance. Insights into these processes are important for management and employees themselves (Grant & Ashford, 2008). Third, empirical research on how employee characteristics and behavior interact is scarce. Yet, such research is needed to advance our understanding of antecedents of well-being and performance at work (Barrick & Mount, 2005). We use reinforcement sensitivity theory (Corr, 2004) to examine how dispositions (i.e., sensitivity toward rewards and punishment) qualify the impact of EI on well-being and performance. In addition, we show the incremental value of this neuro-

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Jason C. Gawke and Marjan J. Gorgievski, Department of Work and Organizational Psychology, Erasmus University Rotterdam; Arnold B. Bakker, Department of Work and Organizational Psychology, Erasmus University Rotterdam, and Department of Industrial Psychology and People Management, University of Johannesburg.

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Correspondence concerning this article should be addressed to Jason C. Gawke, Department of Work and Organizational Psychology, Erasmus University Rotterdam, Woudestein, Mandeville Building, Room T16-16, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands. E-mail: gawke@fsw.eur.nl

¹ To avoid semantic confusion with the firm-level concept of intrapreneurship, we use the term *employee intrapreneurship* when referring to the intrapreneurial activity of an individual employee.

biological rooted theory for research in the field of occupational health psychology.

Theoretical Background

Employee Intrapreneurship

Employees' intrapreneurial behaviors have been a topic of interest since the 1980s (Pinchot, 1985) because of their potential to contribute to two important organizational outcomes, namely, new venture creation (i.e., the creation of new business for the organization) and strategic renewal (i.e., the renewal or alteration of processes to enhance an organization's ability to react to internal and market developments; Guth & Ginsberg, 1990; Morris, Kuratko, & Covin, 2011). To date, intrapreneurship has most often been discussed in relation to the benefits for the organization. Research on intrapreneurship at the employee level (i.e., EI) has been less extensively studied. Moreover, employee intrapreneurial behaviors have often been defined rather broadly as employee activities characterized by showing initiative, taking risks, and developing novel ideas (Bolton & Lane, 2012; De Jong, Parker, Wennekers, & Wu, 2013). Although such a conceptualization provides us with an understanding of the degree to which employees have an intrapreneurial orientation, this conceptualization is too broad to enable a clear distinction from other proactive work behaviors (for a review, see Parker & Collins, 2010).

Recently, Gawke, Gorgievski, and Bakker (2017) proposed a conceptualization of EI that better articulates its defining features and more clearly differentiates it from other proactive work behaviors. Taking Guth and Ginsberg's (1990) firm-level definition of intrapreneurship as a starting point (see also Morris et al., 2011), they conceptualized EI as an individual employee's agentic and anticipatory behavior aimed at creating new businesses for the organization (i.e., venture behavior) and enhancing an organization's ability to react to internal and market advancements (i.e., strategic renewal behavior). Following this conceptualization, we position EI as a specific type of proactive behavior that is related to organizational change and improvement (similar to, for instance, innovative work behaviors) and differentiate it from proactive concepts that focus on achieving compatibility between one's own attributes and the organizational environment (e.g., job crafting).

Moreover, EI can be differentiated from related proactive behaviors, such as innovative work behaviors (i.e., the creation of new and useful products, services, and processes; Janssen, 2000), because EI is not always innovation-related (Antoncic & Hisrich, 2003). For example, intrapreneurial activity may enhance an organization's ability to take risks and seize opportunities (e.g., scanning for environments with no fast-food services to establish a prime new outlet for a fast-food chain). Although such activity is central to intrapreneurship, it is not considered innovative, as no novel processes, services, or products are created. In addition, EI can be distinguished from organizational citizenship behavior (i.e., a type of extrarole work behavior promoting effective functioning of the organization; Organ, 1988) in its specific emphasis on new venture creation and strategic renewal.

Job Demands–Resources Theory

To investigate how EI may relate to employee well-being and job performance, we build on JD-R theory (Bakker & Demerouti, 2014, 2017). JD-R theory, which is a recent extension of the JD-R model (Bakker & Demerouti, 2007), proposes that well-being and performance at work are explained by two independent pathways, namely, the motivational process and the health impairment process. Central to the motivational process is that employees need to have sufficient resources to thrive at work. Resources are physical, psychological, social, or organizational aspects of work that help employees achieve work goals, reduce job demands, and stimulate personal growth, learning, and development (Bakker & Demerouti, 2007). As such, when employees have sufficient resources available at work, they will experience a motivational reaction toward their job that is characterized by vigor, dedication, and absorption (i.e., work engagement; Schaufeli & Bakker, 2004), which in turn fosters job performance (Christian, Garza, & Slaughter, 2011). In contrast, the health impairment process is set into motion by job demands. Job demands are aspects of the job that require sustained physical, emotional, or cognitive effort (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Subsequently, job demands are associated with psychological costs, such as exhaustion at work (i.e., an extreme form of fatigue at work), which in turn hampers job performance (Demerouti, Bakker, & Leiter, 2014).

The present study focuses on in-role performance, innovativeness, and work avoidance as criteria of both the motivational process and the health impairment process. We argue that these performance indicators are particularly relevant to examine the costs and benefits of EI. Specifically, in-role performance reflects how an employee accomplishes core job tasks and is often used to evaluate employee performance (Griffin, Neal, & Parker, 2007); innovativeness captures the creation of new ideas for an organization (Janssen, 2000) and is considered an important outcome of EI for an organization (McFadzean, O'Loughlin, & Shaw, 2005); and work avoidance is a form of workplace deviance and reflects poor attendance without a legitimate reason (Gruys & Sackett, 2003). The latter indicator may provide us with direct insights into the possible negative effect of EI for performance (Fineman, 2006).

