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Alexander D. Stajkovic
University of Wisconsin-Madison

Fred Luthans
University of Nebraska - Lincoln, fluthans1@unl.edu

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DIFFERENTIAL EFFECTS OF INCENTIVE MOTIVATORS ON WORK PERFORMANCE

ALEXANDER D. STAJKOVIC
University of Wisconsin–Madison

FRED LUTHANS
University of Nebraska

In this field experiment, we first compared the performance effects of money systematically administered through the organizational behavior modification (O.B. Mod.) model and routine pay for performance and then compared the effects of O.B. Mod.-administered money, social recognition, and performance feedback. The money intervention based on the O.B. Mod. outperformed routine pay for performance (performance increase = 37% vs. 11%) and also had stronger effects on performance than social recognition (24%) and performance feedback (20%).

Although behavioral management, as a systematic approach to increasing employee effectiveness, was formulated about 25 years ago (e.g., Luthans & Kreitner, 1975), organizations are generally not using contingent incentive motivators to manage workers' day-to-day task-related behaviors and to improve productivity (Davis-Blake & Pfeffer, 1989; Ilgen, Major, & Tower, 1994). Moreover, the use of various incentives to enhance work performance is mostly ignored or, at best, assumed to be handled with existing pay, benefits, or year-end profit sharing or bonus plans (Kerr, 1999; Stajkovic & Luthans, 1997).

Among the models proposed within the conceptual framework of behavioral management (e.g., Scott & Podsakoff, 1985), the organizational behavior modification (O.B. Mod.) model (Luthans & Kreitner, 1985) has been frequently used to foster the effectiveness of various incentive motivators in different types of organizations (Stajkovic & Luthans, 1997). Based on the principles of behavior modification (Bandura, 1969), the O.B. Mod. model provides a five-step framework for identifying, measuring, analyzing, contingently intervening in, and evaluating employees' task behaviors aimed at performance improvement. In a recent meta-analysis (Stajkovic & Luthans, 1997), we examined the empirical findings over the past 20 years that pertain to the effectiveness of various interventions when applied through the O.B. Mod. model and

found a 17 percent average increase in performance.

On the basis of distinct characteristics, such as outcome utility, informative content, and the mechanisms through which they operate to control human action (Bandura, 1986, 1997), the performance-enhancing incentive motivators most frequently used in organizations can be classified as: (1) money, (2) social recognition, and (3) performance feedback (Stajkovic & Luthans, 1997). Although the direct performance impact of each of these incentive motivators has been documented (Kluger & DeNisi, 1996; Komaki, Coombs, & Schepman, 1996), researchers have yet to examine the differences in the effects of the various incentive motivators on performance when they are analyzed concurrently in the same field setting and when systematic application procedures are taken into account.

The purpose of this study was to examine two research questions: (1) What effect does money (the most common incentive motivator) have on performance when it is routinely administered as pay for performance versus systematically applied through the theory-based steps of the O.B. Mod. model? and (2) What are the relative performance effects of money, social recognition, and feedback, when all three are commonly implemented through the O.B. Mod. model? Our goal in addressing the first question was to explain why traditionally administered pay for performance does not always seem to work and to examine if stronger effects might be realized through systematic application, as is offered by the steps of the O.B. Mod. model. Our intention in examining the second research question was not only to show that the same behavior can be regulated by different incentive motivators, but also

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that different incentive motivators may regulate the same behavior differently (Bandura, 1986). This premise is based on social cognitive theory, according to which "human behavior . . . cannot be fully understood without considering the regulatory influence of response consequences" (Bandura, 1986: 228) and, more specifically, that human action is better predicted by the content than by the sheer amount of an incentive motivator (Bandura, 1997).

THEORY AND APPLICATION OF MONEY

We base our study on two basic conceptual premises. First, we argue that the controversy surrounding pay for performance (Gupta & Shaw, 1998; Kerr, 1999; Lawler, 1990; Luthans & Stajkovic, 1999; Pfeffer, 1995) largely reflects an implementation issue and not a question of the incentive value of money per se. Second, once implementation is held constant through the O.B. Mod. model, we suggest that commonly used incentive motivators theoretically have different natures and, thus, different impacts on performance. Given that much of human agency is rooted in social systems (Bandura, 1999), the relevant literature (Bandura, 1986) suggests that different incentive motivators may have different performance effects because of their subsequent outcome utility, informative content, and the mechanisms through which they operate to control human action.

The Theoretical Basis of Money as an Incentive Motivator

The theoretical underpinnings of money are beginning to receive attention (Mitchell & Mickel, 1999). We suggest that the nature of money as a construct and as an incentive motivator can be explained through the social cognitive theoretical dimensions.

