The Value of Mere Completion

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The positivity of goal completion is reinforced through everyday experiences of social praise and instrumental reward. Here we investigated whether, in line with this self-regulatory emphasis, people value completion opportunities in and of themselves. Across six experiments we found that adding an arbitrary completion opportunity to a lower-reward task increased the likelihood that participants would choose to work on that task over a higher-reward alternative that did not offer a completion opportunity. This occurred for extrinsic reward tradeoffs (Experiments 1, 3, 4, and 5) and intrinsic reward tradeoffs (Experiments 2 and 6), and it persisted even when participants explicitly noted the rewards of each task (Experiment 3). We sought but did not find evidence that the tendency is moderated by participants' stable or momentary level of concern with monitoring multiple responsibilities (Experiments 4 and 5, respectively). We did find that the opportunity to complete the final step in a sequence was particularly attractive: Setting the lower-reward task closer to completion (but with completion still out of reach) did increase its choice share, but setting the lower-reward task with completion distinctly in reach increased its choice share even more (Experiment 6). Together, the experiments imply that people sometimes behave as if they value completion itself. In everyday life, the allure of mere completion may influence the tradeoffs people make when prioritizing their goals.

Public Significance Statement

Six experiments showed that adding an arbitrary completion opportunity to a lower-reward task increased the number of participants who chose to work on that task over a higher-reward alternative that did not offer a completion opportunity. These experiments imply that people sometimes behave as if they value completion for its own sake. In everyday life, the allure of mere completion may influence the tradeoffs people make when prioritizing their goals.

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Striving for completion is undoubtedly advantageous in many goal-pursuit settings. An unfinished puzzle tends not to bring much joy. A half-mown lawn tends not to earn allowance. An incomplete degree tends not to get job offers. As unrealized goals are often considered failures and partially completed goals are rarely considered successes, the proclivity to "get it done" is widely celebrated as a hallmark of successful self-regulation. Indeed, when valued goals are at stake, individuals are generally well-served by the many

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cognitive and behavioral mechanisms that help them identify and follow through on completion opportunities (e.g., Aarts et al., 2001; Ferguson & Bargh, 2004; Goschke & Kuhl, 1993; Moskowitz, 2002). They are better prepared to solve their problems, clear their to-do lists, and finish what they started.

However, what if the same forces that help people develop mechanisms to follow through on their valued personal goals also predispose them to chasing low-value sequence-completion opportunities? Might completion for its own sake be a self-regulatory side effect of an otherwise productive emphasis on completion? The current research explores whether people sometimes pursue tasks that will complete an arbitrary sequence merely to "get it done"—even if "it" is not particularly rewarding compared to other possible activities.

In exploring this possibility, we ask whether there is validity to anecdotal examples of people appearing to chase completion for its own sake: the employee who gets fixated on clearing her inbox while more important work awaits; the reader who persists through the final chapters of a book he stopped caring about long ago; and the diner who knows they have already overeaten but nonetheless feels drawn to finishing the last slice. We also raise the possibility that the prospective value of completion might contribute to some noteworthy goal-prioritization decisions observed in the field, such as doctors who pull the easiest-to-finish files (Ibanez et al., 2018; Kc et al., 2020), productive procrastinators who complete trivial chores before working on critical responsibilities (Schraw et al., 2007; Westgate et al., 2017), borrowers who pay off small cheap loans before chipping away at bigger more expensive ones (Amar et al., 2011), and online workers who decide to finish what they started even when they learn that they can quit early and still receive full payment (Halkjelsvik & Rise, 2015).

Our proposal is that people sometimes behave as if completion itself has value, a phenomenon that we refer to as *the value of mere completion* because it occurs even when completing the sequence brings no external reward and does not link to one's past or future efforts. We first highlight behavioral clues that the prospect of completion is itself appealing. We then build a case for the plausibility of mere completion by identifying potential distal contributors. Next, we present a series of task-choice experiments that directly examine the causal effect of a task being completable or not. Across these experiments, we demonstrate that adding a sequence-completion opportunity to a task increases the likelihood that people will choose to pursue that task over a higher-reward alternative, a pattern consistent with mere completion being perceived as valuable. We suggest that the subjective value of completion is one reason people sometimes feel drawn to pursue lower-reward but finishable tasks, even at the expense of higher-reward (but not imminently finishable) alternatives.

Possible Signs That Completion Has Its Own Value

Moving beyond the readily available anecdotes of people getting fixated on completion, studies on decision-making and goal pursuit have documented several phenomena that may partially reflect the value of mere completion. One such clue appears in a package of studies examining the psychology of debt management (Amar et al., 2011). Across field surveys and experiments involving cash incentives, this research documented people's priorities when they faced an array of smaller, low-interest debts and larger, high-interest debts. The normative approach in such a setting would be to put

available money toward the debts with the highest interest rates, but the studies revealed a systematic preference for closing out small debts first. Although such an approach is financially costly, closing out smaller-debt accounts may be attractive because it promises several psychological benefits, including leaving fewer accounts to monitor (Dalton & Spiller, 2012; Masicampo & Baumeister, 2011a; A. R. Roberts et al., 2021; A. R. Roberts & Fishbach, 2020), minimizing the number of separate losses one is experiencing (Ayal & Zakay, 2009; Thaler & Johnson, 1990), and—according to our reasoning—potentially offering the positive experience of completion.

A second clue appears in management and operations research that investigates how doctors manage their work queues (Ibanez et al., 2018; Kc et al., 2020). One study, which analyzed 2.4 million radiological diagnosis tasks, revealed that one of the reasons doctors choose to deviate from an assigned queue is to pursue the shortest task on the list (Ibanez et al., 2018). Another archival study, looking at over 230,000 emergency-room patient encounters, found that physicians sometimes hurt the overall productivity of the organization by prioritizing easier-to-complete cases over harder ones (Kc et al., 2020). Here again, doctors may have many reasons for prioritizing tasks in this way—including rules of thumb used to simplify decisions (e.g., "shortest task first"; Cachon & Terwiesch, 2009) or as a strategic response to fatigue (Kc et al., 2020)—and it is possible that the positive experience of completion is another of those reasons.

A third clue lurking in real-world decisions appears in a weeklong experience-sampling study that asked young professionals to report, in the moment, the underlying reasons for the professional activities that they were currently pursuing (Converse et al., 2019). In a new descriptive analysis of these publicly available data (see the online supplemental materials), we found that in 16% of the 4,000+ moments sampled, the leading attribution participants reported for their current work activity was "because it is hard to stop when I am so close to finishing it." For comparison, in 28% of the instances sampled, the leading attribution was "because it is for a project I truly care about." In other words, for every two tasks that the young professionals pursued primarily because they cared about it, they pursued one task primarily because they wanted to finish it. Similar persistence motives were endorsed by groups of online research participants who chose to finish a tedious 25-min task even after they were offered an opportunity at the 75%-complete mark to quit for full payment (Halkjelsvik & Rise, 2015). It is hard to know in either setting the relative extent to which workers' persistence was driven by conscientiousness, commitment, social norms, prosocial motives, or some related factor; yet, in both cases, the potential value of mere completion stands as one possible explanation.

Finally, a fourth clue may be found in research that explores the subjective features of what people perceive as "completable" in the first place. Research on subgoals shows that a superordinate endeavor can be divided into psychologically smaller pieces that nonetheless represent an opportunity for meaningful completion (Kruglanski et al., 2002). Much of the motivating power of this reframing has been attributed to the increased sense of ease or efficacy that bite-sized chunks can provide (Locke & Latham, 1990; Rai et al., 2023; Soman & Shi, 2003), but the allure of completion itself may also contribute. The finding that subgoal completion can lead to licensing effects, whereby people relax their efforts based on recent successes, suggests that people do derive some satisfaction from having completed the unit they were focusing on

(Amir & Ariely, 2008; Fishbach et al., 2006; Huang et al., 2017; Rai et al., 2023; Soman & Shi, 2003). On the flipside, otherwise trivial units of action can lack motivational force because they seem small or arbitrary. However, complementary research on task- and set-framing shows that even arbitrarily grouped items or tasks can take on motivational properties if they include features that cause them to be perceived as "sets" (Barasz et al., 2017; Shaddy & Fishbach, 2017). For instance, experiments show that displaying progress in a format that evokes a sense of incompleteness (e.g., an image of a U.S. quarter sliced into fifths, with one empty slice) versus in a format that does not (e.g., separate images of four U.S. nickels, with one empty spot) increases participants' likelihood of completing additional actions to fill in the holes (e.g., opting in to five separate gambles; Barasz et al., 2017).