Building on JD-R theory, we propose that EI can trigger both the motivational and health impairment processes and can thus have both benefits and costs for employees. According to JD-R theory, employee work behaviors can increase employee work engagement through personal goal achievement at work (i.e., increasing personal resources such as self-efficacy) and through proactively crafting a more resourceful work environment (i.e., increasing job resources such as task variety). Although scarce, recent quasi-experimental studies support the premises of JD-R theory on how work behaviors can affect well-being at work. For instance, the intervention study of Van Wingerden, Bakker, and Derks (2017) showed that participants who had learned how to proactively craft their job demands and resources reported significantly higher levels of work engagement after the intervention compared with before the intervention, whereas the control group showed no change over time. However, work behaviors may simultaneously result in exhaustion, through increasing work demands. For example, going beyond the line of duty to expand an organization's business or volunteering to take on additional responsibilities may

increase work stress and workload. For instance, Bolino, Hsiung, Harvey, and LePine (2015) showed that citizenship behaviors (e.g., helping others) increased workload to such an extent that employees felt worn out and tired.

The Motivational Pathway

In line with the JD-R premise regarding the motivational process, we argue that EI may relate to increased performance and decreased work avoidance, through high levels of work engagement (i.e., the experiences of absorption, dedication, and vigor). Drawing from the work of Bakker and Demerouti (2014) and Baumeister, Vohs, DeWall, and Zhang (2007), we argue that EI may foster experiences of absorption, dedication, and vigor at work because it contributes to personal goal achievement and a more resourceful work context. For instance, engaging in EI may entail proactively conceptualizing a new service to reach a new market (McFadzean et al., 2005). The subsequent appraisal that one's self-initiated effort may have contributed to the achievement of such a goal may result in increased positive affect (Bandura, 1997) and energy at work (i.e., vigor). Such experiences may increase employees' capability to handle job requirements more effectively (Kanfer, 1990). In addition, involvement in new projects, which is characteristic of EI, will presumably offer ample opportunities for task and skill variety, which is known to positively increase employees' immersion (i.e., absorption) and enthusiasm at work (i.e., dedication; Bakker & Demerouti, 2014). As a result, employees' innovative output may be increased, as high levels of immersion and dedication allow them to expend more discretionary effort and capitalize on created opportunities.

Although ample research has confirmed the positive relationship between work engagement and in-role performance and innovativeness (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Christian et al., 2011) and has shown that work engagement negatively relates to counterproductive work behaviors (Sulea et al., 2012), only a few studies tentatively supported the notion that EI may foster work engagement. A qualitative study by Marvel, Griffin, Hebda, and Vojak (2007) based on 24 in-depth interviews with employees in the technical sector showed that engaging in intrapreneurship enriched employees' work by being part of challenging projects. Subsequently, employees experienced motivation and enthusiasm in their work—two central indicators of work engagement (Bakker, 2011). Research on other proactive work behaviors that share some conceptual overlap with EI concurs with these findings. For instance, a longitudinal study by Simbula and Guglielmi (2013) among school teachers showed that organizational citizenship behavior related positively to work engagement measured 5 months later. Based on this argumentation, we formulated the following hypothesis:

Hypothesis 1: Work engagement mediates the relationships between EI and (a) in-role performance, (b) innovativeness, and (c) work avoidance.

The Health Impairment Pathway

In addition to the theorized beneficial effect of EI for work engagement and job performance, we argue that EI may also have a negative relationship with employee well-being and job perfor-

mance. Building on the health impairment process (Bakker & Demerouti, 2014, 2017), we reason that EI may be related to more exhaustion at work, because employee intrapreneurial behaviors require additional energy, time, and resources that may not directly contribute to formal work goals. For instance, EI often requires that employees "go the extra mile" (e.g., come in early for work or stay late) to meet the requirements of the job and the additional challenges that come with EI (Birkinshaw, 1997). As a result, employees may experience an increased sense of time pressure, anxiety, and worry at work (Schaufeli & Bakker, 2004). Furthermore, entrepreneurial projects often need to be terminated due to falling short of their goals (Clancy & Stone, 2005), evoking negative reactions in employees (Shepherd, Patzelt, & Wolfe, 2011). Subsequently, employees' increased exhaustion may negatively influence their job performance (Demerouti et al., 2014), as exhausted employees may no longer be able to handle core job tasks well (i.e., decreased in-role performance) and may, for example, decide to leave work early without a legitimate reason (i.e., increased work avoidance).

Although the negative relationship between exhaustion and job performance has been established in the literature, to our knowledge, research on the relationship between EI and exhaustion is lacking. Some empirical research exists on related proactive work behavior, which has shown possible implications for job strain. For instance, in their study among 98 couples, Bolino and Turnley (2005) found employee initiative (i.e., task-related behavior that goes beyond what is required or generally expected) to be positively associated with employee role overload, job stress, and work-family conflict. Furthermore, in their longitudinal study among 273 employees and their peers, Bolino and colleagues (2015) showed that engaging in organizational citizenship behavior is related to higher levels of fatigue over time. Thus, building on JD-R theory's health impairment process and the discussed literature on EI, exhaustion, and performance, we formulated the following hypothesis:

Hypothesis 2: Work exhaustion mediates the relationships between EI and (a) in-role performance, (b) innovativeness, and (c) work avoidance.

Reward and Punishment Sensitivity

Grounded in neurological research on brain activity in response to stimuli (Gray, 1991), reward sensitivity theory postulates that individual differences in reward sensitivity and punishment sensitivity predispose individuals' reactions to cues from the environment owing to increased vigilance toward positive and negative stimuli (Corr, 2004). Reward sensitivity, which has a biological basis in the behavioral approach system (BAS), refers to an individual's sensitivity toward potentially rewarding situations and positive outcomes. For example, for BAS+ individuals (i.e., individuals with a heightened sensitivity toward reward), monetary incentives have a stronger influence on task motivation and experiences of positive affect, as compared with BAS- individuals (Jackson, 2001). In contrast, punishment sensitivity, which has a biological basis in the behavioral inhibition system (BIS), captures the responsiveness toward potentially harmful or unpleasant stimuli. Accordingly, BIS+ individuals will react more strongly when faced with situations that involve pain, loss, or social disapproval as compared with BIS- individuals (Heponiemi, Keltikangas-Järvinen, Puttonen, & Ravaja, 2003).

