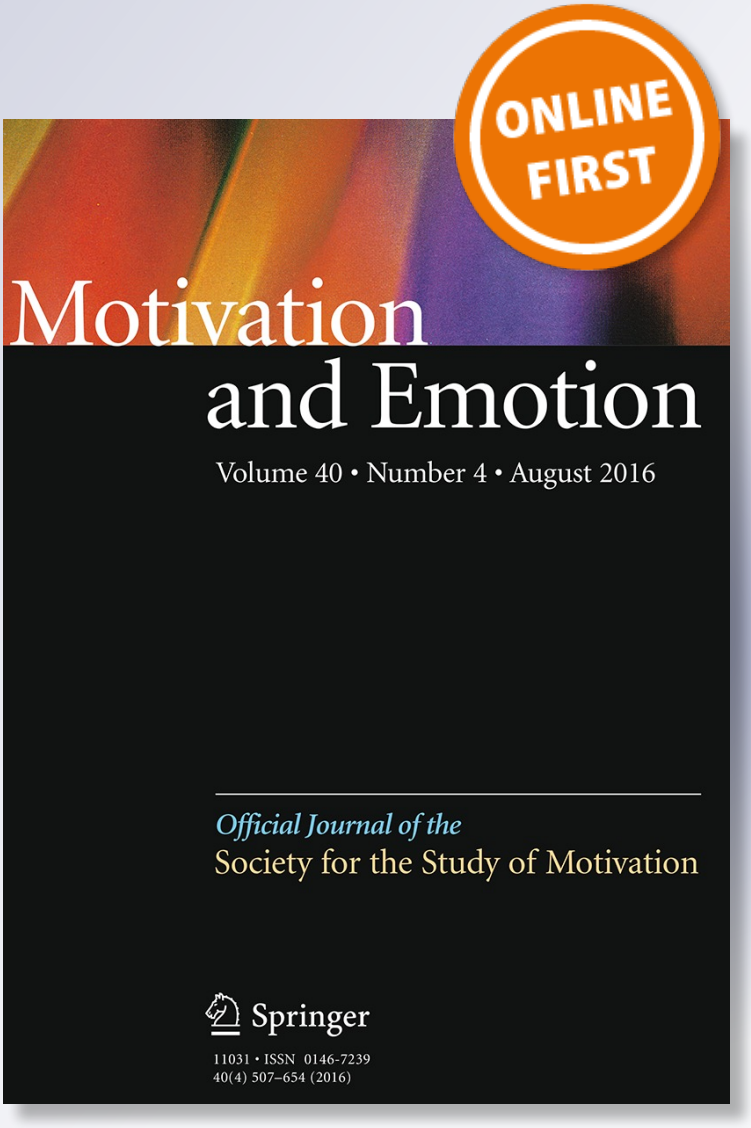
Do you get what you pay for? Sales incentives and implications for motivation and changes in turnover intention and work effort

Bård Kuvaas, Robert Buch, Marylène Gagné, Anders Dysvik & Jacques Forest

Motivation and Emotion

ISSN 0146-7239

Motiv Emot
DOI 10.1007/s11031-016-9574-6



Springer

Your article is protected by copyright and all rights are held exclusively by Springer Science +Business Media New York. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at link.springer.com".

Author's personal copy

Motiv Emot
DOI 10.1007/s11031-016-9574-6

ORIGINAL PAPER

Do you get what you pay for? Sales incentives and implications for motivation and changes in turnover intention and work effort

Bård Kuvaas[1] · **Robert Buch**[2] · **Marylène Gagné**[3] · **Anders Dysvik**[1] · **Jacques Forest**[4]

© Springer Science+Business Media New York 2016

Abstract This study investigated relations between pay-for-performance incentives designed to vary in instrumentality (annual pay-for-performance, quarterly pay-for-performance, and base pay level) and employee outcomes (self-reported work effort and turnover intention) in a longitudinal study spanning more than 2 years. After controlling for perceived instrumentality, merit pay increase, and the initial values of the dependent variables, the amount of base pay was positively related to work effort and negatively related to turnover intention, where both relationships were mediated by autonomous motivation. The amounts of quarterly and annual pay-for-performance were both positively related to controlled motivation, but were differently related to the dependent variables due to different relations with autonomous motivation.

Keywords Pay-for-performance · Motivation · Work effort · Turnover intention · Self-determination theory

✉ Bård Kuvaas
bard.kuvaas@bi.no

Robert Buch
robert.buch@getmail.no

Marylène Gagné
marylene.gagne@uwa.edu.au

Anders Dysvik
anders.dysvik@bi.no

Jacques Forest
forest.jacques@uqam.ca

[1] BI Norwegian Business School, Nydalsveien 37, 0484 Oslo, Norway

[2] Oslo and Akershus University College of Applied Sciences, Pilestredet 46, 0167 Oslo, Norway

[3] The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

[4] Department of Organization and Human Resource, ESG-UQAM, P.O. Box 8888, Station Centre-ville, Montreal, QC H3C 3P8, Canada

Introduction

Pay for performance (PFP) refers to pay programs in which pay is contingent on performance and where performance can be measured in terms of results (e.g., number of sales) or (evaluations of) behavior (Gerhart and Fang 2015). Tying individual PFP to results-based criteria has the capacity to generate strong motivational effects, and there is meta-analytical evidence for a positive relation between individual variable PFP and performance quantity (Jenkins et al. 1998), performance on simple tasks (Stajkovic and Luthans 2003), and performance on uninteresting laboratory tasks (Weibel et al. 2010). Some authors have even argued that "no other incentive or motivational technique comes even close to money with respect to its instrumental value" (Locke et al. 1980, p. 379). The main explanation for a positive relation between variable PFP and performance is instrumentality, that is, the perceived link between performance and pay, that in turn increases effort (Nyberg et al. 2013; Vroom, 1964). Whereas Vroom's (1964) expectancy theory and some compensation researchers conceptualize motivation as a unidimensional construct, other theories of motivation posit that the motivation that is the focus in expectancy theory is of an extrinsic nature, since it refers to performing an activity with the intention of attaining positive consequences (e.g., obtaining a reward) or avoiding negative consequences (e.g. avoiding a punishment) (Deci and Ryan 2000).

Published online: 17 August 2016

Author's personal copy

Another factor found to yield high employee performance is the degree to which employees are autonomously motivated towards their work (Cerasoli et al. 2014). Autonomous motivation is defined in self-determination theory (SDT) as doing something out of interest, enjoyment, values, and meaning (Deci and Ryan 2000). Research has shown that on average, autonomous motivation yields better outcomes than controlled motivation, which involves doing something to obtain a reward or avoid a punishment (Deci and Ryan 2008). Another proposition made by SDT is that under certain circumstances, external rewards can decrease autonomous forms of motivation, with meta-analytic evidence showing negative effects ranging from (d) −.14 to −.44 (Deci et al. 1999). Recent meta-analytical evidence comprising four decades of research has also showed that autonomous motivation is moderately to strongly associated with higher performance in school, work, and physical domains (Cerasoli et al. 2014). Interestingly, autonomous motivation had effects on both quality and quantity of performance, while the provision of an incentive (very broadly defined) only had a positive effect on performance quantity. Because incentives in this meta-analysis were very broadly defined (e.g., credit for study participation, award, pay, etc.), it cannot inform us about the subtleties of different compensation systems' effects on autonomous motivation in the work domain. Furthermore, the meta-analysis by Cerasoli et al. (2014) investigated relations between incentives, autonomous motivation, and performance, but did not include controlled motivation, which is the type of motivation that theoretically should explain the relation between variable PFP and work performance.

