Effort, Performance, and Conscientiousness: An Agency Theory Perspective
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The authors examine the moderating effects of conscientiousness on the relationships between agency controls and effort and agency controls and task performance. Results show that less conscientious individuals appear to increase effort through incentive alignment and monitoring, whereas conscientious individuals do not shirk with or without agency controls. Furthermore, results show that less conscientious individuals increase task performance through incentive alignment, but not through monitoring. The study confirms that motivation to act opportunistically differs between individuals unlike what is assumed by agency theory. Also, incentive alignment may be more effective than monitoring when attempting to align principal and agent interests.

**Keywords:** agency theory; conscientiousness; incentive alignment; monitoring
behavior in agency theory is usually reduced to simplifying assumptions such as opportunism in the form of "shirking" as the default behavior when agency controls are not present (Alchian & Demsetz, 1972; Jensen & Meckling, 1976). Critics argue that labeling the default human behavior as one of shirking or opportunism is unrealistic given human action is a complex issue (e.g., Donaldson, 1990a, 1990b; Doucouliagos, 1994; Perrow, 1986). For example, business ethics scholars such as Dees (1992) and Gilbert (1996) suggested that labeling motivation as strictly opportunistic overlooks complex environmental and individual factors associated with human nature. In the present study, we assess these opposing views concerning opportunism by examining the role of individual differences, specifically with conscientiousness, in reactions to agency controls to increase individual effort and task performance. If individuals default to opportunism, then agency controls should have equivalent effects across all individuals. However, if individuals differ in their motivation toward opportunism, agency controls should have differing effects between individuals.

In favor of agency theory’s critics, estimates of the effects of incentive alignment on performance (Gerhart & Milkovich, 1992; Tosi, Werner, Katz, & Gomez-Mejia, 2000) and monitoring on performance (Conlon & Parks, 1990; Dalton, Daily, Certo, & Roengpitya, 2003; Dalton, Daily, Ellstrand, & Johnson, 1998) are inconclusive, which suggests that (a) the default agent behavior is not one of opportunism and/or (b) that both incentive alignment and monitoring are not straightforward mechanisms for controlling agent performance. For example, Tosi, et al. (2000) suggested that experience may affect feelings of control over whether someone will meet performance requirements needed for incentive distribution; hence, those with more experience may put forth more effort because they feel their effort will lead to the required outcomes.

Research on conscientiousness can provide evidence that some individuals may shirk more than others and that agency controls play a critical role in reducing their opportunistic behaviors. For example, Judge and Ilies (2002) showed that conscientiousness is related to the motivational criteria found in theories of performance motivation in the organizational behavior literature (e.g., goal-setting theory, expectancy theory, and self-efficacy theory). In addition, Barber and Bretz (2000), Begley and Lee (2005), and Heneman and Judge (2000) suggested that individual differences could play a role in reactions to pay. It may be that differences between individuals on their level of conscientiousness affect their reactions to agency controls.

We use a lab study to test the moderating effects of conscientiousness on the relationship between incentives and effort, monitoring and effort, incentives and task performance, as well as monitoring and task performance. Testing these moderating effects will illustrate how incentive alignment and monitoring affect individual effort and task performance when accounting for the differences in an individual’s propensity to shirk. We also provide evidence that not all individuals default to shirking; however, the use of incentive alignment and monitoring is important concerning the increase in effort for those individuals who shirk. Therefore, the moderating effect of individual differences on agency controls has implications for both theory and practice. Before describing the procedures and results of the study, we discuss agency theory and the importance of conscientiousness as the primary trait used to moderate these relationships.
Theory and Hypotheses

Agency Theory

Agency theory focuses on control issues resulting from conflicts of interest between principals and agents and conceptualizes controls in the form of optimal contracts designed to correct for these conflicts (see Eisenhardt, 1989, for an overview of agency theory). Daily, Dalton, and Cannella (2003) noted that agency theory has become the predominant theory of governance, and thus many applications of agency theory research focus on owners and CEOs of large organizations. However, the “agency paradigm” generalizes to any situation where the principal depends on an agent to fulfill some action. Jensen and Meckling stated that “agency costs arise in any situation involving cooperative effort [such as the coauthoring of this article] by two or more people” (1976: 309). It is clear that the principal-agent relationship is meant to be taken generally, and researchers have applied the concepts from agency theory to lower level employees (Anderson & Oliver, 1987; Banker, Lee, Potter, & Srinivasan, 1996; Deckop, Mangel, & Cirka, 1999; Eisenhardt, 1988), academics (Gomez-Mejia & Balkin, 1992), and middle management (Pearce, Stevenson, & Perry, 1985; Stroh, Brett, Baumann, & Reilly, 1996). Eisenhardt (1988), for example, applied agency theory to retail sales compensation and found that agency theory–type compensation policies are widespread. Thus, we view the agency problem is a general phenomenon and not one specific to CEOs and owners.