In the context of our study, we propose that sensitivity toward rewards (BAS) strengthens the relationship between EI and work engagement. Specifically, because BAS+ individuals focus more on positive outcomes and are more sensitive to positive stimuli (Corr, 2004), we argue that they will have a stronger positive reaction to positive events that coincide with intrapreneurial behavior. For instance, such individuals will be more sensitive to (personal) goal achievement and enrichment of one's work (Marvel et al., 2007). Consequently, because personal goal achievement and job enrichment are known factors that foster work engagement (Schaufeli & Bakker, 2004), BAS+ individuals will be more inclined to experience work engagement as compared with BAS- individuals when engaging in EI. In contrast, we theorize that sensitivity toward punishment (BIS) strengthens the relationship between EI and exhaustion. We argue so because BIS+ individuals are more responsive to harmful and unpleasant stimuli (Corr, 2004) and may thus react more negatively to negative events that relate to intrapreneurial behavior, such as setbacks and increased work pressure (Shepherd et al., 2011). Subsequently, engaging in EI will be more exhausting for BIS+ individuals relative to BIS- individuals.

Although, to our knowledge, studies on the proposed moderating effect of BIS and BAS in the context of EI are absent, the influence of BIS and BAS on how tasks and events are experienced has been investigated. For instance, the experimental study of Heponiemi and colleagues (2003) showed that BAS+ individuals had higher levels of positive affect after engaging in an appetitive task (i.e., a task that positively reinforces participants' correct behavior) compared with BAS- individuals. In contrast, BIS+ individuals had higher levels of negative affect after completing an aversive task (i.e., a task that negatively reinforces participants' incorrect behavior) as compared with BIS- individuals. Furthermore, software developers with high levels of trait positive affect, a personality trait associated with BAS+ (Pickering & Corr, 2008), showed higher levels of work engagement regardless of the positive or negative events that happened during the day, as compared with individuals with low levels of positive affect (Bledow, Schmitt, Frese, & Kühnel, 2011). Thus, building on the discussed literature, we formulated two moderated mediation hypotheses:

Hypothesis 3a: BAS moderates the strength of the mediated relationship between EI and job performance (i.e., innovativeness, in-role performance, and exhaustion) via work engagement; the higher individuals score on BAS+, the stronger the relationship between EI and work engagement.

Hypothesis 3b: BIS moderates the strength of the mediated relationship between EI and job performance (i.e., innovativeness, in-role performance, and exhaustion) via exhaustion; the higher individuals score on BIS+, the stronger the relationship between EI and exhaustion.

Method

Procedure

Data were gathered with an online questionnaire among employees working in various private organizations. These employees were part of a panel database and had agreed to participate in research for pay. Firm size ranged from small (25–49 employees;

5%) to large (≥ 250 employees; 58%). To receive data from the employees and a significant peer, the data collection spanned two phases. First, 1,000 employees within this database were randomly selected and contacted via e-mail with a request to participate in this research. The e-mail contained a brief summary of the research and a link to the survey. Data were received from 535 respondents (response rate = 54%). Furthermore, the respondents were kindly requested to provide contact details of a colleague with whom they closely collaborated (i.e., with whom they had a work-related contact at least 3 days a week).

In the second stage, the "close collaborator" of the respondent was sent an e-mail containing a brief summary of the research, a kind request from their colleague (the respondent) to fill in a questionnaire about him or her, and a link to the online survey. Data were received from 243 close collaborators (total response rate = 24%). The complete data set, therefore, consisted of 243 pairs. This data set was used for the analyses. A nonresponse analysis showed that the participants who did not provide contact details of a close collaborator had slightly lower scores on work engagement and slightly higher scores on exhaustion, with absolute mean differences of 0.24, $t = 2.38$, $p < .05$, and 0.31, $t = -2.74$, $p < .05$.²

Participants

Participants worked in a variety of sectors, namely, industry (17%); property and construction (6%); sales (12%); retail (2%); transport (9%); accountancy, banking, and finance (7%); business, consulting, and management (11%); marketing, advertising, and public relations (3%); health care (18%); culture (1%); environment and agriculture (1%); and other (13%). The mean age of the participants was 41.5 years ($SD = 11.52$), 34% was female, and the majority of the participants had finished intermediate or higher vocational education (76.1%). On average, the participants had held their current job for 11 years ($SD = 9.31$) and had a total of 21 years of work experience ($SD = 12.67$). For the close collaborators, 40% were female, and the mean age was 41 years ($SD = 11.1$). They had worked at their current job for 9.5 years ($SD = 7.8$). The majority of the close collaborators had finished intermediate or higher vocational education (84.4%).

Measures

All measures were administered in Dutch. Measures that were not available in Dutch were translated from English to Dutch using the forward-backward translation method (Behling & Law, 2000).

EI was measured with the eight-item Employee Intrapreneurship Scale of Gawke, Gorgievski, and Bakker (2015, 2017). Four items

² Additionally, to examine to what extent the significant differences in mean values between employees who received other ratings versus those who did not may have influenced the results, we compared the interrelationship between employee intrapreneurship and work engagement/exhaustion between groups. First, we calculated the correlations between these variables in each group separately. Subsequently, we transformed the correlations in both groups using Fisher's r -to- z method to compare them (Weaver & Wuensch, 2013). The results showed that the correlations did not differ between groups; thus, it can be argued that attrition did not have a substantial impact on either the employee intrapreneurship-work engagement relationship, $Z = 1.47$ (not significant), or the employee intrapreneurship-exhaustion relationship, $Z = -.46$ (not significant).

measured the subdimension employee venture behavior (e.g., “I undertake activities to set up new units for my organization”), and four items assessed employee strategic renewal behavior (e.g., “I undertake activities to realize change in my organization”). Responses were given on a 7-point scale (1 = *never*, 7 = *always*). The Cronbach’s alpha of the total scale was .96. In their validity study among four independent samples, Gawke et al. (2015) showed that the Employee Intrapreneurship Scale has good factorial validity (i.e., EI consists of employee strategic renewal and employee venture behaviors). In addition, Gawke and colleagues showed that the scale has convergent and discriminant validity vis-à-vis employee innovativeness (Janssen, 2000), employee risk-taking behavior (Van den Brink, Koch, Ards, & Van Lankveld, 2004), and employee personal initiative (Frese, Fay, Hilburger, Leng, & Tag, 1997).

