Online Supplement for Self-Set Goals Are Effective Self-Regulation Tools – Despite Goal Revision

Jonas Pilgaard Kaiser, Alexander K. Koch, and Julia Nafziger

Contents

S.1 Extensions of the Theoretical Model

S.1.1 Anticipation of the Salience Parameter

An assumption of the theoretical model in Appendix A is that the individual does not anticipate the stickiness of his original goal when revising his goal at date 1. In the following, we demonstrate that we obtain the same predictions if we allow individuals to anticipate a salience parameter $\hat{\lambda}$ at the goal revision stage. To keep *Revise0* and *Revise1* comparable, subjects were told that they would be reminded about each goal with probability $\frac{1}{2}$, which suggests that $\hat{\lambda} = \frac{1}{2}$. In *Early*, goal revision is private so it is plausible to assume that $\hat{\lambda} = \lambda$.

S.1.1.1 Goals

Maximal Implementable Goals at Date 1. The individual believes that when providing effort he will face $\hat{g}^* = \hat{\lambda}\, g_0^* + (1 - \hat{\lambda})\, g_1^*$, where g_0^* is the optimal goal set at date 0 and g_1^* the revised goal from date 1. Goals are quasi-rational, i.e., $e_1 = \hat{g}^*$. Thus, $\hat{g}^* \leq e_{max}(\beta)$ has to hold. Define

$$g_{max}(\beta, \hat{\beta}, \hat{\lambda}) = \frac{e_{max}(\beta) - \hat{\lambda}\, g_0^*}{1 - \hat{\lambda}}.$$

This is the highest goal that can be set at date 1 such that self 1 believes he will not deviate from it when facing $\hat{g}^*$. By construction, as long as $g_0^* \leq e_{max}(\beta)$ we have $g_{max}(\beta, \hat{\beta}, \hat{\lambda}) \geq e_{max}(\beta)$. Further, $\frac{\partial g_{max}(\beta, \hat{\beta}, \hat{\lambda})}{\partial \hat{\lambda}} \sim (e_{max}(\beta) - g_0^*)$. That is, whenever $g_0^* > e_{max}(\beta)$ (which can only arise if the individual is partially naïve), then $g_{max}(\beta, \hat{\beta}, \hat{\lambda})$ decreases in $\hat{\lambda}$. The individual sets $g_1^* = \min\{g_0^*, g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\}$, where $g_{rev}(\beta)$ is defined as in Appendix A.

Goal Chosen at Date 1. The individual faces the early goal, $g_0^* = \min\{e_0^*, e_{max}(\hat{\beta})\}$. He revises g_0^* if $g_0^* > \min\{g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\}$. If he revises, then he sets as new goal $\min\{g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\}$. Thus, $g_1^* = \min\{g_0^*, g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\}$. As long as $g_0^* \leq e_{max}(\beta)$, $g_1^* = \min\{g_0^*, g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\} = \min\{g_0^*, g_{rev}(\beta)\}$ because $g_{rev}(\beta) < e_{max}(\beta)$ and, in this case, $g_{max}(\beta, \hat{\beta}, \hat{\lambda}) \geq e_{max}(\beta)$. Note that $g_0^* = e_0^*$ in this case. If $g_0^* > e_{max}(\beta)$ (which only arises if the individual is partially naïve), then $g_{max}(\beta, \hat{\beta}, \hat{\lambda}) < e_{max}(\beta)$ and $g_1^* = \min\{g_0^*, g_{rev}(\beta), g_{max}(\beta, \hat{\beta}, \hat{\lambda})\} = g_{max}(\beta, \hat{\beta}, \hat{\lambda})$ may arise if $\hat{\beta} - \beta$ is large enough, otherwise $g_1^* = g_{rev}(\beta)$.

Reference Point at Date 1. As in the main analysis, the individual is then reminded about *goal 0* or *goal 1*, depending on the treatment, and takes as references point g^* defined by: $g^* = \lambda\, g_0^* + (1-\lambda)\, g_1^*$.

S.1.1.2 Goal Achievement and effort provision at date 1

Treatment *Early*. In *Early*, $\hat{\lambda} = \lambda$, so $\hat{g}^* = g^* \leq e_{max}(\beta)$ is always achieved: $e_1^{Early} = g^* = \lambda^{Early}\, g_0^* + (1-\lambda^{Early})\, g_1^*$. As $e_1^{Early} = g^* \leq g_0^*$, the individual may underperform relative to his goal. How much he underperforms depends on the unobserved salience parameter.

Treatment *Revise0*. In *Revise0*, $\lambda > \frac{1}{2} = \hat{\lambda}$. Fixing g_1^*, it follows that $g^* > \hat{g}^*$. Suppose first $g^* \leq e_{max}(\beta)$. Then the individual provides $e_1 = g^*$. This case arises if $g_0^* \leq e_{max}(\beta)$ or if $g_0^* > e_{max}(\beta)$ and $g_1^* = g_{rev}(\beta) \leq g_{max}(\beta, \hat{\beta}, \lambda) < g_{max}(\beta, \hat{\beta}, \hat{\lambda})$ (note that for $g_0^* > e_{max}(\beta)$, $g_{max}(\beta, \hat{\beta}, \hat{\lambda})$ is decreasing in λ). In both cases, the individual underperforms relative to g_0^* (as $e_1 = g^* < g_0^*$) and overperforms relative to g_1^* (as $e_1 = g^* > g_1^*$).

Suppose next $g^* > e_{max}(\beta)$. Then the individual provides $e_1 = e_{max}(\beta)$, i.e., underperforms relative to g^*. This case arises if $g_0^* > e_{max}(\beta)$ and $g_1^* = \min\{g_{max}(\beta, \hat{\beta}, \hat{\lambda}), g_{rev}(\beta)\} > g_{max}(\beta, \hat{\beta}, \lambda)$. The individual underperforms relative to g_1^* and g_0^*.

Overall, in *Revise0*, the individual provides $e_1^{Revise0} = \min\{e_{max}(\beta), \lambda^{Revise0}\, g_0^* + (1 - \lambda^{Revise0})\, g_1^*\}$.

Treatment *Revise1*. In *Revise1*, $\lambda < \frac{1}{2} = \hat{\lambda}$. As $\lambda < \frac{1}{2} = \hat{\lambda}$, for fixed g_1^*, we have that $g^* < \hat{g}^* \leq e_{max}(\beta)$. Thus, $e_1^{Revise1} = g^* = \lambda^{Revise1}\, g_0^* + (1 - \lambda^{Revise1})\, g_1^*$. The individual underperforms relative to g_0^* (as $e_1 = g^* < g_0^*$) and overperforms relative to g_1^* (as $e_1 = g^* > g_1^*$).

Comparison of efforts. As $\lambda^{Revise1} < \lambda^{Revise0} < \lambda^{Early}$, we have that $e_1^{Revise1} < e_1^{Revise0} \leq e_1^{Early}$.

Comparison of goals. $g_1^{Revise0} = g_1^{Revise1} \leq g_0^*$, with equality for $e_0^* \leq g_{rev}(\beta)$.[1]

[1] Whenever $e_0^* \leq g_{rev}(\beta)$, then also $e_0^* \leq e_{max}(\beta)$ and so $g_{max}(\beta, \hat{\beta}, \hat{\lambda}) \geq e_{max}(\beta)$.

Comparison of goal achievement. For goal 0, we have that $g_0^* - e_1^{Revise1} > g_0^* - e_1^{Revise0} > g_0^* - e_1^{Early}$. Goals are achieved (and not revised) whenever $g_0^* = g_1^* = e_0^* < g_{rev}(\beta)$.

For goal 1, we have that $e_1^{Revise1} - g_1^* < e_1^{Revise0} - g_1^*$. Further, more subjects fail to achieve (in the sense of working more or equal) goal 1 in *Revise0* than in *Revise1*.

S.1.2 Anticipated Goal Revision

Self 0 selects $g_0^* = \min\{e_0^*, g_{rev}(\hat{\beta})\}$. Whenever $g_0^* \leq g_{rev}(\beta)$, self 1 will not revise the goal, otherwise he will revise it downward. Thus, when the individual is sophisticated, there will never be goal revision. In contrast, a partially naïve individual still may revise the goal because it was set too high as $\hat{\beta}$ was too optimistic.

S.2 Functional Form for the Effective Goal

The theoretical model in Appendix A uses the parsimonious assumption that the early and late goal enter as a linear combination of the early and the revised goals – predicting underachievement of the early goal (*goal 0*) but overachievement of the revised goal (*goal 1*), as long as the goals are not too high. We do find that subjects in *Revise0* and *Revise1* fall short of *goal 0*, namely by a statistically significant 43 tables on average ($p = .001$, cf. Specification (1) in Table S.8). But we find neither over- nor under-performance relative to *goal 1*. Subjects fall 7 tables short of their *goal 1* on average, but this is not significantly different from zero ($p = .470$, cf. Specification (4) in Table S.9).

Our findings thus indicate that the early and revised goals do not enter as a linear combination to form a reference point, as assumed in the theoretical model. Yet, an effective goal given by $g^*(g_0, g_1) = a\, g_0 + b\, g_1$, with $0 < a < b$, could rationalize these findings. In *Late*, only the $b\, g_1$ part is relevant, and if $b\, g_1 < g_1$, the individual does not achieve *goal 1* in *Late* (see also Online Supplement S.7.4 on the rationality of goals). But if $g^*(g_0, g_1) = a\, g_0 + b\, g_1$ is close to $g_1 < g_0$ (requiring $a\, g_0 > b\, g_1$, which can hold if g_0 is large enough) the individual achieves *goal 1*, but not *goal 0* in *Revise0* and *Revise1*.

S.3 List of Control Variables

Our empirical analysis employs the following control variables.[2] As described above, some measures are controls for specific hypotheses, or are not included together in some analyses because they are likely to be collinear.

- Productivity – depending on the analysis, we use one of the following:
  - Baseline productivity 0 (from the first 3-minute round of mandatory work at date 0).
  - Baseline productivity 1 (from the first 3-minute round of mandatory work at date 1).
  - Change in productivity: Productivity 1 - productivity 0.

  As described under the hypotheses, baseline productivity at dates 0 and 1 allows to control for possible adjustment of goals to changes in productivity. To avoid collinearity issues, only the baseline productivity at date 0 (date 1 if appropriate) is included in the general analysis. The change in baseline productivity between date 0 and date 1 however allows us to assess some mechanisms (adjusting goals in response to learning about the task).

- CRT: The number of questions the subjects answer correctly in the 3-item cognitive reflection test.

- Slider moved: A binary variable capturing interaction with the goal setting tool. We record whether the slider position in the tool was different from zero at page submission.

- Response time: Time until submission of the goal setting page. Unless otherwise noted, the measure uses the first time a goal is set.

- Self-competition: The percent allocated to the self-tournament pay option B measures self-competitiveness (based on Saccardo et al., 2017).

- Risk tolerance: Willingness to take risk question from Dohmen et al. (2011).

[2]We collected a number of other variables that were not included in our planned analyses. For example, we had no ex ante plan to control for the age and study area of participants (because we did not have an expectation that they would be strongly related to goal setting or effort behavior and because we, anyway, expected little variation in age and small cells for the subject area). Nevertheless, we collected this information because such background information about the subject pool in the experiment is of general interest.

- Pleasure in task: The response to the question how much subjects like the task (Like a great deal (1) - Dislike a great deal (5)); from date 0 unless otherwise noted.
- Time constrained – depending on the analysis, we use one of the following:
  - Time constrained(P): Dummy = 1 if $\leq$ 2 hours of flexible time in the planned time schedule for date 1, reported at date 0.
  - Time constrained(A): Dummy = 1 if $\leq$ 2 hours of flexible time in the actual time schedule for date 1.
- Uncertainty: Perceived likelihood of being time constrained at date 1 (Extremely likely (1) - Extremely unlikely (5), reported at date 0.

Table S.20 provides summary statistics for key control variables.

S.4 Power Analysis

The following analysis of the ex-ante power of our experiment drew on a pilot study of our reward schedule and previous (laboratory) experiments on goal setting.

Pilot Study. Before conducting the experiment, we tested whether corner responses in effort and goals could be avoided by applying a declining piece rate for counting tables. We thus ran a pilot study with 28 subjects, testing the payment schemes finally implemented ($N_1 = 19$) and a variant of it with only slight differences ($N_2 = 9$). There was no goal setting in the pilot, and the 28 subjects counted on average 242 tables (standard deviation 150). Thus, 242 tables was our best guess of the average tables in *Late*. We had no prediction for how the standard deviation differs between treatments, so we simply assumed it to be 150 for all treatments.

Previous Evidence. To get a view of what differences between the treatments could be expected, we drew on the related literature on goal setting that applies the same or similar real effort tasks. Firstly, using the same real-effort task as in our study, Koch and Nafziger (2020) look at the difference in goals and effort for subjects who set either a daily or a weekly goal. They find that subjects who set daily goals set higher goals (Effect size = .35, OLS) and provide more effort (Effect size = .42, OLS) than subjects who set weekly goals.[3] Secondly, in the original real-effort experiment

[3]Effect sizes are calculated and reported as Effect size = $\frac{\text{Margin.effect(daily goals)}}{\text{Standard deviation in } \textit{Weekly} \text{ treatment}}$.

involving counting zeros in tables, Abeler et al. (2011) pay subjects a fixed amount with probability .5 or based on a piece rate with probability .5. By varying the fixed payment (LO = 3 euros or HI = 7 euros, respectively), they induce different reference points. Thus, they find that subjects in the HI treatment count 46.33 tables on average ($SD = 25.25$) whereas subjects in LO count 37.05 tables on average ($SD = 25.07$), yielding an effect size of Hedges' $g_p = .37$.[4] Thirdly, in a within-subject comparison, Augenblick and Rabin (2019) examine preferences of subjects for the unpleasant task of transcribing blurry foreign letters either immediately or at future dates. Using their main sample of 68 participants (i.e., subjects without ML estimation issues), they obtain a correlation between preferences for immediate effort and effort 4-7 days into the future of .883,[5] and an effect size of Hedges' $g_D = .43$.[6]

Hence, it did not seem unrealistic to anticipate effect sizes between .3 and .4 (Hedges' g_p and Hedges' g_D for between- and within-subject comparisons, respectively). When considering effect sizes in the literature, however, we also recognize that it is often more likely to see overestimation than underestimation of population effects (see, e.g., Gelman and Carlin, 2014; Aberson, 2019).

