

When Bonuses Backfire: An Inaction Inertia Analysis of Procrastination Induced by a Missed Opportunity

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ABSTRACT

An inaction inertia analysis of procrastination was used to generate the prediction that using bonuses to encourage early task completion will have two opposing effects, encouraging early task completion by some but also inducing procrastination for those who miss the bonus. Study 1 showed that the addition of bonuses for early completion produced both of these effects and also led to overall task completion rates that were either equal to (large bonus) or actually less than (medium and small bonuses) those obtained by simply establishing a completion deadline with no bonus. In Study 2, a lottery methodology was used to manipulate the size of a missed bonus for all participants. Even under these conditions of reduced personal responsibility the larger missed bonus led to increased procrastination as predicted by the inaction inertia analysis. Possible mediating processes based on anticipated regret and perceived fairness were discussed. Copyright © 2007 John Wiley & Sons, Ltd.

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Those of us who teach are well acquainted with the problem of academic procrastination. Sooner or later we realize that even if we try to be flexible on such things as the due date of papers, or offer special bonuses for early submissions, we still will have to deal with last minute or late papers.

Definitions of procrastination often include both behavioral and emotional characteristics; one delays or fails to perform a task and at the same time experiences emotional discomfort about this delay (Rothblum, Solomon, & Murakami, 1986; Solomon & Rothblum, 1984). The goal of the current work is to further our

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understanding of some of the situational influences on procrastination by investigating the role of bonuses in mitigating and aggravating task avoidance and delay.

The paradoxical effects of bonuses

When considering the variables that might determine if an action will be completed in a timely fashion or if procrastination will set in, an interesting possibility is that tangible and psychological costs may come to be pitted against each other. For example, having failed to file one's income taxes on time, the tangible costs are such that each additional day incurs more of a financial penalty. The way to minimize this cost is to file the tax forms now. However, thinking about completing the tax return may arouse self-damning thoughts such as 'if only I had done this on time, I would not have any penalty to pay'. Thoughts of this kind are likely to provoke negative emotions which can be avoided by doing something else. In general, we propose that once a time perceived to be ideal for task engagement has passed, contemplation of each subsequent opportunity suffers by comparison, encouraging task avoidance because of one's increasingly negative reactions to the task. The often noted procrastination feature of susceptibility to distraction may occur because other tasks gain in attractiveness as they benefit from a contrast with, and become instrumental in avoiding the increasingly aversive target task.

If this were the only relevant process, no activity with aversive aspects would ever be completed once the optimal time for task completion had passed. But there are usually countervailing forces such as tangible accumulated costs, deadlines, and internal psychological processes such as guilt that may eventually overcome avoidance tendencies (see Tykocinski, Pittman, & Tuttle, 1995, for further discussion). In the tax avoidance example above, if tangible costs become the primary focus of attention as the deadline approaches, the taxes will be filed on time. But if a pattern of focusing on the negative aspects of task engagement is established, then avoidance may take precedence and the deadline may be missed. Only when the perceived accumulated costs of procrastination outweigh the psychological benefits of continued avoidance will the effective action be taken.

A paradoxical implication of this analysis may be seen when using tangible rewards to prevent procrastination by offering bonuses for early task completion. Establishing a deadline for obtaining a bonus for early completion creates in a very tangible and well-specified way an ideal time for task completion. Offering a bonus would make timely task completion more rewarding, and therefore should make procrastination less likely. However, if the task is not completed in time to earn the bonus, then we would expect increased task aversiveness as each subsequent attempt to engage with the activity suffers in comparison with the missed ideal time for completion. Bonuses are thus likely to have two opposing effects: they should motivate more participants to complete the task in time to obtain the bonus, but they will also lead those who do not receive the bonus to engage in subsequent task avoidance. Whether a particular bonus is then effective overall would be a matter of the balance between these two opposing effects.

This reasoning is derived from the theory and research on the inaction inertia effect.

