

EVALUATING EMPLOYEES' RESPONSES TO INTERNAL CONTROLS

by

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Abstract

This study explores employees' responses to internal controls that are put in place by management in a workplace. This study investigates if employee performance is affected by either being given a performance based bonus or penalty and whether monitoring progress during the task versus monitoring progress after a task is completed. By having participants perform word searches to simulate an everyday work task under different conditions I was able to analyze their performance to see how employees were affected by two internal controls. Using a 2x2 between-subjects based study, I manipulated the framing of the economic outcome as a penalty vs a bonus and I manipulated the timing of progress checks (intermittently throughout the task or only at the end of the task) The dependent variable was the number of words correctly found in a word search. The results of the experiment showed that the participants performed better in the bonus condition versus the penalty condition. Likewise, the participants performed better when their supervisors checked on them intermittently compared to participants who were not checked by their supervisor until the end of the task. These results allow employers to have a more comprehensive understanding of how employees are affected by internal controls in a workplace.

Introduction

This study explores employees' responses to internal controls that are put in place by management in a workplace. Auditors and accountants are always looking for ways to prevent human and computer error from affecting financial reports. Due to this controls are put in place that are used as a check and balance system. Controls are put in place to make sure reports are not compromised, making sure the information that the company's investors and shareholders are given is as accurate as it can be. Due to past accounting and auditing scandals more and more controls are being put in place within companies to make sure these occurrences can be caught and that misstatements will not occur.

As new controls are put in place there may be tension or confusion in the workplace. Christ et al., 2008, explains how trust and cooperation amongst employees can be affected because of new internal controls that have been put in place. The employees feel that their integrity is being second-guessed by having checks and balances in place that will watch over their every move (Christ et al., 2008.)

In my study, I focused on how two specific controls affect employees' responses to the control. By looking into employees' responses to controls we can see how effective the controls are for the company. We can also analyze if a company is creating positive or negative results with certain controls in place. As previous research shows, internal controls that are best for the company's accounting and auditing processes may hurt the company more than they help if the employees are responding with reduced performance.

Background

As a result of past accounting scandals, the Sarbanes-Oxley Act was put in place in 2002. This Act regulates accounting firms' practices as well as businesses' internal practices (The Sarbanes-Oxley Act 2002.) To prevent errors and fraud in the company, internal controls are required in businesses to be used as a check and balance system. Christ et al., (2012) explains in their study, "controls serve a vital role in safeguarding a company's operational processes, information, and assets and in providing reasonable assurance regarding the reliability of financial reporting" (pg. 432.)

While controls protect the company, they can also cause dissatisfaction amongst the employees. Controls may take away an employee's autonomy in a situation. This threat is limiting the decision rights of the employee which in return may make the employees feel mistrusted and reducing cooperation amongst them (Christ et al., 2008.) "Trust is reciprocal in that, if the people don't feel trusted, they in turn don't trust the other party," (Christ et al., 2008, pg. 41) – this can be seen in the backlash of employees, who are reacting negatively toward the new controls within their business. The employee's work is being nitpicked and watched over and in return their efforts and cooperation are possibly lacking. When controls become an uncomfortable occurrence in a business the control environment as well as the employees' and management's morale will change for the worse (Christ et al., 2008).

Christ et al. (2012) illuminates how previous studies have examined the effect of employee behavior in regards to controls, which has lead researchers to see negative consequences, such as lower employee morale. While researchers understand that there is a negative connotation with internal controls and that employees' trust and cooperation is

declining as internal controls are introduced, my research focuses on how different internal controls can affect employees' performance.

Purpose Statement

This study will help employers have a more comprehensive understanding of their employees' responses to internal controls and how controls can affect employees' progress in their job. Using college students as subjects, my study will show how employees' behavior may change in respect to the internal controls that are put in place over them. The findings of my research will allow for greater understanding of how changes to the internal controls affect the performance of the employees. Showing the employees' responses to various controls this study will open up research opportunities to further explore certain internal controls and how employees react to them based off of my findings.

Hypotheses

In my study, I focus on how controls that are put in place within the company affect employees' responses to the control. By measuring employees' responses to controls we can see how effective the controls are for the company. This study will help employers have a more comprehensive understanding of how their employees are affected by various internal controls.

In previous studies, researchers explain how the framing of guidelines based on positive or negatives cause people to be less likely to take risks in the positive frame than in the negative frame (Levin, Schneider and Gaeth). Based on my review, I hypothesize participants in the penalty condition will perform better than participants in the bonus condition. Also, I hypothesize participants whose progress is not checked intermittently

throughout the task will perform better than participants whose progress is checked intermittently throughout the task. This hypothesis was formed based on the idea that interruptions are likely to slow down employees' productivity versus those whose work is not interrupted.