The Current Study. For practical and financial reasons, it was only possible for us to recruit around 400 participants in total, i.e., 100 per treatment. For the between-subject comparison of subjects in *Early* and *Late*, we thus need an average difference of 60 tables (Hedges' $g_p = .40$) to obtain power of .8 in our main hypotheses (two-sided test, $\alpha = .05$, and $SD = 150$). Figure S.1 shows the relation between the power of this test, the sample size, and the difference in tables counted between the treatments.

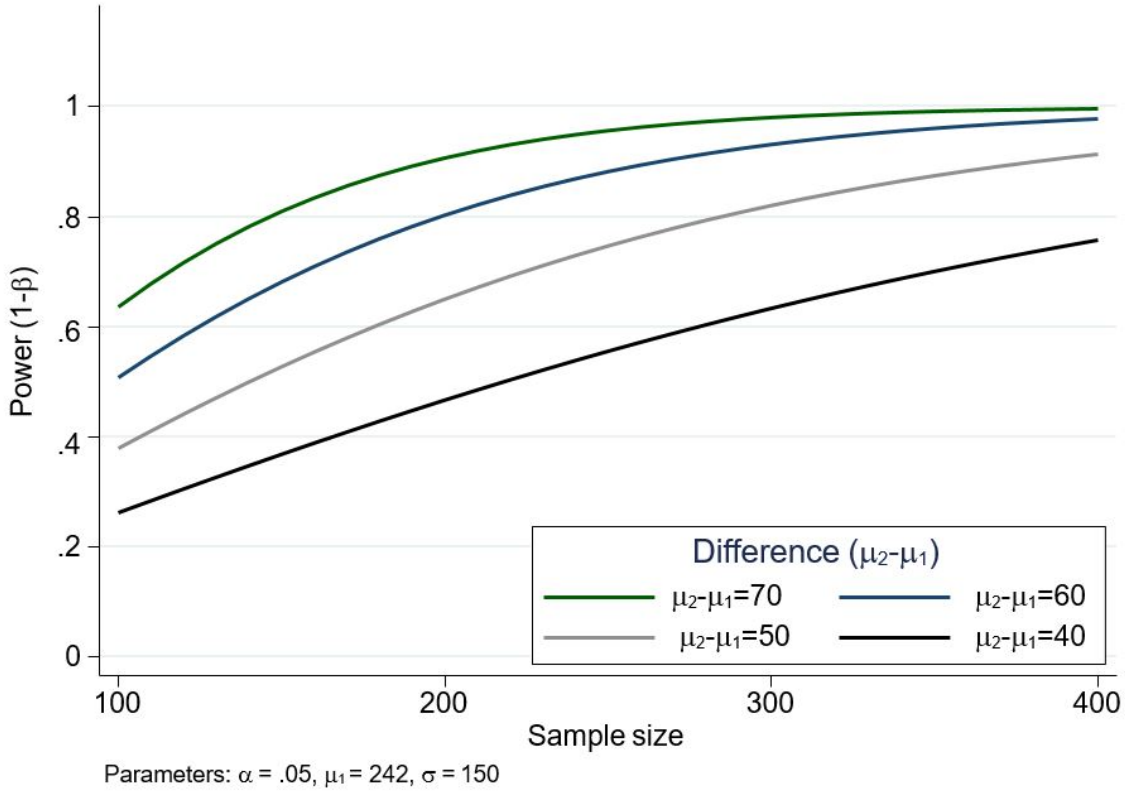
When comparing goals within subjects in *Revise*, we hypothesize that subjects adjust their goal downward at date 1. However, our theory builds on the notion that goals are sticky, and we therefore did not expect the difference to be as large as the difference between subjects in *Early* and *Late*. Furthermore, the assumption that goals are sticky implies that there is some positive correlation between the goals that subjects set at dates 0 and 1, but the size of this correlation was ex ante uncertain. In Figure S.2, we

[4]Following Goulet-Pelletier and Cousineau (2018), we use Hedges' $g_p = \frac{M_2 - M_1}{S_p} \cdot J(\nu)$, where M_1 and M_2 are the means of effort decisions immediately and 4-7 days into the future, respectively, $J(\nu)$ is Hedges' correction factor, and S_p is the pooled standard deviation.

[5]The experiment involves multiple measurement for each individual for immediate and future effort (with varying number of observations for each individual), so the correlation is calculated using the average effort decision for each individual at $t = 0$ and $t \in \{4, 5, 6, 7\}$, respectively.

[6]Again following Goulet-Pelletier and Cousineau (2018), we use Hedges' $g_D = \frac{M_2 - M_1}{S_D} \cdot J(\nu)$, where S_D is the standard deviation of the differences. Note that this approach to standardizing the effect size of within-subject comparisons (Hedges' g_D) is not directly comparable to the above effect size of the between-subject comparison (Hedges' g_p) as the standard deviation of differences tends to be smaller than the pooled standard deviation. The comparable effect size is Hedges' $g_p = \frac{M_2 - M_1}{S_p} \cdot J(\nu) = .21$.

Figure S.1: Power for between-subject comparisons, two-sample t-test



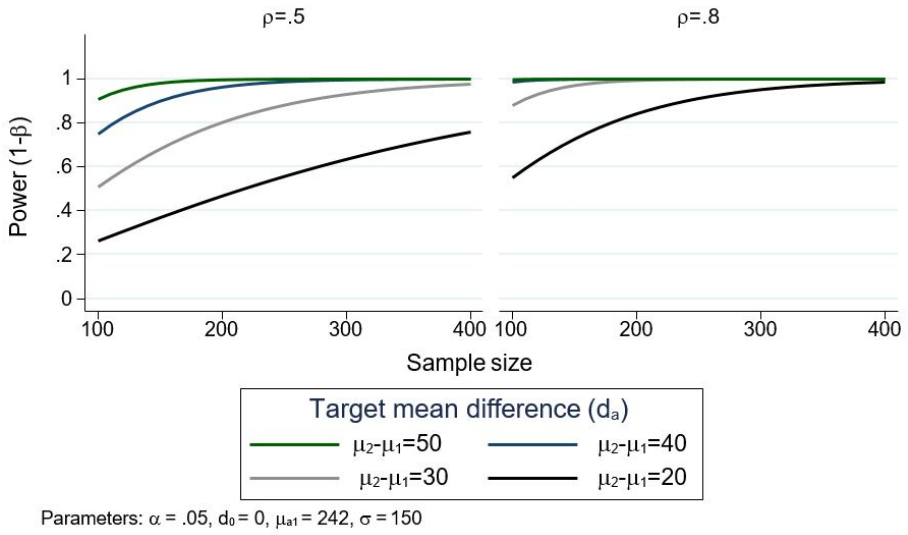
therefore examine the power for different samples sizes using both $\rho = .5$ and $\rho = .8$. In the case with $\rho = .5$ ($\rho = .8$), a sample size of 200 yields power of .8 to detect a difference of 30 (19) tables (two-sided test, $\alpha = .05$, and $SD = 150$), i.e., Hedges' $g_D = .20$.

As seen in Figure S.1 and Figure S.2, the expected effect size matters greatly for the ex ante power of our experiment. Note, however, that the figures do not account for the additional explanatory power provided by our control variables, some of which had previously been found to be statistically significant in other studies (e.g., Koch and Nafziger, 2020). So, the calculations above are conservative with regards to the power of our full model specification.[7]

Finally, as explained in Section 3.2 of the paper, studies have found that goals are not as effective for women as for men (Koch and Nafziger, 2020; Smithers, 2015; Clark et al., 2020). For example, Koch and Nafziger (2020, Working Paper Version) find effect sizes of daily goals vs. no goals for women to be -.1/-.08. Thus, to achieve an appropriate power for the given budget, we only recruited men for the study.

[7]We also test robustness of the results for the main hypotheses using non-parametric tests; a Mann-Whitney U-test for the between-subjects comparisons and a Wilcoxon signed-rank test for the within-subject comparisons. While the power of these tests depends on the specific data distributions, the tests do not perform much worse (assuming normality, for instance, both non-parametric approaches have asymptotic relative efficiencies of .955 compared to two-sample and paired t-tests, respectively).

Figure S.2: Power for within-subject comparisons, two-sample paired t-test



S.5 Analysis of Attrition

To examine whether there is systematic selection, we compare subjects who completed the date-1 and date-2 parts of the study with those who only completed the date-0 part. In Table S.18, we report the results of logit and linear probability models using as the dependent variable whether a subject completed the date-1 and date-2 parts. For the date-1 part, we fail to reject that the variables are jointly insignificant (Wald χ^2, $p = .331$), indicating no selection on observables. Similarly, for the date-2 part – conditioned on subjects completing the date-1 part, since this allows for a comparison of all treatments – we fail to reject that the variables are jointly insignificant ($p = .162$). However, economics and business students are around 13 percentage points more likely to complete the date-2 part, and people who enjoy the task of counting zeros more are more likely to complete the date-2 part (one point on the five-point Likert scale corresponds to 4 percentage points). Note that the result that the treatment does not influence selection into the work part is interesting in its own: It shows that setting goals does not make it more likely that people will show up for the task.

S.6 Robustness Tests

In the following, we summarize the results of the alternative specifications with which we have tested the robustness of our main findings.

S.6.1 Hypothesis 1: Goals are Self-Regulation Tools

In testing whether goals are different between *Early* and *Late* (H1.1), our primary specification uses OLS. Because OLS tests for differences in means, it is sensitive to outliers. In Table S.21, we show that subjects in *Late* set significantly lower goals than subjects in *Early* also when looking at a median regression and that this becomes borderline significant when all controls are included.

In the date-0 part, subjects specified their expected time schedule for date 1. For 21 subjects in *Late*, however, a technical error meant that subjects filled in their time schedule without the page showing them the specific day they had to complete date 1. As it is likely that not everyone recalled the day they chose while filling out the consent form, we exclude these 21 subjects from the main specification with all controls. In the top panel of Table S.22, we show that the results to the regression without control and with productivity as the only control are qualitatively the same when these 21 subjects are excluded. In the bottom panel of Table S.22, we furthermore show that the results are similar when we include the 21 subjects to the regression with the full set of controls.

In our main specification, we use the above mentioned time schedule to control for whether subjects were time constrained. Nevertheless, we also elicit the number of exams and assignments that the subject needs to complete during the four weeks after date 0. In Table S.23, we show that subjects in *Late* also complete significantly fewer tables than in *Early* when we control for exams and assignments rather than whether subjects are time constrained; and that this holds for both the full sample and when excluding the subjects for whom the time schedule does not apply. Note that in these specifications, we only include students.

S.6.2 Hypothesis 2: Goals are Effective Self-Regulation Tools – Despite Goal Revision

In Table S.24, we compare effort between treatments *Revise1* and *Late* using median regression instead of OLS. Again, we find that subjects in *Late* provide significantly lower effort than subjects in Revise 1, but that this effect becomes insignificant once we control for subjects' chosen goal (suggesting that goals are indeed the mediator).

Furthermore, we show that the results are qualitatively robust to excluding the 21 subjects for whom the time schedule is not available (top panel of Table S.25) and for including the entire sample (bottom panel of Table S.25). In Table S.26, we show that the results are also robust to using the number of exams and assignments rather than whether the subject is time constrained, and this holds both when including and excluding the 21 subjects, respectively.

In Table S.6, we show that there is no effect when we use mistakes per table or time spent per table as proxies for effort.

S.7 Alternative Mechanisms

S.7.1 Alternatives to Present Bias as Explanations for Goal Revision

S.7.1.1 Uncertainty and Time Shocks

At both date 0 and date 1, after taking the productivity measures and before setting goals, we ask subjects to fill out their (expected) time schedule for date 1. This allows us to examine the influence of unexpected time shocks (arising, for example, from unforeseen contingencies or from mispredicting future time pressure as described by the planning fallacy of Kahneman and Tversky, 1982) and resolution of uncertainty about flexible time.[8] Notably, the downward goal revision remains statistically significant if we control for uncertainty and time shocks ($p < .001$, cf. Specifications (2) & (3) in Table S.10) and if we restrict our analysis to those 87 percent of subjects who experience no time shocks ($p = .001$, cf. Specification (1) in Table S.10). In addition, uncertainty, time shocks, and difference in flexible time are not significant in any of the regressions, suggesting that these factors do not influence the wedge between *goal 0* and *goal 1*.

S.7.1.2 Learning and Overoptimism

Another potential mechanism that could drive a wedge between *goal 0* and *goal 1* is some sort of learning. Consider first *learning about how to perform the task*. If the individual learns and gets better at the task (as reflected by the productivity measures) *goal 0* should be smaller than *goal 1*, which is the opposite of our result. When we account for changes in productivity between dates 0 and 1, there even is suggestive evidence that the difference between *goal 1* and *goal 0* increases (Wald chi-square test for equality of constants across models, $p = .067$).

Consider next *learning about the cost of the task*. When setting their early goal, subjects may have insufficient experience with the task to anticipate how annoying or fatiguing

[8] Using the survey measures, we regard a subject with less than two hours of flexible time at date 1 as being severely time constrained. We have chosen two hours based on the idea that most subjects will work approximately one hour on the task – plus some time for the instructions and questions/goal setting. Based on this, we define that a subject faced a relevant negative (positive) time shock if he became (was no longer) severely time constrained when moving from the planned to the actual time schedule. Further, we use as our measure of uncertainty how likely subjects at date 0 thought it was that they would have less than two hours of flexible time at date 1.

it will become, or they may suffer from a projection bias (e.g., Acland and Levy, 2015). Previous research found that experience did not affect goal setting or effort in a closely related setting (cf. Koch and Nafziger, 2020). Nevertheless, to limit the possible influence of experience at date 1 compared to date 0, our design gives subjects only 3 more minutes of experience with the task when setting a goal at date 1. And our design ensures that subjects have fresh experience when setting a goal, because they perform the task immediately prior to setting *goal 0* or *goal 1*.

In the analysis, we proxy for learning about the costs by looking at subjects' (retrospective) enjoyment of the task reported in the surveys at dates 0 and 2, respectively.[9] Among the subjects who completed the post survey at date 2, we find that enjoyment declines from 3.34 to 3.12 from date 0 to date 2 (on a 5-point Likert scale), and this difference is statistically significant ($p < .001$ for both t-test and Wilcoxon signed-rank test). However, the change in enjoyment has no statistically significant effect on goal revision ($p = .179$, and $p = .247$ when controlling for change in productivity, cf. Table S.11). Thus, overall, there is little evidence for this alternative explanation for the observed downward revision of the goal.