Agency theory’s premise is that principals delegate duties to agents, who are then expected to act in the principals’ best interests. Because agency theory assumes agents would prefer to pursue self-interests over principals’ interests, the alignment of interests is required when situations arise that allow for opportunism, whether that be in the form of shirking or some more aggressive form of negative behavior (e.g., aggressive diversification in form of mergers and acquisitions [Amihud & Lev, 1981]). In essence, agency theory deals with the risk principals are willing to bear when there is a division of labor (Jensen & Meckling, 1976; Ross, 1973).

Keeley (1980) described the agency relationship in terms of contracts where the most efficient contract (i.e., least costly to the principal) is one that is formed in a situation with complete information, where the effort expended by the agent is known (Demski & Feltham, 1978; Eisenhardt, 1985). In this situation, the principal bears no risk, so the contract is based on the agent’s effort because the principal can easily verify whether the agent is shirking or not. When there is information asymmetry, a situation where the agent possesses more information than the principal about the characteristics of the agent or the actions taken by the agent (Zajac & Westphal, 1994), the agent is given the opportunity to act in his or her self-interest. The information asymmetry allows the agent to misrepresent his or her abilities to the principal (i.e., adverse selection) and/or shirk (i.e., moral hazard). In an information asymmetric situation, the second-best solution is used, which is a contract based on attaining the information (i.e., monitoring) or one that is based on performance outcomes (i.e., incentive alignment).

Concerning the monitoring contract, Alchian and Demsetz stated that “one method to reducing shirking is for someone to specialize as a monitor to check the input performance of team members” (1972: 781). Fama (1980) noted that without supervision, opportunist
action by the agent becomes a more plausible outcome. The research on monitoring assumes
that greater performance when monitoring is present shows that monitoring reduces agent
opportunism. And, the converse should be true, when monitoring is not present, the agent is
acting opportunistically and performance will be low. However, Dalton et al. (1998), in a
meta-analytic review of the monitoring literature, showed no relationship between monitor-
ning and performance, but their results do indicate the possibility that certain conditions may
moderate the monitoring and performance relationship.

Baiman (1990) and Riordan and Sappington (1987) noted the second form of contract is
to make the agent’s compensation contingent on outcomes desired by the principal. Using
the principles of utility maximization, Groff and Wright (1989) suggested that agents’ utility
is a function of their compensation. From this viewpoint, agents should be motivated to
perform actions that maximize their pay, which should maximize the outcomes for the prin-
cipal (Stroh et al., 1996). In general, a rational actor should forgo shirking, or other oppor-
tunistic behaviors, to maximize his or her own utility. Yet Tosi et al. (2000) showed agents
do not always react positively to incentive alignment and that any relationship that exists is
weakly positive at best. Others have also noted the mixed results of empirical studies on
incentives (e.g., Gerhart & Milkovich, 1992). Thus, the main effect of incentive alignment
is not significant, but the prior mixed results suggest the existence of moderators (Tosi
et al., 2000).

However, the empirical research on agency theory equates effort with performance.
Christen, Iyer, and Soberman (2006) noted that effort and performance are related, but effort
does not guarantee performance (i.e., they are distinct concepts). Although the primary out-
come for agency theory is performance, the theory focuses on controlling the effort required
to meet performance standards. For example, Alchian and Demsetz (1972) described the
controlling of “input performance” (i.e., effort). In addition, Zenger and Marshall (2000)
noted that when there is a physical or psychological cost, the agent will choose a level of
“effort” where marginal gains equal marginal costs. Without agency controls, agents are
assumed to minimize their effort because it is in their self-interest to protect their physical
or psychological capital. Although agency theory focuses on controlling agent effort, the
prior empirical studies examining agency controls measure agent performance; therefore, for
theoretical and practical implications, it is important to examine both effort and performance
in this study. The individual-differences literature would suggest that not all agents require
incentives and monitoring to provide high levels of effort or performance.

