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What Matters More for Work Motivation? Compensation or Work Design?

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A substantial body of literature has examined the impact of both pay and work design characteristics on workplace outcomes and the quality of motivation but rarely have these predictors been compared. Given that the design of work is naturally related to the design of pay, we examined their relative contributions to explaining variance in work motivation, and, in turn, performance and well-being outcomes. Data from three field studies revealed that work design accounted for more variance in motivation, well-being, adaptive, and proactive performance than pay characteristics. Moreover, variable pay, once controlling for work design, had mostly small but negative relations with employee outcomes, which stands in contrast to previous research findings that have not controlled for work design. Not taking work design into account when studying the effects of pay and extrinsic rewards may lead to erroneous conclusions about how much weight to put on pay as a motivator and could misdirect organizations into putting too many resources into the design of complex compensation systems, instead of paying attention to the design of work.

Keywords: compensation, work design, motivation, performance, well-being

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A substantial literature shows that pay level and compensation attributes (e.g., pay for performance) are positively related to work performance (Jenkins et al., 1998; Kim et al., 2022) and to motivation (Fulmer & Li, 2022; Fulmer et al., 2023). Likewise, extensive evidence demonstrates that work characteristics, such as job complexity and autonomy, positively influence work outcomes and motivation (Parker, 2014). However, these two literature have largely evolved in parallel, overlooking a key issue: work characteristics and pay structures are often intertwined. Employees with greater responsibilities, more complex tasks, and higher job autonomy tend to receive different forms and levels of compensation. This raises the question of whether existing research has, perhaps unintentionally, conflated the effects of pay and work characteristics on work motivation and performance. Are they equally and independently important or is one more potent than the other?

Beyond employee performance, well-being has become an increasingly important outcome for both organizational and societal impact (Goh et al., 2016; Tay et al., 2023), and some research suggests it can be negatively impacted by incentives (e.g., Dahl & Pierce, 2020). Self-determination theory (SDT; Ryan & Deci, 2017) offers a useful framework for reconciling past findings of the positive effects of rewards on performance with their negative effects on well-being as it proposes that work motivation can vary in terms of its quality, with empirical research showing that autonomous forms of motivation (i.e., working out of meaning and enjoyment) yields better performance and well-being outcomes than controlled forms of motivation (i.e., working to get rewards or self-worth; Van den Broeck et al., 2021). Thus, by examining how both pay and work characteristics relate to motivation quality, we can better assess their relative contribution to both performance and well-being.

We examined, in three field studies, the relative contribution of pay and work characteristics in predicting several aspects of performance and well-being, and the explanatory role autonomous work motivation plays. The results show that pay characteristics have a weaker association with work motivation and outcomes when accounting for work characteristics than when not, which has important implications for ongoing conversations on the motivating effects of pay and incentives (Fulmer et al., 2023; Gerhart & Fang, 2015). First, it indicates that the motivational value of incentives may have been exaggerated in theory and practice as prior studies do not account for the rewarding aspects of the job itself. Second, this suggests that work design should always be controlled for in research on pay and incentives. Third, it highlights that to motivate workers,

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organizations should give more attention and resources to work design than pay. Overall, our findings provide an explanation for the widely variable findings about the motivational effects of financial rewards (e.g., Fulmer et al., 2023).

Pay, Performance, and Motivation

The substantial body of literature examining the relationship between pay, performance, and work motivation has triggered heated discussion about whether pay helps, hinders, or has no effect on motivation at work (see reviews from Deci et al., 2017; Gerhart & Fang, 2015). Meta-analyses of experimental studies indicate that financial incentives are positively related to performance (Jenkins et al., 1998; Kim et al., 2022). Although disagreements have arisen over specific points, such as whether incentives may harm performance for interesting tasks (Kim et al., 2022; Weibel et al., 2010), there is general acceptance of the theoretical principle that incentives drive performance.

However, a particular point of debate relates to the form of motivation which pay induces. Motivation is important because it is the fundamental theoretical mechanism through which incentives affect performance (Skinner, 1953), and different forms of motivation drive different performance outcomes (Van den Broeck et al., 2021). Early research inspired by SDT (Deci & Ryan, 1985) has suggested that contingent tangible rewards, such as money, decrease intrinsic motivation (i.e., doing something out of enjoyment and interest) because incentives may be experienced as controlling (i.e., frustrate the need for autonomy; Deci et al., 1999). Meta-analytic evidence supports this claim by showing that contingent rewards indeed have negative effects on intrinsic motivation (Deci et al., 1999; Lehtivuori, 2023) and that highly contingent pay diminishes the positive relationship between intrinsic motivation and performance (Cerasoli et al., 2014).

While performance is an important outcome of incentives, organizations also have a duty to consider the well-being of their employees. Well-being has been rarely examined as a direct outcome of financial incentives despite being an important organizational and societal outcome (Goh et al., 2016; Tay et al., 2023). The research that has investigated this generally finds that incentives can cause stress (e.g., Ganster et al., 2013), decrease well-being (George et al., 1989; Shirom et al., 1999), and increased the use of psychotropic medication (Dahl & Pierce, 2020). Meanwhile, meta-analytic findings indicate intrinsic motivation is consistently and significantly far more important to well-being than any other type of motivation (Van den Broeck et al., 2021). Given the findings about incentives and motivation, and motivation and well-being, this indicates that the form of motivation is important for both organizational (performance) and employee (well-being) outcomes.

Yet, debates remain about the consistency of the findings on the associations between incentives, intrinsic motivation, and performance based largely on questions about research design and ecological validity (e.g., Gerhart & Fang, 2015). Given that not all job tasks are interesting and enjoyable (Gagné & Deci, 2005), Gerhart (2017) suggested that future research examine the effects of pay characteristics on forms of motivation other than intrinsic (see also Kim et al., 2022). SDT proposes that individuals can experience the same benefits as intrinsic motivation (which is consistently associated with positive outcomes; Van den Broeck et al., 2021) for nonintrinsically interesting tasks, if their reasons for behaving have been sufficiently internalized. Internalization occurs when individuals align the reasons for engaging in a task with their personal values or beliefs and therefore exert effort because it is personally meaningful (Deci & Ryan, 1985). Identified motivation (doing something because it is personally meaningful) is an internalized form of motivation and may be particularly important in work environments where tasks are important but not always enjoyable (Gagné & Deci, 2005; Hewett, 2023). A recent meta-analysis by Van den Broeck et al. (2021) verifies this, finding that identified regulation is among the strongest predictors of a range of outcomes, particularly organizational citizenship behaviors and self-reported performance, and functions similarly to intrinsic motivation. Theoretically and empirically, intrinsic motivation and identified regulation are highly correlated and therefore often combined into autonomous motivation as an indication of highly volitional motivation. Meta-analytic findings (Van den Broeck et al., 2021) revealed that autonomous forms of motivation account for over 65% of the weight of the relationship between motivation and performance and well-being outcomes, relative to only 21% for more controlled forms of motivation (i.e., through social and material rewards).

Despite this body of evidence, debates continue about the overall effectiveness and mechanisms by which financial incentives might or might not adequately motivate workers (e.g., Deci et al., 2017; Fulmer et al., 2023). As such, the present research examines how pay characteristics are associated with various performance and well-being outcomes and the role of autonomous work motivation (i.e., identified regulation and intrinsic motivation; see also Kuvaas et al., 2016) as a mediating mechanism. We chose to focus on two pay characteristics: pay level and the proportion of one's income that is contingent on one's performance (pay for performance). These two aspects of pay are both theoretically and practically important because they explain how total income and incentives operate on motivation, and they are common characteristics of organizational pay systems (Gagné & Forest, 2008; Kim et al., 2022; Kuvaas, 2006; Kuvaas et al., 2016, 2020). Pay level refers to the total amount of money given in various forms (e.g., salary and bonuses) by an employer in a fiscal year. Pay level, most often operationalized as either yearly gross income or as hourly rate, has been deemed an important factor in satisfying basic survival needs, thereby decreasing insecurity and stress (Odle-Dusseau et al., 2018; Sverke et al., 2002) but has also been associated with higher intrinsic motivation and performance (Kuvaas, 2006; Nordgren-Selar et al., 2023) because its contingency to performance is less salient and therefore is less likely to be experienced as controlling (i.e., frustrate the need for autonomy; Cerasoli et al., 2014).