Finally, the individual may also set a higher goal at date 0 than at date 1 because *goals reflect expectations* and the individual is overly optimistic at date 0 about the productivity gains from date 0 to date 1. Accordingly, an individual may revise the goal downward when these expectations are disappointed at date 1. This interpretation would imply that the individual reacts differently to the feedback about the productivity at date 0 and date 1. If the individual was overconfident in this way, the individual would boost the productivity feedback at date 0 when setting *goal 0* to be, say, $z \cdot productivity\,0$. But when the productivity feedback at date 1 reveals that the expected productivity gains failed to materialize, *goal 1* is set with no (or lower) anticipated further increases in productivity at $y \cdot productivity\,1$, where $y < z$. That is, when regressing *goal 0* on *productivity 0*, the coefficient on productivity should be higher than when when regressing *goal 1* on *productivity 1* in *Revise0* and *Revise1*. We observe the opposite with the coefficient on *productivity 1* (8.73, $p = .001$) being larger than on *productivity 0* (5.28, $p = .126$; cf. Table S.12), but they are not significantly different from each other (Wald chi-square test for equality of coefficients across models, $p = .173$).

[9] A caveat is that pleasure in the task in the post survey is possibly affected by other factors like satisfaction with the entire experiment, own performance/goal achievement, the payment obtained, and earnings per hour.

S.7.2 Reference Point Formation

S.7.2.1 Alternative Reference Points

A possible problem in inducing effort-based reference points through goals arises if people have time- or earnings-based reference points. For example, if an experiment was set to last 1 hour, this time might be as salient/important as the effort goal. To minimize the effect of such time-based reference points, we provide subjects in the informed consent form only with information about broad time intervals ("the total time for participating in this study is between 60 and 240 minutes").

One way to see if subjects have a time or earnings reference point is to use the fact that the slider tool at the goal setting stage translates effort into a time- and an earnings-equivalent, and exploit people's tendency to focus on numbers that are 'round' in some way. Pope and Simonsohn (2011) and Allen et al. (2016) document a round number bias in goal setting across different contexts. In line with this insight, we observe bunching of effort goals on round numbers such as 100, 150, 200, etc. (cf. Figure S.3), to which the thresholds for changes in the piece rates also contribute. Yet, we see no clear bunching on focal numbers in the time or earnings dimensions (cf. Figures S.4 and S.5). This suggests that subjects indeed primarily focus on effort goals.

Nevertheless, we can replicate our analysis of the treatment effects on goals also in terms of time- and earnings-equivalents (cf. Table S.13). According to the goals that they set, subjects in *Late* aim to work about 17 minutes less than subjects in *Early*, a 30 percent drop in work time. For the earnings-equivalents, we observe that goals imply DKK 9-18 lower earnings in *Late* compared to *Early*, corresponding to an 8-16 percent gap. Comparing *goal 1* and *goal 0* in the time- and earnings dimensions in the *Revise0* and *Revise1* treatments reveals goal revision of a similar extent.

S.7.2.2 Private Goal Setting at Date 0 in Late

One possible concern is that subjects in *Late* already at date 0 form expectations/goals about the task and effort. At date 0, subjects in *Late* do not yet know the tasks they are to perform at date 1. For ethical reasons (informed consent and non-deception), we could not avoid all information; so subjects know that there will be *some* task. It is unlikely that subjects in *Late* guess what the task at date 1 is and set a private goal at date 0 – a claim that the data from the post survey supports. Here, only 8.6 percent of the subjects in *Late* indicate that they had a goal in mind at date 0, and the stated goals are virtually identical to their *goal 1* (on average 1.5 tables fewer than *goal 1*, which is

not significantly different from zero, t-test, $p = .363$).[10]

S.7.3 Alternative Explanations for Treatment Differences in Effort

S.7.3.1 Attrition

At date 0 there are two treatment groups: subjects who are later (at date 1) randomized into *Early, Revise0*, and *Revise1* (i.e., subjects who know that the task at date 1 will be to count zeros) vs. subjects in *Late* (i.e., subjects who do not know what happens at date 1). A concern might be that learning about the task and setting goals early vs. late could influence attrition and in doing so affect treatment differences. Yet, we observe no differences between these two groups in completing date 0 (80.8 percent in *Late* vs. 78.3 percent in *Early, Revise0*, and *Revise1*, $p = .560$; cf. Table S.16). Similarly, we observe no significant differences between any groups in the probability of completing date 1 or date 2 (all $p's \geq .194$, see Tables S.17 and S.18) and little indication of selection on observables (cf. Online Supplement S.5).

Even though not significant, there might be a concern that the 4.8 percentage point difference in raw numbers for completion of date 1 suggests that subjects in *Late* are more likely to participate at date 1 than subjects in the other treatments (cf. Specification (1) in Table S.18), and that this difference may influence treatment differences in effort and goals. Specifically, unproductive subjects or subjects who set low goals may opt out of the study in *Early, Revise0*, and *Revise1* after getting to know the task at date 0, but not in treatment *Late* where they do not get to know the task at date 0. Yet, comparing subjects who return at date 1 versus not for *Early, Revise0*, and *Revise1*, there are only small and insignificant differences in *goal 0* (273 vs. 270; $p = .927$, cf. Table S.19) and the productivity at date 0 (15.46 vs. 15.11; $p = .595$, cf. Table S.19) – alleviating this concern.

[10] A possible explanation is that subjects make up a post hoc *goal 0* and use *goal 1* as an anchor. Noise in memory is also apparent in *Early*, where the goal that subjects recall to have set at date 0 is on average 4 tables smaller than their actual *goal 0*.

S.7.3.2 Increasing Motivation by Setting Goals Early or Announcing the Task Early

Another concern in interpreting the treatment difference in effort between *Revise1* and *Late* could be that the meaning of the task (Hackman and Oldham, 1976; Grant, 2008) is enhanced by asking people to set an early goal: The individual might think that the task at date 1 is especially important when being asked to provide a goal for it 5 days in advance. And he might also think more about the task when he learns about it in advance, which might make the task seem more relevant. If so, treatment differences could be due to subjects in treatments with early goal setting being more motivated. Further, one might also suspect that this channel could give subjects in treatments with early goal setting (but not with late goal setting) the possibility to practice the task.[11] If setting goals in advance indeed increased task meaning, or if subjects practiced the task more in the treatments with an early goal, we should observe that the change in productivity between dates 0 and 1 and the change in enjoyment from date 0 to date 2 is larger in *Revise1* than in *Late*. This is not what we observe (t-test, $p = .767$ and $p = .430$, respectively), and we also observe no differences when pooling *Early, Revise0,* and *Revise1* and contrasting this to *Late* (t-test, $p = .861$ and $p = .739$, respectively). Finally, setting an early goal could give subjects the possibility to make "if-then" plans in order to achieve their goals. Such implementation intentions have been shown to increase goal commitment and performance (Gollwitzer and Sheeran, 2006). If people use time to form implementation intentions when setting an early goal, goal setting should take longer at date 0 than when people for the first time set a goal at date 1. However, we find no difference in the average time that subjects in *Late* spend on setting a goal at date 1 (103.09 seconds) compared to subjects in *Revise1* at date 0 (112.13, t-test: $p = .450$). The difference is also insignificant when comparing *Late* to *Early*, *Revise0*, and *Revise1* pooled (104.73, t-test: $p = .871$).

S.7.3.3 Increased Goal Commitment Through More Frequent Goal Setting?

We observe a significant difference in effort between *Late* and *Revise1*, while the difference in effort between *Late* and *Early* has the predicted sign but is not significant (cf. Table 5). One possible explanation for the observed pattern could be that setting a goal twice (as in *Revise1* or *Revise0*) matters in contrast to setting a goal only once (as in

[11] Subjects in *Late* also learn at a later date than the subjects in the other treatments that they will be reminded about their goal. This implies that anticipation of losses from not reaching the goal may be more immediate for subjects in *Late*. Theoretically, this implies (if anything) that the highest goal that can potentially be implemented is larger in *Late* than in the other treatments – opposite to what we find.

Early and *Late*). Setting a goal twice could, for example, encourage people to reflect on what really is the optimal goal for them and, in doing so, increase goal commitment. Higher goal commitment could be reflected in more people achieving their goal or in higher effort in treatments where goals are set twice than when they are only set once. We have seen that effort as well as goal achievement is higher in *Revise1* than in *Late* (cf. Tables 5 and S.9). These result are consistent with both the interpretation that more frequent goal setting increases goal commitment and the interpretation that *goal 0* also enters the reference point in *Revise1*. Yet, further evidence suggests against the first interpretation.

First, looking at the proportions of subjects who achieve their (displayed) goal, we do not find significant differences between treatments *Early vs. Revise0* (logit marginal effect .001, $p = .990$) and *Late vs. Revise1* (logit marginal effect .024, $p = .316$). Second, we find no significant difference in effort between *Early*, where subjects are asked to set a goal once, and *Revise0*, where subjects are asked to set a goal twice (cf. Table 6).

Third, evidence from the post survey also suggests against increased goal commitment due to setting a goal twice. Here, we can identify 20 participants in *Early* who also set goals twice because they privately revised their early goal; the remaining 44 participants in *Early* who completed the post survey set only one goal as they did not privately revise their goal. Regressing effort on a dummy for having set a goal twice yields an insignificant coefficient ($\beta = 9.33$, $p = .807$). This result also provides suggestive evidence against the alternative explanation. Further, in the post survey, we also measured goal commitment using Klein et al. (2012)'s unidimensional target-free scale ranging from 1 to 5. We observe that commitment to the goal chosen at date 0 in *Early* (mean 2.97) is not significantly different from that for the goal chosen at date 1 in *Late* (3.16; t-test, $p = .127$). And comparing commitment for *goal 0* (*goal 1*) in *Revise0* (mean 3.13) (in *Revise1*, mean 3.10) with that in *Early* (*Late*), we find no significant differences ($p = .132$ and $p = .631$, respectively).[12]

S.7.3.4 Experimenter Demand

One concern with the current study is that experimenter demand effects might affect goal setting or effort provision. In general, demand effects in real effort experiment like ours are likely to be small according to the evidence in De Quidt et al. (2018). Further, in our setting, the direction of such demand effects is unclear: It could be that participants set extra ambitious goals and/or provide extra effort to impress the

[12]Another way to test whether setting a goal twice versus once matters would be to let subjects in *Late* and *Early* also set a goal twice. As Augenblick et al. (2015) demonstrate that discounting of future real effort costs changes drastically within the first hours prior to a task, such goal setting thus would have to be very close to the task – making the comparison to *Revise0* and *Revise1* difficult.

researcher or, alternatively, set small goals and/or provide little effort in order to not lose face from goal non-achievement. Regardless of which is the dominating effect, one concern could be that the demand effects are particularly strong in *Revise0* and *Revise1*, where subjects are repeatedly asked to set goals. If experimenter demand indeed is more pronounced in some treatments than in others, then it could bias treatment differences. In the study, we made it clear to subjects that the goals were non-binding by informing them that "you are free to work as much as you want" (see instructions in Online Supplement S.11), and this should reduce demand effects substantially.

While we cannot exclude possible demand effects, they cannot consistently explain our results. The fact that we find no significant differences in effort between *Revise0*/*Revise1* and *Early* seems to go against the interpretation that demand effects are particularly strong when subjects set goals repeatedly, which suggests that demand effects are unlikely to be the cause of treatment differences between *Revise1* and *Late*. Still, a concern might be that experimenter demand leads subjects in *Revise0* and *Revise1* to set higher goals and provide more effort, and that this offsets our hypothesized framing effect that should lead to greater effort in *Early* than in *Revise0* (cf. H3.1). If this was the case, then subjects in *Revise0* and *Revise1* should set a higher *goal 1* than subjects in *Late*, and this is not what we find. As the data are thus inconsistent with experimenter demand, we do not view this to be a threat to the experimental design.

S.7.4 Rationality of Goals

The (quasi-)rationality assumption in our model means that subjects set goals that they believe they will achieve and that they maximize their utility when setting goals. Consistent with setting rational goals, the majority of subjects achieve their goal, (cf. the descriptive statistics in Table 3). Nevertheless, a share of subjects do not achieve their goals – neither in our experiment nor in other goal-setting studies. The theoretical model explains such goal non-achievement with (private) goal revision, and our results indeed show that such revision does take place. Another possible reason for goal non-achievement is that goals are non-rational.

As a first test of rationality, we examine the goals set by subjects right before starting to work on the task in *Late*. Unlike goals set at an earlier date, (i) they reflect the present bias of subjects (cf. Section 5.2), and (ii) uncertainty should not play a noticeable role because meaningful shocks to the free time available are unlikely at this stage. Thus, subjects in *Late* should achieve their goal if goals are rational. Still, we observe that subjects in *Late* on average fall short of their goal by a statistically significant 39 tables (t-test, $p < .001$). Focusing on the 33 percent of subjects in *Late* who fail their goal (cf.

Table 3), the average shortfall is 158 tables ($p < .001$).

As a second test of rationality, we consider goal achievement in the *Revise* treatments. For individuals who do not revise their goal (i.e., *goal 1=goal 0*), rationality predicts goal achievement because subjects would otherwise have adjusted their goal. In line with this, the 36 percent of subjects who do not revise their goal in *Revise 0* and *Revise 1* do not significantly deviate from their goal (12 tables shortfall on average; $p = .387$).[13] Thus, overall, a picture of heterogeneity in goal achievement emerges. The majority of subjects achieve their goal, consistent with setting rational goals, but a fraction of subjects fall short of their goal by a large margin. A possible explanation is that the latter group is less deliberate when setting goals.[14] Another possible explanation is that some subjects value setting high goals, even if they do not literally believe in accomplishing the goal, because such 'stretch goals' (see, e.g., Sitkin et al., 2011) provide a strong motivation for effort.

S.8 Recalling vs. Revising

Our post survey provides some information on what subjects recall by incentivizing subjects to remember their goals. While the most recent goal always appears to be salient, reminders seem to matter for how well subjects recall their early goal. Specifically, we measure the absolute error in recall as $|$*recalled goal* $t -$ *goal* $t|$, $t \in \{0, 1\}$. In *Revise1*, subjects recall *goal 0* with less accuracy (mean error of 28.94) than *goal 1* (error of 8.53; t-test: $p = .044$). In contrast, for subjects in *Revise0*, there is no significant difference between the recall for *goal 0* (error of 27.39) and *goal 1* (26.93; t-test: $p = .953$).

[13] Note that if we consider all subjects in *Revise0* and *Revise1*, *goal 1* also is on average achieved (7 tables shortfall; $p = .470$). If we exclude outliers (subjects with deviations larger/smaller than 300/-300), then the shortfalls are .34 ($p = .976$) and -.49 ($p = .942$), respectively. Yet, the reasons for goal achievement in the two cases might be different. Subjects for whom *goal 0* > *goal 1* may aim to achieve to some extent also their higher early goal – a driving force that is not present when *goal 0* = *goal 1*.