**Conscientiousness**

The most prevalent taxonomy of individual differences is the five-factor model of personal-
ity structure commonly known as the “Big Five.” The Big Five contains five personality factors:
agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience. Many
analysts have demonstrated the relevance of these factors in a number of investigations using
diverse instruments, different theoretical frameworks, and data collected from different sources.
The dimensionality of the five-factor structure generalizes across cultures (Benet-Martinez &
John, 1998; Salgado, 1997) and remains stable over time (Costa & McCrae, 1992; Judge,
Higgins, Thoresen, & Barrick, 1999). Barrick and Mount (1991) and Salgado (1997) showed
that among the five factors, conscientiousness exerts the greatest empirical impact on individual performance. Conscientiousness refers to the extent to which someone is achievement oriented, dependable, persevering, hardworking, and deliberate. All of these factors may play a role in both the level of effort an individual puts forth on any given task and the level of performance attained by that given individual. Mount and Barrick (1998) suggested that unlike the other personality factors, conscientiousness’ validity generalizes because the positive relationship between conscientiousness and individual performance has been found across all job criteria and across all occupational groups studied.

Conscientiousness influences performance through several mechanisms, such as goal commitment and perseverance. Barrick, Mount, and Strauss (1993) and Hollenbeck, Klein, O’Leary, and Wright (1989) suggested conscientious individuals exhibit a greater commitment to difficult goals than less conscientious individuals. Hogan and Ones (1997) and Judge, Martocchio, and Thoresen (1997) showed conscientiousness affects specific work behaviors such as work attendance. Thus, the literature shows that conscientious individuals put forth greater effort than their less conscientious counterparts on their jobs and assigned tasks. This may be important for agency theory’s assumption that individuals default to shirking or opportunism. In general, agency theory assumes the contracted addition of agency controls should have a positive impact on effort and performance; however, the individual-differences literature would suggest that some individuals put forth high effort and perform well irrespective of agency controls.

Although the individual-differences research suggests that conscientious agents put forth greater effort than less conscientious agents, the research does not propose that such agents lack self-interest. Instead, as suggested by Etzioni (1988) and business ethics researchers such as Miller (1992), individuals are motivated by both self-interests and moral commitments. Conscientious individuals may feel more committed to putting forth high effort than their less conscientious counterparts. Conscientious individuals reflect elements of dependability, such as acting responsibly and with self-control (Botwin & Buss, 1989; Noller, Law, & Comrey, 1987), and moral commitment, such as following one’s conscience (Costa & McCrae, 1992) and fulfilling obligations (Barrick, Stewart, & Piotrowski, 2002). Furthermore, Moon (2001) provided evidence that conscientious individuals are driven by duty (other-interests) and achievement striving (self-interests), which further suggests that conscientious people do not lack self-interest. However, both duty and achievement striving suggest that shirking will not be pursued largely because conscientious agents will feel a responsibility to perform well not only for the principal but also for themselves. Thus, conscientious agents act in less opportunistic ways in the respect that they do not shirk their duties given their moral obligations.

If the possibility for opportunistic action is present, conscientious agents may be less likely than less conscientious agents to take advantage of principals through shirking. This is possible because conscientious agents show greater goal commitment (Barrick et al., 1993), duty to the principal (Moon, 2001), and need for achievement (Costa, McCrae, & Dye, 1991) than less conscientious agents. This suggests that the effort of conscientious agents should be less affected by incentive alignment and monitoring because they are already putting forth a high level of effort, whereas the effort of less conscientious agents should be more affected by agency controls because shirking was in place prior to the agency controls. For less conscientious agents, agency controls create a situation where shirking
becomes a less attractive option given the utility of putting forth greater effort (i.e., greater 
pay or avoidance of negative consequences). Formally, we propose the following:

**Hypothesis 1:** The relationship between incentive alignment and effort will be moderated by 
conscientiousness, such that the effect of incentive alignment on effort will be greater among agents 
having low conscientiousness.

**Hypothesis 2:** The relationship between monitoring and effort will be moderated by conscientious-
ness, such that the effect of monitoring on effort will be greater among agents having low 
conscientiousness.