Inaction inertia

Inaction inertia occurs when foregoing an initial action opportunity makes subsequent action in the same domain less likely. Inaction inertia has typically been found when the second action opportunity was in some sense 'worth' substantially less than the initial one, even though the current opportunity still had positive value. The size of the difference in attractiveness between the initial and subsequent action opportunities is a crucial situational variable determining the likelihood of inaction inertia. For example, in Tykocinski et al.'s (1995) Experiment 2 participants were asked, using a scenario methodology, how likely they would be to join a frequent flier program before a trip they were currently planning. The students were told that they had considered joining once before, prior to a previous trip, but had not done so. Participants were significantly

less likely to join the program when the number of prior miles not accumulated was relatively large when compared to when the number of prior miles not accumulated was relatively small, or to control participants who had not previously considered joining the frequent flyer program. Subsequent studies (e.g., Tykocinski et al., 1995, Experiment 6) showed that participants were spontaneously framing this foregone bonus as a loss (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981), and that the primary underlying reason for inaction inertia was the avoidance of anticipated regret if the current opportunity was taken (Butler & Highhouse, 2000; Tykocinski & Pittman, 1998, 2001; Sevdalis, Harvey, & Yip, 2006).

The effect of the size of a missed bonus was studied explicitly in one previous experiment. In Tykocinski and Pittman's (2001) Experiment 1, participants read a scenario in which they imagined finding out, after the fact, that they had missed a bonus. When the missed bonus was relatively large (leather suitcases and toiletry bag), participants expressed less interest in taking the current hypothetical opportunity (a vacation trip) without a bonus, while as expected the small missed bonus (toiletry bag) had no such effect. However, this study leads to a number of additional important questions. Tykocinski and Pittman's (2001) participants were asked to predict the likelihood of taking the current opportunity, but did not have the opportunity to engage in the actual behavior in a situation involving actual costs and benefits. The interesting question of how effective such bonuses might have been at increasing the likelihood of taking the initial opportunity, an important aspect of the present analysis, remains to be addressed. In addition, because the existence of the bonus in the scenario was revealed for the first time only after it was no longer available, the effect of missing a bonus that was anticipated in advance remains to be studied. We might expect an anticipated bonus to increase efforts to obtain it, but when actually missed we predict an increase in subsequent motivation to avoid the task. How these two opposing tendencies would summate, and what might be the relative strength of each, are among the new questions addressed in the present studies.

In the first study reported here bonuses of various sizes were offered for early submission of an assignment. Participants were free to attain or to miss a bonus for early completion of the assignment, allowing both of the hypothesized effects of a bonus to be assessed: its ability to motivate early completion *and* its ability when not obtained to motivate task avoidance. In addition, the combined effect of both processes on final task completion could be evaluated. We expected that as bonus size increased so would early completion of the assignment. But we also expected that for those who did not obtain the bonus, as the size of the (missed) bonus increased the likelihood of ever completing the task would correspondingly decrease. The design also allowed for an assessment of the combined effect of these two processes on overall assignment completion rates.

STUDY 1

Method

Participants

One hundred seventy-one (58 male and 113 female) first year behavioral sciences students at Ben Gurion University participated for course credit.

Procedure

The experiment was conducted in two sessions. In the first session participants were given a short article in English (two pages long) to read at home before completing a reading comprehension questionnaire. They were told that reading the material and completing the questionnaire should take about an hour and were promised one credit point for the completed questionnaire. Failure to return the completed questionnaire in time would not be penalized (i.e., would not be reported as a 'no-show') but would lose the 1-point participation credit.

Participants were randomly allocated into five submission-terms groups. The two baseline groups were simply given one deadline of either 2 weeks or 3 weeks to earn 1 credit point. The other three groups were all given a deadline of 3 weeks to earn the 1-point credit, but were also offered a bonus of either ¼ credit point (small bonus), ½ point (medium bonus), or 1 point (large bonus) in addition to the 1-point base credit if they submitted the work within the first 2 weeks.

Materials

To reduce the risk of student collaboration and to have a ready explanation in case the students found out about the differences in submission terms, six different articles were used as reading material, all in English and as equivalent in length and difficulty level as possible. The articles were taken from ‘Q & A American Government’, a series of brochures published in the 80’s, and were chosen in part because they were unlikely to be exciting reading for these students who also generally do not like reading in English. The questionnaire included 10 simple open-ended questions in Hebrew relating directly to the information in the reading material. The submission (or not) of the assignment and time of completion were recorded. The nature and purposes of the study were explained once the study was completed.

