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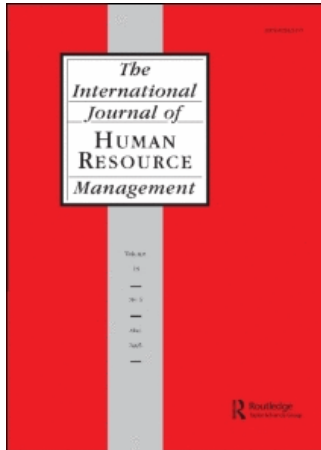
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Loss aversion and variable pay: a motivational perspective

Kimberly K. Merriman and John R. Deckop

Abstract Implications of the value function associated with prospect theory have recently been extended to the context of variable pay systems in organizations. This research has focused on risk preference and choice behaviour, and not investigated potential motivational effects associated with decision framing. We investigated motivational effects of loss aversion in a field study containing a heterogeneous sample of respondents ($n = 193$) subject to variable pay plans in their organizations within the US. Consistent with our theoretical predictions, and counter to conventional prescriptions associated with the design of variable pay systems, we found that variable pay framed as a loss is associated with greater work effort and performance, and less deviant behaviour in the workplace. Implications for future research and practice are discussed.

Keywords Variable pay; prospect theory; loss aversion; work outcomes.

Introduction

The effectiveness of variable pay systems (i.e. non-fixed compensation contingent upon individual, group or organization performance) in organizations has been investigated from a wide variety of theoretical perspectives, including expectancy theory, equity and other organizational justice theories, agency theory, goal setting and others. The focus of much of this research has been to explain variable pay effectiveness through motivational phenomena such as effort and performance. More recently, variable pay has been considered conceptually from the perspective of prospect theory, specifically the predications of the value function in prospect theory in which outcome values change in relation to their position to a psychological reference point separating gains from losses (e.g. Wiseman and Gomez-Mejia, 1998; Wiseman *et al.*, 2000). This research has focused on the implications of the value function for risk preference, and choice behaviour under the risk associated with variable pay.

Heath *et al.* (1999) provide evidence that the value function associated with prospect theory can serve as a bridge between cognitive explanations for choice behaviour and more traditional motivational explanations, particularly goal setting. Our study further attempts to bridge this gap by investigating effects of loss aversion in the context of variable pay on employee effort, performance and deviant behaviour.

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Variable pay, in contrast to fixed pay, is contingent upon some performance related outcome (Wiseman and Gomez-Mejia, 1998). Examples of variable pay include incentives, gainsharing, profit sharing, stock plans and other creative hybrids of these more common methods. The use of these types of pay programmes by organizations proliferated over the past decade, particularly for non-executive employees (Lawler, 2000). For instance, a recent survey indicated that that 82 per cent of American companies have variable pay plans for non-executive employees (Institute of Management Administration, 2005), compared with about 50 per cent in the early 1990s (*Wall Street Journal*, 2002). Performance-related pay is also now a 'standard element of the management toolkit' for the UK and has particularly grown in use throughout the public sector (Belfield and Marsden, 2002: 1; Marsden and Belfield, 2004). Despite its increasing popularity, we are only beginning to understand how non-executive employees perceive their variable pay and how these perceptions influence work behaviours (Heneman *et al.*, 2000; Marsden *et al.*, 2001; Wiseman *et al.*, 2000). A clear understanding of these issues is needed if organizations are to maximize the effectiveness of variable pay systems.

Organizations generally intend for variable pay to represent an opportunity for employees to earn additional pay if relevant outcomes are met. The dictionary definition of 'bonus', a common form of variable pay, is 'something that is given in addition to what is usual or strictly due' (*Webster's New Collegiate Dictionary*). Textbook prescriptions for the design of variable pay plans focus on managing employee expectations in this regard. A critical aspect of pay for performance plan design is to move employees away from the belief that their compensation is an entitlement, and instead to something that is at risk and associated with performance (Milkovich and Newman, 2005). The concepts of entitlement in pay plan design and a loss frame in prospect theory both involve individual expectations about future rewards. In prospect theory terms, a conventional prescription would be that organizations should encourage employees to view potential variable pay awards as gains, versus losses. However, employees may see the absence of a variable pay award as a loss, rather than a missed gain, in spite of the uncertainty surrounding this form of pay, and may be unwilling to accept its loss (Heath *et al.*, 1993).

