Put Your Imperfections Behind You:

Why and How Meaningful Temporal Landmarks Motivate Aspirational Behavior

Hengchen Dai[a*], Katherine L. Milkman[a], Jason Riis[a]
[a]The Wharton School, The University of Pennsylvania

*Corresponding author.
527.1 JMHH, 3730 Walnut Street, Philadelphia, PA 19104-6340.
Phone: 215-898-0466
Email address: hengchen@wharton.upenn.edu (H. Dai)

Abstract

Recent field research on the "fresh start effect" has shown that temporal landmarks – distinct calendar dates (e.g., the start of the week/month/year, a holiday) and life events (e.g., a birthday) that stand out from other days in our lives – spur goal-directed, aspirational activities (e.g., dieting, exercising). Across six laboratory studies, we explore what types of temporal landmarks are most motivating and examine the mechanism underlying people's increased motivation to pursue their goals following temporal landmarks. We demonstrate that more meaningful landmarks magnify people's intentions to engage and actual engagement in goal pursuit to a larger extent than less psychologically meaningful temporal landmarks. We show that this is true for both inherently meaningful landmarks (Studies 1 and 4b), and otherwise less meaningful landmarks that have been imbued with personal or cultural relevance (and thereby with greater meaning; Studies 2a, 2b, 3, and 4a). Additionally, building on (a) the notion that subjective perceptions of time are malleable and (b) the theory of temporal self-appraisal, we propose and show that this strengthened motivation to pursue one's aspirations following more meaningful temporal landmarks originates from the greater psychological disassociation they produce from a person's past imperfections (Studies 4a and 4b).

Keywords: temporal landmarks; multiple selves; temporal self-appraisal; motivation; goals

Introduction

In a posting that appeared a few days before the start of 2014, two bloggers described what might be a typical workday for many Americans: hit the snooze button twice after the alarm clock buzzes, check Facebook now and then throughout the day, rush to meet a deadline, and leave the office later than planned with a cookie in hand. The bloggers noted that while "a version of this routine is likely to be part of our grim reality most days…there is one very important exception" (Ariely & Berman, 2013) – namely, a day after which many strive with particular fervor *not* to hit their snooze button, procrastinate at work, or eat junk food. The important exception referenced is January 1st, the day when about half of American adults make one or more resolutions. Their resolutions vary widely, but popular examples include resolving to maintain a healthier sleep schedule, to procrastinate less at work, and to start a diet (Norcross, Mrykalo, & Blagys, 2002). Importantly, recent research (e.g., Dai, Milkman, & Riis, in press; Ayers, Althouse, Johnson, & Cohen, 2014) demonstrates that January 1st represents just one example of a far broader set of naturally-arising points in time that are associated with subsequent increases in goal pursuit. Specifically, distinct occurrences that stand out from other, ordinary days in our lives (dubbed "temporal landmarks"; Shum, 1998; Peetz & Wilson, 2013), including notable life events (e.g., birthdays, weddings) and socially shared calendar markers (e.g., the start of the week or academic semester, holidays), have been shown in the field to motivate individuals to tackle their goals (Dai et al., in press). This phenomenon is known as "the fresh start effect" (Dai et al., in press).

To our knowledge, there have been no systematic investigations of (a) what types of temporal landmarks are most likely to inspire people to pursue their aspirations or (b) the psychological processes responsible for the fresh start effect. Addressing these gaps in the

literature is important because it will advance our understanding of when individuals are most likely to exert the self-control needed to achieve their goals and when encouraging individuals to follow-through on their self-improvement intentions is likely to be the most effective. We add to a growing body of research demonstrating the impact of ubiquitous environmental factors and organizational cues on individuals' ability to exert self-control (e.g., Milkman, 2012; DeVoe, House, & Zhong, 2013).