These accumulated clues suggest that the desire for mere completion may sometimes drive prioritization decisions. However, none of the studies identified was designed to isolate the potential causal effect of completability by manipulating whether an action would or would not be the last step in a given sequence. Our experiments aim to provide a tightly controlled model of those situations in which individuals must choose between one task that provides a higher reward but offers no completion opportunity and an alternative task that provides a lower reward along with a completion opportunity.

Potential Origins of Mere Completion

In assessing the plausibility of our mere completion hypothesis, we adopt the logic that "theories of motivation are, of necessity, tightly constrained by theories of learning… [because] an action can be motivated by a desire for its outcome only if the agent has learned about the consequences of acting" (Dickinson & Balleine, 2002, p. 498). If people do pursue completion for its own sake, they must have learned through experience to value it. We speculate that multiple sociocultural and cognitive forces may converge to teach exactly this lesson.

Following through on one's intentions has social value and is therefore socially reinforced (Meacham, 1988). Those who are in the business of teaching self-regulation spend a lot of time emphasizing the value of goal completion. Parents, teachers, and coaches pepper young people with goal-completion mantras: "Get it done"; "See it through"; and "Finish what you started." These well-meaning voices recognize that completing the last step of a sequence is often what delivers external rewards or unlocks new opportunities. They reinforce commitment and persistence, hoping that children who know how to finish all the problems on their math homework will become adolescents who complete all their graduation requirements, who, in turn, will become adults that reliably complete their to-do lists. An unintended consequence, though, is that *getting important things done* may become blunted to *getting anything done*. In this context, "giving up has a bad reputation" (Wrosch et al., 2003, p. 2) and getting things done becomes almost a moral imperative (Bellezza et al., 2017; Burnett et al., 2020; Halkjelsvik & Rise, 2015; Keinan & Kivetz, 2011; Schulte, 2015; Yang & Hsee, 2019).

From a more intrapersonal perspective, it would be difficult in everyday experience *not* to associate goal completion with reward. Even putting aside sociocultural pressures, the action of completing a meaningful goal tends to occur in close proximity to receiving, experiencing, or gaining access to reward (Atkinson, 1974; Fishbach & Ferguson, 2007; Higgins, 1997; Tolman, 1932). In some cases, completion and reward are one and the same. A traveler whose goal is *get home*, for example, gains the comforts of home only by completing the journey. In other cases, completion and reward are contingently tied. For example, a bribed child gets access to video games once he has finished cleaning his room; or a college student allows herself to go out once she has finished her essay. There is variance in the degree of fusion between completion and reward, but all goal attainment elicits some amount of positivity (Kruglanski et al., 2018). Through repetition over time, then, it is possible that individuals are conditioned by the positive reinforcement of goal-based rewards to respond more positively to the otherwise neutral concept of "completion" (e.g., Custers & Aarts, 2005; De Houwer et al., 2001; Hilgard & Bower, 1966; Hofmann et al., 2010; Razran, 1954; Robinson & Berridge, 2013).

Beyond the positive reinforcement of repeated pairing with rewards, completion may also be negatively reinforced by the removal of negative affect and cognitive stress. For better and worse, self-regulators seem well-tuned to keep track of their unfinished goals (Marsh et al., 1998; McDaniel & Einstein, 2007; Scullin & McDaniel, 2010; Zeigarnik, 1927; cf., Altmann & Trafton, 2002). The benefit of this monitoring is that they are ready when advantageous opportunities arise (Förster et al., 2005; Patalano & Seifert, 1997). The costs, however, can be both affective and cognitive. As people build up caches of unfulfilled goals, they can start to feel discouraged by all that they have not accomplished (Cochran & Tesser, 1996; Klug & Maier, 2015; Soman & Cheema, 2004; Weingarten et al., 2019). Their memory and attention will be taxed by the cognitive load (Masicampo & Baumeister, 2011a, 2011b; McDaniel & Einstein, 2007) and they mayenter into cycles of rumination that disrupt sleep (Scullin et al., 2018; Syrek et al., 2017) and interfere with leisure (Bernecker & Becker, 2021). Completing tasks, then, is desirable in part because it promises to mitigate the negative affect, to release some of the cognitive burden, and/or to provide a sense of closure (Fournier et al., 2019; Kool et al., 2010; Patterson & Kahan, 2020; A. R. Roberts & Fishbach, 2020; Rosenbaum et al., 2022).

In a distal sense, these processes may work in a self-reinforcing cycle: individuals learn from others and from experience that completion is good; they develop tendencies that help them pursue completion; and, often, they are rewarded for enacting these tendencies, further strengthening the tendencies' influence on behavior.

Hypothesis Overview and Experimental Paradigm

Based on the reasoning that converging factors encourage people to associate *completion* with *reward*, the current research explored the possibility that people may at times pursue completion as if the action itself has value. If completion opportunities have their own value, then people should be more likely to choose a given task when it offers the opportunity to complete a sequence than when it does not. For example, when one is choosing between tasks that differ in external reward, one should be more likely to choose to do the next sixth of a sequence that is described as 5/6th done than to do an equivalent sixth of a sequence that is described as 3/6th done—even if one is not responsible for the initial progress, expects to receive no external reward for sequence completion, and is not on the hook for what remains.

Our empirical approach was to "unconfound" completion opportunities from the usual features of goal pursuit. There are often normative reasons to prioritize or value a task based on its proximity to

completion; however, in our paradigms, we aimed to isolate the value of mere completion by removing those normative reasons. Specifically, we examined whether participants would be more likely to pursue a lower-reward focal task (over a higher-reward alternative task) when the focal task would (vs. would not) complete an arbitrary sequence. For example, in Experiment 1, we compared the percentage of participants who chose a lower-paying task ("Task L") over a higher-paying task ("Task H") when the two tasks were equally far from sequence completion to the percentage of participants who chose the lower-paying task ("Task L*") over the higher-paying task ("Task H") when only the former would complete an arbitrary sequence. We use this labeling convention throughout: "L" and "H" always refer to the lower- and higher-reward tasks, respectively, and * indicates that the task provides a completion opportunity. A higher percentage of participants choosing Task L* than choosing Task L would imply that the sequence-completion opportunity provided by L* caused more participants to choose it, despite it paying less than Task H.

To ensure that participants were not making assumptions that might undermine the validity of this subjective-value interpretation, we designed a tutorial phase that preceded the critical choices. The tutorial illustrated that (a) there was no external reward for completing a sequence, (b) extant completion levels were nondiagnostic of the task´s popularity, and (c) choices would not affect the participant's total workload or time investment.

Transparency and Openness

We did not analyze the data for any study before data collection was complete for that study. We report all data exclusions and all manipulations (see the online supplemental materials). We did not preregister studies, but we provide a complete account of our small "file drawer" in the online supplemental materials, including one pilot that did not use full counterbalancing (Experiment S1 in the online supplemental materials), one study with an apparently failed manipulation (Experiment S2 in the online supplemental materials), and one inconclusive study (Experiment S3 in the online supplemental materials) that motivated a higher-powered replication attempt. Datasets and unabridged materials are available on the Open Science Framework (Tsang & Converse, 2022; https://osf.io/dpgjf/).