Results

The percentage of participants who submitted the assignment after 2 weeks, after 3 weeks, and during the term for each condition are listed in Table 1. The effectiveness of the size of the bonus was assessed by comparing early submission rates in the three bonus conditions. These results reveal that the submission rates differed significantly by bonus condition, $\chi^2(2, N = 131) = 25.88, p < 0.001$.¹ As would be expected, as the size of the bonus increased so did early submission rates (see Table 1). Furthermore, in the 3-week no bonus baseline condition none of the assignments were completed within 2 weeks, a demonstration of the effectiveness of the use of a bonus for inducing early submission. However, none of the bonus conditions was more effective than a simple 2-week deadline, and only the large bonus was as effective as a simple deadline (87.8% for the large bonus vs. 90% for the 2-week deadline).

It was hypothesized that missing the first due date, and thus failing to obtain the promised bonus, would increase the likelihood that the task would be avoided and eventually not handed in at all, thus causing the student to lose the 1-point base credit as well as the bonus. To test this hypothesis an analysis was conducted comparing late submission rates in the three bonus groups. Only those participants who did not submit the assignment in time to earn the bonus were included in this analysis. A Chi-square test indicated that these group submission rates were significantly different, $\chi^2(2, N = 50) = 8.34, p < 0.01$. As predicted, the greater

Table 1. Percentage of participants who submitted the assignment categorized by group condition and submission date, Study 1

	Total <i>n</i>	Submitted after 2 weeks (%)	Submitted after 3 weeks (%)	Total submission percentage (%)
Group condition				
Baseline 1	20	90.0	—	90.0 _a
Baseline 2	20	—	85	85.0 _a
Small bonus	31	32.2	29.1	61.3 _b
Medium bonus	59	59.2	5.1	64.3 _b
Large bonus	41	87.8	0	87.8 _a

Note: The percentages quoted refer to submission rates out of the total number of participants in each group. In the right column, percentages not sharing a common subscript are significantly different, $p > 0.05$.

¹There were no significant effects of gender on any of the measures in this study.

the magnitude of the missed bonus, the less likely were the students remaining in the group to submit by the final due date. (We note here and in the following discussion that this interesting effect is open to a variety of interpretations).

The summation of the two opposite effects of bonuses was assessed by examining the overall percentage of participants in each group who eventually submitted the completed questionnaire (shown in the right-hand column in Table 1). These total submission rates were analyzed using a Chi-square test and were found to be significantly different, $\chi^2 = 13.64$, $df = 4$, $p < 0.01$. As can be seen in Table 1, the 2-week deadline (90%), 3-week deadline (85%), and the large bonus (87.8%) conditions did not differ, $\chi^2 = 0.23$, $df = 2$, $p > 0.89$, nor did the small (61.3%) and medium (64.3%) bonus conditions, $\chi^2 = 0.09$, $df = 1$, $p > .77$. These two sets of conditions were significantly different, $\chi^2 = 13.34$, $df = 1$, $p < 0.001$, with the medium and small bonus conditions leading to significantly lower overall completion rates.

Discussion

The results of Study 1 show that offering enticements for early submission can have complex effects that, when combined, may result in the use of bonuses backfiring against their intended effect. Although a large bonus may induce early compliance, it will have the opposite effect on those who miss out on the promised bonus. In the large bonus condition none of the students who missed the early deadline ever handed in their questionnaires. As a result, overall the large bonus was no better than no bonus at all, after either 2 or 3 weeks, in encouraging task completion. In that sense, the large bonus was wasted. In the small and medium bonus conditions, the addition of a bonus actually decreased overall submission rates. These results show that the loss of a possible bonus, even a relatively small one, encourages task avoidance. In Study 1, many of those who failed to complete their assignment in time to receive a bonus never did submit the assignment, so that the base credit was lost as well. This finding is consistent with previous research on inaction inertia, in which missing an initial attractive opportunity led to an 'irrational' inclination to avoid subsequent attractive opportunities; however, finding such effects even with relatively small bonuses was unexpected in the context of previous work on inaction inertia, which has typically shown little or no effect of small differences between the original and the subsequent opportunity. The medium and small bonuses had equal effects, so it may be that our relative label of 'small' was not descriptive of how much the bonus was valued by these participants.

