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van Triest, S.; Kloosterman, H.; Groen, B.A.C.

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Under which circumstances are enabling control and control extensiveness related to employee performance?☆

Sander van Triest^{*}, Helena Kloosterman, Bianca A.C. Groen

Amsterdam Business School, University of Amsterdam, PO Box 15953, 1001 NL Amsterdam, The Netherlands

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ABSTRACT

We investigate circumstances that influence the relation between formal controls and performance of operational employees. Building on [Adler and Borys \(1996\)](#), we distinguish enabling control from control extensiveness (few versus many controls). We examine whether and how the relationships of enabling control and control extensiveness with employee performance are moderated by task routineness and control preferences for both enabling control and control extensiveness. Using survey data from 517 employee-manager pairs, we find that enabling control is positively related to the performance of operational employees, especially for uncertain tasks. Contrary to our expectations, employee preference for enabling control does not moderate the relationship between enabling control and employee performance. Control extensiveness is negatively related to performance, but less negatively for uncertain tasks and for employees who prefer extensive controls.

1. Introduction

Organizations use management control systems to guide and motivate employees to put in effort towards achieving the organization's goals ([Cardinal et al., 2017](#); [Merchant and Van der Stede, 2017](#)). It has long been recognized that controls inherently have a guiding and a limiting aspect (e.g., [Marginson et al., 2014](#)). On the one hand, by identifying desired behavior and outcomes, they provide employees with guidance and direction, which helps improve their performance; on the other hand, they reduce employees' discretion and autonomy. This may negatively affect their motivation (e.g., [Gagné and Deci, 2005](#)), while it may also limit employees' opportunities to solve problems and innovate ([Mundy, 2010](#)). This results in an inherent tension in how employees may experience controls: as supportive, but also as constraining.

To understand how this tension can be resolved in favor of the supportive experience, [Adler and Borys \(1996\)](#) developed the concept of enabling versus coercive formalization. [Adler and Borys \(1996\)](#) categorize formalization along two dimensions: the degree of formalization and the type of formalization. The degree of formalization – the extent to which rules and procedures are present – is related to the nature of the operational processes, and a high degree of formalization should neither

be positive nor negative in and of itself. The type of formalization is the extent to which controls help employees deal effectively with contingencies: if they are supportive even when circumstances change, they are viewed as enabling, while [Adler and Borys \(1996\)](#) consider unqualified enforcement of formalization to be coercive.

[Adler and Borys \(1996, p. 62\)](#) define formalization as “written rules, procedures, and instructions.” This reflects the notion of formal controls used in the accounting and management literature ([Eisenhardt, 1985](#); [Merchant and Van der Stede, 2017](#); [Ouchi, 1979](#)). Formal controls are categorized into controls focusing on outcomes and controls focusing on behaviors, for which [Merchant and Van der Stede \(2017\)](#) use the terms results controls and action controls respectively. Studies that build on [Adler and Borys \(1996\)](#) in the field of accounting and control generally find a positive relationship between the enabling use of formal controls and performance (e.g., [van der Hauwaert et al., 2022](#)). However, with very few exceptions ([Groen et al., 2012](#); [Wouters and Wilderom, 2008](#)), existing empirical evidence on the relation between enabling control and performance is gathered from managers. Yet the concept of enabling control was developed by [Adler and Borys \(1996\)](#) using examples of workflow formalization in operational settings, such as an automobile assembly line or repair and maintenance activities, rather than hierarchical relationships between managers and their superiors. Employees

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^{*} Corresponding author.

E-mail address: s.p.vantriest@uva.nl (S. van Triest).

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more often have clearly defined job tasks, whereas managerial work typically entails uncertain tasks, where flexibility to deal with contingencies is more relevant (e.g., Hall, 2010; Mintzberg, 1971). Given the different natures of managerial and operational work, it is not clear whether observations regarding the effectiveness of enabling control at managerial levels translate to other types of employees. Furthermore, these studies mostly focus on enabling performance measurement, which is a component of results control (e.g., Ahrens and Chapman, 2004; Burney et al., 2017; Chapman and Kihn, 2009; Coyte, 2019; Englund and Gerdin, 2015; Goretzki et al., 2018; Mahama and Cheng, 2013; Wouters and Roijmans, 2011). We do not know of studies investigating enabling control that include action controls as part of the formal controls. Finally, previous studies do not include the degree of formalization as a separate dimension alongside the enabling use of controls. This means that it is not clear whether control extensiveness affects the relationship between enabling control and performance. For example, Ahrens and Chapman (2004, p. 288) see the use of ‘detailed head office instructions’ and ‘more preplanning’ as indicative of a coercive approach to control, while Jordan and Messner (2012, p. 560) discuss how the number of performance measures in a performance measurement system may affect the extent to which this system is experienced as enabling.

In this study, we investigate how formal controls are related to the performance of operational employees, i.e., “rank-and-file” employees who are not in any leadership position. In doing so, we contribute to the management control literature in four ways. First, we apply and refine existing theory on the relationship between enabling control and performance to argue how enabling control affects *employee performance*. Previous literature argues that enabling control results in higher *unit performance* because it allows managers to respond to contingencies (e.g., Chapman and Kihn, 2009), and that *managers’ individual performance* increases because enabling control increases their motivation (Van der Hauwaert et al., 2022). We extend this literature by including action controls in addition to results controls in our conceptualization of formal controls, and by articulating how the enabling use of both of these controls may affect employee performance both through a motivational channel and through an operational channel.

As our second contribution, we include Adler and Borys’s (1996) other dimension of formalization in our theorization and analysis: control extensiveness, that is, whether there are few or many controls in place. Adler and Borys (1996) argue that any negative effects of formalization result from the way controls are used rather than from the extent of formalization: if the controls in place match the requirements of the operational processes, the extent of control should in itself not affect performance. We develop theory to explain how control extensiveness may affect performance separately from the way in which controls are used. This provides a more complete view of the effect of formal controls on employee performance, and through this a more complete application of the theoretical framework of Adler and Borys (1996).

Third, we investigate whether contingencies affect the relationship between formalization and employee performance. As Adler and Borys (1996, p. 65) note, task and employee characteristics may affect whether employees will experience controls as enabling. As task characteristic, we investigate task routineness, the extent to which the job is analyzable and repetitive (Perrow, 1967). The employee characteristic is employee preference for enabling control. People differ in their preference for freedom in their job, and this may influence the effectiveness of enabling control, a type of control that gives employees more freedom (Greenberger et al., 1989). Investigating the moderating effect of these contingencies further increases our understanding of the relationship between enabling control and employee performance, both with respect to direction and strength of the relationship, and with respect to the mechanisms which may explain the relationship. For the same reasons, we also examine the influence of the moderators on the relationship between control extensiveness and employee performance.

Our fourth contribution is that we add to the very limited empirical literature on the relationship between enabling controls and employee performance, rather than managerial or unit performance. To the best of our knowledge, this relationship has only been studied in the case study of Groen et al. (2012); we provide the first quantitative evidence. The evidence on the direct relationship between the type and extensiveness of controls and employee performance, as well as any moderating impact of contingencies, should also be of interest to practitioners when they are deciding on their organization’s management control system design.

We test our theory using a survey among 517 employee-manager dyads. We measure the independent and moderating variables at the employee level, while the dependent variable, employee performance, is assessed by the employee’s supervisor. Adler and Borys (1996) stress that enabling control reflects how employees experience the control system, and like Wouters and Wilderom (2008), we therefore investigated employee perceptions of how the control instruments are used, instead of the design characteristics of enabling control that are the focus of many other studies (Chapman and Kihn, 2009; Hartmann and Maas, 2011; Mahama and Cheng, 2013). We define enabling perceptions of employees as the extent to which employees feel they are allowed to deviate from the controls used in their work when it suits the situation (Adler and Borys, 1996; Tessier and Otley, 2012). We find that enabling control perceptions are positively related to performance of operational employees; this relationship is more positive when employees have more uncertain tasks. However, contrary to our expectations, the relation between enabling control and employee performance is not more positive when employees have a higher preference for enabling control. We also find that the use of many controls is negatively related to performance. This relationship is less negative when tasks are uncertain, and when employees prefer many controls.

The remainder of the paper is organized as follows. In Section 2, we discuss the literature and develop our hypotheses. Section 3 provides the methodology, and Section 4 the results. We finish with a discussion in Section 5.

2. Theory and hypothesis development

Building on Adler and Borys (1996) and the related literature on enabling versus coercive control, we expect control type and extensiveness to relate to employee performance through two channels: an operational channel and a motivational channel. We develop our arguments by drawing parallels with the literatures on decentralization and empowerment. Table 1 summarizes our theory, hypotheses and results.

2.1. Enabling control and employee performance

Adler and Borys (1996) introduced the notion of enabling versus coercive formalization to understand when formalization is experienced as supporting or as restrictive. According to Adler and Borys (1996), the primary goal of a coercive control system is attainment of organizational goals by reducing goal divergence and information asymmetry between the employee and the organization. The enabling approach to control allows for adaptability, flexibility, and information sharing to help employees deal with uncertainties and contingencies. Tessier and Otley (2012, p. 175) summarize this as follows: “Enabling controls promote creativity and flexibility, while constraining controls reduce options.” Under an enabling approach, formal controls are codifications of best-practice routines, and deviations from these routines are allowed when it suits the situation.

We focus on employee perceptions of enabling control. Employees’ perceptions of control practices are important because employees base their behavior on their perceptions of the controls (Spreitzer, 1996; Franco-Santos et al., 2012) and the control practices will only affect outcomes, such as better job performance, if the employees are aware of these practices (Aryee et al., 2012; Den Hartog et al., 2013). Although

Table 1
Overview hypotheses.