Outcome utility. Although monetary incentives can take several forms (for instance, tangible prizes, paid vacations), in organizations cash payments are the most prevalent generalized monetary incentive (Rynes & Gerhart, 1999). The main characteristic of all monetary incentives (regardless of their form) is that they cost organizations financial resources. Whereas prizes, and so forth, derive their motivating potential from their actual content, the outcome utility of money is derived from the fact that it ultimately leads to some form of tangible payoff (Bandura, 1986). Thus, the incentive value of money is based on its exchange function, for it can be exchanged for most goods, services, and privileges (Bandura, 1986; Stajkovic & Luthans, 1997). As a result, people are attracted to well-paying jobs,

extend extra effort to perform the activities that bring them more pay, and become agitated if their pay is threatened or decreased.

Informative content. The informative value of money largely depends on whether it is provided on a fixed (set-amount paycheck) or on a variable (commission based on sales) schedule. In the former case, the information conveyed is merely dichotomous, with its receipt indicating some performance success ("My performance must have been satisfactory since I received the check") and vice versa. In the latter case, where different amounts received indicate different levels of performance, the informative value of money increases to an ordinal level, since it more specifically indicates the magnitude of a potential performance-standard discrepancy. However, in neither case does money convey much task-related information concerning performance effort, information cues needed, and the content of behaviors.

Regulatory mechanism. In regulating human action, money can have instrumental or symbolic motivational properties. If perceived in its instrumental form, money motivates because it can provide outcomes that satisfy physiological or psychological needs. However perceived symbolically, money generates social comparison information, which can indicate a person's standing regarding psychological aspirations for valued and desired aspects of social life (such as status). Logically, there may be dynamic sequencing in the regulatory emphasis on either instrumental or symbolic perceptions. It appears reasonable to induce that symbolic comparisons (perceptions of relative standing) are likely to dominate an individual's regulatory cognitive process if physiological or psychological needs are perceived to have been reasonably met for the present and the future, as would be the case for a person with high income and/or savings.

Pay-for-Performance Applications

In addition to explaining money's conceptual nature, a theory about money as an incentive motivator needs to also demonstrate how to best implement it for performance improvement. One of the most common ways in which money has been administered to improve productivity in organizations has been through pay-for-performance plans (Durham & Bartol, 2000). Pay for performance has been defined as "paying individuals predetermined amounts of money for each unit produced" (Lawler, 1990: 57). Despite the frequent use of pay for performance as an incentive motivator because of the presumed value of money to employees, many lingering doubts remain regarding the effec-

tiveness of this approach (Kerr, 1999; Lawler, 1990; Pfeffer, 1998). In particular, with but a few exceptions (e.g., Hanlon, Meyer, & Taylor, 1994), most of the evidence regarding the effectiveness of pay for performance is based on anecdotal testimonials and one-time company cases, rather than on methodologically more rigorous empirical studies. This has resulted in mixed and even confusing evidence on how, where, and even whether to use pay for performance to improve performance (Gupta & Shaw, 1998; Lawler, 1990; Pfeffer, 1998).

The major reason for weak or mixed effects of pay for performance appears to be in the administration/implementation procedures (Kerr, 1999; Lawler, 1990; Pfeffer, 1995). Specifically, although Pfeffer noted that "one of the oldest and most reliable findings in psychology is the principle of reinforcement" (1995: 60), he also stated that the "instability in reward practices is not related to instability in underlying principles of human behavior; more likely, it is caused by . . . incomplete knowledge of basic social science . . . [and] what we know about behavior" (1995: 60). Similarly, after an extensive review of the literature, Lawler (1990) also concluded that process and design problems limit the effectiveness of pay for performance. He stated, "What is needed is a set of fundamentally different approaches to conceptualizing and structuring pay systems because the traditional practices do not score well when evaluated against the kind of results that a pay system should produce" (Lawler, 1990: 5). In short, although pay for performance is meant to improve employee behavior, it is often aimed at "the wrong behavior" (Lawler, 1990: 58; cf. Kerr, 1999).

To address these application problems, we propose the use of the O.B. Mod. model to enhance the effectiveness of pay for performance (for model details, see Luthans and Stajkovic [1999]). We propose use of the model because it provides theory-based, yet application-oriented, specific analytic procedures for the application of key behavioral principles, such as identifying and measuring critical performance behaviors, functionally analyzing antecedents and consequences, intervening with contingent incentive motivators, and evaluating performance outcomes. In particular, the application of pay for performance may be greatly enhanced if task performers have a clear understanding of exactly what behaviors are critically related to performance and how they will be objectively measured (steps 1 and 2 in the model). Next, functional analysis (step 3) is needed to determine what stimulates the occurrence of the critical performance-related behavior (training) and what may be impeding it (inadequate or outdated tech-

nology). The key, action step (step 4) in the model specifies how to administer the incentive motivator (money, in this case) so it is contingent upon the employee doing the identified and measured critical performance-related behaviors. This step also includes considering the appropriate size of the reinforcement (for example, the amount of money). Finally, step 5 of the model is evaluation, which insures that the money is indeed leading to significant performance improvement. In other words, the O.B. Mod. model provides design procedures by which every (according to Wood's [1986] theory of tasks) critical constituent of a task, such as component identification (identifying behavioral acts), coordination (sequencing behavioral acts), and dynamic activity (functional analysis of temporal changes), is taken into account. In view of the above theory and design procedures, we hypothesize that:

Hypothesis 1. Money, systematically administered using the O.B. Mod. model, will have a greater impact on employee performance than will pay for performance routinely administered with no systematic application steps.

