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Lens of Self-Determination Theory:
Reconciling 35 Years of Debate**

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The Study of Compensation Systems Through the Lens of Self-Determination Theory: Reconciling 35 Years of Debate¹

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Résumé / Abstract

Si les spécialistes en rémunération sont généralement en faveur des systèmes de primes qui lient la récompense à la performance, la théorie de l'autodétermination, quant à elle, suggère que de telles récompenses contingentes peuvent nuire à la motivation autonome. Nous présentons un modèle des effets motivationnels engendrés par les systèmes de rémunération qui tente de faire concorder la théorie de l'autodétermination avec la documentation sur la rémunération. Ce modèle évalue de quelle façon les caractéristiques des systèmes de rémunération, tels les variations de la rémunération et son niveau, peuvent influencer sur la satisfaction du besoin d'autonomie, la compétence et le rapprochement, lesquels peuvent, à leur tour, marquer la motivation autonome au travail.

Mots clés : théorie de l'autodétermination, compensation, récompenses, mesures incitatives, justice organisationnelle.

Although compensation specialists generally argue for incentive systems that link rewards to performance, self-determination theory argues that such contingent rewards can have detrimental effects on autonomous motivation. The authors present a model of the motivational effects of compensation systems that attempts to reconcile the self-determination theory view and the literature on compensation. This model evaluates how compensation system characteristics, such as the amount and variability of pay, can influence the satisfaction of the needs for autonomy, competence, and relatedness, which in turn influence autonomous work motivation.

Keywords: *self-determination theory, compensation, rewards, incentives, organizational justice.*

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Self-determination theory (SDT; Deci & Ryan, 1985, 2000) has been used only occasionally to understand organizational behavior, despite the fact that the theory offers tremendous potential to study organizational processes and outcomes. We will briefly review organizational research that has been conducted with self-determination theory, and identify gaps in our knowledge of organizational behavior that could be filled by using this framework.

We will concentrate especially on the field of compensation. SDT distinguishes between intrinsic motivation and extrinsic motivation. Intrinsic motivation refers to doing an activity for its own sake, because one finds the activity inherently interesting and satisfying. In contrast, extrinsic motivation refers to doing an activity for an instrumental reason. There are different types of extrinsic motivation that can be relatively controlled by external factors, or that can be relatively autonomous, that is, regulated through a person's acquired goals and values. These types of motivation can be aligned along a continuum representing the degree to which they have been internalized. Internalization is defined as "the active assimilation of behavioral regulations that are originally alien or external to the self" (Ryan, 1995, p. 405). At the low-end lies *external regulation*, which refers to doing an activity solely to obtain rewards or to avoid punishments. Next, *introjected regulation* refers to the regulation of behavior through self-worth contingencies like ego-involvement and guilt. It involves taking in a regulation so that it becomes internally pressuring, and thus involves only partial internalization that remains controlled, not volitional. Next, *identified regulation* refers to doing an activity because one identifies with its value or meaning, and accepts it as one's own, which means that it is autonomously regulated. Finally, *integrated regulation* refers to identifying with the value of an activity to the point that it becomes habitual and part of the person's sense of self. This is the form of extrinsic motivation that is most fully internalized and autonomous. External regulation and introjection are often categorized as *controlled motivation* whereas identification, integration, and intrinsic motivation represent *autonomous motivation*.

Autonomous motivation has been associated with active information seeking (Koestner & Losier, 2002), goal attainment (Sheldon & Elliot, 1998), better performance (Amabile, Goldfarb, & Brackfield, 1990; Baard et al., 2004), and increased well-being (Ilardi et al., 1993). Controlled motivation has been associated with inconsistent goal striving (Koestner, Losier, Vallerand, & Carducci, 1996), vulnerability to persuasion (Koestner & Losier, 2002), and impaired performance and persistence because of concentration and memory difficulties (see Vallerand, 1997 for a review). Autonomous motivation can be promoted by contexts that satisfy the three basic psychological needs of competence, autonomy and relatedness (Deci & Ryan, 2000). Therefore, need satisfaction is the key to promoting optimal functioning, including performance improvement and increased well-being. Optimal functioning in work organizations can be translated as employee engagement, performance, well-being, and retention. Organizations strive to attract and keep employees who are competent, fully engaged, and healthy. There is some support for the importance of need satisfaction in work organizations, as it has been related to better performance, engagement, well-being, and retention (Baard et al., 2004; Deci, Gagne', Ryan, Leone, Usunov, & Kornazheva, 2001; Gagne', 2003; Meyer & Gagne', 2008).