	Independent variable	Operational channel	Motivational channel	Hyp.	Result
H1	Enabling control	+ Deal more effectively with contingencies	+ Increased empowerment	+	+
H20	Control extensiveness	+ Reduced ambiguity – Increased control burden	+ Increased goal clarity – Reduced autonomy, competence and meaningfulness	?	–
H3a	Enabling control * Routine tasks	– Enabling control is less necessary for routine tasks than for uncertain tasks	+ Routine tasks have a lower starting level of autonomy than uncertain tasks – Routine tasks have less potential to use freedom than uncertain tasks	–	–
H3b	Control extensiveness * Routine tasks	– Excessive control = Increased control burden does not outweigh increased clarity for routine tasks, but it does for uncertain tasks	– Excessive control exacerbates boredom	–	–
H4a	Enabling control * Preference	+ Fit with abilities of the employee	+ Fit with needs of the employee	+	0
H4b	Control extensiveness * Preference	+ Fit with abilities of the employee	+ Fit with needs of the employee	+	+

Dependent variable: Employee performance

there is generally a high degree of consensus between employees' perceptions of control practices when these employees are subject to the same system in the same work group (Kehoe and Wright, 2013), employee perceptions may differ from the intent behind the controls (Tessier and Otley, 2012). Specifically for enabling control, case studies have shown that employees can perceive controls as enabling while they have coercive characteristics (Väisänen et al., 2021; Jordan and Messner, 2012; Cäker et al., 2022) and vice versa (Van der Hauwaert and Bruggeman, 2013).

Adler and Borys (1996) suggest that the extent to which a control system is experienced as enabling is influenced by how the system is designed, as well as by the development and implementation process of the controls (Adler and Borys, 1996; Van Veen-Dirks et al., 2021; Wouters and Wilderom, 2008). Several case studies show how the enabling control design characteristics¹ help managers and controllers understand the control system design and how they can improve perceptions of control systems (Ahrens and Chapman, 2004; Englund and Gerdin, 2015; Goretzki et al., 2018; Jordan and Messner, 2012). Regarding the development process, systems designed externally by

¹ The four characteristics of an enabling control system are repair, internal transparency, global transparency, and flexibility. Repair refers to whether non-expert employees are allowed to fix breakdowns caused by system failures or user mistakes. Internal transparency refers to the degree to which users are provided with the logic underlying the processes and rules and what constitutes best practice, and global transparency is the extent to which users understand how their work fits into the processes of the organization as a whole. Flexibility refers to the discretion users have to modify their work (Ahrens and Chapman, 2004).

technical experts are more likely to be seen as coercive, while user involvement in the design process can foster enabling formalization (Goretzki et al., 2018; Jordan and Messner, 2012; Wouters and Wilderom, 2008). Finally, enabling implementation involves shared control of implementation in a participative process while coercive implementation is top-down and autocratic (Adler, 1999; Wouters and Wilderom, 2008).

Earlier studies find mostly positive effects of enabling control. Chapman and Kihn (2009, p. 157) find that an enabling approach to budgeting has a largely positive relation with business unit performance. Mahama and Cheng (2013) find an indirect relation between an enabling costing system and managerial performance through intensity of use of the costing system and empowerment. Groen et al. (2012) find that departmental performance goes up after employees develop their own enabling performance measures. Burney et al. (2017) find that enabling control reduces counterproductive work behavior among employees, although not for employees who identify themselves as making self-interested decisions without regard to moral standards, and/or perceive their unit's ethical work climate to have a collective focus on the self. Burney et al.'s (2017) negative finding fits with Adler and Borys's (1996, p. 80) notion that enabling procedures will be more beneficial when the organizational and employee goals are aligned.

Adler and Borys (1996) theorize that the positive effects of enabling control are a result of increased decision quality and efficiency, without the offsetting effects on employee motivation that coercive controls tend to have. We conceptualize the increased decision quality and efficiency as the operational channel, and higher levels of employee effort due to motivational effects as the motivational channel.

The operational channel is connected to the observation that enabling formalization "enable[s] employees to deal more effectively with [the] inevitable contingencies" in work processes (Adler and Borys, 1996, p. 69). Ahrens and Chapman (2004, p. 290) provide an example in a restaurant chain, where waiters are allowed to deviate from the target timings to interact with customers when they feel that this will increase customer satisfaction. Groen et al. (2012, p. 132) provide another example in a manufacturing setting, where enabling performance measures increase maintenance technicians' awareness of incidents as well as general improvement opportunities. For instance, the performance measures reveal leakages that otherwise remain unnoticed when the usage of compressed air suddenly increases more than can be explained by production increases. This information enables maintenance technicians to repair the implicated machine in a timely manner.

A similar argument can be made drawing on economic theory following the logic behind understanding decentralization to organizational units (e.g., Mookherjee, 2006). Providing higher-level managers with the right information to make a correct decision is difficult and costly in terms of activities and time. Awarding decision-making rights to managers with more knowledge of the local situation will enable them to react more quickly to local events, and therefore leads to better and quicker decision making (Milgrom and Roberts, 1992). Empirical results support the notion that higher information asymmetry is associated with more delegation of decision rights (e.g., Abernethy et al., 2004; Ecker et al., 2013).

Adler and Borys (1996, p. 80) suggest that the motivational channel links enabling control with performance because employees experience formal controls as "a valuable means to a desired end" rather than as "a negation of individual autonomy." This requires employees to value the organizational goals and have a high level of professionalism (Wouters and Wilderom, 2008). Groen et al. (2012) illustrate how enabling performance measures improve the attitudes of maintenance technicians towards taking improvement initiatives by making visible what performance effects can be expected. The motivation of the employees is further amplified when the performance measures confirm the usefulness of their efforts by showing a substantial performance increase. Van der Hauwaert et al. (2022) demonstrate that enabling control leads to autonomous motivation and performance of managers through feelings

of autonomy and competence.

The literature on employee empowerment provides further theoretical insight into how enabling control can increase employees' motivation to perform well (Chen et al., 2020; Gagné and Deci, 2005; Hall, 2008). When employees have more freedom in deciding on their activities, this may increase their psychological empowerment, which Thomas and Velthouse (1990) defined as intrinsic task motivation. The increase in task motivation is reflected in four cognitions (that is, assessments or interpretations by the employee) regarding the task's meaningfulness, the employee's competence in performing the task, the autonomy or self-determination the employee has in performing the task, and the employee's impact on the task outcomes. There is extensive empirical evidence that psychological empowerment is positively related to outcomes such as employee performance, innovation, and job satisfaction (e.g., Fernandez and Moldogaziev, 2013; Seibert et al., 2011; Spreitzer, 1995; Zhang and Bartol, 2010).² Mahama and Cheng (2013) find that the relation between managers' enabling perceptions of costing systems and task performance runs through two of the four dimensions of psychological empowerment: competence and self-determination.

Even though research at the managerial level suggests that enabling control is helpful, the question remains whether these findings are applicable to operational employees. While operational jobs vary in how much freedom employees have, managerial work is typically much less structured than operational work (e.g., Hall, 2010; Mintzberg, 1971).³ Therefore, flexibility to deal with contingencies may have a larger impact on what managers do in their daily work relative to employees. This means it is possible that the *operational* channel is less influential at the operational level, where the effects of enabling control on decision quality and efficiency may be smaller. We have no reason to expect differences between managers and operational employees with regard to the *motivational* channel. Altogether, we expect:

H1. There is a positive relation between enabling control and employee performance.

2.2. Control extensiveness and employee performance

Adler and Borys (1996) view the degree and type of formalization as two independent dimensions and they expect the extent of formalization will not affect employee outcomes when this extent is "technically" correct: "Positive attitudinal outcomes can be expected in organizations with a high or low degree of (technically required) formalization as long as the type of formalization is enabling. Negative outcomes are to be expected in organizations with a high or low degree of (technically required) formalization whenever the type of formalization is coercive." (Adler and Borys, 1996, p. 77) In other words, Adler and Borys (1996)

² Additionally, in an R&D setting, Gambardella et al. (2020) suggest that researchers with higher levels of autonomy can focus on those tasks that they value more highly, which may also increase their motivation. However, in a setting with shop-floor employees, enabling control will likely not extend to freedom in choosing *between* tasks.

³ Employees are typically working in a setting with fixed technologies, procedures and resources, and with far more deadlines, which means that an employee's situation will be much more limited in the possibilities to make use of any enabling freedom: the customer needs to be served, the machine needs to be repaired, the parts need to be inserted, the invoice needs to be paid, and the student needs to be taught, all right now or at least before the deadline. Yet the manager can decide to postpone a decision to a next meeting, or to start a small pilot project where the main customer base is not involved, or not to complete the internal strategy update report on time, or to have that difficult discussion with the employee next week rather than now. Additionally, managers may react to changes in the extent of enabling control by adjusting the way in which they manage their employees rather than their own activities, for example by tightening deadlines or sales targets for employees. However, employees do not have this option: the control choices will affect their work directly.

expect enabling control to lead to better attitudinal outcomes than coercive control, *independent* of how many controls are used. At the same time, the existing literature provides reasons why control extensiveness may actually be related to employee performance, although the direction of the relation is a priori unknown.

First, starting with the operational channel, controls are implemented to make sure that employees work in an effective and efficient way. Controls give employees clarity with respect to what they should do to reach the goals of the organization (Hall, 2008; Siverbo, 2022), making it easier to do the right things, and hence to perform well. As such, controls decrease role conflict and ambiguity (Jackson and Schuler, 1985) and through this increase job performance (Burney and Widener, 2007; Chenhall and Brownell, 1988; Hall, 2008; Marginson et al., 2014). However, at the same time, reacting to control information takes time and energy for employees, which may decrease their task performance as this time and energy cannot be used for their main work task (Schick et al., 1990; Siverbo, 2022; Van Loon et al., 2016).