NONFINANCIAL INCENTIVE MOTIVATORS

We next address the performance impact of money as compared to the impact of nonfinancial incentive motivators. Social cognitive theory is again used to analyze the nature of social recognition and performance feedback and to derive a hypothesis on the differential effects.

Social Recognition

Outcome utility. Social recognition consists of personal attention, mostly conveyed verbally, through expressions of interest, approval, and appreciation for a job well done (Luthans & Stajkovic, 2000). Although social recognition does not have direct financial costs, it does use managers' time, effort, and interpersonal skills. Social recognition derives its outcome utility from its predictive value and not from the social reactions themselves (Bandura, 1986). Since desired personal outcomes (promotions, raises) are usually preceded by social approval, by reversing the correlates, the positive reactions of relevant others become predictors of desired (mostly material) rewards, and thus become incentives for future action. As a result, people will engage in behaviors that receive social recognition and avoid behaviors that lead to the disapproval of others (Bandura, 1986; Luthans & Stajkovic, 2000).

Informative content. Like money, social recognition does not entail much task-related information that may be useful for subsequent performance improvement. However, whereas the informative value of money resides in its amount, the informative value of social recognition resides in the content of what has been delivered and not in its quantity. Showing employees how much their work is valued through social recognition is not achieved by frequent noncontingent phrases (such as "Good job!"), but by expression of genuine personal appreciation for the successful performance. This is because indiscriminate approval that does not eventually result in desired benefits becomes an empty reward, and thus lacks motivating potential. The indiscriminate approval and genuine recognition with promising outcomes represent the continuum from the dichotomous to the ordinal informative level of social recognition.

Regulatory mechanism. The motivational power of social recognition is cognitively "operationalized" through the basic human capability of forethought (Bandura, 1986). On the basis of the social recognition received and, thus, the perception of desired consequences to come, employees will self-regulate their future behaviors by forethought. They may plan courses of action for the future, anticipate the likely consequences of their future actions, and set performance goals for themselves. Thus, the future acquires causal properties by being represented cognitively by forethought exercised in the present (Bandura, 1986, 1997; Stajkovic & Luthans, 1998b). In other words, the forethought is the self-regulatory mechanism that allows perceived future outcomes (based on social recognition) to be cognitively transferred into current action.

Performance Feedback

Outcome utility. Although performance feedback can be conveyed in a variety of different forms and ways, it usually refers to information regarding a level of performance and/or the manner and efficiency in which performance processes have been executed (Kluger & DeNisi, 1996). In terms of its ability to influence employee behavior, feedback derives its motivating power almost exclusively from the information it provides about an employee's performance, which, in turn, enhances role clarity about a task to be performed (Bandura, 1986; Kluger & DeNisi, 1996). However, in order to foster role clarity, performance feedback needs to be: (1) clearly delivered as an external intervention, (2) conveyed in a positive manner, (3) immediate, and (4) specific (Stajkovic & Luthans, 1997).

Informative content. Even though feedback generally conveys more task information to employees than either money or social recognition, the level of information still varies depending on whether outcome or process feedback has been delivered. Outcome feedback refers mostly to conveying to employees discrepancies between their current level of performance and the desired performance standard. In addition to this information, process feedback includes communicating to the employees how the performance was executed (the critical behavioral components for the task), and, importantly, what could be done in the future to improve the performance (a potentially better sequencing of behavioral acts, the potential dynamic complexities where sequencing may need to change, and so forth).

Regulatory mechanism. Feedback regulates behavior through the basic human capability of self-reflection, where the potential feedback-standard discrepancy is first cognitively evaluated and then acted upon (Bandura, 1986). After personal standards have been set, incongruity between a behavior and the standard activates self-evaluative reactions, which, in turn, influence subsequent action. In other words, the self-reflective capability can be defined as self-reflective consciousness, which enables people to think and analyze their experiences and thought processes. By reflecting on their experiences, people can generate specific knowledge about their environments and about themselves. Thus, performance feedback regulates action by initiating evaluation through self-reflection of and stimulating a reaction to the feedback-standard discrepancy.

Differential Engagement of Incentive Motivators

The theoretical discussion so far implies the different natures of money, social recognition, and feedback and, as a result, their potentially different effects on performance. In suggesting that effects differ, we also assume the importance of task and domain specificity (Bandura, 1986). Such specificity is important because social cognitive theory is based on the major premise that people act uniquely and selectively in different domains and under different situational demands (Bandura, 1986, 1997; Locke, 1997). Specifically, every action is unique within a certain domain and does not necessarily generalize to a variety of other domains, nor do actions ever (unless in a vacuum) represent decontextualized behaviors (Locke, 1997). Thus, as also postulated in other research areas (self-efficacy,

goal setting), we suggest that money, social recognition, and feedback represent context- and person-specific motivators that do not have exclusive reinforcing properties independent of the domain in which they are implemented. Importantly, this does not mean that the motivating powers of money, social recognition, and feedback do not generalize to different domains, but rather, that they generalize *differently* for different employees, tasks, and contexts.