In this paper, we propose that the psychological meaning associated with a temporal landmark influences its likelihood of motivating goal pursuit. Importantly, we explore whether decision makers' motivation to pursue aspirational behaviors can be increased by manipulating how meaningful a landmark feels. Consistent with Dai et al., (in press), we define aspirational behaviors as "activities that help people achieve their wishes and personal goals" (Dai et al., in press, p.2). Examples of aspirational behaviors include starting a diet, exercising more regularly, improving productivity at work, and attending meetings on time. Across six studies, we show that more meaningful temporal landmarks magnify people's intentions to improve themselves as well as people's actual engagement in goal-directed activities to a greater degree than less meaningful temporal landmarks. We demonstrate the effects of meaningfulness in two ways. First, we compare inherently more meaningful landmarks (e.g., a person's first move to a new home) with inherently less meaningful landmarks (e.g., a person's 5th move to a new home). Second, we experimentally infuse otherwise ordinary days with greater meaning (e.g., by describing an otherwise ordinary 36th birthday as particularly important in another culture or by highlighting that an otherwise ordinary day in March happens to be the first day of spring).

Our theoretical framework primarily builds upon two streams of research. First, past research has shown that the subjective distance between our past, present, and future selves does

not always reflect the linear and continuous passage of time (e.g., Libby & Eibach, 2002). In fact, intervening temporal landmarks can extend the perceived distance separating temporal selves (e.g., Peetz & Wilson, 2013). Second, the theory of temporal self-appraisal (Wilson & Ross, 2001; Ross & Wilson, 2000) suggests that people attempt to inflate their current self-image by disparaging their remote, past self. Integrating these two lines of work, we propose and show that people feel more separated from their past imperfections following more psychologically meaningful temporal landmarks (relative to less psychologically meaningful temporal landmarks). We also show that this increased separation from past imperfections drives people to pursue their aspirations following meaningful temporal landmarks. Thus, this research makes two contributions to the literature. First, we elucidate how landmark-induced discontinuities in individuals' perceptions of time can affect their interest and engagement in goal pursuit. Second, we demonstrate that meaningful temporal landmarks (e.g., a person's first move to a new home, a birthday that has cultural relevance) can enhance individuals' intentions to strive to achieve *unrelated* goals (e.g., being on time, learning a new language, running a marathon).

Theoretical Development of Hypotheses

Past Research on the Motivating Effects of Temporal Landmarks

When wandering around a city, we rely on spatial landmarks to orient us and mark boundaries between geographical regions. Similarly, we use temporal landmarks to organize our chronological representations and demarcate the boundaries between time periods (Robinson, 1986; Shum, 1998; Peetz & Wilson, 2013). Shum (1998) characterized temporal landmarks as distinct events and occurrences that are stored in our autobiographical memory, providing structure to our lives and subsequent experiences. Transition points on social timetables (e.g., secular and religious holidays, the start of a new week/month/year, the outset of a semester, a

school break) represent one type of temporal landmark. Such calendar events are relevant to

people sharing the same social or cultural background (Robinson, 1986). For example, the

beginning of a semester indicates the start of a new cycle for students who follow the same

academic calendar. Another type of temporal landmark is a life event that is of particular

relevance to a given individual (e.g., a birthday, a graduation). These are events that mark the

beginning of a new chapter in an individual's personal history. This type of temporal landmark

can be a one-time developmental milestone (e.g., graduation from college), a transition in or

outside of the workplace (e.g., a job change, a relocation), a first experience (e.g., a first date), or

a recurring occasion of significance (e.g., a birthday, a wedding anniversary; Shum, 1998).[1]

Notably, shared calendar events and life events of note to a given individual differ in numerous

ways. However, such landmarks are similar in that both demarcate adjacent time periods (on

socially shared calendars or on an individual's personal life timeline, respectively). Therefore,

following past research (e.g., Shum, 1998; Peetz & Wilson, 2014), we use the term "*temporal*

landmark" (analogous to the term "*spatial* landmark") to refer to both types of distinct events.

