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ORIGINAL ARTICLE

All work intensity is not created equal: Effort motives, job satisfaction and quit intentions at a grocery chain

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Prior research has shown that the well-being of employees engaged in intensive work can vary with the discretion their jobs afford regarding how and when to carry out the work. This article explores a different avenue. It argues that well-being also varies with employees' individual motives for working intensively. The article introduces self-determination theory to the domain of work intensity and focuses on two hypotheses. The first is whether intensive work driven by explicit or implicit incentives is more positively associated with an employee's job satisfaction than intensive work driven by job demands. The second is whether intensive work driven by intrinsic motives is more positively associated with job satisfaction than that driven by explicit or implicit incentives. In both these cases, the article also examines whether equivalent effects exist on (reduced) quit intentions. Original data from a major Greek grocery chain provide corroborative evidence that is robust to a rich set of covariates, including increasingly demanding adjustments for job discretion. The findings contribute to a more complete understanding of why differences in well-being exist among employees

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performing intensive work, with implications for workers and employers.

JEL CLASSIFICATION

I31, J28, J81

1 | INTRODUCTION

There is continuing interest in understanding how the nature of work effort relates to employee well-being. Some research has focused on *work duration* as one dimension of work effort, suggesting that well-being is lower on average where long hours and overtime are prevalent (Sparks et al., 1997). Yet, work effort also encompasses *work intensity*—the amount of effort per unit of working time (Green, 2001). Work intensity has continued to increase over time (Adăscăliței et al., 2022; Green et al., 2022; Kalleberg, 2011), even though evidence implies it may be particularly problematic for employee well-being. In representative European data, for example, work intensity is one of the strongest predictors of reduced job satisfaction and of higher scores on a flurry of correlates of poor physical and mental health, including anxiety, fatigue, irritability and stress (Avgoustaki & Frankort, 2019; Cottini & Lucifora, 2013). Meta-analytic estimates by Goh et al. (2015, 2016) firmly support such results. They also reveal that work intensity might have well-being ramifications as severe as those of second-hand smoke exposure or unemployment.

Nevertheless, spurred by Karasek's (1979) influential job-strain model, available research also argues that employees performing intensive work can differ in their ability to cope. A large empirical literature links such differences to whether a job affords discretion on how and when to carry out the work (e.g., Green, 2004a; Green et al., 2016; Lopes et al., 2014; Van Yperen & Hagedoorn, 2003). Yet, while job discretion—a characteristic of the work environment—may buffer some of the adverse effects of work intensity, it only partially accounts for the observed variance in employee well-being attributable to intensive work (e.g., Avgoustaki & Frankort, 2019; Green, 2004a; Lopes et al., 2014). To achieve a more comprehensive explanation of the well-being differences among employees performing intensive work, it may thus be necessary to broaden attention from job characteristics to individual characteristics (Kain & Jex, 2010; Van der Doef & Maes, 1999). For example, a focus on job discretion naturally bypasses individual differences in employees' motivations for working intensively. Yet, individual motivations are potent predictors of well-being (Vallerand, 1997) and can exist separately from job discretion (Avgoustaki & Cañibano, 2020). Thus, a focus on individual motivations for working intensively has the credible potential to improve our understanding of how resistant or vulnerable the well-being is of employees performing intensive work.

In this article, we ask whether the motives that drive employees to work intensively predict job satisfaction and quit intentions. We introduce the theory of self-determination to the domain of work intensity (Gagné & Deci, 2005; Ryan & Deci, 2000, 2017). This theory distinguishes extrinsic and intrinsic motivations for individual behaviour. We propose that employees may work intensively driven by external job demands (a controlled form of extrinsic motivation), explicit or implicit incentives (a more autonomous form of extrinsic motivation) and intrinsic motives. Based on these distinctions, we focus on two hypotheses. The first is whether intensive work driven by explicit or implicit incentives is more positively associated with an employee's job satisfaction than intensive work driven by job demands. The second is whether intensive work

driven by intrinsic motives is more positively associated with job satisfaction than that driven by explicit or implicit incentives. In both these cases, we examine whether there are also equivalent effects on (reduced) quit intentions. We find support for the hypotheses in the original data collected from a major grocery chain in Greece. Our results are robust to a rich set of covariates, including an adjustment for life happiness and progressively more demanding adjustments for job discretion.

Our study distinguishes itself from a broader literature on the well-being implications of work motivations. One line of research has focused on the potential relevance of work values, meaning the extrinsic and intrinsic aspects of work that people would deem important in a hypothetical job (e.g., Clark, 1997; Kalleberg, 1977). Another has focused on the extrinsic and intrinsic reasons why people do their actual jobs (e.g., Herzberg et al., 1959; Vansteenkiste et al., 2007). Both research traditions study the motives for people to engage in a hypothetical or actual job as a whole, so they share a focus on a person's entire work context. Yet, our objective is different, as we seek to explain differences in well-being attributable to employees' work intensity rather than their entire job. Clearly, the specific behaviour of working intensively is just one of a suite of job-related behaviours (e.g., showing creativity, delivering quality, collaborating with colleagues), across which an employee's motivational regulations can differ (Fernet et al., 2017). For example, an employee may inherently enjoy coordinating with colleagues but not work overtime unless ordered. Due to such heterogeneity, and given our objective to explain differences in well-being attributable to intensive work, we depart from approaches studying the motives for employees to engage in a job as a whole. Instead, we study the well-being implications of motives to engage in the specific behaviour of working intensively (Vallerand, 1997).

This article offers a fuller account of the well-being differences among employees performing intensive work, with implications for workers and employers. First, complementing research on the buffering role of job discretion, we argue and show that the job satisfaction and quit intentions of employees performing intensive work also vary substantially with individual differences in their motivations for working intensively. Second, we extend the application of self-determination theory from a job as a whole to the specific yet consequential domain of work intensity (Deci et al., 2017). In the process, we complement recent work contrasting motives for the behaviour of working overtime (Avgoustaki & Cañibano, 2020), an effort dimension distinct from work intensity. Our focus on three motives also enriches the generic distinction between extrinsic and intrinsic motivation often made in work contexts.

2 | WORK-INTENSITY MOTIVES AND EMPLOYEE WELL-BEING

In the literature, work intensity has been defined as 'the rate of physical and/or mental input to work tasks performed during the working day. In part, effort is inversely linked to the porosity of the working day, meaning those gaps between tasks during which the body and mind rests' (Green, 2001, p. 56). Rather than referring to work duration, work intensity refers to the intensity of effort during working time. It includes elements such as 'the rate of task performance; the intensity of those tasks in terms of physical, cognitive, and emotional demands; the extent to which they are performed simultaneously or in sequence, continuously, or with interruptions; and the gaps between tasks' (Green et al., 2022, p. 460).

Work intensity is characterised by high-speed work, tight deadlines and often insufficient time to complete tasks, which can all depress work quality and productivity (Green, 2001, 2004a). Employees performing intensive work also average inferior well-being (Goh et al., 2016). For

example, they experience higher levels of anxiety, stress and emotional exhaustion (Boekhorst et al., 2017; Burke et al., 2010; Cottini & Lucifora, 2013); lower levels of job satisfaction (Avgoustaki & Frankort, 2019; Lopes et al., 2014); more physical symptoms including backaches, headaches and insomnia (Wichert, 2002), and they may be at greater risk of committing suicide (Younés et al., 2018).

Short pauses and breaks help employees to recover from work (Trogakos & Hideg, 2009). Thus, a core mechanism behind such harmful outcomes is a lack of employee recovery. High work intensity entails a constant workflow with few gaps or breaks between tasks, implying a limited ability to rest, recharge and recover (Green, 2001). Employees may also not be able to disconnect from the day's stress and, thus, end up feeling drained at the end of the day (Kim et al., 2017; Singh et al., 2016). A persistent inability to recover may accumulate over time, so employees can lack energy even at the beginning of the workday (Avgoustaki & Frankort, 2019; Eurofound, 2019). In short, work intensity reduces recovery opportunities, meaning employees are more likely strained, unhappy and burned out.

