

Merit pay raises and organization-based self-esteem

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Summary

We developed and tested a theory of the relationship between merit pay raises and organization-based self-esteem (OBSE) in a longitudinal study of hospital employees. We predicted that the positive relationship between merit pay raise size and OBSE would be stronger when pay-for-performance (PFP) perceptions were high and predicted further that this interaction would be stronger among older employees. As predicted, merit pay raises were not related to OBSE levels for younger employees, but, among older employees, larger merit raises increased OBSE when PFP perceptions were high and decreased OBSE when PFP perceptions were low. Implications of the study for merit pay theory and practice are addressed. Copyright © 2008 John Wiley & Sons, Ltd.

Introduction

Merit pay is arguably the most popular form of incentive pay used by organizations, although evidence concerning its success in practice remains mixed (Gerhart & Rynes, 2003; Mitra, Jenkins, & Gupta, 1997). On one hand, evidence clearly shows that individual pay-for-performance (PFP) schemes relate strongly to individual performance (e.g., Jenkins, Mitra, Gupta, & Shaw, 1998) and that these effects are “perhaps larger than the effects of any other single type of motivational system” (Gerhart & Rynes, 2003: p. 116). On the other hand, evidence consistently indicates that employees often react negatively to merit pay plans and that such plans regularly fail to accomplish their objectives (e.g., see Heneman, 1992).

These inconsistencies can be attributed to at least two reasons. First, existing research predominantly considers the simple main effects of the relationship between pay-related variables and outcomes. We know little about the situational and individual conditions that may explain *how* people react to pay increases, although several calls for such research have recently appeared in the literature (e.g., Barber & Bretz, 2000; Heneman & Judge, 2000; Rynes, Gerhart, & Parks, 2005; Shaw, Duffy, Mitra, Lockhart, & Bowler, 2003). Second, empirical research tends to focus on performance (e.g., Khan & Sherer, 1990), motivation (e.g., Heneman & Young, 1988), and satisfaction (e.g., Heneman, Greenburg, & Strasser, 1988). This focus is a logical first step, but it fails to capture a richer set of potential reactions

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to merit pay systems. For example, Theirry (2001) uses the metaphor of a mirror to describe reactions to pay: people look into their pay and see much about their organizational standing, that is, their control, power, and relative position. In essence, merit pay raises may reflect an individual's value and worthiness in the workplace.

Using Theirry's (2001) reflection theory of pay as a foundation, we develop and test an interactive theory of the relationship between merit pay raises and organization-based self-esteem (OBSE), defined as *an employee's perception of adequacy and worthiness within an organization* (Gardner & Pierce, 1998). First, linking Theirry's (2001) theory with research on OBSE and pay levels (e.g., Gardner, van Dyne, & Pierce, 2004), we argue that merit pay raises will relate positively to OBSE. We then argue that the relationship will be stronger to the extent that raises carry credible or legitimate information about one's worth (Lawler, 1990). Using existing merit pay research (e.g., Heneman et al., 1988) as a foundation, we suggest that the extent to which individuals believe that pay is related to performance (i.e., PFP perceptions) moderates the merit raise and OBSE relationship. Finally, drawing on research that suggests that older workers are more concerned with self-concept protection in important life domains (i.e., work) than younger workers who are generally more focused on resource accumulation (e.g., Carstensen, 1998; Kanfer & Ackerman, 2004), we predict that these effects are more prominent among older employees.