We propose that there are three important organizational levers that influence work-related need satisfaction: job design, interpersonal relations, and compensation. Need satisfaction and autonomous motivation have been associated with jobs that are designed to be more interesting and meaningful (Gagne', Sene'cal, & Koestner, 1997; Millette & Gagne', 2008). They have also been linked to managerial support (Baard et al., 2004; Deci et al., 2001; Lynch, Plant, & Ryan, 2005) and transformational leadership (Bono & Judge, 2003), which refers to managers being charismatic, inspirational, and considerate toward subordinates. Controlled motivation, on the other hand, has been associated with the presence of contingent rewards (Deci, Koestner, & Ryan, 1999), deadlines (Amabile, DeJong, & Lepper, 1976), surveillance (Lepper & Greene, 1975), and evaluations (Smith, 1975). Controlled motivation appears to be forestalled by transformational leadership (Bono & Judge, 2003). However, we know of no research that has examined the effects of compensation systems on employee need satisfaction and work autonomous motivation. We will therefore concentrate on analyzing the compensation literature and propose new research avenues in this field. We first describe experimental research on the effects of rewards on motivation.

Rewards and Motivation

Laboratory studies that have examined the effects of rewards on intrinsic motivation have yielded mixed results and given rise to a heated debate on the effects of rewards on intrinsic motivation. Deci, Koestner, and Ryan (1999) attempted to clarify this debate with a meta-analysis of 128 laboratory studies. Results showed that the net effect of rewards on free-choice behavior (engaging in a task in the absence of external prods) was moderately negative. However, the effect was positive for verbal rewards, and negative for tangible rewards. An important moderator of the link between tangible rewards and intrinsic motivation was the type of contingency. Obtaining a reward simply for engaging in a behavior and obtaining a reward for simply completing a task had greater detrimental effects than obtaining a reward contingent on attaining a specified level of performance (i.e., a performance contingent reward).

These findings can be explained through the impact of rewards on need satisfaction. For example, performance contingent rewards can affect autonomy negatively by changing the rewardee's locus of causality from internal to external (like other kinds of contingent rewards), but they can also positively affect feelings of competence by providing information about behavioral effectiveness. These two simultaneous effects may offset each other in influencing intrinsic motivation. However, three important warnings have been offered regarding the use of performance-contingent rewards (Deci, Koestner, & Ryan, 2001). First, the precise impact of a performance-contingent reward appears to depend on whether its controlling or competence aspect is made salient by the interpersonal context (Ryan, Mims, & Koestner, 1983). Second, the use of performance-contingent rewards in real-life contexts will typically require additional controlling features such as surveillance, evaluation, and competition, all of which can negatively impact motivation. Finally, the use of performance contingent rewards in real-life context will often result in many individuals failing to receive the reward because their performance does not meet the required criteria, and there is clear evidence that such outcomes are highly damaging to motivation (Deci et al., 1999). These meta-analytic findings raise questions about current compensation practices in organizations

and their potential effects on employee motivation. Real world compensation systems, however, cannot easily be categorized within these different types of contingencies. Therefore, we cannot easily extrapolate the metaanalytic results to the organizational field. Indeed, an attempt to replicate the Deci et al. (1999) results in a field study of the motivational effects of compensation was unsuccessful (Fang & Gerhart, 2000). In fact, employees under a pay-for-performance system reported greater intrinsic job interest than employees under a base pay system. It seems possible that real-life compensation systems affect need satisfaction differently than laboratory reward systems because of differences in importance, size, and time frame (Rynes, Gerhart & Parks, 2005). We propose that by unpacking the major dimensions of compensation systems, we can identify their effects on need satisfaction and motivation.

