The Motivating Power of Streaks: Increasing Persistence Is as Easy as 1, 2, 3

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Abstract

Organizations often use financial incentives to boost employees' commitment to work-relevant goals in an effort to increase persistence and goal achievement (e.g., to improve organizational efficiency or sales). We introduce and test a novel incentive scheme designed to enhance persistence by increasing commitment to the goal of maximizing earnings. Specifically, we test "streak incentives," or rewards that offer people increasing payouts for completing multiple consecutive work tasks. Across six pre-registered studies (total N = 4,504), we show that, contrary to standard economic models suggesting people will complete more piece-rate work for larger rewards, people actually complete more work when compensated with streak incentives than with larger, stable incentives. We theorize that this occurs because, by encouraging consecutive task completion, streak incentives increase commitment to a goal of maximizing earnings, which in turn increases persistence. We also show that this effect is not driven by providing increasing rewards; rather, people's goal commitment and motivation are boosted by the requirement that they complete work tasks *consecutively* to earn escalating payments. Taken together, our results suggest that designing incentives to encourage streaks of work is a low-cost way to increase goal commitment and therefore persistence in organizations and other contexts.

Keywords: motivation, streaks, incentives, persistence, behavioral economics, goals

People and organizations often set a variety of goals—goals to improve health, increase persistence, maximize income, and so on. The objective of setting such goals is to elevate performance along the targeted metrics (Latham & Locke, 2006; Tammemagi et al., 2013). Individuals set goals, for instance, to boost their exercise or to eat more nutritious meals. Similarly, organizations set goals to help their employees persist on work-related tasks, thus maximizing performance and efficiency. Unfortunately, people often fail to follow through in achieving the goals they set and that their employers set for them (Cannon & Edmondson, 2001; Epstude & Roese, 2011). How can people be encouraged to more successfully persist towards valued goals?

Previous research has established many key antecedents to goal success (Heath et al., 1999; Latham & Locke, 1979; Sharif & Shu, 2017), one of which is goal commitment (Hollenbeck & Klein, 1987; Locke et al., 1988). Goal commitment is integral to goal success because when people are more committed to their goal, they are more likely to persist (i.e., to engage in repeated tasks to reach the goal; Allen & Nora, 1995). When goal commitment drops, goal success drops accordingly (Locke et al., 1988). Thus, it is paramount to consider how to encourage goal commitment when seeking to increase goal achievement.

In this paper, we leverage insights from the goal commitment literature to design and test a novel intervention for increasing goal commitment. Across six pre-registered experiments (N = 4,504), we establish the value of this novel intervention to increase goal commitment, and thus persistence: encouraging consecutive completion of tasks via *streak incentives*. Streaks are sequences of three or more consecutive tasks (Carlson & Shu, 2007). We define streak incentives as reward schemes that (1) pay increasing amounts for consecutive achievements (e.g., completing three arduous tasks consecutively without taking a break) and (2) impose some

penalty for taking a break from achievement (e.g., reducing subsequent pay).[1] Building on

research finding that people are committed to seeing their effort reap rewards (e.g., Arkes, 1996)

and that goal commitment increases when people are reminded of past effort (Kivetz et al., 2006;

Rafieian & Sharif, 2023; Zhang & Huang, 2010), we propose that streak incentives increase a

person's commitment to their goal of maximizing earnings by linking their future rewards to

effort they exerted in the past. This, in turn, increases their goal persistence.

Notably, we predict and find that streak incentives encourage greater persistence than

larger, stable rewards (i.e., unchanging, higher-paying incentives for each achievement).

Incentives involving stable rewards are a widely-used and highly effective tool for boosting

employee goal achievement (Haff et al., 2015; Maki et al., 2016; Mantzari et al., 2015; Mitchell

et al., 2013) and performance (Cadsby et al., 2007; Cerasoli et al., 2014; Ederer & Manso, 2013;

Frisch & Dickinson, 1990; Shaw et al., 2002; Stroh et al., 1996; Young et al., 2012). When

people are given incentives for progressing towards their goals, they are more likely to achieve

success (Frisch & Dickinson, 1990). Although stable pay-for-performance incentives are already

widely-deployed to encourage employee persistence, we introduce a superior incentive scheme

that is designed to increase the efficacy of these rewards by boosting goal commitment, and thus

persistence.

In doing so, our work makes several important theoretical and practical implications.

First, we build on the large literature exploring factors that increase peoples' goal commitment

(Allen & Nora, 1995; Hollenbeck & Klein, 1987; Locke et al., 1988; Rafieian & Sharif, 2023;

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[1] In this paper, we focus on streak incentives that mirror those found in the real world (e.g., for Uber drivers or Duolingo language learners). Specifically, we operationalize streak incentives as those which pay an increasing amount for the first three consecutive tasks competed and reduce payment (i.e., impose a penalty) if a streak is broken. Studies 4 and S1 delve further into the precise requirements that must be met for streak incentives to increase persistence.

Zhang & Huang, 2010). Drawing on this literature, we develop and show that streak incentives can be deployed to increase people's commitment to maximizing their earnings, ultimately leading to greater goal persistence. In doing this, we uncover a novel approach to increasing goal commitment: encouraging consecutive completion of tasks. We also build on the literature exploring streaks—a literature that has primarily focused on how others perceive a streak of success or failure, and what happens when someone's streak breaks (Gilovich et al., 1985; Silverman & Barasch, 2023). In contrast, we test whether it is possible to encourage people to pursue streaks to begin with, and whether doing so can boost persistence. Practically, our work shows that incentives, which reliably boost persistence, can be made even more effective when designed to encourage consecutive achievement. In fact, we show that managers can boost persistence more cost effectively by using streak incentives rather than stable incentives. Taken together, our findings can help managers and organizations enhance persistence with a novel, theoretically-motivated reward structure.

In what follows, we start by developing a theory of why streak incentives may effectively motivate persistence, building on previous work exploring (1) the way people perceive and respond to streaks, (2) incentives, and (3) goal commitment. We then present evidence from six pre-registered experiments that test our theory, and we conclude with a discussion of our findings' theoretical contributions, notable practical implications of this work, and avenues for future research.

Why Streak Incentives Boost Persistence

Streaks

Past research has shown that observing or experiencing streaks can affect people's judgments in notable ways. Most extant research on streaks has focused on the hotly-debated

question of whether experiencing a streak—for instance, a basketball player making three consecutive shots—truly increases the likelihood of that outcome occurring again (i.e., scoring another shot; Miller & Sanjurjo, 2018) or whether the purported benefits of streaks may be a statistical misperception (Gilovich et al., 1985; Green & Zwiebel, 2018). More recent work exploring streak perceptions has examined how observing a streak affects onlookers' perceptions, and has shown that people think someone is more likely to achieve their goal when they are in the middle of an active streak (versus following a more scattered pattern of goal progress or a broken streak; Silverman et al., 2023).

Due to the recent prevalence of companies implementing streaks in their platforms and products, such as Snapchat (*What Is A Snapchat Streak?*, n.d.), Duolingo (*What Is a Streak?*, n.d.) and Lyft (*Earn Ride Streak Bonuses - The Hub*, n.d.; see supplementary materials for screenshot examples of how various companies implement streak incentives), recent research has begun to uncover other interesting effects of streaks on individuals' behavior. For instance, one recent paper explored the behavioral consequences of highlighting existing streaks of behavior, showing that people are more likely to continue engaging in that behavior when they have an intact (vs. broken) streak of logging it (e.g., when a fitness app informs someone that they have exercised several days in a row; Silverman & Barasch, 2023). Notably, this prior work suggests that these "logged" streaks can be effective motivators once achieved.

But rather than highlighting an existing streak, is it possible to *encourage* people to pursue streaks to begin with, ultimately leading to increased persistence towards a goal? Our research seeks to fill this gap, testing whether encouraging consecutiveness in accomplishments via an incentive scheme can encourage persistence.

Incentives and Goal Commitment

Inspired by the aforementioned research on how highlighting existing streaks can affect behavior, we study a new incentive scheme designed to encourage streaky behavior. In particular, streak incentives encourage people to complete tasks consecutively by offering higher rewards for consecutive achievements. Under such reward schemes, consecutive achievements maximize earnings. We test whether such incentives outperform a more traditional form of monetary rewards: stable incentives that pay people the same amount for each achievement, regardless of the order or timing of completion.

Our work adds to a robust literature on incentives examining how different pay structures affect performance. For one, much prior work has explored how variations in stable incentives can affect persistence, finding that factors like payment timing (Ederer & Manso, 2013), dispersion of pay within a group (Shaw et al., 2002), and whether pay is calculated at the individual or team level (Garbers & Konradt, 2014) all play an important role in persistence.

Additionally, incentive schemes' effectiveness can be altered by leveraging temporal and interpersonal dynamics. For example, people are more likely to complete a task when facing time-sensitive incentives, as they do not want to feel regret over procrastinating and consequently earning less (Keller et al., 2020). Relatedly, when people are told about incentives they failed to earn in one time period, they exhibit improved subsequent performance on incentivized activities to avoid future regret (Volpp et al., 2008). Incentives' effectiveness can also be influenced by introducing social comparisons. While using leaderboards to show workers their performance relative to others can increase productivity (Blanes i Vidal & Nossol, 2011), making payment amounts contingent on relative performance can actually decrease output because workers do not want to indirectly penalize their coworkers (Bandiera et al., 2005).

Within this literature, research has also demonstrated that a key way to engineer incentive schemes to improve performance is by increasing workers' commitment to a goal of maximizing their earnings. Indeed, a basic tenet of standard economic theory, as well as a critical assumption of behavioral agency frameworks, is that people typically aim to maximize their earnings (Becker, 1962; Pepper & Gore, 2015; Scott, 2000; Wiseman & Gomez-Mejia, 1998); thus, incentives should be structured to leverage this innate goal (Baiman, 1982, 1990; Eisenhardt, 1989; Shapiro, 2005). Accordingly, people are more committed (and more likely) to earn maximum rewards when they are tied to easy-to-achieve targets (Wright, 1992). Relatedly, research has found that people sometimes choose lower benchmarks for themselves (e.g., to complete the minimum number of work tasks to earn payment) to ensure they can reach their goal of earning the maximum payment possible (Wright & Kacmar, 1995). Similarly, when people are given specific targets for payment (e.g., sort 400 informational cards into appropriate categories to earn a bonus), they are more committed to maximizing their potential earnings, and thus exhibit higher overall performance than when they are simply offered hourly or per-task payments (Wright, 1989).