Pay-for-performance schemes are often advocated to help align the goals of the employee to those of the employer (as per agency theory; Jensen & Meckling, 1976) and create positive behavioral consequences for workers (as per operant conditioning and expectancy theories; Skinner, 1953; Vroom, 1964). However, there are arguments against the use of high proportions of pay for performance as part of total income as it may lead to work intensification leading to an erosion of positive work attitudes (Ogbonnaya et al., 2017), make one's income more insecure and stressful (Haushofer & Fehr, 2014; Howell et al., 2013; Leana & Meuris, 2015), and decrease autonomous work motivation (Deci et al., 1999; Kuvaas et al., 2016). All in all, the evidence on the benefits of pay for performance is mixed. Pay for performance relates modestly positively to job satisfaction (Ledić, 2018; Pouliakas & Theodossiou, 2009),

negatively to well-being (Dahl & Pierce, 2020; Yeh et al., 2009), and has demonstrated mixed relations to performance across different meta-analyses (Byron & Khazanchi, 2012; Cerasoli et al., 2014; Condly et al., 2003; Garbers & Konradt, 2014; Guzzo et al., 1985; Jenkins et al., 1998; Kim et al., 2022; Locke et al., 1980; Weibel et al., 2010).

Work Characteristics Confounded With Pay Characteristics

Many work characteristics have been strongly linked to intrinsic motivation (Fried & Ferris, 1987; Gagné et al., 1997; Johns et al., 1992) and more generally to work outcomes via autonomous motivation (Gagné & Panaccio, 2014). Work characteristics include both fundamental aspects of the job, such as skill variety, task identity and significance, feedback, and job autonomy (Hackman & Oldham, 1975) and more contemporary factors, including knowledge characteristics (knowledge, problem solving, and information processing requirements), social characteristics (interdependence, support, and interactions), and work context characteristics (physical demands and work conditions; Humphrey et al., 2007).

Work characteristics are compensable factors; in other words, the design of a job is related to the setting of pay, even when taking into consideration related factors such as industry, experience, or education (MacLeod & Parent, 1999; Schumann et al., 1994). In line with agency theory, it is assumed that an optimal work contract (i.e., agreed upon compensation) varies with the effort and results requirements of the job as well as the job's characteristics, which together can be considered as demands placed on the worker (Holmstrom, 1979; Holmstrom & Milgrom, 1994). For example, jobs that comprise more interpersonal tasks and at higher hierarchical levels (i.e., managerial) tend to be compensated more frequently with, and using a higher proportion of, pay for performance compared to routine and lower-level jobs (Pouliakas & Theodossiou, 2009; Sockin & Sockin, 2019).

Based on the fundamental theoretical principles of job design and work characteristics, the present research examines the relative contribution of pay and work characteristics to work outcomes, including motivation, performance, and well-being. We chose specific work characteristics that have been associated with pay level and the use of variable pay. These are job complexity, job autonomy, and feedback. Two of these job characteristics, complexity and autonomy, are increasing in contemporary work (Gagné et al., 2022; Wegman et al., 2018).

We found very few studies that have included both work characteristics and compensation variables as simultaneous predictors of work outcomes. One cross-sectional study of only 41 Indian bank employees examined how total compensation, work characteristics, and empowerment were related to performance (Susanti et al., 2021). They only found a positive relation between total pay and empowerment but did not assess how empowerment could have suppressed the relation between work characteristics and performance, and the correlation between work characteristics and pay was not reported. Another cross-sectional study of 90 Indonesian employees found that work characteristics and total pay were positively related to job satisfaction (Siregar et al., 2016), but they did not report the correlation between the two predictors. Surienty et al. (2014) found that work characteristics (an aggregate of autonomy and complexity) were more strongly negatively related to turnover than perceptions of pay fairness. Judge and Locke (1993) reported higher correlations between work characteristics and several indicators of well-being than between salary and well-being; the correlation between an aggregate of work characteristics and salary was .20. Finally, one study in a single Swedish organization that used merit pay found that work characteristics were a better predictor than pay but did not control for the correlations between pay and work characteristics (correlations ranged from −.21 to .34; Nordgren-Selar et al., 2020).

In the present set of studies, we focused on job complexity, job autonomy, and provision of feedback as predictors of autonomous motivation, and subsequently, performance and well-being outcomes. Job complexity is a compensable factor. This is because jobs that include complex tasks (which has been operationalized using many different variables including knowledge requirements, which themselves include expert knowledge, problem solving, and information processing, as well as skill and task variety; Morgeson & Humphrey, 2006) usually require workers who have specialized education or training, may involve more responsibilities, and these skills may be in high demand. The more tasks and the more complex the tasks someone is responsible for, the higher the pay level (e.g., Blau, 1994), even when controlling for gender, city size, and the union status of nonmanagerial employees (Schumann et al., 1994). Piece-rate systems are less likely to be used for complex jobs arguably because it is more difficult to quantify performance (MacLeod & Parent, 1999). However, other forms of variable pay, such as bonuses and stock options, are more likely to be used for highly complex jobs, the argument being that performance in these jobs is more directly linked to firm-level performance (MacLeod & Parent, 1999).

Job autonomy, that is, having discretion and decision-making power in one's job, is also a compensable factor. The reason is that job autonomy is often given to people with higher levels of skills or education, and with job autonomy comes more responsibility and accountability. The more responsibility and accountability someone has (i.e., risk), the higher the compensation offered. Job autonomy also has been argued to provide workers with more "control" over their work, making use of their skills to their fullest potential as an argument for using pay-for-performance schemes to motivate them to do so (Cameron & Pierce, 1994). Evidence supports this association. Pay for performance is associated with higher levels of job autonomy than fixed pay or hourly/piece-rate pay in Taiwan, whereas hourly/piece-rate is associated with the lowest levels (Yeh et al., 2009). Piece-rate is associated with higher levels of discretion because piece-rate pay is argued to provide a form of decentralization where workers can set their own pace (MacLeod & Parent, 1999).

The provision of performance feedback often accompanies or is embedded in performance–contingent pay, with some arguing that feedback is an important component of efficient performance-based pay (DeNisi & Smith, 2014; Latham & Steele, 1983; Murphy & Cleveland, 1991). This feedback could come from a manager during a performance review or from more "objective" performance indicators, such as reaching a quantitative performance quota. On the other hand, there is no theoretical or empirical reason to assume that individuals in higher paying jobs receive feedback from the job itself. We therefore expect that:

Hypothesis 1 (H1): Total pay is positively related to (a) job complexity and (b) job autonomy.

Hypothesis 2 (H2): Proportion of variable pay is positively related to (a) job complexity, (b) job autonomy, and (c) feedback.

We argue that work characteristics may act as a more powerful predictor of motivation, performance, and well-being than pay characteristics because work characteristics not only determine whether people use and build their skills and knowledge but also because they are stimulating and make people feel more accountable for their actions (Parker, 2014). Moreover, work characteristics may be a more proximal predictor of outcomes as they are part of workers' day-to-day experiences, whereas pay might be a more distal factor experienced only fortnightly, monthly, and in the case of many pay-for-performance schemes, quarterly or yearly (Bujold-Steed & Swider, 2023). Because job complexity, job autonomy, and feedback are associated with pay level and the use of pay for performance, the effects of pay characteristics on motivation, performance, and well-being might disappear when we take these work characteristics into consideration. Finally, given that autonomous motivation has been shown to mediate the effects of contextual factors on work outcomes (Deci et al., 2017; Gagné & Deci, 2005), we tested for both direct and indirect effects (via autonomous motivation) of pay and work characteristics on work outcomes. Based on these arguments, we propose the following hypothesis:

> *Hypothesis 3 (H3):* Work characteristics are more strongly positively related to (a) autonomous motivation, (b) performance, and (c) well-being than pay characteristics.