Both the increased clarity of what is expected and the increased control burden are also important for the motivational channel (Siverbo, 2022). On the one hand, controls increase process, role, and goal clarity, which in turn increase the four dimensions of psychological empowerment (Hall, 2008; Spreitzer, 1996). On the other hand, controls restrict the autonomy of the employees, may diminish perceptions of their own competence as controls signal to employees that they are not capable of making decisions on their own, and may diminish perceptions of the task's meaningfulness when employees only know *what* they should do without properly knowing *why*. In this respect, Chen (2012) finds that more extensive rule constraints are related to negative work attitudes and Siverbo (2022) finds that control burden decreases self-determination of employees.

Since both the operational and the motivational channels can result in a positive or a negative effect, and we have no convincing empirical evidence on which effects generally prevail, we state our hypothesis in null form:

H2₀. There is no relation between control extensiveness and employee performance.

2.3. Contingencies impacting the effects of controls on performance

Building on contingency theory, Adler and Borys (1996, p. 65) suggest that it depends on the characteristics of both the task and the employee whether controls are associated with higher performance. The key task characteristic they identify is the routineness of the task, and the key employee characteristic is the fit between the attitudes of the employees and the tasks at hand. We conceptualize employee attitude with their preference for enabling control and their preference for extensive controls.

2.3.1. Task routineness

Task routineness reflects the extent to which a task is well understood, and is low in variety (Perrow, 1967). The accounting literature often refers to task routineness with the reverse concept of task uncertainty (Abernethy and Brownell, 1997). Tasks that are more routine are more repetitive and have fewer exceptions, and consequently the steps to follow in a routine job are clearer. Uncertain tasks are characterized by variety and are difficult to analyze or program. This implies that for more routine tasks it will be less difficult to provide guidelines on how to do the task, and consequently that it is easier to develop action controls. However, this does not mean that tasks with similar levels of task routineness will have similar levels of action control extensiveness. For example, Ryanair and Southwest Airlines are both very successful low-cost airlines. However, Ryanair is noted for its strict adherence to procedures and timelines, resulting in low job satisfaction with employees, but also short turnaround times and low costs. Southwest Airlines allows employees much greater flexibility whenever circumstances

require; its committed employees use this flexibility to achieve low costs (e.g., Gittell and Bamber, 2010). More generally, self-managing teams receive much authority in carrying out operational activities which may be highly programmable, and may be subject to tighter controls in other settings (Cohen & Ledford, 1994). For example, in home care, the Dutch care provider Buurtzorg has been very successful in using self-managing teams relative to care providers who use a traditional model with many rules and procedures which are also enforced (e.g., Martela, 2019).

To understand how task routineness may moderate the relationship between control type and performance, we again discuss the operational and motivational channels through which the control type is connected with performance. For routine tasks, it is relatively easy to codify best practices in controls as there are few exceptions and much repetition. In these circumstances, the controls will likely cover most contingencies (Abernethy and Brownell, 1997), which makes it less necessary to use controls in an enabling way. The opposite applies to uncertain tasks: for such tasks, providing employees with room to react to uncodified contingencies will likely have a positive impact on performance (e.g., Gambardella et al., 2020), similar to the beneficial effects of decentralization for unit managers when information asymmetry is high (Abernethy et al., 2004).

With respect to the motivational channel, the impact of task routineness is more ambiguous. On the one hand, routine tasks are often associated with less intrinsic motivation and lower performance relative to uncertain tasks, as they involve a small amount and variety of stimulation, and through this lead to boredom and lower experienced meaning (Hackman and Oldham, 1975; Häusser et al., 2014; Staats and Gino, 2012). This may mean that for employees with routine tasks, the freedom of enabling control will have a more substantial motivational effect than for employees in uncertain tasks. On the other hand, employees with routine tasks have fewer opportunities to actually use this freedom relative to employees with uncertain tasks, which may lessen the positive impact of enabling control on motivation.

Altogether, we expect enabling control is positively related to performance for uncertain tasks through the operational channel, while the relative impact through the motivational channel is ambiguous. This results in the following hypothesis:

H3a. The relation between enabling control and employee performance is less positive for routine tasks.

The operational and motivation channels also explain how task routineness moderates the relation between control extensiveness and performance. Starting with the operational channel, when tasks are more routine, they are more amenable to controls, but at the same time these controls are not always needed to provide guidance and reduce ambiguity. This makes the increased clarity of what is expected less relevant, while the negative influence caused by control burden is still present. However, for uncertain tasks, the operational channel may be more beneficial. The guidance given by controls to help employees reach the goals of the organization may outweigh the control burden, especially in uncertain situations where employees do not exactly know what would be the best way forward.

As to the motivational channel, routine tasks are inherently already clear, which means controls will not increase employee empowerment through increased clarity, as it should for uncertain tasks. Furthermore, when there are extensive controls, the autonomy reduction may take over and reduce motivation and performance. We expect this to be particularly detrimental to routine tasks that are already associated with lower levels of motivation due to low task variety (Häusser et al., 2014; Staats and Gino, 2012). A high level of control extensiveness will further reduce opportunities to create variety by changing aspects of activities. We expect this is less of an issue for uncertain tasks that per definition contain a lot of variety.

Altogether, this suggests that control extensiveness will have a more negative effect on motivation for routine tasks than for uncertain tasks. Hence, we expect task routineness to negatively moderate the

relationship between control extensiveness and performance:

H3b. The relation between control extensiveness and employee performance is less positive or more negative for routine tasks.

2.3.2. Control preferences

We expect control preferences to moderate the relation between employee control perceptions and performance. Although enabling control is generally seen as positive for employees, we consider it likely that employees differ in the extent to which they prefer enabling control. The organizational behavior and management literature shows there is substantial variation in the *desired* level of personal control (Greenberger et al., 1989; Ashford and Black, 1996). Personal control is the extent to which people believe they can influence job aspects such as variety of tasks performed, decisions as to when things will be done in the work unit, the quality of the individual's work, and performance standards in the unit (Greenberger and Strasser, 1986, p. 165). The construct "preference for enabling control" overlaps with "desired personal control" to the extent that being allowed to deviate from controls when it suits the situation is a form of influence on job aspects. Hence, we expect there to be variation in the extent to which employees prefer enabling control.

Starting with the operational channel, we expect employees who prefer enabling control to be the ones who best know how to deal with unforeseen circumstances. For example, research on compensation schemes finds that job seekers with an internal locus of control, i.e., persons who believe that they have control over events in their lives, prefer more flexible benefits arrangements (Cable and Judge, 1994). Demands-ability fit theory notes that employee performance is likely to suffer when a person does not have the necessary abilities to meet situational demands (Kristof-Brown et al., 2005). For enabling control, this would mean that persons who do not know how to deal with unforeseen events likely perform worse when controls are enabling and vice versa. Some evidence for such a performance effect based on the knowledge, skills and abilities of employees is provided by Lau et al. (1995) and Lau and Tan (1998). They find that budget emphasis has a positive relation with performance for managers in the financial services sector (Lau et al., 1995), but a negative relationship for manufacturing managers (Lau and Tan, 1998). Lau and Tan (1998) suggest that, due to their better understanding of accounting, financial services managers are more receptive to budget emphasis than non-financial services managers.

For the motivational channel, we also build on the organizational psychology literature investigating the fit between individuals and their jobs. Reviewing the person-environment fit literature, Kristof-Brown et al., 2005 find a positive relationship between the extent to which employees' needs, desires, or preferences are met by the jobs they perform, and job satisfaction and overall performance. We expect a similar positive relation with performance when the controls used match the control type employees prefer. Several experimental studies have found that participants self-select into different compensation schemes based on their risk attitude (e.g., Chow, 1983; Waller and Chow, 1985): for example, Cadsby et al. (2007) find that more risk-averse participants more often choose a fixed compensation scheme. Additionally, they find that these more risk-averse participants have lower productivity under pay for performance than under a fixed (non-incentivized) compensation scheme, suggesting that performance is lower when control preferences are not met by the control system.

We expect similar effects for preference for extensive controls. As to the operational channel, employees likely prefer the use of many controls when they know how to deal with them, in which case the controls are more helpful in elevating performance. As to the motivation channel, employees with a need for clear expectations and work procedures are more likely to be motivated by controls than employees to whom controls feel like a burden.

H4a. The relation between enabling control and employee

performance is more positive when employees have a preference for enabling control.

H4b. The relation between control extensiveness and employee performance is more positive or less negative when employees have a preference for a high level of control extensiveness.

3. Research method

3.1. Sample and data collection

Our research question focuses on finding out under which circumstances controls are related to the performance of operational employees. To answer this question, we require variation in the control system and in the nature of the employee's tasks. Consequently, our target sample consists of operational employees without restrictions regarding job or industry type. The broad sample of employees we need for this study implies that we do not have a sampling frame to draw from. According to the meta-analytic study of [Derfuss \(2009\)](#), the results of studies with such a non-random sample are comparable to studies with random samples. To prevent common source bias and to measure the variables at the most relevant source, we target dyads of operational employees and their managers.

We recruited participants through the networks of graduate students of an MSc Accountancy and Control program at a large European university. Students who wanted to do survey research for their master's thesis were given the opportunity to participate in this survey project in which several unique research questions were combined in one survey. To be eligible to use the total dataset for their master's thesis, each student needed to provide the names and email addresses of at least 10 employee-manager pairs of respondents.⁴ Potential respondents received an invitation email from the lead researcher with a link to the online survey (see Appendix A for the invitation text). Since we need to be able to link responses from employees and managers, we could not use anonymous surveys. We ensured respondents that their responses would only be visible to the researchers employed at the university. The graduate students were provided with the anonymized dataset.