As mentioned in the review of agency theory, effort and performance are distinct concepts 
(Christen et al., 2006). Agency theory focuses on controlling agent effort (Alchian & Demsetz, 
1972); however, the outcome sought by principals is the maximization of agent performance 
(Deckop et al., 1999). Thus, prior studies examining organizational control systems using an 
age agency theory perspective focus on the objective of ensuring predictable and reliable perfor-
mance (e.g., Eisenhardt, 1989; Govindarajan & Fisher, 1990). The literature on conscientious-
ness has shown that conscientious individuals perform well on their jobs and assigned tasks, 
whereas less conscientious individuals do not perform well on their jobs or assigned tasks 
(Hogan & Ones, 1997; Judge et al., 1997). This may be important for agency theory’s purposed 
relationships between incentive alignment, monitoring, and performance. From the performance 
perspective, the addition of agency controls should have little effect on conscientious individu-
als because it seems that an achievement-oriented, dependable, and hardworking agent gains 
high utility from performing well, which would be in the interests of the principal. For example, 
Costa et al. (1991) and Moon (2001) suggested that conscientious individuals have a high need 
for achievement, which implies conscientious individuals place value on high performance and 
thus should perform well with or without incentives or monitoring. On the other hand, less con-
scientious individuals may place less value on performance, and thus, without agency controls 
their performance will be low. Therefore, agency controls should have a greater effect on those 
who are less conscientious because their utility would be increased through better performance 
given the attainment of higher compensation or the avoidance of punishment. Therefore, we pro-
pose the following hypotheses:

**Hypothesis 3:** The relationship between incentive alignment and task performance will be moder-
ated by conscientiousness, such that the effect of incentive alignment on task performance will 
be greater among agents having low conscientiousness.

**Hypothesis 4:** The relationship between monitoring and task performance will be moderated by 
conscientiousness, such that the effect of monitoring on task performance will be greater among 
agents having low conscientiousness.

**Method**

**Sample**

Participants were 151 undergraduate students from a major university in the southeastern 
United States enrolled in the school’s introductory management course. These students
represented a variety of majors, although most of them were business administration majors. Participants earned course credit for their participation and were also offered the opportunity to earn $100 in the incentive alignment condition. Participants were randomly assigned to each of the experimental conditions involving incentive alignment and monitoring.

Procedure

Participants were brought into a classroom in groups of 15 to 20 individuals and seated at random. The experimenter then introduced himself and provided a cover story for the experiment. Participants were informed that the purpose of the study was to assess individual performance and that the task concerned proofreading a document. Participants were then given a questionnaire to assess their personality traits as well as to collect their standardized test scores (Scholastic Assessment Test [SAT] or American College Test [ACT] scores).

Next, participants were given a one-and-a-half-page proofreading task in which they were to identify both spelling and grammatical errors by circling the errors. They were given 7 minutes to complete the task. Prior to starting the task, the incentive alignment and monitoring conditions were manipulated by the experimenter, resulting in a $2 \times 2$ between-subjects design. In the incentive condition, participants were told that the individual who correctly identified the most errors in the document would earn a $100 reward. The experimenter then left the room and returned after 7 minutes. In the monitoring condition, the participants were introduced to two assistants and were told that the experimenter and the two assistants (total of three monitors) would monitor the participants’ progress during the 7-minute period. They were also informed that after the 7 minutes elapsed, the participants could not turn in their answers until one of the monitors reviewed the document and signed the document as proof that it was not only reviewed by a monitor but also met some standard that was not revealed to the participants. In the control condition, participants were not offered a reward, nor were they monitored. The experimenter informed the control participants they had 7 minutes to complete the task, the experimenter then left the room and returned at the end of the task. In the final condition of the $2 \times 2$ design, participants were given incentives and monitored. After the completion of the task, participants were given a follow-up questionnaire that contained manipulation checks.

The manipulation checks suggest that the manipulations were successful. In the incentive alignment condition, participants responded positively to the following two Likert-type manipulation check items: “I felt better performance would lead to a better opportunity to earn a reward” ($M = 3.38$ vs. $1.82$; $p < .001$) and “Having the opportunity to earn a reward motivated me to perform well on this task” ($M = 3.47$ vs. $1.91$; $p < .001$). In the monitoring condition, participants responded positively to the one manipulation check item, “I felt my performance was being monitored carefully,” indicating that the monitoring condition was effective ($M = 3.22$ vs. $2.38$; $p < .001$).