Compensation Systems in Organizations

Compensation is one of the principal components of a human resource system, and it is defined as the rewards (monetary and nonmonetary) that employees receive for performing their job (Martocchio, 2001). Monetary compensation includes base pay (which is fixed), pay adjustments (e.g., a market supplement), and incentive pay (which is variable). Nonmonetary rewards include fringe benefits, some of which are legally required (e.g., disability and unemployment insurance), and some of which are discretionary (e.g., income protection, wellness programmes, and employee assistance programmes). Examples of popular pay systems such as performance and merit pay are given in the Appendix. They are often used in combinations. Variable pay systems are currently very popular and are recommended by human resources specialists because such systems are thought to bring competitive advantage to the organization (e.g., Lawler, 2000). This assumption relies on the expectancy theory framework (Vroom, 1964), whereby motivation is determined by people's self-efficacy beliefs, their perceptions of instrumentality between behavior and outcome, and the value of this outcome for the worker. For instance, Lawler (2000) heavily emphasises the need to reward employees according to the value they bring to the organization. An organization that profits from an employee's performance should share its success with that employee. Since companies no longer offer secure employment, Lawler argues that compensation is, nowadays, the only way they can enlist the commitment of employees to the organization. Moreover, it is only fair to pay the best employee substantially more than the poorest performer. Lawler calls for an organizational structure that replaces bureaucratic controls by fostering employee engagement through using information, knowledge, decision-making power, and rewards contingent on business success. Employees who bring value to the organization are those who manage themselves, do more complicated tasks, coordinate their work with the work of others, provide suggestions for improvement, and innovate. These competencies, we argue, require that employees not only have the abilities and resources, but must be autonomously motivated to use them.

The dominant view of compensation relies almost exclusively on the assumptions of agency theory (Jensen & Meckling, 1976). This may be because most of the research on the effects of compensation systems on firm performance has been done in accounting and finance (where agency theory dominates), with little regard to intervening variables, such as employee motivation and performance. An agency relationship is defined as a contract between a

principal (the employer) and an agent (the employee). The goal of the employer is to align the employee's goals to the employer's goals, and assumes that the employer must pay the employee for behavior that brings the employer closer to goal attainment. Compensation is therefore a control mechanism by which the employer influences the employee's behavior in a way that will benefit the employer. Nevertheless, not all economic research supports agency theory. For example, some research indicates that employer's use of control over the employee sometimes leads to a reduction in the employee's performance (Falk & Kosfeld, 2006).

From the perspective of self-determination theory, one major problem of agency theory is that it assumes that the employee could not possibly internalize the employer's goals. Therefore, the only way the employer can influence the employee's behavior is through coercive methods, such as linking the employee's pay to organizational performance. Consistent with our thinking, Frey and Osterloh (2005) argue that agency theory relies solely on the concept of extrinsic motivation, and that incentive pay does not, in fact, lead to the expected goal alignment between employer and employee. These economists show that the relative price effect hypothesized by agency theory, whereby increases in payment lead to increases in effort, is counteracted by a "crowding out" effect on intrinsic motivation. The crowding out effect is the same detrimental effect of rewards on intrinsic motivation found within self-determination theory (Frey, 1993). The crowding out effect is effectively subtracted from the relative price effect, resulting in reduced effort. To avoid the crowding out effect, Frey and Osterloh advocate the use of fixed pay systems (i.e., noncontingent) coupled with a governance structure that fosters need satisfaction. Although they say that it is difficult to forecast the strength of the crowding out effect, we argue that it can be predicted if we carefully analyze the effects of compensation systems on need satisfaction.