Experiment 1

This experiment used a within-subjects design, comparing participants' choice of tasks when the two tasks differed only in external reward (we refer to these as *reward-only choices*) versus when the two tasks involved a tradeoff between external reward and a completion opportunity (we refer to these as *reward/completion choices*). The external reward in Experiment 1 was a small payment difference, with the lower-reward task paying less than the higher-reward task. Tasks that did not offer a completion opportunity asked participants to complete the third step in a six-step sequence, whereas the task that did offer a completion opportunity asked participants to complete the sixth step in a six-step sequence. Thus, the two critical choices in Experiment 1, which appeared in counterbalanced order, were:

> Reward-Only Choice: Task L {$0.13, 3rd of 6} versus Task H {$0.19, 3rd of 6}
>
> Reward/Completion Choice: Task L* {$0.12, 6th of 6} versus Task H {$0.18, 3rd of 6}

If more participants chose Task L* over Task H than chose Task L over Task H, this would imply that the sequence-completion opportunity provided by Task L*, but not Task L, increased its subjective value. We would interpret this as a marker of the value of mere completion.

Method

Participants

In this and subsequent experiments, we collected demographic information at the end of the study. In Experiments 1–5, we collected information about gender by asking participants to report using a multiple-choice item, "Which best describes your current gender identity?" (*Male*, *Female*, or *Other gender(s)* with a free-response box). In Experiment 6, we used a free-response item only and asked participants, "What is your gender?" In all experiments, we collected information about race and ethnicity using a checklist item, "What is your race/ethnicity? Please select all that apply" (*Asian/Asian American*, *Hispanic/Latinx*, *Black/African American*, *Native American*, *White/Caucasian*, *Other* with a free-response box). For all experiments, we report the number of participants who indicated each single racial/ethnic identity by checking only one box and we report the cumulative number of participants who indicated a multiracial identity by checking more than one box. In all experiments, we collected age information with a free-response item.
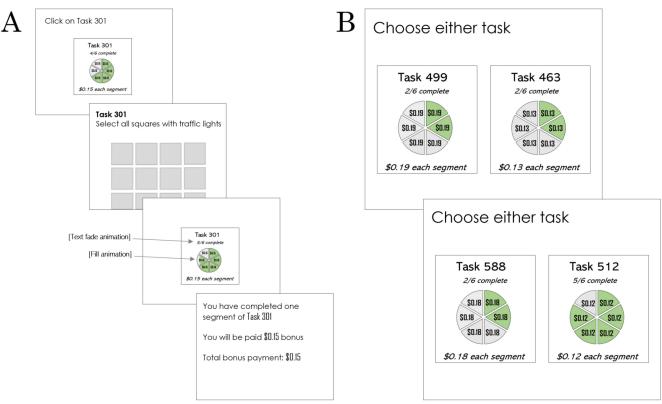
For Experiment 1, we advertised on Amazon Mechanical Turk (MTurk) a 4- to 6-min study, paying a base rate of $0.60, in which participants would "complete puzzles or other simple tasks." We received 220 responses. Among the respondents, 17 accessed the survey but withdrew before completing the study. We did not include attention checks in this study. This yielded a final sample of $N = 203$ participants (20–72 years old, $Mdn = 32$ years; 69 identified as women, 133 identified as men, and one identified as nonbinary; 24 identified as Asian/Asian American, 17 as Hispanic/Latinx, 28 as Black/African American, one as Native American, 124 as White/Caucasian, and nine identified as multiracial or wrote in their own description).

Procedure

After consenting, participants learned that they would complete segments of work that would pay different bonus amounts. In some rounds, they could choose their task and in other rounds, the instructions would ask them to select a specific task. Specifically, they learned that: "…the first three rounds will be training rounds. You will be asked to choose a specific task. Afterwards, you can choose which tasks you'd like to complete." Below, we describe each round in terms of a task-selection phase, a work phase, and a summary phase (see Figure 1, Panel A).

Tutorial Rounds. The task-selection phase in the first tutorial round instructed participants to select "Task 301," the only task available. Task 301 appeared as a pie chart, depicting four out of six equal segments already completed, with each segment worth $0.15. When participants selected this task, the program advanced them to the work phase, in which they completed a series of CAPTCHAs. Specifically, they viewed photographs of street scenes that were divided into 4 × 4 grids and their job was to click every square that had a traffic light. There were five such photographs

Figure 1
Schematic Representation of Task-Choice Paradigm

Note. Panel A shows all four screens from one round of the tutorial. Each round consisted of a task-selection phase (top left box), a work phase (second box), and a summary phase (third and fourth boxes). Participants completed three tutorial rounds before the critical choices. Panel B shows the two task-selection screens from the critical rounds (counterbalanced in within-subject experiments or randomly selected in between-subjects experiments). Reward-only choices (top left box in *B*) offered a lower- and higher-reward task that did not differ in completion proximity. Reward/completion choices (bottom right box) offered a higher-reward task that did not involve a completion opportunity and a lower-reward task that did involve a completion opportunity. See the online article for the color version of the figure.

comprising Task 301. After submitting, they advanced to the summary phase. They saw a message that said, "You have completed one segment of Task 301. You will be paid $0.15 bonus." The program returned to the Task 301 pie chart and showed a simple animation of the fifth segment being filled. The text updated to say that Task 301 was, "5/6 complete."

The program then reloaded, and the second tutorial round began with a new task-selection phase. Participants were again instructed to click on Task 301 (now with five out of six segments completed). They repeated the traffic-light CAPTCHAs with new photographs and saw their total bonus updated to $0.30. Importantly, the next animation showed the sixth segment being filled to indicate completion, and then a second animation dissolved the now-full pie, with another task briefly appearing in its place. This brief display was included to teach participants that nothing special happened when a sequence was completed, aside from replacement with a new task. Completing the sequence involved neither additional bonus payment, nor any symbolic reward (such as a "Good Job!" message, a celebratory animation, or a special sound effect).

The third tutorial round introduced participants to additional features: It showed that there were other tasks (indicated by three-digit Task ID labels), that tasks varied in completion level and segment

pay, and that activities associated with each Task ID differed slightly. Specifically, the Round-3 task-selection phase displayed, "Task 501 ($0.19 per segment, four out of six segments complete)" and "Task 525 ($0.11 per segment, two out of six segments complete)," and directed participants to select Task 501. This led them to another CAPTCHA series where they identified street signs. After submitting their work, participants saw the summary screen with appropriately updated information.

Critical-Choice Rounds. Next, participants moved to the critical-choice rounds (Figure 1, Panel B). They read, "You have finished all of the training rounds. Now, you can choose which task to complete." To give the impression of a random draw, the program displayed a "loading" message and then displayed the first critical choice. By random assignment, participants either saw the reward-only choice or the reward/completion choice at this stage. Those who saw the reward-only choice first decided between one task (Task L) that had two out of six segments complete and paid $0.13 for each segment and another task (Task H) that also had two out of six segments complete but paid $0.19 for each segment. Participants' choice here served as the first dependent variable. In the work phase, all participants were prompted to complete a series of CAPTCHAs with vehicles as the target object. They saw the relevant

animations and payment summary screen that followed. Then they read, "You have one more round remaining. You can again choose either task to complete for payment. After this round, you will be directed to the end of the survey." In the reward/completion choice, participants chose between one task (Task L*) that had five out of six segments complete, signaling that the next segment would complete the sequence, but paid only $0.12, and another task (Task H) that had only two out of six segments complete but paid $0.18 for each segment. Participants' choice here served as the second dependent variable. In the work phase, all participants were prompted to complete a series of CAPTCHAs with crosswalks as the target object. (Following these choices, an exploratory measure asked participants to indicate their reasons for each choice. See the online supplemental materials for details.) Participants then advanced to a brief demographic survey and debriefing screen.

Results

In the reward-only choice, 8.9% of participants chose the lower-paying Task L, but in the reward/completion choice, 23.6% of participants chose the lower-paying Task L* (see Table 1). McNemar's test indicated that significantly more participants chose H > L and L* > H (i.e., choosing the higher-paying task when there was no completion opportunity and the lower-paying task when there was a completion opportunity) than chose L > H and H > L*, $OR = 6.00$ (95% CI [2.50, 17.42]), $\chi^2(1, 203) = 21.43$, $p < .001$. Adding an arbitrary sequence-completion opportunity to the lower-paying task increased its choice share. We interpret this as initial evidence that participants saw value in the prospect of mere completion.