Methodology

To test the hypotheses, I created an experiment with a 2x2 between-subjects design. My participants were given a word search task to simulate an employment task. Their performance was measured by the number of words that they found in 12 minutes. Participants were paid a participation fee in addition to a payment based on their performance. The payouts were equivalent in the penalty and bonus condition; however, the framing of the payment for the penalty and bonus differs.

The independent variables are the framing of the economic outcome as penalty vs bonus and the timing of progress checks (intermittently throughout or at the end of the task). The dependent variable is how many words were found correctly.

After participants completed the word search task they were asked a series of questions about how the manipulated variables affected their trust and cooperation within the company. The different experiment scenarios and the corresponding questions can be found in the Appendix.

Data Analysis

This experiment consisted of four different scenario groups, in which each of the groups had fourteen participants. Participants were full-time college students at a large public university. The data was analyzed through SAS analytics. After reviewing the data in each of the four scenarios, I compared the data amongst the other scenarios. Figure 1

shows each scenario's average number of correct answers and allows you to see the comparison of results amongst the different scenarios. The left points on the graph display the mean number of words correctly found in the penalty condition, whereas, the right points display the mean of the bonus condition. The dark purple line displays the mean number of words correctly found in the condition where the supervisors checked the participants' progress intermittently and the light purple line displays the mean for the condition where the supervisors check the participants' progress at the end of the task.

Figure 1

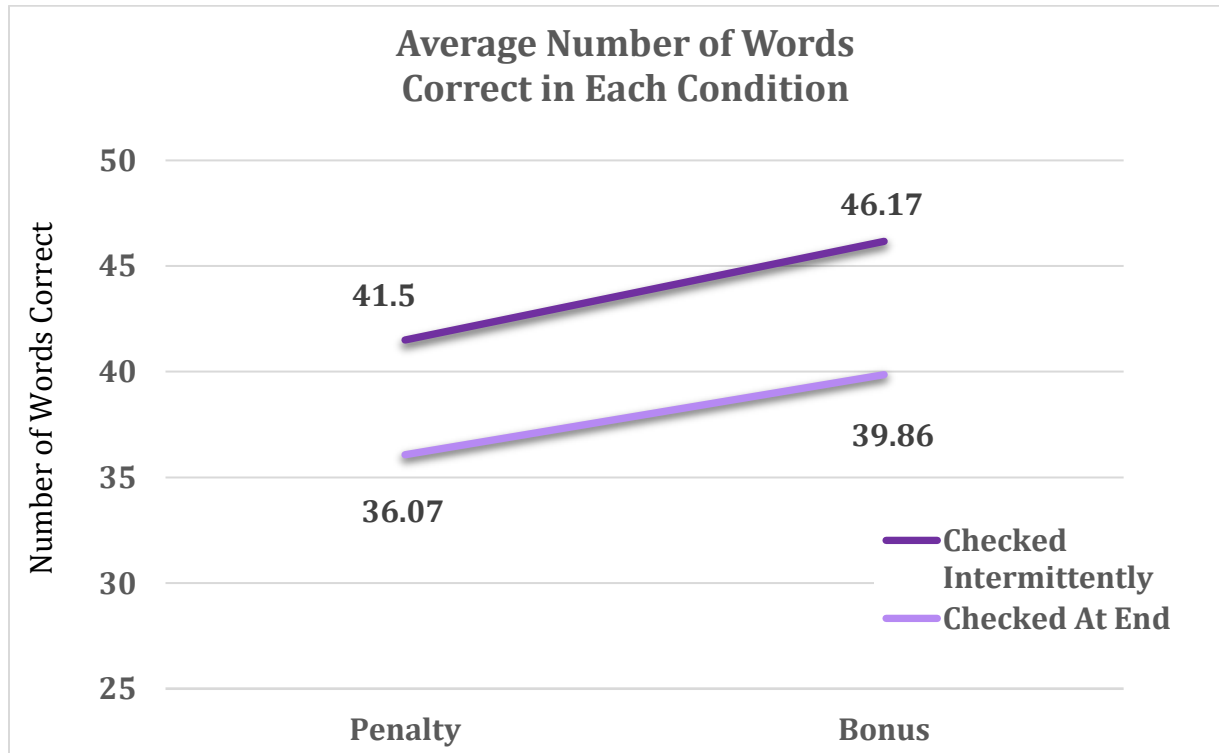


Figure 1 shows that participants in the conditions that had their supervisors check on them intermittently during the task did better than those who were only checked at the

end of the task. Also, Figure 1 shows that the participants in the bonus condition did better than those in the penalty condition.