Applying these arguments to the present study generates further suggestions as to the between-group ordering of the magnitudes of the effects of money, social recognition, and feedback. As the following Methods section will outline in detail, we selected a manufacturing organization for this study because this type of setting is the most feasible for conducting a quasi experiment. The company selected offered multiple relatively equivalent groups and used objective performance measures that allowed for less reliance on supervisors' subjective judgments of performance effectiveness. Thus, for our study's participants and organizational context, we suggest that money would have the strongest effect on performance, followed by social recognition, and then feedback.

In this setting, employees would probably perceive money as having a high instrumental value and as worth extra effort, given the relatively low wage rate. Social recognition, although not resulting in instant rewards, as did money, could be perceived as indicating potential upcoming rewards, such as a pay raise or transfer to a better job or to a more desired shift, rewards that would motivate further pursuit of behaviors that received contingent social recognition. Finally, feedback would have the weakest effect on performance for two reasons. First, in contrast to social recognition, which, in addition to its predictive powers, also involves a form of feedback (albeit a nominal one), performance feedback does not include any form of explicit social recognition, and clearly does not involve money. Second, given its informational nature, when feedback is provided for routine behaviors, that information, although beneficial, may not be as useful to self-regulation, given the narrow demands of the simple task studied here. Thus, we hypothesize that:

Hypothesis 2. When all three incentive motivators are applied in the same way through the O.B. Mod. model, money produces the strongest effect on performance, followed by social recognition, and then by performance feedback.

METHODS

Study Site

The study took place in the operations division of a large company with over 7,000 employees in one metropolitan area. To separate the monetary from the other two interventions, we used two separate facilities, performing identical work, located several miles apart. The operations division is responsible for processing and mailing credit card bills for the organization's several hundred financial institution, retail, and "e-commerce" customers. This organization has been an industry leader in objectively measuring performance. For this study, we collected individual performance data, recorded in real time by a meter at each employee's workstation during both a baseline preintervention and a postintervention month.

Intervention Groups and Study Participants

Work in this division was performed in shifts at the two facilities, which permitted the formation of four intact groups ($N = 182$). The four groups (shifts) used in this study were: (1) routine pay for performance ($n = 50$), (2) monetary incentives ($n = 43$), (3) social recognition ($n = 50$), and (4) performance feedback ($n = 39$). These groups were comparable in terms of the workers who: (1) were employed full-time in both the baseline and intervention months, (2) performed exactly the same task, and (3) had, on the average, approximately the same training, work experience, education (no college), demographic characteristics (average age was 26–38 years, gender was about evenly split, and ethnicity was about 25 percent minorities), and supervision (across the groups, supervisors' age, tenure, gender, and supervisory experience in general and in the current unit were similar).

Procedures

Pertaining to our first hypothesis, the routine-pay-for-performance group simply received supplemental pay for increased performance. This shift's supervisors, who did not receive any behavioral management training, informed workers of this intervention. In contrast, pertaining to our second hypothesis, the other three groups operated under Luthans and Kreitner's (1985) five-step O.B. Mod. model of behavioral management. The intervention procedures used replicated those used in previous research (Luthans, Paul, & Baker, 1981; Welsh, Luthans, & Sommer, 1993). Each groups' managers and supervisors had an identical three-hour O.B. Mod. training session conducted by the

same researcher. The training received was identical, except as pertained to the type of intervention (step 4) they were to use.

After being given a brief background on behavioral management, the supervisors were asked to identify critical, observable, and measurable behaviors that were currently deficient but had a high potential for improving worker performance. The supervisors were then trained in identifying the antecedents and consequences of the identified performance behaviors, knowledge of which they then used as background for implementing their specific intervention manipulation. The intervention stage represents the action step in O.B. Mod. and was the treatment manipulation in this study. Each group was separately trained in and implemented a different reward intervention to manage the critical performance behaviors previously identified. For the pay-for-performance and monetary incentive groups, the researchers, in conjunction with management, developed the supplemental pay plan.

Importantly, the supervisors in both the pay-for-performance and monetary incentive groups carefully communicated at the beginning of the intervention month the specifics of the plan to ensure that the workers fully understood the payout. This was all that was done in the pay-for-performance group. The trained supervisors in the O.B. Mod.-administered money group: also (1) discussed with workers whether they viewed the payout for increased performance as meaningful and worth the effort, (2) provided workers with ongoing help and coaching about specifics of the program, and, most importantly, (3) continuously throughout the intervention period reminded individual workers that the monetary contingency consequence would be forthcoming when the workers were engaged in the critical performance behaviors.