In this study, we investigate, from a motivational standpoint, what happens when employees view potential variable pay from a loss as opposed to a gain perspective. To our knowledge, this issue has not been investigated previously in field research. We predict, in contrast to conventional thinking, that employee effort and performance will be greater the more potential variable pay is perceived as a loss. We also predict that employees will be less likely to engage in deviant behaviour the more potential variable pay is framed as a loss.

Theoretical development

Loss aversion and variable pay

Prospect theory states that individuals perceive outcomes in relation to a subjective reference point and consequently frame an outcome in terms of a loss or a gain (Kahneman and Tversky, 1979). In a value function, outcomes below the reference point, or losses, are viewed as more aversive than the attractiveness of similar sized gains. For example, losing \$50 annoys the typical individual more than gaining \$50 provides gratification. Loss aversion has been empirically demonstrated in numerous hypothetical and experimental situations (e.g. De Dreu *et al.*, 1994; Highhouse and Johnson, 1996; Hodgkinson *et al.*, 1999; Sitkin and Weingart, 1995) and, to a much lesser extent, actual

situations of organizational decision-making (Gooding *et al.*, 1996; Lee, 1997; Sanders, 2001; Singh, 1986). Loss aversion can also be inferred from equity theory applications in which significant findings pertain to under-reward and few negative outcomes are associated with over-reward (Mowday, 1991; Pritchard, 1969).

Economic theory of consumer behaviour provides cognitive rationale as to why loss aversion should specifically hold true in terms of pay. Friedman's (1957) permanent income hypothesis observes that current income is a poor indicator of consumer spending. Consumption is instead related to anticipated future long-term income, labelled permanent income, which is a function of past and present income levels and anticipated income growth. This suggests that variable pay, once previously received or anticipated, may be incorporated into permanent income and then spending levels adapted to this revised income position. Since consumers spend, take on debt and even deplete savings based on their perception of permanent income, failure to receive it would cause significant harm to their adapted lifestyle. Failure to gain non-permanent income may be disappointing, but would not have the same dire consequences to adapted lifestyle. Permanent income gradually adjusts to changes in actual income over time, but is not immediately influenced by unexpected shifts in the income stream, and spending needs of course will lag decreases in permanent income since debts cannot be reduced as quickly.

In principle, at least from an organizational perspective, variable pay that is above market-level base pay should be viewed by individuals as an opportunity to gain and not a potential loss (Gomez-Mejia *et al.*, 2000; Wiseman and Gomez-Mejia, 1998). Wiseman *et al.* (2000), however, argued that perceptions of variable pay may not be so straightforward. Reference points used to evaluate outcomes in terms of gain versus loss tend to rise faster than they fall (March, 1988). Individuals will adjust reference points upwards as rewards rise, but tend not to adjust their reference points downwards when performance and thus rewards decline (Gooding *et al.*, 1996).

Furthermore, gain and loss framing may be influenced by various contextual variables such as societal norms (Tversky and Kahneman, 1981), goals or aspirations (Heath *et al.*, 1999; Tversky and Kahneman, 1981; Sitkin and Pablo, 1992), past experiences (Gregory *et al.*, 1993; Sullivan and Kida, 1995), as well as order of presentation of options (Highhouse *et al.*, 1996; Hogarth and Einhorn, 1992). Given all the factors that may influence framing of variable pay in a real world context, it is unlikely that a generalized reference point would consistently distinguish loss from gains. Instead, framing in a field study must be considered on an individual basis and measured based on the individual's perception of their pay. This is distinct from much of the experimental literature on framing which typically focuses on inferred or constructed gain and loss scenarios.