Our research builds on this robust literature exploring the effectiveness of different types of incentives to motivate increased persistence. In particular, we test a novel incentive scheme— streak incentives—designed to increase persistence by boosting people's commitment to the goal of maximizing their earnings.
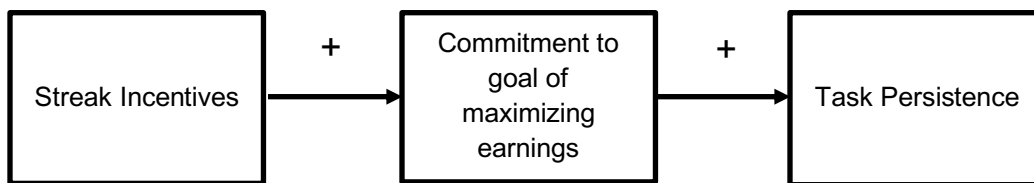
How Streak Incentives Boost Persistence

We posit that streak incentives boost commitment to the goal of maximizing earnings because they encourage consecutive achievements (see Figure 1). Specifically, a streak is defined by three or more successive achievements, with any break therein nullifying the streak. We argue

that this consecutiveness is important because it links a person's potential future rewards to their immediate past effort, which increases that person's commitment to a goal of maximizing their earnings.

Figure 1

Conceptual Framework

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┌──────────────────┐   +   ┌──────────────────┐   +   ┌──────────────────┐
│                  │       │   Commitment to  │       │                  │
│                  │       │      goal of     │       │                  │
│ Streak Incentives│──────▶│    maximizing    │──────▶│ Task Persistence │
│                  │       │     earnings     │       │                  │
└──────────────────┘       └──────────────────┘       └──────────────────┘
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Note. We theorize that by encouraging consecutive achievements, streak incentives increase task persistence by increasing people's commitment to the goal of maximizing earnings.

People want to see their efforts reap rewards. Indeed, people, and even animals, are hardwired to seek the most beneficial outcomes for their actions, often desiring maximum rewards or earnings for their effort (Basten et al., 2010; Vassena et al., 2014). As a result, people often set the goals of maximizing rewards, which allows goal commitment to fuel their efforts toward reaching the most desirable outcomes (Locke & Latham, 1984). Prior research has demonstrated that people even want to ensure that they reap the most rewards possible from any past effort. For example, people are often susceptible to continuing to attend to sunk costs, becoming more committed to an endeavor after investing money, time, and effort into it, even if the costs outweigh the benefits (Arkes, 1996; Thaler, 1980). This desire to benefit from past effort has been shown to create a positive relationship between effort investment and goal commitment. People are more committed to their goal when their goal progress feels earned (vs.

endowed; Zhang & Huang, 2010) and when they have invested greater effort to achieve that progress (Lee et al., 2015). Even calling someone's attention to their past effort can increase their commitment to a goal; for instance, reminding people that they ran outside yesterday, despite their favorite TV show being on at that time, can increase their commitment to an exercise goal (Rafieian & Sharif, 2023).

We suggest that streak incentives link past effort to future rewards, boosting people's commitment to maximizing their earnings. Specifically, because streak incentives reward *consecutive* achievements, once a person has completed a desired task, they then have the opportunity to reap greater rewards from completing the next task. Moreover, opting to *not* complete a task in such a case would result in the individual failing to maximize their earnings, resulting in their past efforts being wasted (an inherently undesirable outcome; Arkes, 1996).

We further theorize that the fundamental encouragement of consecutiveness within streak incentives can amplify commitment to a goal of maximizing earnings by reminding people of the cumulative effort they have exerted thus far. In particular, because streak incentives increase in value only when people perform tasks consecutively, seeing increased rewards may serve as a helpful reminder of their recent effort and achievements. Prior work has shown that people are more likely to continue working towards a goal when they consider recent relevant goal progress (Kivetz et al., 2006; Nunes & Drèze, 2006; Thaler, 1980; Zhang & Huang, 2010). Similarly, we suggest that streak incentives may naturally draw attention to an individual's effort investment towards their goal of maximizing earnings.

Taken together, we propose that streak incentives have the unique potential to encourage consecutive achievement, and thus increase commitment towards a goal of maximizing one's earnings. Given that greater commitment to this goal should lead to greater task persistence

(Eisenhardt, 1989; Locke, 1968), it follows that by increasing commitment to a goal of maximizing earnings, streak incentives should increase the likelihood that people will complete their next task and thus their overall persistence relative to stable incentives (which do not encourage consecutive achievement). Thus, our research highlights a new way of fostering goal commitment: by encouraging the consecutive completion of goal-consistent tasks. More formally, we hypothesize:

> H1: Streak incentives will increase task persistence more than stable incentives that pay better.

> H2: Commitment to the goal of maximizing earnings will mediate the relationship between streak incentives and task persistence.

Notably, this theorizing makes unique predictions about how streak incentives will boost persistence (1) compared to flat incentives and also (2) compared to other incentive schemes. For instance, prior work suggests that increasing incentives—those that offer larger and larger rewards for additional achievements—can increase persistence because increasing numbers are an easily evaluable signal of greater goal progress (Loewenstein & Sicherman, 1991; Shen & Hsee, 2017). However, our theory predicts that increasing incentives will not increase goal commitment akin to streak incentives because increasing incentives do not encourage consecutiveness. That is, when facing an increasing incentive, past effort is not wasted if someone completes one task and then does not complete the next; rather, payment levels increase regardless of the specific pattern of task completion.

Moreover, our predictions diverge somewhat from those based in standard economic theory (Dermer, 1975; Kanfer & Chen, 2016; Scott et al., 1988). While most forms of monetary incentives are likely to increase persistence relative to a complete lack of payment, we predict

that by introducing the encouragement that people consecutively complete tasks, streak incentives can increase persistence *above and beyond* stable incentives (that simply pay per achievement), even when streak payment amounts are *lower*. Specifically, participants in our experiments are always paid less per achievement when facing streak incentives than when facing stable incentives (e.g., in the *streak incentive* condition, they are paid $0.01 for completing their first task, $0.02 for completing their second consecutive task, and $0.03 for completing their third consecutive task, whereas in the *stable incentive* condition, they are always paid $0.03 per task completed). If workers seek to maximize their utility, consistent with standard economic theory, we would predict greater persistence under stable incentives because the return on investment is higher (i.e., the incentives per task completed are greater).[2] In contrast, we propose that offering streak incentives can increase persistence, even when they result in lower total pay for the same amount of work, because streak incentives encourage consecutive achievements, which increases goal commitment. The empirical tests we present in this paper will serve as a strong test of our theory, as we will pit streak incentives against larger, stable incentives.

Overview of Studies

Across six pre-registered experiments (N = 4,504), we examine the impact of streak incentives on participants' persistence in completing work tasks. We operationalize streak incentives as rewards that increase for consecutive achievements (up to a predetermined amount) and return to the lowest amount when a streak of achievement is broken. The designs of our experiments mirror the streak incentives people face in reality; video-gamers, for instance, often earn increasingly higher point rewards for consecutive successful actions (e.g., "tricks" in Tony

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[2] Notably, this point stands if all else is equal (e.g., holding task difficulty, need for funds and budgetary constraints constant), and utility for money is locally linear.

Hawk Pro-Skater, "kills" in Call of Duty) and return to a baseline amount after a missed action. Notably, we also test the robustness of the effect of streak incentives without this return to baseline payment amount (see Supplemental Study S1). We compare this type of incentive scheme to a more traditional, stable incentive scheme that consistently pays the highest possible per-task payment achievable under a streak incentive scheme.

Study 1 tests H1 and serves as an initial demonstration that streak incentives can boost persistence within a naturalistic, hypothetical workplace scenario. Our next five studies investigate the effect of streak incentive schemes using incentive-compatible economic paradigms that provide real incentives for persistence in completing tasks. Study 2 provides real-behavior evidence in support of H1, showing that people offered streak incentives complete more tasks than those offered larger, stable incentives. Study 3 replicates this effect, offering more support for H1 and demonstrating the effect's robustness to incentives of different amounts.

Our next three studies test our theory by exploring potential boundary conditions for H1 and measuring the proposed process through which streak incentives boost persistence. Study 4 finds that streak incentives increase persistence above and beyond streak messaging alone (which prior work has shown can also motivate persistence). Study 5 shows that streak incentives increase persistence even more than incentives that increase with each (consecutive *or* non-consecutive) achievement, thus demonstrating that encouraging consecutiveness is a critical element for the motivating power of streak incentives. Study 6 directly tests H2 by demonstrating that increased commitment to a goal of maximizing earnings mediates the relationship between streak incentives and persistence. Table 1 provides a summary of our six experiments and their key findings.

Table 1

Summary of Studies and Main Findings

Study	Main finding
Study 1 (N = 999)	Incentivizing people to initiate and maintain a streak boosts persistence in a gig economy scenario (confirming H1)
Study 2 (N = 1,104)	Incentivizing people to initiate and maintain a streak in an incentive-compatible paradigm increases persistence in real work tasks (again confirming H1)
Study 3 (N = 421)	Study 2's results are robust to different payment amounts, a different paid task, and a different distractor activity (again confirming H1)
Study 4 (N = 838)	Streak incentives uniquely motivate people to increase persistence above and beyond messaging that highlights when someone has achieved a streak (again confirming H1)
Study 5 (N = 713)	The motivational impact of streak incentives is not driven by the increasing nature of streak incentive payment amounts (again confirming H1)
Study 6 (N = 429)	Commitment to a goal of maximizing one's earnings mediates the relationship between streak incentives and persistence (again confirming H1, also confirming H2)

All of our data, code, stimuli, and pre-registrations can be found on OSF at

https://osf.io/kuqdn/?view_only=c2e6dd0c52c945b1ae8bd5fb779a4669. For all studies, we

determined the sample sizes in advance to provide at least 80% power to detect the focal effect

based on preliminary effect size estimates from pilot studies. We report all pre-registered

exclusion criteria in the Participants section of each study.

Study 1

In Study 1, we conducted an initial test of our hypothesis (H1) that people persist more

when they are offered streak incentives in a naturalistic, real-world scenario. Specifically,

participants in this study imagined that they were food delivery drivers facing different bonus incentive schemes and self-reported how many deliveries they would make.