Beyond the role they play in retrieving old memories and encoding new memories

(Shum, 1998), temporal landmarks have been shown to influence people's judgments and

decisions in various domains (Robinson, 1986) including cost tracking (Soster, Monga, &

Bearden, 2010), willingness to commence a task (Tu & Soman, forthcoming), resource allocation

between different time periods (Bartels & Rips, 2010), and temporal self-appraisal (Peetz &

---

[1] Some past research also defined public events (e.g., a disaster, a public campaign) as temporal landmarks (Shum,
1998). In this paper, we follow Dai et al. (in press) and focus solely on transition points in shared social timetables
and life events that mark our personal histories, as these categories of temporal landmarks have been demonstrated
to produce increases in aspirational behavior.

Wilson, 2013). In particular, the occurrence of temporal landmarks can increase people's interest in tackling long-term goals. For example, people become more devoted to self-improvement starting on New Year's Day (Norcross et al., 2002) and more frequently engage in health-related activities (e.g., searching for information about smoking cessation, visiting doctors) on Mondays than on other days of the week (Fry & Neff, 2010; Ayers et al., 2014). Recently, Dai et al. (in press) provided the first systematic investigation of the effects of temporal landmarks on aspirational behaviors. Dai et al. (in press) examined the frequency with which (a) Americans search for the term "diet" on Google, (b) undergraduate students visit a university gym, and (c) Internet users commit to pursuing a personal goal on a goal-setting website (www.stickK.com). These three field studies consistently demonstrated that aspirational behaviors (i.e., dieting, exercising, and creating commitment contracts) are more common at the outset of new periods demarcated by temporal landmarks. Dai et al., (in press) primarily focused on shared calendar events (e.g., the start of the week, month, year, or academic semester, a Federal holiday, or a school break) but did examine the impact of one type of life event: a birthday. The authors refer to people's tendency to pursue their aspirations more vigorously following temporal landmarks as "the fresh start effect" and call for future research exploring this effect in the context of a broader set of temporal landmarks including life events like relocations and job changes (Dai et al., in press).

This past research on the fresh start effect has left two important questions unanswered. First, past research has not examined which properties of temporal landmarks motivate goal pursuit. In this paper, we address this gap in the literature by examining one such property: the degree of "psychological meaning" associated with a temporal landmark. Specifically, we test whether it is possible to magnify people's self-improvement intentions at fresh start moments by

highlighting the meaningfulness of a given temporal landmark. Second, past research has not provided evidence supporting a particular explanation for the fresh start effect. We address this open question in the current paper by showing that the strengthened motivation to pursue one's aspirations following more meaningful temporal landmarks originates from the greater psychological disassociation they produce from a person's past imperfections. We develop our theory and hypotheses in the sections that follow.

What Makes a Temporal Landmark More or Less Meaningful?

Temporal landmarks vary greatly in their psychological significance or "meaningfulness". Some temporal landmarks are relatively mundane (e.g., getting a haircut, buying a goldfish, starting a new month) while others are more extraordinary (e.g., buying a car, becoming a parent, starting a new year). Past research suggests that one determinant of the perceived meaningfulness of a temporal landmark should be the extent to which the landmark is identity-relevant. People tend to look for and create meaning in life through their identity (Baumeister, 1991). For example, the extent to which a person's ongoing activities and plans are interpreted as meaningful hinges on how consistent they are with the core aspects of that person's self-identity (MacGregor & Little, 1998). When it comes to the meaningfulness of temporal landmarks, Shum (1998, p.427) speculated that "salient points in time that define us as individuals and members of a particular culture (i.e., occupation, religion, pastimes)" are likely to carry greater importance and meaning. This suggests that personally- or culturally-relevant temporal landmarks (e.g., the start of summer break for college students; Easter for Christians) should be more meaningful than temporal landmarks with less personal or cultural relevance (e.g., a University's administrative day for college students; Easter for Buddhists).