Background and Theory

Merit pay, PFP perceptions, and organization-based self-esteem

Theirry's (2001) reflection theory of pay was developed as a way of linking pay changes to an individual's identity or self-esteem in organizational settings. A central tenet of the theory is that working individuals regularly scan the work environment for information and changes, with the purpose or goal of restoring, maintaining, or enhancing their self-identity (i.e., self-worth) in that context. A specific aspect of one's work-related identity is OBSE – an employee's perception of adequacy and worthiness within an organization (Pierce & Gardner, 2004). OBSE is formed, maintained, and changed in part based on interpretations of external cues from the work environment, that is, individuals may “read such signals to a large extent in performance results (of themselves or others), power differentials, leadership behaviors, organizational rules and procedures, informal social relationships, and so forth” (Theirry, 2001: p. 151). Along these lines, compensation scholars note that pay changes have instrumental (e.g., spending power, lifestyle) and symbolic (e.g., status, power, prestige) meanings that are central to one's self-concept (Gerhart & Rynes, 2003; Gupta & Shaw, 1998; Jenkins, 1986). In other words, pay related changes, such as merit pay, generally symbolize organizational status or influence and, as a result, can directly influence employee perceptions of self-competence and worthiness with an organization (i.e., OBSE). Further explicating this notion, Theirry (2001) argues that pay is meaningful because it reflects one's relative position and control in important dimensions of work. In terms of relative position, merit pay increases inform employees about the quality of their past performance, provide signals for corrective action if needed, and generally inform them about their relative standing within the group. In terms of control, merit pay reflects the extent to which employees can regulate their behavior (e.g., autonomy and choice of role sets) and the degree to which they influence the behaviors of others. Thus, individuals see in their pay raises a reflection of themselves in terms of their level of control and relative position in the

organization, both of which are central to the formation of positive OBSE (Gardner et al., 2004; Prince, 1993; Theiry, 1992, 2001).

Although focused primarily on general self-esteem levels, Korman's (1971; 1976) work is also useful in establishing a relationship between merit pay raises and OBSE. Korman (1971) posits that individuals derive a sense of value both from their interaction with others and from situational cues. He highlights that managerial respect is a primary cue for self-esteem judgments in work settings (see also Gardner et al., 2004; Pierce & Gardner, 2004). Merit pay raises, *by definition*, are granted based on supervisory evaluations of performance and are therefore a direct indication of managerial respect for the individual's contribution. Because individuals look to their merit pay to interpret their value and significance to the organization, and given that managerial evaluation is a central feature of a merit raise, we can reasonably expect that the size of one's merit raise will be positively related to OBSE levels. A large merit pay increase not only enriches one's spending power, but also signals a more favorable relative position, enhanced personal control, and higher levels of respect from managers. These factors are central to employees' judgments that they are valued and worthy members of organizations. Thus:

Hypothesis 1: There will be a positive relationship between merit pay raise size and OBSE.

The relationship between merit pay raises and OBSE may be strengthened or ameliorated to the extent that raises actually contain information that is relevant to one's organizational self-concept. Researchers often argue that individual reactions to allocation processes, such as merit increases, hinge on judgments concerning the accuracy and legitimacy of the process (Leventhal, Karuza, & Fry, 1980). In the merit pay literature, these judgments are often referred to as PFP perceptions or the extents to which individuals believe that pay raises are actually tied to performance (e.g., Heneman, 1992; Heneman et al., 1988). PFP perceptions can be considered a specific form of procedural justice perceptions. That is, they do not concern whether the distributions are fair, but whether the individuals believe that the procedures used to make pay raise decisions are fair. Merit pay raises, by definition, are increases to base pay that are tied to performance ratings, but research demonstrates considerable variation in terms of what employees believe is *actually* the case (e.g., Gupta, 1980). Research reveals that employees often believe seniority, nepotism, politics, and factors other than performance are responsible for merit pay distributions (Gupta & Jenkins, 1996; Gupta & Shaw, 1998).

Recall that signals of managerial respect are shown to be consistent antecedents of esteem in work settings and that employees use merit pay increases to gather information about their value and worthiness to the organization (Theiry, 2001). Employees who perceive that merit raises are closely tied to performance should interpret a high increase as a positive signal that management respects and values them, and that they have control and relative standing in the organization. This situation should "indicate that an appraiser respects the dignity of an appraisee sufficiently to make decisions in a particular manner" (Folger & Konovsky, 1989: p. 126). Lind and Tyler (1988) assert that individuals use information about the fairness and accuracy of decisions to evaluate their relative standing and value. To the extent that a large merit pay raise is accompanied by a belief that pay raises are actually tied to performance (high PFP perceptions), the reflection about relative standing and value should be positive. Conversely, when PFP perceptions are low, merit pay raise size should not relate strongly to OBSE; an ill-gotten gain should not enhance one's self-concept. To summarize, we expect the positive relationship between merit pay raise size and OBSE to be attenuated when PFP perceptions are low. Thus:

Hypothesis 2: The relationship between merit pay raise size and OBSE is moderated by PFP perceptions such that the relationship is stronger when PFP perceptions are high.