Gagné and Forest (2008) proposed a testable model to assess the effects of compensation system characteristics on work motivation. In this model, they argued that the ratio of variable to fixed pay portions would influence work motivation, such that the higher the proportion of variable pay based on performance, the lower the autonomous motivation and the higher the controlled motivation. The authors argued that this is due to the negative effect of incentive pay on feelings of autonomy. The ratio of variable to fixed pay is one way to operationalize instrumentality between performance and reward, though by no means the only one, as other considerations, such as whether performance is measured by results versus behaviors and whether the reward is group or individual-based can also affect instrumentality perceptions (Gerhart et al. 2009). Yet another way to increase instrumentality is to increase the frequency of incentive payouts, which is the focus of the current study.

The present study investigated how PFP components designed to vary in instrumentality (base pay, variable annual pay, and variable quarterly pay) relate to changes in self-reported work effort and turnover intention, and whether these relationships are mediated by autonomous and controlled motivation. We predict two different pathways from PFP to work effort and to turnover intention, one from the amount of base pay received over time via autonomous motivation and one from the amount of quarterly and annual variable PFP via controlled motivation (see Fig. 1). We chose self-reported work effort as a dependent variable because it has been strongly associated with other measures of performance (De Cooman et al. 2009), and it is a more proximal outcome of employee motivation than results-oriented measures of performance. The latter are often affected by factors such as ability and by factors not entirely under the control of the individual employee[1]. Turnover intention was included for several reasons. First, an often ignored effect of variable PFP is the sorting effect, namely that variable PFP may attract and retain productive workers while less productive workers to a larger extent may want to leave due to lower pay levels (see Gerhart et al. 2009 for a review). Yet, how the two pathways relate to changes in turnover intention is a relatively open question. The amount of pay received from each of the three pay components could theoretically be related to a decrease in turnover intention, but if variable PFP works exclusively via controlled motivation, the amount of pay received as variable PFP may actually relate to an increase in turnover intention due to lower employee well-being (e.g., Vansteenkiste et al. 2007). There is in fact evidence that compensation based 100 % on commissions is related to high turnover rates due to the high levels of stress (Harrison et al. 1996).

The current study makes several contributions. To our knowledge, this is the first study to simultaneously investigate actual pay data from different PFP components over time (2 years), and to assess changes in relevant outcomes. Most studies of PFP have investigated the presence or contingency of pay without considering the amount received (Cerasoli et al. 2014), have focused on a single pay component, have been cross-sectional, and have investigated a single employee outcome. The current study is also the first to investigate motivation as a mediator and to include both controlled and autonomous motivation. Previous field and experimental studies of PFP have failed to directly investigate the main mechanism (i.e., motivation) that is hypothesized to explain the effects of incentives, something that has recently been called for in recent reviews of the compensation literature (Gerhart and Fang 2015). In addition, though many organizations pay employees using different PFP components (Gerhart et al.

[1] In sales, the output of an employee might for instance be impacted by the economic context, the type of products or services, marketing campaigns, and the size of the client list.

Author's personal copy

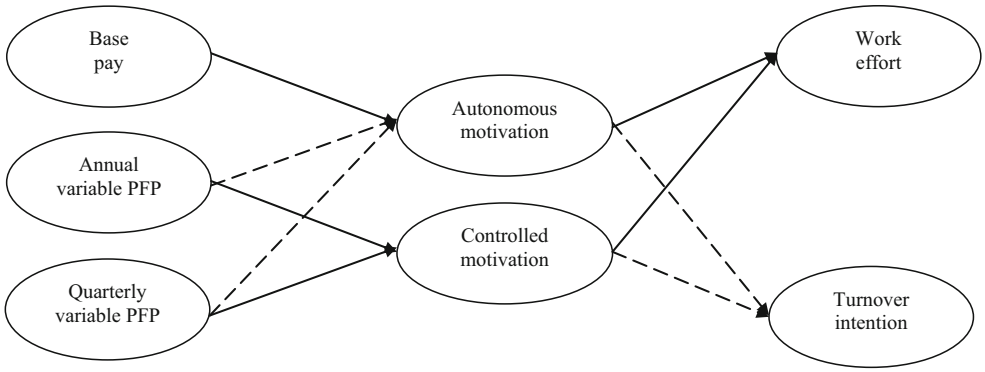


Fig. 1 Conceptual model (*Dashed lines* represent negative relationships and *solid lines* represent positive relationships)

2009), the total compensation in most industrialized countries is composed largely of base pay, with a relatively small performance-contingent portion (Thierry 2002). Although a mix of base and variable pay may be the rule rather than the exception in many organizations, most empirical research has typically investigated clear-cut programs (Barnes et al. 2011; Kuvaas 2006). As a result, our empirically based knowledge about individual variable PFP may overestimate the effects of pay with strong instrumentality, as studies have typically not controlled for other pay components, such as base pay. There is in fact evidence that base pay, in particular whether its amount meets or exceeds market averages, may have an effect on autonomous motivation (Kuvaas 2006). As such, the present study investigated the relative and unique effects of PFP components designed to vary in instrumentality. Base pay is usually assumed to have low instrumentality because employees receive the same amount almost independently of their short-term performance, as long as they are not laid off, whereas variable PFP is assumed to have stronger instrumentality. For this reason, many past studies have actually operationalized instrumentality as the proportion of PFP in an individual's pay package (Zenger and Marshall 2000). We chose to test this very assumption by investigating how different pay components (base pay and variable PFP) designed to vary in instrumentality independently relate to autonomous and controlled motivation.

Theory and hypotheses

Most micro research on variable PFP has relied on instrumentality theories, such as expectancy theory and reinforcement theory (Fall and Roussel 2014). Expectancy theory (Vroom 1964) posits that individuals will engage in behaviors that are likely to lead to valued outcomes, as long as they perceive that they can successfully produce such behaviors. Reinforcement theory states that behaviors followed by a reinforcer (i.e., something that increases the desired behavioral response) are more likely to recur in the future (e.g. Stajkovic and Luthans 2003), and thus focuses on experiences rather than expectations. When applied to compensation research, these theories view the link between behaviors and rewards, that is instrumentality, and its effect on work effort as the keys to effective financial incentives (Lawler 1971). Instrumentality theories have received substantial meta-analytical support for performance quantity (Jenkins et al. 1998) and for less interesting tasks (Weibel et al. 2010). However, as work is increasingly knowledge based, and assessed qualitatively, it may indicate that variable PFP may no longer be the best choice of incentives to meet organizational goals. A theory like SDT may be more encompassing than instrumentality theories (which mainly posits the presence of only extrinsic motivation in the workplace) in order to have a better understanding of the effects of incentives on both autonomous and controlled motivation.

Pay, motivation, and work effort

According to instrumentality theories, employees should increase their effort in response to the opportunity of earning variable PFP. In line with instrumentality theories, SDT generally predicts positive effects of variable PFP on work effort for tasks with relatively straightforward solutions (Gagné and Deci 2005; Gagné and Forest 2008). In that case, the positive effect of variable PFP on work effort would be mediated by controlled motivation. At the same time, variable PFP may decrease autonomous motivation, which has been found to relate positively to quality of work performance and to the performance of complex tasks (Cerasoli et al. 2014; Gagné and Deci 2005; Weibel et al. 2010). As mentioned earlier, SDT proposes that environmental events and structures that make people feel controlled or pressured, such as contingent rewards, are likely to decrease autonomous motivation (Deci et al. 1999). This

Author's personal copy

effect varies depending on the impact that the reward has on feelings of autonomy and feelings of competence (Moller and Deci 2014). Performance-contingent rewards can serve as informational feedback that boosts feelings of competence, which can enhance both controlled and autonomous motivation, but they can also change the locus of causality of the person, such that the person is more likely to feel like a pawn than an agent of his or her own behavior (DeCharms 1968), thereby decreasing autonomous motivation. Moreover, satisfaction of the need for relatedness—another important predictor of autonomous motivation (Deci and Ryan 2000)—may also be reduced, as the amount of variable PFP received may be perceived as an *impersonal* exchange (Shore et al. 2006) of monetary compensation in return for meeting specified performance standards for a finite period of time (e.g., daily, monthly, quarterly, or annual). Thus, combining these effects, we can predict a net effect of variable PFP on work effort that is weaker than instrumentality theories would predict. Therefore, we hypothesize:

Hypothesis 1 The relation between the amount of annual variable PFP and an increase in work effort is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation.