In the social recognition intervention group, the trained supervisors administered personal recognition and attention contingent upon observing workers performing the specific behaviors identified in step 1. Supervisors were *explicitly* instructed that the social recognition and attention was not to be sugary praise or a pat on the back. Rather, the intention was to let the worker know that the supervisor knew that he or she was performing behaviors previously communicated as important to performance. For example, the supervisor said things such as, "When I was walking through your area on my way to the front office this morning, I saw you making a sequence check, that's what we're really concentrating on." Finally, in the feedback intervention group, the supervisors developed charts and other written and verbal objective (usu-

ally quantitative) information concerning the frequency of the identified critical performance behaviors. For example, unlike supervisors in the social recognition group, supervisors in the feedback group would chart the number of sequence checks made and communicate that to the workers with no added personal comments.

Threats to Internal Validity

Since this study cannot be classified as a fully randomized experiment but rather, as a quasi experiment, in which there was randomization of groups to treatment but not of individuals to groups (Cook & Campbell, 1979), we needed to analyze the potential threats to internal validity. In particular, selection artifacts appeared implausible, since the baseline performance levels were not statistically different. In this case, according to Cook and Campbell (1979), initial performance levels could be assumed to be equal. This assumption is especially valid when analysis of covariance (ANCOVA) is also used to control for the initial performance as a covariate. Ambiguity about the direction of causal effects was ruled out, since we only used external interventions as treatments. The presence of the same general environment and the occurrence of no noteworthy events for all four groups prevented any biasing impact of history effects. We controlled for a local history effect by: (1) holding O.B. Mod. procedures constant across the three groups, (2) having the same researcher train all supervisors, and (3) conducting the study for all groups in the same, technically determined manufacturing layout. In addition, bias due to instrumentation differences can be ruled out since the same objective performance measures derived from workstation meters were used for each group. Nor could testing be a source of bias, since questionnaires were not used. We also designed our study to include only participants that were present during both baseline and intervention periods, thus effectively preventing the mortality effect. Regarding maturation, all participants in our study had relatively similar experience and were engaged in a relatively short, one-month intervention period that does not appear long enough for any meaningful personality or knowledge changes to occur. Thus, all of the above threats to internal validity were either ruled out or minimized by the study design.

Among the threats to internal validity that our design may not have deflected are resentful demoralization and compensatory rivalry. These would also appear to have been minimized, since the two groups that received money: (1) were in a different facility several miles away from that of the two

groups that received no money and (2) had neither knowledge about, communication with, nor any interaction with the other two groups, as reported by the management and the workers themselves. Most importantly, in the two money-receiving groups, the observed effects on work performance were significantly different (see below). Related to these arguments, diffusion of treatment appears implausible given: (1) the different locations, (2) the random presence of an on-site researcher, who verified that supervisors knew what they were to do and that they clearly and continuously implemented the specifics of their assigned intervention, and (3) the significantly different effect magnitudes the interventions yielded. Safeguarding against these latter threats ensured that the treatment groups were not mutually equalized.

RESULTS

Table 1 shows descriptive statistics and complete results pertaining to both hypotheses.

Monetary Incentives with and without Systematic Application

Routine pay for performance increased performance over its baseline level 11 percent ($t = 2.01$, $p < .05$), whereas money applied through the systematic procedures of the O.B. Mod. model increased performance 31.7 percent ($t = 4.35$, $p < .05$). The between-group comparison between money as routine pay for performance and the same amount of money systematically provided through the O.B. Mod. model revealed a significant difference in performance improvement ($t = 1.80$, $p < .05$), with the O.B. group outperforming the routine group by slightly over 20 percent. This finding supported Hypothesis 1, clearly confirming the im-

portance of systematic procedures when monetary incentives are applied.

Monetary versus Nonfinancial Incentives

Since, for all three types of incentive motivators, performance significantly increased from the baseline to the intervention month, we next examined between-group differences in the effect magnitudes of O.B. Mod.—administered money, social recognition, and feedback.

We conducted analysis of variance of posttreatment performance levels and found significant effect differences among the three incentive motivators ($F = 4.28$, $p < .01$). In particular, money had the strongest effect on performance, followed by social recognition and feedback. Analytical comparisons, using Tukey's post hoc test, revealed that the differences in effects on performance were significant both for money and social reinforcement and for money and feedback. Although in the hypothesized direction, the magnitude of the difference in the effects of social recognition and feedback did not reach statistical significance. These findings largely supported Hypothesis 2.

