

## **Summary of Procrastination, Deadlines, and Performance: Self-Control by Precommitment** **Dan Ariely & Klaus Wertenbroch (2002)**

### Research Questions

1. Are people willing to self-impose costly deadlines on tasks in which procrastination may impede performance?...Yes
2. Are self-imposed deadlines effective in improving task performance?...Yes
3. Do people set their deadlines optimally, for maximum performance enhancement?...No

### Study 1: The free-choice/no-choice study

#### ● Method

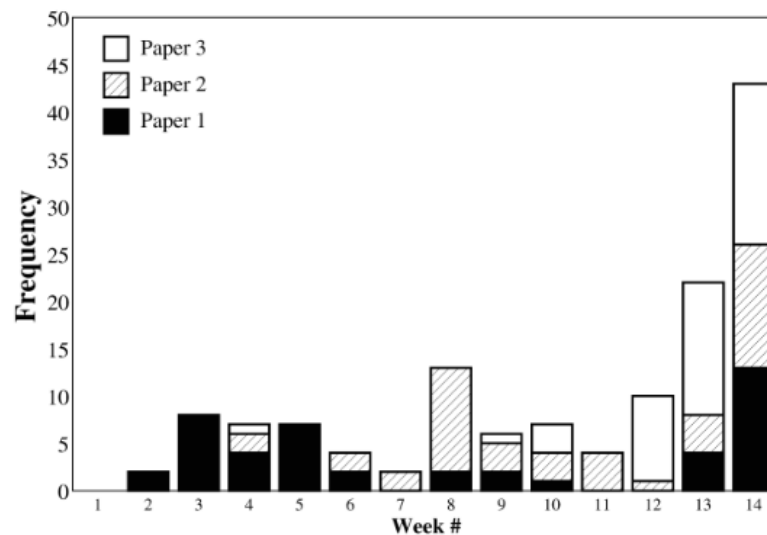
- The study took place within the context of a semester-long executive education course. Participants were students in class.
- Participants(99 professionals who participated in the class via interactive video)
- were required to write three short papers. Those in the no-choice section (48 students) were given fixed, evenly spaced deadlines. Those in the free-choice section (51 students) were given detailed instructions about setting their own deadlines.
- External constraints
  - ✧ Students had to hand in their papers no later than the last lecture.
  - ✧ Students had to announce the deadlines for submission prior to the second lecture.
  - ✧ The dates were final and could not be changed.
  - ✧ Delay would cause 1% penalty in the paper's overall grade.
- External constraints provided incentives for the students to hand in the papers on the last possible day. They would have more time to work on the papers, can arrange their workload, learn most about the topic before submitting the papers. Penalty would also be applied only to late submissions and not to early ones. Students who wanted to submit assignments early could also privately plan to do so without precommitting to the instructor.

#### ● Results and discussion

- Deadlines
  - ✧ The mean deadlines were significantly earlier than the last possible deadline
    - 1<sup>st</sup> paper: 41.78 days before the end of the term
    - 2<sup>nd</sup> paper: 26.07 days before the end of the term
    - 3<sup>rd</sup> paper: 9.84 days before the end of the term
  - ✧ Only 32% of deadlines were set for the final week. Only 27% of students chose

to submit all three papers on the last day of class.

- ✧ Takeaway(RQ1): people are willing to self-impose costly (more commitment and greater potential cost for being late) deadlines on tasks in which procrastination may impede performance.



- Performance of the three papers (direct effect)
    - ✧ The grades in the no-choice section(88.76) were higher than the grades in the free-choice section(85.67)
- ✧ Takeaway(RQ3): students have self-control problems, and they use deadlines to overcome these problems, but do not set them optimally.
- Performance of a final project (indirect effect)
    - ✧ Scores in the free-choice section were lower than in the no-choice section
    - ✧ Takeaways: students with the late self-imposed deadlines might not have had enough time to work on the final project
  - Performance of the three papers in the no-choice section and the free-choice-section students who chose evenly spaced deadlines
    - ✧ Performance between these two sections decreased dramatically and became nonsignificant when students who chose evenly spaced deadlines were included in the analysis
- ✧ Takeaway(RQ3): the overall negative effect of self-imposing deadlines was due primarily to the timing of the deadlines. (not the nature of the deadlines, i.e. self vs external, and how students in each group perceived them)