Hypothesis 2 The relation between the amount of quarterly variable PFP and an increase in work effort is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation.

Even though base pay can be influenced by annual merit pay increases based on results and/or (evaluations of) behavior, it is much less dependent on recent performance than variable PFP. Relying on instrumentality theories and reviews of the compensation literature (Gerhart and Fang 2015; Gerhart et al. 2009), we should therefore not expect that the amount of base pay will impact on work effort through controlled motivation. Relying on SDT, however, the amount of base pay can influence other relevant employee outcomes if it is interpreted as recognition of competence, as autonomy supportive, or as fostering relatedness (Gagné and Forest 2008). With respect to base pay and autonomous motivation, one study of knowledge workers has found that autonomous motivation partly mediated the relationship between base pay level and work performance (Kuvaas 2006). Kuvaas argued that the base pay level may serve as a stronger signal of overall employee worth to the organization than variable PFP. While the latter is the result of the last year's or the last quarter's performance, base pay level usually reflects several years of prior performance, in addition to other behaviors and characteristics such as skills, education, and expressed attitudes. Furthermore, base pay can be seen as a more reliable signal because it is less influenced by temporal factors (Gardner et al. 2004). Therefore, employees may interpret their base pay level relative to market averages as a reliable signal of how much the organization values them for what they bring to the organization. Variable PFP, on the other hand, may to a larger extent be interpreted as how much the organization values employees' recent contributions. Therefore, we hypothesize:

Hypothesis 3 The relation between the amount of base pay and an increase in work effort is positively mediated by autonomous motivation.

With regards to a comparison of the different pay components, we expect, based on the findings that base pay will have a more positive net effect on autonomous work motivation, that base pay will be more strongly and positively associated with work effort than annual and quarterly variable PFP. Though previous research has never tested relations between incentives and work effort, it has found positive relations between autonomous work motivation and work effort, and no relation with controlled motivation (Gagné 2014).

Pay, motivation, and turnover intention

An often ignored effect of variable PFP is the sorting effect, namely that variable PFP may attract and retain productive workers while less productive workers to a larger extent may want to leave due to lower pay levels (see Gerhart et al. 2009 for a review). Such a sorting effect suggests that an accumulated amount of variable PFP over time should be associated with a decrease in turnover intention. Still, if variable PFP decreases autonomous motivation, it may actually have a positive effect on turnover intention. Indeed, research shows that variable PFP can push people into quitting sales jobs that rely heavily on commissions (Harrison et al. 1996), and having one's autonomy supported in a volunteer job context negatively predicts actual volunteer turnover (Gagné 2003). We still think, however, that the negative net effect of variable PFP on turnover intention will be greater than the positive effect on turnover intention caused by a decrease in autonomous motivation. Therefore, we hypothesize:

Hypothesis 4 The relation between the amount of annual variable PFP and a decrease in turnover intention is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation.

Hypothesis 5 The relation between the amount of quarterly variable PFP and a decrease in turnover intention is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation.

Author's personal copy

Based on the above reasoning, the amount of base pay should be associated with an increase in autonomous motivation and a decrease in turnover intention. First, feelings of being highly valued should satisfy the needs for competence and relatedness, which are known to enhance autonomous motivation and well-being in general at work and to reduce turnover intention (Gagné and Deci 2005; Richer et al. 2002; Van den Broeck et al. 2008). Second, the relatively non-contingent nature of base pay implies that the organization trusts employees' ability and motivation to work well, which should in particular satisfy the needs for autonomy and competence. Finally, since the total compensation is composed largely of base pay, the sorting effect predicts that those with the highest base pay should have lower turnover intention. Therefore, we hypothesize:

Hypothesis 6 The relation between the amount of base pay and a decrease in turnover intention is mediated by autonomous motivation.

Method

Sample and procedure

We conducted an electronic survey in a Norwegian insurance company where we initially surveyed approximately 700 salespeople in February 2007 (Time 1), after they had been informed about the variable PFP plan, but before any payout episodes. The first survey was used to collect baseline data for work effort and turnover intention, and we received complete responses from 643 employees, corresponding to a response rate of approximately 92 %. The high response rate can probably be explained by the fact that we collected the data as part of an organization-wide electronic employee survey where employees are expected to participate without any incentives (e.g., lottery or money). We then conducted a second survey in March/April 2008 (Time 2), which provided data on the perceived instrumentality of the PFP plans. This survey resulted in 471 complete responses, of which 469 matched the first survey. The third and final survey, which collected data on the mediating and dependent variables, was conducted in April/May 2009 (Time 3), and resulted in 368 complete responses and 322 responses that matched the first and second surveys. In light of this attrition, we tested for potential non-response bias by comparing the scores of persisting participants with the scores of dropout participants using one-way analysis of variance (ANOVA). The results from these tests indicated that dropouts scored slightly higher ($M = 2.68$, $SD = 1.16$) than persisting participants ($M = 2.32$, $SD = 1.03$) on turnover intention (F (1.644 = 17.05, $p < .001$), which might be an indication of non-response bias. On the other hand, the mean difference was modest (i.e. < .36) and Cohen's effect size value ($d = .33$) suggested small to moderate practical significance (Cohen 1988). No significant difference was found between dropouts ($M = 4.03$, $SD = .53$) and persisting participants ($M = 4.07$, $SD = .45$) on work effort ($p = .23$).

The final sample of 322 employees served two different markets, businesses and consumers. Those serving businesses (business to business, B2B) (n = 101) received annual payouts, and those serving consumers (business to consumers, B2C) (n = 221) received quarterly payouts. The difference in payout frequency reflected the company's intention to have higher instrumentality for the employees serving customers, as the potential trade-off between high sales effort and customer service was expected to provide positive results. The rationale behind the annual payout and intended lower instrumentality for those serving businesses was that sales efforts that were too high could potentially hurt existing customer relationships or result in fewer new customers. Furthermore, the new pay plan did not imply any cut in the base pay and every employee had the opportunity to earn variable pay. In order to save variable PFP costs and increase the instrumentality for both groups, the company decided to reward only "top performers" with variable pay added to their base pay (see Table 1 for percentages). The company provided us with data on base pay and variable PFP. The variable payout for the B2B employees was the sum of the end-of-year variable payouts for the years 2007 and 2008. For the B2C employees, we aggregated the variable pay received from the eight quarters of 2007 and 2008. The base pay level is the sum of the base pay for the years 2007 and 2008. Based on analysis of variance (ANOVA) and as shown in Table 1, the B2B employees received on average higher base ($p < .001$) and variable ($p < .001$) pay, and a larger proportion of them received variable pay than the B2C employees ($p < .05$).