Thus, this study focuses on the degree of framing in a categorical sense rather than a quantitative assessment of perceived distance from the neutral reference point in the value function, unlike experimental designs that control the reference point and manipulate a quantified outcome. Consistent with extant research, we anchor our measure with a loss frame so that high scores on the measure (indicating agreement) reflect a loss frame, while lower scores (indicating disagreement) reflect a gain frame. While this precludes examination of the more nuanced elements associated with the shape of the value function (i.e. specific predictions regarding the distance of losses or gains from the neutral reference point), it allows for empirical analysis of loss aversion, a primary axiom of prospect theory, in the real world setting of variable pay.

It also is important to note that although loss aversion exists in both situations of certainty and uncertainty (Tversky and Kahneman, 1991), the presence of uncertainty or risk qualifies the situation as having behavioural choices. An individual must perceive a chance to avoid loss in order to contemplate behaviours that would address this potential loss.

The uncertainty associated with potential variable pay presents employees with the choice of attempting to influence the outcome, or not, as opposed to just reacting to an outcome *post hoc*, as would be the case in situations of pay certainty. This distinction is important since loss aversion operates differently in the context of certainty (e.g. Rothman *et al.*, 1999).

Motivational effects of loss aversion

Individuals are predicted in a loss context to engage in 'loss aversion', and risk-seeking behaviour, which implies that they will go to greater lengths to avoid a loss than they will to secure an equivalent gain (Kahneman and Tversky, 1979). To determine potential loss avoidance behaviours in the context of variable pay one must consider the two general ways in which employees may influence work outcomes: change the amount or intensity of effort and/or change the direction of effort (Lord and Hanges, 1987; Taylor *et al.*, 1984). Increasing the amount or intensity of work effort may be a way to improve the chances of receiving variable pay and thus represents a relevant loss avoidance behaviour. Individuals who frame variable pay as a loss may be more willing to risk the expenditure of effort necessary to avoid the loss. While loss aversion research from the management literature primarily focuses on potential financial losses, the expenditure of effort is recognized as a cost that generates the same risk attitudes as financial resources (Arkes and Blumer, 1985). The currency characteristics of effort have been empirically demonstrated in a study of loss aversion and sunk costs (Zeelenberg and van Dijk, 1997) and a study of loss aversion behaviours in the context of goal setting (Heath *et al.*, 1999). Expenditure of effort may also come in the form of escalation of commitment, in that individuals who frame outcomes as losses are more likely to escalate (e.g. Whyte, 1986).

Furthermore, Heath *et al.* (1999) theorized that investment of individual time and effort in relation to goals would follow the principles of loss aversion. In the loss region of the value function, the marginal value of an additional 'unit' of time investment or effort is greater than in the gain region of the value function. In a manipulation of hypothetical situations, they found support for a preference of greater effort (e.g. number of push-ups attempted) and time investments (number of overtime hours preferred) in situations where the outcome was portrayed as a loss if not achieved versus an opportunity to gain. The time investment was about twice that of situations framed as a gain, consistent with prior studies showing losses weighted more than equivalent gains (Kahneman *et al.*, 1990; Tversky and Kahneman, 1991).

In summary, we propose that the more individuals frame their variable pay as a loss, the more they will be motivated to engage in productivity related work behaviours. In particular, we make predictions about the effects of loss aversion on two outcome variables commonly specified in motivational research, work effort and job performance. We also investigate effects of loss aversion on an outcome less commonly studied in motivational research, deviant behaviour. The proposed theoretical effects are similar, in that deviant behaviour may be seen by employees counterproductive to the objective of receiving variable pay. Thus,

Hypothesis 1: The more individuals frame variable pay as a loss, the greater their work effort.

Hypothesis 2: The more individuals frame variable pay as a loss, the greater their work performance.

Hypothesis 3: The more individuals frame variable pay as a loss, the less their deviant behaviour.

Methods

Sample

Data were collected via a two-part written survey directed to employees receiving variable pay and their respective supervisors. Supervisors provided data for the measure of in-role performance. All other measures were based on employee provided data. For the purpose of this study, variable pay was defined as 'one-time payments such as bonuses, commissions, incentive pay, any compensation contingent upon individual, group or organization performance, profit sharing, employee stock options, and any other non-fixed form of pay'. The definition of variable pay was further clarified by its contrast with base pay, 'hourly pay or salary, including raises (e.g. cost of living raises or merit adjustments), overtime, expense reimbursements and car allowance'.