[14] Exploratory analysis of who revises their early goal downward (available upon request) reveals that a one standard deviation increase in the cognitive reflection test score (mean 2.30, std.dev. 1.05) is associated with an 8.7 percentage point lower probability of downward goal revision (logit marginal effect, $p = .045$). The time used in setting goal 0 also has a significant coefficient suggesting that more time spent reduces the probability of downward revision, but the standardized marginal effect is close to zero. A similar exercise for who revises their early goal upwards produces no significant effects.

S.9 Additional Tables

Table S.1: Coefficients on controls for the goal setting regressions

	(1)	(2)
Late	-63.97***	
	(23.24)	
Productivity 0	7.39***	
	(2.23)	
Change in productivity		2.79*
		(1.67)
CRT	-5.07	4.98
	(12.92)	(9.05)
Slider moved	60.04	
	(53.93)	
Slider moved, Date 0		61.98
		(73.87)
Slider moved, Date 1		2.47
		(33.22)
Response time	0.33**	
	(0.14)	
Response time, Date 0		0.13
		(0.15)
Response time, Date 1		0.18
		(0.14)
Self-competition	-0.44	-0.28
	(0.33)	(0.27)
Risk tolerance	6.37	5.73
	(7.40)	(4.73)
Pleasure in task	22.08**	-4.02
	(9.64)	(7.50)
Time-constrained(P)	28.39	
	(32.38)	
Uncertainty		12.07
		(7.76)
More time		-17.32
		(36.76)

Continued on next page

Table S.1 – continued from previous page

	(1)	(2)
Less time		-18.63
		(28.32)
Constant	-11.32	-164.29*
	(82.14)	(92.23)
N	143	162

Notes: Coefficients for the specifications in Table 4 with the full set of controls listed in Table S.1. (1) Hypothesis 1.1 (goal): Early vs. Late. (2) Hypothesis 1.2 (goal): Revise0 & Revise1. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$

Table S.2: Coefficients on controls for the effort regressions

	(1)	(2)	(3)	(4)
Late	-28.10			
	(23.24)			
Revise0			-9.30	
			(22.69)	
Revise1		50.43**		31.51
		(21.21)		(20.89)
Productivity 1	5.60***	8.85***	7.11***	10.21***
	(2.01)	(1.92)	(2.45)	(2.31)
CRT	3.96	9.88	8.88	12.35
	(10.94)	(9.81)	(10.71)	(9.00)
Self-competition	-0.06	0.02	-0.24	-0.16
	(0.37)	(0.29)	(0.41)	(0.36)
Risk tolerance	-2.86	6.86	6.04	11.60**
	(7.14)	(6.01)	(7.00)	(5.60)
Pleasure in task	21.27***	20.94**	26.85**	26.69**
	(8.94)	(9.37)	(10.43)	(10.90)
Time-constrained(A)	-2.63	-41.93	-22.18	-43.79*
	(25.81)	(26.55)	(25.36)	(25.89)
Constant	60.97	-95.94	-33.38	-143.70**
	(63.43)	(66.51)	(68.93)	(68.29)
N	143	146	159	162

Notes: Coefficients for the specifications in column (3) of Tables 5 and 6 with the full set of controls listed in Table S.2. (1) Hypothesis 2.1: *Early* vs. *Late*. (2) Hypothesis 2.2: *Late* vs. *Revise1* (3) Hypothesis 3.1: *Early* vs. *Revise0* (4) Hypothesis 3.2: *Revise0* vs. *Revise1* Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$

Table S.3: Coefficients on *goal 0* or *goal 1* in *Revise 0* & *Revise1*

	Revise0			Revise1		
	(1)	(2)	(3)	(4)	(5)	(6)
Goal 0	0.42**,†	0.34**,††	0.31*,††	0.62***	0.60***	0.53***
	(0.17)	(0.16)	(0.17)	(0.20)	(0.17)	(0.16)
Constant	105.82**	-24.77	-217.14*	76.76	-82.96*	-167.06*
	(40.42)	(58.15)	(113.80)	(47.23)	(47.82)	(98.91)
	(7)	(8)	(9)	(10)	(11)	(12)
Goal 1	0.69***,†	0.64***,††	0.61***,††	0.68***	0.62***	0.56***
	(0.11)	(0.11)	(0.13)	(0.12)	(0.12)	(0.13)
Constant	63.40***	11.34	-121.72	76.53***	-22.00	-24.90
	(22.52)	(34.32)	(76.91)	(28.41)	(39.57)	(93.48)
Productivity	No	Yes	Yes	No	Yes	Yes
Other controls[a]	No	No	Yes	No	No	Yes
N	82	82	82	80	80	80

Notes: OLS Regression of *effort* on *goal 0* or *goal 1* in the respective treatments. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Wald chi-square test for equality of *goal 0* and *goal 1* coefficients across models within a treatment: † $p < .10$, †† $p < .05$, ††† $p < .01$. A Wald chi-square test fails to reject equality of the coefficients on *goal 1* across treatments. [a] See Online Supplement S.3.

Table S.4: Goal setting, excluding outliers

	Hypothesis 1.1 (goal): Early vs. Late			Hypothesis 1.2 (goal 1 -goal 0): Revise0 & Revise1[a]		
	(1)	(2)	(3)	(4)	(5)	(6)
Change in productivity[a]	No outliers				3.41**	3.22**
					(1.35)	(1.43)
Constant				-33.95***	-42.67***	-138.89*
				(7.47)	(8.91)	(82.09)
Other controls				No	No	Yes
N				159	159	159

Notes: Regressions as described in Table 4 – excluding outliers: subjects who set a goal ≥ 900, provide effort ≥ 900, or have goal revision *goal0-goal1*$\leq$-700. Dependent variable: (4)-(6) *goal 1 - goal 0*. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] Productivity at date 1 - productivity at date 0.

Table S.5: Comparison of effort in the different treatments, excluding outliers

	No controls	Productivity	All controls
	(1)	(2)	(3)
Hypothesis 2.1: Early vs. Late			
		No outliers	
Hypothesis 2.2: Late vs. Revise1			
	51.65**	44.18**	47.10**
	(21.69)	(19.99)	(21.10)
Hypothesis 3.1: Early vs. Revise0			
	4.13	-5.56	-10.16
	(22.08)	(21.94)	(22.47)
Hypothesis 3.2: Revise0 vs. Revise1			
	24.42	29.84	30.69
	(22.36)	(20.93)	(20.33)
Productivity	No	Yes	Yes
Other controls	No	No	Yes

Notes: Regressions as described in Tables 5 and 6 – excluding outliers: subjects who set a goal ≥ 900 or provide an effort ≥ 900 (in *Revise 0* and 1 in *Revise 1*). Coefficients for the treatment mentioned last (with the treatment mentioned first as base category) in regressions with effort as dependent variable. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.6: Alternative outcome measures in *Revise1* vs. *Late*

Dep.variable	Mistakes per table			Average seconds per table		
	(1)	(2)	(3)	(4)	(5)	(6)
Revise1	-0.01	0.00	0.03	-1.04**	-0.96*	-1.34**
	(0.03)	(0.03)	(0.02)	(0.50)	(0.53)	(0.58)
Productivity 1		-0.01***	-0.01***	-0.35***	-0.33***	
		(0.00)	(0.00)	(0.05)	(0.05)	
Constant	0.18***	0.36***	0.25***	21.26***	21.50***	14.20***
	(0.02)	(0.06)	(0.06)	(0.96)	(1.57)	(0.40)
Other controls	No	No	Yes	No	No	Yes
N	167	167	146	167	167	146

Notes: Regression as described in Table 5 with alternative outcome measures. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.7: Comparison of *goal 1* in *Late* vs. *Revise0* & *Revise1*

	(1)	(2)	(3)
Late	-12.82	-2.41	-11.31
	(19.69)	(18.57)	(19.45)
Productivity 1		8.66***	8.43***
		(1.84)	(1.96)
Constant	241.83***	80.81**	11.41
	(12.35)	(33.87)	(62.56)
Other controls	No	No	Yes
N	249	249	228

Notes: OLS regressions of *goal 1* on a treatment dummy (that is equal to one if the subject was randomly assigned to treatment *Late* and zero otherwise) and (1) a constant; (2) a constant and productivity (which refers to baseline productivity at the date when the goal was set); (3) a constant, productivity, and the set of controls listed in Online Supplement S.3. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.8: Goal achievement in *Revise0* & *Revise1*

	Goal achievement					
	Effort-goal 0			Effort-goal 1		
	(1)	(2)	(3)	(4)	(5)	(6)
Productivity 1		5.27**	5.52**		1.70	1.65
		(2.12)	(2.22)		(1.84)	(1.94)
Constant	-42.59***	-140.53***	-216.78***	-6.80	-38.46	-103.76
	(12.08)	(44.95)	(77.06)	(9.38)	(37.28)	(70.92)
Other controls	No	No	Yes	No	No	Yes
N	162	162	162	162	162	162

Notes: OLS regression of the dependent variable on (1),(4) a constant (2),(5) a constant and productivity at date 1, and (3),(6) a constant, productivity, and the set of controls listed in Table S.2. Dependent variable: (1)-(3) *effort - goal 0*, (3)-(6) *effort - goal 1*. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.9: Goal achievement for *goal 1* in *Late* vs. *Revise0* & *Revise1*

	(1)	(2)	(3)
Late	-32.44**	-30.91**	-23.99*
	(14.17)	(14.44)	(14.42)
Productivity 1		1.27	1.20
		(1.35)	(1.47)
Constant	-6.80	-30.46	-73.68
	(9.39)	(28.49)	(53.17)
Other controls	No	No	Yes
N	249	249	228

Notes: OLS regression of the dependent variable on (1) a constant (2) a constant and productivity at date 1, and (3) a constant, productivity, and the set of controls listed in Table S.2. Dependent variable: *effort - goal 1*. Robust standard errors in parentheses.

Table S.10: Goal revision when controlling for uncertainty and time shocks

	(1)[a]	(2)	(3)
Change in productivity	2.67	2.94*	3.11*
	(1.82)	(1.73)	(1.72)
Uncertainty	-11.03	-10.84	
	(9.16)	(8.25)	
More time		-3.38	
		(43.86)	
Less time		-12.25	
		(33.31)	
Difference in flexible time			0.11
			(2.29)
Constant	-61.94***	-62.30***	-43.95***
	(18.72)	(17.34)	(9.84)
N	143	162	162

Notes: Regressions for dependent variable *goal 1 - goal 0* as described in in Tables 5 and 6, now controlling for uncertainty and time shocks. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] Sample restricted to subjects with no time shock.

Table S.11: Effect of change in enjoyment on goal revision

	(1)	(2)
Change in enjoyment	9.88	8.50
	(7.31)	(7.32)
Change in productivity		2.97**
		(1.40)
Constant	-28.23***	-36.50***
	(8.19)	(9.35)
N	142	142

Notes: Regressions for dependent variable *goal 1 - goal 0* as described in in Tables 5 and 6, now controlling for controlling for change in enjoyment. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.12: Goal-productivity relation for *Revise0* and *Revise1* (pooled)

Dep. variable	Goal 0		Goal 1	
	(1)	(2)	(3)	(4)
Productivity 0		5.28		
		(3.43)		
Productivity 1				8.74***
				(2.48)
Constant	277.62***	193.35***	241.83***	79.39*
	(12.08)	(56.40)	(12.34)	(45.11)
N	162	162	162	162

Notes: OLS regression of the dependent variable on productivity at the date when the respective goal was set. Dependent variable: (1)-(2) *goal 0*, (3)-(4) *goal 1*. Robust standard errors in parentheses.

Table S.13: Goal setting (time- and earnings-equivalents)

	Hypothesis 1.1 (goal): Early vs. Late			Hypothesis 1.2 (goal 1 -goal 0): Revise0 & Revise1		
Dep. variable	Time-equivalent of goals					
	(1)		(2)	(3)		(4)
Late	-16.49***		-17.17***			
	(5.08)		(5.56)			
Constant	57.62***		18.22	-12.03**		-36.60*
	(4.18)		(18.84)	(5.23)		(20.80)
Productivity	No		No	No		No
Other controls	No		Yes	No		Yes
N	164		143	161		161
Dep. variable	Earnings-equivalent of goals					
	(5)	(6)	(7)	(8)	(9)	(10)
Late	-9.17	-17.14***	-17.59***			
	(5.87)	(5.65)	(6.01)			
Constant	113.24***	74.23***	15.15	-11.13***	-14.25***	-36.83*
	(4.03)	(9.22)	(22.67)	(2.07)	(2.77)	(21.05)
Productivity	No	Yes	Yes	No	Yes	Yes
Other controls	No	No	Yes	No	No	Yes
N	164	164	143	162	162	162

Notes: Regression as described in Table 4, now with time- or earnings-equivalents of goals as dependent variable. Time-equivalents are computed by dividing the goal by the productivity/3 (tables per minute at time when goal was set), and hence productivity is not added as a control. In specifications (3) and (4), the time-equivalent goal for one subject is undefined because *productivity 1*=0. Earnings-equivalents are obtained by plugging the goal into the payment schedule (cf. Figure 2). Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.14: Coefficients on the displayed goal in the effort regressions

	(1)	(2)	(3)	(4)
Late	-1.34			
	(17.12)			
Revise1		34.73**		41.85**
		(16.03)		(18.29)
Revise0			-9.09	
			(20.90)	
Displayed goal	0.59***	0.63***	0.42***	0.42***
	(0.08)	(0.09)	(0.11)	(0.11)
Constant	16.36	-98.44*	-40.42	-139.86**
	(46.67)	(56.03)	(57.18)	(59.58)
Productivity	Yes	Yes	Yes	Yes
Other controls[a]	Yes	Yes	Yes	Yes
N	143	146	159	162

Notes: Coefficients on the goal level shown in the free work phase (displayed goal): *goal0* in *Early* and *Revise0*, *goal1* in *Late* and *Revise1* for the specifications in column (6) of Tables 5 and 6 with the full set of controls listed in Table S.2. (1) Hypothesis 2.1: *Early* vs. *Late*. (2) Hypothesis 2.2: *Late* vs. *Revise1*. (3) Hypothesis 3.1: *Early* vs. *Revise0*. (4) Hypothesis 3.2: *Revise0* vs. *Revise1*. Robust standard errors in parentheses. * p <.10, ** p <.05, *** p <.01

Table S.15: Comparison of effort in *Late* vs. *Revise1*

	(1)	(2)	(3)	(4)	(5)	(6)
Revise1	42.71***	39.56**	34.73**	27.71*	24.41	18.64
	(16.11)	(15.74)	(16.03)	(16.08)	(15.60)	(15.68)
Goal 1	0.66***	0.61***	0.63***			
	(0.07)	(0.08)	(0.09)			
First goal				0.63***	0.58***	0.61***
				(0.10)	(0.10)	(0.11)
Productivity 1		5.12***	4.96**		6.75***	6.64***
		(1.74)	(1.96)		(1.78)	(1.96)
Constant	37.70**	-38.43	-98.44*	44.48*	-60.77**	-155.54***
	(16.22)	(23.43)	(56.03)	(23.27)	(26.53)	(54.69)
Other controls[a]	No	No	Yes	No	No	Yes
N	167	167	146	167	167	146

Notes: Regression as described in Table 5 for *Late* vs. *Revise1*, but now in (1)-(3) controlling for *goal 1*, in (3)-(6) controlling for the first goal that subjects set (*goal 0* in *Revise1* and *goal 1* in *Late*). Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] See Online Supplement S.3.