Measures

Because of high values of skewness and kurtosis for the pay variables, logarithmic transformations were performed before conducting analyses. The first survey (Time 1) assessed the initial value of the dependent variables, that is, self-reported work effort and turnover intention. The second survey (Time 2) assessed the perceived instrumentality of the PFP plans, whereas the third survey (Time 3) assessed the mediating and dependent variables. Unless otherwise noted, the items were assessed on five-point Likert scales ranging from 1 ("strongly disagree") to 5

Author's personal copy

Table 1 Distribution of pay for the 24 months

Pay plan	Average base pay[a]	Average variable pay	Average percentage of variable pay (%)	Percent of employees who received variable pay (%)	Average variable pay among those who received it
B2C	NOK 818,300	NOK 18,900	2.31	38.91	NOK 48,600
Quarterly	USD 97,985	USD 2,263			USD 5,809
B2B	NOK 966,300	NOK 76,000	7.87	54.46	NOK 140,800
Annual	USD 115,706	USD 9,100			USD 16,860

[a] Based on currency rates from May 31, 2016

NOK Norwegian kroner, *USD* US Dollars

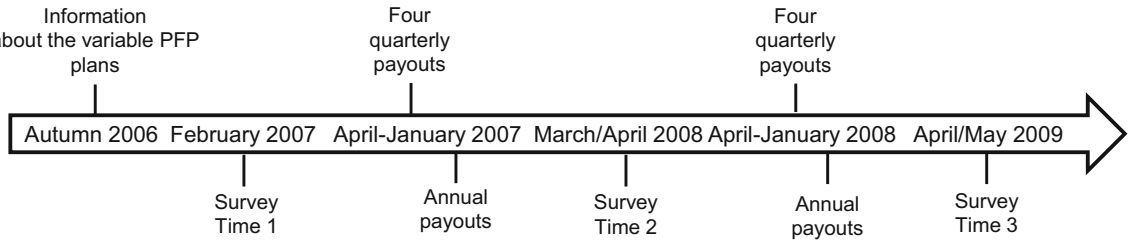


Fig. 2 Study timeline and data collection

("strongly agree"). Figure 2 displays the timeline of the surveys and the payouts.

Controlled and autonomous motivation

We measured controlled motivation ($\alpha = .79$) by a previously used four-item (e.g., "It is important for me to have an external incentive to strive for in order to do a good job") scale (Kuvaas and Dysvik 2010). Autonomous motivation ($\alpha = .92$) was assessed by six items previously used by Kuvaas (2006) and developed further by Dysvik and Kuvaas (2008) that represent both intrinsic motivation (e.g., "My job is so interesting that it is a motivation in itself") and identified regulation (e.g., "My job is meaningful").

Self-reported work effort

To measure self-reported work effort at Time 1 ($\alpha = .77$) and Time 3 ($\alpha = .81$), we employed a previously used six-item (e.g., "I almost always expend more than an acceptable level of effort") scale of work performance (Kuvaas 2006).

Turnover intention

We measured turnover intention at Time 1 ($\alpha = .91$) and Time 3 ($\alpha = .91$) by a previously used five-item (e.g., "I may quit my present job during the next 12 months") scale (Kuvaas 2006).

Control variables

Since perceived instrumentality, that is the degree to which employees see a link between performance and pay, is central to instrumentality theories, we controlled for perceived instrumentality of the PFP (both base and variable pay). Perceived instrumentality of PFP ($\alpha = .79$) was measured by five items (e.g., "I see a clear connection between my work performance and my paycheck") developed for the current study. Finally, even employees who are well paid may feel underappreciated if they do not experience satisfactory pay growth, which in turn may increase actual turnover or turnover intention (A. Nyberg 2010). Therefore, we also controlled for the latest available data on merit pay increase, that is, we divided the pay for 2008 by the base pay for 2007. Unfortunately, we did not have access to the base pay for 2009 and could not calculate the latest merit pay increase. With respect to demographics, we only have data from 205 of the 322 respondents. These data were collected as part of another study and was collected after Time 3 of the present study. Among the 205 respondents, 41.5 % were women and 58.5 % were men, 55.6 % held a university degree of 3 years' study or more, and their average tenure was 15.5 years.

Author's personal copy

Results

We estimated a confirmatory factor analysis (CFA) using MPlus v7.3 and the WLSMV estimator to examine the fit of our measurement model. Specifically, we estimated a seven-factor model representing work effort at T1, turnover intention at T1, perceived instrumentality at T2, autonomous motivation at T3, controlled motivation at T3, work effort at T3, and turnover intention at T3. The CFA was performed using cluster robust standard errors (at the department level), and we allowed for correlations among the disturbance terms within each time point (e.g., one item in the work effort scale at T1 was allowed to correlate with the corresponding item at T3). To interpret goodness of fit, authorities have suggested criteria in which the RMSEA at .05 or less and the CFI and TLI at .95 or higher are considered evidence of adequate model fit (Hu and Bentler 1999). In light of this, the results indicated that our seven-factor model fit the data well, χ^2 [597] = 850.40, $p < 0.01$, RMSEA = 0.036, CFI = 0.97, TLI = 0.97. Furthermore, the average standardized factor loading was .78. Finally, the scales demonstrated good reliability as indicated by Cronbach's alphas ranging from .77 to .81. Table 2 displays the descriptive statistics and correlations for the variables in the study.

Rather than relying on the Baron and Kenny's (1986) approach, we tested our hypotheses using structural equation modelling (SEM) and the delta method procedure in Mplus (using the Sobel test with cluster robust standard errors). The SEM approach is preferable to the causal steps approach of Baron and Kenny (1986) because it provides a quantification of the indirect effect itself, and estimates everything at the same time rather than assuming independent equations (e.g. Zhao et al. 2010). Moreover, Baron and Kenny's (1986) approach has been shown to be among the lowest in statistical power (Fritz and MacKinnon 2007). The SEM results are presented in Table 3, and graphically illustrated in Fig. 3.

The structural model that we estimated indicated good fit to the data, χ^2 [736] = 1174.68, $p < 0.01$, RMSEA = 0.043, CFI = 0.94, TLI = 0.93. The results revealed a positive relation between the amount of base pay and autonomous motivation ($\beta = .28$, $p < .001$), as well as positive relations between the amount of annual varaible PFP and controlled motivation ($\beta = .18$, $p < .001$) and between quarterly varaible PFP and controlled motivation ($\beta = .32$, $p < .001$). The results also unveiled a significant negative relation between annual variable PFP and autonomous motivation ($\beta = -.12$, $p < .01$). Furthermore, both autonomous ($\beta = .61$, $p < .001$) and controlled ($\beta = .11$, $p < .01$) motivation predicted an increase in work effort, whereas autonomous

Table 2 Descriptive statistics, correlations, and scale reliabilities

Variable		Mean	*SD*	1	2	3	4	5	6	7	8	9	10
1.	Merit pay increase	1.26	.60	–									
2.	Perceived instrumentality$_{T2}$	3.15	.83	.17**	(.79)								
3.	Base pay amount	5.92	.11	−.14*	.17*	–							
4.	Annual variable PFP amount	.90	1.94	.14*	.16**	.12*	–						
5.	Quarterly variable PFP amount	1.19	1.99	−.19**	.10	−.18**	−.25**	–					
6.	Autonomous motivation$_{T3}$	3.80	.76	.14*	.17**	.23**	−.06	−.07	(.92)				
7.	Controlled motivation$_{T3}$	3.34	.90	−.01	.16**	.00	.11*	.21**	−.08	(.79)			
8.	Work effort$_{T1}$	4.07	.45	.14*	.02	.03	−.04	.03	.33**	−.02	(.77)		
9.	Work effort$_{T3}$	4.14	.45	.10	.10	.08	.01	.13*	.43**	.14*	.57**	(.81)	
10.	Turnover intention$_{T1}$	2.32	1.03	−.07	−.07	.04	.10	.06	−.23**	.13*	−.20**	−.11	(.91)
11.	Turnover intention$_{T3}$	2.37	1.01	−.17**	−.17**	−.22**	.10	.01	−.54**	.15**	−.15**	−.19**	.44**

$N = 322$. Scale reliabilities are displayed on the diagonal. The pay variables are logarithmically transformed

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

Author's personal copy

Table 3 Results of the structural equation model including control variables and explained variances