Study 1 suggests that an inaction inertia analysis may provide insight into some of the processes underlying task avoidance and delay. Participants chose how and when to complete the task, lending the information gained the advantage of ecological validity. However, allowing participants the freedom to choose when to engage in the task also meant that those who did not submit their work in time for the bonus may have been different in a variety of ways from those who did. Although the results from Study 1 are consistent with the general analysis, Study 2 was designed to afford random assignment to the missed bonus conditions, as well as a more continuous measure of delay in task completion.

Previous research on inaction inertia shows that even when the initial opportunity was missed through no fault of the actor, the relative attractiveness of that opportunity still affected the likelihood of inaction inertia (Tykocinski & Pittman, 1998, 2001; Tykocinski et al., 1995; for related research and discussion on regret and responsibility, see Connolly, Ordóñez, & Coughlan, 1997; Ordóñez & Connolly, 2000; Zeelenberg, van Dijk, & Manstead, 1998). This finding suggested that theoretical explanations in which the role of free choice is crucial, such as those based on cognitive dissonance (Festinger, 1957; Wicklund & Brehm, 1976) or self perception (Bem, 1965, 1967) processes, were not adequate to explain inaction inertia phenomena. Extending this reasoning into the realm of procrastination for inherently unattractive activities, finding that a bonus missed through no fault of the actor (e.g., due to an impartial chance procedure such as a lottery draw) still increased task avoidance would similarly rule out such alternative explanations for the effects of missed bonuses. We designed Study 2 to assess this possibility.

In Study 2, students received the experimental task by email and had a week to finish it for credit and a small cash payment. Because a one-credit penalty for failing to complete the task was in effect (unlike Study 1, in which no penalties beyond the foregone credits were assessed), all or almost all of these participants were expected to complete the task in time to receive credit so the primary measure of procrastination was latency to completion. The size of a missed bonus was manipulated through a lottery for an additional bonus payment. The size of the lottery bonus offered was manipulated (small, large, or a no lottery-no bonus control) with a procedure that led everyone to believe that they were in the lottery but had not won, a near miss scenario that is known to instigate counterfactual thinking (Johnson, 1986; Kahneman & Tversky, 1982; Kahneman & Varey, 1990). In this way, random assignment was maintained in all conditions. The large missed bonus was expected to enhance the likelihood of task avoidance through upward counterfactual thinking (e.g., 'If only I had won that lottery . . .'). Based on the previous research on inaction inertia, we expected that the large bonus would lead to longer average latencies to task completion compared to either the small bonus or no bonus control conditions.

STUDY 2

Method

Participants

Introductory psychology students (48) at Gettysburg College (31 females and 17 males) participated for a combination of participation credit and payment.

Procedure

The experiment was conducted via email. Establishing the latency between the time when the experimental task was received and when it was completed required a method of insuring that the participant had read her or his email and knew that the deadline for completion had been established. Version 5.0 of Qualcomm's Eudora was used because this version enabled the use of return receipt requests, so that the sender can request a return receipt notification that the message was seen. The time of receipt return provided the beginning of the 7-day period that was allowed for task completion.

A message included with the sign-up sheets told participants that they could participate only if they used an email program that supported return receipts exclusively to check their mail. For the most part, this meant that participants needed to use any version of Qualcomm's Eudora or version 5.1 or higher of Microsoft Outlook.

Participants were randomly assigned to one of three conditions: large bonus, small bonus or control. Participants in the large and small bonus conditions were sent the following message via email (small bonus condition is in parentheses):

'You signed up to participate in a psychology experiment. You will receive 1 research credit for participating. Because this experiment is being paid for with an external grant, you will also receive a small cash payment of \$3. Please e-mail me back with your name and e-mail address to verify that you are still interested in participating. By the way, of the first 10 people to respond, 5 will get an EXTRA CASH BONUS of \$15 (\$2), so respond ASAP! Also, anyone who responds later than [3 days from now] will be ineligible to participate.