Table S.16: Participation at Date 0

Treatment	Emails Sent for Date 0	Completed Date 0	Percentage
Early, Revise0, & Revise 1[a]	374	293	78.34%
Late	125	101	80.80%
Total	499	394	78.96%

Notes: [a] Randomization into Early, Revise0, & Revise 1 occurred at date 1. There is no treatment difference in completion of date 0 (test of proportions, $p = .560$)

Table S.17: Attrition for Dates 1 and 2

Treatment	Emails Sent for Date 1	Completed Date 1	Percentage	Completed Date 2	Percentage
Early, Revise0, Revise1[a]	293	239	81.57%	206	86.19%
Late	101	87	86.14%	70	80.46%
Early		77		64	83.12%
Revise0		82		72	87.80%
Revise1		80		70	87.50%
Total	394	326	82.74%	276	84.66%

Notes: Percentages reflect the share of subjects who completed the date-1 and date-2 parts, respectively, out of the participants who received a link for the respective part. There are no treatment difference in completion (cf. Table S.18). [a] Randomization into Early, Revise0, & Revise 1 occurred at date 1.

Table S.18: Selection on observables

	Probability of completing					
	Date 1			Date 2		
	(1)	(2)	(3)	(4)	(5)	(6)
Late	0.048	0.049	0.061	-0.027	-0.026	-0.011
	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Revise0				0.047	0.054	0.052
				(0.06)	(0.06)	(0.05)
Revise1				0.044	0.050	0.038
				(0.06)	(0.06)	(0.06)
Productivity 0		0.001	-0.001		-0.004	-0.006
		(0.00)	(0.00)		(0.00)	(0.00)
Uncertainty			-0.023			0.004
			(0.02)			(0.02)
Time-constrained(P)			0.021			-0.010
			(0.07)			(0.07)
CRT			0.003			-0.017
			(0.02)			(0.02)
Pleasure in task			0.014			0.037**
			(0.02)			(0.02)
Risk tolerance			-0.021*			-0.002
			(0.01)			(0.01)
Self-competition			0.000			0.001
			(0.00)			(0.00)
Economics/Business			0.072*			0.135***
			(0.04)			(0.05)
N	394	394	394	326	326	326
Wald $\chi^2(11)$			10.55			15.47
p-value			.308			.162

Notes: Logit regressions (average partial effects). Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. For variable definitions, see Online Supplement S.3.

Table S.19: Selective attrition: Goal 0 and productivity 0

Dep. variable	Goal 0			Productivity 0	
	(1)	(2)	(3)	(4)	(5)
Completed date 1	2.673	1.113	-8.072	0.353	0.029
	(28.95)	(29.23)	(28.04)	(0.66)	(0.68)
Constant	270.093***	203.363***	85.837	15.111***	13.762***
	(27.22)	(48.05)	(67.29)	(0.60)	(1.58)
Productivity 0	No	Yes	Yes	–	–
Other controls	No	No	Yes	No	Yes
N	293	293	293	293	293

Notes: OLS regressions with (1)-(3) goal 0 (4)-(5) productivity 0 as dependent variable, using the treatments with 'early' goal 0 (*Early, Revise 0* & *Revise 1*). (1) and (4) report the coefficient on a dummy for completion of part 1 in a regression where no further controls are added, (2) where productivity 0 is added as a control and (3) and (5) where other controls are added (cf. Online Supplement S.3). Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.20: Summary statistics of control and key background variables

	Early	Late	Revise0	Revise1	Total
CRT	2.03	2.29	2.34	2.40	2.27
Self-competition	63.75	60.13	55.28	65.20	61.01
Risk tolerance	6.09	6.01	6.05	6.09	6.06
Pleasure in task (date 0)	3.25	3.24	3.39	3.30	3.29
Time constrained (A)	0.14	0.11	0.15	0.12	0.13
Exams & assignments	1.45	1.11	1.14	1.03	1.18
Age	24.70	24.60	24.02	25.26	24.64
Share of Econ/Business	0.34	0.31	0.44	0.46	0.39

Notes: For variable definitions, see Online Supplement S.3.

Table S.21: Comparison of goals set in *Early* vs. *Late* using median regression

	(1)	(2)	(3)
Late	-45.00	-32.00	-52.94*
	(29.95)	(28.15)	(27.79)
Productivity		9.50***	5.58**
		(2.73)	(2.76)
Constant	245.00***	85.00*	-57.67
	(21.82)	(44.04)	(95.38)
Other controls[a]	No	No	Yes
N	164	164	143[a]

Notes: Regressions as described in Table 4, (1)-(3) – using median regressions instead of OLS. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] See Online Supplement S.3.

Table S.22: Robustness checks for comparison of goals set in *Early* vs. *Late*

	(1)	(2)	(3)
Excluding subjects for whom the time schedule is not available[a]			
Late	-41.45*	-67.03***	-63.97***
	(24.10)	(23.41)	(23.24)
Productivity		8.16***	7.39***
		(2.18)	(2.23)
Constant	262.55***	144.68***	-11.32
	(17.00)	(36.57)	(82.14)
Other controls	No	No	Yes
N	143	143	143
Using only subjects who completed the date-1 part			
Late	-33.53	-58.47**	-49.43**
	(22.90)	(22.44)	(22.88)
Productivity		8.45***	7.65***
		(2.00)	(2.04)
Constant	262.55***	140.46***	0.88
	(16.99)	(34.08)	(66.60)
Other controls	No	No	Yes
N	164	164	164

Notes: Regression as described in Table 4, (1)-(3). Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.
[a] For 21 subjects, the time schedule is not available (see note in Table 3).

Table S.23: Comparison of goals set in *Early* vs. *Late*, using exams and assignments instead of 'time constrained' variable

	(1)	(2)
Late	-57.27**	-80.51***
	(23.65)	(23.35)
Productivity	5.72***	5.66**
	(2.01)	(2.23)
CRT	-6.61	-1.26
	(13.11)	(14.16)
Slider moved	72.85*	36.14
	(42.76)	(63.59)
Response time	0.16	0.16
	(0.14)	(0.14)
Self-competition	-0.12	-0.43
	(0.35)	(0.34)
Risk tolerance	0.90	11.18*
	(6.48)	(6.32)
Pleasure in task	20.09**	23.04**
	(9.94)	(9.79)
Exams & assignments	9.20	8.45
	(8.12)	(7.66)
Constant	27.15	2.41
	(63.79)	(83.12)
N	136	118

Notes: Regression as described in Table 4, (1)-(3) – using exams and assignments instead of 'time constrained' variable. Sample sizes are smaller because exams and assignments are only relevant for students. Specification (1) uses all subjects who completed the date-1 part. Specification (2) uses only those subjects for whom the time schedule is available. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table S.24: Comparison of effort in *Revise1* vs. *Late*, using median regression

	(1)	(2)	(3)	(4)	(5)	(6)
Revise1	63.00**	51.38**	37.12	7.41	9.50	8.42
	(31.26)	(23.70)	(24.92)	(13.91)	(12.79)	(13.40)
Productivity 1		9.08***	8.83***		1.62	1.43
		(2.04)	(2.17)		(1.14)	(1.20)
CRT			7.81			0.94
			(12.60)			(6.75)
Self-competition			-0.00			0.06
			(0.37)			(0.20)
Risk tolerance			4.59			-0.82
			(6.29)			(3.38)
Pleasure in task			13.43			1.23
			(11.84)			(6.52)
Time-constrained (A)			-25.35			12.73
			(38.64)			(21.03)
Displayed goal				0.93***	0.85***	0.87***
				(0.05)	(0.05)	(0.05)
Constant	163.00***	13.85	-67.10	14.12	-2.25	-6.35
	(21.64)	(39.05)	(72.10)	(14.49)	(21.60)	(38.61)
N	167	167	146	167	167	146
Pseudo R2	0.02	0.10	0.12	0.40	0.40	0.43

Notes: Regressions as described in Table 5, (1)-(3) – using median regressions instead of OLS. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] See Online Supplement S.3.

Table S.25: Robustness check for comparison of effort in *Revise1* vs. *Late*

	(1)	(2)	(3)	(4)	(5)	(6)
Excluding subjects for whom the time schedule is not available[a]						
Revise1	58.01**	51.74**	50.43**	38.15**	36.33**	34.73**
	(23.28)	(21.43)	(21.21)	(16.39)	(16.00)	(16.03)
Productivity 1		9.47***	8.85***		5.28***	4.96**
		(1.90)	(1.92)		(1.88)	(1.96)
Displayed goal				0.69***	0.63***	0.63***
				(0.08)	(0.08)	(0.09)
Constant	188.38***	21.86	-95.94	36.28**	-43.77*	-98.44*
	(15.37)	(34.98)	(66.51)	(17.72)	(24.69)	(56.03)
Other controls[b]	No	No	Yes	No	No	Yes
N	146	146	146	146	146	146
Using only subjects who completed the date-1 part						
Revise1	56.62**	48.68**	46.90**	42.71***	39.56**	37.88**
	(22.09)	(20.35)	(19.77)	(16.11)	(15.74)	(15.65)
Productivity 1		9.38***	8.60***		5.12***	4.80***
		(1.76)	(1.75)		(1.74)	(1.74)
Displayed goal				0.66***	0.61***	0.60***
				(0.07)	(0.08)	(0.08)
Constant	189.77***	26.69	-66.67	37.70**	-38.43	-89.09*
	(13.53)	(32.45)	(63.49)	(16.22)	(23.43)	(51.55)
Other controls[b]	No	No	Yes	No	No	Yes
N	167	167	167	167	167	167
Adj. R2	0.03	0.17	0.19	0.49	0.53	0.52

Notes: Regression as described in Table 5. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. [a] For 21 subjects, the time schedule is not available (see notes in Table 3). [b] See Online Supplement S.3.

Table S.26: Comparison of effort between *Revise1* and *Late*, using exams and assignments instead of 'time constrained' variable

	(1)	(2)
Revise1	86.80***	52.44***
	(21.75)	(16.21)
Productivity 1	7.54***	4.30*
	(2.09)	(2.17)
CRT	22.87**	16.34*
	(10.32)	(9.06)
Self-competition	0.26	0.22
	(0.30)	(0.23)
Risk tolerance	8.49	3.91
	(5.71)	(4.98)
Pleasure in task	21.60**	3.36
	(9.58)	(7.10)
Exams & assignments	9.34	9.38
	(8.06)	(6.08)
Displayed goal		0.59***
		(0.09)
Constant	-177.57**	-130.21**
	(68.71)	(58.94)
N	120	120

Notes: Regression as described in Table 5, (3),(6) – using exams and assignments instead of 'time constrained' variable. Sample sizes are smaller because exams and assignments are only relevant for students. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

S.10 Additional Figures

Figure S.3: Goals and effort

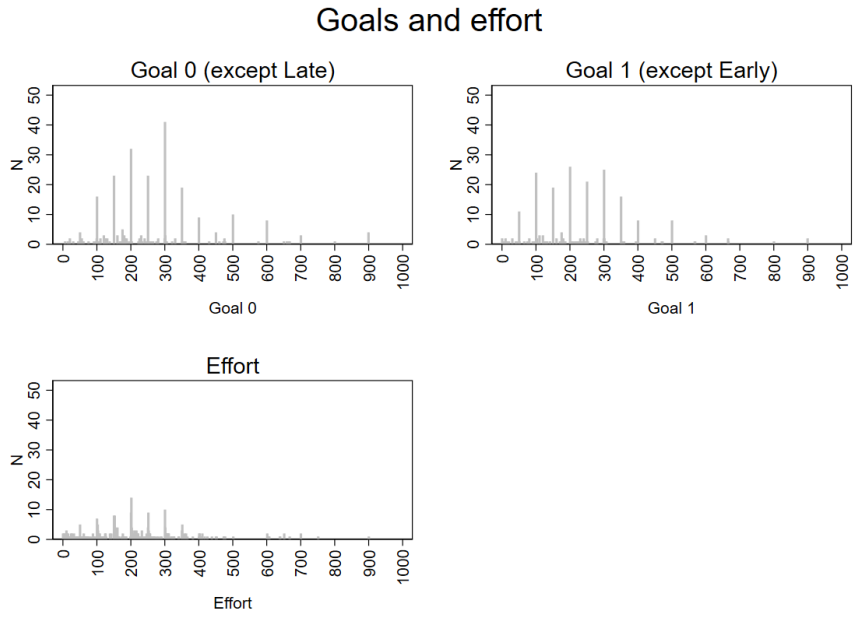
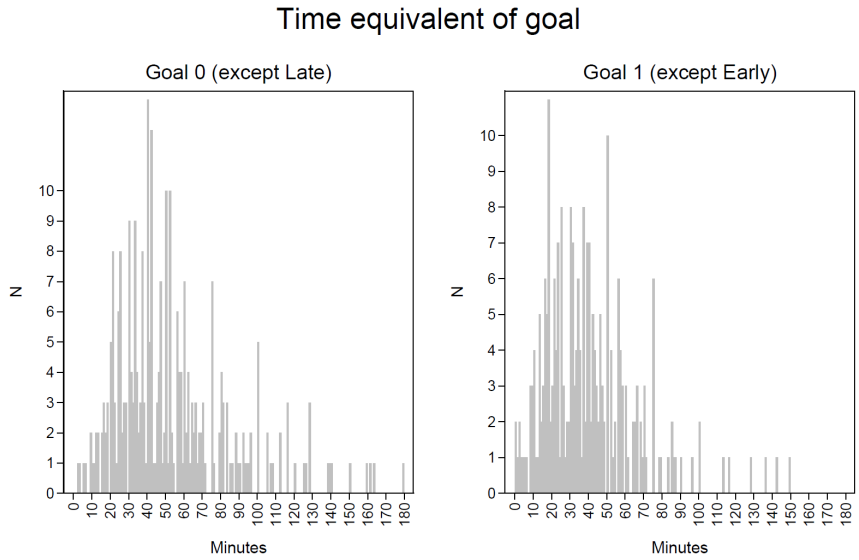
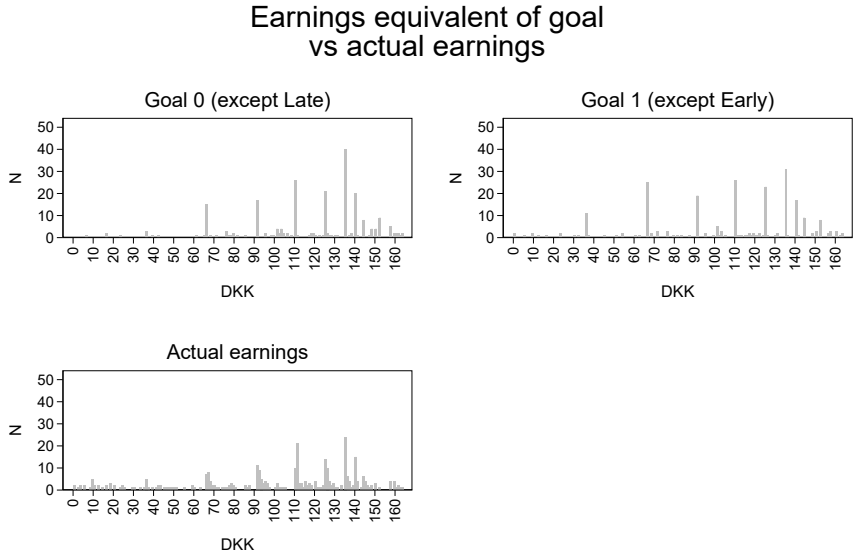