Research on Compensation

Before proposing ways to test the effects of compensation systems on need satisfaction and work motivation, we review current compensation research to determine its effects on employee and organizational outcomes. The compensation literature has generally reported positive incentive effects on employee performance (Gerhart & Rynes, 2003), and economic studies report anywhere from 4% to 9% increases in firm performance (Booth & Frank, 1999; Lazear, 2000; Piekkola, 2005). Such increases seem to be accounted for by factors such as reduced costs, improved employee retention, increased sales growth, increased customer satisfaction, and safety improvements (Werner & Ward, 2004). However, these positive effects may be caused by two very different mechanisms: (a) an incentive effect, acting on employee motivation, and (b) a sorting effect, acting on the attraction and retention of the best performing employees (Lazear, 1986; Rynes, Gerhart, & Parks, 2005).

A close examination of these incentive effects reveals several limiting conditions. For example, in one meta-analysis, monetary incentives had a positive effect on performance quantity, but not on performance quality (Jenkins, Mitra, Gupta, & Shaw, 1998). Another meta-analysis showed positive effects of incentives in manufacturing firms, but not in service firms (Stajkovic & Luthans, 1997). A more recent meta-analysis of the effects of performance-contingent rewards on performance that included studies from economics and

psychology (unlike the previous metaanalyses) found an overall positive effect ($d = 0.23$), but this effect was moderated by task type. For simple and boring tasks, the effect was $d = 0.42$, while for complex or interesting tasks, the effect was $d = -0.13$ (Weibel, Rost, & Osterloh, 2007). SDT actually predicts positive reward effects for algorithmic tasks, which ask for a straightforward solution or rule application, but more negative effects for heuristic tasks, which require more cognitive flexibility (Gagne' & Deci, 2005). In fact, most studies that have found a positive effect of contingent pay plans on performance have used algorithmic tasks (Bandiera, Barankay, & Rasul, 2007; Cadsby, Song, & Tapon, 2007; Locke, Feren, McCaleb, Shaw, & Denny, 1980), while studies that have found no effect or a negative effect used heuristic tasks (e.g., Amabile et al., 1990).

The compensation literature also failed to address the effects of compensation systems on employee mental health. Because of its reliance on agency theory, compensation researchers have neglected motivation theories that focus on needs and instead adopted the assumption that individuals can substitute one need for another (without any consequences) when their satisfaction is impossible (Jensen & Meckling, 1994). Given the high costs of mental health problems to organizations and the economy (Stephens & Joubert, 2001), it is important to address this issue. Apart from having studied the impact of compensation systems on job satisfaction (Igalens & Roussel, 1999), pay satisfaction (Williams, McDaniel, & Nguyen, 2006), and performance (as mentioned earlier), no research has examined the impact of compensation systems on employees' optimal functioning.

SDT offers a rich set of propositions that can help understand the impact of compensation systems on well being. Numerous studies have shown that anything that decreases need satisfaction, including reward systems, is likely to decrease subjective well-being (Ryan & Deci, 2000). The literature on financial wealth and subjective wellbeing has shown clear empirical evidence that once basic physiological needs are met, adding wealth does not contribute significantly to increased subjective well-being (Diener, Sandvik, Seidlitz, & Diener, 1993; Grouzet et al., 2005; Kasser, Cohn, Kanner, & Ryan, 2007; Kasser & Ryan, 1993; Lee, Sheldon, & Turban, 2003; Oishi, Diener, Lucas, & Suh, 1999) Perhaps it is because this wealth adds nothing to psychological need satisfaction. Extensive research shows that extrinsic motivation/goals/values generally have a negative impact on wellbeing while intrinsic motivation/goals/values have a positive impact on well-being (Baard et al., 2004; Grouzet et al., 2005; Kasser et al., 2007; Kasser & Ryan, 1993; Lee et al., 2003; Oishi et al., 1999). By examining the effects of compensation systems on need satisfaction and work motivation, we can ascertain why, when, and how rewards have an effect (either positive or negative) on employee performance *and* well-being.