The role of age

As noted, researchers have recently called for more comprehensive theories of individual reactions to pay changes, in particular those that incorporate contextual (e.g., PFP perceptions) and individual factors that may strengthen or weaken observed relationships. In the present study, we seek to understand further the additional influence of employee age on the previously described relationships. We do this for several reasons. First, there is growing body of literature that suggests that older workers, which constitute a large segment of the working population, harbor different perceptions and expectations about the workplace than younger workers (e.g., Kooij, de Lange, Jansen, & Dijkers, 2008). Second, scholars have noted that age-related differences in worker motivation and self-concept exist (i.e., older workers are more attentive to environmental cues that influence perceived self-worth) and, as a result, have stressed the importance of further exploring these variations (Kanfer & Ackerman, 2004). In addressing both issues, we integrate socioemotional selectivity theory (Carstensen, 1998) and the notion of role-specific control into our theoretical framework to argue that age will further moderate the merit raise by PFP perception interaction such that the interaction will be stronger among older individuals.

According to socioemotional selectivity theory, “age is associated with increasing motivation to derive emotional meaning from life and decreasing motivation to expand one’s horizons” (Carstensen, Fung, & Charles, 2003: p. 103). As employees age, the number of relevant life domains diminishes and the importance of controlling and extracting meaning from these domains increases (Reker, 2000). Krause and Shaw (2003: p. 579) confirmed this notion by illustrating that older individuals “compensate for the continuing and gradual loss of resources by investing in what is left in an increasingly smaller circle of roles or life domains.” For instance, older individuals may focus primarily on the work domain once their children are grown or if the thought of retirement is unappealing. Younger individuals, in a more exploratory life stage, are typically in a mode of resource and life-domain expansion. To them, it is relatively less important to extract meaning and exact control from a single domain such as work (Reker, 2000).

In addition to the extraction of meaning from a narrower set of interests, older individuals tend to become more “sensitive to changes in their abilities. . . and typically seek to act in ways that serve to protect their overarching self-concept” (Kanfer & Ackerman, 2004: p. 446). By focusing on a shrinking set of domains, older individuals need to achieve personal meaning; that is, they must believe that they are progressing toward important within-domain goals (Krause & Shaw, 2003). To derive a sense of role-specific progress, they need “an appropriate set of evaluative standards that clearly specify when a role is being enacted properly. . . because behavioral expectations help role occupants see the fit between their own individual efforts and the wider place these actions occupy in society” (p. 563).

Extending these arguments, Krause and Shaw (2003) assert that when older individuals recognize how their efforts contribute significantly to valued domains, they will glean deeper meaning than will younger individuals. Reinforcing this notion, a survey conducted by the Society for Human Resources Management (2005) shows that older individuals rate effective work-related communication more highly as an important aspect of work. Consequently, we argue that perceptions of effectively administered merit pay will be more important in terms of explaining the relationship between merit pay and OBSE among older employees.

As we have described, employees receive meaningful information about their value to the organization when they perceive that merit pay increases are closely tied to performance. Older employees should be assured that they are indeed progressing in this role and are competent in their efforts when merit pay raises and high PFP perceptions are combined. Returning to the idea of the importance of money and motives, the combination of a credible pay raise for older employees should theoretically be more about domain-specific self-worth than achieving greater spending power. In addition, the attenuation effect of low PFP perceptions should also be more prominent among older workers; that is, they are unlikely to

derive personal meaning from a merit pay system perceived to be the result of factors other than performance. Indeed, if a high pay raise is combined with low PFP perceptions, it may lower OBSE among older employees. Because older individuals must battle the stereotype of age-related ineffectiveness, they must, therefore, overcome self-doubt by focusing on goal achievement (Srivastava, Locke, & Bartol, 2001). If older employees receive pay raises that they judge to be illegitimate (e.g., not accurately reflecting performance, capricious supervisory decisions, or reflecting budgetary mandates), their self-doubt may increase, and their faith that the organization values their contributions may be lowered. Among younger individuals, we expect that the interaction of merit raises and PFP perceptions in predicting OBSE levels will be less pronounced. Younger individuals characterized as being in a period of resource and domain expansion are generally less concerned with control and meaning in given roles (Krause & Shaw, 2003). Thus, the interaction of merit raise size and PFP perceptions should not predict OBSE levels among younger individuals. Formally:

Hypothesis 3: There will be a three-way interaction among merit pay raise size, PFP perceptions, and age in predicting OBSE, such that the merit pay raise size by PFP perceptions interaction will be stronger among older individuals.