Figure S.4: Time equivalent of goals



Notes: Time is truncated at 180 minutes.

Figure S.5: Earnings equivalent of goals set by subjects vs. actual earnings



S.11 Experimental Instructions

Consent form

1. Title of research

You are being invited to take part in the research study "Working on online tasks", and we would like to ask you for your consent to participate in the study and for us to treat your data in agreement with data protection legislation. Before you decide to participate in this study, it is important that you understand why the research is being conducted, and what it will involve. Please take the time to read the following information carefully. Please contact the researchers if there is anything that is not clear or if you need more information (see contact information below).

2. Project description and aim of the study

The aim of this study is to investigate how people work on online tasks.

3. Data controller, research group, and principal investigator

Data controller and principal investigator: Alexander Koch, Aarhus University, akoch@econ.au.dk.

Other researchers: Jonas Pilgaard Kaiser, Aarhus University, jkaiser@econ.au.dk, and Julia Nafziger, Aarhus University, jnafziger@econ.au.dk

4. Study procedure

The study consists of three parts, which are all completed online using a computer or notepad. The study does not work on mobile phones. The first part takes place on a Wednesday, Thursday, or Friday in <month, year>. You will choose the date from a list. The second part takes place 5 days after part 1 and the third part 7 days after part 1. You will be required to participate in each part of the study in "one go". That is, once you get started with a part, if you are inactive for more than 30 minutes, the computer interface will sign you out and stop collecting data for that part of the study. It is not possible to restart a part of the study once you are signed out.

Part 1 (date you chose from a list): if you give consent to participate in the study by pressing the button below, you will choose a date from a list and receive an invitation email to part 1 shortly before 0:00 on that date. You can use that link until 23:59 on the same day. Following the link in the email will lead you to a web page where you will get detailed instructions. After receiving information about how you will get paid for working on a task, you will be given time to work on the task. The task is to count the number of zeros in a series of tables. The task does not require any prior training or ability. In addition, we will ask you several survey questions, for example, related to your background (e.g., gender, age, and study area), your attitudes, the task, and your time planning. Part 1 will take around 30 minutes and will have to be completed by 23:59.

Part 2 (5 days after part 1): if you complete the first part, then 5 days later, shortly before 0:00, you will receive an invitation email to the second part of the study. During the second part, you will again be given time to work on some online tasks after having received information about how you will be paid for working on the task. Again, we will ask you several survey questions. Depending on how long you want to work on the task, part 2 will take between around 25 minutes and 200 minutes. Part 2 has to be completed by 23:59.

Part 3 (7 days after part 1): if you complete the second part, then 7 days after part 1 you will receive an invitation email to the third part of the study shortly before 0:00. Following the link in the email leads you to a survey. Filling out this survey will take around 5 minutes. Part 3 has to be completed by 23:59.

Participation links will be sent from jkaiser@econ.au.dk or akoch@econ.au.dk. Please add these addresses to your address book so that the emails do not end in your spam folder.

5. Benefits and risks

There are no risks beyond those encountered in normal everyday life.

The total time for participating in this study is between around 60 and 240 minutes. If you complete all parts, you earn at least DKK 65 and you can earn up to approximately DKK 300.

Earning Part 1: if you complete the entire first part, you will receive DKK 35. Further, you will get paid for working on the online task. Your payment here depends on how much you work. In addition, you can earn up to DKK 6 depending on the accuracy of your answers on some of the survey questions. *Your total expected total earnings from part 1 are around DKK 55.* Overall, *part 1 takes around 30 minutes.*

Earnings Part 2:

1. In the first block of part 2, you will answer some questions and work on some tasks. You will get paid DKK 20 for completing this part. In addition, you will get paid for the number of tasks you solve. *Your expected total earnings from this block are approximately DKK 35.* The *time commitment for this block is approximately 20 minutes*. Please note that you can stop working at any time, but if you do so or if you do not answer the questions, then your earnings for this part are zero and you cannot go on to the second block of part 2.
2. In the second block of part 2, your earnings depend on the number of tasks you solve. Again, you can stop working at any time you like. Once you stop working, your earnings will be determined by the number of tasks you have solved up to this point. **Your maximal earnings in the second block are DKK 163.**

Earnings Part 3: you will receive *DKK 15 plus up to DKK 4* depending on the accuracy of your answers. The survey *takes approximately 5 minutes*.

Payments will be into the NEM account linked to your cpr number. Alexander Koch and his team will start registering the payments with the administration of Aarhus University once the study is concluded. Then the administrative process might take between 2-6 weeks. You can contact Alexander Koch by email (akoch@econ.au.dk) if you want information on the payment process. Please write this email address down, so that you have his contact details in case you later have any questions!

Taxes: according to Danish law, Aarhus University reports payments to the tax authorities. Please note that taxes might be deducted from the amount of money you earn.

6. Type of personal data and when it is deleted/anonymized

We process normal personal information in form of your CPR number, email address, and your name. The email address is used to contact you and provide the links needed to access the different parts of the study. To determine the payments that you will receive for participation in the study, we need to link your name and CPR number with your data from the experiment through a participant ID number. Once the payment process is finalized, your name, email address, and CPR number are deleted (approximately 3 months from now).

This study collects and processes other normal personal information in form of, for example, your gender, age, and study area. These data are collected for the scientific analysis. The survey software that we use for this study collects, like most webpages, your IP address and estimates your location based on the IP address. This information will be used to produce some aggregate statistics on the background of the participants; thereafter, it will be deleted (approximately 6 months from now).

In sum, we will only temporarily store and process your name, CPR number, email address, IP address, and estimated location. After a period of approximately 6 months, this information will be deleted and the data will be anonymized.

7. External data processors

Your data (including your CPR number) will be collected using the survey software Qualtrics. Aarhus University has a data processing agreement with the company Qualtrics. The data processing agreement documents that the cooperation between Aarhus University and Qualtrics complies with the rules concerning the protection of personal data.

Any publication of the research in this study will be based on anonymized data (i.e., the data without personal identifiers). As part of such a publication, the anonymized data set will be made publically available to allow other researchers to reproduce the statistical analysis.

8. Withdrawal of consent

Participation is voluntary, and you may withdraw your consent at any time. This is done by contacting Alexander Koch by email. Please note that your data can only be deleted before the data from the study are anonymized. Thereafter, your entries can no longer be identified in the data.

Please note that you can only participate in this study once. We reserve the right to cancel participation in case the study gets oversubscribed before your date of participation. In that case, we will of course inform you by email to the address that you provide us with.

Acceptance Button

By answering "Yes" below, I confirm to have received, read, and understood the above information and that:

A. My participation is voluntary, and I may withdraw my consent and discontinue participation in the project at any time as specified in point 8. My refusal to participate will not result in any penalty.

B. By accepting this agreement, I do not waive any legal rights or release Aarhus University, its agents, or you from liability for negligence.

C. I give my consent to treat my name and CPR number for payment purposes and to participate as a subject in the study as described above.

Instructions for part 1

Page 1: Welcome to part 1 of the research study "Working on online tasks".

This part will take around 30 minutes. You need to complete this part by 23:59 today (<date string>) to be eligible to participate in the next parts of the study. Go to the next page to get started.

Page 2: Please enter your **CPR number** (or your "midlertidigt"/temporary CPR-number), which will be transmitted by a secure internet connection. Write it in without spaces or hyphen (e.g., 0112401234):

We cannot pay you for your participation in the study without a correct and complete CPR number! Your CPR number will only be used for the payment process and will be deleted after. <entry field>

Please confirm your CPR number: <entry field>

Page 3: What is your **age** (in years)? <entry field>

Page 4: What type of **faculty** are you studying at?

- o Arts/Humanities/Theology
- o BSS (Business and Social Sciences)/Social Sciences/Law
- o Health
- o Science and Technology
- o Other
- o I am not a student

(If not a student) Page 5: What best describes **your situation**?

- o University employee
- o Employed in other public sector
- o Employed in the private sector
- o Self-employed
- o Unemployed
- o Other

(If a student) Page 5: What **type of degree** are you studying for?

- o Bachelor
- o Master
- o PhD
- o Other

(If a student in Arts/Humanities/Theology) Page 6: What best describes your field of study?

- o Archaeology
- o Anthropology
- o Languages
- o Information studies

- o Theology
- o Other

(If a student in BSS (Business and Social Sciences)/Social Sciences/Law) Page 6: What best describes your field of study?

- o Business Administration/Economics
- o Law
- o Political Sciences (Statskundskab)
- o Psychology
- o Anthropology
- o Sociology
- o Other

(If a student in Health) Page 6: What best describes your field of study?

- o Dentistry
- o Medicine
- o Public health
- o Sports sciences
- o Other

(If a student in Science and Technology) Page 6: What best describes your field of study?

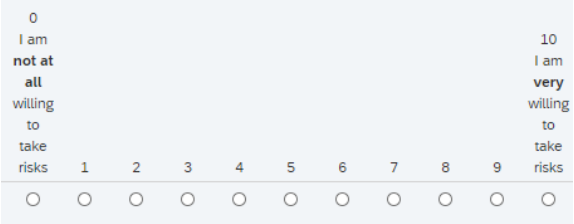
- o Agrobiology
- o Biology
- o Chemistry
- o Computer Science
- o Data Science
- o Engineering
- o Physics
- o Geoscience
- o IT Product Development
- o Chemistry
- o Mathematics
- o Mathematics - Economics
- o Nanoscience
- o Other

(If a student) Page 7: Do you have a **thesis, project report, or other assignments** to hand in during the **next 2 weeks**?

- o no
- o yes - one
- o yes - two
- o yes - three
- o yes - four or more

Page 8: How do you see yourself? **Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?**

Please select a value between 0 and 10, where the value 0 means: 'not at all willing to take risks' and the value 10 means: 'very willing to take risks'



Page 9: A bat and a ball cost DKK 110 in total. The bat costs DKK 100 more than the ball. How much does the ball cost (in DKK)? <entry field>

Page 10: If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets (in minutes)? **<entry field>** <entry field>

Page 11: In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake (in days)? <entry field>

Page 12: Task

Your task will now be to **count zeros in a series of tables**. Such a table looks like follows and once you have counted the number of zeros in a table, you should enter the number of zeros in that table into a field below the table.

1	0	0	1	1
0	0	1	0	1
0	0	0	0	1
1	1	0	1	1
0	0	1	0	1
0	0	0	0	1

How many zeros are in the table?
(17 is the correct answer for this table)

On the next page you will have **3 minutes** to count zeros in up to 40 tables. **You earn DKK 0.5 for each table where you counted the number of zeros correctly.**

Once you finished a table, please scroll down to access the next table. Use the tab key to jump to the next data entry field, or select the field with a mouse click. The remaining time will be displayed on the right-hand side of the screen. **After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen**.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

When you are ready to start, press the -> button.

Page 13: You have 3 minutes to count the number of zeros in up to 40 tables.

After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

<Tables>

Page 14: Thanks. Your answers have been recorded.

Page 15: How much do you like the task of counting zeros?

- o Like a great deal
- o Like somewhat
- o Neither like nor dislike
- o Dislike somewhat
- o Dislike a great deal

Page 16: You will again have **3 minutes** to count zeros in up to 40 tables. Now **your earnings may, depending on your choices, depend on whether you do better than in the first round.**

You are asked to choose what portion of your earnings for this task (between 0 and 100 percent, inclusive) you wish to be determined by either of the following two options.

Option A:
You earn **DKK 0.5** for each table.

Option B:
- You earn **DKK 1** for each table **if you count more tables** than you did in the first round.
- You earn **zero** for each table **if you count fewer tables** than you did in the first round.
- You earn **DKK 0.5** for each table **if you count exactly the same number of tables** as in the first round.

Enter a number into the text box to adjust the percent of earnings determined according to each option. The two numbers must add up to 100.

<entry field> percent according to option A

<entry field> percent according to option B

Page 17: Once you finished a table, please scroll down to access the next table. Use the tab key to jump to the next data entry field, or select the field with a mouse click. The remaining time will be displayed on the right-hand side of the screen. **After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.**

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

When you are ready to start, press the -> button.

Page 18: You have 3 minutes to count the number of zeros in up to 40 tables.

After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

<Tables>

Page 19: Thanks. Your answers have been recorded

Page 20: We would like to know about **your time schedule for <date string for part 2>** (the date when you will participate in part 2 of the study).

Please indicate **what best describes your plans for each 1-hour block** by ticking the appropriate box. (Any time planned for participating in part 2 of the study should count as "flexible time".)