Work engagement was assessed with the nine-item version of the Utrecht Work Engagement Scale, including the three subdimensions of vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). Some example items are as follows: “At my work, I feel bursting with energy” (vigor), “I am enthusiastic about my job” (dedication), and “I am immersed in my work” (absorption). Responses were given on a 7-point frequency scale (1 = *never*, 7 = *always*). The Cronbach’s alpha of the combined scale was .95.

Exhaustion was measured with the five-item exhaustion subscale of the Maslach Burnout Inventory–General Survey (Schutte, Toppinnen, Kalimo, & Schaufeli, 2000). A sample item is “I feel used up at the end of the workday.” Items were scored on a 7-point scale (1 = *never*, 7 = *always*), and the Cronbach’s alpha was .92.

The *BAS* and the *BIS* were assessed with the validated Dutch version of the BIS/BAS scales of Carver and White (1994), created by Franken, Muris, and Rassin (2005). The *BAS* scale was assessed with 12 items representing sensitivity for rewards (four items, e.g., “When good things happen to me, it affects me strongly”), drive (four items, e.g., “When I want something, I usually go all-out to get it”), and fun (four items, e.g., “I’m always willing to try something new if I think it will be fun”). *BIS* was measured with five items, including “I worry about making mistakes.” Responses were given on a 4-point scale (1 = *totally disagree*, 4 = *totally agree*). The Cronbach’s alpha of the combined *BAS* scale was .79 and that of the *BIS* scale was .80.

Other-rated performance was operationalized using three scales capturing two types of work performance, namely, innovativeness and in-role performance, and one type of workplace deviance, namely, work avoidance. Additionally, the items of the scales were reformulated so that a colleague could rate the respondent.

Innovativeness was measured with nine items of Janssen (2000), representing three dimensions (three items each), namely, idea generation, idea promotion, and idea realization. The following are example items: “[name of participant] creates new ideas for improvements” (idea generation), “[name of participant] mobilizes support for innovative ideas” (idea promotion), and “[name of participant] transforms innovative ideas into useful applications” (idea realization). Responses were given on a 7-point frequency scale (1 = *never*, 7 = *always*). The Cronbach’s alpha of the combined scale was .95.

In-role performance was assessed with three items of Goodman and Svyantek (1999). A sample item is “[name of participant] achieves the objectives of the job.” Responses were given on a

5-point scale (1 = *totally disagree*, 5 = *totally agree*). The Cronbach’s alpha was .85.

Work avoidance was measured with five items taken from Gruys and Sackett (2003). A sample item is “[name of participant] is often absent from work without a legitimate reason.” Responses were given on a 6-point frequency scale (1 = *not characteristic for* [name of participant], 6 = *very characteristic for* [name of participant]). The Cronbach’s alpha was .92.

Data Analysis Strategy

Data were analyzed in R (Lavaan package; R Core Team, 2015). We applied path analysis using manifest variables³ to test our hypotheses (Preacher, Rucker, & Hayes, 2007). Path analysis is an adequate method to test our hypothesized conditional indirect effects, because it allows for analyzing in one coherent model whether a number of mediation effects hold under different conditions, thus decreasing chance capitalization in comparison with other methods that require separate analyses for each hypothesis (e.g., multiple regression analyses). To further reduce bias, we controlled for age, education, sex, and tenure of participants in all our analyses. Given that we have mediation and moderation hypotheses in the current study, we used bootstrapping to increase the accuracy of our analyses ($k = 2,000$; Preacher et al., 2007) and mean-centered model variables to facilitate a straightforward interpretation of the results of our moderation analyses (Shieh, 2011; Dawson, 2014). Model fit was based on the normed chi-square (χ^2/df), standardized root mean square residuals, incremental fit index, comparative fit index, Tucker–Lewis index, and root mean square error of approximation (Marsh, Hau, & Wen, 2004).

Results

Descriptive Statistics

Before testing our hypotheses, we created a “correlation model” containing composite measures of each of the eight variables in the study and the four control variables (i.e., age, education, sex, and tenure). All measures were allowed to correlate. Table 1 presents the descriptive statistics of all the study variables (means and standard deviations) and the correlation coefficients between the study variables and control variables. As can be seen in Table 1, all correlations were in the expected direction. Given that the control variables showed significant relations with our study variables, we have included the control variables in our analyses to test our hypotheses.

Hypothesis Testing

To test the mediation effects (Hypotheses 1 and 2), we modeled paths from EI to work engagement, exhaustion, innovativeness, in-role performance, and work avoidance. Additionally, we added

³ We analyzed our moderated mediation hypotheses with manifest variables to optimize the ratio parameter estimates and observations, thus increasing the power of our analyses (Jackson, 2003). We also tested our moderated mediation hypotheses with latent moderated mediation structural equation modeling (Little, Card, Bovaird, Preacher, & Crandall, 2007) and found similar results.

Table 1
Correlations Between Self-Rated and Other-Rated Study Variables (N = 243)

Construct	M	SD	Study variables							
			1	2	3	4	5	6	7	8
Study variables ^a										
Self-rated										
1. Employee intrapreneurship (Employee Intrapreneurship Scale)	3.36	1.45								
2. Work engagement	4.59	1.16	.50**	—						
3. Exhaustion	2.95	1.27	.38**	-.01	—					
4. BAS (reward sensitivity)	2.82	0.34	.52**	.48**	.22**	—				
5. BIS (punishment sensitivity)	2.68	0.52	.04	-.05	.41**	.19*	—			
Other-rated										
6. In-role performance	4.76	1.00	.06	.36**	-.21**	.14*	-.21**	—		
7. Innovativeness	4.60	1.17	.47**	.43**	.07	.33**	-.04	.38**	—	
8. Work avoidance	1.71	1.20	.30**	-.08	.50**	.12*	.20**	-.28**	.10	—
Control variables ^b										
Age	41.49	11.52	.04	-.14*	.23**	.05	.09	-.13*	.04	.27**
Education	4.41	1.06	.17**	.04	-.02	.12	-.08	.09	.21**	-.05
Sex	1.33	1.34	-.14*	-.17**	.04	-.07	.19**	-.10	-.11	-.03
Tenure	20.66	11.67	-.05	.13*	-.26**	-.06	-.08	.13*	-.04	-.27**

Note. BAS = behavioral approach system; BIS = behavioral inhibition system.