An ANOVA was performed and the results are presented in Figure 2.

Figure 2

Source	DF	Type III SS	Mean Square	F Value	Pr > F
BP	1	263.2170391	263.2170391	3.24	0.0777
CHECK	1	435.9992540	435.9992540	5.37	0.0246
BP*CHECK	1	17.1404643	17.1404643	0.21	0.6478

The results show that the bonus versus penalty condition was marginally significant ($p=.0777$) and the intermittent check versus the check at the end was significant ($p=.0246$). The interaction of the two independent variables was not significant ($p=.6478$). Several potential covariates were tested and none were found to be significant.

The results show that the participants performed better in the bonus condition versus the penalty condition. This was particularly interesting since under each condition the expected payout was equivalent. For example, if you found 30 words in the bonus condition and you found 30 words in the penalty condition you would still receive \$8.00. This suggests that the framing of a control or how employers phrase the newly implemented controls can affect the response from employees.

The participants under the condition where the supervisors checked on them intermittently throughout the task performed better than those that were not checked on by their supervisor until the end of the task. This suggests that employers may see

increased performance from their employees by putting in controls that allow for the employees' progress to be checked throughout their work tasks.

Also, the study asked participants about how trusted they felt when they were checked on by their supervisor and if they felt that their supervisor trusted them to complete the task to the best of their ability. Statistical analysis did not reveal any differences between the groups on measures of trust.

Conclusion

Through this research I expected to gain a better knowledge of how employees respond to certain internal controls that are commonly implemented in work environments. By better understanding how employees react to certain internal controls, employers can alter their implementation of internal controls to increase employee performance. Although my original hypotheses were not supported, there were statistical differences between some groups. After reviewing the data and realizing that the participants' progress was better under the bonus condition rather than the penalty condition, we can conclude that employees focus more on the wording or framing of a control than the expected outcome. Since the penalty and bonus conditions allowed each employee to have the same outcome after the task, it is possible that the pressure of the control came from the framing of the control and not the actual control itself. Likewise, the results show that employees whose progress is checked by their supervisor intermittently during their task perform better, on average, than those employees whose progress is checked by their supervisor only after their task is completed. This suggests that employees perform better when they are pressured throughout the task by their

superior and that their performance could increase with direct supervision throughout the employment task.

By studying employees' reactions to various internal controls, employers can get a better understanding of how to improve certain controls. This research will be both beneficial to employers and to the accounting profession because they will be able to better understand changes that can occur to make internal controls provide a better response from employees. In the future, research could investigate this same type of study but with a different group of participants. Whether full-time employees would respond differently than student participants is an open question. Also, a study could be conducted to evaluate whether employees' trust and morale is affected based on internal controls; specifically, how does the bonus verse penalty control affect their trust and morale in the company.

References

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- Levin, Irwin P., Sandra L. Schneider and Gary J. Gaeth. "All Frames Are Not Created Equal: A Typology and Critical Analysis of Framing Effects." *Organizational Behavior and Human Decision Processes* 76.2 (1998): 149-188.
- The Sarbanes-Oxley Act 2002.

Appendix

Each participant will receive one of the four scenarios and the corresponding questions!

Bonus & Progress Checked During Task

You work for ABC Company in the sales department; your daily duties are to sell credit applications during your shift. There will be controls put in place to attempt to maximize your efficiency.

To simulate the selling of these credit applications you will work through a number of word searches. Each word you find correctly will represent a credit application that you sold, each word that you find incorrectly or did not have time to complete will represent a credit application that went unsold.

You will have 12 minutes to find as many words as you can. **Your progress will be checked every 4 minutes by your supervisor during the 12-minute period.** You will begin the experiment with \$5 payment for your participation. **You will receive a 10¢ bonus for every word found in the word search correctly within the time period.**

Bonus & Progress Checked During Task Questions:

Please respond to each of the following questions below:

How much did you enjoy this task?

Did not enjoy it at all 1 2 3 4 5 *Enjoyed it very much*

How did the bonus affect your effort level on the task?

No Influence

Made me not work as hard 1 2 3 4 5 *Made me work much harder*

How pressured did you feel when you were working toward a bonus?

No pressure at all 1 2 3 4 5 *Extremely Pressured*

How pressured did you feel when you were being checked up on?

No pressure at all 1 2 3 4 5 *Extremely Pressured*

How did being checked up on affect your trust in your supervisor?

It did not affect my trust at all 1 2 3 4 5 *It affected my trust very much*

Did you feel that your supervisor trusts you to perform to the best of your ability?

My supervisor does not trust me at all 1 2 3 4 5 *My supervisor trusts me very much*

Did you feel that your contract terms were fair?