In the experiment, students could choose to put forth effort on the task or opportunistically shirk. In the control and incentive conditions, no attempt was made to make the students feel that their full effort was required to receive course credit (i.e., their attendance satisfied the condition to receive credit). Both the description of the incentive
alignment and the monitoring variables explain the attempt to both reduce shirking and increase task performance.

**Variables**

*Dependent variables.* *Effort* was measured as the number of attempts the individuals made to identify errors. Attempts were defined as both correct answers and false positives. Thus, each circle made by the participants constituted an attempt at identifying errors. The minimum number of attempts made by the participants was 29, and the maximum was 76. Those individuals who made a greater number of attempts could be considered putting forth greater effort in identifying errors, whereas those with fewer attempts may have been shirking. *Task performance* was measured as the number of correctly identified errors minus the errors that were not correctly identified (i.e., both false positives and unidentified errors). Participants with negative scores committed more errors than they correctly identified. The minimum task performance scored by a participant was \(-51\), and the maximum was 47 out of a possible 77 (all errors correctly identified without a false positive).

*Independent variables.* The *incentive alignment* condition associated participants’ rewards with performance or did not offer the participants any means of gaining a reward. The high-incentive alignment condition provided the opportunity to earn a reward for identifying the greatest number of errors. The low-incentive alignment condition did not offer the participants the opportunity to earn a reward. *Monitoring* was simulated by overseeing the efforts of the participants. In the high-monitoring condition, three monitors patrolled the room, stood over the participants’ shoulders, occasionally made contact with the participants’ documents (e.g., touching the document as if to indicate that the monitor was attempting to get a better look at the participants’ progress), and required participants to have a monitor review and sign their work before participants could submit their answers. In the low-monitoring condition, the experimenter left the room, leaving the participants without any supervision.

According to Gittell (2001), in 1990, the average supervisory span of control in organizations was 8.5 subordinates. Hill and Hoskisson (1987) and Spreitzer (1996) suggested that the information processing limits of supervisors makes the monitoring of employees difficult in wide spans of control. In this instance, the ratio of participants to monitors was between 5:1 and 7:1 in the high-monitoring condition, which suggests a satisfactory level of monitoring compared with supervisory monitoring found in the field.

The monitoring condition was designed without explicit sanctions such as loss of class credit if a participant’s effort was deemed lacking or if performance standards were not met. Stearns and Mizruchi (1993) noted that the threat of action influences agent behavior under conditions of high monitoring and not explicit sanctions. In the context of the experiment, participants gained course credit if they participated in the task. In the high-monitoring condition, the unspecified threat was that some minimal level of effort or performance hurdle must be met, and the failure to meet this hurdle could have negative consequences (perhaps the withholding of extra credit until some performance criterion was met). In the low-monitoring
condition, because no attempt to oversee participants’ actions was present, no minimal level of effort or performance standard could have been interpreted as needing to be met to gain course credit; thus, shirking and low performance would have no direct negative outcome.

Conscientiousness was measured using John, Donahue, and Kentle’s (1991) Big Five Inventory (BFI). Participants filled out the complete BFI, which uses 44 prototypical markers of the Big Five dimensions. Each of the items on the BFI is rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree) and is averaged, taking into account the reverse-scored items, to derive the five dimension scores. For each of the five dimensions (agreeableness, conscientiousness, neuroticism, openness to experience, and extraversion), the internal consistency exceeded .70, scoring as .76, .80, .87, .87, and .72, respectively.

Control variables. Because our purpose is to study the effect of conscientiousness on effort and task performance, neuroticism, extraversion, agreeableness, and openness to experience were added as control variables because these personality traits have been related to some performance criteria (Barrick & Mount, 1991; Salgado, 1997). It should be noted that neuroticism has been shown to be an important correlate to performance and negatively affects task performance and motivation (Hurtz & Donovan, 2000; Judge & Ilies, 2002). However, neuroticism does not affect performance through a lack of effort (shirking); instead, neurotic individuals are those with high levels of anxiety, which translates to the inability to control the emotions necessary to protect on-task attention (Kanfer & Heggestad, 1997). Although extraversion, agreeableness, and openness to experience have not been shown to generalize as widely as conscientiousness or neuroticism, their relationship with some performance factors suggests they should be added as control variables.