Experiment 2

Experiment 2 was a between-subjects conceptual replication and extension of Experiment 1, with reward operationalized as intrinsic entertainment value rather than payment. In the tutorial phase, participants learned that one task involved interacting with photographs of cute baby animals ("fun task"), whereas another task involved typing nonsense letter-strings in reverse order ("tedious task"). Tasks that did not offer a completion opportunity asked participants to complete the fourth step in a six-step sequence, whereas the task that did offer a completion opportunity asked participants to

complete the six step in a six-step sequence. Participants were randomly assigned to one of two critical choices (between-subjects):

> Reward-Only: Task L {tedious, 4th of 6} versus Task H {fun, 4th of 6}
> Reward/Completion: Task L* {tedious, 6th of 6} versus Task H {fun, 4th of 6}

If more participants choose the tedious task over the fun task when the tedious task completed a sequence than when it did not, we could infer that the completion opportunity increased the task's overall value to participants.

Method

Participants

We advertised on MTurk for a 6- to 8-min study, paying a base rate of $0.70, in which participants would "complete puzzles or other simple tasks." We received 487 responses, consistent with our plan to collect a larger sample in this between-subjects design, but then found a surprisingly high number of withdrawals and failed attention checks. Among the respondents, 71 accessed the survey but withdrew before completing the study and 221 failed at least one of the two attention checks (see the online supplemental materials). This yielded a final sample of $N = 195$ participants, $n = 94$ in the reward-only condition and $n = 101$ in the reward/completion condition (18–79 years old, $Mdn = 34$ years; 84 identified as women, 108 identified as men, and three identified as nonbinary; 13 identified as Asian/Asian American, 12 as Hispanic/Latinx, 16 as Black/African American, four as Native American, 141 as White/Caucasian, and nine identified as multiracial or wrote in their own description).

Procedure

In general, this procedure followed the same format as Experiment 1. The broad difference in Experiment 2 was that reward value of the tasks was operationalized as intrinsic enjoyment rather than bonus payment. Two necessary procedural differences followed from this setup. First, we needed to present the task choices so that participants would recognize the options as providing differentially enjoyable experiences without being told that the researchers (or other participants) had made this determination. Operationally, this meant that we needed to provide participants an opportunity to experience

Table 1
Results From Experiments 1–6

Experiment (N)	Other factors	Percentage choosing lower-reward task {reward, segment}	
		Reward-only choice	Reward/completion choice
1 (N = 203)	(n/a)	8.9% {$0.13, 3rd/6} > {$0.19, 3rd/6}	23.6% {$0.12, 6th/6} > {$0.18, 3rd/6}
2 (N = 195)	(n/a)	20.2% {tedious, 4th/6} > {fun, 4th/6}	37.6% {tedious, 6th/6} > {fun, 4th/6}
3 (N = 245)	Control	5.3% {$0.13, 3rd/6} > {$0.19, 3rd/6}	14.0% {$0.12, 6th/6} > {$0.18, 3rd/6}
	Forced awareness	6.1% {$0.13, 3rd/6} > {$0.19, 3rd/6}	13.0% {$0.12, 6th/6} > {$0.18, 3rd/6}
4 (N = 206)	(n/a)	4.9% {$0.13, 4th/6} > {$0.19, 4th/6}	19.9% {$0.12, 6th/6} > {$0.18, 4th/6}
5 (N = 373)	Not busy	10.0% {$0.13, 3rd/6} > {$0.19, 3rd/6}	18.9% {$0.12, 6th/6} > {$0.18, 3rd/6}
	Busy	4.4% {$0.13, 3rd/6} > {$0.19, 3rd/6}	16.4% {$0.12, 6th/6} > {$0.18, 3rd/6}
6 (N = 1,343)	Proximity set (lower progress)	26.3% {tedious, 2nd/6} > {fun, 2nd/6}	32.4% {tedious, 6th/6} > {fun, 2nd/6}
	Completion set (higher progress)	23.2% {tedious, 4th/6} > {fun, 4th/6}	35.3% {tedious, 6th/6} > {fun, 4th/6}

Note. Participants were more likely to choose the lower-reward task over a higher-reward task when the lower-reward task did (vs. did not) provide an opportunity to complete a sequence.

each task for themselves during the tutorial phase. Second, instead of relying solely on Task ID numbers, which participants might easily miss or forget, we also labeled the tasks using clearly identifiable thumbnail images.

In general, the tutorial rounds were designed to convey the same essential information as the tutorial rounds from Experiment 1. In the first tutorial round, participants became familiar with the general format and sequence of task selection and execution. In the second tutorial round, they completed a task sequence and saw that only trivial external consequences followed. In the third and fourth tutorial rounds (counterbalanced), they gained initial experience with the fun task and the tedious task. The fun task, labeled with a photograph of a cute puppy, displayed five gridded images of baby animals and asked participants to click on all sections of the grid that included part of the animal. The tedious task, labeled with an image of random letter strings, displayed eight six-letter strings and asked participants to type them in backwards. (See the online supplemental materials for pilot work showing that a sample of participants from the same population preferred the fun task to the tedious task.)

After these tutorial rounds, participants arrived at their randomly assigned critical choice round. They learned, "In the next round, you can choose either of the previous tasks to work on." Participants in the reward-only condition decided between one task (Task L) that had three out of six segments complete and involved a tedious typing task and another task (Task H) that also had three out of six segments complete but involved a more enjoyable task that included images of baby animals. In contrast, participants in the reward/completion condition decided between the same options but with the tedious task set at five out of six segments completed, thus providing a completion opportunity (Task L*).

Results

Among those assigned to the reward-only choice, 20.2% chose the tedious task, whereas, among those assigned to the reward/completion choice, 37.6% chose the tedious task, $\chi^2(1, 195) = 7.13$, $p = .008$, $\varphi = 0.19$. Adding an arbitrary sequence-completion opportunity to a tedious task increased its choice share. We interpret this as additional evidence that participants saw value in the prospect of mere completion.

Experiment 3

We designed Experiment 3 to investigate the potential role of attentional capture in the observed mere completion effect. When participants in our studies have pursued a lower-value completion opportunity, have they generally been aware of the reward value that they were forgoing or were they more spontaneously drawn to the completion opportunity, perhaps without even recognizing the tradeoff? There are reasons to suspect that the nearly filled pie images from our paradigm (e.g., "Task 512" in Figure 1) may be winning participants' attention as they make a relatively quick and intuitive choice. Past research has shown, for example, that an imminent-expiration cue can attract attention away from value-related cues (Zhu et al., 2018).

To assess this possibility, we replicated Experiment 1 and added a between-subjects forced-awareness manipulation, resulting in a mixed 2 × 2 design. Before participants in the forced-awareness condition made their critical choices, they typed into a text box the number of completed segments and the payment for each option. This extra step ensured that they were explicitly aware of both dimensions. If the previously observed pattern was attributable to attentional capture, then we would expect to see it sharply reduced in the forced-awareness condition. If the mere completion effect persisted in the forced-awareness condition, however, it would suggest that participants are making a relatively more informed tradeoff between reward value and completion value.

Method

Participants

We advertised on MTurk for a 4- to 6-min study, paying a base rate of $0.60, in which participants would "complete puzzles or other simple tasks." We received 546 responses, but again had a high number of withdrawals and failed attention checks. Among the respondents, 29 accessed the survey but withdrew before completing the study and 272 failed at least one of the three attention checks (see the online supplemental materials). This yielded a final sample of $N = 245$ participants, $n = 114$ in the control condition and $n = 131$ in the forced-awareness condition (20–67 years old, $Mdn = 33$ years; 92 identified as women, 152 identified as men, and one identified as nonbinary; 16 identified as Asian/Asian American, 16 as Hispanic/Latinx, 23 as Black/African American, eight as Native American, 167 as White/Caucasian, and 15 identified as multiracial or wrote in their own description).