^a Results are based on correlations in the correlation model. ^b Control variables represent age, education, sex, and tenure of the participants.

* $p < .05$. ** $p < .01$.

paths from work engagement and exhaustion to innovativeness, in-role performance, and work avoidance. This formed our “mediation model.” All relationships were controlled for age, sex, education, and tenure. Correlations were allowed between the exogenous variables (i.e., the variables that were not predicted by any other variable) and between work engagement and exhaustion. Because the mediation model was fully saturated, it showed a perfect fit to the data.

To test Hypothesis 1, according to which EI has a positive indirect relationship with innovativeness and in-role performance and a negative indirect relationship with work avoidance, we first examined the significance of the paths of the mediation model. The results showed significant paths from EI to work engagement ($\beta = .49, p < .01$) and, subsequently, from work engagement to innovativeness ($\beta = .26, p < .01$), in-role performance ($\beta = .38, p < .01$), and work avoidance ($\beta = -.19, p < .01$).

To examine the significance of the indirect pathways (i.e., β_{indirect}) between EI and performance through work engagement, we followed Shrouf and Bolger (2002) and examined the strength of the product of the pathway from EI to work engagement and the pathway from work engagement to each of the performance measures (i.e., innovativeness, in-role performance, and work avoidance). The results support Hypothesis 1: The indirect relationships between EI and the criteria via work engagement were all significant, namely, for innovativeness, $\beta_{\text{indirect}} = .10, p < .01, 95\%$ confidence interval (CI) [.05, .16], and for in-role performance, $\beta_{\text{indirect}} = .13, p < .01, 95\%$ CI [.07, .18]. For work avoidance, there was a negative indirect relationship, as hypothesized, $\beta_{\text{indirect}} = -.09, p < .05, 95\%$ CI [-.15, -.02]. Thus, engaging in EI was positively related to work engagement, which in turn was related to higher levels of innovativeness and in-role performance and lower levels of work avoidance.

Before testing Hypothesis 2, in which we proposed that EI had a negative indirect relationship with innovativeness and in-role performance and a positive indirect relationship with work avoid-

ance via work exhaustion, we first examined the significance of the paths in the mediation model between EI, exhaustion, and performance. The results showed that EI was significantly related to exhaustion, $\beta = .41, p < .01$, and subsequently, exhaustion was related to in-role performance, $\beta = -.14, p < .05$, and work avoidance, $\beta = .35, p < .01$. The relationship between exhaustion and innovativeness was nonsignificant, $\beta = -.06, p = .36$.

To test whether the indirect relationships between EI and other-rated performance via exhaustion are significant, we again followed the method of Shrouf and Bolger (2002). The results supported Hypotheses 2b and 2c. The strength of the indirect relationship between EI and in-role performance through exhaustion was $\beta_{\text{indirect}} = -.04, p < .05, 95\%$ CI [-.08, .00], and the indirect relationship between EI and work avoidance was $\beta_{\text{indirect}} = .14, p < .01, 95\%$ CI [.07, .18]. Thus, the results indicated that engaging in EI was positively related to exhaustion, which in turn was related to lower levels of in-role performance and higher levels of work avoidance. Hypothesis 2b was not supported, because no relationship was found between exhaustion and innovativeness; the indirect relationship was also not significant, $\beta_{\text{indirect}} = -.02, p = .36, 95\%$ CI [-.06, .02]. In addition to the reported indirect relationships in the mediation model, we also found that EI was directly related to innovativeness, $\beta = .34, p < .01$, and to work avoidance, $\beta = .27, p < .01$. Results of the mediation analyses are presented in Figure 1.

To examine the moderating impact of sensitivity toward BAS and BIS on the relationships between EI and work engagement (Hypothesis 3a) and exhaustion (Hypothesis 3b), we created product terms of EI and BAS (EI \times BAS) and of EI and BIS (EI \times BIS). Subsequently, we included both interaction variables in the mediation model and added paths from EI \times BAS to work engagement and EI \times BIS to exhaustion. In addition, we added paths from both EI \times BAS and EI \times BIS to innovativeness, in-role performance, and work avoidance to address our moderated mediation hypotheses (Preacher et al., 2007). This formed the “mod-

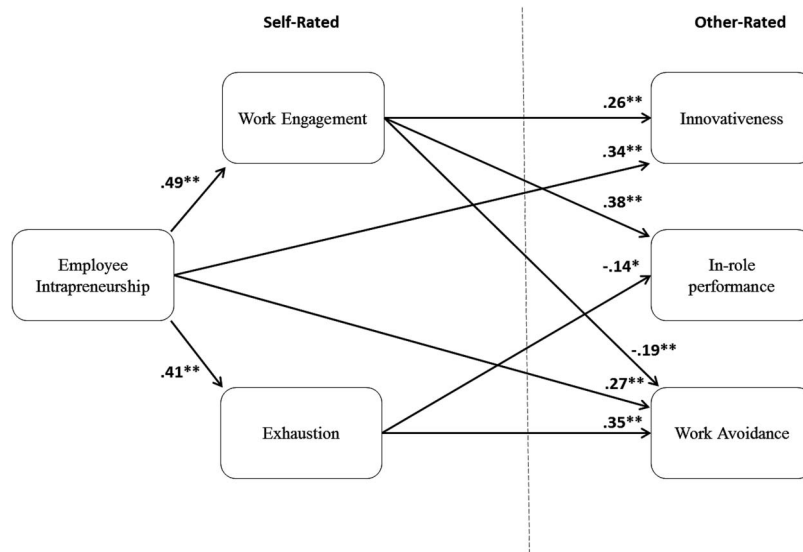


Figure 1. The standardized regression weights of the significant paths between latent variables in the mediation model. All paths in the model were tested simultaneously. * $p < .05$. ** $p < .01$.

erated mediation model.” The moderated mediation model showed a good fit to the data ($\chi^2/df = 2.52$, standardized root mean square residual = .02, comparative fit index = .99, incremental fit index = .99, Tucker–Lewis index = .88, and the root mean square error of approximation = .08; Marsh et al., 2004).