We sent out invitation emails to 615 respondent-employee pairs, so 1230 participants in total. We received a total of 1131 completed responses for a response rate of 92%. With 575 employee responses and 556 manager responses, the number of completed dyads with both employee and manager response was 533, representing a response rate of 87% at this level. We have excluded 8 observations from dyads at departments that are not located in the university country, although this has no impact on our results. Because of missing values, the final sample size is slightly lower, at 517 observations.

As may be expected for operational employees, a substantial share of our sample reports has only completed high school (31%), with a further 45% having completed a bachelor's, and 24% a master's or higher. Furthermore, 53% of employees reports a tenure of up to three years, with only 9% having a tenure of over 20 years.

Demographics not used in the main analyses include the following: size of the organization (24% below 50 employees, 10% 51–100, 39% 101–1000, 27% 1000 + employees), gender (employee 44% female, manager 33% female), and age (below 25: employee 23%, manager 3%, 26–35: 41% and 25%, 36–45: 16% and 30%, 46–55: 15% and 29%, over 55: 8% and 13%). Compared with the total working population, our sample has more respondents between 26 and 35 and fewer respondents

⁴ Managers were not allowed to participate multiple times in the study, so each manager in the sample is unique (as is each employee).

of over 55.⁵ Including any of these variables in our regression analyses does not affect the statistical inferences.

We asked employees to briefly describe their jobs. Descriptions included call center employee, administrative assistant, customer service employee, nurse, fashion store salesperson, stock clerk, junior controller, marketer, mathematics teacher, planner, lawyer, medical doctor, and consultant. This confirms that we achieved a broad distribution in the nature of the jobs and the organization. Additionally, we asked respondents to indicate their organization's industry. While not the objective of the sampling frame, the distribution over the industries appears to be reasonably comparable to the national distribution.⁶

3.2. Instruments

Appendix B presents the survey items used in this study. Respondents could choose between a Dutch and an English version of the questionnaire.⁷ Employees answered the questions about the type and extensiveness of control in their job, routineness of their job, their control preferences, their education, and their job tenure. Managers answered the questions about the performance of the employee and the accuracy of the appraisal system. The use of respondent pairs increased the construct validity of our variables, because each variable was measured at the relevant level. Furthermore, the design reduced potential common source bias. Additionally, we followed conventional guidelines to reduce common method bias ([Podsakoff et al., 2003](#)): questions were grouped per construct, with a brief introduction—an approach that improves the quality of the data because it helps respondents better understand the items ([Frantom et al., 2002](#)). The constructs were also measured in an order that differed from that of the model.

We pretested the survey set-up using an online sample from Prolific ([www.prolific.uk](#)) of some 90 respondents who completed the employee version of the survey. This pre-test provided us with reassurance that it was possible to complete the survey in a reasonable amount of time and that the respondents understood the individual items: alphas for the multi-item constructs were comparable to the main sample.

3.2.1. Performance

Weighing all pros and cons, [Otley \(2016\)](#) recommends using a managerial estimate of effectiveness as a dependent variable in contingency research, especially when reports on the nature of the system come from another source. We use the manager's assessment of their employee's performance. Since we have no restrictions regarding the type of job activities, we use the generic role-based job performance scale of [Welbourne et al. \(1998\)](#), which asks for the rating of employee performance with respect to the quantity, quality, and accuracy of the employee's work, and the employee's service orientation. Cronbach's alpha is 0.70, which is similar to the alphas in the various samples investigated by [Welbourne et al. \(1998\)](#). The average performance score provided by the manager is 4.19 (SD=0.52) on a scale of 1–5. This is similar to that of [Welbourne et al. \(1998, p. 546\)](#), who report scores around 4.25 on a scale of 1–5 over various samples.

⁵ We retrieved the age distribution of the working population at the time of our study from the national statistics office of our sample country, and compared this with the distribution of the total sample of employees and managers: below 26, 15% national and 13% sample, 26–35 21% and 33%, 36–45 20% and 23%, 46–55 24% and 22%, over 55 20% and 11%.

⁶ [Table 3](#) presents the shares of each industry in our sample. When we matched our categorization with the industry categorization of the national statistics office, the country workforce share was Production 0.16, Retail and Services 0.27, Finance 0.03, B2B Services 0.25, Health 0.16, Education 0.06, Government 0.06. Thus, while there are substantial differences, a share of 29% of our sample in B2B services is not excessive.

⁷ Among the 517 pairs of respondents, 35 employees and 40 managers completed the survey in English. When we redo the analysis without these respondents, results and inferences are similar.

3.2.2. Control perceptions

For this study, we need a scale that measures employee perceptions of the controls used in their job regarding (1) control type and extensiveness and (2) both action and results controls. While there are several scales in the literature to measure enabling control (Burney et al., 2017; Chapman and Kihn, 2009; Hartmann and Maas, 2011; Mahama and Cheng, 2013; Van der Hauwaert et al., 2022; Wouters and Wilderom, 2008), they do not fit our purposes. The scales tend to target managers rather than employees, and typically focus on specific parts of the management control system that are difficult to identify and assess for an employee: operational employees such as an administrative assistant or a sales staff member in a retail store are not involved in their department's budgeting process, nor do they use information from the organizational costing system. More importantly, they will likely not have direct experience with these systems: the level of transparency in the budgeting process will not affect operational employees' daily jobs. The scales of Wouters and Wilderom (2009) and of Burney et al. (2017) do target operational employees, but both scales focus on performance measures only.

Most scales rely on the four design characteristics of enabling controls that Adler and Borys (1996) identify to assess the extent of enabling control. However, since we are interested in the extent to which controls are *experienced* as enabling by employees rather than whether they are *designed* to be experienced as enabling, we choose to directly measure the enabling perceptions of employees. Following Adler and Borys (1996) and Tessier and Otley (2012, p. 175), we define enabling perceptions of employees as the extent to which employees feel they are allowed to deviate from the controls used in their work when it suits the situation.

We develop our measures of control perceptions through various iterations (Kloosterman, 2019). After a thorough review of the literature on formal controls, a list of 26 items was developed measuring perceptions of control type and extensiveness with respect to action and results controls. These items were pre-tested using a sorting task among 14 operational employees by describing the constructs (such as enabling action controls) and asking them to match each item with the underlying constructs. This pretest methodology increases the validity of newly developed scales and prevents wasting respondents on invalid items as they discriminate measures that would be retained in a subsequent confirmatory factor analysis from those that would not (Anderson and Gerbing, 1991). We selected the 4 items with the highest number of correct matches for each construct. We next asked 20 different operational employees to review these items on clarity and content, leading to minor adjustments in the wording. The items were then used in a different survey project with over 500 respondents. For the current study, we select the three items with the highest factor loadings for each construct to reduce the survey length.

A factor analysis on the items results in four factors with an eigenvalue larger than one, which mostly map into the expected categories of *action control extensiveness*, *action control type*, *results control extensiveness* and *results control type*. Our theory focuses on control type as well as control extensiveness as a whole, and we expect that control type and control extensiveness are two distinct constructs. When we force a two-factor extraction, the resulting factors represent control extensiveness and control type (see Panel A of Table 2), which supports our theoretical reasoning.⁸ Cronbach's alpha for control extensiveness is 0.74. Cronbach's alpha for control type is 0.59, which is just below conventional norms. Cronbach's alpha can be increased to 0.62 when the item "In our

⁸ Using the Kaiser criterion gives a four factor solution representing action control extensiveness, results control extensiveness, enabling action control and enabling results control. A similar pattern is visible when we include all other variables except for control preferences in the analyses. Including control preferences distorts the factor analysis, because they are measured with the same items as the employee perceptions of the current controls.

organization, goals/targets are essentially a guideline rather than a true commitment" is removed, which also loads low in the factor analysis. For the analyses, we use the full scale for enabling control. Results are similar when we drop the low loading item from the scale construction.

3.2.3. Task routineness

To measure task routineness, we use Withey et al.'s (1983) well-known and frequently used scale for task uncertainty. The factor analysis in Panel B of Table 2 shows a two-factor solution with respect to the underlying items, reflecting task analyzability (3 items, alpha 0.74) and task repetitiveness (3 items, alpha 0.84). This two-factor solution is comparable to what other studies find (e.g., Dekker et al., 2013). Like other studies (e.g., Hartmann and Slapničar, 2012), our main analysis uses the average of the total scale, for which Cronbach's alpha is 0.81.

3.2.4. Control preferences

To measure control preferences, we use the same items as for control perceptions, but now we ask for the *preferred* instead of *current* level. The factor analysis in Panel B of Table 2 shows a four-factor pattern reflecting action and results control type, and action and results control extensiveness. When we consider the items for control preferences only and force a two factor extraction, this leads to one factor representing control extensiveness (Cronbach's alpha 0.73) and one factor representing control type (Cronbach's alpha 0.59). We calculate the control preferences to match the calculation of the control perceptions: a preference for a high level of control extensiveness is calculated by averaging the six items loading on the control extensiveness factor, and preference for enabling control is calculated by averaging the six items loading on the control type factor.

3.2.5. Control variables

We control for the employee characteristics education and job tenure. Previous literature has established that these are important determinants of employee performance (e.g., Ng and Feldman, 2009, 2010). We are interested in explaining employee performance beyond these well-known factors. Furthermore, education and job tenure may influence our moderating variable task routineness, as the same task may be perceived as more routine by employees with a higher education or with more experience.