Methods

Participants. We pre-registered this study (https://aspredicted.org/TGY_4MH) and posted it on Amazon's Mechanical Turk.[3] Participants earned $0.45 for participating in the study. We pre-registered collecting complete study data from 1,000 participants. In total, 1,025 participants began the study (and 26 observations were incomplete or duplicates). In this study, there was no comprehension quiz, and we pre-registered including all unique participants who completed the study in full. Our final sample consisted of 999 participants (48.45% female, mean age = 41.20 years; 1 short of our pre-registered goal due to the removal of a duplicate response).

Design and Procedure. Participants read instructions that asked them to imagine they worked for a food delivery company (similar to Doordash or UberEats). They read that today, they had already delivered several orders and were feeling tired, so they were trying to decide whether to take a break or not. Participants read that the delivery company was offering a bonus for the day; the details of this bonus differed depending on participants' randomly assigned experimental condition. In the *stable incentive* condition, participants read that they would earn 1.25x the amount they normally would earn for each additional order they completed today. In the *streak incentive* condition, participants read that they would earn 1.15x, 1.20x, and 1.25x the amount they normally would earn for the first, second, and third additional order they completed consecutively today. If they continued delivering food after that, they would continue to earn 1.25x the normal amount. But if they took a break and resumed delivering food later today,

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[3] When posting all our studies, we limited recruitment to participants who had not completed a related study within the past three months. Doing so allowed us to avoid having the same participants in multiple studies.

participants would return to a 1.15x bonus and have to work their way back up to the 1.25x bonus.

On the next several pages, participants saw examples of how the incentive scheme worked. Then they answered a question that served as our primary dependent variable: "How many more orders will you complete before you take a break?" Participants indicated their numerical responses in a text box, and they could not enter a number less than zero or with a decimal.

Finally, participants answered several other questions about their psychological state (more details on these questions can be found in the supplementary materials) and two demographic questions.

Results

In our final sample, 502 participants were in the *stable incentive* condition and 497 participants were in the *streak incentive* condition. A two-sample t-test revealed that participants in the *streak incentive* condition would complete significantly more food delivery orders (M = 5.10, SD = 6.85) than participants in the *stable incentive* condition (M = 4.14, SD = 5.32; $t(994.06) = 4.04$, $p < .001$, $d = 0.26$).[4]

Discussion

This study provides initial evidence for H1: that streak incentives can increase persistence relative to higher-paying stable incentives in a naturalistic work setting.

Study 2

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[4] We report the raw means here to help readers better understand the data, but in our analysis, we use the log-transformed number of orders because of normality violations (as pre-registered). Additionally, we provide the results of Poisson regressions for this and all other studies in the supplementary materials.

Study 2 tested the efficacy of streak incentives (H1) in an incentive-compatible paradigm. Specifically, participants repeatedly chose between completing a dull work task for pay or enjoying a fun "distractor" activity without pay. The work task was selected to mimic many forms of independent, repetitive work tasks like those encountered in the gig economy (in which over a third of Americans participate; Mitic, 2022). For instance, delivery drivers pick up food at restaurants and deliver it to customers on many separate occasions (as described in Study 1), salespeople cold call many different customers to attempt new sales, and copy editors review many different documents for typos. In each of these settings, it may be tempting to step away from rewarded work and instead scroll through social media or watch the latest TikTok or YouTube videos, but compensation is typically associated with persistence in dull tasks. We designed the incentive-compatible paradigm in this study to emulate such trade-offs.
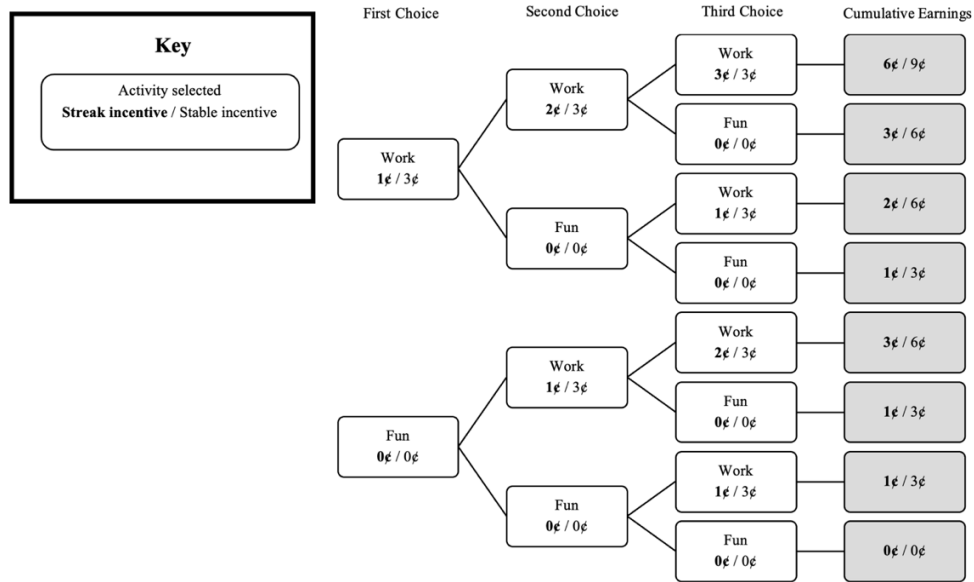
Methods

Participants. We pre-registered this study (http://aspredicted.org/blind.php?x=3p7up5) and posted it on Amazon's Mechanical Turk. Participants earned $0.80 and a potential bonus payment for completing the study. We pre-registered collecting complete study data from 1,000 participants. In total, 1,211 unique participants began the study. We removed 107 participants who failed the comprehension quiz (as pre-registered). Our final sample consisted of 1,104 unique participants who passed the comprehension quiz (42.93% female, mean age = 36.74 years; 979 who completed the entire study, which was slightly below our pre-registered recruitment target of 1,000 due to the removal of duplicates, and 125 who were assigned to condition and passed the comprehension quiz but did not complete the study in full). As pre-registered, we included data from all participants who were assigned to a condition and passed

the comprehension quiz regardless of whether they completed the study in full or not (following

an intent-to-treat design) to avoid potential bias from differential attrition.

Figure 2

Illustrative Example of Bonus Earnings Available by Incentive Condition in Study 2

First Choice   Second Choice   Third Choice   Cumulative Earnings

Key

Activity selected
Streak incentive / Stable incentive

First Choice	Second Choice	Third Choice	Cumulative Earnings
Work **1¢** / 3¢	Work **2¢** / 3¢	Work **3¢** / 3¢	**6¢** / 9¢
		Fun **0¢** / 0¢	**3¢** / 6¢
	Fun **0¢** / 0¢	Work **1¢** / 3¢	**2¢** / 6¢
		Fun **0¢** / 0¢	**1¢** / 3¢
Fun **0¢** / 0¢	Work **1¢** / 3¢	Work **2¢** / 3¢	**3¢** / 6¢
		Fun **0¢** / 0¢	**1¢** / 3¢
	Fun **0¢** / 0¢	Work **1¢** / 3¢	**1¢** / 3¢
		Fun **0¢** / 0¢	**0¢** / 0¢

Note. This decision tree displays all possible participant actions (either a work task or a fun

activity) for the first three choices in Study 2. The corresponding bonus for each *incentive*

condition are displayed within each box, with the payment amount for the *streak incentive*

condition in bolded font and on the left and the payment amount for the *stable incentive*

condition in non-bolded font on the right. Cumulative earnings across the first three choices are

shown in the final column on the right, demonstrating that the *stable incentive* condition

consistently offers higher bonuses for all work completed.

Design and Procedure. All participants first read our study instructions. These

instructions detailed the two ways participants could spend their time during the study: (1) doing

paid work by completing a vocabulary task, which involved looking up the definitions of three vocabulary words, or (2) doing fun, unpaid activities by watching 30-second clips from popular comedy shows (e.g., *The Office*, *The Colbert Report*, *Silicon Valley*). These instructions also included information about the incentive scheme for completing work tasks (which varied by condition, as described below). Next, participants completed a comprehension quiz to test whether they understood the incentive scheme. Participants then sampled each of the two activities so that they knew what each activity entailed before choosing between them. Then, participants made five choices, indicating whether they would like to spend their time completing a work task or fun activity. After each choice, participants completed their selected task and saw their bonus earnings.[5] Our primary dependent variable was how many work tasks participants completed.[6]

Participants were randomly assigned to one of two incentive schemes (*stable* or *streak*) that determined their rewards for completing work tasks. Participants in the *stable incentive* condition were paid a stable bonus (3 cents) for each work task completed. Participants in the *streak incentive* condition were paid a smaller bonus for the first work task completed (1 cent), and increasingly larger incentives for the second and third *consecutive* work tasks completed (2 cents and 3 cents, respectively). If participants in the *streak incentive* condition completed four or more consecutive work tasks, then they continued to earn the constant, larger bonus (3 cents) after the third consecutive work task. If these participants chose to watch a video after completing any number of consecutive work tasks, they returned to the lowest incentive amount

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[5] For all studies, total bonuses were paid on the platform used in each study after the study was completed.

[6] In all studies that used this incentive-compatible paradigm (Studies 2-6), we analyzed the number of work tasks participants completed. As a result, any choices that a participant did not make (i.e., because they dropped out of the study before making that particular choice) were coded as not selecting the work task (i.e., were coded as selecting the fun activity, in line with Goswami & Urminsky, 2017).

(1 cent) the next time they chose to complete a work task. Notably, participants in the *streak incentive* condition earned less than those in the *stable incentive* condition for the same work (see Figure 2 for an illustrative example). At the end of the study, all participants answered multiple exploratory questions about their experience and three demographic questions (see OSF for complete stimuli and the supplementary materials for additional analyses).