Variable	Autonomous motivation$_{T3}$	Controlled motivation$_{T3}$	Work effort$_{T3}$	Turnover intention$_{T3}$
Work effort$_{T1}$			.67***	
Turnover intention$_{T1}$				.46***
Merit pay increase	.19**	.04	.07	.07
Perceived instrumentality$_{T2}$	.35***	.03	−.32***	.10
Base pay amount	.28***	.02	−.02	−.07
Annual variable PFP amount	−.12**	.18***	.02	.03
Quarterly variable PFP amount	−.02	.32***	.14**	−.08
Autonomous motivation$_{T3}$			.61***	−.56***
Controlled motivation$_{T3}$			.11**	.20***
R^2	.23	.11	.77	.59

$N = 332$. Standardized path coefficients are shown

* $p < .05$; ** $p < .01$; *** $p < .001$

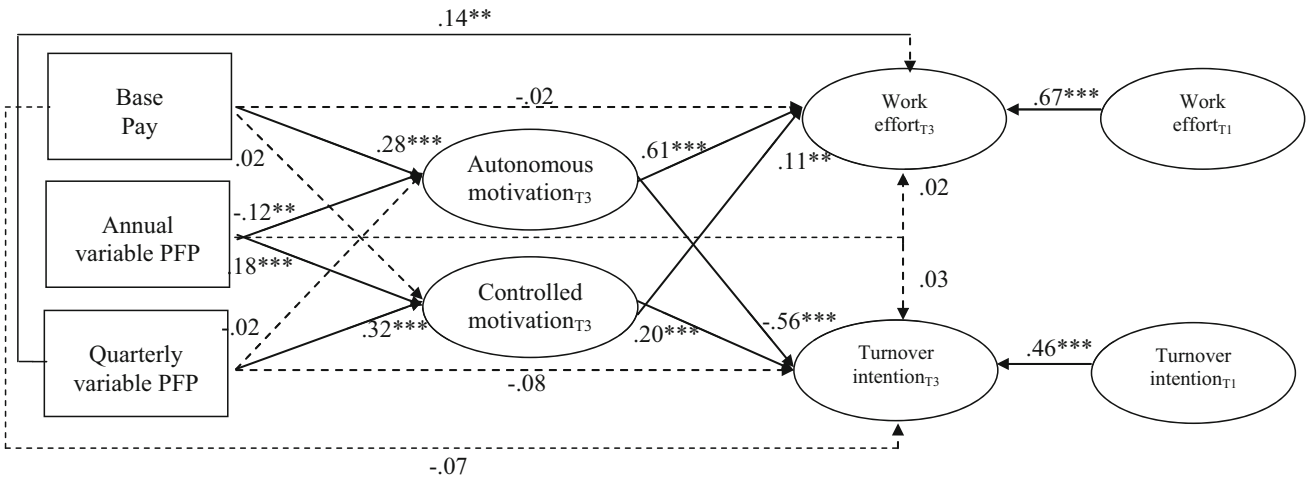


Fig. 3 Structural equation model. *Note* $N = 322$. *$p < .05$, **$p < .01$, ***$p < .001$. Standardized path coefficients are shown. To simplify the graphical presentation, the additional path coefficients among the control variables and outcomes are reported in Table 2

motivation ($\beta = -.56$, $p < .001$) was associated with a decrease in turnover intention and controlled motivation was associated with an increase in turnover intention ($\beta = .20$, $p < .001$).

In support of Hypothesis 1, the results of the structural equation model demonstrate that the amount of annual variable PFP relates to an increase in work effort indirectly via (a) controlled motivation (standardized effect = .02, $p < .05$) and a decrease in work effort via (b) autonomous motivation (standardized effect = −.07, $p < .01$). Since the direct relation between annual variable PFP and an increase in work effort was not statistically significant ($\beta = .02$, *n.s.*), the mediation is classified as indirect-only mediation (Zhao et al. 2010), suggesting that autonomous and controlled motivation fully mediated the relation between annual variable PFP and an increase in work effort. Hypothesis 2 stated that the relation between the amount of quarterly variable PFP and an increase in work effort is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation. In partial support of Hypothesis 2a, the results revealed a significant indirect relation from quarterly variable PFP to an increase in work effort via controlled motivation (standardized effect = .04, $p < .05$). Since the results additionally revealed a significant direct relation between quarterly variable PFP and an increase in work effort ($\beta = .14$, $p < .01$), the results suggest that controlled motivation partially mediated the relation between quarterly variable PFP and an increase in work effort. Hypothesis 2b was not supported, as the indirect relation between quarterly variable PFP and a decrease in work

Author's personal copy

effort via autonomous motivation was not statistically significant (standardized effect = −.01, *n.s.*).

In accordance with Hypothesis 3, the results demonstrated a significant indirect relation from the amount of base pay to an increase in work effort via autonomous motivation (standardized effect = .17, $p < .001$), along with a non-significant direct relation from base pay to an increase in work effort, suggesting indirect-only or full mediation. Hypothesis 4 was also supported, as the amount of annual variable PFP related to an increase in turnover intention indirectly via (a) controlled motivation (standardized effect = .04, $p < .01$) and via (b) autonomous motivation (standardized effect = .07, $p < .05$). The direct relation from annual variable PFP to a change in turnover intention was not significant ($\beta = .03$, *n.s.*), suggesting that autonomous and controlled motivation fully mediated the relation. Hypothesis 5 contended that the relation between the amount of quarterly variable PFP and a decrease in turnover intention is (a) positively mediated by controlled motivation and (b) negatively mediated by autonomous motivation. In support of Hypothesis 5a, the results demonstrated a significant relation from the amount of quarterly variable PFP to an increase in turnover intention via controlled motivation (standardized effect = .06, $p < .01$). The amount of quarterly variable PFP, however, did not significantly predict an increase in turnover intention via autonomous motivation (standardized effect = .01, *n.s.*). Accordingly, Hypothesis 5b was not supported. Finally, we received support for Hypothesis 6, which predicted an indirect relation from the amount of base pay to a decrease in turnover intention via autonomous motivation (standardized effect = −.16, $p < .001$). Specifically, the results suggest that autonomous motivation fully mediated the relation from the amount of base pay to a decrease in turnover intention since the direct relation was not significant ($\beta = -.07$, *n.s.*).

Discussion

Relying on classical instrumentality theories in combination with SDT, our study contributes to compensation research by investigating the relation between different pay components, changes in work effort and turnover intention over a period of more than 2 years. Specifically, our longitudinal study, with actual pay data from different PFP components, contributes to compensation research by providing higher external validity compared to studies that investigate the presence or contingency of pay that focuses on a single pay component or that are cross-sectional. The results of the present study, unlike what is usually portrayed in compensation textbooks (e.g., Gerhart and Rynes 2003), reveal that compared to base pay, which was related to increased work effort and decreased turnover intention, variable PFP was positively related to increased work effort, but also positively related to increased turnover intention.

The most revealing aspect of the present study, however, resides in the mediating roles of work autonomous and controlled motivation. As most previous studies have not used SDT to examine the motivational effects of compensation systems, the results of the present study provide rich information about this very important consideration. As hypothesized, base pay was positively related to autonomous motivation. Autonomous motivation also completely explained the relation between base pay and increase in work effort. Most interesting were the mediating role of motivation on the relation between variable PFP and change in work effort. Annual variable PFP was positively related to controlled motivation and negatively related to autonomous motivation. Through autonomous motivation, annual variable PFP had a negative indirect relation with change in work effort. Through controlled motivation, annual variable PFP had a positive indirect relation with change in work effort. In effect, the increase in work effort obtained via controlled motivation cancels out due to the decrease in work effort because of a decrease in autonomous work motivation. Similar negative "net effects" of variable PFP have been obtained in an experimental vignette study of MBA students solving complex problems (Weibel et al. 2010), but to our knowledge not in field studies.