Table 1 shows that the baseline performance levels of the groups under these three interventions may have some nominal variations. Thus, we conducted an analysis of covariance, a procedure that can account for the initial level of potential performance differences. Using baseline performance level as a covariate, we first adjusted the estimates by using the equation for one covariate (Pedhazur, 1982) and then examined the differences among the performance levels after the treatment. As expected in ANCOVA (Cook & Campbell, 1979; Pedhazur, 1982), standard deviations and standard errors decreased owing to the decrease in mean square residuals. As a result, the precision of analysis in-

TABLE 1
Descriptive Statistics for all Interventions^a

Intervention	n	O.B. Mod.	Baseline Performance		Performance after Intervention			Adjusted Values ^a		After-Intervention Mean minus Baseline Mean	Performance Improvement ^b	t ^c
			Mean	s.d.	Mean	s.d.	s.e.	s.d.	s.e.			
Money	50	No	163,157	64,622	181,272	52,602	9,018			18,115	11	2.01*
Money	43	Yes	132,147	50,713	174,056	61,449	9,371	58,614	8,939	41,908	31.7	4.35*
Social	50	Yes	106,911	55,519	132,635	91,262	12,906	75,861	10,728	25,724	24	2.42*
Feedback	39	Yes	107,916	68,036	129,195	79,898	12,794	62,517	10,011	21,279	20	2.04*

^a Adjusted for the covariate, baseline performance ($F = 52.21$, $p < .01$), after an ANCOVA for the three O.B. Mod. interventions ($F = 21.39$, $p < .01$).

^b Percent change.

^c Main-effect impact on performance.

* $p < .05$

creased, with the results for the postintervention between-group performance differences ($F = 6.02$, $p < .01$) and post hoc comparisons remaining the same. These findings ($\eta = .29$, $\eta^2 = .09$; Hays, 1988), adjusted for the performance baseline covariate ($F = 52.21$, $p < .01$) after ANCOVA for the three O.B. Mod. interventions ($F = 21.39$, $p < .01$), at least statistically alleviate the concern that performance differences may have been due to selection artifacts in different treatment groups.

DISCUSSION

By providing the theoretical rationale and empirically examining differences in the effects of routine pay for performance and systematically administered (O.B. Mod.) money, social recognition, and feedback, we hope to have initiated a change from focusing on the general question of whether contingent incentives are related to performance to examining more specific questions regarding the nature, relative impacts, and mechanisms underlying the relationship between incentive motivators and performance. These lines of research may further explain the contribution of incentive motivators to work performance by guiding the effort to develop process-oriented analysis of the contextual and cognitive differentiating factors that we proposed.

In this manufacturing setting, characterized by well-defined, simple jobs and relatively low wages, money was likely perceived as having a high instrumental value that was worth extra effort. Extra effort, in turn, translated into increased performance, since there was no real need for increases in knowledge, skill acquisition, strategy development, and self-efficacy. However, the finding of a significant difference between the effects on performance of routine pay for performance and the O.B. Mod.-administered money clearly points to the importance of theory-based, systematic application procedures (Lawler, 1990; Pfeffer, 1995).

Regarding social recognition, the more workers received it, the more likely they were to foresee it as suggestive of some forthcoming desired tangible outcome. Thus, although not resulting in an instant material benefit, social recognition was likely perceived as a latent variable potentially indicating, in this setting, a pay raise, a transfer to a better job, or a transfer to a more desired shift. Cognitively bringing the anticipated future into the present by forethought in turn motivated workers to further pursue behaviors that received such social support (Luthans & Stajkovic, 2000). However, although the social environment has been conceptually recognized as playing an important role in human behavior, the use of social recognition as a specific

intervention to improve work performance has been seriously neglected, if not totally ignored. Our results show that it can greatly improve performance and, unlike money, generate no direct financial costs.

Finally, feedback provided for simple and well-defined tasks may not be as useful to self-regulation and subsequent motivation as it may be for tasks with more role ambiguity. In addition, treatment manipulation of feedback has always been a complex undertaking, likely contributing to the mixed findings on feedback effects obtained over the years (Kluger & DeNisi, 1996). For example, whereas social recognition by its nature involves some form of feedback (an act of recognition itself), objective (quantitative) performance feedback does not include any form of explicit social recognition and is usually given when workers do not perform critical behaviors. Yet, in both cases, information is communicated in a positive manner. These similarities in social recognition and feedback may explain the closeness in their effects on performance in this study.

Future Theory Development

The important question for future theory development concerns the contextual conditions that would further explain the differences in the effectiveness of the three incentive motivators under different circumstances. We suggest that a key variable in this process may be task complexity. In fact, given that tasks are an inherent part of any study of work performance, task complexity has been analyzed as a moderator in a number of areas in organizational behavior, such as self-efficacy (Stajkovic & Luthans, 1998a), goal setting (Wood, Mento, & Locke, 1987), and job design (Hackman & Oldham, 1980). The importance of task complexity is derived from the fact that different levels of task complexity have different implications for the behavioral, information-processing, and cognitive facilities of the task performer. In particular, in comparison to low task complexity, high task complexity places greater demands on individuals' (1) required knowledge, (2) skill capacity, (3) behavioral facility, (4) information processing, (5) persistence, and (6) self-efficacy (Bandura, 1986, 1997; Stajkovic & Luthans, 1998a; Wood, 1986).