Results

Figure 3

Distribution of Work Tasks Completed by Condition in Study 2
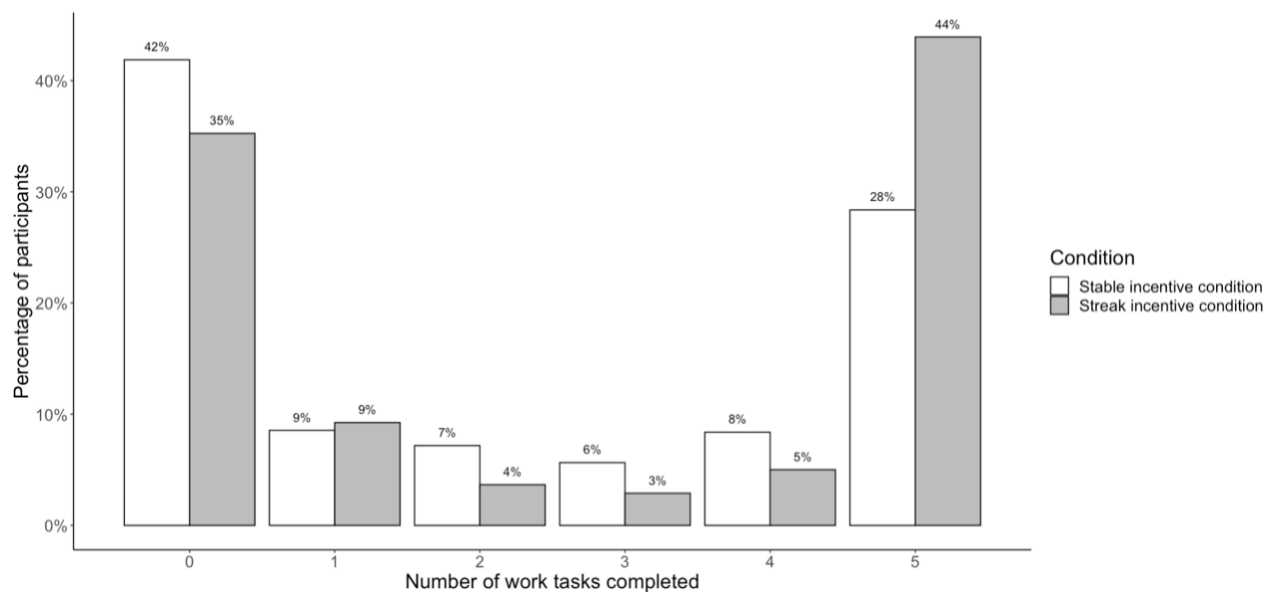
Note. This figure shows the percentage of participants completing each possible number of work tasks by condition. The supplementary materials includes similar figures for other studies.

In our final sample, 585 participants were in the *stable incentive* condition and 519 were in the *streak incentive* condition. Consistent with our hypothesis, a two sample t-test showed that participants in the *streak incentive* condition persisted more, completing significantly more work

tasks (M = 2.65, SD = 2.30) than those in the *stable incentive* condition (M = 2.15, SD = 2.17; $t(1068.1) = 3.69$, $p < .001$, $d = 0.22$).[7] Figure 3 shows the distribution of work tasks completed by condition.

Discussion

This study provides additional evidence supporting H1 within a real-behavior incentive-compatible paradigm: that people persist more on work tasks when an incentive scheme encouraged them to initiate and maintain a streak than when they were rewarded with a traditional, stable incentive scheme that actually paid more.

In this and subsequent studies, we operationalized streak incentives much as they occur in the field: individuals faced increasing incentives for additional consecutive achievements and returned to a lower-paying baseline reward level if they took a break from their consecutive work. However, in Supplemental Study S1, we replicated the effects of streak incentives (versus higher-paying stable incentives) with a slightly different payment scheme. In Study S1, participants in our *streak-without-reset incentive* condition were still required to complete tasks consecutively to increase their payment level, but in this experimental design participants would *not* return to earning the lowest available payment amount if they broke a streak of achievement. Instead, they merely lost out on the chance to level up their payment immediately if they broke a streak. We still see this implementation of a streak incentive outperforms a standard, flat incentive scheme with higher absolute payments (*streak-without-reset incentive* condition: M = 6.88, SD = 3.38; *stable incentive* condition: M = 5.89, SD = 4.25; $t(699) = 2.92$, $p = .004$, $d =$

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[7] In Studies 2-3 and 5, we pre-registered excluding participants who failed our comprehension quiz. As a robustness check, we conducted additional analyses with all unique participants, including those who failed the quiz. Notably, this served as a very conservative test of our hypothesis, since it included participants who did not understand our manipulation. Importantly, these analyses yielded similar results to our primary, pre-registered analyses in Study 2 ($t(1201.70) = 1.63$, $p = .104$, $d = .09$) and Study 3 ($b = 1.13$, $t(428) = 3.02$, $p = .003$, $d = .27$).

0.26). This suggests that the effect of streak incentives is robust to different operationalizations, so long as streak incentives encourage consecutive achievements. See supplementary materials for additional details.

Study 3

In Study 3, we tested the generalizability of our effect (and H1) by changing several features of our study paradigm. As in Study 2, to mirror the kinds of mundane and repetitive tasks many workers complete in the gig economy and elsewhere, participants in this study were incentivized to decode CAPTCHAs (a different, arguably more mundane work task than the one used in Study 2). Participants again had the opportunity to decline paid work and instead watch funny videos for no pay. Additionally, to ensure that the benefit of incentivizing streaks of work persists when people must complete many tasks (when they run the risk of becoming satiated or fatigued), we doubled the number of work tasks participants had the opportunity to complete (from five to ten). Finally, to further explore the robustness of the effect of incentivizing streaks across different payment amounts, we varied the bonus offered for work completed.

Methods

Participants. We pre-registered this study (http://aspredicted.org/blind.php?x=qa7qs4) and posted it on Amazon's Mechanical Turk. Participants earned $0.60 and a potential bonus payment for participating in the study. We pre-registered collecting complete study data from 400 participants. In total, 431 unique participants began the study. We removed ten participants who failed the comprehension quiz (as pre-registered). Our final sample consisted of 421 unique participants who passed the comprehension quiz (43.94% female, mean age = 38.06 years; 392 who completed the entire study, which was slightly below our pre-registered recruitment target

of 400 due to the removal of duplicates and quiz failures, and 29 participants who were assigned to condition and passed the comprehension quiz but did not complete the study in full). As pre-registered, we included data from all participants who were assigned to a condition and passed the comprehension quiz regardless of whether they completed the study in full or not (following an intent-to-treat design) to avoid potential bias from differential attrition.

Design and Procedure. As in Study 2, all participants first read study instructions that detailed the two ways participants could spend their time during our study: (1) completing work tasks, which each involved decoding a set of six CAPTCHAs (strings of blurry scrambled letters/numbers) or (2) watching 30-second funny videos (i.e., YouTube videos showing embarrassing or funny moments for children, pets, etc.). These instructions also included information about the incentive scheme for completing work tasks, which differed across experimental conditions. Next, participants completed a comprehension quiz about the incentive scheme. Participants then sampled each of the two activities, so they would know what each activity entailed before choosing between them. Next, participants made ten choices, indicating whether they wanted to spend their time completing a work task or watching a funny video in each choice. After each choice, they completed their selected task and saw their bonus earnings. Our primary dependent variable was how many work tasks participants completed.[8]

All participants were randomly assigned to one of four conditions varying the monetary incentives for each completed work task in a 2 (incentive scheme: *streak* versus *stable*) x 2 (incentive amount: *high* versus *low*) between-subjects design. As in Study 2, participants in the *stable incentive* conditions were paid a stable bonus for each work task completed: either 1 cent

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[8] Our pre-registration contained a typo; as in our other studies, our primary analysis in Study 3 concerned the number of *work tasks* completed, rather than the number of *days* work tasks were completed. Since our study was conducted on one day, there were no dependent variables collected over the course of several days.

in the *stable-low incentive* condition or 4 cents in the *stable-high incentive* condition. Similarly, participants in the *streak incentive* conditions were paid a smaller bonus for their first work task completed (0.5 cents for the *streak-low incentive* condition and 2 cents for the *streak-high incentive* condition), and larger incentives for the second and third consecutive work tasks completed (0.75 cents and 1 cent for the *streak-low incentive* condition; 3 cents and 4 cents for the *streak-high incentive* condition). If participants completed four or more consecutive work tasks, they then continued to earn the highest incentive amount for each work task (1 cent for the *streak-low incentive* condition and 4 cents for the *streak-high incentive* condition). If participants in the *streak incentive* conditions chose to watch a video after completing a sequence of work tasks, then their incentive for the next work task returned to the lowest incentive amount (0.5 cents in the *streak-low incentive* condition; 2 cents in the *streak-high incentive* condition). As in Study 2, participants in the *streak incentive* conditions earned less than those in the *stable incentive* conditions for doing the same amount of work. At the end of the study, all participants answered two exploratory questions about their experience and three demographic questions.

Results

In our final sample, 105 participants were in the *stable-high incentive* condition, 112 participants were in the *stable-low incentive* condition, 89 participants were in the *streak-high incentive* condition, and 115 participants were in the *streak-low incentive* condition. Following our pre-registration, we first ran an ordinary least squares regression to predict a participant's total number of work tasks completed with three predictors: a dummy-coded indicator for *streak incentive* condition (such that 1 indicated the *streak incentive* condition and 0 indicated the *stable incentive* condition), a dummy-coded indicator for *low incentive* (such that 1 indicated the *low incentive* condition and 0 indicated the *high incentive* condition), and the interaction between

these two indicators. Our regression model revealed no significant interaction between incentive amount and incentive scheme ($b = 0.93$, $t(417) = 1.23$, $p = .218$). Thus, to examine the main effects of the *streak incentive* condition and *low incentive* condition, we re-ran the regression without an interaction term. As predicted, participants in the *streak incentive* conditions completed more work tasks (M = 6.36, SD = 3.82) than participants in the *stable incentive* conditions (M = 5.40, SD = 4.04; $b = 1.04$, $t(418) = 2.77$, $p = .006$, $d = 0.25$).[9] Unsurprisingly, participants in the *low incentive* conditions also completed fewer work tasks (M = 5.12, SD = 3.96) than those in the *high incentive* conditions (M = 6.74, SD = 3.78; $b = -1.67$, $t(418) = -4.40$, $p < .001$, $d = -0.42$).

Discussion

This study replicated our initial results from Study 2 with different stimuli, showing that incentivizing people to initiate and maintain a streak increased their persistence relative to providing consistent rewards, even with lower per-task and total pay (providing additional evidence in support of H1). Importantly, these results indicate that this effect is robust to different types of work tasks and varying numbers of potential work tasks made available. It also rules out the possibility that people were working to earn a certain target amount; if that were the case, then people would work less, not more, when paid more per task.