PS: When you close this message, a box will appear telling you that the sender requested notification that you saw this e-mail. When you see it, click on "Now". (Any other response will invalidate your answers and you won't qualify for credit or cash!) You will see this same box when you receive the actual experiment'.

Table 2. Mean length of time (in hours) from when the task was received to when it was completed, Study 2

Condition	Mean	SD	<i>n</i>
Large bonus	64.49 _a	11.77	20
Small bonus	17.45 _b	13.59	15
Control	28.50 _{a,b}	14.60	13

Note: Means not sharing a common subscript are significantly different, Tukey *b*, $p < 0.05$.

A request for return receipt was included in these emails. Control participants were given the same message but without any mention of an additional bonus.

When participants had agreed to participate and had correctly responded to the prompt for a return receipt, they were sent (by email) a filler task of 70 two-choice questions (long enough to inhibit immediate completion) taken from the Keirsey Temperament Sorter (<http://www.advisorteam.com/user/kts.asp>).

Participants in the large and small bonus conditions learned that their response was one of the first 10 received, but not one of the five randomly selected in the lottery:

‘Unfortunately, although you were one of the first 10 people to respond, you weren’t among the five randomly selected to receive the bonus of \$15(\$2). You are still eligible to participate in the experiment. When you are ready to take the attached survey, copy and paste it into a new email. It will take approximately 30 minutes to complete. You have up to one week to complete the survey, so don’t feel that you have to do it immediately. Address the survey to [email address]. Again, the survey is due in one week. Thank you for your participation!’

All participants were told that the task should take about 30 minutes to complete and that they had 1 week to return it to the experimenter. Participants in all conditions were instructed to copy the filler task to a new e-mail message and were told that they would be prompted for a return receipt when they closed the original message.

The date and time that the recipient returned the receipt from the email containing the filler task was taken from the header of the return receipt. The time the survey was returned was also taken from that header. This procedure controlled for differences among computer clock settings. Those who did not complete the task within the 7 day time limit (two participants) were scored as taking 7 days. Once data collection was complete, all participants were sent a debriefing that explained all aspects of the study and the true nature of the lottery, along with an offer of an additional payment in lieu of the lottery.

Results

The number of hours that elapsed between task receipt and task return in each of the three groups are displayed in Table 2. A one-way between-groups ANOVA was conducted in order to analyze the effect of bonus size on the length of time (in hours) taken to return the task. The results indicated a significant difference among the groups, $F(2, 45) = 3.85, p < 0.03$ (see Table 2). As expected based on previous inaction inertia findings, the control and small bonus groups did not differ, $F < 1$.² The large bonus participants took significantly longer to complete the task ($M = 64.49$ hours) than the control and small bonus participants combined ($M = 22.58$ hours), $F(1, 46) = 7.51, p < .01$.³

²An analysis including gender of participant indicated that there were no significant main or interaction effects, F 's < 1 . Pairwise comparisons showed that the large and small bonus groups differed, with the control group in between and not different from either bonus condition, as summarized in Table 2.

³A Kruskal–Wallis non-parametric analysis revealed the same pattern of effects. The control and small bonus conditions did not differ, $\chi^2(1, N = 28) = 0.05, p > 0.82$. The large bonus condition was significantly different from the small bonus and control conditions, $\chi^2(1, N = 48) = 5.34, p < 0.03$.

Discussion

As predicted, the near miss of a large bonus led to significantly longer delay in returning the task when compared to the participants in the small bonus and control conditions. This result, obtained with a randomly assigned experimental sample and with a reason for failing to obtain the bonus that was outside of the participant's control or responsibility, is compatible with previous inaction inertia findings and is broadly consistent with the results from Study 1 for those who missed the initial bonus. In both cases, the index of procrastination indicated that larger missed bonuses encouraged increased subsequent delay in task engagement.