At the same time, all employees are not equally susceptible to the ramifications of intensive work. Most prominently, Karasek's (1979) job-strain model would imply that the well-being of employees performing intensive work depends on 'the discretion permitted the worker in deciding how to meet [job] demands' (p. 285). According to this model, jobs in which challenging work is coupled with opportunities for discretion (so-called 'active jobs') would be associated with job-related feelings of satisfaction. In stark contrast, jobs in which challenging work is constrained by a lack of discretion (so-called 'high-strain jobs') would predict mental strain and inferior well-being. In short, the job-strain model implies that job discretion can buffer the effects of work intensity. Consistent with this implication, extensive evidence exists linking differences in the well-being of employees performing intensive work to the autonomy their jobs afford to decide how and when to do the work (e.g., Avgar et al., 2012; Avgoustaki & Frankort, 2019; Green, 2004a; Green et al., 2016; Lopes et al., 2014; Van Yperen & Hagedoorn, 2003).

Yet, despite accumulated evidence that job discretion has the potential to buffer the effects of work intensity, discretion accounts only for part of the observed variance in well-being attributable to employees' intensive work (e.g., Avgoustaki & Frankort, 2019; Green, 2004a; Green et al., 2016; Lopes et al., 2014). Thus, to achieve a fuller account of the well-being differences among employees performing intensive work, it may be necessary to broaden attention from job discretion—a characteristic of the work environment—to individual characteristics (Kain & Jex, 2010; Van der Doef & Maes, 1999). Here, because motivations have long been viewed as an important individual characteristic predicting psychological functioning and well-being (Vallerand, 1997), we focus on individual motivations for engaging in intensive work. Such motivations can credibly exist separate from job discretion (Avgoustaki & Cañibano, 2020), so a focus on individual motivations plausibly offers a productive way forward to improve our understanding of the differences in work-related well-being among employees performing intensive work.

We introduce self-determination theory to the domain of work intensity and examine how the underlying motives that drive employees to work intensively are associated with their well-being. We focus on job satisfaction as one indicator of work-related well-being. Also, job dissatisfaction arising from adverse working conditions, such as when work is intense, may lead employees to search for new jobs (Böckerman & Ilmakunnas, 2009), and job satisfaction has been related to employees' quit intentions more broadly (Bäker & Goodall, 2020; Griffeth et al., 2000; Tett & Meyer, 1993). Thus, we also focus on quit intentions, a more extreme expression of job dissatisfaction.

2.1 | Three types of motives for working intensively

Self-determination theory, in its basic form, distinguishes between extrinsic and intrinsic motivation (Deci et al., 2017; Gagné & Deci, 2005; Ryan & Deci, 2000). Extrinsic motivation involves performing an activity to achieve a separable outcome, such as a verbal or tangible reward, or to avoid punishment or criticism. Thus, its perceived locus of causality is external to the employee. Employees who are extrinsically motivated perceive their behaviour as more or less controlled by others and tend to experience a sense of pressure or obligation to engage in a particular activity. The theory further distinguishes different types of extrinsic motivation that can vary in the degree to which they are autonomous versus controlled (Ryan & Deci, 2017). For example, when an activity is instrumentally important for an employee to achieve a desirable reward, it may be perceived as more autonomously motivated. Such a type of motivation is still considered extrinsic but relatively more autonomous than controlled. Intrinsic motivation is instead the most autonomous form of motivation that involves performing an activity because it is inherently interesting or provides enjoyment. Employees who are intrinsically motivated engage in an activity entirely volitionally, as the perceived locus of causality is internal to the employee.

According to self-determination theory, different types of motivations are present to varying degrees in all individuals, and such motivations fall along a continuum of perceived relative autonomy—from more through less controlled extrinsic motivation, to autonomous intrinsic motivation (Ryan & Deci, 2017). Here, we distinguish three such types of motives for working intensively: (a) controlled extrinsically motivated work intensity; (b) less controlled, more autonomous, extrinsically motivated work intensity and (c) intrinsically motivated work intensity.

2.1.1 | Extrinsically motivated work intensity

Regarding extrinsic motivation, employees may work intensively to cope with *job demands* and excessive workload (Green, 2004b). Due to downsizing or budget constraints, understaffed companies may push employees to work intensively to compensate for labour shortages. Also, when companies find themselves under competitive pressures to reduce costs and survive, they may try to elicit more effort through ‘management by stress’ (Godard, 2010). In addition, employees have reported that increased pressure for hard work has come from their colleagues as much as from supervisors (Green, 2001). Employees often encounter demanding customers, so customer interactions too can pose significant burdens (Bakker & Demerouti, 2007; Chowdhury & Endres, 2010; Eurofound, 2019). Even when customer demands are regular service requests, meeting those demands can require intensive effort, by pushing the limits of what is feasible within the regular work schedule (Bakker & Demerouti, 2007; Meijman & Mulder, 1998). To cope with all such demands, employees may have to work without breaks, at high speed, and under strict deadlines.

Employees may also be extrinsically driven by *explicit or implicit incentives* to work intensively. By tying bonuses, promotions or retention to correlates of effort, employers can incentivise employees to supply higher work intensity (Prendergast, 1999). Yet, work intensity may also be driven by implicit incentives. For example, regardless of whether explicit incentives are in place, employees may supply more intensive effort to signal their value (Anger, 2008; Avgoustaki & Frankort, 2019) on the theory that work intensity might be perceived as a signal of efficiency, productivity or skill (Green, 2001). In return, employees may receive greater recognition, higher earnings and better career opportunities (Booth et al., 2002; Pannenberg, 2005). The extrinsic

motivation to work intensively may also derive from a desire to conform to the expected level of effort in the firm and align with the effort level of colleagues (Kandel & Lazear, 1992). Employees who are working below the norm may feel a sense of shame or guilt, even if no one observes their slower pace. They may also feel contagious enthusiasm to work harder, induced by the presence of faster workers. Some studies indeed suggest that social pressure and norms can supply implicit incentives that play a role in increasing work intensity, even when explicit incentives are limited (Bandiera et al., 2005; Mas & Moretti, 2009).

Although the above motives are all extrinsic, they vary in their perceived relative autonomy. Work intensity driven by job demands is unavoidable to the extent that employees must meet performance standards and address requests by others. Employees generally have little say in the quantity and types of demands imposed on them by supervisors, colleagues and customers. Thus, this type of work intensity is extrinsically motivated and controlled. Employees may also be unable to avoid such demands without facing repercussions, especially if the demands fall within the regular work schedule.

Instead, work intensity driven by explicit or implicit incentives is less controlled and more autonomous because the employee has more volition (Gagné & Deci, 2005; Ryan & Deci, 2000, 2017). For example, employees can choose to work intensively in response to explicit incentives or to signal their value. Similarly, employees have some autonomy to work intensively to conform to the norm, because they feel contagious enthusiasm, or are keen to avoid feelings of shame or guilt. All such motives reflect an employee's feeling of obligation to work with a certain intensity because of the expected importance of that action for (future) recognition or to avoid sanctions (Gagné & Deci, 2005). These motives remain extrinsic yet reflect greater autonomy than extrinsic motivates controlled by job demands.

2.1.2 | Intrinsically motivated work intensity

Unlike more controlled or more autonomous extrinsic motivation, the perceived locus of causality of autonomous, intrinsically driven work intensity is internal to the employee. Employees may choose to work intensively simply because they are interested in the work they are performing or derive satisfaction and enjoyment from it (Gagné & Deci, 2005). They may also work intensively for psychological growth, which occurs when employees seek out challenges they would enjoy trying to overcome (Deci & Ryan, 1980). Commitment helps employees build the energy necessary to sustain the intense effort needed to complete their tasks. Thus, employees may also have a strong psychological desire to work intensively to fulfil an inherent feeling of commitment and show dedication towards colleagues, supervisors, their job or the organisation (Burke et al., 2010; Deci et al., 2017; Grant & Berry, 2011).

2.2 | Types of motives, job satisfaction and quit intentions

Self-determination theory proposes that well-being will vary with the motivational regulations for employee behaviours. Specifically, the greater the degree of perceived relative autonomy, the more positively a motivation type should be associated with employee well-being (Deci et al., 2017). On the one hand, extrinsic motivation, by virtue of being relatively more controlled, is associated with reduced feelings of autonomy and effectance. Thus, it should predict lower well-being, implying lower levels of job satisfaction and higher quit intentions (Gagné & Deci, 2005). Some existing evi-

dence indeed reveals that extrinsically motivated employees are more likely to experience stress and burnout (Gagné et al., 2015; Ganster & Rosen, 2013), have lower job satisfaction and are more likely to intend to quit (Vansteenkiste et al., 2007). Similarly, the economics literature has suggested that extrinsic motivators may lead to anxiety, as employees can feel they are choking under pressure (Kamenica, 2012).