	Please select one option for each time slot					
	Sleep	**Work** (f.ex. student job)	**Classes or tutorials**	**Scheduled studying** (f.ex. self-studying or study group)	**Scheduled leisure activities**	**Flexible time**
0:00- 1:00	○	○	○	○	○	○
1:00- 2:00	○	○	○	○	○	○
2:00- 3:00	○	○	○	○	○	○
3:00- 4:00	○	○	○	○	○	○
...						
18:00-19:00	○	○	○	○	○	○
19:00-20:00	○	○	○	○	○	○
20:00-21:00	○	○	○	○	○	○
21:00-22:00	○	○	○	○	○	○
22:00-23:00	○	○	○	○	○	○
23:00-24:00	○	○	○	○	○	○

Page 21: How likely do you think it is that you will end up having **less** than 2 hours of flexible time on **<date string for part 2>** ? (Any time planned for participating in part 2 of the study should count as "flexible time".)

- o Extremely likely
- o Somewhat likely
- o Neither likely nor unlikely
- o Somewhat unlikely
- o Extremely unlikely

(all treatments, except Late) Page 22:

In **part 2 of the study, on <date string for part 2>** between 0:00 and 23:59, you will have the **opportunity to count the number of zeros in as many tables as you like**.

You will earn a piece rate, that is, a payment for each table in which you count the numbers of zeros correctly (for simplicity we call this a "correctly counted table"). **The piece rate varies with the number of tables that you count** as follows:

- For tables **1 to 50**, you earn **DKK 0.7** per correctly counted table
- For tables **51 to 100**, you earn **DKK 0.6** per correctly counted table
- For tables **101 to 150**, you earn **DKK 0.5** per correctly counted table
- For tables **151 to 200**, you earn **DKK 0.4** per correctly counted table
- For tables **201 to 250**, you earn **DKK 0.3** per correctly counted table
- For tables **251 to 300**, you earn **DKK 0.2** per correctly counted table
- For tables **301 to 350**, you earn **DKK 0.1** per correctly counted table
- For tables **351 to 400**, you earn **DKK 0.09** per correctly counted table
- For tables **401 to 450**, you earn **DKK 0.08** per correctly counted table
- For tables **451 to 500**, you earn **DKK 0.07** per correctly counted table
- For tables **501 to 550**, you earn **DKK 0.06** per correctly counted table
- For tables **551 to 600**, you earn **DKK 0.05** per correctly counted table
- For tables **601 to 650**, you earn **DKK 0.04** per correctly counted table
- For tables **651 to 700**, you earn **DKK 0.03** per correctly counted table
- For tables **701 to 750**, you earn **DKK 0.02** per correctly counted table
- For tables **751 to 900**, you earn **DKK 0.01** per correctly counted table
- For tables **901 and beyond**, you earn **zero** per correctly counted table

Click **here** to see a graph of how your earnings depend on the number of tables you complete (opens a new window)

You will need to work on the task in "one go". That is, once you get started **on <date string for part 2>**, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out, and stop collecting data for part 2 of the study.

(all treatments, except LATE) Page 23: Set a goal!

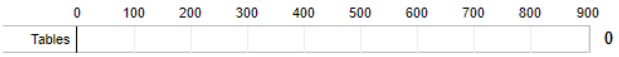
We ask you to set yourself a goal for how many tables to count on <date string for part 2>. We will remind you of the goal you set with a probability of 2/3. But, of course, you are free to work as much as you want.

Below, we give you feedback on your performance on the task today. Before you set your goal, play around a bit with the slider below.

Use the slider to indicate different goals or click on the number to the right of the slider to type in a goal. The text above will then explain how much time you would need to reach your goal and what your earnings would be (if you worked at the same speed as when you tried out the task before).
Note: The slider stops at 900 because if you count more tables your earnings do not change.

What if I set a goal of <value> tables?

- When trying out the task, **you managed to complete <value> tables in 3 minutes**.
- At this speed, **reaching a goal of <value> tables would take approximately <value> minutes and <value> seconds.**
- Your **total earnings would be DKK <value> .** The piece rate for the last table would be DKK **<value>**.



My goal for how many tables to complete on <date string for part 2>: <entry field>

Reminder:
1. **You will need to work on the task in "one go"**.
That is, once you get started **on <date string for part 2>**, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out and stop collecting data for part 2 of the study.

2. Click **here** to see the **table with the piece rates** from the previous screen (opens a new window)
3. Click **here** to see a **graph** of how your earnings depend on the number of tables you complete (opens a new window)

Page 24: Thank you for completing part 1 of the study.

On <date string for part 2>, you will receive an invitation email with a link for accessing the second part of the study. The link will work between 0:00 and 23:59 on <date string for part 2>.

Your earnings in this study so far are DKK <value>.

Details:
1. You receive DKK <value>for completing part 1.
2. You receive DKK <value> because you correctly answered <value> out of the 3 questions paid DKK 2 for each correct answer
3. You receive: DKK <value>from the first round of the counting task.
You managed to complete <value> tables in 3 minutes. The piece rate was DKK 0.5.
4. You receive: DKK <value>from the second round of the counting task.
You managed to complete <value>tables in 3 minutes. You selected to be paid <value> percent according to option A (piece rate of DKK 0.5) and <value> percent according to option B (piece rate of DKK 1/0.5/0 if more/the same number/fewer tables correctly counted than in the first round of the counting task).

Move to the next page to finish.

Instructions for part 2

Page 1: Welcome to part 2 of the research study "Working on Online Tasks".

First, you will spend two times three minutes working on the counting task. In between, you will answer a few questions. Thereafter, you will have the opportunity to increase your earnings by working as much as you like on some tasks.

Go to the next page to get started.

Page 2: Task

Your task will now be to **count zeros in a series of tables**. Such a table looks like follows and once you have counted the number of zeros in a table, you should enter the number of zeros in that table into a field below the table.

1	0	0	1	1
0	0	1	0	1
0	0	0	0	1
1	1	0	1	1
0	0	1	0	1
0	0	0	0	1

How many zeros are in the table?
(17 is the correct answer for this table)

On the next page you will have **3 minutes** to count zeros in up to 40 tables. **You earn DKK 0.5 for each table where you counted the number of zeros correctly.**

Once you finished a table, please scroll down to access the next table. Use the tab key to jump to the next data entry field, or select the field with a mouse click. The remaining time will be displayed on the right-hand side of the screen. **After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen**.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

When you are ready to start, press the -> button.

Page 3: You have 3 minutes to count the number of zeros in up to 40 tables.

After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

<Tables>

Page 4: Thanks. Your answers have been recorded.

Page 5: We would like to know about **your time schedule for today**.

Please indicate **what best describes your plans for each 1-hour block** by ticking the appropriate box. Count as "flexible time" any time planned for participating in today's part of the study.

	Please select one option for each time slot					
	Sleep	**Work** (f.ex. student job)	**Classes or tutorials**	**Scheduled studying** (f.ex. self-studying or study group)	**Scheduled leisure activities**	**Flexible time**
0:00- 1:00	○	○	○	○	○	○
1:00- 2:00	○	○	○	○	○	○
2:00- 3:00	○	○	○	○	○	○
3:00- 4:00	○	○	○	○	○	○
...						
18:00-19:00	○	○	○	○	○	○
19:00-20:00	○	○	○	○	○	○
20:00-21:00	○	○	○	○	○	○
21:00-22:00	○	○	○	○	○	○
22:00-23:00	○	○	○	○	○	○
23:00-24:00	○	○	○	○	○	○

Page 6: Next, you will answer some questions and spend another 3 minutes working on the task. Once you are done with this, you will have the **opportunity to count the number of zeros in as many tables as you like** until 23:59 today. However, **you must work on the task in "one go"**. That is, once you get started with counting, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out, and stop collecting data for part 2 of the study.

You will earn a piece rate, that is, a payment for each table in which you count the numbers of zeros correctly (for simplicity we call this a "correctly counted table"). **The piece rate varies with the number of tables that you count** as follows:

- For tables **1 to 50**, you earn **DKK 0.7** per correctly counted table
- For tables **51 to 100**, you earn **DKK 0.6** per correctly counted table
- For tables **101 to 150**, you earn **DKK 0.5** per correctly counted table
- For tables **151 to 200**, you earn **DKK 0.4** per correctly counted table
- For tables **201 to 250**, you earn **DKK 0.3** per correctly counted table
- For tables **251 to 300**, you earn **DKK 0.2** per correctly counted table
- For tables **301 to 350**, you earn **DKK 0.1** per correctly counted table
- For tables **351 to 400**, you earn **DKK 0.09** per correctly counted table
- For tables **401 to 450**, you earn **DKK 0.08** per correctly counted table
- For tables **451 to 500**, you earn **DKK 0.07** per correctly counted table
- For tables **501 to 550**, you earn **DKK 0.06** per correctly counted table
- For tables **551 to 600**, you earn **DKK 0.05** per correctly counted table

- For tables **601 to 650**, you earn **DKK 0.04** per correctly counted table
- For tables **651 to 700**, you earn **DKK 0.03** per correctly counted table
- For tables **701 to 750**, you earn **DKK 0.02** per correctly counted table
- For tables **751 to 900**, you earn **DKK 0.01** per correctly counted table
- For tables **901 and beyond**, you earn **zero** per correctly counted table

Click **here** to see a graph of how your earnings depend on the number of tables you complete (opens a new window).

Remember that **if you are inactive for more than 30 minutes, the computer interface will sign you out.**

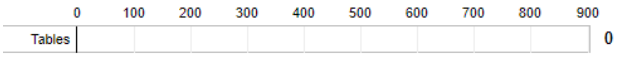
(If treatment Late) Page 7: Set a goal!

We ask you to set yourself a goal for how many tables to count today. We will remind you of the goal you set with a probability of 2/3. But, of course, you are free to work as much as you want.

Below, we give you feedback on your performance on the task today. Before you set your goal, play around a bit with the slider below.
Use the slider to indicate different goals or click on the number to the right of the slider to type in a goal. The text above will then explain how much time you would need to reach your goal and what your earnings would be (if you worked at the same speed as when you tried out the task before).
Note: The slider stops at 900 because if you count more tables your earnings do not change.

What if I set a goal of <value> tables?

- When trying out the task, **you managed to complete <value> tables in 3 minutes**.
- At this speed, **reaching a goal of <value> tables would take approximately <value> minutes and <value> seconds.**
- Your **total earnings would be DKK <value> .** The piece rate for the last table would be DKK **<value>**.



My goal for how many tables to complete today: <entry field>

Reminder:
1. **You will need to work on the task in "one go".**
That is, once you get started, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out and stop collecting data for part 2 of the study.
2. Click **here** to see the **table with the piece rates** from the previous screen (opens a new window)
3. Click **here** to see a **graph** of how your earnings depend on the number of tables you complete (opens a new window)

(If treatment Revise0 or Revise1) Page 7: In part 1, you set yourself the goal of counting <value> tables today.

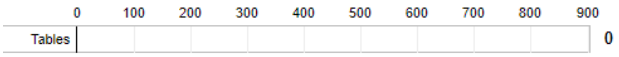
You now again have the opportunity to set a goal for how many tables to count today. We will remind you about either the goal you set now or the goal you set in part 1, each with probability 1/2. But, of course, you are free to work as much as you want.

Below, we give you feedback on your performance on the task today. Before you set your goal, play around a bit with the slider below.

Use the slider to indicate different goals or click on the number to the right of the slider to type in a goal. The text above will then explain how much time you would need to reach your goal and what your earnings would be (if you worked at the same speed as when you just worked on the task).
Note: the slider stops at 900 because if you count more tables your earnings do not change.

What if I set a goal of <value> tables?

- When trying out the task, **you managed to complete <value> tables in 3 minutes**.
- At this speed, **reaching a goal of <value> tables would take approximately <value> minutes and <value> seconds.**
- Your **total earnings would be DKK <value> .** The piece rate for the last table would be DKK **<value>**.



My goal for how many tables to complete today: <entry field>

Reminder:
1. **You will need to work on the task in "one go"**.
That is, once you get started, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out and stop collecting data for part 2 of the study.
2. Click **here** to see the **table with the piece rates** from the previous screen (opens a new window)
3. Click **here** to see a **graph** of how your earnings depend on the number of tables you complete (opens a new window)

(If treatment Early) Page 7: In part 1, you set yourself the goal of counting <value> tables today.

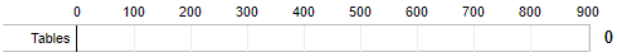
We will remind you of this goal. But, of course, you are free to work as much as you want.

Below, we give you feedback on your performance on the task today. Before you set your goal, play around a bit with the slider below.

Use the slider to indicate different goals or click on the number to the right of the slider to type in a goal. The text above will then explain how much time you would need to reach your goal and what your earnings would be (if you worked at the same speed as when you tried out the task before).
Note: The slider stops at 900 because if you count more tables your earnings do not change.

What if I complete <value> tables?

- When trying out the task, **you managed to complete <value> tables in 3 minutes**.
- At this speed, **reaching a goal of <value> tables would take approximately <value> minutes and <value> seconds.**
- Your **total earnings would be DKK <value> .** The piece rate for the last table would be DKK **<value>**.



Reminder:
1. **You will need to work on the task in "one go"**.
That is, once you get started, if you are inactive for more than 30 minutes, the computer interface will record the number of correctly counted tables, sign you out and stop collecting data for part 2 of the study.
2. Click **here** to see the **table with the piece rates** from the previous screen (opens a new window)
3. Click **here** to see a **graph** of how your earnings depend on the number of tables you complete (opens a new window)

Page 8: On the next page, you will again have **3 minutes** to count zeros in up to 40 tables. **You earn DKK 0.5 for each table where you counted the number of zeros correctly.**

Once you finished a table, please scroll down to access the next table. Use the tab key to jump to the next data entry field, or select the field with a mouse click. The remaining time will be displayed on the right-hand side of the screen. After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

When you are ready to start, press the -> button.

Page 9: You have 3 minutes to count the number of zeros in up to 40 tables.

After the 3 minutes have elapsed, all your entered answers will be saved and you will automatically be redirected to the next screen.

Do not use the back/forward/reload screen, etc. buttons on your browser toolbar. Do not close the browser. Doing so may invalidate results, in which case you will not receive payments for this task.

<Tables>

Page 10: Thanks. Your answers have been recorded.

In the two 3-minute rounds of the counting task you managed to complete
- ${e://Field/p2productivity1} tables (first round)
- ${e://Field/p2productivity2} tables (second round)
The piece rate was DKK 0.5 in both rounds.