Before testing Hypothesis 3a, in which we proposed that sensitivity toward BAS strengthens the relationship between EI and work engagement and, in turn, job performance, we first examined whether the relationship between EI and work engagement was enhanced by employees’ BAS. In line with our predictions, the

higher an individual’s BAS+ scores, the stronger the relationship between EI and work engagement; the β of the interaction term was .13 ($p < .05$). The interaction effect is plotted in Figure 2. We continued to examine whether the interaction effect between EI and BAS was indirectly related to the performance outcomes via work engagement using Shrout and Bolger’s (2002) method. Consistent with Hypothesis 3a, we found significant indirect relationships for the interaction term of EI and BAS and innovativeness, $\beta_{\text{indirect}} = .07$, $p < .05$, 95% CI [.00, .13], and in-role performance, $\beta_{\text{indirect}} = .07$, $p < .05$, 95% CI [.00, .13], via work

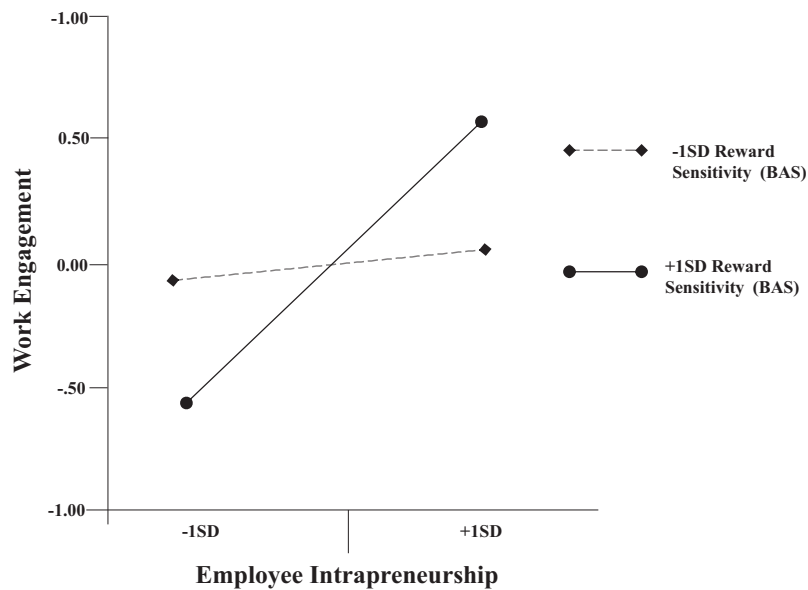


Figure 2. The interaction between reward sensitivity (behavioral approach system [BAS]) and employee intrapreneurship for work engagement. The slope is .05 ($SE = .25$, not significant) for the $-1SD$ reward sensitivity (BAS) group and .46 ($SE = .21$, $p < .05$) for the $+1SD$ reward sensitivity (BAS) group.

engagement. However, no indirect relation was found for work avoidance, $\beta_{\text{indirect}} = -.05, p = .07, 95\% \text{ CI } [-.08, .01]$. Thus, in line with Hypothesis 3a, the results indicated that employees' reward sensitivity enhanced the indirect relationship between EI and employee in-role performance and innovativeness via work engagement.

To test whether BIS strengthened the indirect relationship between EI and the performance measures via exhaustion (Hypothesis 3b), we first examined whether BIS moderated the relationship between EI and exhaustion. Consistent with our hypothesis, the higher an individual's BIS+ scores, the stronger the relationship between EI and exhaustion; the β of the interaction term was .18 ($p < .01$). The interaction effect is plotted in Figure 3. To examine Hypothesis 3b, we again followed Shrout and Bolger (2002) and tested the significance of the indirect relationship between the interaction term and all three performance outcomes via exhaustion. Consistent with Hypothesis 3b, we found that the indirect relationship between EI and work avoidance via exhaustion was positively moderated by BIS, $\beta_{\text{indirect}} = .09, p < .01, 95\% \text{ CI } [.03, .15]$. However, no indirect relationship was found on innovativeness, $\beta_{\text{indirect}} = -.01, p = .56, 95\% \text{ CI } [-.05, .03]$, or in-role performance, $\beta_{\text{indirect}} = -.02, p = .24, 95\% \text{ CI } [-.05, .01]$. Thus, the results indicated that only the indirect relationship of EI and work avoidance via exhaustion was strengthened by employees' BIS.

Discussion

The current study investigated the relationships among EI, employee well-being, and employee performance. In general, our findings suggest that EI is part of two concurrent processes that differentially relate to employee well-being and job performance. Specifically, EI positively relates to employee innovativeness,

in-role performance, and decreased work avoidance via work engagement (i.e., a motivational process). At the same time, EI relates to exhaustion (i.e., an energy depletion process; cf. JD-R theory; Bakker & Demerouti, 2014, 2017), which in turn relates to impaired in-role performance and increased work avoidance. Thus, our results indicate that EI can have both a beneficial and a detrimental relationship with employees' well-being and job performance. Furthermore, our results show that employees' reward sensitivity and punishment sensitivity influence their emotional and motivational responses to behavior in such a way that BAS+ individuals are more likely to have higher levels of work engagement when engaging in EI and BIS+ individuals are more likely to feel exhausted when engaging in EI. These findings have several important theoretical implications for literature on intrapreneurship, employee work behavior, and employee well-being.