On the other hand, intrinsic motivation, by virtue of being relatively less controlled, is associated with enhanced feelings of autonomy and effectance and so should predict greater well-being (Gagné & Deci, 2005). Indeed, intrinsically motivated employees have tended to show a pattern opposite to that of extrinsically motivated employees. For example, intrinsic motivation has been associated with greater work-related well-being, as reflected in a lower likelihood of burnout and higher job satisfaction, and, more broadly, lower quit intentions (Fernet et al., 2004; Gagné et al., 2015; Richer et al., 2002).

These general patterns have been observed across occupations. For example, a recent study showed that extrinsic motivation was positively related, whereas intrinsic motivation was negatively related, to sales employees' quit intentions (Kuvaas et al., 2016). Another study using data from gas-station employees, members of a finance-sector trade union and employees in one medical technology and one finance organisation found that extrinsic motivation was positively associated with burnout and quit intentions, while intrinsic motivation was negatively associated with both outcomes (Kuvaas et al., 2017). Sheldon and Krieger (2014) showed that lawyers working in jobs focused on extrinsic goals reported lower well-being relative to ones in jobs focused more on intrinsic goals, such as serving the public.

All the above studies focused on the extrinsic and intrinsic motivations for an employee's job as a whole. Nevertheless, one recent study examined the well-being implications of extrinsically and intrinsically motivated overtime, an effort dimension distinct from work intensity, in a sample of employees at an international consultancy firm (Avgoustaki & Cañibano, 2020). In their sample of professionals, the authors showed that extrinsically driven overtime was negatively related, while intrinsically driven overtime was positively related, to employee well-being, although the number of overtime hours per se was negatively related to well-being.

Overall, empirical self-determination research in work contexts has examined the distinct associations of extrinsic versus intrinsic work motivation in general with such outcomes as job satisfaction and quit intentions, and one study has examined extrinsic and intrinsic motivations for the specific behaviour of working overtime. Here, we bring these broader ideas regarding the correlates of individual motives to the domain of work intensity. This connection is warranted by our interest in explaining differences in well-being attributable to intensive work, and the concomitant need to match motivational regulations to the specific behaviour of working intensively (Fernet et al., 2017; Vallerand, 1997).

We expect that more autonomous motives for working intensively are associated with higher job satisfaction and lower quit intentions, compared to progressively more controlled motives for working intensively. Our earlier arguments suggest, in ascending order of perceived relative autonomy, that employees may work intensively driven by external job demands (a controlled form of extrinsic motivation), explicit or implicit incentives (a more autonomous form of extrinsic motivation) or intrinsic motives. Thus, our two hypotheses are as follows:

Hypothesis 1. *Intensive work driven by explicit or implicit incentives is more positively associated with employee job satisfaction, and more negatively with quit intentions, than intensive work driven by job demands.*

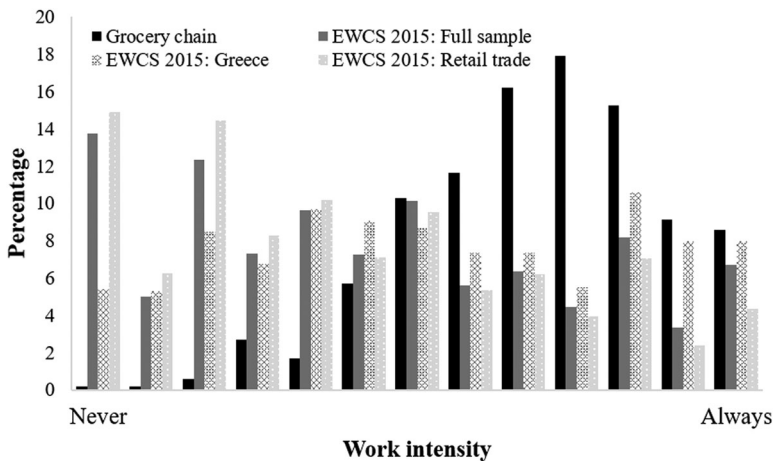


FIGURE 1 Histograms of work intensity—Grocery chain versus European Working Conditions Survey (EWCS) 2015

Hypothesis 2. *Intensive work driven by intrinsic motives is more positively associated with employee job satisfaction, and more negatively with quit intentions, than intensive work driven by explicit or implicit incentives.*

3 | METHOD

3.1 | Setting and sample

Our data come from a cross section of employees at a major grocery chain in Greece—a setting in which work intensity is high. Consider Figure 1, which shows histograms of work intensity in the grocery chain and in three extracts from the 2015 European Working Conditions Survey ('EWCS 2015'; Eurofound, 2016). Following precedent (e.g., Avgoustaki & Frankort, 2019; Green & McIntosh, 2001), work intensity here is the average of the frequency of having to work at high speeds and the frequency of having to work to tight deadlines, both measured on a 7-point ordinal scale ranging from 0 ('never') to 6 ('always'). The EWCS is a suitable benchmark because it is a representative cross section of the European workforce across 35 countries, a population in which our firm is nested.

Figure 1 shows that the grocery chain has a left-skewed work-intensity distribution, and its level of work intensity is far above that in Europe generally ('EWCS 2015: Full sample') and equally high relative to levels in EWCS subsamples for Greece ('EWCS 2015: Greece') and European retail trade, the firm's industry category (G47 in NACE rev. 1; 'EWCS 2015: Retail trade'). Table 1 gives selected summary statistics for all four samples, which underline stark differences in means and quartiles, all of which have higher values and reveal much greater concentration in our context, compared to the three EWCS benchmarks.

Thus, our empirical site is highly suited for our research purpose because virtually all employees experience work intensity and can credibly report their motives for working intensively. Also, our key concepts vary at the individual level, meaning that possible heterogeneity at higher

TABLE 1 Summary statistics for work intensity—Grocery chain versus European Working Conditions Survey (EWCS) 2015

| | Grocery chain (<i>N</i> = 525) | EWCS 2015 | | |
|-----------------|------------------------------------|-------------------------------------|-------------------------------|-------------------------------------|
| | | Full sample (<i>N</i> = 43,435) | Greece (<i>N</i> = 1,004) | Retail trade (<i>N</i> = 4,306) |
| Mean | 4.17 | 2.58 | 3.14 | 2.33 |
| 25th percentile | 3.50 | 1.00 | 1.50 | 1.00 |
| Median | 4.50 | 2.50 | 3.00 | 2.00 |
| 75th percentile | 5.00 | 4.00 | 5.00 | 3.50 |

levels of aggregation must be held constant, which is an important strength of our focus on a single firm. By design, it ensures that normal work activities and organisational context are comparable across sampled workers. Finally, we had access to the firm's top and middle management when the survey was designed and throughout and after data collection. Thus, we were able to obtain our novel measures regarding the motives for intensive work—which are not contained in standard data sources, such as the British Skills and Employment Survey or the EWCS—in a setting we could fully grasp. This also enables us to specify empirical equations accounting for relevant intra-firm heterogeneity. Of course, for all its benefits, our sample does not offer the scale and diversity common in standard data sources. We return to this issue in the Discussion section. Yet, provided that our theory reflects an underlying reality, its empirical implications—Hypotheses 1 and 2—will be identifiable in our smaller and more homogeneous sample.

The firm serves an entire Greek region and has around 1200 employees. We were given access to survey all 655 individuals working across 15 of the chain's branches in and around the capital of the region and in the chain's headquarters located in the capital. The survey was completed in 2019. The data were collected through a paper-based survey, presented to employees by one of the chain's managers and a research assistant. Employees were given a few weeks' time to hand in their completed surveys in sealed boxes that were placed at each location for the duration of data collection. Respondents were assured anonymity, consistent with prior agreements with the firm's leadership and institutional ethics approval. We received 560 responses (86 per cent), and between 351 (54 per cent) and 407 (62 per cent) were complete across all measures used in our empirical analyses.

Given the topics under study, anonymity was required for ethics approval and was important to minimise the potential for social desirability bias. The survey contains open-ended questions regarding what made employees happy or stressed working at this firm. The number of employee responses to these open-ended questions is comparable (~400) between the 'happy' and 'stress' questions, and roughly 90 per cent of the employees answering at least one of the two questions answered both (~380). Thus, social desirability seems of little concern. The modal response to the open-ended 'why stressed?' question relates to work intensity—that is, the amount of work relative to working time. Thus, work intensity is salient in the minds of the employees.