Method

We collected data from three samples of workers to test the hypotheses by varying sample characteristics, time lags, how the work characteristics, and the outcomes were operationalized (see Table 1) to provide replication and a greater chance of generalization. All studies were conducted in accordance with American Psychological Association ethical standards and the standards required within each of the countries in which the research was conducted, and all data collections were approved by an ethics committee in their respective institutions. Sample size was determined as a function of the number of estimated parameters in the model but was also influenced by research budgets in Samples 1 and 2 and access to organizations and response rate in Sample 3. We report how we determined our sample size, all data exclusions, and all measures for each sample below.

Participants and Procedure

Sample 1

To detect an effect size of .20 with .80 statistical power, minimum sample size was estimated at $n = 444$.[1] Data were collected from full-time workers residing in the United States who were recruited via Amazon MTurk to participate in two Qualtrics surveys with a lag of 4 months. To ensure data quality, participants had to be employed at least 25 hr per week to be eligible to complete the surveys, and while taking the survey, failing any of three attention checks would automatically exclude them from continuing (Gummer et al., 2021). Additionally, based on a conservative estimate indicating careless responding, participants who completed the survey in less than 9 min were removed. The data set at Time 1 (T1) included 552 participants with valid data, meeting our estimation to achieve suitable statistical power. Some of the data from variables not used herein were used in another publication. Between T1 and Time 2 (T2), 22 participants changed jobs and as such were removed from analysis, leaving the final sample at T1 at 530 participants. At T2, 425 of the initial participants completed the surveys. The average age of the sample at T1 was 35.7 years ($SD = 10.7$), and 56.3% identified as male. Only 7.8% reported being part of a union. Employment area ranged widely with sales (15.6%), information technology (13.6%), and customer service (10.3%) being the most commonly reported. Of the sample, 50% reported having no supervision role, 30.3% reported being a first-level manager, 15.8% reported being a middle manager, and 2.9% indicated employment as a senior manager. Average tenure was 2.1 years ($SD = 0.37$), and on average, participants reported working 40.6 hr per week ($SD = 7.37$).

Sample 2

To detect an effect size of .20 with .80 statistical power, minimum sample size was estimated at $n = 444$. For this study, we purposefully recruited participants with access to variable pay. At T1, data were collected from 884 workers residing in the United States who were recruited via Amazon MTurk to participate in two Qualtrics surveys with a lag of 3 months. We further excluded workers who worked less than 20 hr per week and who failed attention check items, resulting in a reduced sample of 778 at T1. Between T1 and T2, 37 participants changed jobs and as such were removed from analysis, leaving the final sample at T1 at 741 participants. At T2, 347 of the initial participants, who retained the same work and pay conditions, completed surveys. The average age of the sample at T1 was 35.6 years ($SD = 9.96$), and 54.0% identified as male. Employment area ranged with retail trade (17.4%), finance and insurance (12.8%), as well as personal (11.9%) and communication (11.3%) services being the most commonly reported. Average tenure was 5.2 years ($SD = 4.6$), and on average, participants reported working 40.5 hr per week ($SD = 7.0$).

Sample 3

To detect an effect size of .20 with .80 statistical power, minimum sample size was estimated at $n = 403$. This sample consisted of employees from two Norwegian organizations, one operating in the utility sector and the other in manufacturing. These organizations were selected based on accessibility, specifically regarding their willingness to participate in the study and to share pay data. At the same time, the two organizations offered variation in industry context and job functions. In both organizations, all employees were invited via email to participate in an online survey. In total, 491 employees were invited from the first organization and 538 from the second. Of these, 128 (26.07%) and 257 (47.77%) employees completed the questionnaire, respectively. Respondents with more than 50% missing values on the study variables ($N = 57$) were excluded from further analyses. This resulted in a final sample of 328 employees (enough to detect an effect size of 0.22). The companies' pay records for employees consenting to this were shared and integrated to the data set ($n = 249$). The research project was approved by SIKT (previously Norwegian

[1] https://www.danielsoper.com/statcalc/calculator.aspx?id=89 was used to calculate a priori sample size for structural equation models (Soper, 2025).

Table 1
Design, Sample, and Variables in Each Study

Sample	Design	Sample	Work characteristics	Motivation	Outcomes
1	Two waves, 4-month lag, single source	U.S. residents, heterogeneous jobs, and varied pay schemes (self-reported)	Task variety, job autonomy (scheduling, method, and decision making), feedback from job, and others	Autonomous motivation from second-order CFA	Proficiency, adaptivity, proactivity, and thriving
2	Two waves, 3-month lag, single source	U.S. residents, heterogeneous jobs, and variable pay schemes (self-reported)	Knowledge demands, job monotony (inverse of task variety), and job autonomy (decision making)	Autonomous motivation from second-order CFA	Proficiency, adaptivity, proactivity, and emotional exhaustion
3	One wave, cross-sectional, and multisource	Norwegian employees, utility and manufacturing white- and blue-collar employees, and variable pay schemes (company records)	Knowledge demands, job autonomy (decision making), and feedback from others	Autonomous motivation from second-order CFA	Proficiency, adaptivity, proactivity, and stress

Note. CFA = confirmatory factor analysis.

Social Science Data Services, project 211732). The final sample consisted of 69.8% men, 16.6% women, and 0.5% other (13.1% did not indicate their gender). Mean age of the sample was 47.17 years ($SD = 11.74$), and participants worked on average 38.47 hr per week ($SD = 10.42$). The average tenure of the participants was 17.76 years ($SD = 13.27$), 63.5% had higher education (bachelor's degree or higher), and 63.5% were regular employees (no managerial responsibilities).

Measures

Compensation

In Samples 1 and 2, participants reported their compensation at T1. We asked participants what their gross income (before tax) was from their current job (from employment in Sample 2) in the last fiscal year (total income), what proportion of that was fixed (hourly or annual), and what proportion was variable (determined by performance or profit). For Samples 1 and 2, pay is reported in USD. In Sample 3, individual total pay and variable pay from the past year were obtained from the organizations' records and reported in NOK. Across the three samples, we used the total income and proportion of variable income (variable pay divided by total pay) as two separate variables. The amounts were standardized for analytic purposes.

Work Characteristics

In Sample 1, job complexity was measured with Morgeson and Humphrey's (2006) three-item subscale for task variety ($\omega = .91$), whereas it was measured at T1 using Melamed et al.'s (1995) three items for job monotony (the inverse of variety and reverse coded for consistency with Sample 1) in Sample 2 ($\omega = .88$). In Sample 2, job complexity was also measured at T1 with three items from Morgeson and Humphrey's (2006) knowledge demands subscale specific to problem-solving demands ($\omega = .84$). In Sample 3, job complexity was measured using four items from across Morgeson and Humphrey's (2006) knowledge demands subscales (i.e., the job involves performing relatively simple tasks, the job requires me to analyze a lot of information, the job involves solving problems that have no obvious correct answer, and the job requires me to use a number of complex or high-level skills; $\omega = .80$). Morgeson and Humphrey's (2006) nine items measuring job autonomy at T1 in relation to work scheduling, work methods, and decision-making autonomy were combined into a single variable in Sample 1 ($\omega = .94$), whereas only the three decision-making items were used at T1 in Samples 2 ($\omega = .93$) and 3 ($\omega = .80$). Morgeson and Humphrey's (2006) three items for feedback from the job were used at T1 in Sample 1 (e.g., the job itself provides me with information about my performance; $\omega = .81$), while feedback from others was measured with one item (i.e., I receive feedback on my performance from other people in my organization) in Sample 3. Feedback was not measured in Sample 2. Work characteristics were assessed on a 1 (*never*) to 5 (*always*) in Samples 1 and 3 and on a 1 (*never*) to 7 (*always*) response scale in Sample 2.