Besides its relevance to an individual's identity, a landmark's meaningfulness may also be affected by the frequency with which it arises. Just as objects that are more singular and unique tend to be more important spatial landmarks (Lynch, 1960), events that rarely occur should be perceived as more meaningful than events of the same nature that occur at a higher frequency. For example, first experiences (e.g., moving to a new city for the first time) tend to be more momentous than second experiences (e.g., moving to a new city for the second time; Shum, 1998), and birthdays initiating the start of a new decade (e.g., a person's 30th or 40th birthday) are typically taken more seriously than other birthdays (e.g., a person's 31st or 41st birthday; Bhargave & Miron-shatz, 2012).

There is some evidence from past research showing that temporal landmarks associated with personal impact, cultural connection, or religious relevance can exert a greater influence on peoples' judgments and decisions than temporal landmarks with less psychological significance. For example, when making financial decisions, people contemplating future landmark events that are expected to dramatically change their identity (e.g., very unusual events like a return home after having been kidnapped) are more impatient, compared with people contemplating future landmark events that are expected to have a limited influence on their identity (e.g., more common events like starting a job with a different company but in a similar position with similar pay; Bartels & Rips, 2010). The higher impact of personally- or culturally-relevant events is illustrated by another two studies examining death rates experienced by different ethnic groups near a temporal landmark. Specifically, death rates decrease prior to occasions that are culturally meaningful to a given group (e.g., Passover for Jews), but not before occasions that are meaningful to members of other groups living in the same area (e.g., Passover for Chinese people; Phillips & King, 1988; Phillips & Smith, 1990).

Together, past research suggests that people may respond to temporal landmarks differently depending on the extent to which a given landmark event feels meaningful to them. Therefore, we postulate that the more meaningful temporal landmarks are, the more likely they are to motivate aspirational behaviors. We expect this pattern to arise not only when we compare temporal landmarks that differ inherently in their meaningfulness but also when we imbue mundane temporal landmarks with greater meaning. Formally, we hypothesize the following:

Hypothesis 1. More psychologically meaningful temporal landmarks (whether inherently meaningful or framed as meaningful) are more likely to motivate aspirational behaviors.

In a pilot study, we initially explored this hypothesis by examining online respondents' perceptions of different temporal landmarks, restricting our sample to those interested in dieting. Participants were asked to reflect on 94 temporal landmarks that might arise in their lives, ranging from the relatively mundane (e.g., the first day of a new month, purchasing a new computer) to the personally meaningful (e.g., the first day after a major birthday, purchasing a new car; See Supplemental Material Appendix A). We were interested in whether the extent to which a temporal landmark was perceived as a meaningful day would correlate with the extent to which individuals would be motivated to begin a diet on (or right after) the day in question. To this end, one hundred and three participants were randomly assigned to rate either (a) how likely they would be to start a diet on or just after each of these temporal landmarks (1 = not at all likely to 7 = very likely) or (b) the extent to which each landmark or the day just after it felt meaningful to them (1 = not at all to 7=very much).[2] For each temporal landmark, we averaged participants' responses to each measure and created two composite scores (i.e., *likelihood of*

---

[2] Following Baumeister, Vohs, Aaker, and Garbinsky (2013), we allowed participants in our survey to define meaningfulness in whatever way they saw fit, rather than imposing a specific definition on them.

starting a diet, *perceived meaningfulness*). There was a significant and positive correlation (correlation coefficient = 0.17, $p < .01$) between how meaningful a given day felt to participants (*Max* = 6.56, *Min* = 1.50, *M* = 3.73, *SD* = 1.21) and how likely participants believed they would be to begin a diet on or immediately following the day in question (*Max* = 5.45, *Min* = 1.90, *M* = 2.97, *SD* = 0.70).[3]

Our correlational pilot study provides suggestive evidence that temporal landmarks perceived as more meaningful may also tend to be the moments when people feel particularly motivated to pursue an aspirational activity (in this case, starting a diet). However, we causally test our hypothesis in this paper through a series of six studies in which we experimentally manipulate how meaningful a given landmark event feels. Before presenting these studies, we discuss our theoretical account for why more meaningful temporal landmarks will particularly encourage aspirational behaviors.