In contrast, quarterly variable PFP was only positively related to controlled motivation, which was, in turn, associated with increased work effort. Despite the positive relations between quarterly variable PFP, controlled motivation, and increased work effort, it is important to note that the relation between autonomous motivation and increased work effort was much stronger than the relation between controlled motivation and increased work effort. This observation, like in previous research (see Deci and Ryan 2008 for a review), speaks to the importance of promoting autonomous over controlled motivation. Since variable PFP seems to primarily influence controlled motivation, and to sometimes negatively influence autonomous motivation, the present results contrast with recommendations by many compensation experts to favor variable PFP plans to increase employee performance. This point of view of is explained by the fact that they rely on expectancy theories, which focus mainly on increasing the expectancy and instrumentality of money (which is often thought to be the main motivator in the workplace). In contrast, using SDT to understand the effects of pay on work effort leads to predicting the results obtained in the current study. By considering different types of motivation (autonomous and controlled), SDT predicts that variable

Author's personal copy

PFP is likely to lead to a decrease in feelings of autonomy (Deci et al. 1999), leading to a decrease in autonomous motivation and an increase in controlled motivation, resulting in less positive net effects on work effort.

Autonomous motivation also completely explained the relation between base pay and decrease in turnover intention. Most interesting were the mediating role of motivation on the relation between variable PFP and change in turnover intention. Through the negative relation with autonomous motivation, annual variable PFP was related to an increase in turnover intention. Through controlled motivation, annual variable PFP was also related to an increase in turnover intention. In effect, because annual variable PFP was associated with lower autonomous motivation and higher controlled motivation, the net "effect" of annual variable PFP is an increase in turnover intention. Quarterly variable PFP, in contrast, was only positively related to controlled motivation, which in turn was related to increased turnover intention. The results therefore indicate that variable PFP (both annual and quarterly) increases turnover intention, while base pay decreases it.

These findings run counter to recommendations made by compensation experts to favor variable PFP plans, and stand in contrast to what Gerhart and Fang (2014, p. 47) argued: "if there is an undermining effect on intrinsic motivation, it is usually dominated by the positive effect of PFIP (pay-for-individual-performance) on extrinsic motivation". Fang and Gerhart (2012) recently obtained results that are different from ours. In a study of white collar workers from eight different Taiwanese companies, they found that variable PFP (as reported by HR managers) was positively related to intrinsic task satisfaction (a proxy for intrinsic motivation). Several differences in the design of the study could account for the difference in results. First, several studies have demonstrated that there are small on no relationships between how HR managers and employees perceive HR practices (Edgar and Geare 2005; Khilji and Wang 2006). Still, Fang and Gerhart assessed PFP strategy through six items completed by HR managers. In contrast, we obtained actual pay data from the company. Second, their measure could not allow for the separation of different pay components, whereas ours separated base pay from variable PFP. Third, they only assessed intrinsic task satisfaction, whereas we assessed both autonomous and controlled motivation, as well as outcomes. Finally, their study was cross-sectional, whereas we had time lags between the measurements of different variables.

The negative observations with respect to variable PFP in the present study could be caused by an increase in stress levels. A controlled work orientation has been associated with lower levels of well-being at work and higher levels of strain in past research (Vansteenkiste et al. 2007). In addition, anecdotes obtained from the company under study indicate observations of several instances of unacceptable means to achieve higher variable PFP. For instance, soon after the implementation of the variable PFP plans, the company decided to introduce rules and regulations with respect to stealing others' sales and keeping hot customers warm from the end of one quarter to the next quarter in order to time sales strategically to maximize the variable PFP payout. Such unintended effects of variable PFP plans have been observed elsewhere (e.g., Cox 2005; Kerr 1975; Pfeffer 1998).

Our findings suggest that base pay should be given greater importance when considering ways to enhance employee engagement and optimal functioning. Since base pay level was positively related to autonomous work motivation, it appears that base pay that meets or exceeds market value may enhance feelings of competence, and perhaps also feelings of autonomy and relatedness. Whereas lower levels of work-related stress and turnover intention are obviously important, autonomous motivation is a potent predictor of task performance (Cerasoli et al. 2014; Gagné and Deci 2005; Kuvaas 2006, 2009; Piccolo and Colquitt 2006), OCB (Chiu and Chen 2005; Piccolo and Colquitt 2006), and knowledge sharing (Foss et al. 2009).

Limitations and strengths

Several limitations should be acknowledged when interpreting our results. First, although the data were gathered at three consecutive points in time, thus satisfying the criterion of temporal precedence (Conway and Lance 2010), we cannot demonstrate causality or rule out the possibility of reverse causality (Shadish et al. 2001). Still, as we controlled for the initial levels of the dependent variables at Time 1, reverse causality is not very likely. A second limitation is the reliance on self-report data, which may limit the validity of our findings. Data on employee effort from other sources and actual turnover would have strengthened the study, but such data are more difficult to collect, especially actual turnover. However, meta-analytic findings have demonstrated a strong link between turnover intention and actual turnover (Griffeth et al. 2000) and even single item measures of self-reported work effort have been found to predict performance in laboratory studies (e.g., Yeo and Neal 2004). Furthermore, the longitudinal nature of the study and the use of objective pay data collected from a different source should remedy any biases associated with the dependent variables versus the control and independent variables. The collection of objective pay data also ensures more accurate data than if the employees themselves should have reported their pay.

A third limitation of the present study is that the generalizability of our findings may be constrained by the

Author's personal copy

nature of our research context (i.e., the country, organization, and particular variable PFP plans implemented). First, unlike sales employees who are only paid by variable pay, those investigated in the current study had, on average, a relatively high base pay, and the introduction of the variable pay plans did not imply a cut in the base pay. Second, the company we investigated has for a long time intended to practice high-commitment HR and recently won a prize for being one of the best companies in Norway with respect to the competence development of its employees. Accordingly, the generalizability our findings may be limited to high-commitment organizations where the majority of the compensation package consists of base pay.

With respect to different relations between the variable pay received through the two variable PFP plans, motivation, and outcomes, we cannot rule out the possibility that unmeasured differences between the two groups of employees have influenced our results. For instance, one-way analysis of variance (ANOVA) showed that there was a higher proportion of men ($p < .05$) among the B2B employees ($M = 1.70$, $SD = .46$) than among the B2C employees ($M = 1.53$, $SD = .50$). Unfortunately, and as previously mentioned, we were not able to control for gender as we only had data from 205 of the 322 employees. The B2B employees also received on average higher base and variable pay, and a larger proportion of them received variable pay than the B2C employees. Accordingly, this group may be associated with a higher status in the organization than the other group or other differences that may be related to the mediators and/or the dependent variables. Although we cannot completely rule out the influence of unmeasured differences between the two groups, one-way analysis of variance (ANOVA) showed no significant differences between the two groups with respect autonomous motivation ($p = .85$), controlled motivation ($p = .43$), change in work effort ($p = .47$) and change in turnover intention ($p = .96$). Accordingly, the most likely interpretation of our results is that is the amount of pay received that best explains the results obtained. This highlights the importance of collecting actual pay data when investigating variable PFP plans, rather than simply the presence or assumed instrumentality of variable PFP plans.

A final limitation of the present study is that we have not investigated satisfaction of the needs for autonomy, competence, and relatedness, which in SDT is predicted to promote autonomous and controlled motivation are determined by (Gagné and Deci 2005). Accordingly, future research could test need satisfaction as mediators of the relationship between pay variables and autonomous and controlled motivation.

A particular strength of this study over previous ones is the fact that we conducted a longitudinal field study of individual PFP. Most experimental studies do not capture longitudinal effects effectively. Even experiments including several rounds may overestimate the positive effects of almost always receiving variable payouts over longer periods of time according to the tendency for financial incentives to have a strong initial impact that may be satiated over time (e.g. Peterson and Luthans 2006). With the exception of case studies (e.g. Beer and Cannon 2004; Cox 2005; Lazear 2000) and studies of the relation between performance, pay growth, and turnover (Harrison et al. 1996; Nyberg 2010; Salamin and Hom 2005; Trevor et al. 1997), we are not aware of any field studies that have been able to take into account the dynamic effects of variable PFP. We also think that having several payout episodes over 2 years is a major strength of our data, as having the opportunity to receive variable PFP is not the same as actually receiving it. Accordingly, the employees in our sample have 2 years of experience from receiving from no to high levels of variable PFP.