General mental ability is a positive predictor of job performance (Judge et al., 1999; Schmidt, Ones, & Hunter, 1992). Individuals with higher general mental ability perform better on complex tasks. Because participants were performing an intellectual task, controlling for general mental ability is required to attribute effort and task performance to differences between high- and low-conscientious individuals. We controlled for general mental ability using the participants’ SAT or ACT scores (Frey & Detterman, 2004). Participants were only required to take one of the standardized tests to gain entrance into their educational institution. The SAT and ACT scores were standardized using a z-score transformation to make them equivalent.

Data Analysis

We use hierarchical regression analysis (Cohen & Cohen, 1975) to test the hypotheses. This method is referred to as moderated regression when used to examine interaction effects (Stone & Hollenbeck, 1984), as is the case in this study. In the first step, the control variables are simultaneously modeled as predictors in a regression where the dependent variable serves as the criterion. In the second step, the independent variables are entered into the model. In the third step, the cross products representing the interactions are entered into the model. Given the $2 \times 2$ between-subjects design, we were able to examine the three-way interaction between incentive alignment, monitoring, and conscientiousness; thus, the fourth step involved entering the three-way cross product term representing a three-way interaction.
Table 1 displays the descriptive statistics and zero-order correlations for the variables used in the study. As expected, the correlation between effort and task performance is positive and significant \((r = .76, p < .01)\), which suggests that greater effort leads to higher task performance; however, effort does not completely explain the variance in task performance.

Table 2 shows the results of the moderated regressions used to test the hypotheses. To test Hypotheses 1 and 2, we employed effort as the dependent variable. In Table 2, Step 1 modeled the control variables, Step 2 modeled the independent variables, and Step 3 provides the tests of Hypotheses 1 and 2. The addition of the interaction terms to the model in Step 3 was significant and explained an incremental 8% of the variance in effort \((\Delta R^2 = .08, p < .001)\). The interaction of incentive alignment and conscientiousness on effort is significant \((\beta = -1.21, p < .05)\). Figure 1 illustrates that incentive alignment has a positive effect on low-conscientious individuals and a smaller effect on high-conscientious individuals, which supports Hypothesis 1. The interaction of monitoring and conscientiousness on effort is also significant \((\beta = -.64, p < .001)\). Figure 2 illustrates that monitoring has a positive effect on low-conscientious individuals and a smaller effect on high-conscientious individuals, which supports Hypothesis 2.

To test Hypotheses 3 and 4, we employed task performance as the dependent variable. In Table 2, Step 1 modeled the control variables, Step 2 modeled the independent variables, and Step 3 provides the test of Hypotheses 3 and 4. The addition of the interaction terms to the model in Step 3 was significant and explained an incremental 7% of the variance in task performance \((\Delta R^2 = .07, p < .01)\). The interaction of incentive alignment and conscientiousness on task performance is significant \((\beta = -1.91, p < .001)\). Figure 3 illustrates that incentive alignment has a positive effect on low-conscientious individuals and no effect on high-conscientious individuals, which supports Hypothesis 3. Table 2 shows no support for Hypothesis 4, which suggested an effective interaction between monitoring and conscientiousness on task performance.
Some other results bear mentioning. Both general mental ability and conscientiousness had positive, significant effects on effort ($\beta = .37, p < .001$; $\beta = .17, p < .05$, respectively) and task performance ($\beta = .37, p < .001$; $\beta = .23, p < .01$, respectively). Neuroticism ($\beta = .19, p < .05$) unexpectedly had a positive, significant effect on task performance, although it is quite reasonable to argue that some performance contexts may be more favorable for high neurotics (Barrick & Mount, 1991). Consistent with prior research examining agency control interactions (e.g., Conlon & Parks, 1990; Tosi, Katz, & Gomez-Mejia, 1997; Zajac & Westphal, 1994), the interaction of incentive alignment and monitoring is not significant in relation to both effort and task performance. The main effects of incentive alignment and monitoring on task performance are nonsignificant, which is consistent with the literature that focuses on performance outcomes (Dalton et al., 1998; Dalton et al., 2003; Tosi et al., 2000). However, the inclusion of incentive alignment ($\beta = .21, p < .01$) leads to greater effort on the part of agents. Finally, in Step 4, we modeled the three-way interaction between incentive alignment, monitoring, and conscientiousness with effort and task performance and found no effects.