In addition, you receive DKK ${e://Field/fixedpay2} because you completed the first block of today's part of the study.

Please move to second block now.

Page 11: You now have the opportunity to **count the number of zeros in as many tables as you like until 23:59 today**.

You set yourself the goal of counting <value> tables.

From the next page on, if you are inactive for more than 30 minutes, you cannot resume working.
Important: Once you continue to the next page, you will have to do all the tasks that you wish to complete without any breaks that last longer than 30 minutes. If you accidentally close your browser, you can use your survey link to open the study again and continue where you stopped, as long as you were not inactive for more than 30 minutes. You need to use the same computer and browser (this feature works by having the survey software place a cookie on your browser that keeps track of how far you got). If you do not wish to start with the study at this time point, close your browser and use your survey link to open the study again at a later time point, but before the deadline of 23:59 today.

Page 12 - : Your goal is to complete <value> tables.

So far, you have completed <value> tables.

For the next table you complete, you earn DKK <value>.

Your total earnings for part 2 of the study so far are DKK <value>.

Please count the number of zeros in the following table.

Once you counted the table, please click "->" to save your response. If you miscount the table, you will be asked to count it again.

<Table>

How many zeros are in the table?

<entry field>

Reminder:

1. You need to submit an entry before <current time + 30 min>. If you remain inactive beyond that time, you will not be able to continue with part 2 of the study, and your earnings will be DKK <value>. (DKK <value> for the first block and DKK <value> for the second block of part 2). If you accidentally close your browser, you can use your survey link to open the study again and continue where you stopped - as long as you were not inactive for more than 30 minutes. You need to use the same computer and browser (this feature works by having the survey software place a cookie on your browser that keeps track of how far you got).

2. Click **here** to see the **table with the piece rates** for tables completed (opens a new window)
3. Click **here** to see a **graph** of how your earnings depend on the number of tables you complete (opens a new window)

Instructions for part 3

Page 1: Welcome to the final part of the research study "Working on Online Tasks".

This part consists of several survey questions and will take around 5 minutes. Go to the next page to get started.

Page 2: How much do you like the task of counting the number of zeros in tables?

- o Like a great deal
- o Like somewhat
- o Neither like nor dislike
- o Dislike somewhat
- o Dislike a great deal

Page 3:

(All treatments, except Late) We now ask you to **recall the goal that you set yourself in part 1 (on <date>).**

You receive **DKK 2 if you correctly recall** the goal that you set. <entry field>

(All treatments, except Early) We now ask you to **recall the goal that you set yourself in part 2 (on <date>).**

You receive **DKK 2 if you correctly recall** the goal that you set. <entry field>

(If treatment Revise0 or Revise1) Which of the two goals did you care more about?

- o The goal that I set myself in part 1 (on <date>)
- o The goal that I set myself in part 2 (on <date>)
- o I cared equally about both goals

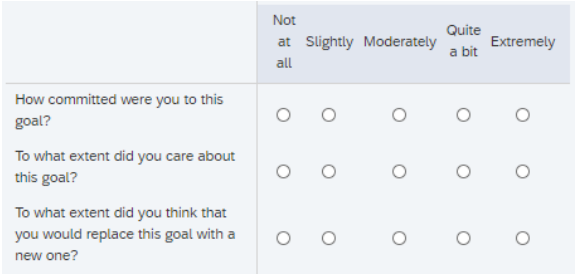
(If treatment Late) Page 4: Early in part 2 of the study, you were asked to set yourself a goal for how many tables to count in part 2.

Did you already have a goal in mind before starting with part 2?

- o Yes, before starting part 2 I had already set a goal for how many tables to count in part 2.
- o No, I first thought about what goal to set in part 2 when asked to set a goal.

If you answered yes, please recall the goal you had already set. Otherwise leave this field empty. <entry field>

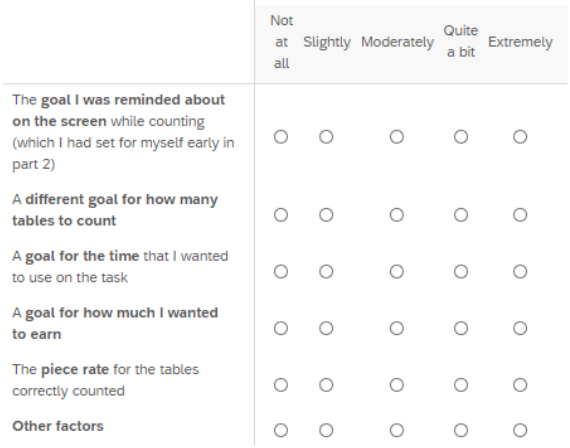
(If treatment Late) Page 5: Consider **how you felt at the start of part 2 (on >date>) when setting yourself a goal for how many tables to count a few minutes later.**



	Not at all	Slightly	Moderately	Quite a bit	Extremely
How committed were you to this goal?	○	○	○	○	○
To what extent did you care about this goal?	○	○	○	○	○
To what extent did you think that you would replace this goal with a new one?	○	○	○	○	○

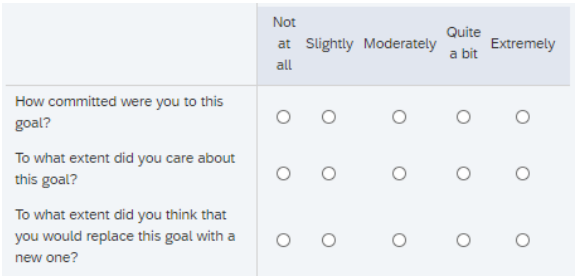
(If treatment Late) Page 6: Consider **how you felt when counting tables in part 2 (on <date>).**

To what extent did any of the items below **influence how many tables you counted**?



	Not at all	Slightly	Moderately	Quite a bit	Extremely
The **goal I was reminded about on the screen** while counting (which I had set for myself early in part 2)	○	○	○	○	○
A **different goal for how many tables to count**	○	○	○	○	○
A **goal for the time** that I wanted to use on the task	○	○	○	○	○
A **goal for how much I wanted to earn**	○	○	○	○	○
The **piece rate** for the tables correctly counted	○	○	○	○	○
Other factors	○	○	○	○	○

(If treatment Early) Page 4: Consider **how you felt in part 1 (on <date>) when setting yourself a goal for how many tables to count in part 2.**



	Not at all	Slightly	Moderately	Quite a bit	Extremely
How committed were you to this goal?	○	○	○	○	○
To what extent did you care about this goal?	○	○	○	○	○
To what extent did you think that you would replace this goal with a new one?	○	○	○	○	○

(If treatment Early) Page 5: In part 1 (on <date>), you set yourself a goal for how many tables to count in part 2. **Before starting to count tables** in part 2, did you set yourself a **new goal** for how many tables to count?

- o Yes, I set myself a new goal after having set a goal in part 1
- o No, I did not set myself a new goal after having set a goal in part 1

If you answered yes, please recall the new goal you set. Otherwise leave this field empty. <entry field>

(If treatment Early) Page 6: Consider **how you felt when counting tables in part 2 (on <date>).**

To what extent did any of the items below **influence how many tables you counted**?

	Not at all	Slightly	Moderately	Quite a bit	Extremely
The **goal I was reminded about on the screen** while counting (which I had set for myself in part 1)	○	○	○	○	○
A **different goal for how many tables to count**	○	○	○	○	○
A **goal for the time** that I wanted to use on the task	○	○	○	○	○
A **goal for how much I wanted to earn**	○	○	○	○	○
The **piece rate** for the tables correctly counted	○	○	○	○	○
Other factors	○	○	○	○	○

(If treatment Revise0 or Revise1) Page 4:

Consider **how you felt in part 1 (on <date>) when setting yourself a goal for how many tables to count in part 2.**

	Not at all	Slightly	Moderately	Quite a bit	Extremely
How committed were you to this goal?	○	○	○	○	○
To what extent did you care about this goal?	○	○	○	○	○
To what extent did you think that you would replace this goal with a new one?	○	○	○	○	○

Consider **how you felt at the start of part 2 (on <date>) when setting yourself a goal for how many tables to count a few minutes later.**

	Not at all	Slightly	Moderately	Quite a bit	Extremely
How committed were you to this goal?	○	○	○	○	○
To what extent did you care about this goal?	○	○	○	○	○
To what extent did you think that you would replace this goal with a new one?	○	○	○	○	○

(If treatment Revise0) Page 5: Consider **how you felt when counting tables in part 2 (on <date>).**

To what extent did any of the items below **influence how many tables you counted**?

	Not at all	Slightly	Moderately	Quite a bit	Extremely
The **goal I was reminded about on the screen** while counting (which I had set for myself in part 1)	○	○	○	○	○
The **goal I was not reminded about** while counting (which I had set for myself a few minutes before starting to count)	○	○	○	○	○
A **different goal for how many tables to count**	○	○	○	○	○
A **goal for the time** that I wanted to use on the task.	○	○	○	○	○
A **goal for how much I wanted to earn**	○	○	○	○	○
The **piece rate** for the tables correctly counted	○	○	○	○	○
Other factors	○	○	○	○	○

(If treatment Revise1) Page 5: Consider **how you felt when counting tables in part 2 (on <date>).**

To what extent did any of the items below **influence how many tables you counted**?

	Not at all	Slightly	Moderately	Quite a bit	Extremely
The **goal I was reminded about on the screen** while counting (which I had set for myself a few minutes before starting to count)	○	○	○	○	○
The **goal I was not reminded about** while counting (which I had set for myself in part 1)	○	○	○	○	○
A **different goal for how many tables to count**	○	○	○	○	○
A **goal for the time** that I wanted to use on the task.	○	○	○	○	○
A **goal for how much I wanted to earn**	○	○	○	○	○
The **piece rate** for the tables correctly counted	○	○	○	○	○
Other factors	○	○	○	○	○

Page 7: Please read the following sentences and state how well they describe you.

	Not like me at all	Not much like me	Somewhat like me	Mostly like me	Very much like me
When setting a goal, I carefully think about what I want to achieve and when to achieve it	○	○	○	○	○
I feel angry with myself when I give up a goal	○	○	○	○	○
I sometimes do not set goals because I am afraid that I will not be able to achieve them	○	○	○	○	○
I set goals in my daily life (e.g., for the number of hours you want to study, for saving money, . . .)	○	○	○	○	○

Page 8: **You have now completed the study.**

Your total earnings in this study are DKK <value>.
(DKK <value> from part 1, DKK <value> from part 2, and DKK <value> from part 3)

Thank you for helping us with our research.

Move to the next page to finish.

References

Abeler, J., A. Falk, L. Götte, and D. Huffman (2011): "Reference Points and Effort Provision," *American Economic Review*, 101, 470–492.

Aberson, C. L. (2019): *Applied Power Analysis for the Behavioral Sciences*, Routledge.

Acland, D. and M. R. Levy (2015): "Naiveté, Projection Bias, and Habit Formation in Gym Attendance," *Management Science*, 61, 146–160.

Allen, E. J., P. M. Dechow, D. G. Pope, and G. Wu (2016): "Reference-Dependent Preferences: Evidence from Marathon Runners," *Management Science*, 63, 1657–1672.

Augenblick, N., M. Niederle, and C. Sprenger (2015): "Working over Time: Dynamic Inconsistency in Real Effort Tasks," *Quarterly Journal of Economics*, 130, 1067–1115.

Augenblick, N. and M. Rabin (2019): "An Experiment on Time Preference and Misprediction in Unpleasant Tasks," *Review of Economic Studies*, 86, 941–975.

Clark, D., D. Gill, V. L. Prowse, and M. Rush (2020): "Using Goals to Motivate College Students: Theory and Evidence from Field Experiments," *Review of Economics and Statistics*, 102, 648–663.

De Quidt, J., J. Haushofer, and C. Roth (2018): "Measuring and bounding experimenter demand," *American Economic Review*, 108, 3266–3302.

Dohmen, T., A. Falk, D. Huffman, U. Sunde, J. Schupp, and G. G. Wagner (2011): "Individual Risk Attitudes: Measurement, Determinants, And Behavioral Consequences," *Journal of the European Economic Association*, 9, 522–550.

Gelman, A. and J. Carlin (2014): "Beyond Power Calculations: Assessing Type S (sign) and Type M (magnitude) Errors," *Perspectives on Psychological Science*, 9, 641–651.

Gollwitzer, P. M. and P. Sheeran (2006): "Implementation Intentions and Goal Achievement: A Meta-Analysis of Effects and Processes," in *Advances in Experimental Social Psychology*, ed. by M. Zanna, New York: Academic Press, vol. 38, chap. 2, 69–119.

Goulet-Pelletier, J.-C. and D. Cousineau (2018): "A Review of Effect Sizes and their Confidence Intervals, Part I: The Cohen's d Family," *Quantitative Methods for Psychology*, 14, 242–265.

Grant, A. M. (2008): "The Significance of Task Significance: Job Performance Effects, Relational Mechanisms, and Boundary Conditions." *Journal of Applied Psychology*, 93, 108–124.

Hackman, J. R. and G. R. Oldham (1976): "Motivation through the Design of Work: Test of a Theory," *Organizational Behavior and Human Performance*, 16, 250–279.

Kahneman, D. and A. Tversky (1982): "Intuitive Prediction: Biases and Corrective Procedures," in *Judgment under Uncertainty: Heuristics and Biases*, ed. by D. Kahneman, P. Slovic, and A. Tversky, Cambridge: Cambridge University Press, 414–421.

Klein, H. J., J. C. Molloy, and C. T. Brinsfield (2012): "Reconceptualizing Workplace Commitment to Redress a Stretched Construct: Revisiting Assumptions and Removing Confounds," *Academy of Management Review*, 37, 130–151.

Koch, A. K. and J. Nafziger (2020): "Motivational Goal Bracketing: An Experiment," *Journal of Economic Theory*, 185, 104949.

Pope, D. and U. Simonsohn (2011): "Round Numbers as Goals: Evidence from Baseball, SAT Takers, and the Lab," *Psychological Science*, 22, 71–79.

Saccardo, S., A. Pietrasz, and U. Gneezy (2017): "On the Size of the Gender Difference in Competitiveness," *Management Science*, 64, 1541–1554.

Sitkin, S. B., K. E. See, C. C. Miller, M. W. Lawless, and A. M. Carton (2011): "The Paradox of Stretch Goals: Organizations in Pursuit of the Seemingly Impossible," *Academy of Management Review*, 36, 544–566.

Smithers, S. (2015): "Goals, Motivation and Gender," *Economics Letters*, 131, 75–77.