Work Motivation

Identified and intrinsic motivation were measured (at T2 in Samples 1 and 2) using three items each from the Multidimensional Work Motivation Scale (Gagné et al., 2015) in all three samples. Respondents were asked to rate various reasons for putting effort into their job using a scale ranging from 1 (*not at all for this reason*) to 7 (*exactly for this reason*) that reflected intrinsic (e.g., because the work I do is interesting) and identified (e.g., because putting efforts in this job aligns with my personal values) regulations. In all three samples, confirmatory factor analyses (CFAs; see the Results section) indicated that a higher-order solution with autonomous motivation as a second-order factor provided the best fit to the data, something that has been deemed acceptable in the validation study (Gagné et al., 2015). Reliabilities were high for the second-order factor of autonomous motivation across samples (Sample 1: $\omega = .90$; Sample 2: $\omega = .93$; Sample 3: $\omega = .90$).

Work Performance

The work role performance (Griffin et al., 2007) was used in the three samples (at T2 in Samples 1 and 2). It comprises nine subscales to measure proficiency (i.e., fulfilling prescribed role requirements); adaptivity (i.e., coping, responding to, and supporting change); and proactivity (i.e., initiating change) at the individual, team, and organizational levels. Only the individual level proficiency (Sample 1: $\omega = .78$; Sample 2: $\omega = .88$; Sample 3: $\omega = .73$), adaptivity (Sample 1: $\omega = .75$; Sample 2: $\omega = .72$; Sample 3: $\omega = .82$), and proactivity subscales (Sample 1: $\omega = .86$; Sample 2: $\omega = .94$; Sample 3: $\omega = .88$) were rated on a

scale ranging from 1 (*very little*) to 5 (*a great deal*) scale in Samples 1 and 3 and on a 1 (*never*) to 7 (*always*) scale in Sample 2.

Well-Being

To generalize our findings to different aspects of well-being, we used different measures in each sample. In Sample 1, the Thriving at Work scale (Porath et al., 2012) was used at T2. Ten items from the learning and vitality subscales were assessed on a 1 (*strongly agree*) to 5 (*strongly disagree*) Likert scale and combined to form the latent thriving factor for analyses ($\omega = .93$). In Sample 2, the five-item exhaustion subscale of the Maslach Burnout Inventory–General Form (Schaufeli et al., 1996) was used at T2, capturing the inverse of well-being ($\omega = .97$) using a 1 (*never*) to 7 (*always*) scale (e.g., I feel burned out from my work). In Sample 3, a one-item measure of stress from Stanton et al. (2001) was used to evaluate respondents' level of work-related stress on a scale ranging from 1 (*no stress*) to 10 (*extreme stress*).

Data Analysis Strategy

In each sample, fully latent measurement and structural models were tested in Mplus 8.9 with full information maximum likelihood estimation. The structural model (see Figure 1) tested the relative contribution of pay and work characteristics on autonomous motivation and work outcomes (assuming partial mediation) and tested for indirect effects.[2] For Samples 1 and 2, which had two measurement points, autonomous motivation and work outcomes at T2 were predicted by pay and work characteristics at T1. Correlations between the job characteristics and the pay characteristics were freely estimated. Model fit was evaluated based on a range of statistical measures, including the χ^2 test, comparative fit index (CFI) and Tucker–Lewis index (TLI) indices, root-mean-square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR) values. A nonsignificant χ^2 value indicates good model fit, but it should be noted that this test is sensitive to sample size. CFI and TLI values above .90 indicate acceptable fit, while values above .95 indicate excellent fit (Hoyle, 1995). Finally, an RMSEA value of .06 or less suggests good fit, whereas values within the range of 0–.08 are considered acceptable for the standardized root-mean-square residuals (SRMR; Hu & Bentler, 1999). We considered the addition of control variables such as abilities, managerial levels, and industry sector but directed acyclic graphs indicated that it was not necessary to control for these factors (Diemer et al., 2021).

We used the comparison of the beta coefficients derived from the SEMs to the zero-order correlations of pay and work characteristics with the outcomes; having beta coefficients being lower than the zero-order correlation would indicate the potential confounding factor of including other predictors of motivation. To complement these observations, relative weights analyses were performed using the R software package (Tonidandel & LeBreton, 2015) to examine the relative contribution of each predictor to variance explained in outcomes while controlling for relations between the predictors. Relative weights represent the variance in an outcome accounted for by the predictor, and rescaled relative weights represent this information as a percentage of variance accounted in outcomes for in the complete model. Such information can give us more precise information about which, between pay and work characteristics, contributes most to explaining variance in work motivation.

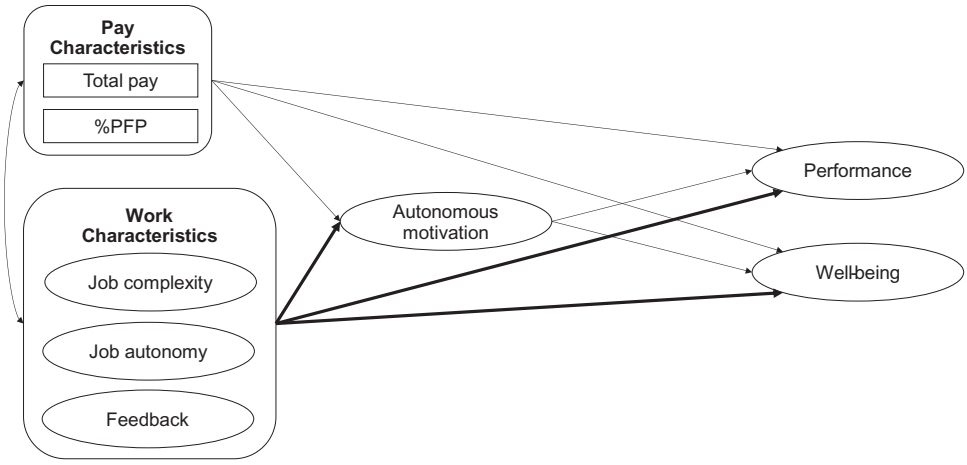
Results

Sample 1

A measurement model CFA showed acceptable fit to the data, $\chi^2(749) = 1{,}584.496$, $p < .001$, CFI = .911, TLI = .902, RMSEA = .046, SRMR = .070. Factor loadings were all significant and above .63. The fully latent structural model fit acceptably well (RMSEA = .045 [.042–.048], CFI = .910, TLI = .901). Correlations

[2] We also ran this model adding an extrinsic motivation variable (the external material regulation subscale of the MWMS) as it would be logical that pay characteristics should influence this type of motivation. We present the results of these analyses in the online supplemental materials for interested readers. The results for autonomous motivation did not change, and the results for external regulation were mostly not significant.

Figure 1
The Tested Structural Equation Model



Note. %PFP = percentage of pay-for-performance.

are presented in Table 2. Total pay was positively correlated with job autonomy and task variety but was not significantly correlated with feedback, supporting H1. The proportion of variable pay was positively correlated with job autonomy, negatively correlated with task variety, and unrelated to feedback, giving partial support for H2.

Tables 3 and 4 as well as Figure 2 present the results of the structural model. Together, the work and pay characteristics accounted for 28.5% of the variance in autonomous motivation. Autonomous motivation was significantly and positively related to all three job design characteristics, unrelated to total pay, and negatively related to variable pay proportion. Of note, the relation between total pay and autonomous motivation weakened when it competed with work characteristics (see Figure 2), most likely because of job autonomy as it is the work characteristic most correlated with pay characteristics in this sample (see Table 2). Relative weights revealed that relations of work motivation with work characteristics were stronger than those with pay characteristics, supporting H3a.

Table 3 also presents the direct and indirect effects. Together, the work and pay characteristics accounted for 12.8% to 19.9% of the variance in the outcomes (adding motivation increased these values from 17% to 66%). Total pay did not predict proficiency either directly or indirectly via autonomous motivation. It was unclear whether the proportion of variable pay was negatively related to proficiency as the total effect was significant, but the direct and indirect pathways were not (which may indicate an effect not practically large enough given the sample size). Task variety was unrelated to proficiency via either pathway. However, job autonomy and feedback each had modest but positive indirect effects on proficiency through motivation, and feedback also had a direct positive effect. Keeping in mind that the predictors only accounted for a small proportion of variance in proficiency, relative weights revealed that proficiency was more related to task variety and feedback than to pay characteristics; however, variable pay was more strongly related to proficiency than job autonomy, only partially supporting H3b.