## Study 2: The proofreading study

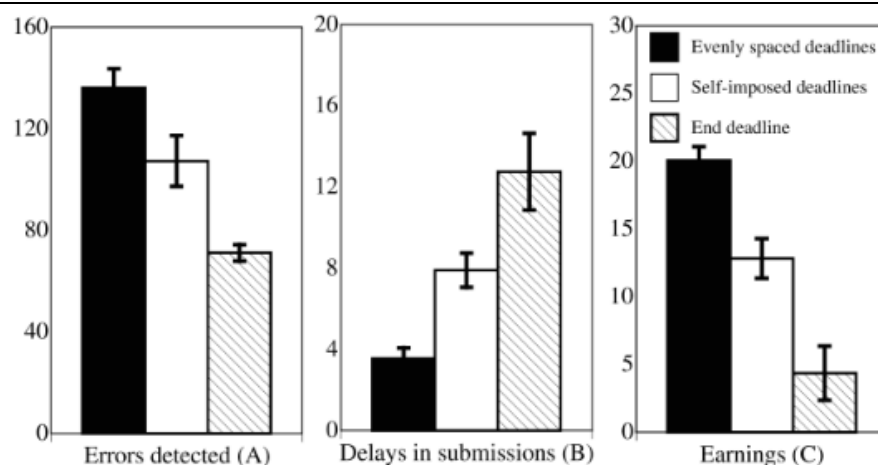
## ● Method

- Placed an ad looking for proofreaders, with 10 cents paid per correctly detected error and a \$1 penalty for each day of delay. The experimenters chose proofreading since it is a task that people care about but one whose outcome was not central to their lives and it provides objective performance scores.
- There are three conditions for participants:
  1. evenly-spaced deadlines condition: submit every 7 days
  2. end-deadlines condition: submitting all three texts at the end of three weeks
  3. self-imposed-deadlines condition: submit all three texts within three weeks

## ● Results and discussion

- Setting deadlines
  - ✧ Participants in the self-imposed-deadlines condition chose to space out their proofreading tasks rather than handing it on the last day
  - ✧ Takeaway(RQ1): people have preference to self-impose costly deadlines. The result replicates that of Study 1.
- Performance (measured in three aspects)
  - ✧ The numbers of errors correctly detected: evenly-spaced>self-imposed>end
  - ✧ Delays in submissions: evenly-spaced<self-imposed<end
  - ✧ Earnings (errors detected and delays combined): evenly-spaced>self-imposed>end

✧ Takeaway(RQ2): Self-imposed deadlines improved task performance but not to the same degree as evenly spaced deadlines. Handing the papers on the last day of class might seem the most rational, but it seems the performance in the end deadline condition is poorer than that in the self-imposed-deadlines condition.



- Performance of evenly-spaced-deadlines condition and self-imposed-deadlines condition
  - ✧ The difference decreases when those in self-imposed-deadlines condition who had evenly spaced their tasks evenly are included.
  - ✧ Takeaway(RQ3): a central cause of the lower performance in the self-imposed deadlines condition was suboptimal spacing of the task.
- Overall experience & time spent on the task
  - ✧ Satisfaction on a 100-point scale: evenly-spaced (22.1)<self-imposed (28.12)<end (37.9)
    - The authors suggested that the pattern would have been reversed if the task had been enjoyable.
  - ✧ Time spent: evenly-spaced (84)>self-imposed (69.9)>end (50.8)
  - ✧ When deadline constraints increased(end→self-imposed→evenly-spaced), performance improved, enjoyment of the task decreased, and time spent on the task increased.

### General discussion

- A rational decision maker with time-consistent preferences would not impose constraints on his or her choices. However, people self-impose deadlines, suggesting that they impulsively procrastinate and they are aware of their procrastination problems.
- Participants in the studies showed imperfect sophistication in their understanding of their own procrastination problems, but many did not set their deadlines to bind themselves optimally.
- Possible future research: whether imperfect sophistication signifies biased-self perception, cognitive limitations in setting deadlines, or a deliberate mixed strategy of balancing flexibility and self-control.