To minimize the effects of response bias in our dependent variable (the managerial rating of employee performance) we control for the manager's perspective of the accuracy of the performance appraisal process. We measure appraisal accuracy using 3 items from Mayer and Davis (1999) with an alpha of 0.66.

Finally, we include industry dummies to control for differences in industries regarding the use of controls and in how common it is to assess employee performance. None of the industry dummies are significantly related to employee performance in our analyses, and we do not report their coefficients in the tables.

4. Results

4.1. Descriptive statistics and correlations

We report descriptive statistics in Table 3 and correlations in Table 4. The independent variables show good variation. Control type and control extensiveness have a correlation of -0.11 , while the preference measures of control type and control extensiveness have a correlation of -0.13 . This suggests that they are indeed separate dimensions. The correlation patterns for the control variables in Table 4 reflect the operational level of the sample: education is negatively correlated and job tenure is positively related with control extensiveness and task routineness. This matches with highly educated employees performing less-structured tasks. The negative correlation between education and job tenure reflects that highly educated employees will progress more quickly from an operational level.

Table 2
Factor analyses.

Panel A Two-factor solution for employee control perceptions		
Item	Control type	Control extensiveness
My job allows me to decide how to adjust rules to best perform my job tasks	0.65	-0.16
Employees in my organization are encouraged to use procedures flexibly	0.74	-0.07
Employees in my organization are encouraged to adjust procedures to suit the situation	0.70	-0.09
In our organization, goals/targets are essentially a guideline rather than a true commitment	0.17	-0.10
My supervisor is very considerate of my explanations of deviations from pre-established goals/targets	0.37	0.28
Responding to new, unforeseen opportunities is considered more important by my supervisor than achieving pre-established goals/targets	0.54	0.08
Whatever situation arises, we have existing processes, procedures or rules to follow in dealing with it	-0.27	0.57
Established processes, procedures and rules cover all of my job tasks	-0.18	0.69
In my organization, we have rules for everything	-0.31	0.70
In my job, there is a performance measure for everything	-0.08	0.69
My organization sets a large number of performance goals/targets that I am expected to meet	0.20	0.66
My supervisor frequently checks to make sure that I am meeting my performance targets	0.24	0.62
Variance extracted	0.17	0.24

N = 517, Varimax rotation. Highest factor loading in bold.

Panel B Factor solution of all remaining variables using the Kaiser criterion								
	Task repetitiveness	Performance	Pref extensive action control	Pref extensive results control	Pref enabling action control	Task analyzability	Appraisal accuracy	Pref enabling results control
To what extent would you say your work is routine?	0.79	-0.04	0.12	-0.03	-0.09	0.20	0.00	-0.03
To what extent is your job the same from day to day?	0.87	0.00	0.09	0.04	0.00	0.14	-0.01	0.00
To what extent do you repeat the same activities on a typical day?	0.82	0.00	0.08	0.05	0.05	0.18	-0.02	-0.01
To what extent is there a clearly known way to do your job?	0.21	0.12	0.24	-0.04	0.07	0.68	-0.07	-0.11
To what extent is there an understandable sequence of steps you can follow in doing your job?	0.29	0.05	0.14	0.13	-0.04	0.77	0.04	-0.06
To what extent can you rely on established procedures and practices to do your job?	0.28	-0.10	0.05	0.14	-0.13	0.73	-0.03	0.07
My job allows me to decide how to adjust rules to best perform my job tasks [P]	-0.09	0.07	0.02	-0.07	0.71	-0.14	0.01	0.17
Employees in my organization are encouraged to use procedures flexibly [P]	0.03	0.04	-0.15	0.05	0.79	-0.02	0.00	0.06
Employees in my organization are encouraged to adjust procedures to suit the situation [P]	0.00	-0.03	-0.12	0.03	0.77	0.03	-0.09	0.02
In our organization, goals/targets are essentially a guideline rather than a true commitment [P]	0.05	-0.01	0.09	-0.19	0.10	-0.13	-0.09	0.72
My supervisor is very considerate of my explanations of deviations from pre-established goals/targets [P]	-0.21	0.05	-0.11	0.26	0.02	0.09	0.15	0.55
Responding to new, unforeseen opportunities is considered more important by my supervisor than achieving pre-established goals/targets [P]	-0.01	0.09	-0.04	0.16	0.20	0.00	0.01	0.64
Whatever situation arises, we have existing processes, procedures or rules to follow in dealing with it [P]	-0.06	0.01	0.77	-0.03	-0.15	0.17	-0.02	-0.03
Established processes, procedures and rules cover all of my job tasks [P]	0.25	0.00	0.79	0.21	-0.02	0.13	-0.01	0.02
In my organization, we have rules for everything [P]	0.21	-0.03	0.67	0.23	-0.16	0.06	0.06	0.03
In my job, there is a performance measure for everything [P]	0.18	-0.01	0.33	0.67	0.00	-0.09	-0.05	-0.02
My organization sets a large number of performance goals/targets that I am expected to meet [P]	0.03	-0.01	0.04	0.84	0.02	0.13	-0.03	-0.01
My supervisor frequently checks to make sure that I am meeting my performance targets [P]	-0.08	-0.13	0.13	0.71	0.01	0.13	0.08	0.05
Quantity of work output [M]	-0.05	0.70	-0.05	0.03	0.03	-0.03	0.05	-0.01
Quality of work output [M]	-0.08	0.80	0.01	-0.09	0.05	0.09	0.01	0.05
Accuracy of work: meeting deadlines and honoring commitments [M]	0.04	0.78	0.02	-0.07	-0.03	0.06	0.07	0.03

(continued on next page)

Table 2 (continued)

Panel B Factor solution of all remaining variables using the Kaiser criterion	Task repetitiveness	Performance	Pref extensive action control	Pref extensive results control	Pref enabling action control	Task analyzability	Appraisal accuracy	Pref enabling results control
Service orientation: responding to internal and/or external customers' requests [M]	0.07	0.60	-0.02	0.05	0.04	-0.26	0.04	-0.02
How much work an employee gets done is taken into account in his or her performance appraisal [M]	-0.09	0.06	0.10	0.07	0.21	-0.06	0.72	-0.12
If an employee puts in extra effort into the job, this is taken into account in his or her performance appraisal [M]	0.01	0.01	0.02	-0.02	-0.06	-0.02	0.85	0.00
If an employee does things that are not part of the standard job this is appreciated in his or her performance appraisal [M]	0.02	0.08	-0.12	-0.03	-0.17	0.03	0.75	0.10
Variance extracted	0.16	0.09	0.09	0.08	0.07	0.05	0.04	0.04

N = 517, Varimax rotation. [P]: item asks for preferred situation, [M]: item sourced from manager. Highest factor loading in bold.

Table 3 Descriptive statistics.

Variable	Mean	S.D.	Min	Median	Max
Performance	4.19	0.52	1.75	4.25	5.00
Control type (coercive-enabling)	3.49	0.54	1.67	3.50	4.83
Control extensiveness (few-many)	3.03	0.69	1.00	3.00	5.00
Task routineness (uncertain-routine)	2.92	0.72	1.00	3.00	5.00
Preference for enabling control	3.68	0.51	2.00	3.67	4.83
Preference for extensive control	3.34	0.65	1.50	3.33	4.83
Education	1.95	0.79	1.00	2.00	4.00
Job tenure	2.18	0.95	1.00	2.00	5.00
Appraisal accuracy	4.13	0.54	1.00	4.00	5.00
Industry					
Production	0.14	0.34	0	0	1
Retail	0.09	0.29	0	0	1
Services	0.11	0.31	0	0	1
Finance	0.11	0.31	0	0	1
B2B services	0.29	0.45	0	0	1
Health	0.09	0.29	0	0	1
Education	0.06	0.24	0	0	1
Government	0.10	0.30	0	0	1
Other	0.02	0.13	0	0	1

N = 517. See Table 2 for variable construction. Additional variables: Education: 1 up to high school, 2 bachelor, 3 master, 4 professional/doctorate; Job tenure: 1 less than a year, 2 1–3 years, 3 4–10 years, 4 10–20 years, 5 more than 20 years.

4.2. Regression results

Regression results are presented in Table 5. With respect to the control variables, we see that job tenure and appraisal accuracy are significantly positively related to performance; however, education is not significant. With respect to the hypotheses, we see that enabling

Table 4 Correlations.

	Performance	Enabling	Extensiveness	Routine	Preference enabling	Preference extensive	Education	Tenure	Appraisal accuracy
Performance	1								
Enabling control	0.13***	1							
Control extensiveness	-0.10**	-0.11**	1						
Task routineness	-0.03	-0.15***	0.41***	1					
Preference for enabling control	0.09**	0.71***	-0.03	-0.13***	1				
Preference for extensive control	-0.08*	-0.08*	0.65***	0.35***	-0.09**	1			
Education	0.05	-0.01	-0.15***	-0.28***	-0.02	-0.13***	1		
Job tenure	0.11**	-0.04	0.12***	0.15***	-0.05	0.00	-0.17***	1	
Appraisal accuracy	0.13***	-0.03	0.11**	-0.05	-0.02	0.01	0.10**	-0.11**	1

N = 517. Normal Pearson correlations, *** p < 0.01, ** p < 0.05, * p < 0.10, two-tailed.

control is consistently positively related to employee performance, supporting H1: employees perform better when they experience more freedom to deviate from the controls. For control extensiveness (H20), the literature did not provide us with consistent arguments for a directional hypothesis. We find a consistent significant negative relationship between a high level of control extensiveness and performance. Furthermore, we find support for the expected negative moderation of task routineness (H3a and H3b), and for the positive moderating effect of preference for control extensiveness (H4b). There is no support for the moderating effect of enabling control preference (H4a).