A Model of the Effects of Compensation on Work Motivation

Missing from our knowledge about compensation systems is their effects on the satisfaction of psychological needs, the key to promoting autonomous work motivation, better performance, and employee well being. Therefore, we propose that future research should examine the effects of compensation systems on the needs for autonomy, competence, and relatedness. This will help explain why certain compensation systems are more efficient for promoting the autonomous motivation of employees. As mentioned previously, the effects of

compensation systems on need satisfaction and worker motivation can be assessed if we can extract essential characteristics of compensation systems that can be empirically studied. We took the compensation systems depicted in the appendix and analyzed their essential characteristics to extract dimensions along which we can categorize them. The process resulted in five dimensions that can be empirically operationalized: (a) the absolute amount of pay in monetary value; (b) the perceived equity of the compensation, operationalized in terms of distributive justice; (c) the ratio of fixed amount of pay versus the amount of pay that varies according to a certain criterion, such as performance; (d) the objectivity of the performance appraisal that determines compensation; and (e) the number of people whose performance is used to determine one's compensation, in other words, whether it is a group or individual incentive. Using these characteristics, we propose a model whereby the satisfaction of the needs for autonomy, competence and relatedness through compensation systems influences autonomous work motivation. In turn, autonomous motivation influences employee performance and well-being (see Figure 1).

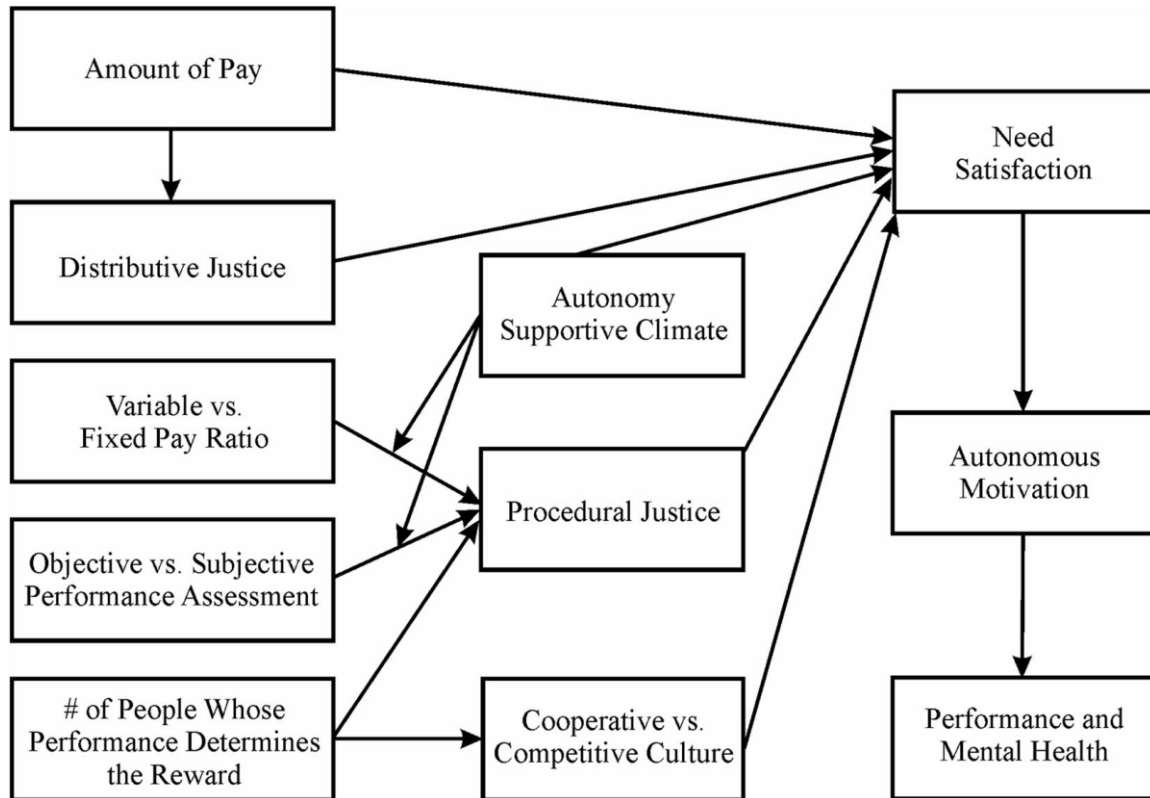


Figure 1. Model of compensation effects on work motivation.