The data suggest that the analysis sample is representative of the population of employees available to us. For example, we know the distribution of the population of employees across the 15 branches and headquarters, which correlates very closely ($r = 0.99$) with the distribution of responses across locales, even when excluding the larger headquarters ($r = 0.98$). Also, because missing values are concentrated disproportionately in perceptual items, we can compare

the analysis sample to the responses with missing values on reported demographics and job characteristics. No systematic differences exist in gender, marital status, number of children and contract type, and distributions across age, education, salary and span-of-control categories are virtually identical.

3.2 | Measures

Here, we define our dependent, independent and control variables, and we refer to Online Appendix A for a complete overview of measures, eigenvalues, reliabilities and factor loadings.

3.2.1 | Job satisfaction

We elicited job satisfaction through one global and one composite measure (Clark et al., 1996; Spector, 1997). First, employees rated their agreement with 'I feel happy with my job' on a 7-point Likert scale, from 0 'not at all' to 6 'to a very large extent', which we used as a global, single-item measure for *Happy with job (overall)*. Second, employees rated their satisfaction with 13 job characteristics on a 7-point scale. Job characteristics were 'My type of work', 'My hours', 'My working conditions', 'Company rules', 'My relationship with colleagues', 'My relationship with superiors', 'The support from my superior', 'The communication with my superior', 'Company management', 'My salary', 'My rewards', 'My benefits' and 'My career prospects'. A single factor accounts for most of the variation in these items, and all items have a factor loading well above 0.5. We average scores across the items to measure *Job satisfaction (index)*, a composite index with a Cronbach's α of 0.92. The two job-satisfaction measures correlate at $r = 0.78$.

3.2.2 | Quit intentions

Employees rated their agreement with the following three items on a 7-point scale: 'I intend to resign and not look for another job', 'I plan to look for another job outside the company in the same role as the one I have now' and 'I plan to look for another job outside the company in a different role than the one I have now'. All three items share the intention to leave the focal employer (e.g., Bäker & Goodall, 2020) and load onto one common factor, so we average scores to measure *Quit intentions (index)*, an index with a Cronbach's α of 0.70. This index correlates with the respective job-satisfaction measures at $r = -0.41$ and $r = -0.34$.

3.2.3 | Motives for working intensively

We elicited motives for working intensively through a range of items capturing the three conceptual motives of job demands, explicit or implicit incentives and intrinsic motivation (Avgoustaki & Cañibano, 2020; Gagné & Deci, 2005). Following our arguments, we used these items to construct three indices, all with satisfactory factor loadings and reliabilities (see Online Appendix A). First, the index *Working intensively: Job demands* captures, on a 7-point scale, an employee's average agreement with 'I work intensively: ...to deal with my workload', '...because my superior demands it', '...because customers demand it', '...because my colleagues demand it' and

'... because there is a lack of staff'. Second, the index *Working intensively: Incentives* captures, on a 7-point scale, an employee's average agreement with 'I work intensively: ... to make more money', '... because I want to stand out', '... to improve my career within the company', '... not to lose my job', '... to look more hardworking towards my superiors or colleagues', '... because it looks bad not to' and '... because everyone works intensively'. Finally, the index *Working intensively: Intrinsic motives* captures, on a 7-point scale, an employee's average agreement with 'I work intensively: ... because I like it', '... because I am committed to the company', '... because I am committed to my superiors or colleagues' and '... because I am committed to the customer'.

Table 2 shows correlations among the 16 motives for working intensively grouped by index (above the diagonal) and averages across these correlations per matrix section (below the diagonal). The table reveals a quasi-simplex pattern, in which average correlations are strongest among items within indices ($0.33 \leq \bar{r} \leq 0.53$), weaker among items belonging to adjacent indices ($\bar{r} = 0.21$ and 0.24) and weakest among the items of *Job demands* and *Intrinsic motives* ($\bar{r} = 0.17$). Such a pattern converges with our argument that motives for working intensively lie along a continuum of perceived relative autonomy, from extrinsic motives entirely guided by external demands, through extrinsic motives driven by incentives, to intrinsic motives. Table 3 shows correlations between the three motives for intensive work and measures of job satisfaction and quit intentions. Consistent with our hypotheses, correlations with job satisfaction (quit intentions) become more positive (negative) from *Job demands* through *Incentives* to *Intrinsic motives*.

3.2.4 | Control variables

We adjust for a wide range of job and employee characteristics possibly predicting job satisfaction and quit intentions and/or confounding the key associations of interest (detail in Online Appendix A). In terms of job characteristics, we include *Work intensity* as the average of the frequency of having to work at high speeds and the frequency of having to work to tight deadlines, as in Figure 1 and Table 1. Although we study a high-intensity context, adjusting for work intensity is important because employees do differ somewhat in how much intensity they experience. Our focus on motives for working intensively presupposes that employees at least sometimes work at high speed and/or to tight deadlines, which is true for virtually all sampled employees (see Figure 1). Nevertheless, all estimates in the Results section also hold when we conservatively omit the employees not at least averaging three out of six on *Work intensity*.

Overtime captures how often an employee works more than their scheduled hours. *Fulltime* is a dummy for whether the employee is on a full-time contract. The *HR index* is the average across six items gauging an employee's discretion over work methods, speed and schedule and whether they receive training, appraisal and a bonus or similar. *Supervisor competence* is an average across three items on the functioning of the employee's supervisor as perceived by the employee. Adjusting for HR practices, such as discretion, and supervisor competence is important because both have been related to employee motivation, job satisfaction and quit intentions (e.g., Artz et al., 2017; Avgoustaki & Frankort, 2019; Hoffman & Tadelis, 2021). *Schedule uncertainty* captures unforeseen schedule changes. We also account for an employee's salary band and span of control.

In terms of employee characteristics, we adjust for gender through *Male* (1 = male; 0 = female) and for *Age* categories and the number of *Children*. Also, we capture whether the employee has a *Second job*, their marital status and their highest level of education. Our survey method opens the possibility that response patterns are confounded by individual tendencies to be generally positive or negative. Following recent work studying work-related well-being through survey data (Artz

TABLE 2 Correlations among motives for working intensively

| Index | Items | | | | | | | | | | | | | | | |
|---|----------------------|------|------|------|-------------|---|------|------|------------|------|------|------|-------------------|------|------|-------------|
| | Working intensively: | | | | Job demands | | | | Incentives | | | | Intrinsic motives | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1 ...to deal with my workload | 0.28 | 0.31 | 0.21 | 0.25 | | | | | | | | | | | | |
| 2 ...because my superior demands it | | 0.43 | 0.47 | 0.31 | | | | | | | | | | | | |
| 3 ...because customers demand it | | | 0.53 | 0.24 | | | | | | | | | | | | |
| 4 ...because my colleagues demand it | | | | 0.31 | | | | | | | | | | | | |
| 5 ...because there is a lack of staff | | | | | 0.33 | | | | | | | | | | | |
| 6 ...to make more money | | | | | | | | | | | | | | | | |
| 7 ...because I want to stand out | | | | | | | 0.29 | 0.47 | 0.24 | 0.36 | 0.16 | 0.30 | 0.11 | 0.07 | 0.18 | 0.17 |
| 8 ...to improve my career within the company | | | | | | | | 0.41 | 0.31 | 0.52 | 0.37 | 0.34 | 0.21 | 0.20 | 0.25 | 0.25 |
| 9 ...not to lose my job | | | | | | | | | 0.27 | 0.39 | 0.19 | 0.25 | 0.20 | 0.19 | 0.30 | 0.26 |
| 10 ...to look more hardworking towards my superiors or colleagues | | | | | | | | | | 0.49 | 0.40 | 0.34 | 0.19 | 0.20 | 0.22 | 0.16 |
| 11 ...because it looks bad not to | | | | | | | | | | | 0.41 | 0.48 | 0.17 | 0.20 | 0.29 | 0.24 |
| 12 ...because everyone works intensively | | | | | | | | | | | | 0.42 | 0.17 | 0.23 | 0.28 | 0.25 |
| 13 ...because I like it | | | | | | | | | | | | | 0.16 | 0.20 | 0.38 | 0.28 |
| 14 ...because I am committed to the company | | | | | | | | | | | | | | 0.69 | 0.42 | 0.46 |
| 15 ...because I am committed to my superiors or colleagues | | | | | | | | | | | | | | | 0.52 | 0.55 |
| 16 ...because I am committed to the customer | | | | | | | | | | | | | | | | 0.57 |
| | | | | | | | | | | | | | | | | 0.53 |

Note: Correlations among the 16 motives for working intensively are shown above the diagonal. Numbers below the diagonal are the same correlations, yet averaged per section.