We decided to include all major forms of variable pay, from individual to group based, in our definition in order to maximize the chances that an individual respondent received what we termed variable pay, and thus qualified for inclusion in our sample. Although the perceived link between effort and variable pay award criteria is probably greater in an individual plan as compared to a group plan, our focus in this study, similar to Heath *et al.* (1999), is on the psychological value of outcomes as opposed to expectancies. Heath and colleagues found a 'value function approach' to be highly predictive and more parsimonious than an approach that incorporates value and expectancies. In fact, they find that the value function predictions hold true even when there is no expectancy of achieving a set goal. Heath *et al.* conclude that 'the additional explanatory power of adding expectations may not be worth the cost' (p. 103).

A diverse sample was surveyed in order to increase the likelihood of obtaining variance in variable pay framing. Survey participants all met the criterion of having some form of variable pay included in their pay structure. Four hundred and thirty-four surveys were administered to a subset of employees across three participating organizations and to employees solicited through a professional organization and graduate classes. The employing organizations were all located in the United States. From these we obtained 205 matched supervisor-subordinate dyads, for a response rate of 47 per cent. Due to listwise deletion of missing data and removal of cases not eligible for a meaningful level of variable pay (five cases where potential variable pay was less than 1 per cent of total pay) or lacking full-time work status (two cases), the actual sample size was 193. The appropriateness of pooling the data was assessed via two methods: using multiple combinations of independent-samples *t* tests to compare variances between the sample groups, and controlling for sample group in the regression models (analyses available upon request). Both methods indicate the groups are sufficiently homogenous to allow for pooling, thus subsequent statistical analyses are performed on the combined data. We found only one area where the controlling for sample group was significant, one company with respect to work effort. The results of the work effort regression were otherwise virtually identical, so company control was not included in the presented regressions.

Respondents worked at their organizations an average of 5.7 years and were employed full time. Anticipated variable pay for the survey year averaged 12 per cent. Earnings ranged from less than \$20,000 to over \$100,000 per year; the modal category selected was \$51,000 to \$60,000. A wide range of occupations, organizations and hierarchical levels were represented in the sample. Occupationally, 37 per cent of respondents identified themselves as managerial, 35 per cent professional, and 17 per cent technical. The remaining respondents were divided among office/clerical, sales, service and 'other'. Major industries represented included banking/finance (26 per cent) and manufacturing (19 per cent).

In all cases, participants were assured that their responses would remain confidential. This was accomplished by providing addressed and stamped envelopes so each employee respondent and their respective supervisor could return their completed survey separately and anonymously, via mail. The surveys were pre-coded to allow matching of employee responses with supervisor responses once returned. The employee survey provided a measure of all variables except for actual ratings of work performance, which was obtained from the supervisor.

Measures

Full scales are provided in the Appendix for variable pay framing, an original measure developed for this study, and deviant behaviour which was substantially modified from its original source. Scales for other variables are cited and or described in detail within this section.

Variable pay framing Employee perception of variable pay framing was assessed with an original six-item scale developed for this research. A loss/gain frame is typically inferred from experimental manipulations or, to a lesser extent, organizational conditions such as relative financial measures. While there is no pre-existing measure that assesses individual framing perceptions in a non-contrived situation, we are aware of two studies that vary from the strictly objective measures of framing. Lee (1997) analysed the language from companies' annual reports to assess framing. A prevalence of words that connoted loss perceptions and negative feelings were considered to indirectly reflect a loss frame. Sitkin and Weingart (1995) measured participants' focus on opportunities as a manipulation check of their hypothetical gain/loss scenario, higher perceptions of opportunity representing a gain frame. Both studies implicitly treat framing as a unitary construct – measuring gain and loss frame on the same scale, anchored by either loss frame (Lee) or gain frame (Sitkin and Weingart). This is consistent with the reference point axiom of prospect theory, which considers outcomes along a continuum with gain/loss regions subjectively drawn by individual perception. We take a similar approach in the present study, anchoring the measure with a loss frame.