One difference between Studies 1 and 2 was in the cost of not completing the task. In Study 1 it was made clear that no penalties would be incurred if the task was not completed, and indeed enough participants did not complete the task to allow for an analysis on that dependant measure. In Study 2, no such assurances were made. Participants knew that having agreed to participate, a 'no show' penalty subtraction of one credit as well as loss of the promised credit and monetary payment would ensue if the study simply were not completed. This combination of consequences was very effective (even though the participants also knew that they were free formally to withdraw from any study at any time without any penalty); only two participants (both in the large bonus condition) failed to return the assignment, and none formally withdrew. These differences between Studies 1 and 2 may be considered to illustrate how the interplay of perceived costs of task engagement and the perceived costs of task avoidance may interact to produce completion, delay, or failure to complete a task depending on the relevant strength of the salient forces at work.

GENERAL DISCUSSION

Procrastination is a widespread phenomenon. Some tend to procrastinate more than others but few would claim to be totally free of this tendency. Most previous research on procrastination has focused on correlations of personality measures with procrastination. Situational factors such as perceived task aversiveness or importance, scheduling source and flexibility have sometimes been included, but the emphasis remained on individual differences and their interaction with these factors (Blunt & Pychyl, 2000; Ferrari, Johnson, & McCown, 1995; Ferrari & Tice, 2000; Milgram, Dangour, & Raviv, 1992; Milgram, Marshevsky, & Sadeh, 1994; Milgram, Sroloff, & Rosenbaum, 1988; Sigall, Kruglanski, & Fyock, 2000). In the present series of studies we began to explore situational variations that influence the likelihood of instigating procrastination through task avoidance.

One clear implication of these findings is that the use of incentives and bonuses can have paradoxical effects on task completion. In Study 1, the addition of bonuses for early task completion was either ineffective (large bonus condition) or actually detrimental to the overall task completion rates (small and medium bonus conditions). In Study 2, as the size of a missed lottery prize increased, so also did subsequent time to task completion. In a relevant study on procrastination, Ariely and Wertenbroch (2002) found that participants used the tactic of setting their own early and binding deadlines for project completion as a way of establishing countervailing costs to procrastination. But they also found that these self-imposed deadlines were not as effective as those that were externally imposed. The results from Study 1 suggest that although the participants in Ariely and Wertenbroch's research apparently found it easier to violate their own deadlines, such violations also may well have instigated processes leading to an increased tendency to procrastinate. In this way, missed deadlines might backfire just as the missed bonuses did in the present research. Once a deadline is not met, the ideal time for task completion has passed and the procrastination process of avoidance may be energized. This analysis generally points to the importance of considering the effect of establishing any kind of ideal completion circumstance on the motivation for task completion of those who will have to face finishing the task under less ideal circumstances.

Possible mediating processes

In this set of studies we focused on the effects of bonuses of varying size, particularly for those who did not achieve them either through their own inaction (Study 1) or through chance processes outside of their personal control (Study 2), and in each case found evidence that missing relatively substantial inducements can lead to task avoidance and the instigation of procrastination processes. The question of the precise nature of such processes remains. Our previous research on inaction inertia suggests one possible line of reasoning. Experiment 6 of Tykocinski et al. (1995) used the frequent flyer scenario and showed that the way the situation was framed by the perceiver affected the likelihood of inaction inertia. When the perceiver was focused on the initial inaction as a loss, the likelihood of subsequent future action was reduced. However, it was possible to eliminate inaction inertia by focusing the perceiver on future gains that could still be obtained if subsequent action was taken (accomplished by adding to the scenario that 'by signing up for the frequent flyer program now, you can still gain . . .'). A similar thought process involving a loss focus might be involved in procrastination following a missed bonus. Focus on past losses, both tangible and psychological, is likely to increase avoidance of the task. For example, the participants in the bonus conditions of Study 1 who ultimately failed to submit the assignment may well have been focusing on the bonus they had lost rather than thinking about the baseline credit they could still gain if they submitted the assignment by the final date. Similarly, participants in Study 2 may have tended to focus on the bonus that they had almost won (a perceived loss) rather than on the benefits to be received through task completion. If so, it may be possible to reduce procrastination by focusing individuals on future gains rather than on past losses.