TABLE 3 Correlations of motives for working intensively with outcomes

| | <i>Happy with job (overall)</i> | <i>Job satisfaction (index)</i> | <i>Quit intentions (index)</i> |
|-----------------------------|---------------------------------|---------------------------------|--------------------------------|
| Working intensively: | | | |
| Job demands | -0.048 | -0.049 | 0.116 |
| Incentives | 0.181 | 0.216 | -0.006 |
| Intrinsic motives | 0.598 | 0.583 | -0.363 |

et al., 2020; Avgoustaki & Cañibano, 2020; Bäker & Goodall, 2020), in several specifications, we adjust our estimates for an employee's general *Life satisfaction*. The variable captures the answer to 'Lately, I feel happy with my life' on a 7-point Likert scale, from 0 'not at all' to 6 'to a very large extent'. This control greatly raises the bar for uncovering evidence for our arguments, by absorbing an employee's inclination to give generally positive or negative responses across the survey. It thus limits the concern that otherwise unobserved personal tendencies confound the associations in which we are interested.

Table 4 shows descriptive statistics for all variables, both for the full analysis sample and respective subsamples of the set of 15 branches and the headquarters. Across these two subsamples, differences exist in gender composition, salary and education levels, yet also in happiness, job satisfaction, quit intentions and effort motives, among others. To ensure that our estimates are not confounded by stable differences between branches and the headquarters, and across locales more generally, we adjust for a full vector of location fixed effects in all equations.

4 | RESULTS

Table 5 shows ordinary least squares (OLS) estimates for our main models, which we present with robust standard errors. We estimated all models after z-standardising the three dependent variables (e.g., Bäker & Goodall, 2020), and we also z-standardised the three independent variables, to allow for comparability of the key coefficients within equations and across the three outcomes. Comparability within equations is needed for statistical tests of our two hypotheses, which concern differences in the coefficient magnitudes of the variables capturing motives to work intensively.

Models 1, 4 and 7 show estimates for the control variables. In Models 1 and 4, the coefficient of *Work intensity* is negative and marginally significant, although variance on this variable is relatively limited in our context. This finding suggests that employees who work with higher intensity in our context are predicted to be less happy with their jobs and experience lower *Job satisfaction*. Regarding other controls, *Fulltime* employees appear less happy with their jobs and more intent on quitting. As expected, the *HR index* and *Supervisor competence* are strongly positively associated with work-related happiness and *Job satisfaction*, and *Supervisor competence* is negatively associated with *Quit intentions* and marginally significant. Thus, employees who are exposed more to HR practices (e.g., discretion, bonus, training, performance appraisal) and who perceive their supervisors to be more competent (e.g., by helping employees to solve problems at work or by understanding the requirements and problems of an employee's job) experience greater work-related well-being. In addition, men experience lower *Job satisfaction* than women.

In Models 2, 5 and 8, we introduce the three key variables capturing motives for working intensively. Net of adjustments for a generous list of controls that include three indicators of discretion as part of the *HR index*, the R-squared values show that the three effort motives improve explained

TABLE 4 Descriptive statistics

| | Full sample | | | Branches | | | Headquarters | | |
|-----------------------------|-------------|-------|-------|----------|-------|-------|--------------|-------|-------|
| | N | Mean | s.d. | N | Mean | s.d. | N | Mean | s.d. |
| Happy with job (overall) | 407 | 4.233 | 1.666 | 274 | 4.456 | 1.550 | 133 | 3.774 | 1.803 |
| Job satisfaction (index) | 391 | 4.368 | 1.225 | 267 | 4.572 | 1.123 | 124 | 3.927 | 1.320 |
| Quit intentions (index) | 402 | 0.607 | 1.112 | 273 | 0.505 | 1.032 | 129 | 0.822 | 1.242 |
| Working intensively: | | | | | | | | | |
| Job demands | 386 | 3.041 | 1.358 | 264 | 3.311 | 1.355 | 122 | 2.457 | 1.173 |
| Incentives | 376 | 2.812 | 1.511 | 256 | 2.973 | 1.514 | 120 | 2.469 | 1.450 |
| Intrinsic motives | 394 | 4.598 | 1.421 | 271 | 4.941 | 1.181 | 123 | 3.843 | 1.606 |
| Work intensity | 407 | 4.195 | 1.112 | 274 | 4.208 | 1.113 | 133 | 4.169 | 1.114 |
| Overtime | 407 | 2.305 | 1.699 | 274 | 2.015 | 1.622 | 133 | 2.902 | 1.705 |
| Fulltime | 407 | 0.855 | 0.352 | 274 | 0.792 | 0.407 | 133 | 0.985 | 0.122 |
| HR index | 407 | 2.938 | 1.235 | 274 | 3.156 | 1.187 | 133 | 2.489 | 1.215 |
| Supervisor competence | 407 | 3.934 | 1.916 | 274 | 4.254 | 1.818 | 133 | 3.273 | 1.950 |
| Schedule uncertainty | 407 | 1.816 | 1.415 | 274 | 1.861 | 1.271 | 133 | 1.722 | 1.676 |
| Male | 407 | 0.472 | 0.500 | 274 | 0.350 | 0.478 | 133 | 0.722 | 0.450 |
| Age 18 to 29 | 407 | 0.147 | 0.355 | 274 | 0.139 | 0.346 | 133 | 0.165 | 0.373 |
| Age 30 to 39 | 407 | 0.314 | 0.465 | 274 | 0.310 | 0.463 | 133 | 0.323 | 0.470 |
| Age 40 to 49 | 407 | 0.388 | 0.488 | 274 | 0.398 | 0.490 | 133 | 0.368 | 0.484 |
| Age 50 to 61 | 407 | 0.150 | 0.357 | 274 | 0.153 | 0.361 | 133 | 0.143 | 0.351 |
| Second job | 407 | 0.115 | 0.320 | 274 | 0.099 | 0.299 | 133 | 0.150 | 0.359 |
| Children | 407 | 1.496 | 1.261 | 274 | 1.522 | 1.258 | 133 | 1.444 | 1.270 |
| Life satisfaction | 407 | 4.631 | 1.394 | 274 | 4.679 | 1.339 | 133 | 4.534 | 1.500 |
| Monthly net salary | | | | | | | | | |
| < €501 | 407 | 0.106 | 0.308 | 274 | 0.139 | 0.346 | 133 | 0.038 | 0.191 |
| €501–650 | 407 | 0.231 | 0.422 | 274 | 0.277 | 0.449 | 133 | 0.135 | 0.343 |
| €651–900 | 407 | 0.334 | 0.472 | 274 | 0.310 | 0.463 | 133 | 0.383 | 0.488 |
| €901–1100 | 407 | 0.248 | 0.432 | 274 | 0.237 | 0.426 | 133 | 0.271 | 0.446 |
| €1101–1300 | 407 | 0.057 | 0.231 | 274 | 0.033 | 0.179 | 133 | 0.105 | 0.308 |
| > €1300 | 407 | 0.025 | 0.155 | 274 | 0.004 | 0.060 | 133 | 0.068 | 0.252 |
| Span of control | | | | | | | | | |
| 0 | 407 | 0.823 | 0.382 | 274 | 0.814 | 0.390 | 133 | 0.842 | 0.366 |
| 1–10 | 407 | 0.074 | 0.262 | 274 | 0.058 | 0.235 | 133 | 0.105 | 0.308 |
| 11–25 | 407 | 0.059 | 0.236 | 274 | 0.073 | 0.261 | 133 | 0.030 | 0.171 |
| 26–50 | 407 | 0.034 | 0.182 | 274 | 0.051 | 0.221 | 133 | 0.000 | 0.000 |
| > 50 | 407 | 0.010 | 0.099 | 274 | 0.004 | 0.060 | 133 | 0.023 | 0.149 |
| Marital status | | | | | | | | | |
| Other | 407 | 0.233 | 0.424 | 274 | 0.212 | 0.409 | 133 | 0.278 | 0.450 |
| Married | 407 | 0.658 | 0.475 | 274 | 0.672 | 0.471 | 133 | 0.632 | 0.484 |
| Divorced | 407 | 0.096 | 0.295 | 274 | 0.099 | 0.299 | 133 | 0.090 | 0.288 |
| Widow/er | 407 | 0.012 | 0.110 | 274 | 0.018 | 0.134 | 133 | 0.000 | 0.000 |