Our scale thus assesses the degree to which respondents frame their future variable pay as a loss versus gain (or non-loss) in a categorical sense, as opposed to a quantitative assessment of perceived distance from the neutral reference point in the value function. As such, we are not able to examine empirically more nuanced elements associated with the shape of the value function as has been done in previous experimental research (e.g. Heath *et al.*, 1999). Several of the final items in our measure directly or indirectly reference goals, in keeping with Heath and colleagues' interpretation of the value function reference point.

Following Hinkin's (1995) suggested methods for scale development, we drew from the above referenced literature, review and input by researchers familiar with the subject, and pilot studies to develop an initial list of 51 items, subsequently refined to 15 items and ultimately refined to six items, to assess individual employee framing perceptions regarding their current variable pay plan. The final pilot study ($N = 76$) included 15 items. Factor analysis identified three factors with one primary factor, 12 items, accounting for 59 per cent of the variance. Out of those 12 items, a six-item final scale was determined based on its superior .96 reliability score. Responses to these and all other study items, unless indicated otherwise, were made on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The six final items are listed in the Appendix.

Work effort Work effort was assessed with a four-item, self-report measure based on the scale developed by O'Connor *et al.* (1982). A sample item is, 'When at work, I always give 100%'. Due to the positive skewness of this variable, a squared transformation was used to normalize the distribution.

Work performance In-role performance of the employee, as rated by the supervisor, was measured with a four-item scale from Williams and Anderson (1991). A sample item is, 'This employee meets performance expectations'.

Deviant work behaviours The deviant work behaviour measure was adapted from the 12-item organizational deviance scale developed by Bennett and Robinson (2000), using four items from the original measure and adding two additional items that were most likely to be present in all work environments. Employees were asked to indicate the extent to which they engaged in the six different deviant behaviours during the past year on a scale of 1 (*never*) to 7 (*daily*). These six items are listed in the Appendix.

Control variables

Controls include percentage variable pay, deviant behaviour opportunity, performance constraints, social desirability bias, employee earnings, age and gender. The potential amount of variable pay may be related to both framing and the behavioural outcomes considered in this study since larger relative amounts may make variable pay more salient and influential. It is important to consider this control in relative terms since a seemingly small amount in absolute terms may be viewed as substantial to some. Thus percentage of variable pay was measured as the percent of variable versus fixed pay, using the definition of variable pay described earlier, in the employee's potential current year compensation.

In keeping with expectancy models, the decision of where to direct effort is influenced not only by valence, but also by perceived instrumentality of effort. Performance constraints and deviant behaviour opportunity both capture important aspects of effort instrumentality. It was, therefore, important to control for these situational constraints. Deviant behaviour opportunities were measured with an original three-item scale, asking employees whether they could 'get away' with the misuse of company time or resources without getting caught or without serious repercussion. Performance constraints were measured using an eight-item scale developed by Peters and O'Connor (1980) and validated by O'Connor *et al.* (1982). Employee respondents were asked to rate on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*) whether eight different resources, such as time and job-related information, were adequately available. In keeping with the original use of the scale, we gave instruction to leave blank any items that were not applicable and tallied the score by averaging the ratings of only the applicable items.

Social desirability biases may influence how individuals respond to the questions regarding work effort and deviant behaviour. Social desirability was measured with a 13-item, short-version of the Marlowe-Crowne Social Desirability Scale developed by Reynolds (1982) and found to be comparable to the full scale (Loo and Thorpe, 2000). Answers are in a true/false format (1 = t, 2 = f).

Demographic controls such as employee age, earnings and gender are commonly specified control variables in studies of work performance. Age was measured using six categories ranging from less than 20 at the extreme low end of the scale to over 60 at the extreme high end of the scale. Earnings were measured using ten categories ranging from

less than \$20,000 at the extreme low end to greater than \$100,000 at the extreme high end of the scale. The question focused on current year anticipated earnings including base and variable pay. We coded the gender measure as 0 = male and 1 = female.