Adaptivity was not predicted by total income, but the proportion of variable pay had both a direct and an indirect negative effect via motivation (of note, these did not change substantially from the correlations). Task variety, job autonomy, and feedback all had indirect positive effects on adaptivity via motivation, but, overall, none of them had stronger total effects than the total negative effect of variable pay on adaptivity. Relative weights revealed that variable pay was a similar contributor to adaptivity (albeit a negative contributor) as the work characteristics, which fails to support H3b.

It was unclear whether total income was positively related to proactivity as the total effect was significant, but the direct and indirect pathways were not (which may indicate an effect not practically large enough given the sample size). Variable pay proportion had an indirect negative effect via motivation. Task variety and job autonomy had both direct and indirect effects on proactivity, while feedback had an indirect effect. Relative weights revealed that proactivity was more strongly related to task variety and job autonomy than to pay characteristics; however, total pay was more related to proactivity than feedback, partially supporting H3b.

Finally, total pay had a negative direct effect on thriving, while variable pay had a negative indirect effect via autonomous motivation. All three work characteristics had indirect positive effects on thriving via autonomous motivation. Relative weights revealed that these effects were stronger than those with pay characteristics, particularly for job autonomy, supporting H3c.

Sample 2

The measurement model CFA showed acceptable fit to the data, $\chi^2(347) = 1{,}011.52$, $p < .001$, CFI = .95, TLI = .94, RMSEA = .051, SRMR = .008. Factor loadings were all significant and greater than .699, except for one of the adaptive job performance items, which loaded significantly at .471. The fully latent structural model showed acceptable fit to the data, $\chi^2(389) = 1{,}065.83$, $p < .001$, CFI = .95, TLI = .93, RMSEA = .048, SRMR = .072. Total pay was related to task variety, knowledge demands, and job autonomy, supporting H1, while variable pay was only related to knowledge demands and job autonomy, partially supporting H2 (see Table 2).

Tables 3 and 4 as well as Figure 3 present the results of the structural model. Together, the work and pay characteristics accounted for 27.2% of the variance in autonomous motivation. Autonomous motivation was significantly and positively related to task variety and job autonomy but not associated with knowledge demands. The relationships between autonomous motivation and the pay characteristics were not significant. Relative weights revealed that relations of work characteristics with autonomous motivation were stronger than those of pay characteristics, supporting H3a.

Table 3 also presents the direct and indirect effects. Together, the work and pay characteristics accounted for 7.3% to 26.2% of the variance in the outcomes (adding motivation increased these values from 10% to 40%). The pay characteristics had neither direct nor indirect effects on performance, despite significant bivariate positive correlations of total and variable pay with proactive performance. Thus, the relations between pay characteristics and proactive performance decreased when job characteristics were considered. Knowledge demands only had a direct positive effect on proactivity. Task variety had indirect positive effects on adaptivity and proactivity via autonomous motivation. Meanwhile, job autonomy had direct positive effects on proficiency and adaptivity as well as indirect positive effects via autonomous motivation on adaptivity and

Table 2
Correlations Between Pay and Work Characteristics

	Sample 1		Sample 2		Sample 3	
Work characteristic	Total pay	%var	Total pay	%var	Total pay	%var
Task variety	.18***	−.10*	.20***	.04		
Knowledge demands			.16***	.08*	.47***	.15**
Job autonomy	.20***	.13***	.19***	.09*	.33***	.15*
Feedback	.07	.09			.27***	.14*

Note. %var = proportion of variable pay.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3
Standardized SEM Results for Each Sample

IV	MV	DV	a path (IV–MV)	b path (MV–DV)	c path (total effect)	c′ path (direct effect)	ab path (indirect effect)
Sample 1							
Total pay	AM	Proficiency	.08	.25***	−.04	−.06	.02
% variable pay	AM	Proficiency	−.13*	.25***	−.14*	−.10	−.03
Task variety	AM	Proficiency	.21**	.25***	.12	.06	.05
Job autonomy	AM	Proficiency	.22***	.25***	.004	−.05	.06**
Feedback	AM	Proficiency	.23**	.25***	.28**	.22**	.06*
Total pay	AM	Adaptivity	.08	.53***	.03	−.01	.04
% variable pay	AM	Adaptivity	−.13*	.53***	−.24***	−.18**	−.07*
Task variety	AM	Adaptivity	.21**	.53***	.15**	.04	.11**
Job autonomy	AM	Adaptivity	.22***	.53***	.10	−.02	.12**
Feedback	AM	Adaptivity	.23**	.53***	.20**	.09	.12**
Total pay	AM	Proactivity	.08	.39***	.11*	.08	.03
% variable pay	AM	Proactivity	−.13*	.39***	−.12*	−.07	−.05*
Task variety	AM	Proactivity	.21**	.39***	.22***	.14**	.08**
Job autonomy	AM	Proactivity	.22***	.39***	.27***	.18**	.09**
Feedback	AM	Proactivity	.23**	.39***	−.02	−.11	.09**
Total pay	AM	Thriving	.08	.81***	−.07	−.13*	.06
% variable pay	AM	Thriving	−.13*	.81***	−.11	−01	−.10*
Task variety	AM	Thriving	.21**	.81***	.10	−.07	.17**
Job autonomy	AM	Thriving	.22***	.81***	.31***	.13	.18**
Feedback	AM	Thriving	.23**	.81***	.14	−.04	.18**
Sample 2							
Total pay	AM	Proficiency	.05	.17	−.08	−.09	.01
% variable pay	AM	Proficiency	.12	.17	−.04	−.06	.02
Knowledge	AM	Proficiency	.10	.17	−.17	−.18	.02
Task variety	AM	Proficiency	.25**	.17	.04	.00	.04
Job autonomy	AM	Proficiency	.29***	.17	.35**	.31**	.05
Total pay	AM	Adaptivity	.05	.32**	−.05	−.06	.02
% variable pay	AM	Adaptivity	.12	.32**	−.00	−.04	.04
Knowledge	AM	Adaptivity	.10	.32**	−.09	−.12	.03
Task variety	AM	Adaptivity	.25**	.32**	.04	−.04	.08*
Job autonomy	AM	Adaptivity	.29***	.32**	.34***	.25*	.09*
Total pay	AM	Proactivity	.05	.32***	.10	.09	.02
% variable pay	AM	Proactivity	.12	.32***	.07	.04	.04
Knowledge	AM	Proactivity	.10	.32***	.30**	.27**	.03
Task variety	AM	Proactivity	.25**	.32***	.11	.03	.08*
Job autonomy	AM	Proactivity	.29***	.32***	.16	.07	.09**
Total pay	AM	EE	.05	−.54***	.03	.06	−.03
% variable pay	AM	EE	.12	−.54***	−.07	−.00	−.07
Knowledge	AM	EE	.10	−.54***	.21*	.26**	−.05
Task variety	AM	EE	.25**	−.54***	−.33***	−.20**	−.14**
Job autonomy	AM	EE	.29***	−.54***	−.29**	−.13	−.16**
Sample 3							
Total pay	AM	Proficiency	.14*	.41**	−.23**	−.29***	.06*
% variable pay	AM	Proficiency	.01	.41**	.05	.05	.00
Knowledge	AM	Proficiency	.12	.41**	.03	−.02	.05
Job autonomy	AM	Proficiency	.48***	.41**	.27*	.07	.20**
Feedback	AM	Proficiency	.15*	.41**	.10	.04	.06
Total pay	AM	Adaptivity	.14*	.42**	−.12	−.18**	.06
% variable pay	AM	Adaptivity	.01	.42**	−.07	−.07	.00
Knowledge	AM	Adaptivity	.12	.42**	.24**	.19*	.05
Job autonomy	AM	Adaptivity	.48***	.42**	.21*	.07	.20*
Feedback	AM	Adaptivity	.15*	.42**	.07	.01	.07
Total pay	AM	Proactivity	.14*	.29*	−.01	−.05	.04
% variable pay	AM	Proactivity	.01	.29*	.05	.05	.00
Knowledge	AM	Proactivity	.12	.29*	.31***	.27**	.04
Job autonomy	AM	Proactivity	.48***	.29*	.25**	.11	.14*
Feedback	AM	Proactivity	.15*	.29*	.06	.02	.05
Total pay	AM	Stress	.14*	−.01	.14*	.14*	−.00
% variable pay	AM	Stress	.01	−.01	.05	.05	.00
Knowledge	AM	Stress	.12	−.01	.30**	.30**	−.00
Job autonomy	AM	Stress	.48***	−.01	−.05	−.04	−.01
Feedback	AM	Stress	.15*	−.01	−.16*	−.15*	−.00