Procedure

Within the control condition, this experiment was a near-exact replication of Experiment 1. The only notable difference was that the instructions preceding the critical choices explicitly mentioned that "The tasks do not differ in difficulty nor the amount of time they take to complete." In the forced-awareness condition, each option from the critical choice was first presented alone (in counterbalanced order), with prompts that invited participants to record each dimension of the decision. For example, in preparation for the reward-only choice, approximately half of the participants in the forced-awareness condition first saw Task L on its own. Instructions said, "the first option is presented below," and displayed only the graphic associated with Task 463 (see Figure 1B). Below the choice graphic, participants encountered the following prompt: "Please record the following information about the task" and three open-ended boxes to enter the task number, the number of completed segments, and the payment per segment. This prompt repeated for the second option before participants made their first choice. Then the awareness procedure repeated for the second pair of choice options before participants made their second choice. This process ensured that participants were at least aware of the respective payments of each option before they made their choice.

Results

We used mixed-effects logistic regression to determine whether the forced-awareness manipulation affected choice patterns. We did not find evidence of a significant interaction, $\beta = -0.62$, $p = .697$. Inspection of the simple effects shows that the mere completion effect appeared within both conditions: In the control condition, 5.3% chose Task L and 14.0% chose Task L*, McNemar's $OR = 4.33$ (95% CI [1.19, 23.71]), $\chi^2(1, 114) = 5.06$, $p = .024$, and in the forced-deliberation condition, 6.1% chose Task L and

13.0% chose Task L*, McNemar's $OR = 4.00$ ([1.08, 22.09]), $\chi^2(1, 131) = 4.27$, $p = .039$.

With due caution about overinterpreting a null interaction, we note that the mere-completion effect persisted in a forced-awareness scenario. Thus, even if the study failed to detect a true interaction (i.e., Type II error), the significant influence of a completion opportunity within the forced-awareness condition implies that at least some participants' choices reflect a considered value tradeoff. If the completion opportunity was instead capturing attention so strongly that participants were overlooking the payment difference, we would have expected the straightforward forced-awareness manipulation to clearly diminish the effect. This did not appear to be the case.

With increased confidence that the observed choice results reflected something more than an attentional-capture effect, we investigated the potential contribution of a load-management strategy in Experiments 4 and 5. While we designed the current paradigm to convey to participants that it was not their responsibility to keep track of unfinished sequences, it is still possible that participants were responding to the task choice as if it was their responsibility. If the choice patterns that we are observing reflect efforts to manage the cognitive burden associated with attending to multiple goals (Fournier et al., 2019; Kc et al., 2020; A. R. Roberts et al., 2021), then we might expect those who most value closure (by disposition or current situation) to be the most likely to pursue mere completion.

Experiment 4

Experiment 4 explored the load-management prediction from a trait-based perspective. Specifically, we examined the potential moderating role of the need for cognitive closure (Webster & Kruglanski, 1994), a nonspecific desire to avoid ambiguity and secure predictability through decisiveness. This need is assumed to be present in proportion to the subjective benefits of possessing closure, such as predictability, and the subjective costs of lacking closure, such as "perceived labors of further information processing" (p. 1049). We therefore reasoned that individuals who are dispositionally higher in the need for closure might be the most inclined to view a situation with multiple open tasks as an undesirably cognitively taxing environment, and therefore the most motivated to close out one of those tasks. Notably, this should only be true if participants feel that they need to keep track of the unfinished tasks—an impression that our studies tried not to create.

Method

Participants

We advertised on MTurk a 4- to 6-min study, paying a base rate of $0.60, in which participants would "complete puzzles or other simple tasks." We received 211 responses. Among the respondents, five accessed the survey but withdrew before completing the study. We did not include attention checks in this study. (Chronologically, we conducted this study before we began relying on the attention checks employed in Experiments 2 and 3.) This yielded a final sample of $N = 206$ participants (20–72 years old, $Mdn = 34$ years; 75 identified as women, 128 identified as men, and two identified as nonbinary; 15 identified as Asian/Asian American, 13 as Hispanic/Latinx, 20 as Black/African American, four as Native American, 139 as White/Caucasian, and 14 identified as multiracial or wrote in their own description, with one not responding).

Analyses using the Need for Closure Scale include $N = 205$ because one participant did not complete the full scale.

Materials

We measured need for cognitive closure using a validated, 15-item version of the Need for Closure Scale (Roets & Van Hiel, 2011; adapted from Webster & Kruglanski, 1994). Participants indicated their disagreement or agreement on a 7-point scale (*strongly disagree*, *somewhat disagree*, *slightly disagree*, *neither agree nor disagree*, *slightly agree*, *somewhat agree*, *strongly agree*; subsequently coded as 1–7, respectively) with items such as "I enjoy having a clear and structured mode of life" and "I dislike unpredictable situations." The scale showed good internal reliability in the current study, α = .92.

Procedure

The first part of the experiment was a direct replication of Experiment 1, which used a within-subjects design to determine whether adding a sequence-completion opportunity to a lower-paying task increased its choice share. After the critical choices, participants responded to the Need for Closure Scale items.

Results

Need for closure scores ranged from 1.13 to 6.80 on the 1–7 scale, $M = 4.82$ ($SD = 1.15$). We used mixed-effects logistic regression (0 = *reward-only choice*, 1 = *reward/completion choice*) to test whether need for closure moderates the mere-completion choice effect. We did not detect a significant interaction, $\beta = -1.72$, $p = .098$, nor a main effect of need for closure on choices, $\beta = 1.44$, $p = .204$. Figure S14 in the online supplemental materials shows that the marginal trend was in the opposite direction of the load-management prediction: To the extent that need for closure may be associated with choice patterns, it appears from these data that people who were lower in need for closure were more likely (but not significantly so) to exhibit a pattern of choices consistent with the mere-completion effect.

The mixed-effects logistic regression did show a main effect of choice set that is consistent with mere completion, $\beta = 16.65$, $p = .003$. In the reward-only choice, 4.9% of participants chose the lower-paying Task L, but in the reward/completion choice, 19.9% of participants chose the lower-paying Task L*. Applying McNemar's test (while ignoring the need for closure measure, to provide some comparison between Experiments 1 and 4), we again found that significantly more participants chose H > L and L* > H (i.e., choosing the higher-paying task when there was no completion opportunity and the lower-paying task when there was a completion opportunity) than chose L > H and H > L*, $OR = 8.75$ (95% CI [3.13, 33.89]), $\chi^2(1, 206) = 24.64$, $p < .001$. As in Experiments 1–3, adding an arbitrary sequence-completion opportunity to the lower-reward task increased its choice share. We did not find evidence that this choice pattern was stronger among participants higher in need for closure. In Experiment 5, we attempted to probe the load-management account from a different angle.

Experiment 5

Experiment 5 took a state-based approach to the load-management prediction, following the reasoning that participants

who were feeling momentary busyness might be likelier to pursue completion as a load-management strategy (Fournier et al., 2019; Kc et al., 2020; Patterson & Kahan, 2020). Here again, we note that our paradigm does not require participants to keep track of unfinished tasks, but it is nonetheless possible that participants respond to the situation as if they need to do so. If this monitoring pressure is contributing to the observed effects, we would expect to see that participants who have a stronger feeling of being busy at the moment may rely more heavily on the strategy of closing out a task through completion. To test this, Experiment 5 employed a Two (Between: Not-Busy Control vs. Busy) × Two (Within: Reward-Only Choice vs. Reward/Completion Choice) mixed design. To manipulate feelings of busyness before the choice task, we used a loaded-survey manipulation to activate thoughts about one's own competing demands (busy condition) or others' competing demands (not-busy control condition).