To facilitate interpretation of the interaction results, we draw up plots for the interactions, evaluating the interacted variables at one standard deviation below and above their means.

Fig. 1 shows that the relationship between enabling control and performance is more positive for uncertain tasks (the dashed line) than for routine tasks (the solid line). This means that the interaction term of enabling control and task routineness is negative, which supports H3a. This is consistent with how the operational channel connects enabling control with performance: the flexibility resulting from an enabling use of control allows employees to react to the exceptions or contingencies that occur more often with uncertain tasks. As to the motivational channel, the interaction pattern is consistent with uncertain tasks offering employees the possibility to actually use the freedom, while for routine tasks the limited room to do so offsets any motivational benefits. Overall, enabling control has a more positive effect for uncertain tasks than for routine tasks, leading to a negative interaction term between enabling control and routineness.

Fig. 2 shows that control extensiveness is more negatively related to performance for routine tasks (solid line) than for uncertain tasks (dashed line). Hence, the interaction term is negative, which supports

Table 5
Regression results.

	Hyp.	Exp.	(1)	(2)	(3)	(4)	(5)
Constant			3.29*** (16.87)	3.27*** (16.55)	3.29*** (16.88)	3.25*** (16.43)	3.27*** (16.67)
Education			0.03 (0.94)	0.04 (1.20)	0.04 (1.36)	0.04 (1.28)	0.04 (1.41)
Tenure			0.08*** (3.25)	0.08*** (3.11)	0.08*** (3.14)	0.07*** (2.94)	0.07*** (2.95)
Appraisal accuracy			0.16*** (3.73)	0.16*** (3.84)	0.16*** (3.75)	0.16*** (3.77)	0.15*** (3.67)
Enabling control	H1	+	0.13*** (3.16)	0.13** (2.18)	0.14*** (3.47)	0.11* (1.92)	0.12** (2.13)
Control extensiveness	H20	?	-0.09*** (-2.67)	-0.11** (-2.52)	-0.10*** (-2.75)	-0.13*** (-2.78)	-0.12*** (-2.70)
Task routineness				0.05 (1.33)	0.04 (1.20)	0.05 (1.27)	0.04 (1.06)
Preference for enabling control				0.01 (0.24)		0.03 (0.47)	0.02 (0.29)
Preference for extensive control				0.01 (0.21)		0.03 (0.68)	0.04 (0.89)
Type x Routineness	H3a	-			-0.13** (-2.36)		-0.11** (-2.03)
Extensiveness x Routineness	H3b	-			-0.08* (-1.79)		-0.12** (-2.57)
Type x Preference enabling	H4a	+				0.06 (0.93)	0.03 (0.53)
Extensiveness x Preference extensiveness	H4b	+				0.09** (2.04)	0.12*** (2.63)
Industry controls			Yes	Yes	Yes	Yes	Yes
R ²			0.08	0.09	0.10	0.10	0.12
Adjusted R ²			0.06	0.06	0.07	0.07	0.08
F			3.58	3.02	3.55	3.03	3.26
p			0.00	0.00	0.00	0.00	0.00

N = 517. Dependent variable: Employee performance, as assessed by manager. Unstandardized regression coefficients with *t*-statistics in brackets; *** *p* < 0.01, ** *p* < 0.05, * *p* < 0.10, two-tailed.

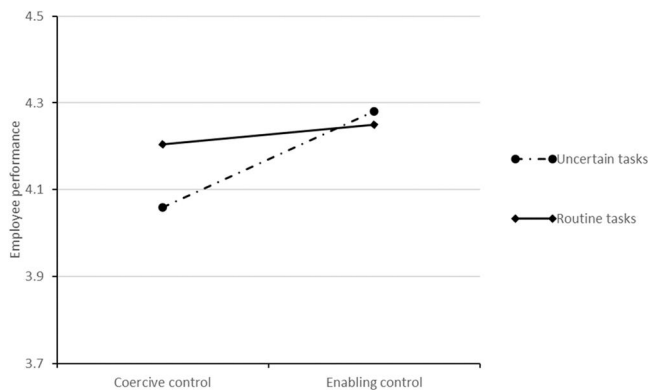


Fig. 1. Interaction plot Control type and Task routineness.

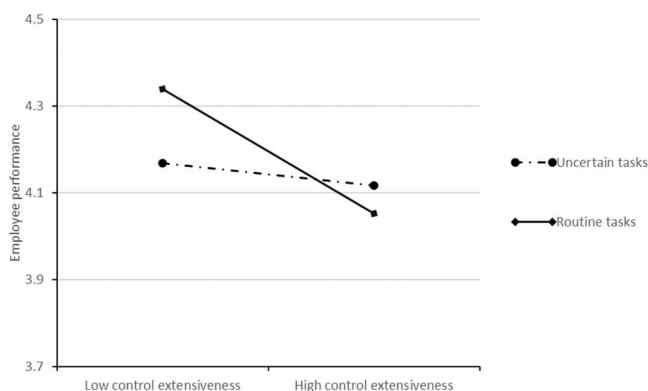


Fig. 2. Interaction plot Control extensiveness and Task routineness.

H3b. This is consistent with both the operational and motivational channels. Following the operational channel, for routine tasks, the use of more rules and procedures leads to excessive control. Since the nature of the task is well understood, the rules, procedures and performance measures are not needed, but demand time and energy of employees that cannot be spent on proper task performance. For uncertain tasks, the increased guidance from controls offsets the restrictions and control burden. From a motivational perspective, the restrictions in initiative from more extensive controls result in a downward pressure on motivation, especially in routine jobs where boredom and less perception of meaning already strain motivation. For uncertain tasks this is compensated by the variation inherent to the job, resulting in a downward slope that is less steep.

Fig. 3 shows that the positive slopes of the enabling control-performance relationship are similar for employees who prefer enabling control and for those who do not. As the interaction coefficient

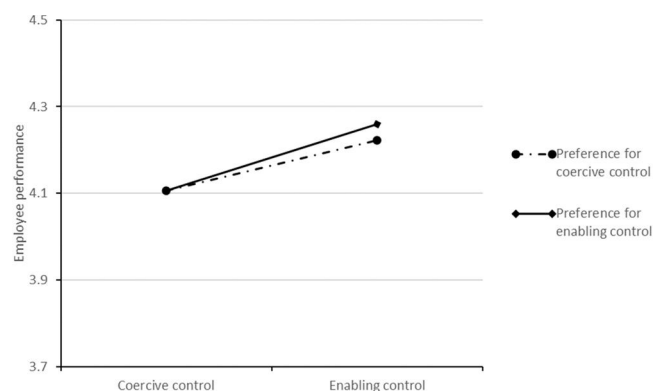


Fig. 3. Interaction plot Control type and Preference for enabling control.

is nonsignificant, while we predicted a positive interaction, H4a is rejected. Even though employees differ in their preferences regarding the use of enabling control, enabling control has a similar positive performance effect on all employees. Despite a better match with the employee's abilities (operational channel) and needs (motivational channel), the relation between enabling control and performance does not become more positive when employees prefer enabling control.

Fig. 4 shows there is no relation between control extensiveness and performance when employees prefer to be subject to extensive controls (solid line), while this relation is negative when employees prefer few controls (dashed line). In other words, the negative relation between control extensiveness and performance becomes less negative when employees prefer a high level of control extensiveness. This positive interaction supports H4b: employees who prefer extensive controls are more likely to know how to use them effectively, and they feel more motivated since they get the level of guidance and support they desire.

4.3. Additional analyses

We perform several additional analyses to address concerns related to the theoretical development and the operationalization. First, our theory builds on Adler and Borys's (1996) notion that control type and control extensiveness are separate characteristics. They work independently: enabling control is not meant to offset any possible negative effects of an extensive use of controls; rather, it can have a positive effect at all levels of control extensiveness. Indeed, when we run the regression models separately for enabling control and its interactions, and for control extensiveness and its interactions, the results do not change. Nevertheless, the idea that enabling control may be more effective when control extensiveness is high rather than low is intuitively appealing. We test for this by including an interaction effect between control type and control extensiveness in the regression models. We find no significant interaction, and the coefficients and significance levels of the other variables do not change meaningfully.

Second, in our analyses, we investigate the type and extensiveness of both types of formal controls, i.e. action and results controls, combined. We argue that this approach is more effectively aligned with the theory of Adler and Borys (1996). We redo the analyses using separate constructs for enabling action controls and enabling results controls, and for action control extensiveness and results control extensiveness. This results in a pattern that is similar, although as expected the significance levels are somewhat lower, since the impact of the formal control constructs is now distributed over two components. Enabling action controls and enabling results controls are significantly positively related to performance, while the action control extensiveness and results control extensiveness are significantly negatively related. The interaction effects are similar in sign and significance for action controls, while for results controls they drop below conventional significance levels, but keep the same sign.

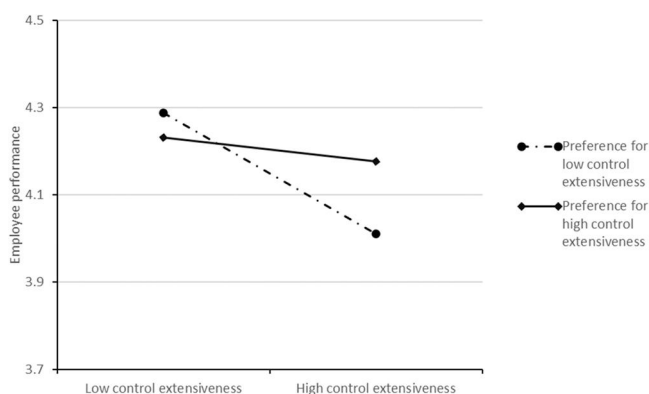


Fig. 4. Interaction plot Control extensiveness and Preference for many controls.