Since, given these factors, complex tasks do not lend themselves to easy appraisal or to easy execution, we suggest that the effect ordering of incentive motivators for complex tasks found in professional and managerial work settings would be different from the ordering we found. In particular, we suggest that for complex tasks, feedback would have

the strongest effects on work performance, followed by social recognition and then money.

Given its emphasis on informative content, feedback would appear to best provide the varied information needed for the successful execution of complex tasks, which are usually multifaceted. Complex tasks also tend to be ambiguously defined and may lack objective performance measures. As a result, task performers may not fully understand what they have to do and what means to use and thus will lack accurate information conducive to successful performance. Under these conditions, the importance of clarifying role ambiguity as an outcome utility of feedback appears critical for successful performance.

Social recognition derives its importance for the performance of complex tasks from its effects on self-efficacy (Bandura, 1997), which is, in turn, the major predictor of work-related performance on complex tasks (Stajkovic & Luthans, 1998a). In this case, social recognition is framed as verbal persuasion focused on enhancing task performers' beliefs about what they can do with what they already have (as opposed to persuasion focused on enhancing skill and ability, as would feedback) (Bandura, 1997; Stajkovic & Luthans, 1998b). Expressing faith in employees' ability to perform through social recognition is especially important when they face novel tasks and when they have performance difficulties and, as a result, may be questioning their personal efficacy.

High-complexity performance usually requires a high educational level, which is typically associated with professional and managerial jobs, and, by implication, high pay. It follows that money may have less motivating potential if high pay is already present, especially if it is perceived in its instrumental form. However, at higher levels of pay, money is likely to take on symbolic properties and may become an instrument of social comparison. Regardless of the way it is perceived, money usually produces increased effort, which, on its own, does not seem sufficient for the successful performance of a complex professional or managerial task. High self-efficacy, congruent skills, task strategies, and a higher level of goals are also needed (Stajkovic & Luthans, 1998a). In comparison to money, these factors are more readily provided indirectly by social recognition through its impact on self-efficacy and, most of the time, directly by feedback.

Future Research

Since the above theoretical suggestions have been missing from the literature on incentive mo-

tivators, we suggest several interesting avenues for future research. First, researchers could examine the moderating impact of task complexity on the relationship between incentive motivators and performance by varying the level of the complexity of the task in each studied intervention and then testing the within-group effects and between-group differences. Next, to provide even greater insight, the interventions could be examined in different combinations for different complexity levels. Finally, the magnitude of each intervention could also be specified on an ordinal level. Such research would provide answers as to which incentive motivator or combination, for which magnitude, produces the greatest effect on performance for different levels of task complexity.

Another, related, line of research might focus on whether incentive motivators only entice workers to mobilize greater effort or also lead to the development of more effective task strategies through increased self-efficacy. Such development might occur because different incentive motivators may produce different effects, through improved performance, on self-efficacy. As Bandura (1997) put it, it is not behavior that causes behavior, but what is psychologically made out of it (see Stajkovic & Summer, 2000). Finally, the level of task complexity may also determine if new task-related skills are needed to successfully execute the intricate demands of complex tasks, or if enhancing self-efficacy with the same skill level would account for the same variance.

Practical Implications

Providing empirically derived positive results by using the best features of both the power of individual incentive motivators and O.B. Mod. procedures may benefit today's cost-conscious managers in at least three ways. First, administering different interventions through a theoretically based yet application-driven model such as the O.B. Mod. model may provide a way to help overcome some of the design and process issues associated with the application of pay for performance and other incentive motivators, including social recognition and feedback. Second, showing whether the effects of different incentive motivators on work performance vary from each other and, if so, how much they vary, can help the managers of today's organizations not only to meet the challenge of improving performance, but also to reduce the cost or minimize the costs of doing so by choosing the most effective incentives for given circumstances. Finally, this study showed that first-line supervisors can be quickly trained in the steps of behavioral

management, can effectively implement them using different incentive motivators, and can subsequently obtain positive performance results. In this era of renewed interest in gaining competitive advantage through people, management scholars are being challenged to make their theories and research findings more understandable, practical, and useful. This field study would seem to help meet this challenge.