**Discussion**

There seems to be a difference between the effectiveness of incentives and monitoring, conditioned by the level of conscientiousness of an agent. Consistent with Hypotheses 1 and 3,
conscientiousness moderates the effects of incentive alignment such that agents with low conscientiousness showed greater effort (i.e., less shirking) and better task performance in the high-incentive condition than in the low-incentive condition. In this study, less conscientious agents reacted to incentives by increasing their effort and performance, whereas their conscientious counterparts appeared to put forth the same level of effort and performance whether incentives are present or not. In essence, the results suggest that less conscientious agents act opportunistically by shirking when incentive alignment is not in place. However, incentives encourage shirkers to increase their effort and their task performance.

The findings show that conscientiousness moderates the effects of monitoring, but only on effort; thus, the results are consistent with Hypothesis 2 and not Hypothesis 4. It seems that agents with a tendency to shirk (i.e., less conscientious agents) increase their effort when monitored. On the other hand, conscientious agents not only provide more effort than less conscientious agents; they also provide a similar amount of effort whether monitoring was present or not. However, although less conscientious agents increase their effort when monitored, they did not improve their performance. Why does monitoring affect the effort but not the performance of less conscientious agents? From this study, we can identify three possibilities: (a) Less conscientious individuals react to monitoring and incentive alignment differently, (b) monitoring may inherently lean toward effort rather than performance, and/or (c) because the monitoring condition did not specify negative consequences for low performance,
the experiment tended toward effort. The final point will be discussed further in the limitations of the study.

For the first possibility, it may be that less dependable, responsible, and deliberate individuals (i.e., less conscientious individuals) do not respond to monitoring with higher performance when the appearance of effort is enough to avert negative consequences. This possibility is consistent with prior research that shows a positive relationship between conscientiousness and long-term success (i.e., extrinsic career success) (Judge et al., 1999), which suggests that less conscientious individuals may consistently shirk across many different situations over the long term concerning performance. Such individuals provide enough effort to stay employed in the long term but do not necessarily perform at a high level. Or, consistent with the second possibility, monitoring may inherently lean toward effort. According to Tosi et al. (1997), incentive alignment and monitoring may have differing effects on the alignment of agent actions, and our findings may reflect this view. Incentive alignment influences task performance, which requires effort. Monitoring influences only effort. Greater effort, according to Christen et al. (2006), does not necessarily lead to better task performance.

**Theoretical Implications**

Agency theory states that the existence of information asymmetry leads to the possibility of adverse selection and/or moral hazard, and thus, the principal must use a second-best
contract, which includes either monitoring or aligning incentives (Eisenhardt, 1989), to protect his or her interests. This study suggests that conscientious agents are less likely to use an information asymmetric situation to their advantage, which has two implications for agency theory’s contractual solutions. First, the monitoring contract should focus on the selection process and gain information at an agent’s level of conscientiousness rather than gaining information on the agent’s capabilities or on the effort expended by the agent. Conscientious agents are those who want to fulfill their obligations (Barrick et al., 2002), which may make them unlikely volunteers for situations where they do not have the capability to succeed. From this viewpoint, adverse selection of conscientious agents on capability will not occur because those who feel their abilities do not meet the principal’s requirements are likely to self-select themselves out of the process. In addition, conscientious agents clearly put forth equally high effort and task performance with or without agency controls, which suggests principals do not face moral hazard when hiring conscientious agents and therefore do not need to use monitoring or incentives to reduce moral hazard.

Second, there is a third contractual option, which is to bear the risk that the agent will not act opportunistically. In this risk-bearing option, the principal would form a contract with the agent on the assumption that the agent is conscientious and will put forth a high level of effort, as is the case under full information, and risk that the agent will not shirk. The more risk adverse the principal, the more likely the principal will use monitoring or incentive
alignment. Future research should examine at what point the cost of the risk-based contract is greater than a contract based on monitoring or incentive alignment, which will depend on the pool from which the agents are drawn (i.e., the number of conscientious individuals in the population).

This study also confirms that agency controls do discourage shirking for those individuals willing to shirk. For performance, the study suggests incentives increase performance within the population of shirkers. We believe this is an important finding given the pay-for-performance literature has been largely inconclusive on whether pay motivates individuals to perform in the principals’ interests (Tosi et al., 2000). As noted by Tosi et al. (2000), the studies of pay as a control mechanism are largely inconsistent because of different methods, data collection, presence of moderator variables, and so on. The findings here suggest that the previous inconsistency may be due to not accounting for human nature (i.e., individual differences between the agents) as a moderator variable. By not accounting for individual differences, the effects of incentive alignment may have been understated given highly conscientious agents may not have been shirking their duties when incentives were not present. Thus, the incorporation of incentive alignment would have no effect on the increase in performance of conscientious agents.