Results

Table 1 reports the means, standard deviations, correlation coefficients and reliabilities of variables used in the analyses. Scale reliabilities (Cronbach's alpha) all exceeded the cutoff of .70 for scale development suggested by Nunnally (1978). Regression results for the tests of hypotheses are presented in Table 2.

Zero order correlations are significant between framing and two of the dependent variables, work effort and performance. These relationships are also supported by the regressions, with all controls specified. Hypothesis 1 predicts a positive relationship between the degree future variable pay is framed as a loss and work effort. This relationship was indeed positive and significant ($p < .01$), providing support for Hypothesis 1. Hypothesis 2 predicts a positive relationship between the degree future variable pay is framed as a loss and work performance. This relationship was also positive and significant ($p < .01$), providing support for Hypothesis 2.

Hypothesis 3, the relationship between framing and deviant work behaviour, is supported when two key situational constraints (deviant behaviour opportunity and performance constraints) are controlled in the regression model (see Table 2). This relationship was negative as predicted and significant ($p < .05$).

Three of the control variables also had statistically significant effects. Deviant behaviour opportunity was a significant predictor of work effort and deviant work behaviour ($p < .001$). Specifically, deviant behaviour opportunity was negatively related to work effort and positively related to deviant work behaviour. Performance constraints was also a significant predictor of work effort ($p < .001$) and deviant work behaviour ($p < .01$), although not in the expected direction. Performance constraints were positively related to work effort and negatively related to deviant work behaviour. This may suggest that individuals put forth greater work effort, and reduce counterproductive deviant work behaviour, in an attempt to compensate for situational shortcomings in the workplace. Performance constraints' lack of significance in predicting work performance supports this notion. Interestingly, the relationship between age and deviant work behaviour was significant ($p < .01$) and negative, suggesting younger workers are more prone to counterproductive work behaviours.

Discussion

The results of the present study indicate the relevance of framing and loss aversion in predicting employee responses to variable pay. Consistent with predictions based on loss aversion, we found the degree to which future variable pay is framed as a loss has a positive relationship with work effort and performance, and a negative relationship with deviant work behaviour. Explained as a manifestation of loss aversion, it appears employees with loss frame perceptions are driven to pursue behaviours that reduce the likelihood of variable pay loss – greater work effort and less deviant behaviours. These behaviours ultimately translate into improved work performance.

The present study has important implications for management. Organizations must understand how employees evaluate and respond to their variable pay in order to design the most effective pay plan. Our findings identify framing perceptions as a key individual difference variable to be considered in determining employee response to variable pay. Employees who perceive future variable pay as a potential loss will put forth more effort

Table 1 Pearson correlations and descriptive statistics

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	
1	Loss frame	4.82	1.66	(.95)									
2	Work effort squared	36.05	10.60	.13 ¹	(.94)								
3	Work performance	6.10	.71	.22**	.19**	(.91)							
4	Deviant work behaviour	2.97	1.11	-.07	-.47**	-.14*	(.71)						
5	Gender	.40	.49	-.06	.13	-.04	.11						
6	Age	3.11	.95	.01	.10	-.11	-.26**	-.01					
7	Earning	6.43	2.29	.06	.06	-.02	-.16*	-.28**	.35**				
8	Social desirability	1.59	.14	-.06	-.01	.11	-.19**	-.16*	.09	.03			
9	Percentage of variable pay	12.31	10.53	.28**	.02	.12	-.03	-.18*	.09	.40**	-.001		
10	Deviant behaviour opportunity	3.71	1.32	.11	-.39**	-.05	.38**	-.05	-.05	-.02	-.16*	.18*	(.79)
11	Performance constraints	5.11	1.05	-.16*	.21**	.05	-.18*	.15*	-.06	-.10	.12	-.06	-.06

Notes: n = 193; alpha reliabilities appear on the diagonal in parentheses; * p < .05; ** p < .01; ¹ p < .05 using one-tailed test.