---

[3] Past research suggests that life transitions (e.g., becoming a parent, going to college) may shift an individual's surrounding environment and daily routines, which may produce changes in habits for reasons besides those of interest here (Wood, Tam, & Witt, 2005). To address this alternative explanation, we included a third experimental condition in the pilot study (*n* = 49) and asked participants randomly assigned to this condition to rate the extent to which their normal daily routines would differ before versus after each of the days in question (1= not at all to 7 = very much). When we predicted the average *likelihood of beginning a diet* on a given landmark with *perceived meaningfulness* using an ordinary least squares regression controlling for participants' perceptions of how much routine change each temporal landmark would produce, meaningfulness ratings still significantly predicted motivation to begin a diet (β = 0.33, $p < .01$). Subsequent studies will take additional steps to rule out the possibility that routine changes triggered by temporal landmarks can explain why more meaningful landmarks are more likely to motivate aspirational behaviors.

Psychological Mechanism Linking Meaningful Temporal Landmarks and Aspirational

Behaviors

A person's self-concept reflects not only the characteristics of his current self but also his sense of how his past self has behaved (Haddock, 2004; Wilson & Ross, 2001). In particular, people's self-evaluations are influenced by the comparison between their current self and their past self (Albert, 1977; Wayment & Taylor, 1995), especially when they are motivated to maintain a positive self-view (Taylor, Neter, & Wayment, 1995). For instance, in appraising her current position as a manger, Jane might evaluate herself quite positively because she started out working in the mail room, whereas John would evaluate himself slightly less positively because he started out as an assistant manager. The theory of temporal self-appraisal proposed by Wilson and Ross (Wilson & Ross, 2001, 2003; Ross & Wilson, 2000) contends that people compare their past and current selves in ways that allow them to maintain a positive current self-view. Specifically, people tend to ascribe negative traits and failings to their past self when comparing temporal selves, a tendency that favors their current self in comparison. However, attributing undesirable traits to an individual's past self only flatters her current self when the past and current selves are not closely connected (Wilson & Ross, 2001; Ross & Wilson, 2002). This is because people tend to contrast temporal selves that feel psychologically distant but assimilate temporal selves that feel connected (Hanko, Crusius, & Mussweiler, 2010). As a result, imperfections associated with a person's *remote*, past self will not be incorporated into her image of her current self but will instead make her current self appear more positive.

Importantly, the subjective distance between a person's temporal selves does not always perfectly reflect the actual passage of time (e.g., Hershfield et al., 2011; Libby & Eibach, 2002; Wilson & Ross, 2001). In particular, due to their role in demarcating the continuous flow of time,

intervening temporal landmarks can increase the psychological distance between temporal selves (Peetz & Wilson, 2013, 2014). For example, undergoing a life transition makes people feel more disassociated from their past self, compared with their peers who were not affected by the transition (Cantor, Norem, Niedenthal, Langston, & Brower, 1987). Even thinking about a landmark event (e.g., college matriculation, relocation, an upcoming school event, or a holiday) can weaken the psychological connection between temporal selves (Wilson & Ross, 2003; Bartels & Rips, 2010; Peetz & Wilson, 2013, 2014).

Since more meaningful temporal landmarks are more pronounced markers in our personal histories or on calendars, as described previously, we expect them to be more likely to stand out as barriers between temporal selves. For example, after celebrating her 50th birthday, Jane might feel more distant from her past self last year (back in her 40s) than her friend Andrea would feel about her year-ago self after celebrating her 49th birthday. In support of this proposition, past research has shown that people believe a landmark event of greater significance (e.g., being rescued from an avalanche, learning they were adopted) would make the pre-landmark self and post-landmark self feel less connected than a relatively less significant landmark event (e.g., changing to a similar job, relocating to avoid allergy) (Bartels & Rips, 2010). Relatedly, Peetz & Wilson (2014) made an untested prediction that culturally important holidays (e.g., Christmas) might be more likely to be treated as barriers between a person's current and future selves than less culturally important holidays (e.g., Memorial Day, an obscure Roman holiday).