In this study, simple effects revealed that the impact of offering streak incentives on persistence was statistically significant within the *low incentive* condition, but not within the *high incentive* condition. This might be attributable to a variety of causes, such as a desire to receive

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[9] We found a significant difference between the *streak* and *stable incentive* conditions in an independent samples t-test ($t(418.99) = 2.51$, $p = .012$, $d = 0.24$). We also tested whether this effect held within each *incentive amount* condition. Participants in the *streak-low incentive* condition completed significantly more work tasks (M = 5.84, SD = 3.78) than those in the *stable-low incentive* condition (M = 4.38, SD = 4.03; $t(223.18) = 2.83$, $p = .005$, $d = .38$). This effect was directionally consistent within the *high incentive* condition (*stable incentive* condition: M = 6.49, SD = 3.78; *streak incentive* condition: M = 7.04, SD = 3.78; $t(186.80) = .99$, $p = .324$, $d = .14$).

whole-number earnings (which would only encourage persistence in the *streak-low incentive* condition) or ceiling/floor effects. However, the lack of a significant interaction between random assignment to the *low incentive* condition and assignment to the *streak incentive* condition (combined with our Study 2 evidence showing significant effects of streak rewards with higher incentives) indicates that, most likely, this variation is due to noise.

To confirm that streak incentives are robust to another form of payment, we report an additional pre-registered study in our supplementary materials (Study S2). In this study, we offered participants lottery-based rewards (i.e., people earned lottery tickets for a monetary prize instead of earning bonus payments) and we replicated the positive effect of streak incentives on persistence (*streak incentive* condition: M = 6.05, SD = 4.24; *stable incentive* condition: M = 5.60, SD = 4.06; $t(1718.3) = 2.29$, $p = .022$, $d = 0.11$).

Study 4

In Study 4, we investigated the unique role of streak incentives on persistence, and we aimed to determine whether this effect was differentiated from that of merely making streaks of past achievements salient. That is, one could reasonably ask: did streak incentives increase persistence merely by highlighting streaks of past achievements, or did this effect arise because of the unique features of streak incentives that increase commitment to a goal of maximizing earnings?

To answer this question, in this study, we compared the effect of streak incentives to stable incentives (as in prior studies), but we emphasized participants' streaks of completed work tasks in both conditions. If the effect of streak incentives is solely driven by their ability to draw attention to streaks of achievements, then we would anticipate no difference between conditions

in this study (as both conditions make such streaks salient). However, if streak incentives boost persistence by instead increasing people's commitment to a goal of maximizing their earnings, as we theorize, then we should observe the effect of streak incentives above and beyond stable incentives even when streaks of achievements are highlighted.

Methods

Participants. We pre-registered this study (https://aspredicted.org/ZFR_1HM) and posted it on Amazon's Mechanical Turk. Participants earned $1.50 and a potential bonus payment for participating in the study. We pre-registered collecting complete study data from 800 participants. In total, 833 unique participants began the study. In this study, we did not pre-register excluding participants who failed our comprehension quiz because participants needed to answer this question correctly to continue in the study. Thus, our final sample consisted of 833 unique participants (46.33% female, mean age = 43.83 years; 790 who completed the entire study, which was slightly below our pre-registered recruitment target of 800 due to the removal of duplicates, and 43 who were assigned to condition but did not complete the study in full). As pre-registered, we included data from all unique participants assigned to condition regardless of whether they completed the study in full or not (following an intent-to-treat design).

Design and Procedure. As in Studies 2-3, all participants first read instructions about the study, which described the two activities they could choose to complete (here, completing CAPTCHA work tasks or watching video clips). They also learned about and saw an example of the incentives available for completing work tasks (which varied across conditions). After completing a comprehension quiz about the incentive scheme, participants sampled each of the two activities. Then, participants made ten choices between the two activities. Again, our

primary dependent variable was how many work tasks participants completed. Finally, participants answered two demographic questions.

Participants were randomly assigned to one of two conditions, which determined their incentive scheme: the *stable incentive + streak messaging* condition or the *streak incentive + streak messaging* condition. The incentives given in each condition were identical to those provided in the *low incentive* condition in Study 3: participants in the *stable incentive + streak messaging* condition earned a fixed bonus of 1 cent per work task completed, and those in the *streak incentive + streak messaging* condition were paid 0.5 cents for the first, 0.75 cents for the second, and 1 cent for the third (or more) consecutive work task completed. As in the previous studies, participants in the *streak incentive + streak messaging* condition who chose to watch a video after completing a sequence of work tasks would return to the lowest incentive amount (0.5 cents) for the next work task they completed.

In contrast to previous studies, however, participants in both conditions also saw messaging which highlighted their streaks of achievements, adapted from prior work (Silverman & Barasch, 2023). Specifically, on the page participants viewed after completing a given activity of choice, those who had completed at least three work tasks in a row read: "You've completed X work tasks in a row. Congrats, you're on a streak." (Where X was replaced with the number of work tasks the participant had completed in a row).

Results

In our final sample, 417 participants were in the *stable incentive + streak messaging* condition and 416 participants were in the *streak incentive + streak messaging* condition. Following our pre-registration, we conducted a t-test to compare the number of work tasks completed by condition. We found that participants in the *streak incentive + streak messaging*

condition completed significantly more work tasks (M = 5.12, SD = 4.46) than participants in the *stable incentive + streak messaging* condition (M = 4.04, SD = 4.19; $t(831) = 3.60$, $p < .001$, $d = 0.25$).

Discussion

This study replicated the positive effect of streak incentives relative to a stable, higher-paying incentive scheme (H1), even when streaks of past achievement were highlighted in both conditions. These results suggest that streak incentives do not boost persistence by merely drawing attention to streaks of achievements; rather, encouraging consecutiveness by integrating streaks into an incentive scheme increased persistence. Thus, this result demonstrates a key way in which our findings differ from recent research on the motivational benefits of highlighting behavioral streaks (Silverman & Barasch, 2023).

Study 5

In Study 5, we sought to isolate whether, as theorized, encouraging consecutiveness drives streak incentives' positive impact on persistence, or if instead the effect is driven by the increasing nature of the rewards offered for successive achievement. Previous research suggests that people tend to prefer increasing numbers and wages (Loewenstein & Sicherman, 1991; Shen & Hsee, 2017), so it is possible that the increasing reward amounts offered in our streak incentive schemes could have played a role in the effect.

We addressed this possibility by introducing an *increasing incentive* condition that did not reward consecutive work but still featured increasing rewards. More specifically, in the new increasing incentive scheme, participants earned an increasing amount for each of the first three work tasks they completed, *regardless of whether these tasks were completed consecutively or*

not. If the observed effect of streak incentives in our prior studies was driven exclusively by increasing rewards, then we would expect that relative to the *stable incentive* condition, this new *increasing incentive* condition would increase persistence comparably to our *streak incentive* condition. However, we predicted that people were not motivated in our studies by the prospect of increasing payments alone, and that instead, streak incentives enhance persistence by encouraging the completion of consecutive tasks, which increase goal commitment. Thus, we expected streak incentives to boost persistence relative to increasing incentives.

Methods

Participants. We pre-registered this study (http://aspredicted.org/blind.php?x=8zh8av) and posted it on Amazon's Mechanical Turk. Participants earned $0.80 and a potential bonus payment for completing the study. We pre-registered collecting complete study data from 750 participants. Eight hundred and nine unique participants began the study. We removed the responses of 96 participants who failed the comprehension quiz (as pre-registered). Our final sample consisted of 713 unique participants who passed the comprehension quiz (47.83% female, mean age = 37.84 years; 679 who completed the entire study, which was slightly below our pre-registered recruitment target of 750 due to the removal of duplicates and quiz failures, and 34 who were assigned to condition and passed the comprehension quiz, but did not complete the study in full). As pre-registered, we included data from all participants who were assigned to a condition and passed the comprehension quiz regardless of whether they completed the study in full or not (following an intent-to-treat design).

Design and Procedure. All participants first read instructions about the study. Like Studies 2-4, these instructions described the two activities participants could choose to complete (here, completing CAPTCHA work tasks or watching video clips) and the incentives available

for completing work tasks (which varied across conditions). After completing a brief comprehension quiz about the incentive scheme, participants sampled each of the two activities. Then, participants made ten choices between the two activities. Again, our primary dependent variable was how many work tasks participants completed.

Participants were randomly assigned to either the *stable*, *streak*, or *increasing incentive* condition. As in Study 4, incentives offered in the *streak* and *stable incentive* conditions were identical to those provided in the *low incentive* condition in Study 3: participants in the *stable incentive* condition earned 1 cent per work task completed, while those in the *streak incentive* condition were paid 0.5 cents for the first, 0.75 cents for the second, and 1 cent for the third (or more) consecutive work task completed. In the *streak incentive* condition, participants who chose to watch a video after completing a sequence of work tasks would return to the lowest incentive amount (0.5 cents) for the next work task they completed.

In the *increasing incentive* condition, participants earned an increasing bonus for each work task completed, but they did *not* need to complete work tasks consecutively for their bonus to increase. Specifically, participants earned 0.5 cents for the first, 0.75 cents for the second, and 1 cent for the third (or more) work task completed, as in the *streak incentive* condition. However, the sequence in which work tasks were completed did not matter. That is, participants earned 0.75 cents and 1 cent for their second and third work tasks completed, respectively, regardless of whether they were completed consecutively or not. At the end of the study, all participants answered three demographic questions.

Results

In our final sample, 200 participants were in the *stable incentive* condition, 285 participants were in the *increasing incentive* condition, and 228 participants were in the *streak*

incentive condition. To test whether a preference for increasing payments drives our effect, we conducted a linear regression to predict the total work tasks a participant completed. We included a dummy indicator for *streak incentive* condition (which took on a value of 1 in the *streak incentive* condition and 0 otherwise) and a dummy indicator for *increasing incentive* (which took on a value of 1 in the *increasing incentive* condition and 0 otherwise) as predictors. Consistent with Studies 1-4, we found that participants in the *streak incentive* condition completed more work tasks ($M = 6.71$, $SD = 3.43$) than those in the *stable incentive* condition ($M = 5.36$, $SD = 4.29$; $b = 1.35$, $t(710) = 3.68$, $p < .001$, $d = 0.35$; see Figure 4). Participants in the *increasing incentive* condition ($M = 5.98$, $SD = 3.71$) also completed marginally more work tasks than participants in the *stable incentive* condition ($b = 0.62$, $t(710) = 1.77$, $p = .078$, $d = 0.16$).