Note. SEM = structural equation modeling; IV = independent variable; MV = mediator variable; DV = dependent variable; AM = autonomous motivation; EE = emotional exhaustion.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4
Relative Weights Analyses in Each Sample

IV	Autonomous motivation	Proficiency	Adaptivity	Proactivity	Well-being
Sample 1					
Total pay	0.017/5.84	0.001/0.68	0.004/1.96	0.024/11.93	0.001/1.02
% variable pay	0.012/4.19	0.019/14.97	0.057/31.30	0.014/7.05	0.009/4.53
Task variety	0.084/29.38	0.025/19.57	0.043/23.65	0.076/38.38	0.033/16.63
Job autonomy	0.087/30.63	0.011/8.77	0.026/14.45	0.074/37.35	0.102/51.93
Feedback	0.085/29.96	0.071/56.01	0.052/28.64	0.011/5.29	0.051/25.88
R^2	.285	.128	.182	.199	.197
Sample 2					
Total pay	0.010/3.82	0.001/1.71	0.002/1.44	0.030/11.31	0.003/1.33
% variable pay	0.015/5.54	0.001/1.26	0.003/2.51	0.015/5.58	0.012/6.21
Knowledge demands	0.042/15.41	0.008/11.47	0.024/20.16	0.092/35.25	0.010/5.22
Task variety	0.097/35.43	0.034/4.65	0.019/15.99	0.050/18.94	0.087/46.07
Job autonomy	0.108/39.79	0.059/80.91	0.072/59.90	0.076/28.91	0.077/41.18
R^2	.272	.073	.120	.262	.188
Sample 3					
Total pay	0.063/12.58	0.025/22.32	0.006/3.90	0.017/6.30	0.034/25.84
% variable pay	0.006/1.17	0.002/1.99	0.003/2.20	0.008/2.84	0.005/3.45
Knowledge demands	0.086/17.17	0.008/6.68	0.057/40.11	0.116/42.96	0.072/55.15
Job autonomy	0.256/50.99	0.057/50.05	0.058/41.31	0.101/37.48	0.006/4.53
Feedback	0.091/18.09	0.022/16.97	0.018/12.47	0.028/10.41	0.014/11.02
R^2	.502	.114	.141	.270	.131

Note. Relative weight/percentage of the total variance explained in the dependent variable by each predictor. Relative weights are absolute values (i.e., nondirectional). IV = independent variable.

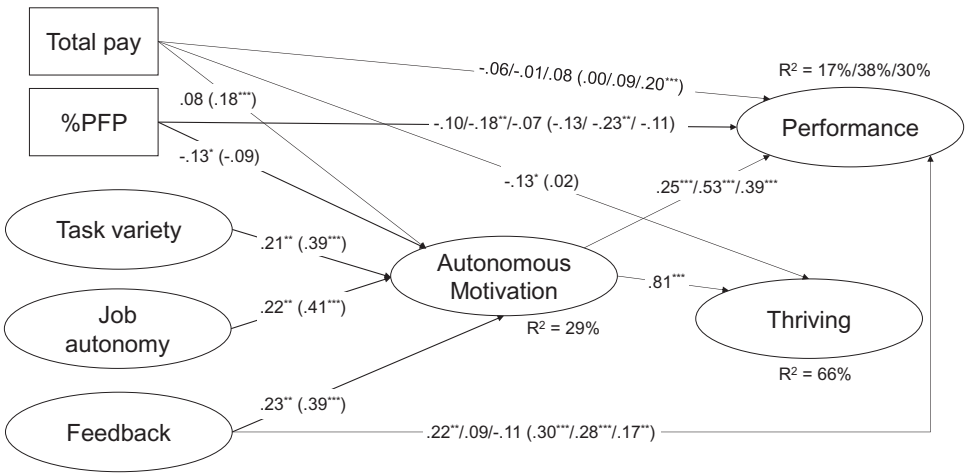
proactivity. Relative weights revealed that for all three types of performance, work characteristics were more strongly related to performance than pay characteristics, supporting H3b.

Finally, pay characteristics had no effect on emotional exhaustion, similar to the correlations. Knowledge demands had a direct positive effect on emotional exhaustion that only appeared when considering other predictors (i.e., the correlation was not significant). Task variety had both negative direct and indirect effects via autonomous motivation, which was consistent with the bivariate correlations. Job autonomy had both a negative direct and an indirect effect via autonomous motivation that did not change from the correlations. Relative weights revealed that, except for knowledge demands, work characteristics were more strongly related to emotional exhaustion than pay characteristics, partially supporting H3c. We must also note that knowledge demands were related to both increases and decreases in emotional exhaustion, which was not expected.

Sample 3

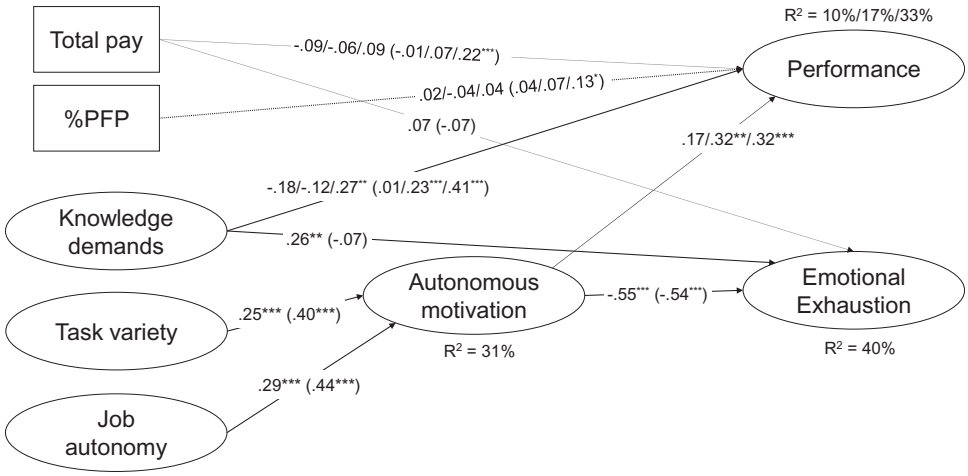
The measurement model CFA showed acceptable fit to the data, $\chi^2(173) = 405.360$, $p < .001$, CFI = .928, TLI = .913, RMSEA = .064, SRMR = .068. Factor loadings were all significant and

Figure 2
Contrasting Zero-Order Correlations With Results of Structural Equations Model in Sample 1



Note. Zero-order correlations in parentheses; only significant direct and indirect paths are shown; performance links in order of proficiency/adaptivity/proactivity. %PFP = percentage of pay-for-performance.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3
Contrasting Zero-Order Correlations With Results of Structural Equations Model in Sample 2