Table 2 Regression results

Independent variable	Dependent variable											
	Work effort				In-role performance				Deviant work behaviour			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
Constant	42.97***	(9.55)	35.24***	(9.75)	5.50***	(0.71)	4.92***	(0.72)	4.66***	(0.97)	5.20***	(1.01)
Control variables												
Gender	2.04	(1.51)	2.11	(1.49)	-.02	(0.11)	-.02	(0.11)	.27	(0.15)	.26	(0.15)
Age	.86	(0.78)	.85	(0.77)	-.09	(0.06)	-.09	(0.06)	-.27**	(0.08)	-.27**	(0.08)
Earnings	.17	(0.36)	.24	(0.36)	-.02	(0.03)	-.01	(0.03)	-.02	(0.04)	-.02	(0.04)
Social desirability	-6.86	(5.22)	-6.31	(5.13)	.55	(0.39)	.59	(0.38)	-.59	(0.53)	-.63	(0.53)
Percentage variable pay	.10	(0.07)	.04	(0.08)	.01	(0.01)	.01	(0.01)	-.01	(0.01)	-.002	(0.01)
Deviant behaviour opportunity	-3.17***	(0.54)	-3.24***	(0.53)	-.04	(0.04)	-.04	(0.04)	.31***	(0.06)	.31***	(0.06)
Performance constraints	1.96***	(0.68)	2.23***	(0.67)	.03	(0.05)	.05	(0.05)	-.19**	(0.07)	-.21**	(0.07)
Loss frame			1.24**	(0.43)			.09**	(0.03)			-.09*	(0.04)
Model <i>F</i>	7.34***		7.70***		1.50		2.43**		9.44***		8.87***	
<i>R</i> ²	.22***		.25***		.05		.10**		.26		.28***	
ΔR^2			.03**				.04**				.02*	

Notes: *n* = 193; values are unstandardized coefficients; standard errors in parentheses; * *p* < .05; ** *p* < .01; *** *p* < .001.

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to earn variable pay, and thus avoid a loss, than they would if the same variable pay were perceived as a potential gain (or non-loss). Therefore, organizations may obtain greater performance results for their variable pay money by encouraging employees to adopt a loss frame towards variable pay. One practical way to do this would be through the process of goal-setting. Instead of emphasizing the uncertainty of variable pay awards in organizational communications, organizations and supervisors could encourage employees to set goals necessary to attain rewards. As such, the goals would serve as reference points (Heath *et al.*, 1999), and failure to achieve the goal, and thus the monetary payout, would be seen as a loss.

Of course, to encourage employee acceptance of the goal, the organization and supervisor would need to address issues associated with expectancies and instrumentalities, such as line of sight, control for environmental contingencies, fair appraisal and so on. In this approach to variable pay design, the management of expectancies and instrumentalities is more a means to achieve the ends of goal setting and subsequent motivation. This is consistent with theorizing and field research conducted by Marsden (2003) in which performance pay effectiveness is attributed in large part to its goal-setting mechanisms.

For long-term effectiveness of variable pay plans that may encourage loss aversion, and in consideration of employee well-being, employee risk preferences should be considered as well (Deckop *et al.*, 2004; Zickar and Highhouse, 1998). It is possible, for example, that the combination of loss framing and risk aversion could lead to negative outcomes discussed in previous research related to pay risk, including insecurity (Heery, 1996; Kasser *et al.*, in press), emotional distress (Shirom *et al.*, 1999), along with pay dissatisfaction and lower organizational citizenship behaviour (Deckop *et al.*, 2004).

We recommend future research focus in several areas. The motivational effects of loss aversion hold in the real world context of variable pay, without the direct consideration of expectancies and instrumentalities such as line of sight. Future studies should empirically determine the importance, or lack of importance, expectancies and instrumentalities have in this context. One way to approach this with variable pay is to look at the effects of loss aversion with specific types of variable pay plans, ranging from individual plans with clear line of sight to plans based on group and company performance. We also recommend a closer analysis of gain framing to determine whether measurement of a non-loss is in fact capturing the same thing. The framing construct may be further deconstructed by considering the similarities between feelings of entitlement and loss frame perceptions. Finally, continued application of framing and loss aversion to motivational outcomes is important, broadening the use of an established and reliable framework.

Methodological strengths of this study include the broad sample, diverse with respect to industry and work position, which makes the findings widely generalizable. The participation in this study by several organizations is notable since, given the sensitive nature of pay information, organizations typically refuse surveys on this topic.