Organizational Context

The data for this study were collected from a University-based hospital located in a mid-sized city (approximately 250 000 residents) in the Midwestern U.S. This facility opened in 1957 and, today, consists (state-wide) of 80 specialized clinics, 143 outreach programs, and a team of 6000 physicians, nurses, pharmacists, and health care workers all dedicated to patient health. In recent years (including the time-frame associated with this study), the hospital's mission has been to become a top-20 academic health center recognized nationally and internationally for excellence in teaching, research, and patient care. Towards this end, the hospital leaders and administrators are focused on continuous improvement efforts designed to enhance operational effectiveness, improve patient care, reduce employee turnover and increase employee motivation as well as performance. The participation of the employees of one of the hospital's major clinics in this study offered an opportunity for researchers to explore the impact of an across-the-board merit pay increase event and, in return, provided the leaders of this hospital with information and knowledge related to their compensation practices – specifically, the implications of such practices on employee morale, performance, turnover, etc.

Method

Sample

Procedure

The data for this study were collected from a convenience sample in two waves, 4 months before and 4 months after the administration of merit pay increases to full-time employees, at a university hospital

in a medium-sized Midwestern U.S. city. At Time 1, 4 months prior to receiving merit pay increases, 432 employees completed questionnaires during the lunch break of three shifts (11 a.m.–1 p.m., 7–9 p.m., and 1–3 a.m.). Voluntary participation was encouraged in an e-mailed memo from a hospital administrator and with flyers posted in the hallways. The research team gave participants confidentiality assurances and explained that respondents would be entered into a raffle for various prizes. Four months after merit pay increases took effect (eight months after Time 1), the Time 2 questionnaire was administered during the lunch hour of all three shifts. Completing the Time 2 questionnaires were 464 employees, of whom 177 had also participated in Time 1.

Participants

Participants' job titles included all major categories in the hospital, that is, nurse, physician, laboratory tech, administration, staff associate, and housekeeping. The average age of the longitudinal participants was about 37 years, the sample was 77 per cent women, and the average tenure was 9 years. The average raise in our sample was 5 per cent, and actual merit increases ranged from 0 to 25 per cent. Pay information was collected from the state budget in the university library and was publicly available for 161 of the longitudinal participants (but not for 15 resident physicians coded by the university as students, not employees). In the analysis sample, hourly pay rates ranged from \$7.43 to \$54.74 with a mean of \$16.56. Missing data on key variables reduced the analysis sample to 148.

Measures (period collected)

Merit pay raise (Interim): Merit pay raise was calculated using publicly available data. It was operationalized as the difference between Time 2 and Time 1 pay level divided by Time 1 pay level.

FFP perceptions (Time 1): This variable was operationalized with the 4-item scale adapted from Heneman et al. (1988) at Time 1 ($\alpha = 0.89$). A sample item is "The best performers will get the highest raises." The items were collected using Likert-type response options that ranged from 1 "Strongly Disagree" to 7 "Strongly Agree."

Age: This variable was collected from participant self-reports on the Time 1 questionnaire.

OBSE (Time 1 and Time 2): Participant's OBSE was collected using a 5-item measure from Pierce, Gardner, Cummings, and Dunham (1989) (Time 1 $\alpha = 0.83$; Time 2 $\alpha = 0.85$). Sample items include "I count around here," "I am valuable around here," and "There is faith in me around here." These items had Likert-type response options ranging from 1 "Strongly Disagree" to 5 "Strongly Agree."