Figure 4

Study 5: Average Number of Work Tasks Completed by Condition
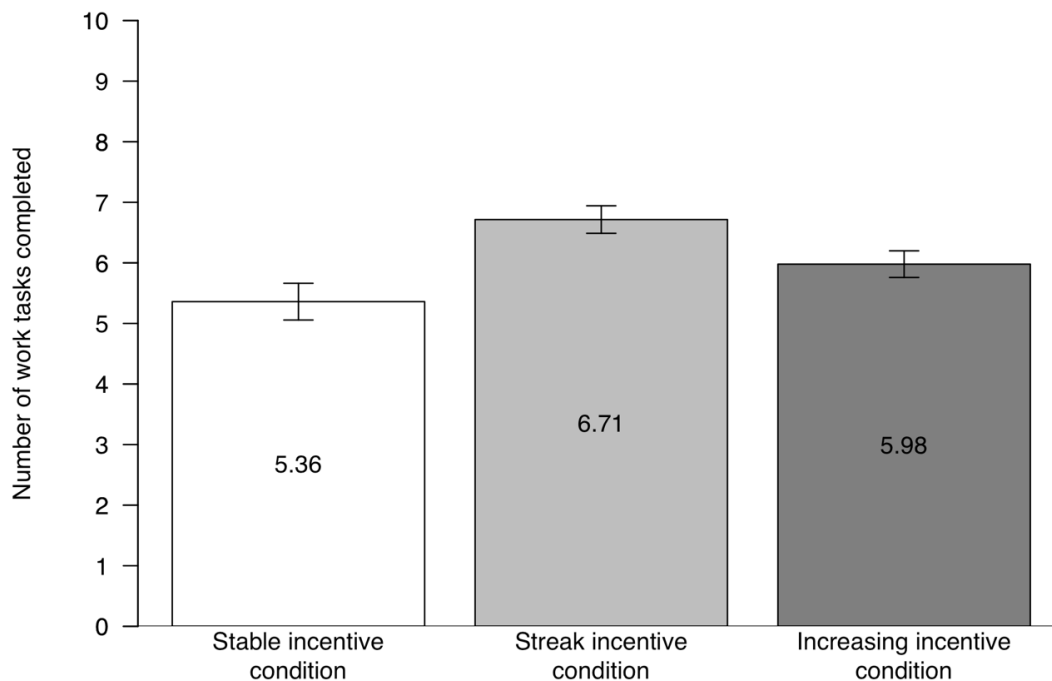
Note. Error bars represent +/- 1 standard deviation.

To compare the *increasing* and *streak incentive* conditions, we conducted a Wald test

comparing the coefficient estimates on indicators for these two conditions in our regression,

which showed that participants in the *streak incentive* condition also completed more work tasks

than those in the *increasing incentive* condition ($b = 0.74$, $\chi^2 = 4.76$, $p = .029$, $d = 0.21$).[10]

Discussion

This study sought to rule out an alternative explanation for the effect of streak incentives

on persistence: a preference for increasing payments. If such a preference were driving our

effect, then we would expect persistence in the *increasing incentive* condition to match

persistence in the *streak incentive* condition. Instead, we found that participants in the *streak*

incentive condition completed more work tasks than those in the *increasing incentive* condition,

and that the number of work tasks completed by participants in the *increasing incentive* and

stable incentive conditions only differed marginally. These results suggested that a preference for

increasing payments alone cannot explain why streak incentives increase people's persistence,

and that instead, streak incentives encourage more persistence by requiring consecutive

achievements. Further, this study offers yet another replication of our core finding that streak

incentives lead to greater persistence than stable incentives (H1).

Study 6

In Study 6, we examined our proposed mechanism: whether incentive schemes that

encourage consecutive achievements (i.e., streak incentives) work by boosting people's

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[10] A non-pre-registered, conservative robustness check including even those participants who failed the comprehension quiz found significant differences between the *streak* and *stable incentives* conditions ($b = 1.42$, $t(806) = 4.09$, $p < .001$, $d = 0.36$) and the *increasing* and *stable incentives* conditions ($b = 1.00$, $t(806) = 2.93$, $p = .004$, $d = 0.25$), and a directional, non-significant difference between the *streak* and *increasing incentives* conditions ($b = 0.42$, $\chi^2 = 1.65$, $p = .200$, $d = 0.11$).

commitment to a goal of maximizing their earnings. Specifically, we tested H2 by examining

whether commitment to the goal of maximizing earnings mediated the relationship between

streak incentives and the number of work tasks a participant completed.

Methods

      Participants. We pre-registered this study (https://aspredicted.org/JRP_JJ5) and posted it

on Amazon's Mechanical Turk. Participants earned $1.50 and a potential bonus payment for

participating in the study. We pre-registered collecting complete study data from 400

participants. In total, 423 unique participants began the study. In this study, we did not pre-

register excluding participants who failed our comprehension quiz because participants needed to

answer this question correctly to continue in the study. Thus, our final sample consisted of 423

unique participants (51.26% female, mean age = 42.83 years; 399 who completed the entire

study, which was slightly below our pre-registered recruitment target of 400 due to the removal

of duplicates, and 24 participants who were assigned to condition but did not complete the study

in full). As pre-registered, we included data from all unique participants assigned to condition

regardless of whether they completed the study in full or not (following an intent-to-treat

design).

      Design and Procedure. All participants first read instructions about the study, which

described the two activities they could choose between (here, completing CAPTCHA work tasks

and watching video clips). They also learned about and saw an example of the incentives

available for completing work tasks (which varied across conditions). After completing a

comprehension quiz about the incentive scheme, participants sampled each of the two activities.

Then, participants made ten choices between the two activities. Again, our primary dependent

variable was how many work tasks participants completed.

Table 2

Goal Commitment Questions Asked in Study 6

1. I am strongly committed to maximizing my bonus in this study.
2. Quite frankly, I don't care if I maximize my bonus in this study or not. (reverse-coded; RC)
3. I think maximizing my bonus in this study is a good goal to shoot for.
4. There is not much to be gained by trying to maximize my bonus in this study. (RC)
5. It wouldn't take much to make me abandon a goal of maximizing my bonus in this study. (RC)
6. I am willing to put forth a great deal of effort beyond what I'd normally do to maximize my bonus in this study.
7. It's hard to take a goal of maximizing my bonus in this study seriously. (RC)
8. It is quite likely that my plan of how many work tasks to complete may need to be revised, depending on how things go. (RC)
9. It's unrealistic for me to expect to maximize my bonus in this study. (RC)

Note. When these questions were presented at the end of the study, we changed the tense of the verbs to make more sense in that context.

Participants were randomly assigned to one of two incentive schemes that were identical to the *stable* and *streak incentive* conditions in previous studies. Participants in the *stable incentive* condition earned 1 cent per work task completed, while participants in the *streak incentive* condition earned 0.5 cents for the first, 0.75 cents for the second, and 1 cent for the third (or more) consecutive work tasks completed. If participants in the *streak incentive* condition opted to watch a video, they earned the lowest possible payment (0.5 cents) for the next work task they completed.

All participants also answered nine questions adapted from Hollenbeck et al. (1989) to measure their commitment to the goal of maximizing their earnings (see Table 2). We

randomized when in the survey these questions were displayed. Specifically, they were shown either before the first task selection, before the sixth task selection, or after all tasks had been completed.[11] All questions were shown together on one page, and the order of the questions on that page was randomized. The responses to questions in this scale were highly correlated (Cronbach's Alpha: .91). Finally, participants answered two demographic questions.

Results

In our final sample, 210 participants were in the *stable incentive* condition and 213 participants were in the *streak incentive* condition. Following our pre-registration, to examine the effects on number of work tasks completed, we conducted a linear regression to predict total work tasks completed with a dummy indicator for assignment to the *streak incentive* condition (which took on a value of 1 in the *streak incentive* condition and 0 in the *stable incentive* condition) and with fixed effects for when participants were randomly assigned to answer the goal commitment questions. We again found that participants in the *streak incentive* condition completed significantly more work tasks (M = 5.54, SD = 4.36) than participants in the *stable incentive* condition (M = 4.48, SD = 4.23; $b = 1.02$, $t(419) = 2.45$, $p = .015$, $d = 0.25$).

Following our pre-registration, we standardized responses to each goal commitment question across all participants and then averaged these responses within participant to create a single measure of a participant's goal commitment (see supplementary materials for a table of correlations across questions, as well as additional analyses of this composite measure without first standardizing responses, which replicate the effects). Next, we conducted a linear regression to predict this composite measure with a dummy indicator for *streak incentive* condition (which

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[11] To test whether order significantly affected responses to these goal commitment questions by condition, we conducted a two-way ANOVA, which found no significant interaction between condition and order of goal commitment questions ($F(2, 397) = .21$, $p = .81$). This result suggests that reverse causality is unlikely to be driving the results (i.e., completing more work tasks caused participants to report higher goal commitment).

took on a value of 1 in the *streak incentive* condition and 0 in the *flat incentive* condition) and fixed effects for when participants were randomly assigned to answer goal commitment questions. We found that relative to the *stable incentive* condition (M = 2.87, SD = 1.05), participants in the *streak incentive* condition (M = 3.26, SD = 1.17) were more committed to the goal of maximizing their earnings (b = 0.26, t(399) = 3.50, p < .001, d = .35).[12]

Next, we tested whether goal commitment mediated the relationship between streak incentives (vs. stable incentives) and the number of work tasks completed using a 10,000-sample bootstrapped mediation model (PROCESS Model 4; Hayes, 2017). In line with our theory, we found that the 95% bias-corrected confidence interval for the size of the indirect effect of goal commitment excluded zero (b = 1.02, SE = 0.29, 95% CI [0.45, 1.59]). Further, a Sobel test confirmed that the reduction in effect size was statistically significant (z = 3.46, p < .001).

Discussion

Supporting our theory, this study provided direct evidence of both H1 and H2: showing that commitment to a goal of maximizing one's earnings mediates the relationship between streak incentives and persistence.

General Discussion

Across six pre-registered studies (and two supplemental studies), we show that incentivizing streaks of achievements can increase people's persistence over and above offering larger, stable incentives (H1). Study 1 found this effect in a scenario matching a realistic gig work context. Studies 2 and 3 demonstrated that this effect is robust to different incentive amounts, task types, and the number of tasks people have the opportunity to complete for pay.

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[12] Some participants did not complete the goal commitment questions because they dropped out of the study before doing so. For all analyses involving these questions, we only include the subset of participants who completed them.

Studies 4 and 5 replicated the effect (H1) and ruled out alternative explanations, finding that streak incentives uniquely affect persistence above and beyond merely drawing attention to behavioral streaks (Study 4) or providing increasing incentives (Study 5). Study 6 replicated the effect again (H1) and showed that streak incentives lead people to have a greater commitment to a goal of maximizing their earnings, which drives the boost in persistence (H2).