(Continues)

TABLE 4 (Continued)

| | Full sample | | | Branches | | | Headquarters | | |
|--------------------------------|-------------|-------|-------|----------|-------|-------|--------------|-------|-------|
| | N | Mean | s.d. | N | Mean | s.d. | N | Mean | s.d. |
| Highest education level | | | | | | | | | |
| Primary school | 407 | 0.044 | 0.206 | 274 | 0.044 | 0.205 | 133 | 0.045 | 0.208 |
| High school | 407 | 0.115 | 0.320 | 274 | 0.135 | 0.342 | 133 | 0.075 | 0.265 |
| Lyceum | 407 | 0.600 | 0.491 | 274 | 0.646 | 0.479 | 133 | 0.504 | 0.502 |
| Tertiary | 407 | 0.241 | 0.428 | 274 | 0.175 | 0.381 | 133 | 0.376 | 0.486 |

variance in employee outcomes by between roughly 6 and 12 percentage points. The estimates show that the coefficient of working intensively for *Job demands* is negative and statistically significant in predicting *Happy with job* and *Job satisfaction*, and positive and significant in predicting *Quit intentions*. The coefficient of working intensively for explicit or implicit *Incentives* is small and insignificant in all models. Instead, the coefficient of working intensively for *Intrinsic motives* is positive and significant in predicting *Happy with job* and *Job satisfaction* and negative and significant in predicting *Quit intentions*.

These same patterns are also evident after adjusting for *Life satisfaction* in Models 3, 6 and 9. As expected, the inclusion of this additional and important control brings the point estimates of *Job demands* and *Intrinsic motives* slightly closer to zero. *Life satisfaction* has the expected positive sign in Models 3 and 6 predicting *Happy with job* and *Job satisfaction* and the expected negative sign in Model 9 predicting *Quit intentions*.

Formal assessment of our two hypotheses requires the statistical comparison of the coefficients on adjacent types of motives for working intensively (Gelman & Stern, 2006). Thus, we report hypotheses tests in the next rows in Table 5 that assess differences in magnitudes between the coefficients of *Incentives* and *Job demands* (Hypothesis 1) and coefficients of *Intrinsic motives* and *Incentives* (Hypothesis 2), respectively. Consistent with Hypothesis 1, the row of tests for 'INC-JD' shows that, statistically speaking, intensive work driven by explicit or implicit *Incentives* is more positively associated with job satisfaction, and more negatively with quit intentions, than intensive work driven by *Job demands*. Moreover, consistent with Hypothesis 2, the next row of tests, for 'IM-INC', shows that intensive work driven by *Intrinsic motives* is more positively associated with job satisfaction, and more negatively with quit intentions, than that driven by explicit or implicit *Incentives*.

4.1 | Residual confounding by job discretion

Empirically, our objective is to evaluate the importance of motives for working intensively net of the job characteristic of discretion and so effective adjustments for discretion are needed. The estimates in Table 5 already adjust for the independent effects of various factors, including work intensity and HR practices, the latter including indicators of an employee's discretion over methods, speed and schedule. Yet, residual confounding is still possible, in two ways. First, we used perceptual measures of discretion, which may diverge from the formal discretion afforded by different jobs. Models 1, 3 and 5 in Table 6 replicate Models 3, 6 and 9 of Table 5, yet now including a vector of job fixed effects that absorb any job-related variance. As is evident from the estimates, our core inferences regarding the motives for working intensively remain unchanged.

TABLE 5 Regression estimates for z-standardised 'Happy with job', 'Job satisfaction' and 'Quit intentions'

| | Happy with job (overall) ^a | | | Job satisfaction (index) ^b | | | Quit intentions (index) ^c | | |
|---|---------------------------------------|----------------------|---------------------|---------------------------------------|----------------------|--------------------------------|--------------------------------------|----------------------|-------------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Working intensively:^d | | | | | | | | | |
| Job demands (JD) | - | -0.198*** (0.059) | -0.177** (0.056) | - | -0.181*** (0.048) | -0.169*** (0.048) | - | 0.233** (0.075) | 0.221** (0.075) |
| Incentives (INC) | - | 0.055 (0.057) | 0.066 (0.053) | - | 0.046 (0.043) | 0.044 (0.041) | - | -0.025 (0.070) | -0.033 (0.071) |
| Intrinsic motives (IM) | - | 0.416*** (0.055) | 0.336*** (0.055) | - | 0.304*** (0.056) | 0.240*** (0.052) | - | -0.328*** (0.070) | -0.294*** (0.065) |
| INC-JD ^e | - | 0.253** (0.106) | 0.244** (0.102) | - | 0.227** (0.080) | 0.213** (0.080) | - | -0.257* (0.132) | -0.254* (0.135) |
| IM-INC ^e | - | 0.360*** (0.086) | 0.270*** (0.083) | - | 0.258*** (0.071) | 0.196** (0.067) | - | -0.303** (0.118) | -0.262* (0.114) |
| Work intensity | -0.071 ⁺ (0.043) | -0.025 (0.042) | -0.023 (0.038) | -0.060 ⁺ (0.036) | -0.014 (0.035) | -0.028 (0.032) | 0.058 (0.051) | 0.033 (0.058) | 0.026 (0.056) |
| Overtime | -0.049 (0.034) | -0.051 (0.031) | -0.047 (0.029) | -0.047 ⁺ (0.026) | -0.042 (0.026) | -0.047 ⁺ (0.025) | 0.012 (0.037) | 0.021 (0.036) | 0.014 (0.035) |
| Fulltime | -0.350* (0.174) | -0.226 (0.173) | -0.149 (0.155) | -0.065 (0.146) | -0.026 (0.141) | 0.012 (0.136) | 0.648** (0.215) | 0.474* (0.224) | 0.429 ⁺ (0.221) |
| HR index | 0.222*** (0.043) | 0.162*** (0.043) | 0.087* (0.038) | 0.213*** (0.036) | 0.167*** (0.037) | 0.117** (0.036) | -0.010 (0.050) | 0.036 (0.046) | 0.071 (0.047) |
| Supervisor competence | 0.172*** (0.030) | 0.113*** (0.029) | 0.131*** (0.026) | 0.273*** (0.025) | 0.237*** (0.026) | 0.255*** (0.025) | -0.064 ⁺ (0.037) | -0.020 (0.039) | -0.027 (0.039) |
| Schedule uncertainty | 0.005 (0.038) | -0.014 (0.038) | -0.004 (0.034) | -0.027 (0.030) | -0.040 (0.029) | -0.038 (0.029) | -0.001 (0.041) | -0.005 (0.041) | -0.011 (0.041) |
| Male | -0.139 (0.100) | -0.097 (0.100) | -0.129 (0.090) | -0.242** (0.084) | -0.181* (0.082) | -0.204* (0.079) | 0.071 (0.114) | 0.083 (0.118) | 0.097 (0.118) |

(Continues)