Controls (Time 1): We included several control variables in our analyses. Pay level relates to OBSE and may reflect past merit increases (Gardner et al., 2004). This variable was collected from publicly available data and is reported as an hourly rate. Gender (coded 0 for men and 1 for women) was controlled because it may relate to differential reactions to pay increases. Education was controlled to account for differences in working conditions, job attitudes, and pay, and was coded 1 (some high school), 2 (high school degree or G.E.D.), 3 (college degree), and 4 (graduate degree). Positive affectivity (PA) was included because high positive affectivity individuals are more sensitive to pay raise information (Shaw et al., 2003). PA was assessed with the markers from the PANAS (Watson, Clark, & Tellegen, 1988; $\alpha = 0.83$). To eliminate the possibility that our results captured general attitudinal effects rather than those related to organization-specific self-evaluations, we also controlled for job satisfaction and organizational commitment levels. Job satisfaction was measured with three items from Cammann, Fichman, Jenkins, and Klesh (1983), and organizational commitment was operationalized with five items adapted from Meyer & Allen (1997). Finally, we also controlled for OBSE levels measured at Time 1.

Analytic approach

We used a four-step moderated hierarchical regression approach to test the hypotheses. The first step included the control variables (Time 1 OBSE, pay level, gender, education, positive affectivity, job satisfaction, and organizational commitment), the second step contained the set of three independent variables (merit pay raise, PFP perceptions, and age), and the third step included a set of three two-way interactions. In the final step, we added the three-way interaction. We examined unstandardized regression coefficients and changes in explained variance at each step to examine both the main-effect relationships and the hypothesized interactions.

Results

Descriptive statistics for and correlations among the study variables are listed in Table 1. As the table shows, the correlations among the three independent variables are not significant ($r = |0.04-0.13|$). Merit pay raise ($r = 0.04$, n.s.) and age ($r = -0.09$, n.s.) are not significantly related to Time 2 OBSE levels, while PFP perceptions are positively related ($r = 0.31$, $p < 0.01$). The Time 1 and Time 2 measurements of OBSE are correlated 0.50 ($p < 0.01$) indicating significant variation in OBSE levels across the 8-month window. In addition to these analyses, tests for violations of the regression assumptions revealed no major violations in the equations.

The results of the hierarchical regression analyses are shown in Table 2. Step 1 includes the control variables and, as noted above, OBSE Time 1 is strongly related to Time 2 OBSE in Step 1 (Step 1 $b = 0.50$, $p < 0.01$), explaining about a quarter of the variance in the Time 2 measurement. The other control variables are only weakly related to Time 2 OBSE; only organizational commitment is a significant predictor (Step 1 $b = 0.10$, $p < 0.05$).

The test of Hypothesis 1 is shown in Step 2. The main effect of merit pay raise (Step 2 $b = 0.05$, n.s.) is not significant, and thus Hypothesis 1 is not supported. Hypothesis 2 is not supported too. The

Table 1. Descriptive statistics and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Controls													
1. OBSE (Time 1)	3.79	0.63	(.83)										
2. Pay level	16.56	7.04	.13										
3. Gender	.77	0.39	-.01	-.14*									
4. Education	3.02	0.72	.08	.45**	-.02	(.83)							
5. Positive affectivity	3.57	0.59	.37**	.14*	.04	-.07							
6. Job satisfaction	3.56	0.61	.40**	-.01	.11	-.01	.50**	(.76)					
7. Org. commitment	5.41	1.12	.43**	.14*	-.07	-.07	.36**	.51**	(.74)				
Independent variables													
8. Merit pay raise	.05	0.04	.02	-.20**	.02	-.05	-.05	-.09	-.09				
9. PFP perceptions	3.38	1.58	.24**	-.02	-.13	-.20**	.23**	.16*	.37**	-.13	(.89)		
10. Age	37.40	9.4	-.09	.22**	-.12	-.06	-.07	-.02	.17*	-.11	.04		
Outcome variable													
11. OBSE (Time 2)	3.82	0.67	.50**	.19**	.02	.08	.21**	.24**	.37**	.04	.31**	-.09	(.85)

$N = 148$. Gender coded 0 for male and 1 for female. Pay level reported as an hourly rate.

** $p < .01$.

* $p < .05$.