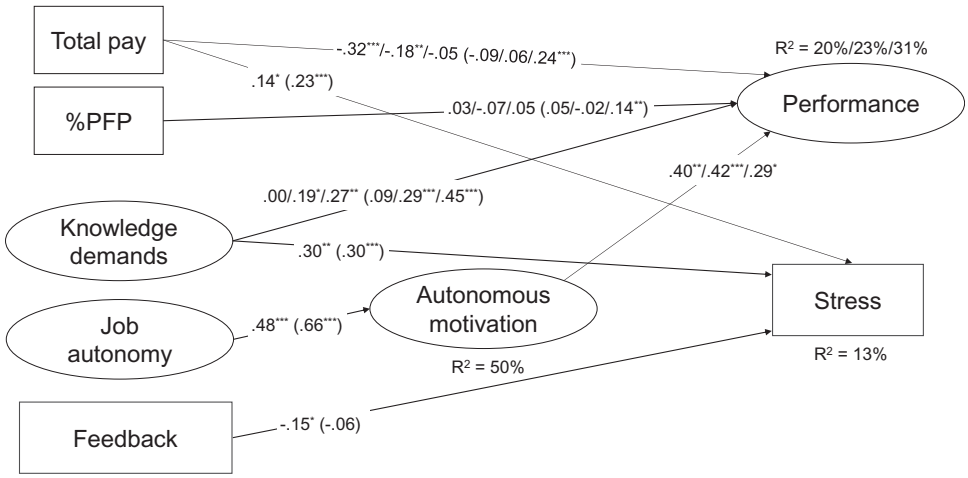
Note. Zero-order correlations in parentheses; only significant direct and indirect paths are shown; performance links in order of proficiency/adaptivity/proactivity. %PFP = percentage of pay-for-performance.
* $p < .05$. ** $p < .01$. *** $p < .001$.

above .62. The fully latent structural model showed acceptable fit to the data, $\chi^2(233) = 530.760$, $p < .001$, CFI = .918, TLI = .896, RMSEA = .062, SRMR = .065. Total pay and proportion of variable pay were both significantly positively related to knowledge demands, job autonomy, and feedback (see Table 2). These results support H1 and H2.

Tables 3 and 4 as well as Figure 4 present the results of the structural model. Together, the work and pay characteristics accounted for 50.2% of the variance in autonomous motivation. Job autonomy and feedback were significantly and positively related to autonomous motivation, but knowledge demands were not. The relationship between total pay and autonomous motivation was significant, but variable pay proportion was unrelated to autonomous motivation. Relative weights revealed that work characteristics explained more variance than pay characteristics, supporting H3a.

Table 3 also presents the direct and indirect effects. Together, the work and pay characteristics accounted for 11.4% to 27% of the variance in the outcomes (adding motivation increased these values from 13% to 31%). Total pay had both a substantial direct negative and a smaller indirect positive effect, via motivation, on proficiency, resulting in a total negative effect. The effects of total pay were stronger than indicated in the correlations when other variables are taken into account (see Table 2). The proportion of variable pay and knowledge demands did not have any effect on proficiency.

Figure 4
Results of Structural Equations Model for Sample 3



Note. Zero-order correlations in parentheses; only significant direct and indirect paths are shown; performance links in order of proficiency/adaptivity/proactivity. %PFP = percentage of pay-for-performance.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Meanwhile, job autonomy and feedback both had an indirect positive effect, via motivation, on proficiency. Keeping in mind the predictors explained little variance in proficiency, relative weights revealed that overall, the effects job autonomy were stronger than those of pay characteristics, but the effect of total pay was stronger (albeit negative) than the effect of knowledge demands and feedback, failing to support H3b.

Total pay had a direct negative effect on adaptivity (possibly caused by suppression, see Figure 4), while the proportion of variable did not. Knowledge demands had a direct positive effect on adaptivity, while job autonomy and feedback had indirect positive effects via motivation. Relative weights revealed the effects of work characteristics on adaptivity were stronger than those of pay characteristics, supporting H3b.

Pay characteristics and feedback had no effect on proactivity and were significantly reduced when considering work characteristics (see Figure 4). However, knowledge demands had a direct positive effect on proactivity, while job autonomy had an indirect positive effect via motivation. Relative weights revealed the effects of work characteristics on proactivity were stronger than those of pay characteristics, supporting H3b.

Finally, total pay had a direct positive effect on stress (though reduced when considering work characteristics, see Figure 2), while the proportion of variable pay did not. Knowledge demands also had a direct positive effect on stress that did not reduce when considering pay characteristics, while feedback had a direct negative effect (stronger than its correlation; see Table 2). Job autonomy had no effect on stress. Relative weights revealed that knowledge demands had stronger effects than pay characteristics. However, total pay had stronger effects than job autonomy and feedback. While the results partially support H3c, we must note that knowledge demands had unexpected negative relations to stress.

Discussion

Given previous evidence that pay characteristics are associated with work characteristics, it is possible that the effects of pay have been confounded with the effects of work characteristics, thereby inflating the perceived impact of pay on the motivation of workers. We show in three different samples that pay characteristics are related to work characteristics. Indeed, total pay was related to job complexity and job autonomy in all three samples, and in one of two samples, it was also related to feedback, which could indicate that those who get paid more may see it as a signal that their work is valued (Kuvaas, 2006). We found more variation in results across the samples and measures on the link between work characteristics and variable pay; task variety was sometimes negatively, and sometimes not related to variable pay, whereas knowledge demands and job autonomy were modestly positively related to variable pay. Finally, feedback from the job was either not related or modestly related to variable pay, whereas feedback from others was related to pay. Differences in results across the samples could be because of different task variety and feedback measures being used across samples, different forms of variable pay being used (e.g., bonuses vs. merit pay, individual vs. group-based incentives), what type of performance they are linked to (behavior based or results based), or in variations in how well incentives are communicated by employers. Relations between work and pay characteristics were stronger in Sample 3, which used company pay records.

Table 5
Summary of Support for Hypotheses

Hypothesis	Sample 1	Sample 2	Sample 3
H1: Total pay with work characteristics	Full	Full	Partial
H2: Variable pay with work characteristics	Partial	Partial	Full
H3a: Work versus pay on motivation	Full	Full	Full
H3b: Work versus pay on performance	Partial	Full	Partial
H3c: Work versus pay on well-being	Full	Partial	Full

Note. H = hypothesis.

In addition, we show that pay characteristics' effects may have been inflated in past research because work design was not controlled for. More specifically (see Tables 2, 4, and 5), our results show that work characteristics account for substantially more variance in motivation and well-being than pay characteristics and that work characteristics account for more variance in some types of performance, particularly adaptive and proactive performance than pay characteristics. Of note, the predictors accounted for the least amount of variance in proficiency, followed by adaptivity, and the highest for proactivity, in line with theorizing from Gagné et al. (2022). Overall, the relations between work characteristics and outcomes were in line with work design theories, such as the work characteristics model (Allan et al., 2019) and the job demands and resources model (Mazzetti et al., 2023). Job complexity can stimulate motivation and performance and enhance well-being, but it can also be overwhelming and cause stress. Job autonomy and feedback are generally good for autonomous motivation, performance, and well-being.

When taking work design into account, total pay and variable pay proportion seemed to have either no or weak and negative relations to performance and well-being. The results for well-being are somewhat in line with research showing that variable pay can negatively influence well-being (Dahl & Pierce, 2020). Results for performance run counter to the multitude of meta-analyses showing that pay for performance is positively related to performance (Byron & Khazanchi, 2012; Cerasoli et al., 2014; Condly et al., 2003; Garbers & Konradt, 2014; Guzzo et al., 1985; Jenkins et al., 1998; Kim et al., 2022; Locke et al., 1980; Weibel et al., 2010). Some of them have used job-related moderators, such as task interest or job autonomy, with varying results (Jenkins et al., 1998; Kim et al., 2022; Weibel et al., 2010). However, these moderators were coded using crude operationalizations (i.e., the authors coding the studies or conditions as having tasks or jobs high or low on interest or autonomy) relative to our operationalizations or work characteristics using validated measures. The opposite moderation has not, to our knowledge, been explored (i.e., whether different forms of pay may influence the effects of work design on outcomes). For example, would job autonomy have the same effect in the absence versus presence of the pay for performance that it tends to be coupled with?