We could use these dimensions to test total compensation packages or their components. For example, commission pay would lead to a certain amount of total pay that we can control for in analyzing the influence of this compensation system on employee motivation and performance. Perceptions of equity of this system can be assessed empirically with validated scales. The ratio of fixed versus variable pay can be assessed easily by determining if a commission is added to a fixed base salary. This ratio can be used as a variable in itself in the model. The performance measure that determines commissions will usually be a closed sales

deal or an attained sales quota, which represents a relatively objective indicator. Finally, commissions are usually given based on individual performance. With this information, we can now predict the impact that commission pay will have on autonomous motivation. To do so, we added a few intervening variables to explain the impact of these compensation characteristics on employee motivation. Some mediators are proposed, namely, procedural justice and organizational culture. Work climate support is proposed as a moderator for some of the relations in the model (see Figure 1).

Pay Level

One study found that higher base pay fosters better performance and affective commitment, and that this can be explained through higher intrinsic work motivation (Kuvaas, 2006). The author contended that higher base pay signals the recognition of high competence and the valuation of the employer-employee relationship. The use of base pay that is above market average to attract good performers has also been advocated (Rynes, Gerhart, & Minette, 2004). Therefore, we propose that high base pay or base pay that is above market average will foster greater need satisfaction, partly because of desirable social comparisons and improved perceptions of distributive justice (hence the link between amount of pay and distributive justice). Moreover, it is advisable to control for pay level when testing the effects of other compensation system characteristics.

Ratio of Variable Versus Fixed Pay

By assessing the ratio of variable versus fixed pay, we can determine the extent to which total pay is contingent on performance. A vignette study showed that a high proportion of performance-contingent pay was related to a larger decrement of intrinsic motivation, which in turn negatively affected performance (Weibel et al., 2007). High proportions of variable pay in the form of performance-contingent rewards have been positively related to turnover (Harrison, Virick, & William, 1996). However, another study found a positive relation between bonus-to-base ratios (bonuses in the form of stock options) and organizational return on asset (Gerhart & Milkovich, 1990). Therefore, more research is needed to determine the effects of these variable/fixed ratios on employee and organizational outcomes.

Objectivity of the Performance Appraisal Methods

Examining pay ratios is insufficient to understand all of the effects of compensation on need satisfaction. The way performance is assessed and used to determine rewards will also influence the impact of compensation systems on employee motivation. Whether compensation is based on one's individual characteristics (e.g., skill-based pay plan) or one's performance (e.g., commissions) will influence need satisfaction. Skill based pay plans are more likely to satisfy psychological needs, as they have been argued to improve the motivating potential of a job by providing workers with enriched jobs and opportunities to use more skills (Murray & Gerhart, 1996). In contrast, commission-heavy pay systems breed more competition, which could diminish perceptions of relatedness and autonomy. The way performance appraisals are conducted also influences the impact of compensation systems on motivation. Merit pay systems are notorious for relying too much on subjective performance

appraisals (i.e., managers' impressions), which makes employees dissatisfied because of negative procedural justice perceptions (Lawler, 2000; Pearce, Stevenson, & Perry, 1985). Profit sharing relies on the output of a collective of individuals who will later share the fruit of their commonly created productivity. This is likely to foster greater relatedness, even if it could potentially decrease feelings of competence (because such systems are known to lack a clear link between individual performance and firm productivity; Magnan & St-Onge, 2005). Two studies found that rewards in the form of profit sharing and stock ownership were positively related to affective organizational commitment (Coyle-Shapiro, Morrow, Richardson, & Dunn, 2002; Kuvaas, 2003), which has been linked to autonomous motivation (Gagne', Boies, Martens, & Donia, 2006).

