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Current Opinion

Pre-crastination: Extra Physical Effort for Mind-Clearing in Reaching, Walking, and Other Activities

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BACKGROUND: In this opinion we consider the roles of physical and cognitive effort in choosing between actions that make different physical and cognitive demands.
VIEW OF THE PAST: In choosing between a less or more demanding physical task, the cognitive effort of each was not expected to have a large effect.
CURRENT STATE: However, people are willing to expend extra physical effort to clear their minds (to avoid cognitive effort), a phenomenon called *pre-crastination*.
FUTURE PERSPECTIVE: Because pre-crastination can lead to premature decisions, a new priority is to understand the tradeoffs between physical and mental effort.

KEYWORDS: Effort | Pre-crastination | Reaching | Walking

INTRODUCTION

Typically, a finding from the study of motor behavior does not extend to a much wider range of contexts like personality differences, time management, medical decision-making, jurisprudence, and military strategizing. Anyone hearing it does should be skeptical. Appreciating this, we nonetheless describe a finding that has attracted unexpectedly wide attention. The finding, encapsulated in the term pre-crastination, has led us and others to pursue new questions.

Rosenbaum, Gong & Potts[1] sought to infer people's subjective sense of the combined costs of walking and carrying objects. The authors asked university students to choose the easier of two tasks: (a) walk a long way and then pick up a beach bucket to carry it a short distance; or (b) walk a short way and then pick up a different beach bucket to carry it a long distance. The total distance was the same in both cases. Surprisingly, most participants chose the short walk followed by the long carry rather than the long walk followed by the short carry.

Nine experiments were conducted to test alternative accounts of this unexpected result. The results led the authors to conclude that people were willing to expend extra physical effort to reduce mental effort. The mental effort in this case was associated with inhibiting the reach for the first-encountered bucket. By grabbing the first bucket rather than passing it to take the second, participants could stop thinking about the bucket pickup task; having the bucket in hand quashed the impulse to pick up the second bucket. Based on the choice data as well as participants' comments during debriefing, it was concluded that participants sought to clear their minds of upcoming task demands and were willing to put in extra physical effort for this purpose. Rosenbaum, Gong & Potts [1] called this tendency pre-crastination.

Picking up the near bucket and carrying it farther than the other bucket meant that more physical work was done than necessary. Subsequent studies replicated this tendency and linked it to the felt need to hasten task completion [2]. Consistent with the mind-clearing hypothesis, it was found that the tendency was even stronger when there were additional memory loads [3,4].

Analogous effects were found with computerized tasks. In a running-arithmetic task, it was found that subjects slowed mouse movements before revealing successive operand-operator pairs if they had not completed the preceding sums [5]. In another computerized task where participants could schedule memory activities and perceptual-motor activities as they wished, they scheduled the activities that unloaded memory as soon as possible [6]. In a third computerized task [7], participants made the same judgment twice about a single stimulus (whether all the numbers in a row of integers ascended). Even though participants could change their minds if they wished

because accuracy only mattered for the second response, they rarely changed their minds. The accuracy of the first response was nearly as high as the accuracy of the second response, and the first choice reaction times were much longer than the second. The authors concluded that participants completed their decision-making as soon as possible. Merely acting quickly was not the driver.

Other work extended the work on pre-crastination in new directions. Previously obtained results from animal learning were interpreted as reflecting the phenomenon [8]. Personality research showed that pre-crastinators were reliably different from, and not just the opposite of procrastinators, suggesting that the tendency to pre-crastinate is a bona fide individual difference [9].

Journalists and others have extrapolated from these findings and suggested that pre-crastination may play an important role in daily life, promoting preparedness, but also leading to premature actions with unfortunate consequences, as in these examples: (1) answering emails too soon, causing misunderstandings and other problems; (2) submitting manuscripts or proposals before they have been fully edited; (3) scheduling meetings before all invitees have replied about their availability, requiring rescheduling, among other difficulties; (4) undergoing medical procedures, including needless surgeries before getting a second opinion; (5) letting down one's guard in regard to the Pandemic before that behavior is warranted; (6) convicting or acquitting people in rushes to settle matters; (7) going to war before that awful action is justified militarily.

Everyone knows that haste makes waste and that quick actions can bring quick rewards. What was less well known before the work on pre-crastination is that the desire to clear one's mind can engender special effort and, in some cases, less-than-optimal decisions. It is noteworthy that this tendency came to light in a study of motor behavior. From the moment pre-crastination was discovered, it was evident that some sort of tradeoff was being computed between physical effort and mental effort. Understanding the computations has occupied us recently [10] and is an important new topic of study.

REFERENCES

1. Rosenbaum DA, Gong L, Potts CA. Pre-crastination: Hastening subgoal completion at the expense of extra physical effort. *Psychological Science*. 2014;25(7):1487-1496. doi:10.1177/0956797614532657
2. Rosenbaum DA, Fournier LR, Levy-Tzedek S, et al. Sooner rather than later: Precrastination rather than procrastination. *Current Directions in Psychological Science*. 2019;28(3):229-233. doi:10.1177/0963721419833652
3. Fournier LR, Coder E, Kogan C, Raghunath N, Taddese E, Rosenbaum DA. Which task will we choose first? Precrastination and cognitive load in task ordering. *Attention, Perception, & Psychophysics*. 2019;81(2):489-503. doi:10.3758/s13414-018-1633-5
4. Rosenbaum DA, Dettling J. Carrying groceries: More items in early trips than in later trips or the reverse? Implications for pre-crastination. *Psychological Research*. April 2022. doi:10.1007/s00426-022-01681-z
5. Shin JC, Rosenbaum DA. Reaching while calculating: Scheduling of cognitive and perceptual-motor processes. *Journal of Experimental Psychology: General*. 2002;131(2):206-219. doi:10.1037/0096-3445.131.2.206
6. VonderHaar RL, McBride DM, Rosenbaum DA. Task order choices in cognitive and perceptual-motor tasks: The cognitive-load-reduction (CLEAR) hypothesis. *Attention, Perception, & Psychophysics*. 2019;81(7):2517-2525. doi:10.3758/s13414-019-01754-z
7. Rosenbaum DA, Sturgill HB, Feghhi I. Think then act, or act then think? Double-response reaction times shed light on decision dynamics in precrastination. *Journal of Experimental Psychology: General*. 2022;151(12):3198-3212. doi:10.1037/xge0001253
8. Wasserman EA. Precrastination: The fierce urgency of now. *Learning & Behavior*. 2019;47(1):7-28. doi:10.3758/s13420-018-0358-6
9. Gehrig C, Münscher JC, Herzberg PY. How do we deal with our daily tasks? Precrastination and its relationship to personality and other constructs. *Personality and Individual Differences*;2023, 201, 111927. doi:10.1016/j.paid.2022.111927
10. Feghhi I, Rosenbaum DA. Determining the relative difficulty and preferred ordering of mental and physical tasks. *Journal of Experimental Psychology: Human Perception and Performance*. 2022;48(11):1229-1238. doi:10.1037/xhp0001053

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