Table 2. Hierarchical regression results

	OBSE (Time 2)			
	Step 1	Step 2	Step 3	Step 4
OBSE (Time 1)	.50**	.45**	.43**	.39**
Pay Level	.01	.02	.01	.01
Gender	.09	.11	.09	.06
Education	.00	.01	.02	.07
Positive Affectivity	-.04	-.08	-.07	-.04
Job Satisfaction	-.02	-.01	-.02	.01
Org. Commitment	.10*	.08	.09	.07
Merit Pay Raise		.05	.07*	.02
PFP Perceptions		.12**	.11**	.13**
Age		-.07	-.08*	-.09*
Merit Pay Raise * PFP Perceptions			.06	.08
Age * PFP Perceptions			.03	.08
Merit Pay Raise * Age			-.01	-.03
Merit Pay Raise * PFP Perceptions * Age				.12*
Total R^2	.37**	.42**	.43**	.45**
ΔR^2 Step	.37**	.05**	.01	.02*

$N = 148$. Unstandardized regression coefficients are shown.

** $p < .01$.

* $p < .05$.

interaction of merit raise and PFP perceptions (Step 3 $b = 0.06$, n.s.) is not significant. The three-way interaction among merit pay raise, PFP perceptions, and age is significant (Step 4 $b = 0.12$, $p < 0.05$) explaining an additional 2 per cent of the variation in the equation. The form of the interaction is shown in Figure 1. Merit raises are not related to Time 2 OBSE among younger individuals regardless of PFP perception levels. Among older employees, the relationship between merit pay raise size and Time 2 OBSE is strong and positive when PFP perceptions are high and negative when PFP perceptions are low. Thus, Hypothesis 3 is supported.

Discussion

The pace of research concerning the effectiveness of merit pay plans lags far behind their huge popularity in practice. Our study was designed to add to the nascent body of empirical evidence by exploring situational and personal contingencies in the relationship between merit raises and levels of OBSE. These results revealed mixed support for the main-effect relationship between merit pay raise size and the interaction of merit raises and PFP perceptions when predicting OBSE. This mixed picture was clarified, however, by further considering the moderating role of employee age. Merit pay raises were not related to OBSE levels among younger employees and were positively related to OBSE levels only among older employees whose PFP perceptions were high.

By focusing on OBSE, we expand the scope of relevant outcomes of merit pay raises beyond performance, satisfaction, and motivation. We also contribute theory and evidence to the growing literature on OBSE, a research stream that is dominated by studies that focus on its consequences (Pierce & Gardner, 2004). Researchers have speculated that individuals derive meaning from

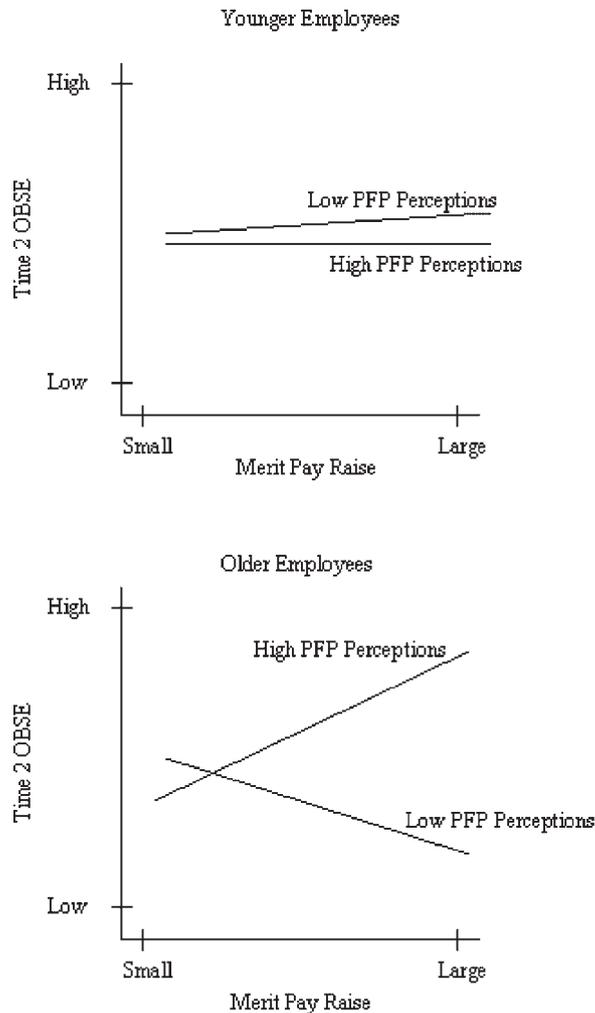


Figure 1. Three-way interaction among merit pay raise, PFP perceptions, and age in predicting time 2 OBSE