First, our study provides empirical evidence for the benefits of EI for employee well-being and performance. Given that studies addressing the relation among employees' intrapreneurial behavior, employee well-being, and job performance are lacking, our results extend current studies of intrapreneurship to the individual level. In addition, our finding that work engagement and exhaustion are important explanatory factors in the EI–performance relationship indicates that the dual-process model based on JD-R theory provides a valid framework to explain how EI relates to job performance (Bakker & Demerouti, 2014, 2017). Regarding the motivational process, the consequences of work behaviors are expected to result in heightened levels of positive affect and motivation (such as work engagement), which in turn positively influence performance. Accordingly, we reason that EI can increase work engagement, because of its capacity to enrich working conditions through (personal) goal attainment at work and crafting beneficial job circumstances. For instance, when engaging in EI,

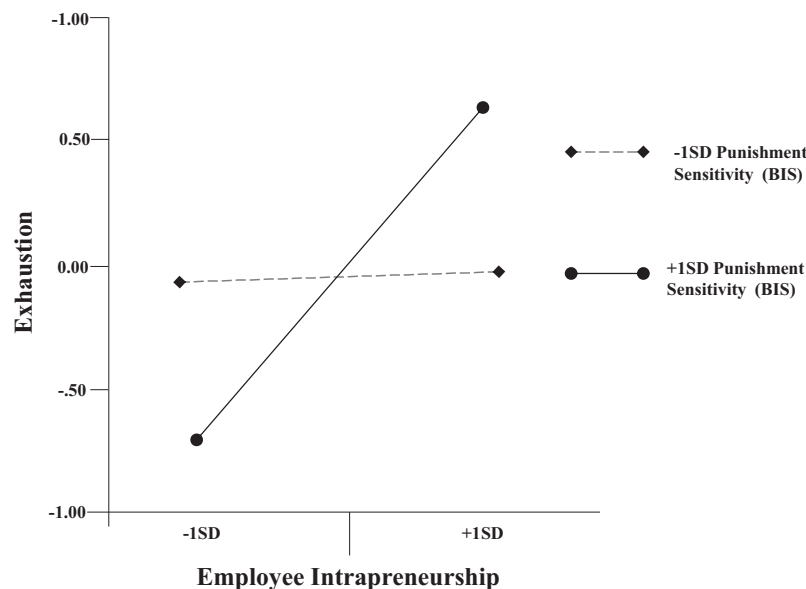


Figure 3. The interaction between punishment sensitivity (behavioral inhibition system [BIS]) and employee intrapreneurship for exhaustion. The slope is .03 ($SE = .16$, not significant) for the $-1SD$ punishment sensitivity (behavioral approach system [BAS]) group and .56 ($SE = .14, p < .01$) for the $+1SD$ punishment sensitivity (BAS) group.

employees initiate new projects, combine existing resources to develop new and novel ideas (McFadzean et al., 2005), and exchange information and resources with both internal and external stakeholders (Anderson & Jack, 2002). Such activities can result in new knowledge, experience, and self-insights and can increase the task variety and skill variety of work (Clegg & Spencer, 2007)—factors that are known to foster work engagement (Bakker, 2011). We encourage scholars to validate these premises by conducting longitudinal research on the role of EI in the motivational process.

Second, regarding the health impairment process, we provide new insights into the “dark side” of employee intrapreneurial behavior for employee well-being and performance. Our results indicate that EI may negatively influence job performance, that is, it may decrease in-role performance and increase work avoidance (no effect was found for innovativeness) through increased exhaustion. This implies that EI is simultaneously part of a motivational and an energy depletion process. In an energy depletion process, some work behaviors are reasoned to increase levels of exhaustion because they create obstacles at work (e.g., increased time pressure, work role overload), which in turn result in decreased performance (Bakker & Demerouti, 2014, 2017). In the context of our study, we reason that engaging in EI may coincide with extra working hours and additional responsibilities that do not always contribute to achieving formal work goals (Antoncic & Hisrich, 2003). Furthermore, entrepreneurial projects within organizations are often terminated due to falling short of the intended goals (Clancy & Stone, 2005), which evokes strong negative emotions in employees (Shepherd et al., 2011). Such factors are known to increase employee exhaustion, decrease in-role performance (Demerouti et al., 2014), and, over time, even result in chronic employee health impairment (e.g., burnout; Hobfoll & Shirom, 1993; Schaufeli & Bakker, 2004). Hence, similar to recent research that underlined negative effects of “positive” proactive behaviors (Bolino et al., 2015), we argue that it is important to also address the “dark side” of intrapreneurship. For instance, the reciprocal process of how EI can negatively affect employee well-being and employee performance over time (e.g., short-term positive outcomes vs. long-term negative outcomes) may be of heightened interest for further scholarly work.

Third, our results contribute to the theoretical development of JD-R theory (Bakker & Demerouti, 2014, 2017) by providing empirical evidence that the motivational and energy depletion pathways from behavior to well-being occur concurrently. Specifically, our results show that although EI is positively related to beneficial performance outcomes due to higher levels of work engagement, it may at the same time also hamper performance due to higher levels of exhaustion. This apparent paradox may be of heightened interest because it sheds new light on how work behaviors can simultaneously be beneficial and detrimental to employee well-being and performance. Thus, complementing the assumption of JD-R theory that a specific type of proactive behavior either increases work engagement (e.g., job crafting; cf. Tims, Bakker, & Derks, 2013) or increases exhaustion (e.g., self-undermining behaviors that harm performance; Bakker, 2015), we argue that some proactive behaviors, such as EI, may simultaneously be part of both processes. As such, we encourage scholars to address both processes of JD-R theory concurrently when examining the outcomes of work behavior for employees in future research. We believe that such an approach will provide new

insights into the consequences of work behavior, such as EI, and open up a new research agenda on factors influencing these processes (e.g., personal characteristics; see also next paragraph).