Individual Versus Group Incentives

Some pay systems are individually based (e.g., commissions and merit increases), while others are group based (e.g., gain sharing). Group incentives have the propensity to increase the satisfaction of the need for relatedness relative to individual incentives. Group incentives can also foster a cooperative culture, while individual incentives run the risk of creating a competitive culture. However, as some economists have argued (Han & Shen, 2007), group incentives can also lead to monitoring between employees, who will want to avoid free riding problems. This peer pressure can potentially decrease the satisfaction of the need for autonomy.

Justice Perceptions

Fairness is also an important predictor of autonomous work motivation. *Distributive* justice refers to the perceived fairness of decision outcomes relative to contributions (Adams, 1965; Leventhal, 1976). *Procedural* justice refers to the perceived fairness of processes used to arrive at outcome decisions (Byrne & Cropanzano, 2001; Leventhal, 1980; Thibault & Walker, 1975). A recent study found that both procedural and distributive justice perceptions were positively related to autonomous work motivation, and that need satisfaction completely mediated these effects (Gagne', Be'rube', & Donia, 2007). Interestingly, one study found that contingent rewards are often perceived to be more fair, which increased the likelihood of need satisfaction, and ultimately, higher autonomous motivation (Gagne', 2008). This may explain the positive relations found between incentives and performance in some field studies (Fang & Gerhart, 2000). It was also found that fairness can partly explain the positive effects of high base pay and stock ownership on performance and affective commitment (Kuvaas, 2003, 2006). Therefore, we propose distributive justice as an inherent characteristic of compensation systems, and hypothesize that it will directly influence need satisfaction (Gagne' et al., 2007). Procedural justice is influenced by other characteristics of the compensation system, namely, the ratio of variable versus fixed pay, the objectivity of the performance appraisal, and the number of people whose performance is used to determine a reward.

Organizational Culture

Organizational culture is defined as a set of habitual ways of thinking, feeling, and behaving that are characteristic of members of an organization. Culture determines the norms that dictate how employees should think and behave (Kerr & Slocum, 2005). Reward systems should reflect this culture, but will also reinforce it. Some research shows how easy it is to create norms, at least in experiments. For example, one study reported that simple instructions to cooperate increase cooperation by 40% (Frey & Osterloh, 2005) and another found that task labelling (i.e., World Trade Center Game vs. Community Game) can influence cooperation versus competition tactics (Liberman, Samuels, & Ross, 2004). Therefore, we can forecast that a culture that values cooperation over fostering individualism or competition will increase need satisfaction (especially relatedness).

Compensation specialists generally agree that compensation plans will affect the corporate culture (Baker, Jensen, & Murphy, 1988). Commissions, for example, will foster individualistic, even egoistic and competitive, behavior. Profit sharing and gain sharing, in contrast, may foster more cooperation. Although many argue that culture and reward systems are inherently neither good nor bad, and that it all depends on their fit to the total organizational system (Kerr & Slocum, 2005), SDT would argue that not all cultures and reward systems are good for individuals. Those systems that thwart need satisfaction will detract from employee engagement and well-being, which will ultimately cost the organization. Based on this, we hypothesize that the number of people whose performance determines one's reward will influence this aspect of organizational culture.