Not fair at all 1 2 3 4 5 *Very fair*

While completing the task did you have a strategy? If so, please describe below.

Did you complete the word search in order or did you move on to the next word if you were unable to find the previous word?

- Completed in Order
- Continued even if a word was not found

My payout was based on a _____.

- Penalty
- Bonus

Where you checked on every four minutes throughout the study or at the end of the study?

- Every four minutes
- At the end of the study

Bonus & Progress Checked at End of Task

You work for ABC Company in the sales department; your daily duties are to sell credit applications during your shift. There will be controls put in place to attempt to maximize your efficiency.

To simulate the selling of these credit applications you will work through a number of word searches. Each word you find correctly will represent a credit application that you sold, each word that you find incorrectly or did not have time to complete will represent a credit application that went unsold.

You will have 12 minutes to find as many words as you can. **Your progress will be checked at the end of the 12-minute period by your supervisor.** You will begin the experiment with \$5 payment for your participation. **You will receive a 10¢ bonus for every word found in the word search correctly within the time period.**

Bonus & Progress Checked at End of Task Questions

Please respond to each of the following questions below:

How much did you enjoy this task?

Did not enjoy it at all 1 2 3 4 5 *Enjoyed it very much*

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Not fair at all 1 2 3 4 5 *Very fair*

While completing the task did you have a strategy? If so, please describe below.

Did you complete the word search in order or did you move on to the next word if you were unable to find the previous word?

- a. Completed in Order
- b. Continued even if a word was not found

My payout was based on a _____.

- a. Penalty
- b. Bonus

Where you checked on every four minutes throughout the study or at the end of the study?

- a. Every four minutes
- b. At the end of the study

Penalty & Progress Checked During the Task

You work for ABC Company in the sales department; your daily duties are to sell credit applications during your shift. There will be controls put in place to attempt to maximize your efficiency.

To simulate the selling of these credit applications you will work through a number of word searches. Each word you find correctly will represent a credit application that you sold, each word that you find incorrectly or did not have time to complete will represent a credit application that went unsold.

You will have 12 minutes to find as many words as you can. **Your progress will be checked every 4 minutes by your supervisor during the 12-minute period.** You will begin the experiment with \$15 payment for your participation. **You will receive a 10¢ penalty for every word you do not find or answer incorrectly within the time period.**

Penalty & Progress Checked During the Task Questions

Please respond to each of the following questions below:

How much did you enjoy this task?

Did not enjoy it at all 1 2 3 4 5 *Enjoyed it very much*

How did the penalty affect your effort level on the task?

No Influence

Made me not work as hard 1 2 3 4 5 *Made me work much harder*

How pressured did you feel when you were working against a penalty?

No pressure at all 1 2 3 4 5 *Extremely Pressured*

How pressured did you feel when you were being checked up on?

No pressure at all 1 2 3 4 5 *Extremely Pressured*

How did being checked up on affect your trust in your supervisor?

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Penalty & Progress Checked at End of Task

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To simulate the selling of these credit applications you will work through a number of word searches. Each word you find correctly will represent a credit application that you sold, each word that you find incorrectly or did not have time to complete will represent a credit application that went unsold.

You will have 12 minutes to find as many words as you can. **Your progress will be checked at the end of the 12-minute period by your supervisor.** You will begin the experiment with \$15 payment for your participation. **You will receive a 10¢ penalty for every word you do not find or answer incorrectly within the time period.**

Penalty & Progress Checked at End of Task Questions

Please respond to each of the following questions below:

How much did you enjoy this task?

Did not enjoy it at all 1 2 3 4 5 *Enjoyed it very much*

How did the penalty affect your effort level on the task?

	<i>No Influence</i>					
<i>Made me not work as hard</i>	1	2	3	4	5	<i>Made me work much harder</i>

How pressured did you feel when you were working against a penalty?

<i>No pressure at all</i>	1	2	3	4	5	<i>Extremely Pressured</i>
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How pressured did you feel when you were being checked up on?

<i>No pressure at all</i>	1	2	3	4	5	<i>Extremely Pressured</i>
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How did being checked up on affect your trust in your supervisor?

<i>It did not affect my trust at all</i>	1	2	3	4	5	<i>It affected my trust very much</i>
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Did you feel that your supervisor trusts you to perform to the best of your ability?

<i>My supervisor does not trust me at all</i>	1	2	3	4	5	<i>My supervisor trust me very much</i>
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Did you feel that your contract terms were fair?

<i>Not fair at all</i>	1	2	3	4	5	<i>Very fair</i>
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What was your payout based on _____.

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- Bonus

Where you checked on every four minutes throughout the study or at the end of the study?

- Every four minutes
- At the end of the study