organizational pay decisions on a variety of different dimensions (e.g., Shaw & Schaubroeck, 2003; Thierry, 2001). Our results confirm this reasoning but also show that merit raises do not have uniform effects on organizational self-concept. Among younger employees, whose life domains are expanding and who tend not to be as concerned with role-specific control (Reker, 2000), merit raise level did not predict OBSE, regardless of whether these individuals perceived that the raises were actually performance related. As employees age, not only do they invest more heavily in a shrinking number of life domains, but they also place greater importance on deriving personal meaning and self-worth from goals achieved under appropriate evaluative standards – in this case, high PFP perceptions. Under these conditions, older employees in our study reported higher levels of OBSE as their merit pay raise increased. But if PFP perceptions were low, so that older employees were unable to link individual efforts to pay-raise amounts, OBSE was damaged. As Krause and Shaw (2003) argue, the self-concept

of older individuals may be especially injured if they fail to see how behaviors relate to outcomes, and if they cannot see how behaviors have a meaningful place in the context of the domain. Under certain conditions, large merit raises not only fail to accomplish their objectives, but in terms of organizational self-evaluations, merit raises are shown to be destructive.

These results suggest several avenues for future research. As an anonymous reviewer pointed out, there are likely to be different dynamics between merit pay raises and a variety of individual outcomes in work settings. Our theory and results suggest that, under certain conditions, merit pay raises may have substantial positive or negative effects on domain-specific self-evaluations. It is likely that factors other than current-year merit raises are important for explaining alternative outcomes such as withdrawal behaviors (absence and turnover) and organizational commitment. Theory may model these outcome variables as functions of different pay-related variables such as salary growth history or earnings growth potential (Trevor, Gerhart, & Boudreau, 1997). Relatively weak main-effect findings between pay changes and pay level satisfaction in Williams et al.'s (2006) meta-analysis are consistent with this reasoning.

Future research should also investigate whether the effects of a single merit pay raise has "staying power" or is able to predict important work-related outcomes over a longer period. Because merit pay raises accumulate in base pay levels and because future organizational decisions may play a stronger role in future reactions, it is unclear how long the effects of a single pay raise decision last. In the extreme case, an individual may separate the result of the pay raise from organization-related decisions, but whether the positive and negative effects cumulate or dissipate is an issue that should be explored. Schaubroeck and Lam (2004) found, for example, some evidence that invidious reactions by promotion rejectees dissipated over a few months. In addition, following Gardner et al.'s (2004) study of OBSE as a mediator of the pay level-performance relationship, a priority should be to incorporate measures of performance into causal models of the effects of merit pay raises and OBSE.

Additional research is needed on the effects of other types of incentive systems (e.g., stock options, lump-sum bonuses, gainsharing) and OBSE levels. Although the definitional standards would vary across plans, perceptions of whether the administration adheres to these standards would remain relevant across each plan. In particular, because of their growing prevalence in the workplace, the dynamics of organization-specific self-evaluations and group- or organization-based incentive plans would be an interesting avenue for future research. On one hand, team- and group-based work is designed to increase autonomy, feedback, and other job characteristics that are often argued to result in positive organizational outcomes. On the other hand, group- and team-based plans, by definition, involve a certain loss of individual control (e.g., Shaw, Duffy, & Stark, 2001). Bonuses or raises received from an illegitimate process may not be as damaging to one's OBSE when they are diffused across the group or organization. Exploring and understanding the disconnection between a work design that should create higher OBSE levels and a reward system that reduces individual control over rewards would be a significant and interesting avenue for future investigations.

Future research could also attempt to integrate our research into broader theories of pay raise fairness. Among older individuals, although the effects of large raises on OBSE levels were negative when PFP perceptions were low, we cannot answer whether these individuals thought that they were overpaid or if the raises were perceived as being undeserved. Moreover, our design does not let us tease out the dynamics of these reactions in the months following the raise announcements. We found significant effects on OBSE levels 4 months after the raises had been received (controlling for baseline OBSE levels), and this longitudinal design is strength of our work, but it is possible that attitudes and self-reflections about the raise evolved over the time window.