Theoretical and Practical Implications

Our findings contribute key insights to several existing areas of academic literature. First, we contribute to extant work on goals and goal commitment (Hollenbeck & Klein, 1987; Locke et al., 1988). Previous research has shown that goal progress (Zhang & Huang, 2010) and past effort (Rafieian & Sharif, 2023) can increase goal commitment; we build on this work by showing that encouraging consecutiveness can uniquely boost goal commitment as well. Specifically, we theorize and show that streak incentives increase commitment to a goal of maximizing earnings by rewarding consecutive completion of tasks. In doing so, we show that beyond other methods for increasing engagement, like conveying goal progress (Kivetz et al., 2006) or preserving an "emergency reserve" in case goal pursuit goes awry (Sharif & Shu, 2017), encouraging consecutive goal-consistent behaviors to maximize rewards can also be an effective tool for boosting persistence.

We also contribute to a small but growing stream of research examining how streaks can affect people's judgments and behavior. Much of the previous work in this literature has focused on establishing when people perceive streaks, and how such perceptions influence subsequent predictions and inferences (e.g., Gilovich et al., 1985; Silverman et al., 2023). Adding to this literature, we study how incentives can be used to encourage the pursuit of a streak, and ultimately to increase persistence. Specifically, we show that streak *incentives* can boost

persistence above and beyond simply highlighting existing behavioral streaks (the focus of recent work; Silverman & Barasch, 2023). In doing so, we demonstrate the motivational power of encouraging streaks *a priori* via incentive schemes.

Finally, we contribute to a large literature investigating how behaviorally-informed monetary incentives affect people's persistence (Cadsby et al., 2007; Ederer & Manso, 2013; Frisch & Dickinson, 1990; Shaw et al., 2002; Young et al., 2012). We add to this prior work by introducing and testing the efficacy of streak incentives, which differ from other behaviorally-informed incentive schemes (e.g., incentives that incorporate regret aversion or offer work-to-unlock rewards) on a crucial dimension: they encourage unbroken streaks of achievements. We show that streak incentives increase persistence, despite the fact that in our studies participants facing streak incentives earned less money overall than those facing stable incentives for the same work. Thus, our results support the idea that applying behavioral insights to incentive schemes can make the same incentives more motivating (and thus more cost effective to deploy), defying the predictions of standard economic theory.

This work has a number of important implications for organizations and practitioners. Most notably, managers may want to implement streak incentive schemes to increase employee persistence. For instance, sales organizations might offer increasing bonuses to salespeople for consecutive sales made, rather than providing identical rewards for each success. Our results suggest this would not only boost sales but could be more cost effective. Similarly, gig economy employers like Uber, DoorDash, and TaskRabbit might benefit from offering workers larger incentives for consecutive activity (e.g., consecutive rides, deliveries, or tasks). Relatedly, programs designed to help people persist in goal pursuit, like educational apps and websites, might benefit from incentivizing users to pursue streaks. Such programs could offer increasing

incentives in the form of in-app currency to users who, for instance, persist in studying for multiple consecutive days. In fact, this could represent a win-win situation, where increased engagement with a company simultaneously helps people achieve their goals. While several organizations have already adopted streak incentives (e.g., Microsoft, Pokémon Go, Coffee Meets Bagel; see supplementary materials for more details), the evidence we present here suggests that many more could benefit from following suit.

Future Directions

While the laboratory studies presented in this paper provide empirical support for the motivating power of streaks, it would be useful to test this effect in the field. Study 1 partially addressed concerns about the real-world applicability of streak incentives via a scenario, but scenarios are not the same as real decisions. Future field research on this topic would be especially valuable if it tested streak incentives that reward persistence across much longer time scales (e.g., providing bonuses for meeting daily or weekly performance targets).

Relatedly, our findings could be expanded on by further exploring other features of streak incentives. For one, while we examined incentives that target streaks of three consecutive tasks, as past research has established that this is the minimum sequence required for people to perceive a streak (Carlson & Shu, 2007), future research could test whether encouraging even longer streaks of behavior would lead to enhanced motivation or could potentially backfire at a certain threshold. Additionally, although we found initial evidence that streak incentives increase persistence even without a penalty for breaking a streak (Study S1), future work may wish to examine the effectiveness of this and other more forgiving forms of a streak incentives, including how more forgiving incentives perform relative to increasing incentives. Open questions also remain as to how streak incentives might perform relative to other, less traditional incentives

schemes (e.g., work-to-unlock rewards: Sharif & Woolley, 2022; referral-based rewards: Gershon et al., 2020), which be especially interesting to test in a field setting.

Whether and how incentivizing streaks may affect behaviors other than persistence on simple tasks also remains an open question. For instance, does encouraging streaks also motivate people to complete more complex activities (e.g., writing annual reports) or behaviors that require a great deal of self-control (e.g., eating healthy food or going to the gym)? Additionally, future research might explore how various features of streak incentive schemes influence their impact. For example, while we demonstrate that encouraging streaks with monetary incentives can increase persistence, it would be interesting to test the motivating power of streaks via non-monetary incentives (e.g., parents and educators rewarding children with more valuable trinkets for consecutive instances of good behavior). Also, companies that include streaks in their products often deviate from the academic definition of a streak by including "freezes" or "repairs" that allow people to keep a streak active (at least virtually in an app), despite failing to complete the task. Future research could examine how incorporating these and other potential fail-safes into streak incentives might alter their effects.

Finally, diving deeper into the processes driving the observed effect of streak incentives on persistence could also be valuable. While we have demonstrated that goal commitment plays a role in the effect of streak incentives on persistence and ruled out a general preference for increasing bonuses or merely emphasizing existing behavioral streaks, it would be valuable to examine additional psychological mechanisms that can help explain this effect. For instance, streak incentives may enhance the extent to which incentives feel game-like (Hamari et al., 2014), which could make work tasks feel more fun and thus increase persistence (Patel et al., 2019). In fact, we find some preliminary evidence supporting these potential mechanisms (see

Supplementary Study S2 and Study 1's additional analyses in the supplementary materials), and hope that future work will investigate them further. The effects of streak incentives may be multiply determined, and different mechanisms may become more relevant in different settings.

Conclusion

Organizations and individuals alike frequently seek out methods for increasing persistence on simple tasks ranging from driving more on ride-sharing apps to making more sales calls to completing more language lessons on Duolingo. We add to past research exploring how incentives can increase task persistence. In this paper, we demonstrated the motivational power of streak incentives. Overall, our findings suggest that incentivizing the pursuit of streaks is a promising and potentially cost-effective way to boost people's goal commitment and thereby their persistence.

References

Allen, D., & Nora, A. (1995). An empirical examination of the construct validity of goal

    commitment in the persistence process. *Research in Higher Education*, *36*(5), 509–533.

    https://doi.org/10.1007/BF02208829

Arkes, H. R. (1996). The Psychology of Waste. *Journal of Behavioral Decision Making*, *9*(3),

    213–224. https://doi.org/10.1002/(SICI)1099-0771(199609)9:3<213::AID-

    BDM230>3.0.CO;2-1

Baiman, S. (1982). Agency research in management accounting: A survey. *Journal of*

    Accounting Literature, *1*(1), 154–210.

Baiman, S. (1990). Agency research in managerial accounting: A second look. *Accounting,*

    Organizations and Society, *15*(4), 341–371.

Bandiera, O., Barankay, I., & Rasul, I. (2005). Social Preferences and the Response to

    Incentives: Evidence from Personnel Data. *The Quarterly Journal of Economics*, *120*(3),

    917–962.

Basten, U., Biele, G., Heekeren, H. R., & Fiebach, C. J. (2010). How the brain integrates costs

    and benefits during decision making. *Proceedings of the National Academy of Sciences*,

    107(50), 21767–21772.

Becker, G. S. (1962). Irrational behavior and economic theory. *Journal of Political Economy*,

    70(1), 1–13.

Blanes i Vidal, J., & Nossol, M. (2011). Tournaments Without Prizes: Evidence from Personnel

    Records. *Management Science*, *57*(10), 1721–1736.

    https://doi.org/10.1287/mnsc.1110.1383

Cadsby, C. B., Song, F., & Tapon, F. (2007). Sorting and Incentive Effects of Pay for

    Performance: An Experimental Investigation. *The Academy of Management Journal*,

    50(2), 387–405.

Cannon, M. D., & Edmondson, A. C. (2001). Confronting failure: Antecedents and consequences

    of shared beliefs about failure in organizational work groups. *Journal of Organizational*

    Behavior, *22*(2), 161–177. https://doi.org/10.1002/job.85

Carlson, K. A., & Shu, S. B. (2007). The rule of three: How the third event signals the

    emergence of a streak. *Organizational Behavior and Human Decision Processes*, *104*(1),

    113–121.

Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic

    incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin*,

    140(4), 980–1008. https://doi.org/10.1037/a0035661

Dermer, J. (1975). The Interrelationship of Intrinsic and Extrinsic Motivation. *The Academy of*

    Management Journal, *18*(1), 125–129.

Earn Ride Streak Bonuses—The Hub. (n.d.). Retrieved June 18, 2024, from

    https://www.lyft.com/hub/posts/scheduled-ride-streaks

Ederer, F., & Manso, G. (2013). Is Pay for Performance Detrimental to Innovation? *Management*

    Science, *59*(7), 1496–1513. https://doi.org/10.1287/mnsc.1120.1683

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of*

    Management Review, *14*(1), 57–74. https://doi.org/10.2307/258191

Epstude, K., & Roese, N. (2011). When Goal Pursuit Fails. *Social Psychology*, *42*, 19–27.

    https://doi.org/10.1027/1864-9335/a000039

Frisch, C. J., & Dickinson, A. M. (1990). Work Productivity as a Function of the Percentage of

    Monetary Incentives to Base Pay. *Journal of Organizational Behavior Management*,

    11(1), 13–34. https://doi.org/10.1300/J075v11n01_03

Garbers, Y., & Konradt, U. (2014). The effect of financial incentives on performance: A

    quantitative review of individual and team-based financial incentives. *Journal of*

    Occupational and Organizational Psychology, *87*(1), 102–137.

    https://doi.org/10.1111/joop.12039

Gershon, R., Cryder, C., & John, L. K. (2020). Why Prosocial Referral Incentives Work: The

    Interplay of Reputational Benefits and Action Costs. *Journal of Marketing Research*,

    57(1), 156–172. https://doi.org/10.1177/0022243719888440

Gilovich, T., Vallone, R., & Tversky, A. (1985). The Hot Hand in Basketball: On the

    Misperception of Random Sequences. *Cognitive Psychology*, *17*(3), 295–314.