TABLE 5 (Continued)

| | Happy with job (overall) ^a | | | Job satisfaction (index) ^b | | | Quit intentions (index) ^c | | |
|-------------------------|---------------------------------------|--------------------|----------------------|---------------------------------------|----------------------|----------------------|--------------------------------------|-------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Age 30 to 39 | 0.206 (0.162) | 0.052 (0.150) | 0.021 (0.135) | 0.175 (0.128) | 0.041 (0.124) | 0.032 (0.122) | -0.205 (0.186) | -0.149 (0.181) | -0.128 (0.184) |
| Age 40 to 49 | 0.090 (0.177) | -0.082 (0.170) | -0.082 (0.154) | 0.178 (0.142) | 0.022 (0.137) | 0.045 (0.132) | -0.131 (0.220) | -0.113 (0.220) | -0.102 (0.220) |
| Age 50 to 61 | 0.145 (0.201) | -0.023 (0.195) | 0.015 (0.166) | 0.232 (0.158) | 0.041 (0.150) | 0.053 (0.143) | -0.214 (0.240) | -0.152 (0.242) | -0.163 (0.238) |
| Second job | 0.255* (0.126) | 0.296* (0.117) | 0.284** (0.109) | -0.130 (0.131) | -0.102 (0.117) | -0.048 (0.102) | 0.217 (0.164) | 0.150 (0.149) | 0.178 (0.144) |
| Children | 0.016 (0.040) | 0.009 (0.039) | 0.027 (0.034) | -0.045 (0.037) | -0.049 (0.038) | -0.015 (0.031) | -0.058 (0.045) | -0.071 (0.053) | -0.072 (0.050) |
| Life satisfaction | - | - | 0.227*** (0.031) | - | - | 0.108*** (0.030) | - | - | -0.127** (0.044) |
| Constant | -1.312*** (0.394) | -0.738+ (0.383) | -1.492*** (0.345) | -1.367*** (0.293) | -1.002*** (0.292) | -1.363*** (0.289) | -0.006 (0.447) | -0.248 (0.469) | 0.178 (0.490) |
| Monthly salary FEs (5) | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Span of control FEs (4) | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Location FEs (15) | Y | Y | Y | Y | Y | Y | Y | Y | Y |

(Continues)

TABLE 5 (Continued)

| | Happy with job (overall) ^a | | | Job satisfaction (index) ^b | | | Quit intentions (index) ^c | | |
|------------------------|---------------------------------------|-------|-------|---------------------------------------|-------|-------|--------------------------------------|-------|-------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Marital status FEs (3) | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Education FEs (3) | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 407 | 363 | 363 | 392 | 352 | 351 | 403 | 361 | 360 |
| R-squared | 0.459 | 0.581 | 0.658 | 0.661 | 0.724 | 0.753 | 0.260 | 0.350 | 0.380 |

Note: OLS estimates shown, with robust standard errors in parentheses. The reference category for age is 'Age 18 to 29'.

^aThe dependent variable in Columns 1–3 is the z-score of employees' ratings of 'I feel happy with my job' on a 7-point Likert scale.

^bThe dependent variable in Columns 4–6 is the z-score of employees' average satisfaction on a 7-point Likert scale with: 'My type of work', 'My hours', 'My working conditions', 'Company rules', 'My relationship with colleagues', 'My relationship with superiors', 'The support from my superior', 'The communication with my superior', 'Company management', 'My salary', 'My rewards', 'My benefits' and 'My career prospects'.

^cThe dependent variable in Columns 7–9 is the z-score of employees' average rating of 'I intend to resign and not look for another job', 'I plan to look for another job outside the company in the same role as the one I have now' and 'I plan to look for another job outside the company in a different role than the one I have now', all on a 7-point Likert scale.

^dAll three motives variables were z-standardised prior to estimation, to enable statistical comparisons within models.

^eReported coefficients, standard errors and one-tailed significance tests are for directional differences between the slope coefficients of, respectively, *Incentives* and *Job demands* (Hypothesis 1) and *Intrinsic motives* and *Incentives* (Hypothesis 2).

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.1$.

TABLE 6 Regression estimates for z-standardised 'Happy with job', 'Job satisfaction' and 'Quit intentions': Probing residual confounding by job discretion

| | <i>Happy with job</i> (overall) ^a | | <i>Job satisfaction</i> (index) ^b | | <i>Quit intentions</i> (index) ^c | |
|---|---|----------|---|-----------|--|-----------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Working intensively:^d | | | | | | |
| Job demands (JD) | -0.171* | -0.178** | -0.162*** | -0.166*** | 0.199** | 0.219** |
| | (0.058) | (0.056) | (0.048) | (0.048) | (0.072) | (0.075) |
| Incentives (INC) | 0.054 | 0.072 | 0.026 | 0.049 | -0.027 | -0.035 |
| | (0.055) | (0.053) | (0.041) | (0.041) | (0.073) | (0.071) |
| Intrinsic motives (IM) | 0.331*** | 0.327*** | 0.256*** | 0.220*** | -0.253*** | -0.291*** |
| | (0.056) | (0.054) | (0.051) | (0.053) | (0.068) | (0.069) |
| INC-JD ^e | 0.225* | 0.250** | 0.188** | 0.215** | -0.225* | -0.254* |
| | (0.104) | (0.100) | (0.078) | (0.078) | (0.133) | (0.134) |
| IM-INC ^e | 0.277*** | 0.255** | 0.230*** | 0.171** | -0.226* | -0.256* |
| | (0.087) | (0.083) | (0.069) | (0.067) | (0.119) | (0.115) |
| Deputy store manager | -0.103 | - | -0.604 | - | -1.262** | - |
| | (0.271) | | (0.404) | | (0.475) | |
| Store manager | -0.234 | - | -0.784 ⁺ | - | -0.968 ⁺ | - |
| | (0.287) | | (0.430) | | (0.523) | |
| Headquarters employee | 0.002 | - | -0.685 | - | -0.775* | - |
| | (0.413) | | (0.518) | | (0.389) | |
| Headquarters executive | 0.040 | - | -0.759 | - | -1.285** | - |
| | (0.418) | | (0.534) | | (0.464) | |
| Cleaner | -0.610** | - | -0.013 | - | 0.052 | - |
| | (0.214) | | (0.225) | | (0.229) | |
| Warehouse staff | 0.315 | - | 0.136 | - | -0.721* | - |
| | (0.414) | | (0.498) | | (0.330) | |
| Driver | 0.484 | - | -0.778 | - | -1.014* | - |
| | (0.458) | | (0.601) | | (0.402) | |
| Other job title | 0.349 | - | -0.372 | - | -1.381** | - |
| | (0.544) | | (0.570) | | (0.436) | |
| Work intensity | -0.030 | -0.065 | -0.018 | -0.041 | 0.043 | 0.033 |
| | (0.038) | (0.082) | (0.032) | (0.072) | (0.056) | (0.125) |
| Method discretion | - | 0.002 | - | 0.031 | - | 0.035 |
| | | (0.082) | | (0.066) | | (0.119) |
| Method discretion*Work intensity | - | 0.004 | - | -0.001 | - | -0.002 |
| | | (0.018) | | (0.014) | | (0.027) |
| Speed discretion | - | -0.060 | - | -0.033 | - | 0.008 |
| | | (0.081) | | (0.056) | | (0.093) |

(Continues)

TABLE 6 (Continued)

| | <i>Happy with job</i> (overall) ^a | | <i>Job satisfaction</i> (index) ^b | | <i>Quit intentions</i> (index) ^c | |
|-------------------------------------|---|---------------------|---|---------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Speed discretion*Work intensity | – | 0.020 (0.018) | – | 0.012 (0.013) | – | 0.003 (0.022) |
| Schedule discretion | – | 0.072 (0.069) | – | 0.030 (0.058) | – | 0.048 (0.084) |
| Schedule discretion*Work intensity | – | –0.023 (0.017) | – | –0.013 (0.014) | – | –0.006 (0.021) |
| Controls as in Table 5 ^f | Y | Y | Y | Y | Y | Y |
| Constant | –1.357*** (0.369) | –1.308** (0.497) | –1.461*** (0.299) | –1.373** (0.428) | 0.014 (0.512) | 0.081 (0.716) |
| Observations | 363 | 363 | 351 | 351 | 360 | 360 |
| R-squared | 0.664 | 0.665 | 0.766 | 0.762 | 0.406 | 0.387 |

Notes: OLS estimates shown, with robust standard errors in parentheses. The reference category for job title is 'store clerk'.

^aThe dependent variable in Columns 1 and 2 is the z-score of employees' ratings of 'I feel happy with my job' on a 7-point Likert scale.

^bThe dependent variable in Columns 3 and 4 is the z-score of employees' average satisfaction on a 7-point Likert scale with: 'My type of work', 'My hours', 'My working conditions', 'Company rules', 'My relationship with colleagues', 'My relationship with superiors', 'The support from my superior', 'The communication with my superior', 'Company management', 'My salary', 'My rewards', 'My benefits' and 'My career prospects'.

^cThe dependent variable in Columns 5 and 6 is the z-score of employees' average rating of 'I intend to resign and not look for another job', 'I plan to look for another job outside the company in the same role as the one I have now' and 'I plan to look for another job outside the company in a different role than the one I have now', all on a 7-point Likert scale.