Method

Participants

We advertised on MTurk a 4- to 6-min study, paying a base rate of $0.60, in which participants would "complete puzzles or other simple tasks." We received 504 responses. Among the respondents, 27 accessed the survey but withdrew before completing the study and 104 failed at least one of the two attention checks. This yielded a final sample of $N = 373$ participants ($n = 190$ in the not-busy control condition, $n = 183$ in the busy condition; 18–71 years old, $Mdn = 33$ years; 133 identified as women, 240 identified as men; 21 identified as Asian/Asian American, 26 as Hispanic/Latinx, 54 as Black/African American, 11 as Native American, 252 as White/Caucasian, and nine identified as multiracial or wrote in their own description).

Procedure

The choice paradigm followed the procedure of Experiment 1. The key difference was that after the training rounds (but before the two critical choices), we added an activities survey that served as a busyness manipulation. In the busy condition, we presented seven statements about oneself being busy (e.g., "There are times when my schedule feels overwhelming") and asked participants to indicate on a binary measure whether they agreed with each statement (agree/disagree). We worded the statements so that most people would agree with most of them (e.g., "There are times…" rather than "Most of the time…"). In the not-busy condition, we presented the same statements, but reworded to focus on others' activities (e.g., "Some people that I know have overwhelming schedules"). After their respective version of the loaded survey, participants responded to a two-item manipulation check: "In general, does your life feel busy?" and "In general, do you have a lot of different things going on?" (1 = not at all to 7 = very much). We used the mean of their two responses to assess the manipulation. As expected, participants indicated feeling busier in the busy condition, $M = 4.97$, $SD = 1.19$, than in the not-busy control condition, $M = 4.58$, $SD = 1.22$, $t(370) = 3.06$, $p = .002$.

Results

Overall, the mere-completion effect replicated, McNemar's $OR = 3.44$ (95% CI [1.94, 6.43]), $\chi^2(1, 373) = 20.34$, $p < .001$.

However, though mixed-effects logistic regression revealed a significant interaction of choice and busyness, $\beta = 2.59$, $p = .007$, it was not in a pattern consistent with the load-management prediction. The busyness manipulation, unexpectedly, made participants less likely to choose the lower-paying task in the reward-only condition, Not busy = 10.0% vs. Busy = 4.4%, $\chi^2(1, 373) = 4.40$, $p = .036$—perhaps because people did not want to waste their time on a lower-paying task while feeling busy—but it did not make them more likely to pursue the lower-paying task for the sake of completion, Not busy = 18.9% vs. Busy = 16.4%, $\chi^2(1, 373) = 0.42$, $p = .518$.

Indeed, we would expect people to prioritize completion to a greater extent in situations when they feel they have more competing tasks to keep track of (e.g., Fournier et al., 2019) and in proportion to their desire to avoid chaotic environments (e.g., Webster & Kruglanski, 1994), but only if they felt it was their responsibility to monitor unfinished tasks. In two attempts, we did not find evidence that this strategic concern is a proximal contributor to mere-completion choices in the current paradigm, but we can offer only a weak conclusion based on the null effect. Other approaches, such as a direct manipulation of task-relevant memory load (Patterson & Kahan, 2020), could eventually reveal that monitoring is involved in the current paradigm. We offer this as an unresolved and important question for future research.

Experiment 6

Our claim is that individuals sometimes value completion for its own sake, but our experimental designs to this point do not distinguish between the causal effect of having the opportunity to do the last step of a sequence and the causal effect of working on a task that is simply closer to completion. Previous research has shown that even illusory or endowed progress can be motivating (Kivetz et al., 2006; Nunes & Drèze, 2006), and it is possible that individuals in our paradigms have been drawn toward the lower-reward, completable tasks simply because those tasks display closer proximity to the goal. Is there anything special about completability? To test this, we directly compared the effect of a completion opportunity to the effect of closer proximity. We extended Experiment 2 into a mixed 2 × 2 design, randomly assigning participants to either make the two choices in what we refer to as a completion set (where the progress difference between options in the tradeoff choice positions one task as completable) or make the two choices in what we refer to as a proximity set (where the same progress difference between options in a tradeoff choice positions one task as closer to completion).

Method

Participants

We advertised on MTurk a 6- to 10-min study, paying a base rate of $1, in which participants would complete "quick simple tasks." We received 1,616 responses. Among the respondents, 160 accessed the survey but withdrew before completing the study and 113 failed at least one of the two attention checks. This yielded a final sample of $N = 1,343$ participants, $n = 665$ in the completion condition, $n = 678$ in the proximity condition (18–77 years old, $Mdn = 36$ years; 647 identified as women, 631 identified as men, 10 identified as nonbinary, and 55 did not report; 135 identified as Asian/Asian American, 57 as Hispanic/Latinx, 106 as Black/African American, four as Native

American, 979 as White/Caucasian, and 62 identified as multiracial or wrote in their own description).

Procedure

Participants were randomly assigned to one of two repeated-measures choice sets. Those participants randomly assigned to the completion-set condition followed a within-subjects version of Experiment 2. Specifically, they made two task choices in counterbalanced order. The reward-only choice asked them to select either a tedious letter-strings task or a fun baby-animals task, with both task segments representing the fourth segment in a six-segment sequence. The reward-completion choice also asked them to select between a tedious task and a fun task, but the tedious task provided the opportunity to complete the six-segment sequence because five segments were already finished. The two choices are summarized here:

Completion Set.

Reward-Only: Task L_4 {tedious, 4th of 6} versus Task H_4 {fun, 4th of 6}

Reward/Completion: Task L_6^* {tedious, 6th of 6} versus Task H_4 {fun, 4th of 6}

In contrast, participants randomly assigned to the proximity-set condition made the same two choices but with two fewer segments of progress indicated for every choice option:

Proximity Set.

Reward-Only choice: Task L_2 {tedious, 2nd of 6} versus Task H_2 {fun, 2nd of 6}

Reward/Proximity choice: Task L_4 {tedious, 4th of 6} versus Task H_2 {fun, 2nd of 6}

In the reward/proximity choice, Task L_4 is closer to sequence completion than all other tasks, but in the reward/completion choice, Task L_6^* would allow the participant to complete the sequence.

Results

Within the proximity set, we found a small but significant increase, such that 26.3% chose Task L_2 and 32.4% chose Task L_4, McNemar's $OR = 1.67$ (95% CI [1.21, 2.32]), $\chi^2(1, 678) = 10.50$, $p = .001$; and in the completion set, we found a larger increase, such that 23.2% chose Task L_4 and 35.3% chose Task L_6^*, McNemar's $OR = 2.65$ ([1.90, 3.76]), $\chi^2(1, 665) = 36.65$, $p < .001$. When we regressed choices on the choice condition, progress level, and their interaction in a mixed-effects logistic regression, we found a significant interaction, $\beta = 0.46$, $p = .033$, indicating that the effect of advanced progress was greater when it offered a completion opportunity. (Study S3, detailed in the online supplemental materials, found a descriptively similar but nonsignificant interaction effect in a smaller sample of participants. A supplemental analysis, also detailed in the online supplemental materials, combines the two studies and shows a significant interaction.)

Participants behaved as if completion proximity adds some value, with completion itself adding a premium. This pattern of results is consistent with a goal-gradient pattern, whereby "animals expand more effort as they approach a reward" (Heilizer, 1977; Hull, 1932; Kivetz et al., 2006, p. 39), but here completion itself is the motivating reward. This finding suggests a new level of robustness to the goal-gradient effect: Apparently humans are increasingly motivated as they approach a goal, even when that goal is nothing more than completion itself.

General Discussion

We repeatedly found that presenting a given task as the final step in a sequence made people likelier than they otherwise would have been to choose that task over a higher-reward alternative. People sacrificed small amounts of money to pursue a completion opportunity (Experiments 1, 3, 4, and 5), and they sacrificed entertainment value to pursue a completion opportunity (Experiments 2 and 6). To be clear, the most common decision profile among participants involved choosing the higher-reward task in both settings, but our studies repeatedly showed that the completion opportunity itself added enough appeal that it systematically attracted some participants to choose it over other rewards. This implies that people systematically saw value in the prospect of completion for its own sake.