In a more general sense, this research provides some intriguing insights into the question of general subjective well-being. That is, do pay raises actually make people happier? In an exhaustive review of this literature, Diener and Biswas-Diener (2002) concluded that inconsistent relationships exist

between changes in pay level (not merit pay specifically) and well-being. This research stream is dominated, however, by main-effect relationships; our research demonstrates that more complex theoretical models are needed to disentangle the effects of pay changes. Moreover, the well-being research focused on general subjective well-being levels (e.g., depression, life satisfaction). Are stronger findings evident with proximal and domain-specific conceptualizations of well-being? We encourage future researchers to explore the conditions under which pay decisions relate only to domain-specific outcomes and under which they relate to more general well-being outcomes.

The limitations and strengths of this study should also be noted. A primary limitation of this study is that we analyzed a convenience sample; the participants were not randomly selected from the hospital population. Thus, one may question whether the sample is representative and whether this research can be generalized to the focal population as well as across populations. We acknowledge the possibility of biases related to self-selection, nonrandom attrition, and other sampling issues. We conducted a number of response bias checks to compare longitudinal participants with those that participated only in one phase. These checks revealed that longitudinal participants differed only in terms of pay level (slightly higher for longitudinal participants), but not on any of the other key variables in the study. In addition, participants' average age (about 37 years) and gender (77 per cent female) were similar to estimates of the total hospital workforce provided by hospital administration (age \approx 38–39, 79 per cent female). These checks increase our confidence that the sample well reflected the population.

In addition, we acknowledge that results of complex interactions from a single organization may be difficult to replicate and, as a result, readers should interpret our findings with appropriate caution. Our study was the first of which we are aware to investigate these interactive relationships and thus can be considered as exploratory in nature. Although generalizability of the findings in our study may be called into question for these reasons, we are unaware of any specific features of this organization that might make these results idiosyncratic. Moreover, we found an interaction consistent with theory among a relatively small sample and with controls for baseline levels of OBSE and two other major job attitudes (satisfaction and commitment), which perhaps speaks to the strength of the underlying relationships. To bolster confidence in our ideas, we encourage future researchers to replicate and expand this model in other work-related settings.

Our study had several strengths. We collected merit pay raises from a publicly available source and examined higher order interactions among our key variables. These factors serve to reduce the possibility that common-method effects can explain our results. We also examined actual changes in pay in a longitudinal study across an 8-month period – a design with notable strength and an approach rarely found in the empirical merit pay literature. This also allowed us to assess changes in OBSE that not only explained static levels of OBSE, but also captured the changes in OBSE across the course of the study.

In terms of practical implications, our results provide additional evidence that employees value, perceive, and react to incentive systems in different ways. These findings reinforce the notion that merit pay systems are more effective when reward allocations are perceived as being clearly linked to performance, especially among older employees. As the United States and many Western populations age (Population Reference Bureau, 2007), it is important to understand the nuances of managing these workforces. Our results underscore the need for managers to understand the differential effects that reward systems have to maximize their effectiveness. As an anonymous reviewer pointed out, managers may, in many cases, have little control over pay raise distributions because of budgetary guidelines dictating merit raise amounts, forced percentiles used to guide evaluation systems, or for other reasons. We believe, however, that under these circumstances, managers may use the insight gleaned from our study to justify the need to provide alternative ways to reward deserving employees and perhaps maintain OBSE levels. As a possibility, decision makers could provide additional monetary (e.g., bonus) or nonmonetary rewards or recognition (e.g., verbal praise) tied specifically to

employee behavior for high performing employees, as a supplement to preestablished merit pay amounts.

To summarize, we found that merit pay raises were not related to OBSE levels among younger employees and were positively related to OBSE levels among older employees only when PFP perceptions were high. Our study extends a merit pay literature typically focused on simple main effects by demonstrating that situational (PFP perceptions) and individual factors (age) do indeed play a role in explaining how people react to pay increases. Furthermore, these findings serve to expand the empirical research on pay-related outcomes by capturing a richer set of potential reactions to merit pay systems. We hope our study provides impetus for future research in this area.

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