Inaction inertia in the realm of objectively positive opportunities has been shown to result primarily from a process of avoiding anticipated counterfactual regret (Tykocinski & Pittman, 1998, 2001). In the context of a better prior opportunity, the current action opportunity tends to trigger unwelcome upward counterfactual thoughts ('if only I had . . .'). Upward counterfactuals such as this, which focus on better possible alternative worlds, are not just inherently unpleasant but are also an unwelcome prelude to experiencing regret (Landman, 1993; Markman, Gavanski, Sherman, & McMullen, 1993; Roese, 1994, 1997; Zeelenberg, van Dijk, van der Plight, Manstead, van Empelen, & Reinderman, 1998). By promptly rejecting the current action opportunity one is able, at least for a while, to stop dwelling on the missed opportunity which is now experienced as a loss, and hence to avoid regret.

One major difference between the previous applications of inaction inertia and the current study of procrastination lies in the inherent attractiveness of the action. In almost all of the previous research on inaction inertia, the action in question was always attractive, whereas most examples of procrastination involve actions that are inherently negative at least in part. Butler and Highhouse (2000) found that inaction inertia only occurred when the action being considered was positive (a gain) and not when the action being considered had negative aspects (a loss). On the other hand, Tykocinski, Israel, and Pittman (2004) did obtain inaction inertia effects in the realm of losses in a stock market simulation. The results from Studies 1 and 2 further indicate that the inaction inertia analysis can be applied in the realm of negative tasks and outcomes.

An alternative possibility for a mediating process, suggested by an anonymous reviewer, might be based on perceived fairness. Blount and Bazerman (1996, Experiment 1) conducted a recruiting experiment in which they had given students the opportunity to sign up for experiments in return for payment. They found students were more likely to agree to participate in an experiment offering an equal pay of \$7 to all participants, than an experiment which would pay \$8 to some participants and \$10 to others based on some arbitrary criteria. Blount and Bazerman explained these results in terms of perceived fairness. They suggested that a transaction involving variable pay for the same effort might seem less fair and hence less appealing to potential participants. The concept of fairness may be applicable to our second study. One could argue that knowing that some people received \$15 for the same task will make participants less enthusiastic to perform it in a timely manner for \$3. On the other hand, knowing that you could have won \$15, but you did not, is unpleasant enough in itself to encourage avoidance, even without having to imagine the fairness implication of other people receiving the larger sum. Thus, interestingly, whereas Blount and Bazerman's interpretation

can be used plausibly to explain the results of our second study, their own results could be explained alternatively in terms of avoidance of anticipated regret. One could argue that the relative reluctance to sign up for Blount and Bazerman's experiment offering variable pay stemmed not from a concern with fairness, but rather from the fact that participants could easily anticipate the unpleasant future experience of finding out that they had received only \$8 and thus experiencing regret and disappointment because they had missed an opportunity to receive a \$10 payment. Such anticipated regret could easily be avoided by declining to participate. The current studies do clearly suggest that the situation of having missed an opportunity to obtain more favorable outcomes creates susceptibility to an unpleasant psychological situation which triggers avoidance. The exact nature of this experience and the extent to which it can be formulated in terms of anticipated regret or perception of an unfair transaction, or both, is an interesting question that should be addressed in future research.

Conclusion

We must, of course, be cautious about generalizing the findings from these studies to other circumstances. In the research presented here we focused on the use of bonuses for early completion of a task. In Study 1, we found that in general the use of bonuses for early completion was rather ineffective overall, with any increases in early submission counteracted by subsequent increases in procrastination among those who did not finish by the early deadline. We assume, however, that there may be ways of offering bonuses that are so effective at inducing early completion that any subsequent tendency to procrastinate is outweighed. Study 2 also shows that when the consequences for failure to complete the task at all are sufficiently stiff, procrastination will primarily result in slower task completion rather than ultimate failure to complete.

Whether the use of bonuses in other kinds of contingency arrangements would have similar effects remains an empirical question. For example, in consumer settings the use of time-limited bonuses or enticements is commonplace, including offers such as two-for-one sales, price discounts, and free gifts. The present research findings suggest that the effects of such enticements could backfire for those who miss out on such time-limited promotions. Contract incentives in the form of bonuses for performance are also common, and the present research indicates that further study of the effects of failing to obtain such bonuses would be warranted. More research is needed, but the present findings at least sound a cautionary note about the use of bonuses and incentives, suggesting that a consideration of the effects of such inducements should include an assessment of how those who do not receive those inducements will be affected subsequently.

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