Limitations of the study must also be mentioned. Given the cross-sectional design of the research, causal inferences cannot be made. While we have modelled framing as an antecedent to effort, it is also possible that the amount of work effort an employee contributes influences their framing perceptions. Much of the data were collected from a single source, the notable exception being in-role performance which was rated by the supervisor rather than employee, and using the same method. To alleviate concern over common method variance, particularly common rater bias, we conducted Harman's one-factor test and controlled for social desirability in the regressions. The former entails a factor analysis of the variables in the study to determine if one factor explains the

majority of the covariance between independent and dependent variables (Podsakoff and Organ, 1986). The first factor among all of the employee self-reported variables except for demographic variables explained only 28 per cent of variance, suggesting common method variance is not a problem in the present study. Podsakoff and Organ (1986) say that there is no absolute standard on how much variance the first factor should capture for method bias to be present, but suggest a 50 per cent criterion as a rule of thumb. It is also important to note that the largest effect size in terms of change in R-squared was obtained for framing effects where in-role performance – as rated by the supervisor, not the employee – was the dependent variable.

In addition to common rater issues, we recognize the potential for self-report measures of behaviour to differ from actual behaviour. However, studies have shown a significant correlation between self-report measures of work effort and independent measures of performance (Blau, 1993; Katerberg and Blau, 1983). Within our study, supervisor-reported performance and the self-reported measures of work behaviours are also significantly correlated. So while the literature does suggest a tendency for employees to over estimate their contribution in the workplace (Meyer, 1975), the correlation of self-reported work effort to objective performance indicates that the variances parallel actual behaviour, and that it is simply a bias by a constant, thus not affecting hypothesis tests.

Finally, given the US-comprised sample, consideration must be given to the generalizability of the findings to other nations. While performance pay at the non-executive level is a growing trend in countries beyond the US, the tendency to frame variable pay in terms of a loss if not received rather than merely a missed opportunity for gain may be influenced by national culture. Cross-cultural evidence suggests that societies vary significantly in the extent to which materialistic versus postmaterialistic values affect choice behaviour in a wide range of areas (e.g. Abramson and Inglehart, 1995). It is plausible to suggest that more materialist societies, where the acquisition of material possessions is a central value, may be more inclined to frame variable pay as a loss, while individuals in more postmaterialist societies may be more likely to view variable pay as an opportunity for a gain. However, the organizational culture and psychological contract held by employees are likely to play a larger role than national culture in determining framing. For instance, Marsden (2003) discusses renegotiation of the 'effort bargain' for British public service workers in which many view themselves as potential 'losers' under newly formed performance pay plans because of past organizational norms within the public sector. This same dynamic is seen within public sector and other unionized organizations within the US.

In conclusion, the present study identifies circumstances under which variable pay may encourage greater work effort, less deviant work behaviours and, ultimately, better work performance. The findings suggest that organizations can improve the results of variable pay by managing how employees frame variable pay. Examining employee response to variable pay through the lens of loss aversion is a fresh use of an established theoretical framework. This framework and the findings from the present study offer interesting possibilities for future research.

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Appendix

Variable pay framing items:

- 1 I must receive variable pay in addition to base pay this year in order to meet my own pay expectations.
- 2 To not earn variable pay this year in addition to my base pay would be equivalent to taking a pay loss.
- 3 My annual pay would be below an acceptable level if I did not receive any variable pay this year.
- 4 My annual income is not complete unless I earn some variable pay in addition to my base pay.
- 5 I have not achieved my annual income goal unless I earn some variable pay in addition to my base pay this year.
- 6 I'll consider my pay this year a success only if I receive variable pay in addition to my base pay.

Deviant work behaviour items:

- 1 Taken property from work without permission.
- 2 Spent too much time fantasizing or daydreaming instead of working.
- 3 Taken an additional or longer break than is acceptable at your workplace.
- 4 Come in late to work without permission.
- 5 Used company time for personal business.
- 6 Used company equipment or supplies (e.g. computer, phone, stamps) for personal use.

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