With regard to task routineness, we note that this variable consists both theoretically and empirically of two separate components. We run the main analysis with task routineness replaced by task analyzability and task repetitiveness. The results are presented in Appendix C.⁹ We find that the interaction term with control type is significantly negative ($p < 0.05$) for analyzability but not for repetitiveness, while the interaction term with control extensiveness is significantly negative ($p < 0.01$) for repetitiveness but not for analyzability.

Finally, Table 4 shows that there is a substantial correlation between task routineness and control extensiveness ($r = 0.41$). We evaluate whether this influences our results by taking the residuals of the regression of control extensiveness on task routineness. Results do not change when we replace our original control extensiveness variable with these residuals: both H3a and H3b are supported. Similarly, there are substantial correlations between the current and preferred control type ($r = 0.71$) and current and preferred extensiveness ($r = 0.65$). This correlation may be caused by, for example, self-selection of employees in jobs that fit their preferences or because the items have the same wording. To find out if this strong correlation influenced our results, we replace the preference variables with the residuals coming from the regression of control type/extensiveness on preference for control type/extensiveness. This does not alter our results: H4a is not supported, H4b is supported.

5. Discussion and conclusion

Building on the seminal paper of Adler and Borys (1996), this paper contributes to the management control literature by investigating the relationship between formal controls and employee performance. Using a survey among 517 employee-manager pairs, we find that enabling control as experienced by the employee is positively related to the employee's performance as assessed by their manager, while a high level of control extensiveness is negatively related. The relation between enabling control and employee performance is more positive for uncertain tasks, but a preference for enabling control does not moderate the relation between perceived enabling control and employee performance. Furthermore, the relation between the extensive use of controls and employee performance is less negative when employee tasks are uncertain, and when employees prefer more extensive controls.

5.1. Control type and employee performance

The positive relation between perceived enabling control and employee performance is in line with the theory of Adler and Borys (1996), who suggest that enabling control will generally have positive effects. This finding resembles prior research findings at the managerial level focusing on how enabling performance measures and budgets supported managerial performance. We believe that finding a positive effect at the employee level is relevant in itself due to the differences in employee versus managerial tasks. Additionally, since we assess the extent of enabling control at the operational level, we can evaluate whether this relationship is different under contingencies with respect to the task and the employee.

Specifically, the positive relation between enabling control perceptions and employee performance is stronger for employees with uncertain tasks, which explains earlier positive findings among managers (e.g., Chapman and Kihn, 2009; Mahama and Cheng, 2013) who typically have more uncertain tasks (e.g., Hall, 2010; Mintzberg, 1971). The discretion resulting from enabling control allows employees to respond more effectively to any contingencies that are not covered by the controls.

This interpretation is further supported by the results of the

⁹ The regression results for the other additional analyses reported in this section are available from the authors.

additional analysis using the analyzability and repetitiveness components of task uncertainty: enabling control has a more positive impact when the analyzability of the task is low. In this case, it is more difficult to design good controls, and dealing with the contingencies is more likely to require deviating from the controls. Task repetitiveness does not have a moderating effect, which fits with the interpretation that variety as such does not impact the possibility of designing good controls.

At the same time, the type of controls employees prefer does not result in a different relationship between enabling control and performance. This suggests that using controls in an enabling way has limited downsides, in that it does not result in lower performance for employees who are less keen on the freedom and initiative involved in enabling control. There may be other moderators at the personal level that may affect the relationship between enabling control and work outcomes. For example, Burney et al. (2017) find that the relationship between enabling control and counterproductive work behavior is negative, which is a positive outcome for the organization, but for employees who perceive their co-workers to be less committed, the relationship is less negative. This suggests that the relationship with team members or co-workers in general may be important.

5.2. Control extensiveness and employee performance

We find that control extensiveness is negatively related to employee performance. This differs from Adler and Borys's (1996) theorization of this relationship. They expect that a negative relationship between control extensiveness and performance occurs because control extensiveness often coincides with a coercive approach to controls. Consequently, when statistically controlling for the control type, the negative effects should disappear. However, the bivariate correlation between type and extensiveness of control is low (see Table 4), and the regression results show that control extensiveness has a negative relationship with performance also when control type is included in the regression. This suggests that the increased control burden and the reduced autonomy and meaningfulness prevail over any positive effects from reduced ambiguity and increased goal clarity.

Our moderation analyses provide more insight into this result. The relation between extensiveness and performance is more negative for routine tasks. When tasks are more routine, controls are less necessary and less helpful, while still requiring time and attention that cannot be dedicated to the task at hand. Furthermore, the restrictions in autonomy from more extensive controls likely result in a downward pressure on motivation. For uncertain tasks, this is compensated by the extra guidance given by the controls, but for routine tasks this guidance is not needed, so it does not offset the reduction in autonomy. Thus, for routine tasks, the motivational channel seems to outweigh the operational one.

We find support for this interpretation when we split up task uncertainty into its components analyzability and repetitiveness. The relationship between control extensiveness and performance is more negative when task repetitiveness is high, but there is no moderating effect of task analyzability. When the routineness is mostly the result of high repetition, employees gain experience with their tasks in their daily activities. Thus, the supportive role of controls is less needed, while an increase in control extensiveness will reduce the room for employees to create some variety in their daily tasks, leading to feelings of reduced autonomy. When the routineness stems from analyzability, this means that the activities are well understood and the controls are more likely to be well designed. If this is the case, an increase in control extensiveness will then match the tasks at hand, and consequently is less likely to be experienced as reducing autonomy. The moderating effect of preference for extensive control further supports the importance of the motivational aspect of control: the relation between control extensiveness and performance is less negative for employees who prefer a high level of control extensiveness (Fig. 4). An important avenue for future research here is to investigate whether the negative relationship of control

extensiveness with performance is affected by the extent to which the controls fit the 'technically required' formalization (Adler and Borys, 1996, p. 77).

5.3. Strengths and limitations

We use a survey to collect data, because this allows us to investigate contingencies that may moderate the distinctive relations of perceptions of control type and extensiveness with employee performance in a real life setting, with a large sample of various types of operational employees. As such, it enables us to contribute to the limited body of empirical results regarding the relationship between enabling control and performance. Furthermore, the survey method makes it possible to explore the relation between control extensiveness and employee performance, while controlling for the control type. A downside of the survey method is that it cannot be used to investigate causality (Chapman and Kihn, 2009; Hall, 2008): it may be the case that managers choose to use controls in a more enabling way when they feel employees are better at their jobs, or that managers use more extensive controls when employees are worse performers. However, reverse causality does not affect the theorizing behind the moderating effects. For example, the relationship between enabling control and performance is more positive for uncertain tasks, because good performers can benefit more from the freedom offered by enabling control in such tasks. For routine tasks, providing more freedom has a less positive effect, because for those tasks there are fewer exceptions or contingencies where good performers can make a difference.

We strengthened our research design by surveying dyads of employees and their managers. This allowed us to measure all variables at the relevant source, and to rule out common source bias by measuring the independent and dependent variables at different sources. To obtain respondents, we used a non-random sample generated from networking via students who participated in this project to finish their master's thesis. According to the meta-analytic study of Derfuss (2009), the results of studies with such a non-random sample are comparable to studies with random samples. A downside of using dyads is that responses cannot be fully anonymous, since otherwise the responses cannot be linked. This may bias the sample toward better performing employees.¹⁰ However, when potential respondents signed up with the students to receive the survey, they had no knowledge of the survey itself beyond a general description. Given the high response rate among the potential respondents, we believe the selection bias is limited. Furthermore, we investigated within-sample patterns, rather than absolute levels of sample characteristics.

To be able to study control perceptions of operational employees, we developed a new survey instrument. Thus far, most accounting survey studies on this topic focused on enabling results controls (Chapman and Kihn, 2009; Hartmann and Maas, 2011; Mahama and Cheng, 2013; Wouters and Wilderom, 2008). To make the instrument more applicable to a diverse sample of operational employees and to better align with Adler and Borys (1996), our instrument measures both action and results controls. While reliability and validity analyses show acceptable to good outcomes, especially for the combination of action and results controls, the measurement of enabling results controls in particular shows room for improvement. This may be due to the fact that rules and procedures involved in action controls are likely intuitively understandable for most employees, while results controls may be more ambiguous. They cannot always be easily matched to individual employees when outputs are created through teamwork. It is also more difficult to observe results

¹⁰ Participating in the project implies for employees that they are willing to share their manager's assessment of their performance with outsiders. We may expect well-performing employees to be more inclined to do so. Likewise, managers may be more willing to participate if they can give a good evaluation of their employees, thus showing that they are good managers.

control enforcement than action control enforcement, especially when the results are assessed over longer periods (monthly or yearly).

Finally, our theory and instrument are focused on formal controls and do not include informal controls such as cultural and personnel controls (Merchant and Van der Stede, 2017; Pfister and Lukka, 2019). For this study, we chose to focus on the total of formal controls, as we were interested in testing the theorizing of Adler and Borys (1996). Including informal controls offers an interesting avenue for future research, for example because the strength of the relation between the different types of formal controls and performance has been shown to be dependent on the use of informal controls (Tiwana, 2010).