Work Climate Support

The general work climate, operationalized in terms of how supportive of psychological needs it is, will influence the interpretation of some compensation system characteristics. For the sake of simplicity, we define the general work climate through managerial support and job design. Goodman (2000) argued that incentives are related to business outcomes through "organizational linkages," like the manner in which incentives are used by managers, such that managerial styles may moderate the effects of incentives on work motivation and outcomes. Research has shown that jobs that are designed to be more meaningful and interesting increase autonomous motivation (Gagne', Se'ne'cal, & Koestner, 1997). Research on transformational leadership shows that it has a positive impact on employee autonomous motivation (Bono & Judge, 2003). Indeed, managers who support employees' psychological needs also have a positive impact on their autonomous motivation (Baard et al., 2004; Deci, Connell, & Ryan, 1989; Deci, Ryan, & Koestner, 2001). Therefore, we predict a direct relation between a supportive work climate and employee-need satisfaction. Adding this link allows one to study the relative impact of compensation on need satisfaction, and also possible interactions with other work climate factors. We expect that the work climate will influence whether the variable-to-fixed pay ratio will be interpreted as more or less controlling and informative about competence. Similarly, we expect that the work climate will influence how informative (and accurate) performance assessments are judged to be. These interactions will influence the extent to which these compensation characteristics will be judged as fair (as measured through procedural justice perceptions). Compensation systems

that are least controlling and most informative should lead to greater need satisfaction (Ryan et al., 1983).

Need Satisfaction

Besides the already established research on the effects of need satisfaction on autonomous motivation (Deci & Ryan, 1985), the compensation literature (e.g., Rynes, Gerhart, & Minette, 2004; Rynes, Gerhart, & Parks, 2005) correctly stresses that money has an impact on “lower-order needs” (such as shelter and food) and paves the way for “higher-order needs.” This idea is based on older needs theories (Alderfer, 1972; Herzberg, 1966; Maslow, 1954) but is also compatible with SDT. The difference is that unlike other need theories, SDT has the tools to empirically test old theories. For example, it would now be possible to test Herzberg’s (1966) hypothesis that pay is only a hygiene factor by testing the effects of compensation systems on need satisfaction and need frustration (Van den Broeck, Vansteenkiste, Lens, Soenens, & DeWitte, 2007). Thus, we could test whether base pay diminishes autonomy and competence *frustration*, while profit sharing increases the feelings of autonomy and competence. SDT has also found some evidence for Alderfer’s hypothesis that thwarting higher order needs leads to compensating by a focus on lower-order needs.

Thus, one study found that individuals who grew up in environments that did not support basic psychological needs later appeared to compensate for this deficit by overvaluing financial success (Kasser, Ryan, Zax, & Sameroff, 1995).

Conclusion

The model we presented addresses Lawler’s (2000) criticism that intrinsic motivation research has traditionally criticized the use of pay-for-performance without providing a clear alternative for organizations. It also answers Rynes et al.’s (2005) call for research on compensation that takes into account mediating psychological variables. Although SDT researchers have provided clear guidelines for engaging employees through leadership and job design, they have not yet addressed how to align reward systems with these other guidelines. We hope that empirical tests of this model will follow and result in clear guidelines on how to choose amongst different compensation systems, and even help develop new kinds of compensation systems that will foster and maintain autonomous motivation.

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Appendix 1

Popular Compensation Plans

Compensation system	Reward determined by performance of	Description
Base pay	Individual	Giving a fixed amount of pay on a regular basis (e.g., hourly, weekly, monthly) for occupying a position in the organization, regardless of performance. Amount is most often determined by job type, seniority, or rank.
Pay-for-performance	Individual	Giving a set monetary reward for a pre-defined performance unit (e.g., commissions, piece-rate).
Bonus	Individual	Giving a set monetary reward for attaining a certain performance standard or quota.
Merit pay	Individual	Increasing base pay based on yearly performance appraisal.
Skill based pay	Individual	Increasing base pay based on skill or knowledge competencies and acquisition.
Gainsharing	Group	Giving a monetary reward (equality or equity based distribution to individuals) based on reaching a group - based goal or quota (e.g., reducing scraps)
Profit sharing	Organizational	Sharing the organization's profit with its employees. Pay out is based on a profitability target.
Stocks and options	Organizational	Giving stock ownership or the right to purchase a fixed number of shares of stock at a fixed price, regardless of actual stock price.