Our evidence also suggests that those who pursued completion were generally aware of the value tradeoffs such a choice involved. Even after we explicitly directed attention to the rewards at stake, some participants still preferred lower pay with a completion opportunity, suggesting that they were not blinded to the opportunity cost (Experiment 3). Furthermore, highlighting the role of completion per se, we showed that providing the opportunity to work on the final segment of a lower-reward sequence added more appeal to that option than did providing the opportunity to work on a segment that was merely closer to sequence completion (Experiment 6).

Implications

While many outstanding questions remain, we suggest that the current findings nonetheless have implications for an array of self-regulatory and decision-making phenomena. First, and most directly, our findings show that the prospective value of even mere completion has motivational force. Our results therefore dovetail with the set-framing findings produced by Barasz et al. (2017), which show that an opportunity is more motivating to the extent that it is perceived as contributing to a complete set (as opposed to a series of disconnected tasks). Our results also support the conjecture that the desire for "completion per se" is one contributor to a more general persistence motive (Halkjelsvik & Rise, 2015; see also Garland & Conlon, 1998).

More broadly, we suspect that the value of mere completion may contribute to a variety of goal-related decisions. For instance, alongside other contributing mechanisms, the value of mere completion may be one factor that influences how doctors prioritize cases (Ibanez et al., 2018; Kc et al., 2020), how students prioritize assignments (Chu & Choi, 2005; Schraw et al., 2007; Westgate et al., 2017), how managers decide whether to continue investing in ill-fated projects (Garland & Conlon, 1998; Staw, 1976), how borrowers prioritize debts (Amar et al., 2011; Brown & Lahey, 2015), and how workers decide whether to quit when payment is offered early (Halkjelsvik & Rise, 2015). Furthermore, although work on *precrastination* has compellingly linked the tendency to hasten subgoal completion to a load-management mechanism (see Rosenbaum et al., 2019), the value of mere completion may at times play a supporting role in these decisions as well. More

completion might also be one factor that motivates people to pursue trivial activities over idleness (Wilson et al., 2014; Yang & Hsee, 2019): Even when the external rewards associated with activity versus idleness are held constant, activity at least provides a chance to complete something.

Another surprising prediction that follows from the value of mere completion is the idea that people may put a premium on means that offer clear opportunities for completion over those that are already complete (Ruan et al., 2023). In a concurrent and independently developed line of research,[1] Ruan and colleagues test exactly this prediction. Across a series of studies, they show that consumers on average value a nearly complete program more than a complete program, a phenomenon that they call "the one-away effect." For example, in one incentive-compatible experiment, participants demanded more money to sell an Amazon gift card that they had been working toward completing if that card was one step away from completion than if it was already complete. Follow-up vignette studies showed that participants predicted that they would be less likely to unsubscribe from an almost-complete loyalty program than a complete one, would be willing to pay more money for an almost-prepared meal kit than an already-prepared meal kit, and would be less likely to trade away an almost-paid-off layaway product than a paid-off layaway product. Other follow-up studies highlighted the role of anticipation. For example, when participants had reason to doubt that they would have time to complete a nearly complete sequence, they no longer valued it more than a complete sequence. Based on these and other results, and consonant with our conclusions, the authors suggest that "consumers are motivated to complete goals, tasks, and sets not only to obtain rewards … but also because … they anticipate the positive feelings associated with performing the final action."

It is also notable that across these investigations, there is evidence that participants value mere completion regardless of their own role in the initial progress. In Ruan and colleagues' studies, participants are building on their own progress: They find themselves one step away from completion based on their own actions up to that point. This is a good representation of most naturalistic goal pursuits but therefore may invoke some amount of commitment or persistence that contributes to valuations. In our studies, participants are building on arbitrary progress: They find themselves one step away from completing sequences that were presumably initiated by others. This is a more circumscribed situation but helps to isolate the role of completability even more precisely (see also Conlon & Garland, 1993). Viewing the packages together, then, helps to increase confidence in the internal and external validity of the mere completion claim.

Zooming further out, the value of mere completion might, in a cyclical way, strengthen other self-regulatory tendencies as a secondary reinforcer. The value of mere completion may, for instance, increase one's tendency to monitor for completion opportunities (Marsh et al., 1998; McDaniel & Einstein, 2007; Zeigarnik, 1927) and work harder as completion approaches (Heilizer, 1977; Kivetz et al., 2006). It also raises the general possibility that the prospect of completion amplifies many goal-relevant effects simply by offering additional prospective value alongside that of other intrinsic or extrinsic rewards.

The apparent value of mere completion may have practical implications as well, particularly in contexts where choice architects and motivational mentors aim to encourage sustained engagement with long-term goals (e.g., Brown & Lahey, 2015; Latham & Seijts, 1999; Rai et al., 2023). Subgoals—though they carry risk of being a licensing influence (Amir & Ariely, 2008; Fishbach et al., 2006)—are widely recognized as useful tools against otherwise intimidating superordinate goals (Bandura & Schunk, 1981; Huang et al., 2017). Our findings, echoing those of Barasz et al. (2017), imply that clearly communicated markers of the completability of subgoals would likely bolster their effectiveness. These markers might be physical representations like the apparently inviting, nearly filled pie charts used here, or they might be linguistically framed descriptions of subgoal progress that emphasize the completion aspect. When employed this way, the benefits of subgoals can be exploited both at the beginning of a segment (through increased efficacy) and toward the end of a segment (through the value of mere completion).

Constraints on Generality

We address the assumed generality of the phenomenon and the assumed generality of the experimental demonstration in turn. Our task-choice paradigm is intended to be a representation of the choices that individuals make in everyday life between working on one task that (subjectively) completes a sequence and another task that (subjectively) does not. In general, we expect that the main conclusion—that people systematically place some amount of value on even mere completion—should generalize widely (see also Barasz et al., 2017; Garland & Conlon, 1998; Halkjelsvik & Rise, 2015; Ruan et al., 2023). From our perspective, the potential moderator that looms largest is culture. Our (American, adult) participant sample is intended to represent adult humans who have been socialized in an environment where goal completion is valued. Theoretically, we assume that anyone who has learned over time to value completion should assign some amount of value to such an opportunity. Our theorizing about what distal factors (e.g., cultural dimensions) contribute to such learning are highly speculative at this stage and would certainly benefit from further research. Furthermore, though we only studied adults, we suggest that the effect would likely manifest among younger people as well. We presume that many 10-year-olds can consider tradeoffs between reward value and completion value, for instance, and so we might specify adolescence as a potential low target (while recognizing that even younger children recognize the value of finishing what others have started; Michael et al., 2022). We have not identified strong theoretical reason to expect that the general phenomenon depends on other characteristics of the participants.

With that said, we presume that certain operational features must be in place to produce the observed effect on choice that allows an inference about the value of mere completion. In other words, we expect that the specific experimental effect—that people are systematically more likely to choose a lower-reward task over a higher-reward task if the lower-reward task offers a completion opportunity—would only replicate under certain key conditions. First, the "finishable" task must be presented in some way that ensures the participants view it as a sequence that can be completed. This should not need to have the exact visual features that we used (e.g., pie chart,

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[1] We thank an anonymous reviewer for making us aware of Ruan and colleagues' under-review work. We also thank those authors for sharing their manuscript and for engaging in fruitful discussions about the connections between our respective research packages.

animation patterns), but it should be intuitive to participants. Barasz et al. (2017) and Shaddy and Fishbach (2017) both draw on Gestalt psychology to theorize about what some of these features might be.

Second, the value tradeoff must be set at a level that sets up some amount of conflict for the participants. For example, we found in one experiment that some participants would forgo six cents to pursue a completion opportunity, but we do not expect that many participants would forgo $60 to pursue the same completion opportunity in the same context; we also do not expect that intrinsic or extrinsic price would be the same for all participants in all situations. To manifest in choice, the subjective value of mere completion must be able to compete with other sources of value in that context. We did not test this systematically, but it follows logically. Future research that aims to identify the value of mere completion through a choice paradigm like ours would need to identify the appropriate level of conflict for the set of tasks and participants in the given context.