Finally, by applying reward sensitivity theory (Corr, 2004) to EI, we have shown first evidence for personal differences in the way EI relates to employee well-being (and, indirectly, job performance). Our findings indicate that employees who are more sensitive to rewards (BAS+) show higher levels of work engagement when engaging in EI relative to employees who are less sensitive. In contrast, for employees who are more sensitive to punishment (BIS+), EI relates more strongly to exhaustion. These findings are in line with experimental studies showing that BAS and BIS color the way individuals react to events (Heponiemi et al., 2003). In the context of our study, the results may imply that BAS+ employees are more responsive toward (personal) goal achievement or the enrichment of one’s work, thus fostering work engagement. In contrast, BIS+ employees may react more strongly to setbacks and may be more easily distressed by resistance when engaging in EI, resulting in higher levels of exhaustion. Consequently, we argue that to adequately examine how work behaviors affect employee outcomes, it is necessary to address how employee personality characteristics interact with work behavior. Hence, a fruitful avenue for future research would be to focus on how employee sensitivity toward reward and punishment may color the individual experience of work behaviors and the perception of the work environment to increase our understanding of the mechanisms that underlie employee well-being and performance.

Limitations

Despite its merits, this study also has some limitations. First, although the use of multisource data and path analyses provides us with insights into the costs and benefits of EI for employees, the cross-sectional design does not allow us to make causal inferences. For example, it is conceivable that EI is not only a predictor but also a consequence of work engagement (i.e., the two variables are reciprocal). Hakanen and colleagues (2008) showed that work engagement at the baseline was positively related to personal initiative and work unit innovativeness measured 3 years later. Furthermore, recent studies (Simbula & Guglielmi, 2013) have indicated that the relationship between motivation and behavior is reciprocal (Bakker & Demerouti, 2014). Therefore, it may be of heightened interest for future studies to examine the role of EI in the motivational process with a longitudinal study design and in more detail. Such studies should aim to incorporate at least three repeated measurement moments (Ployhart & Ward, 2011).

Second, our participants are Dutch employees who worked in a wide range of privately owned companies differing in firm size and sector. Although the premises of JD-R theory have been cross-culturally validated across a wide range of contexts (Bakker & Demerouti, 2014, 2017), cultural differences have been shown to affect individual appraisal of the consequences of EI (Hayton, George, & Zahra, 2002; Turró, Urbano, & Peris-Ortiz, 2014). Hayton and colleagues (2002) indicated in their review that the motives, values, and beliefs of individuals regarding entrepreneurial activity differ across cultures. Similarly, Turró and colleagues (2014) reported that entrepreneurial culture (e.g., popularity of entrepreneurial activities, funding for entrepreneurial activities

within a country) moderated entrepreneurial activity. Accordingly, we reason that culture may influence an individual's expectation of whether EI yields beneficial or harmful consequences, thus impacting the strength of the relationship between EI and work engagement versus exhaustion. Future studies may address this issue by conducting cross-cultural research and incorporating culture as a moderator.

Third, consistent with the motivational and health impairment process of JD-R theory, we have shown that EI simultaneously relates to positive and negative work outcomes via work engagement and exhaustion. Investigating the role of job characteristics was beyond the scope of our current study. Based on JD-R theory, reciprocal relationships can be expected among job characteristics (i.e., job demands and job resources), work behaviors (i.e., EI), work engagement, and exhaustion (Bakker & Demerouti, 2014, 2017). Including job characteristics in future studies may yield valuable insights into how intrapreneurial behavior may relate to work engagement and exhaustion, for example, through crafting more-resourceful versus more-demanding work environments.

Including job characteristics may also increase our understanding of the role of job types. For instance, job type may relate to job characteristics that affect employees' intrapreneurial capability and motivation (Bakker & Demerouti, 2014, 2017; Grant & Ashford, 2008). When favorable (e.g., high on autonomy), EI may boost innovative output or provide employees with leeway to better combine intrapreneurship with in-role activities. Hence, it can be expected that employees with favorable jobs are more likely to enter a positive gain spiral, whereas the energy depletion process would be buffered. This premise is supported in a study among managers showing that higher-level managers more effectively used organizational resources (i.e., managerial support, work discretion) to implement intrapreneurial ideas (Hornsby, Kuratko, Shepherd, & Bot, 2009). We encourage scholars to investigate the generalizability of our findings across job contexts in future studies.

Practical Implications and Conclusion

Besides theoretical implications, this study yields interesting practical implications. As organizations are becoming increasingly dependent on proactive employee behaviors, such as EI, to remain competitive in a dynamic environment (Grant & Ashford, 2008), it is important to understand the consequences intrapreneurial behavior may have for employees. Our results show that EI is a double-edged sword for employees, with the potential to boost motivation and performance but increase exhaustion, which in turn hampers performance. Top management should be aware that adopting and encouraging intrapreneurial behavior may yield beneficial and harmful consequences for employees.

Furthermore, we show that differences in employee dispositions may be essential to determine what effect intrapreneurial behavior may have on the employee. Specifically, our results show that individuals who have higher reward sensitivity (i.e., sensitivity toward potentially rewarding situations and positive outcomes) will most likely reap the benefits of engaging in EI. In contrast, individuals who are more sensitive to punishments (i.e., sensitivity toward potentially harmful situations and negative outcomes) will most likely experience detrimental effects of engaging in EI. Thus, it may be advisable to specifically target individuals based on their

reward sensitivity when promoting intrapreneurship. Not only will such a strategy potentially boost employees' engagement but it may also increase their innovative output for the organization and in-role performance. In addition, we argue that organizations should avoid motivating employees who are easily distressed to contribute to strategic renewal or new venture creation, as such activity may result in increased exhaustion and hamper performance (i.e., work avoidance).

In sum, building upon JD-R theory (Bakker & Demerouti, 2014, 2017) and reinforcement sensitivity theory (Corr, 2004), we showed that EI may have both beneficial and detrimental implications for employee well-being and performance. We also demonstrated that employee characteristics may play a key role in explaining when proactive behaviors can be expected to positively or negatively affect well-being and performance. We hope that our study will inspire future research on the personal costs and benefits of EI, as proactive work behaviors seem crucial in ever-changing modern organizations.

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