^dAll three motives variables were z-standardised prior to estimation, to enable statistical comparisons within models.

^eReported coefficients, standard errors and one-tailed significance tests are for directional differences between the slope coefficients of, respectively, *Incentives* and *Job demands* (Hypothesis 1) and *Intrinsic motives* and *Incentives* (Hypothesis 2).

^fAll models include all control variables from Table 5, Models 3, 6 and 9, yet in Models 2, 4 and 6 the HR index is disaggregated into its six constituent components (see Online Appendix A), to facilitate *Work intensity* interactions with *Method discretion*, *Speed discretion* and *Schedule discretion*. *Method discretion* is an employee's rating of 'I have flexibility in how I do my job'; *Speed discretion* is an employee's rating of 'I can change the speed of my work' and *Schedule discretion* is an employee's rating of 'I can choose between different working hours'. All three are measured on a 7-point Likert scale.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; + $p < 0.1$.

Second, work intensity is high and fairly concentrated in our context but some limited variation does exist. While less likely due to such limited variation, the possibility still remains that work intensity and discretion interact to determine outcomes (Karasek, 1979). Thus, residual confounding would also be a concern if such an interaction has part of its effect through individual motives for working intensively (Ryan & Deci, 2017, p. 542). Models 2, 4 and 6 in Table 6 show the estimates, again replicating Models 3, 6 and 9 of Table 5, yet now disaggregating the *HR index* into its constituent components (see Online Appendix A), to allow us to incorporate *Work intensity* interactions with, respectively, *Method discretion*, *Speed discretion* and *Schedule discretion*. Table 6 does not reveal interactive effects of work intensity and discretion types. We did not find interactive effects either in unreported estimates entering interaction effects one at a time or in ones additionally omitting all control variables. Importantly, our inferences regarding the motives variables remain unchanged across all such additional specifications.

Overall, the estimates in Table 6 further strengthen the inferences from Table 5, by revealing that job satisfaction and quit intentions vary in systematic ways with employee motives for intensive work, independently of the job characteristic of discretion.

5 | DISCUSSION

Emerging research implies that employee well-being may suffer particularly due to work intensity rather than work duration, even though work intensity has continued to increase over time. Thus, our objective has been to contribute to scholarship on work intensity by examining the relations between employees' motives for working intensively and work-related well-being. Drawing from self-determination theory, we distinguished three motives for working intensively and predicted, first, that intensive work driven by explicit or implicit incentives is more positively associated with job satisfaction, and more negatively with quit intentions, than intensive work driven by job demands. Second, we predicted that intensive work driven by intrinsic motives is more positively associated with job satisfaction, and more negatively with quit intentions, than that driven by explicit or implicit incentives. Based on original survey data from a major grocery chain in Greece, our results reveal that employee motives for working intensively predict employee job satisfaction and quit intentions according to a pattern consistent with our hypotheses.

Our study complements work on the job characteristic of discretion, as we argue and show that the well-being of employees performing intensive work varies with their motivations for working intensively, net of the discretion afforded by an employee's job. A long line of work, inspired by Karasek's (1979) seminal job-strain model, has documented that the discretion a job affords on how and when to carry out the work can determine differences in well-being among employees facing intensive work. Consistent with reviews of the job-strain literature noting the need to examine individual differences (Kain & Jex, 2010; Van der Doef & Maes, 1999), our evidence reveals that even when holding constant discretion (among many other factors), the well-being of employees performing intensive work differs in systematic ways due to their individual motivations for working intensively. Our individual-level theory is not just statistically meaningful as an explanation distinct from the job characteristic of discretion; it is also practically consequential, as it accounts for nontrivial improvements in the explained variance in job satisfaction and quit intentions.

Our study also extends the application of self-determination theory from the conventional focus on an employee's entire work context to the specific yet consequential domain of work intensity (Deci et al., 2017). This extension of the theory to the domain of work intensity is warranted by our goal to explain well-being differences attributable to intensive work (Fernet et al., 2017; Vallerand, 1997) and underlines the predictive power of the theory even when motivational regulations are assessed at a lower level of generality—here, with respect to the specific behaviour of working intensively. Our focus on the motivational regulations for intensive work also complements other recent work contrasting the well-being implications of extrinsic and intrinsic motives for working overtime (Avgoustaki & Cañibano, 2020), a distinct work-effort dimension.

More broadly, the conceptual and empirical distinctions we make among three types of motives—through the subdivision of extrinsic motivations into more and less controlled motives—enrich the binary distinction between extrinsic and intrinsic motives often made in work contexts (e.g., Kuvaas et al., 2016, 2017; Sheldon & Krieger, 2014; Vansteenkiste et al., 2007). This way, we not only show that extrinsic and intrinsic motivations for intensive work have distinct effects, as in prior research focused on work in general, but also that more and less controlled types of extrinsic motivations for intensive work have distinct associations with job satisfac-

tion and quit intentions. By implication, while intrinsic motives for intensive work predict the most positive outcomes, not all extrinsic motives for intensive work appear equally harmful for employee well-being.

Some possible caveats related to the nature of our evidence must be noted. For example, we relied on an original survey to capture motivational regulations for intensive work, in part because standard data sources do not question individuals on motives for intensive work in their current jobs. Of course, only employees themselves can credibly report on their specific motives and subjective well-being, so self-reporting through a survey is appropriate and necessary (Green, 2013). Still, one might wonder about common method variance, through which the association between work-intensity motives and work-related well-being would perhaps reflect some underlying distinction between more positively and more negatively predisposed employees. To mitigate this issue, in the design of the survey, we separated items related to employee outcomes and work-intensity motives (Spector, 2006). Also, we adjusted for life satisfaction in our more comprehensive models, and, net of this key adjustment, our central inferences remained fully intact.

Moreover, we obtained data from a single firm. One important strength of this approach is that normal work activities and organisational context are comparable across sampled workers, which we required to home in on individual-level variation in the motives for intensive work. Evidently, questions exist regarding the relevance of our findings (and the role of important covariates, such as discretion) in other geographic locations, industries and lines of work, among other factors. Nothing in our conceptual arguments is idiosyncratic to our empirical site. Thus, we encourage future tests of our theory in data collected in other contexts. Useful places to start, we suggest, would be contexts where work intensity presents a clear policy concern—for example, in samples of blue-collar workers or large and understaffed firms (Eurofound, 2019).

A final issue concerns the possibility of reverse causality, by which work-related well-being would drive reported motives. Although identifying suitable instrumental variables (IVs) is inherently difficult, in the spirit of exploration, we estimated some IV regressions (see Online Appendix B) to examine such an alternative causal narrative. Reassuringly, the results particularly for job satisfaction were similar after instrumenting the three employee motives, so we found no evidence that reverse causation alone produced our empirical patterns. While by no means a silver bullet, we believe IV estimation is a potentially useful approach to probe the robustness of empirical estimates, which is not yet common in studies of work intensity and self-determination. We would encourage scholars to identify ways to elicit plausibly exogenous variation in motives, preferably while retaining the contextual realism of the field.

Our findings foreshadow some possible implications for workers and employers. When considering a high-intensity job, workers could benefit from developing some notion of their anticipated motives for intensive work. From the standpoint of subjective well-being, jobs in which an employee believes they would be intrinsically motivated to work hard seem preferable to jobs in which the employee feels they could only be motivated to do so by incentives or job demands. Also, while the issue of work intensity per se should be on the agenda of employers, the negative implications of controlled extrinsic motivation relative to other types of motivation mean that employers should be mindful of the motivational states of their employees and the motivational aspects of work more broadly. For example, because intrinsically driven work intensity appears to have positive implications, employers could design jobs and tasks so they are inherently enjoyable and interesting, which can stimulate intrinsic motivation. During the selection process, employers can focus on identifying candidates who are more likely to be intrinsically motivated to work hard, perhaps because the job matches their interests particularly well.

Recent scholarly efforts have made clear the ramifications of intensive work for employee well-being. Given the evidence of sustained work intensification, this issue should be high on the agendas of workers, employers and policymakers. Our article introduces three types of motivations for intensive work that have diverging associations with employees' work-related well-being. The upshot is a more complete understanding of the well-being differences attributable to intensive work, with implications for workers and employers.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available for viewing from the corresponding author upon reasonable request. The data are not publicly available due to privacy or ethical restrictions.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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