Goswami, I., & Urminsky, O. (2017). The dynamic effect of incentives on postreward task

    engagement. *Journal of Experimental Psychology: General*, *146*(1), 1–19.

Green, B., & Zwiebel, J. (2018). The Hot-Hand Fallacy: Cognitive Mistakes or Equilibrium

    Adjustments? Evidence from Major League Baseball. *Management Science*, *64*(11),

    5315–5348.

Haff, N., Patel, M. S., Lim, R., Zhu, J., Troxel, A. B., Asch, D. A., & Volpp, K. G. (2015). The

    Role of Behavioral Economic Incentive Design and Demographic Characteristics in

    Financial Incentive-Based Approaches to Changing Health Behaviors: A Meta-Analysis.

    American Journal of Health Promotion, *29*(5), 314–323.

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does Gamification Work? – A Literature Review of Empirical Studies on Gamification. *2014 47th Hawaii International Conference on System Sciences*, 3025–3034.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Heath, C., Larrick, R. P., & Wu, G. (1999). Goals as reference points. *Cognitive Psychology*, *38*(1), 79–109.

Hollenbeck, J. R., & Klein, H. J. (1987). Goal commitment and the goal-setting process: Problems, prospects, and proposals for future research. *Journal of Applied Psychology*, *72*(2), 212–220.

Kanfer, R., & Chen, G. (2016). Motivation in organizational behavior: History, advances and prospects. *Organizational Behavior and Human Decision Processes*, *136*, 6–19.

Keller, P. A., Hesselton, K., & Volpp, K. G. (2020). Increasing Recruitment and Engagement with Time-Limited Financial Incentives. *Journal of the Association for Consumer Research*, *5*(3), 259–270. https://doi.org/10.1086/708879

Kivetz, R., Urminsky, O., & Zheng, Y. (2006). The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention. *Journal of Marketing Research*, *43*(1), 39–58.

Latham, G. P., & Locke, E. A. (1979). Goal setting—A motivational technique that works. *Organizational Dynamics*, *8*(2), 68–80. https://doi.org/10.1016/0090-2616(79)90032-9

Latham, G. P., & Locke, E. A. (2006). Enhancing the Benefits and Overcoming the Pitfalls of Goal Setting. *Organizational Dynamics*, *35*(4), 332–340. https://doi.org/10.1016/j.orgdyn.2006.08.008

Lee, J. S., Keil, M., & Wong, K. F. E. (2015). The effect of goal difficulty on escalation of

    commitment. *Journal of Behavioral Decision Making*, *28*(2), 114–129.

Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational*

    Behavior and Human Performance, *3*(2), 157–189.

Locke, E. A., & Latham, G. P. (1984). *Goal setting: A motivational technique that works!*

    Prentice-Hall.

Locke, E. A., Latham, G. P., & Erez, M. (1988). The Determinants of Goal Commitment. *The*

    Academy of Management Review, *13*(1), 23–39.

Loewenstein, G., & Sicherman, N. (1991). Do workers prefer increasing wage profiles? *Journal*

    of Labor Economics, *9*(1), 67–84.

Maki, A., Burns, R. J., Ha, L., & Rothman, A. J. (2016). Paying people to protect the

    environment: A meta-analysis of financial incentive interventions to promote

    proenvironmental behaviors. *Journal of Environmental Psychology*, *47*, 242–255.

Mantzari, E., Vogt, F., Shemilt, I., Wei, Y., Higgins, J. P. T., & Marteau, T. M. (2015). Personal

    financial incentives for changing habitual health-related behaviors: A systematic review

    and meta-analysis. *Preventive Medicine*, *75*, 75–85.

Miller, J. B., & Sanjurjo, A. (2018). Surprised by the Hot Hand Fallacy? A Truth in the Law of

    Small Numbers. *Econometrica*, *86*(6), 2019–2047.

Mitchell, M. S., Goodman, J. M., Alter, D. A., John, L. K., Oh, P. I., Pakosh, M. T., & Faulkner,

    G. E. (2013). Financial Incentives for Exercise Adherence in Adults. *American Journal of*

    Preventive Medicine, *45*(5), 658–667.

Mitic, I. (2022, February 17). *Gig Economy Statistics: The New Normal in the Workplace*.

    Fortunly. https://fortunly.com/statistics/gig-economy-statistics/

Nunes, J. C., & Drèze, X. (2006). The Endowed Progress Effect: How Artificial Advancement Increases Effort. *Journal of Consumer Research*, *32*(4), 504–512. https://doi.org/10.1086/500480

Patel, M. S., Small, D. S., Harrison, J. D., Fortunato, M. P., Oon, A. L., Rareshide, C. A. L., Reh, G., Szwartz, G., Guszcza, J., Steier, D., Kalra, P., & Hilbert, V. (2019). Effectiveness of Behaviorally Designed Gamification Interventions With Social Incentives for Increasing Physical Activity Among Overweight and Obese Adults Across the United States: The STEP UP Randomized Clinical Trial. *JAMA Internal Medicine*, *179*(12), 1624–1632.

Pepper, A., & Gore, J. (2015). Behavioral Agency Theory: New Foundations for Theorizing About Executive Compensation. *Journal of Management*, *41*(4), 1045–1068.

Rafieian, H., & Sharif, M. (2023). It's the Effort That Counts: The Effect of Self-Control on Goal Progress Perceptions. *Journal of Marketing Research*, *60*(3), 527–542. https://doi.org/10.1177/00222437221123969

Scott, J. (2000). Rational choice theory. *Understanding Contemporary Society: Theories of the Present*, *129*, 671–685.

Scott, W. E., Farh, J.-L., & Podsakoff, P. M. (1988). The effects of "intrinsic" and "extrinsic" reinforcement contingencies on task behavior. *Organizational Behavior and Human Decision Processes*, *41*(3), 405–425.

Shapiro, S. P. (2005). Agency Theory. *Annual Review of Sociology*, *31*, 263–284.

Sharif, M. A., & Shu, S. B. (2017). The Benefits of Emergency Reserves: Greater Preference and Persistence for Goals that Have Slack with a Cost. *Journal of Marketing Research*, *54*(3), 495–509.

Sharif, M. A., & Woolley, K. (2022). Work-to-Unlock Rewards: Leveraging Goals in Reward Systems to Increase Consumer Persistence. *Journal of Consumer Research*, *49*(4), 634–656.

Shaw, J. D., Gupta, N., & Delery, J. E. (2002). Pay dispersion and workforce performance: Moderating effects of incentives and interdependence. *Strategic Management Journal*, *23*(6), 491–512. https://doi.org/10.1002/smj.235

Shen, L., & Hsee, C. K. (2017). Numerical nudging: Using an accelerating score to enhance performance. *Psychological Science*, *28*(8), 1077–1086.

Silverman, J., & Barasch, A. (2023). On or Off Track: How (Broken) Streaks Affect Consumer Decisions. *Journal of Consumer Research*, *49*(6), 1095–1117.

Silverman, J., Barasch, A. P., & Small, D. A. (2023). Hot streak! Inferences and predictions about goal adherence. *Organizational Behavior and Human Decision Processes*, *179*, 104281. https://doi.org/10.1016/j.obhdp.2023.104281

Stroh, L. K., Brett, J. M., Baumann, J. P., & Reilly, A. H. (1996). Agency Theory and Variable Pay Compensation Strategies. *The Academy of Management Journal*, *39*(3), 751–767. https://doi.org/10.2307/256663

Tammemagi, T., O'Hora, D., & Maglieri, K. A. (2013). The Effects of a Goal Setting Intervention on Productivity and Persistence in an Analogue Work Task. *Journal of Organizational Behavior Management*, *33*(1), 31–54. https://doi.org/10.1080/01608061.2013.758001

Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior & Organization*, *1*(1), 39–60.

Vassena, E., Silvetti, M., Boehler, C. N., Achten, E., Fias, W., & Verguts, T. (2014). Overlapping neural systems represent cognitive effort and reward anticipation. *PLoS One*, *9*(3), e91008.

Volpp, K. G., John, L. K., Troxel, A. B., Norton, L., Fassbender, J., & Loewenstein, G. (2008). Financial Incentive–Based Approaches for Weight Loss: A Randomized Trial. *JAMA*, *300*(22), 2631–2637. https://doi.org/10.1001/jama.2008.804

What Is A Snapchat Streak? Here's Everything You Need To Know About Snapstreaks. (n.d.). Bustle. Retrieved November 29, 2021, from https://www.bustle.com/articles/162803-what-is-a-snapchat-streak-heres-everything-you-need-to-know-about-snapstreaks

What is a streak? (n.d.). Duolingo Help Center. Retrieved November 8, 2021, from https://support.duolingo.com/hc/en-us/articles/204980880-What-is-a-streak-

Wiseman, R. M., & Gomez-Mejia, L. R. (1998). A Behavioral Agency Model of Managerial Risk Taking. *The Academy of Management Review*, *23*(1), 133–153.

Wright, P. M. (1989). Test of the Mediating Role of Goals in the Incentive-Performance Relationship. *Journal of Applied Psychology*, *74*(5), 699–705. https://doi.org/10.1037/0021-9010.74.5.699

Wright, P. M. (1992). An Examination of the Relationships Among Monetary Incentives, Goal Level, Goal Commitment, and Performance. *Journal of Management*, *18*(4), 677–693. https://doi.org/10.1177/014920639201800405

Wright, P. M., & Kacmar, K. M. (1995). Mediating Roles of Self-Set Goals, Goal Commitment, Self-Efficacy, and Attractiveness in the Incentive-Performance Relation. *Human Performance*, *8*(4), 263–296. https://doi.org/10.1207/s15327043hup0804_2

Young, G. J., Beckman, H., & Baker, E. (2012). Financial incentives, professional values and

    performance: A study of pay-for-performance in a professional organization. *Journal of*

    Organizational Behavior, *33*(7), 964–983. https://doi.org/10.1002/job.1770

Zhang, Y., & Huang, S.-C. (2010). How Endowed versus Earned Progress Affects Consumer

    Goal Commitment and Motivation. *Journal of Consumer Research*, *37*(4), 641–654.