Work design might be a more potent predictor of motivation, performance, and well-being than pay because it is a more salient and proximal factor in people's daily experiences of work. Work design influences one's day-to-day activities, while pay might be a more distal factor and could even have a bigger influence on lives outside of work (i.e., influencing what we can afford to do). This is consistent with past research examining the impact of reward salience (Kuvaas, 2006). Experimental studies, such as those summarized by Jenkins et al. (1998) and Kim et al. (2022), place participants in contexts for which rewards are necessarily highly salient, and

the duration of the task is very short. This situation may bring the proximity of rewards closer to the individuals experience during these experiments, or in other words, create strong performance contingencies between the reward and the experimental tasks. Field research, on the other hand, does not impose highly salient rewards on participants but instead examines more closely the day-to-day experiences of individuals in typical workplaces (e.g., Van den Broeck et al., 2021). In these contexts, rewards will tend to be far less salient, coming primarily in the form of a stable salary every 2 or 4 weeks, or more distantly administered bonuses. In these situations, including the studies presented herein, the salience of rewards is relatively low and therefore the importance of nonmonetary sources of motivation, specifically work design, is more clearly visible. Moreover, pay may only be a salient factor on payday (Bujold-Steed & Swider, 2023), and pay-for-performance schemes often "pay-out" even less regularly (sometimes once yearly).

Alternately, motivation might operate differently depending on whether an individual is planning versus carrying out a goal (Gollwitzer, 2012; Heckhausen & Gollwitzer, 1987; Kanfer, 2012; Kruglanski et al., 2000; Steel & Weinhardt, 2018). In a goal choice or goal planning phase, incentives and other tangible benefits may become highly salient and weigh heavily upon decision making. However, during a goal pursuit or striving phase in which work is being done, more proximal environmental factors such as work design are more likely to be front of mind and therefore influential. Consider, for example, the difference in motivational imperatives when weighing up a generous job offer versus the experience of working any given day in that job. The former may be considered goal planning and strongly emphasize potential outcomes (e.g., salary, bonuses, and perks), whereas the latter would exemplify goal pursuit which is likely to be characterized by the immediate environment.

Theoretical and Practical Implications

Our research suggests that basic assumptions about how pay operates with respect to motivation (which are fundamental to most dominant motivation theories; Kanfer et al., 2017) need to be revisited because they assume that the motivational function of incentives is independent of job design, which appears not to be the case. These results stand in contrast with previous results, indicating that pay is an important predictor of motivation and performance (e.g., Kim et al., 2022). Therefore, the premises around the importance of pay as a motivator derived from theories, including expectancy theory (Vroom, 1964), may not hold when we duly consider work design factors. Not taking work design into account when studying the effects of pay and rewards on motivation and performance may lead to erroneous advice on how much weight to put on pay as a motivator and misdirect organizations in putting too many resources in the design of complex compensation systems instead of paying attention to the design of work. This seems particularly applicable to variable pay. While a basic level of total income ensures people can meet their basic needs, including their psychological needs (Howell et al., 2013; Jebb et al., 2018), variable pay might contribute to income insecurity, which might explain the negative consequences that have been found to be associated with it from our results and previous research (e.g., Dahl & Pierce, 2020; Haushofer & Fehr, 2014; Howell et al., 2013; Leana & Meuris, 2015).

For research, it might imply that we have put too much weight on the power of income and rewards in motivating workers, and particularly to internally motivate them through meaning and enjoyment (given that autonomous motivation yields better performance and well-being than controlled motivation; Van den Broeck et al., 2021). This may mean revisiting the results of research testing hypotheses based on behaviorist and expectancy theory (Vroom, 1964). Considering work design is especially important in heterogeneous samples of employees working in different jobs, different organizations, and different industries where work design will vary.

For practice, it might imply that organizations are better off investing in good work design. Though total pay level still increased proactive performance in one sample and decreased well-being in two samples, albeit modestly when controlling for work design, our data revealed disadvantages to using a large percentage of variable pay, including reduced adaptive performance and increased stress levels. Given that today's work is done in more uncertain environments (Griffin & Grote, 2020), it is all the more important to create work environments that promote adaptive and proactive performance, and this can be achieved through promoting autonomous work motivation through good work design (Gagné et al., 2022). Variable pay is therefore not the only nor the best solution to the motivational problems of incumbent workers. This said, there may be other reasons for organizations to use pay-for-performance systems, for instance, to initially attract the best workers to certain roles or to retain the best workers in their roles (i.e., as per the sorting effect; Cadsby et al., 2007; Shaw, 2015; but see contrarian results in Kuvaas et al., 2016). If organizations are using variable pay for these purposes or to boost performance, they must ensure rewards are informational and not too controlling; there might be better ways to design incentives that would minimize their potential negative impact on motivation, performance, and well-being (Kuvaas et al., 2020; Thibault Landry et al., 2020).

Strengths and Limitations

Though our research design may not have yielded fully representative samples, testing the hypotheses across three samples still allowed us to evaluate our predictions across different work contexts and countries, using varied methods such as different measures of work characteristics, different sources of information on pay, and different time lags. Though MTurk samples can vary in data quality (Cheung et al., 2017; Goodman et al., 2013; Walter et al., 2019), we attempted to ensure it through attention checks and criteria for careless responding (Gummer et al., 2021). Though good research practice often dictates the use of longitudinal designs, there are good arguments for our approach. First, our hypotheses focused on the relative contribution of pay and work characteristics not on change in pay or work characteristics over time. Second, pay and work characteristics are factors that should have fairly rapid effects on work motivation, performance, and well-being. Yet, the delivery of pay does not occur every day. Fixed pay tends to be delivered fortnightly or monthly in most countries, and variable pay tends to be delivered monthly, quarterly, or yearly, which can make the right design difficult to achieve. Given that the principle behind pay follows the logic of behaviorism, that is, behavior is a function of its consequences, we used self-reports or company records of the last past annual pay that contains information about total, fixed, and variable income to predict mediators and outcomes that follow it (i.e., current motivation, performance, and well-being). Future research could compare our results to those of research evaluating the effect of

expected future pay, which would be in line with expectancy theory (Vroom, 1964). Third, it is very difficult to convince organizations to provide information about compensation; we were lucky to convince a few Norwegian companies to do so and had to resort to self-report for the other samples. Obtaining more frequent reports of pay from organizations would be even more challenging, but if it were possible, it would open the possibility of examining more timely influences of pay on a weekly, fortnightly, or monthly basis.

Our research could be improved upon in future research (a) with the use of performance data from other sources, such as company performance appraisal records or manager reports; (b) by adding an extra chain of mediation with measures of autonomy, competence, and relatedness satisfaction to examine with more precision why pay and work characteristics have the effects they have on motivation, performance, and well-being (see Van den Broeck et al., 2016 for a meta-analysis); (c) by examining the relative contribution of identified and intrinsic motivation to performance and well-being (which we could not achieve because of multicollinearity); (d) with quasi-experimental field studies manipulating pay and work characteristics; (e) by considering other characteristics of pay, such distributive and procedural justice; (f) by adding more outcomes, such as turnover intentions; and (g) by considering interactions between pay and work characteristics and moderators like people's reasons to want money (Thibault Landry et al., 2016). In addition, based on Sockin and Sockin's (2019) findings that jobs requiring interpersonal skills tend to have a greater proportion of pay for performance pay components, future research could examine relational work characteristics (Grant & Parker, 2009) as an additional work design characteristic that might matter in testing our hypotheses.

Conclusion

While the literature abounds with studies examining the effects of pay and work design individually on motivation, performance, and well-being, close to none have considered the relations between pay and work design. Because work design is intricately linked with pay level and the use of pay-for-performance, we must disentangle the effects of pay and work design to understand their unique contributions to motivation, performance, and well-being. Our results revealed that pay characteristics were indeed almost always correlated to work characteristics, but the latter accounted almost invariably for more variance in motivation, well-being, adaptive, and proactive performance than pay characteristics. Moreover, variable pay, once controlling for work design, had mostly negative consequences for employee outcomes. Consequently, not taking work design into account when studying the effects of pay and rewards on outcomes may lead to erroneous advice on how much weight to put on pay as a motivator. Such erroneous advice may misdirect organizations in putting too many resources in the design of complex compensation systems instead of paying closer attention to the design of work.

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