5.4. Conclusion and practical implications

Our study extends the theoretical and empirical literature on management control. We apply existing theory on the enabling use of controls to the employee level, and we refine it by including action controls in addition to results controls, and by articulating how this enabling use may affect performance through an operational and a motivational channel. Furthermore, we develop theory on how control extensiveness may affect employee performance. This second dimension of formalization (Adler and Borys, 1996) has received much less attention in the literature. We show that allowing operational employees to deviate from the controls when it suits the situation (enabling control) is positively associated with higher performance, especially for uncertain tasks. Control extensiveness is negatively related to performance, but more so for routine tasks, and also when employees have a higher preference for low extensiveness. The additional analyses confirm that both dimensions are related to performance independently of each other: there is no trade-off between the extensiveness of control and enabling use of controls.

The moderating effects help in understanding through which channels formalization may affect performance. The pattern for enabling use of controls suggests that the operational channel is more important: the effect is less positive for routine tasks, where there is less potential to

benefit from the flexibility offered by enabling controls, while a preference for enabling control does not result in more positive relationship. For control extensiveness the motivational channel seems important: when control extensiveness increases, this results in a more negative relationship with performance for routine tasks. These tasks require less guidance, so the increase in controls will have relatively less operational benefits, but the autonomy reduction is present. For uncertain tasks, the increased guidance offsets the autonomy reduction, and as a result higher control extensiveness does not lead to lower performance. The importance of the motivational channel is also supported by the interaction with the preference for extensive controls: the relationship with performance is more negative for employees who don't like extensive controls. However, we acknowledge that these channels have not been tested directly in our empirical models; this is an interesting avenue for future research.

Finally, we note that managers may use these results when deciding on the level of formalization in their unit. First, they should consider the extensiveness of controls and the enabling use of controls as separate dimensions. Extensive control is less beneficial for routine tasks, even while it is likely easier to design formal controls for such tasks. Furthermore, employees with a less positive attitude towards extensive controls perform worse when extensiveness increases. As a whole, this suggests that managers should be careful in using extensive controls; our findings further suggest that the negative effects of control extensiveness cannot be reduced by using the extensive controls in a more enabling way. Second, an enabling use of controls has a positive effect irrespective of employees' preferences; it also is beneficial for nonroutine tasks while it does not affect routine tasks. This suggests that in general, managers should look into the possibility of using controls in an enabling way when applying them in the daily operations.

Data Availability

The data that has been used is confidential.

Appendix A: invitation texts for participants

Email invitation employee

Dear "EmplName",

I am happy to invite you to participate in our study on how employees are managed in their day-to-day activities. I have received your details from "Student", who has informed me that you would be willing to fill in a survey. With your help, you will enable "Student" to finish "Studenthisher" Master study in Accountancy and Control at the University of [city]. Moreover, we hope this scientific study will provide new insights with regard to how operational employees and professionals are managed. In order to participate, please use the following link (or copy it to your browser):

"EmployeeLink".

As "Student" may have told you, your supervisor "SupervName" will also be invited to fill in a survey for this study. In this way, we can take a look at both sides of the relationship between employee and supervisor. Both your answers and those of your supervisor will not be shared with anybody, and can only be linked by me as main researcher.

The survey will take approximately 15 minutes to complete. All your answers are **strictly confidential**. This means I will **never** disclose any personal information to any third parties. Your answers will be processed anonymously, and results will only be reported as summary numbers.

Also on behalf of "Student", I want to thank you for your help!

Kind regards,

[researcher].

Email invitation manager

Dear "SupervName",

I am happy to invite you to participate in our study on how employees are managed in their day-to-day activities. I have received your details from "Student", who has informed me that you would be willing to fill in a survey. With your help, you will enable "Student" to finish "Studenthisher" Master study in Accountancy and Control at the University of [city]. Moreover, we hope this scientific study will provide new insights with regard to how operational employees and professionals are managed. In order to participate, please use the following link (or copy it to your browser):

"SupervisorLink".

As "Student" may have told you, your employee "EmplName" will also be invited to fill in a survey for this study. In this way, we can take a look at

both sides of the relationship between employee and supervisor. Therefore, some of the questions in the survey ask specifically about "EmplName". Both your answers and those of your employee will not be shared with anybody, and can only be linked by me as main researcher.

The survey will take approximately 10 minutes to complete. All your answers are **strictly confidential**. This means I will **never** disclose any personal information to any third parties. Your answers will be processed anonymously, and results will only be reported as summary numbers.

Also on behalf of "Student", I want to thank you for your help!

Kind regards,
[researcher].

Appendix B: survey questions (with sources)

Performance (completed by manager) (Welbourne et al., 1998).

How would you rate the job performance of [EmplName] in terms of the following (1 Needs much improvement 2 Poor 3 Average 4 Good 5 Excellent):

- Quantity of work output
- Quality of work output
- Accuracy of work: meeting deadlines and honoring commitments
- Service orientation: responding to internal and/or external customers' requests

Control perceptions and preferences (completed by employee).

We now continue with the way your work is organized. For each statement below, we ask you to indicate the extent to which you agree with the statement with respect to the way it is now in your job (the current situation), and how you would like it be in your job (the preferred situation). (1 Strongly disagree. 5 Strongly agree).

Action control extensiveness.

- Whatever situation arises, we have existing processes, procedures or rules to follow in dealing with it (Hage and Aiken, 1967)
- Established processes, procedures and rules cover all of my job tasks (Van de Ven and Ferry, 1980)
- In my organization, we have rules for everything (Van de Ven and Ferry, 1980)

Action control type

- My job allows me to decide how to adjust rules to best perform my job tasks (Morgeson and Humphrey, 2006)
- Employees in my organization are encouraged to use procedures flexibly (Bodewes, 2000)
- Employees in my organization are encouraged to adjust procedures to suit the situation (Bodewes, 2000)

Next, please look at the following statements on how your performance is evaluated. Again, please indicate the current situation as you experience it, and your preferred situation. (1 Strongly disagree. 5 Strongly agree).

Results control extensiveness.

- In my job, there is a performance measure for everything (Van de Ven and Ferry, 1980)
- My organization sets a large number of performance goals/targets that I am expected to meet (Van de Ven and Ferry, 1980)
- My supervisor frequently checks to make sure that I am meeting my performance targets (Hall, 1963)

Results control type

- In our organization, goals/targets are essentially a guideline rather than a true commitment (Van der Stede, 2001)
- My supervisor is very considerate of my explanations of deviations from pre-established goals/targets (Van der Stede, 2001)
- Responding to new, unforeseen opportunities is considered more important by my supervisor than achieving pre-established goals/targets (Van der Stede, 2001)

Task routineness (completed by employee) (Withey et al., 1983)

Next, we want to understand more about the nature of your job and your organization. First, can you answer the following questions regarding your daily job? (1 Not at all. 5 To a very great extent)

- To what extent would you say your work is routine?
- To what extent is your job the same from day to day?
- To what extent do you repeat the same activities on a typical day?
- To what extent is there a clearly known way to do your job?
- To what extent is there an understandable sequence of steps you can follow in doing your job?
- To what extent can you rely on established procedures and practices to do your job?

Employee characteristics (completed by employee).

Education.

What is the highest level of education you have completed?

1. Up to high school
2. Bachelor
3. Master
4. Professional degree or doctorate (CPA, MBA, LLM, dr)

Job tenure.

How many years have you been working in your current position?

1. Less than 1 year
2. 1–3 years
3. 4–10 years
4. 10–20 years
5. More than 20 years

Appraisal accuracy (completed by manager) (Mayer and Davis, 1999).

The next set of questions concerns the evaluation of employee performance. This evaluation may happen in a formal process, often called performance appraisal, performance assessment, annual review or something similar, or it may be more informal. We use the term performance appraisal to cover all these possibilities. Please indicate whether you agree with the following statements regarding the performance appraisal process covering the employees in your department. (1 Strongly disagree. 5 Strongly agree).

- How much work an employee gets done is taken into account in his or her performance appraisal
- If an employee puts in extra effort into the job, this is taken into account in his or her performance appraisal
- If an employee does things that are not part of the standard job this is appreciated in his or her performance appraisal

Appendix C: Robustness analysis with task analyzability and task repetitiveness

	(1)	(2)
Constant	3.27*** (16.67)	3.25*** (16.58)
Education	0.04 (1.41)	0.04 (1.40)
Tenure	0.07*** (2.95)	0.07*** (2.95)
Appraisal accuracy	0.15*** (3.67)	0.16*** (3.78)
Enabling control	0.12** (2.13)	0.11* (1.86)
Control extensiveness	-0.12** (-2.70)	-0.12*** (-2.63)
Task routineness	0.04 (1.06)	
Task analyzability		0.03 (0.98)
Task repetitiveness		0.01 (0.26)
Preference for enabling control	0.02 (0.29)	0.04 (0.55)
Preference for extensive control	0.04 (0.89)	0.04 (0.80)
Enabling x Routineness	-0.11** (-2.03)	
Enabling x Task analyzability		-0.12** (-2.23)
Enabling x Task repetitiveness		0.01 (0.19)
Extensiveness x Routineness	-0.12** (-2.57)	
Extensiveness x Task analyzability		0.01 (0.24)
Extensiveness x Task repetitiveness		-0.12*** (-2.84)
Enabling x Preference enabling	0.03 (0.53)	0.04 (0.55)
Extensiveness x Preference extensiveness	0.12*** (2.63)	0.11** (2.24)
Industry controls	Yes	Yes
R ²	0.12	0.13
Adjusted R ²	0.08	0.08
F	3.26	3.08
p	0.00	0.00

N = 517. Dependent variable: Employee performance, as assessed by manager. Model (1) is equal to Model (5) from Table 5, Model (2) replaces task uncertainty with its components

task analyzability and task repetitiveness (see Section 3.2.3 for the operationalization). Unstandardized regression coefficients with *t*-statistics in brackets; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$, two-tailed.

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