REFERENCES

- Bandura, A. 1969. *Principles of behavior modification*. New York: Holt, Rinehart & Winston.
- Bandura, A. 1986. *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. 1999. *Social cognitive theory of personality*. In L. Pervin & O. John (Eds.), *Handbook of personality* (2nd ed.): 154–196. New York: Guilford.
- Cook, T. D., & Campbell, D. T. 1979. *Quasi-experimentation*. Boston: Houghton Mifflin.
- Davis-Blake, A., & Pfeffer, J. 1989. Just a mirage: The search for dispositional effects in organizational research. *Academy of Management Review*, 14: 385–400.
- Durham, C. C., & Bartol, K. M. 2000. Pay for performance. In E. A. Locke (Ed.), *Principles of organizational behavior*: 150–165. Oxford, England: Blackwell.
- Gupta, N., & Shaw, J. D. 1998. Let the evidence speak: Financial incentives are effective. *Compensations and Benefits Review*, March/April: 27–32.
- Hackman, J. R., & Oldham, G. R. 1980. *Work redesign*. Reading, MA: Addison-Wesley.
- Hanlon, S. C., Meyer, D. C., & Taylor, R. R. 1994. Consequences of gainsharing: A field experiment revisited. *Group and Organizational Management*, 19: 87–111.
- Hays, W. L. 1988. *Statistics for psychologists* (4th ed). New York: Holt, Rinehart & Winston.
- Ilgen, D. R., Major, D. A., & Tower, S. L. 1994. The cognitive revolution in organizational behavior. In J. Greenberg (Ed.), *Organizational behavior: The state of the science*: 1–22. Hillsdale, NJ: Erlbaum.
- Kerr, S. 1999. Practical, cost-neutral alternatives that you may know, but don't practice. *Organizational Dynamics*, 28(1): 61–70.
- Kluger, A. N., & DeNisi, A. 1996. The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119: 254–284.
- Komaki, J., Coombs, T., & Schepman, S. 1996. Motivational implications of reinforcement theory. In R. M. Steers, L. W. Porter, & G. A. Begley (Eds.), *Motivation and leadership at work*: 34–52. New York: McGraw-Hill.
- Lawler, E. E. 1990. *Strategic pay*. San Francisco: Jossey-Bass.
- Locke, E. A. 1997. The motivation to work: What we know. In M. M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement*, vol. 10: 375–412. Greenwich, CT: JAI Press.
- Luthans, F., & Kreitner, R. 1975. *Organizational behavior modification*. Glenview, IL: Scott, Foresman.
- Luthans, F., & Kreitner, R. 1985. *Organizational behavior modification and beyond*. Glenview, IL: Scott, Foresman.
- Luthans, F., Paul, R., & Baker, D. 1981. An experimental analysis of the impact of contingent reinforcement on salespersons' performance behavior. *Journal of Applied Psychology*, 66: 214–323.
- Luthans, F., & Stajkovic, A. D. 1999. Reinforce for performance: The need to go beyond pay and even rewards. *Academy of Management Executive*, 13(2): 49–57.
- Luthans, F., & Stajkovic, A. D. 2000. Provide recognition for performance improvement. In E. A. Locke (Ed.), *Principles of organizational behavior*: 166–180. Oxford, England: Blackwell.
- Mitchell, T. R., & Mickel, A. E. 1999. The meaning of money: An individual-difference perspective. *Academy of Management Review*, 24: 568–578.
- Pedhazur, E. J. 1982. *Multiple regression in behavioral research*. New York: Holt, Rinehart & Winston.
- Pfeffer, J. 1995. *Competitive advantage through people: Unleashing the power of the work force*. Boston: Harvard Business School Press.
- Pfeffer, J. 1998. *The human equation: Building profits by putting people first*. Boston: Harvard Business School Press.
- Rynes, S. L., & Gerhart, B. 1999. *Compensation in organizations: Progress and prospects*. San Francisco: New Lexington Press.
- Scott, W. E., Jr., & Podsakoff, P. M. 1985. *Behavioral principles in the practice of management*. New York: Wiley.
- Stajkovic, A. D., & Luthans, F. 1997. A meta-analysis of the effects of organizational behavior modification on task performance, 1975–95. *Academy of Management Journal*, 40: 1122–1149.
- Stajkovic, A. D., & Luthans, F. 1998a. Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124: 240–261.
- Stajkovic, A. D., & Luthans, F. 1998b. Social cognitive theory and self-efficacy: Going beyond traditional motivational and behavioral approaches. *Organizational Dynamics*, 26(4): 62–74.

- Stajkovic, A. D., & Sommer, S. 2000. Self efficacy and causal attributions. *Journal of Applied Social Psychology*, 30: 707–737.
- Welsh, D. H. B., Luthans, F., & Sommer, S. M. 1993. Managing Russian factory workers: The impact of U.S.-based behavioral and participative techniques. *Academy of Management Journal*, 36: 58–79.
- Wood, R. E. 1986. Task complexity: Definition of the construct. *Organizational Behavior and Human Decision Processes*, 37: 60–82.
- Wood, R. E., Mento, A. J., & Locke, E. A. 1987. Task complexity as a moderator of goal effects: A meta-analysis. *Journal of Applied Psychology*, 72: 416–425.

Alexander D. Stajkovic is an assistant professor of organizational behavior at the University of Wisconsin—Madison. He received his Ph.D. in organizational behavior from the University of Nebraska. His research interests include examining the role of social cognition and self-efficacy in human motivation, affect, and action.

Fred Luthans is the George Holmes Distinguished Professor of Management at the University of Nebraska. He received a Ph.D. in management from the University of Iowa. His current research interests include the role of self-efficacy and positive psychological states in performance management and international, cross-cultural analyses of organizational behavior.