Practical implications

Notwithstanding the aforementioned limitations, the present research holds some potentially important practical implications. First, many managers believe that the relatively non-contingent nature of base pay makes it a poor motivating instrument (DeVoe and Iyengar 2004; Ferraro et al. 2005; Magee et al. 2011). The findings obtained in the present study, however, suggest that the amount of base pay can also positively affect employees' motivation and attitudes, even among sales employees. Taking into account that base pay level was associated with sizeable increases in work effort and decreases in turnover intention, we suggest that paying top performers competitive base pay to show how valuable they are to the organization may be more effective than relying on variable PFP. The downside of the base pay level as an indicator of worth to the organization is that lower performing employees with lower base pay may feel less valued, which can dampen their need satisfaction and autonomous motivation and subsequent performance even further. Thus, it should be communicated that there are other determinants of base pay level, such as education level, formal skills, and market conditions (Thierry 2001). Organizations should also consider implementing programs for career development, education, and training as a remedy for such groups of employees (Lawler and Finegold 2000) and be more selective in recruiting new employees (Combs et al. 2006). If, on the other hand, lack of effort is an organization-wide problem, an alternative to relying on variable PFP to increase effort could be to train managers to satisfy psychological needs by providing more information about organizational goals and how their role helps fulfill these objectives, and by creating a sense of belonging (e.g., Baard et al. 2004; Meyer and Gagné 2008).

Author's personal copy

The different results for the payouts from the two variable PFP plans suggest that the effects of variable PFP are not as dependent on the amount of money potentially or actually received as believed by many. For instance, Heneman et al. (2000) suggested that in order for variable PFP plans to be motivating, the variable pay opportunity must represent 5–10 % of the base pay. In the present study, quarterly variable PFP represented only 2.31 % of base pay, while annual variable PFP represented 7.87 % of base pay. Despite having the potential to be motivating enough, it seems that the frequency of payout episodes was more predictive of controlled motivation than the amount of variable pay received. This was supported by an additional Wald test (χ^2 [1] = 3.98, $p < .05$) showing that the relation between quarterly variable PFP and controlled motivation ($\beta = .32$, $p < .001$) was significantly greater than the relation between the amount of annual variable PFP and controlled motivation ($\beta = .18$, $p < .001$). In line with expectancy theory (Vroom 1964) and the assumptions of the insurance company, more frequent and smaller payouts seem to have stronger incentive effects. Accordingly, if high incentive intensity is what is needed, organizations should also look beyond the amount of variable PFP that can be earned. With respect to autonomous motivation, however, a negative relation was only obtained for annual variable PFP with larger but less frequent payouts.

Compared with the efforts many organizations invest in fine-tuning their pay systems to solve problems associated with a lack of motivation or effort and retention issues, perhaps the most surprising observation based on our results is how weakly the variable pay variables are associated with the dependent variables. This is why some authors (e.g., Cox 2005) argue that the costs and unforeseen consequences of variable pay (e.g., management time and administration, perceived unfairness, etc.) might not be worth the time, effort and money. Compared to the effect sizes of autonomous motivation on the outcomes, the effect sizes of controlled motivation were much smaller. Since autonomous motivation was positively related to base pay, and negatively or unrelated to the variable PFP, we can argue that variable PFP had little effects on the outcomes. Since sizeable amounts of variable pay were obtainable and also received by some employees (Heneman et al. 2000), and variable PFP was based on the results rather than an evaluation of employee behaviors (Gerhart et al. 2009), the weak results cannot be explained by a weak link between performance (or results) and pay or other fatal flaws in the design of the pay plans. Thus, the belief among many managers that pay is a simple solution to complex problems (Ferraro et al. 2005; Heath 1999) may reflect the tendency of many managers towards designing pay systems that overemphasize financial and material compensation (Magee et al. 2011). In many organizations, the large majority of the employees may be more responsive to motivational job designs (e.g. Humphrey et al. 2007) and relational rewards (Grant 2007, 2008; Peterson and Luthans 2006). Given the high costs of running a variable PFP plan, it may be advisable to seek out other solutions to motivational problems. Finally, both compensation and motivation scholars seem to agree that the variable PFP-controlled motivation may reduce autonomous motivation, at least in the laboratory and among children and students (Deci et al. 1999). Although the relative impact of controlled and autonomous motivation on employee outcomes is less clear in work settings, our study suggests that variable PFP represents a double-edged sword, even for sales people.

Compliance with ethical standards

Conflict of interest None of the authors has any conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

References

Baard, P. P., Deci, E. L., & Ryan, A. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*(10), 2045–2068. doi:10.1111/j.1559-1816.2004.tb02690.x.

Barnes, C. M., Hollenbeck, J. R., Jundt, D. K., Scott DeRue, D., & Harmon, S. J. (2011). Mixing individual incentives and group incentives: Best of both worlds or social dilemma? *Journal of Management, 37*(6), 1611–1635.

Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.

Beer, M., & Cannon, M. D. (2004). Promise and peril in implementing pay-for-performance. *Human Resource Management, 43*(1), 3–48.

Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin, 140*(4), 980–1008. doi:10.1037/a0035661.

Chiu, S. F., & Chen, H. L. (2005). Relationship between job characteristics and organizational citizenship behavior: The mediational role of job satisfaction. *Social Behavior and Personality, 33*(6), 523–539.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale: Lawrence Erlbaum.

Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology, 59*, 501–528. doi:10.1111/j.1744-6570.2006.00045.x.

Author's personal copy

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*(3), 325–334.

Cox, A. (2005). The outcomes of variable pay systems: Tales of multiple cost and unforeseen consequences. *International Journal Human Resource Management, 16*(8), 1475–1497.

De Cooman, R., De Gieter, S., Pepermans, R., Jegers, M., & Van Acker, F. (2009). Development and validation of the work effort scale. *European Journal of Psychological Assessment, 25*, 266–273.

DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.

Deci, E. L., & Ryan, A. M. (2000). The "what and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.

Deci, E. L., & Ryan, A. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*(1), 14–23. doi:10.1037/0708-5591.49.1.14.

Deci, E. L., Ryan, R. M., & Koestner, R. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*(6), 627–668.

DeVoe, S. E., & Iyengar, S. S. (2004). Managers' theories of subordinates: A cross-cultural examination of manager perceptions of motivation and appraisal performance. *Organizational Behavior and Human Decision Processes, 93*, 47–61.

Dysvik, A., & Kuvaas, B. (2008). The relationship between perceived training opportunities, work motivation and employee outcomes. *International Journal of Training and Development, 12*(3), 138–157.

Edgar, F., & Geare, A. (2005). HRM practice and employee attitudes: Different measures—different results. *Personnel Review, 34*(5), 534–549.

Fall, A., & Roussel, P. (2014). Compensation and work motivation. In M. Gagné (Ed.), *The oxford handbook of work engagement, motivation, and self-determination theory* (pp. 199–217). New York: Oxford University Press.

Fang, M. Y., & Gerhart, B. (2012). Does pay for performance diminish intrinsic interest? *International Journal of Human Resource Management, 23*(6), 1176–1196. doi:10.1080/09585192.2011.561227.

Ferraro, F., Pfeffer, J., & Sutton, R. I. (2005). Economic language and assumptions: How theories can become self-fulfilling. *Academy of Management Review, 30*(1), 8–24.

Foss, N. J., Minbaeva, D. B., Pedersen, T., & Reinholt, M. (2009). Enhancing knowledge sharing among employees: How job design matters. *Human Resource Management, 48*(6), 871–893.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*, 233–239.

Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial behavior engagement. *Motivation and Emotion, 27*(3), 199–223.

Gagné, M. (2014). *The oxford handbook of work engagement, motivation, and self-determination theory*. New York: Oxford University Press.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26*, 331–362. doi:10.1002/job.322.

Gagné, M., & Forest, J. (2008). The study of compensation through the lens of self-determination theory: Reconciling 35 years of debate. *Canadian Psychology, 49*(3), 225–232.

Gardner, D. G., Van Dyne, L., & Pierce, J. L. (2004). The effects of pay level on organization-based self-esteem and performance: A field study. *Journal of Occupational and Organizational Psychology, 77*, 307–322.

Gerhart, B., & Fang, M. (2014). Pay for (individual) performance: Issues, claims, evidence and the role of sorting effects. *Human Resource Management Review, 24*, 41–52.

Gerhart, B., & Fang, M. (2015). Pay, intrinsic motivation, extrinsic motivation, performance, and creativity in the workplace: Revisiting long-held beliefs. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 489–521. doi:10.1146/annurev-orgpsych-032414-111418.

Gerhart, B., & Rynes, S. L. (2003). *Compensation: Theory, evidence, and strategic implications*. Thousand Oaks: Sage.

Gerhart, B., Rynes, S. L., & Fulmer, I. S. (2009). Pay and performance: Indivduals, groups, and executives. *The Academy of Management Annals, 3*(1), 251–315.

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review, 32*(2), 393–417.

Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of Applied Psychology, 93*(1), 48–58.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*(3), 463–488.

Harrison, D. A., Virick, M., & William, S. (1996). Working without a net: Time, performance, and turnover under maximally contingent rewards. *Journal of Applied Psychology, 81*(4), 331–345. doi:10.1037/0021-9010.81.4.331.

Heath, C. (1999). On the social psychology of agency relationships: Lay theories of motivation overemphasize extrinsic incentives. *Organizational Behavior and Human Decision Processes, 78*(1), 25–62.

Heneman, R. L., Ledford, G. E. J., & Gresham, M. T. (2000). The changing nature of work and its effects on compensation design and delivery. In S. L. Rynes & B. Gerhart (Eds.), *Compensation in organizations: Current research and practice* (pp. 195–240). San Francisco: Jossey-Bass.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Coventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1–55.

Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology, 92*(5), 1332–1356.

Jenkins, G. D., Gupta, N., Mitra, A., & Shaw, J. D. (1998). Are financial incentives related to performance? A meta-analytic review of empirical research. *Journal of Applied Psychology, 83*(5), 777–787.

Kerr, S. (1975). On the folly of rewarding a, while hoping for b. *Academy of Management Journal, 18*(4), 769–783.

Khilji, S. E., & Wang, X. (2006). "Intended" and "implemented" HRM: The missing linchpin in strategic human resource management research. *International Journal Human Resource Management, 17*(7), 1171–1189.

Kuvaas, B. (2006). Work performance, affective commitment, and work motivation: The roles of pay administration and pay level. *Journal of Organizational Behavior, 27*(3), 365–385.

Kuvaas, B. (2009). A test of hypotheses derived from self-determination theory among public sector employees. *Employee Relations, 31*(1), 39–56.

Kuvaas, B., & Dysvik, A. (2010). Permanent employee investment and social exchange and psychological cooperative climate among temporary employees. *Economic and Industrial Democracy, 32*(2), 261–284. doi:10.1177/0143831X10371990.

Lawler, E. E. I. (1971). *Pay and organizational effectiveness: A psychological view*. New York: McGraw-Hill.

Lawler, E. E. I., & Finegold, D. (2000). Individualizing the organization: Past present and future. *Organizational Dynamics, 29*(1), 1–15.

Author's personal copy

Lazear, E. P. (2000). Performance pay and productivity. *The American Economic Review, 90*(5), 1346–1361.

Locke, E. A., Feren, D. B., McCaled, V. M., Shaw, K. N., & Denny, A. T. (1980). The relative effectiveness of four methods of motivating employee performance. In K. D. Duncan, M. M. Gruenberg, & D. Wallis (Eds.), *Changes in working life* (pp. 363–388). New York: Wiley.

Magee, J. C., Kilduff, G. J., & Heath, C. (2011). On the folly of principal's power: Managerial psychology as a cause of bad incentives. *Research in Organizational Behavior, 31*, 25–41. doi:10.1016/j.riob.2011.09.002.

Meyer, J. P., & Gagné, M. (2008). Employee engagement from a self-determination theory perspective. *Industrial and Organizational Psychology, 1*, 60–62.

Moller, A. C., & Deci, E. L. (2014). The psychology of getting paid: An integrated perspective. In E. Bijleveld & H. Aarts (Eds.), *The psychological science of money* (pp. 189–211). New York: Springer.

Nyberg, A. (2010). Retaining your high performers: Moderators of the performance-job satisfaction-voluntary turnover relationship. *Journal of Applied Psychology, 95*(3), 440–453. doi:10.1037/a0018869.

Nyberg, A. J., Pieper, J. R., & Trevor, C. O. (2013). Raboyee performance: Integrating psychological and economic principles toward a contingency perspecctive. *Journal of Management,*. doi:10.1177/0149206313515520.

Peterson, S. J., & Luthans, F. (2006). The impact of financial and nonfinancial incentives on business-unit outcomes over time. *Journal of Applied Psychology, 91*(1), 156–165.

Pfeffer, J. (1998). Six dangerous myths about pay. *Harvard Business Review, 76*(3), 108–119.

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal, 49*(2), 327–340.

Richer, S. F., Blanchard, C., & Vallerand, R. J. (2002). A motivational model of work turnover. *Journal of Applied Social Psychology, 32*(10), 2089–2113.

Salamin, A., & Hom, P. W. (2005). In search of the elusive u-shaped performance-turnover relationship: Are high performing swiss bankers more liable to quit? *Journal of Applied Psychology, 90*(6), 1204–1216. doi:10.1037/0021-9010.90.6.1204.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2001). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.

Shore, L. M., Tetrick, L. E., Lynch, P., & Barksdale, K. (2006). Social and economic exchange: Construct development and validation. *Journal of Applied Social Psychology, 36*(4), 837–867.

Stajkovic, A. D., & Luthans, F. (2003). Behavioral management and task performance in organizations: Conceptual backgrounds, meta-analysis, and test of alternative models. *Personnel Psychology, 56*, 155–194.

Thierry, H. (2001). The reflection theory on compensation. In M. Erez, U. Kleinbeck, & H. Theirry (Eds.), *Work motivation in the context of a globalazing economy* (pp. 149–166). Hove: Psychology Press.

Thierry, H. (2002). Enhancing performance through pay and reward systems. In S. Sonnentag (Ed.), *Psychological management of individual performance* (pp. 325–347). Chichester: Wiley.

Trevor, C. O., Gerhart, B., & Boudreau, J. W. (1997). Voluntary turnover and job performance: Curvilinearity and the moderating influences of salary growth and promotions. *Journal of Applied Psychology, 82*(1), 44–61. doi:10.1037/0021-9010.82.1.44.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work and Stress, 22*(3), 277–294.

Vansteenkiste, M., Neyrinck, B., Niemiec, C., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology, 80*(2), 251–277.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Weibel, A., Rost, K., & Osterloh, M. (2010). Pay for performance in the public sector: Benefits and (hidden) costs. *Journal of Public Administration Research and Theory, 20*(2), 387–412.

Yeo, G. B., & Neal, A. (2004). A multilevel analysis of effort, practice, and performance: Effects of ability, conscientiousness, and goal orientation. *Journal of Applied Psychology, 89*(2), 231–247.

Zenger, T. R., & Marshall, C. R. (2000). Determinants of incentive intensity in group-based rewards. *Academy of Management Journal, 43*(2), 149–163. doi:10.2307/1556373.

Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*, 197–206.