Limitations

The laboratory is an artificial setting, and the generalizability of the results should be viewed in this light. The task and the relationship between the students and the experimenter may not reflect true employer-employee, client-provider, or owner-manager relationships; therefore, the results may not reflect these relationships. However, we designed the experiment to capture the essence of the relevant theoretical concepts and provide sufficient motivation for the participants that was consistent with the theories. The task does show that individuals differ in their propensity to shirk. As with other studies that have used laboratory settings (e.g., Tosi et al., 1997), we remind the reader that caution is in order. Field research may uncover effects that cannot be assessed in artificial settings. In the monitoring condition, for example, although there may have been an implication concerning whether low performance would lead to negative consequences, the lab setting did not afford us the opportunity to strongly tie negative outcomes to monitoring. Future research should examine individual differences and agency controls in organizational settings because such settings do not face the same constraints as laboratory studies; for example, monitoring in a field setting can be tied to negative consequences.

Practical Implications

With these limitations in mind, the study provides some practical implications. The results provide implications for hiring practices of lower level employees as well as the efficient use of the contracts to improve individual performance in organizations. Theory states that agency problems arise in many hierarchical and cooperative relationships (Harris & Raviv, 1978; Jensen & Meckling, 1976); therefore, this study suggests that the selection of
conscientious agents for tasks can serve as a means of decreasing the possibility of shirking from agents working on those tasks. However, the study also suggests that if selection based on conscientiousness is not possible (i.e., information asymmetry cannot be reduced), the use of incentive alignment will ensure high effort and performance for all agents despite prior research questioning the effects of incentive alignment. In the case of information asymmetry, the cost of incentive alignment is higher than in situations with full information given incentives will be used across all individuals whether high or low in conscientiousness. Because highly conscientious individuals do not seem to need incentives to increase performance, incentive alignment is wasted on those highly conscientious agents. Future research should examine at what point the cost of preventing shirking is higher than the potential cost of shirking. To be clear, this study does not suggest implementing incentives only for those individuals low on conscientiousness given highly conscientious individuals could react negatively to disparate treatment. This is an avenue for future research.

This study also has implications for the use of monitoring. Prior research suggests that monitoring is not an influential means of affecting agent behavior (e.g., Dalton et al., 1998; Dalton et al., 2003); however, our study suggests that monitoring as a form of control may be a complex issue. The research at both the highest levels of the organization (i.e., the CEO level) as well as the lower levels of the organization suggests that performance is a complex construct in terms of having different meanings to differing stakeholders or principals. For example, Coombs and Gilley (2005) suggested that firm performance can be defined in terms of employee initiatives and the environment instead of just financial performance. This suggests that monitoring only one form of performance will do little for other forms. At lower levels, employee performance can be defined in terms of customer service, sales, and so forth, all of which may make monitoring more costly. Monitoring multiple factors may be required to ensure principals’ interests are met. The use of monitoring in general may encourage the appearance of greater effort but may not encourage a good-faith effort. Future research should attempt to replicate our findings in organizational settings to strengthen the generalizability of our results and thus the practical contributions of this study.

Conclusion

This study provides evidence that individual differences between agents on their level of conscientiousness moderate the impact of both incentive alignment and monitoring on effort and incentive alignment on performance. By incorporating individual differences, the present study moves away from the traditional approach in the agency theory literature by suggesting that the propensity to shirk differs between individuals rather than assuming that shirking is the default behavior. Less conscientious agents seem to shirk, whereas conscientious agents appear not to shirk. This has implications for both critics and proponents of agency theory. For the critics, the results suggest that human action is more complex than what is proposed by agency theory. For the proponents, agency controls successfully align principal and agent interests for those agents willing to shirk. Thus, agency theory may be better served recognizing individual differences in opportunistic behavior and applying the motivational effects of agency controls accordingly.
The study also lends support to examining other avenues in the organizational behavior literature that may make further advancements to the agency model. Hambrick, Finkelstein, and Mooney (2005) suggested open communication between the macro- and microspheres of organizational science, and this study supports their view. The macrosphere has largely used agency theory to explain principal-agent relationships between top management and owners, but it is clear that microprinciples can be used to refine these models and apply them to lower level relationships for which agency theory was first devised.

References


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