Third, our paradigm included steps intended to implicitly train participants to recognize that they had a real choice of which task to pursue. Without this understanding, participants might use cues other than the value of mere completion and the value of reward to make their choices. For example, assumptions about the experimenters' expectations or an appropriate ordering of tasks might obscure a mere completion effect. (We also remind readers that our Introduction describes critical paradigm features that allow us to isolate the value of mere completion, thus ruling out other explanations for the observed choice patterns, an issue that is separate from assessing generalizability.) Results that identify other characteristics of the task, stimuli, or materials that moderate the phenomenon would likely be of theoretical interest.

Finally, we note that there are two sides to our decision to rely so heavily on participants recruited from MTurk. While there are both known and unknown dimensions on which its representativeness is questionable (Berinsky et al., 2012; Buhrmester et al., 2011; S. O. Roberts et al., 2020), and while it represents the ultimate in convenience samples from the researcher's perspective, we used it in a way that is more naturalistic and therefore increases external validity. As we presented the MTurk participants with real tradeoffs, within a workflow that most would be highly familiar with and involving stakes that are relevant to this kind of work, we can be more confident that the decisions in this contrived context are nonetheless "real" decisions for those who participated.

Other Open Questions

Beyond the open questions about generality, our proposal and observations raise several important questions about the origin and underlying mechanisms that contribute to mere completion. We believe the key question from a more distal perspective is how people learn to value (mere) completion in the first place. Homing in on the key factors that reinforce a positive evaluation of completion itself would likely help to explain variance in who shows the bias and possibly predict the settings in which it is most likely to manifest in choices. We nominated three broad contributors at the outset, and we leave it to future research to assess the relative contributions of each. First, we reasoned that sociocultural pressures may increase the value of goal completion (Meacham, 1988). Individuals who are socialized in environments that prize productivity and stigmatize unfinished work (Burnett et al., 2020; Schulte, 2015; Wrosch et al., 2003; Yang & Hsee, 2019) will come to expect praise for finished

tasks and reproach for incomplete tasks. Future work might be able to exploit documented cultural differences in these work- and persistence-related values (Bellezza et al., 2017; Giorgi & Marsh, 1990; Leong et al., 2014) or examine developmental trajectories (e.g., Michael et al., 2022) to trace the distal contribution of socialization.

Second, we reasoned that repeatedly pairing the experience of goal attainment (specifically the intrinsic and extrinsic rewards of attaining the desired endstate) with the action of completion may lead to completion itself being experienced as positive (e.g., Custers & Aarts, 2005; De Houwer et al., 2001). To the extent that this kind of evaluative conditioning is a contributor, we would expect that individuals who frequently operate in contexts where there is a high level of "fusion" between completion and reward (e.g., repeated coupling, immediacy) would be more inclined to value mere completion (Kruglanski et al., 2018). The same conditions that promote a structural form of intrinsic motivation for other activities should promote intrinsic motivation for completion. At the same time, we acknowledge that the construct of "completion" is a broad category of actions. The extent to which such a heterogenous concept (or "policy") might become a conditioned stimulus represents an avenue for future work at the intersection of motivation and learning (e.g., Cushman & Morris, 2015; Hofmann et al., 2010).

Third, we reasoned that people may learn to associate completion with a feeling of relief from the pressures of monitoring unfulfilled obligations (Rosenbaum et al., 2019; Soman & Cheema, 2004; Syrek et al., 2017). Although we did not identify a proximal contribution of this self-regulatory strategy in the current context (Experiments 4 and 5), others have recently documented it in environments that require monitoring (Fournier et al., 2019; Kc et al., 2020; A. R. Roberts et al., 2021), and it could be a distal contributor to a general positive view of completion. To pursue this line of questioning, it may be productive to take a metamotivational approach (Scholer et al., 2018) and explore possible connections between the mere completion effect and individuals' ability to manage their own motivational states. Of course, the value of mere completion is likely to be multiply determined and different aspects may therefore be more or less important in different prioritization contexts.

Regardless of what processes contribute to positive evaluations of completion from a distal perspective, we might still ask what processes govern its prioritization relative to other factors from a more proximal perspective. Here, we think a key question is whether the selection of a completable task over a higher-reward task, where it occurs, is a more reflective ("goal-directed") choice or a more reflexive ("habitual") choice (Miller et al., 2018; Sloman, 1996; Smith & DeCoster, 2000). In other words, we presume that mere completion becomes valued through a distal set of learning processes, but we do not know how that assessment is used in the choice process (Markman & Brendl, 2000). Examining how contextual factors such as cognitive load, time pressure, and motivation affect the decision may illuminate details of how individuals are using the value of mere completion in their decision processes. Theorizing in this area should continue to entertain the possibility that behavioral decisions to pursue completion for its own sake may represent integrated contributions of both habits and goals (Aarts & Dijksterhuis, 2000; Cushman & Morris, 2015; Miller et al., 2018; Wood & Neal, 2007).

Closing Thought

Is the value of mere completion adaptive or maladaptive? In 1997, the philosopher John Perry wrote a 1,000-word essay entitled, "How to Procrastinate and Still Get Things Done." In this short column—whose length suggests it was imminently completable for a prolific writer but whose omission from his curriculum vitae (Perry, n.d.) suggests that the author did not find it highly valuable—Perry admits that he wrote it while avoiding making progress on a more important long-format academic essay on the philosophy of language. Far from apologizing for his apparent procrastination, though, Perry advocates for his method of completing small tasks while bigger tasks loom. He cheekily brags that such habits have even allowed him to "acquire … a reputation for getting a lot done." If the value of mere completion helped spur Perry to write his column instead of the academic essay, is that good or bad? It depends.

We think that perspectives on adaptive goal disengagement (Wrosch et al., 2003) and harmful self-control (Rawn & Vohs, 2011) provide good models to address the question. Ultimately, "good" self-regulation is about being flexible to pursue one's values in relation to the opportunities that are available. From this point of view, deactivating a goal is neither good nor bad, but depends on the situation and one's resources. The bad version is "quitting," and the good version is "prudent prioritization." Similarly, fixation on a goal is sometimes "commitment" and "focus" but other times "rumination" and "stubbornness." In terms of mere completion, the adaptiveness or maladaptiveness depends on whether people are appropriately managing their many goals with respect to one another.

"Get it done" is a useful self-regulatory policy as long as "it" is a valued goal (or must be completed to make way for a valued goal). Like any learned tendency, though, it may be overapplied, driving behavior and decisions at inopportune times. We documented that people are sometimes willing to incur opportunity cost to chase completion, even for arbitrary sequences rather than valued goals. While the prospective value of completion itself may be one contributor to high-value triumphs, we show here that it can be one reason people sometimes prioritize lower- over higher-value opportunities.

Article Context

This research was inspired by a long-term interest in the puzzle of why (and when) people do not pursue their most cherished or important goals. It is part of a broader program at the intersection of decision-making, motivation, and social cognition that seeks to identify factors other than outcome value that affect goal prioritization. In particular, we have been interested in understanding what makes a goal feel subjectively urgent (Austin & Converse, 2021; Converse & Fishbach, 2012; Hennecke & Converse, 2017; see also Zhu et al., 2018), what factors allow people to feel comfortable ignoring or postponing a goal (Converse et al., 2019; see also Guinote et al., 2015), and what situations promote a completion focus (Freund & Hennecke, 2015; see also A. R. Roberts et al., 2021; Rosenbaum et al., 2019). Through the current review process and development of this manuscript, we have also become increasingly interested in connecting this work to the learning literature to better understand the origins and manifestations of different self-regulatory tendencies (e.g., Dickinson & Balleine, 1994; Miller et al., 2018; Ouellette & Wood, 1998). Based on the current evidence, we conclude that people come to value completion for its own sake and this prospective value of mere completion can sometimes influence prioritization decisions. We hope to inspire and contribute to future work that elucidates distal contributors, identifies moderators, and explores generalizability.

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