Connecting the arguments above, we propose that temporal landmarks, and more meaningful temporal landmarks in particular, should facilitate people's inclination to disparage their past self and to regard their current self as better or superior. We expect this process to

increase people's motivation to pursue their aspirations for at least two reasons. First, people prefer to behave consistently with their self-perceptions (Festinger, 1962; Cialdini, 2007). The preference to preserve a stable self-view has been shown to affect people's motivation and occupational choices (Korman, 1976). Further, people are more motivated to strive for goals that reflect their self-concept (Sheldon & Elliot, 1999). For example, when prospective voters are prompted to perceive themselves as the kind of people who vote, voter turnout is higher (Bryan, Walton, Rogers, & Dweck, 2011); when people view themselves as supporters of green initiatives, they are more likely to engage in environmentally friendly activities (Baca-Motes, Brown, Gneezy, Keenan, & Nelson, 2013). Thus, we propose that when the arrival of a temporal landmark relegates a person's imperfections (e.g., procrastinating at work, skipping workouts, helping others less frequently than planned) to her past self and makes the current self feel superior, she will be more motivated to behave in a way that is consistent with her new, positive self view (e.g., to work more diligently, to exercise more regularly, to donate more to charity).

The second reason why individuals may exhibit a greater interest in goal-directed activities following temporal landmarks is that the sense of being detached from one's inferior, past self can increase an individual's confidence in her future performance. For example, Libby and Eibach (2002) show that when people seeking to avoid overindulgent eating attribute goal-incongruent behaviors to their past, inferior selves, they become more optimistic about their ability to refrain from over-eating during their next Thanksgiving dinner. This is because they no longer view their undesirable, past actions as a reflection of their new, current self. Since higher expectations about goal attainment increase individuals' engagement in goal pursuit (e.g., Locke & Latham, 1990; Schmidt & Dolis, 2009), people should be more motivated to start tackling their goals when they believe their current self is more capable (e.g., following temporal

landmarks). As pointed out by Libby and Eibach, "subjective perceptions of change in the self could be beneficial in the context of attempting to change oneself for the better" (2002, p. 177).

In summary, we postulate that temporal landmarks can psychologically separate a person's current self from her past self, a process that helps relegate failings to the past and motivates the pursuit of goals. Furthermore, temporal landmarks of psychological significance (relative to temporal landmarks of limited importance) are more capable of disconnecting a person's current self from her past imperfections and thus should generate even higher motivation in individuals to strive for their aspirations. Formally, we predict the following:

> **Hypothesis 2.** *More meaningful temporal landmarks induce a stronger dissociation between a person's current self and her past imperfections.*
>
> **Hypothesis 3.** *Psychological disassociation from past imperfections mediates the positive relationship between meaningful landmarks and a person's motivation to pursue aspirational behaviors.*

Overview of Studies

Six empirical studies were designed to test our three hypotheses about the effects of meaningful temporal landmarks on people's motivations to pursue aspirational behaviors. Three studies utilized a vignette-based methodology and assessed whether and why participants would pursue their goals more aggressively following temporal landmarks of greater (versus lesser) meaningfulness. The remaining three studies were laboratory experiments with behavioral outcomes in which participants chose whether (or when) to engage in aspirational activities. This multi-method approach to exploring the effects of meaningful temporal landmarks has several strengths. First, our vignette studies allow participants to consider different temporal perspectives and thus to answer questions about goals and motivation before *and* after temporal landmarks.

Second, our behavior-based laboratory experiments capture real decisions, eliminating hypotheticality. Finally, all of our carefully controlled experimental studies offer high internal validity (Finch, 1987). Study 1 shows that inherently meaningful temporal landmarks are perceived to be more motivating. Studies 2a, 2b, and 3 examine the implications of this finding for actual choices by framing otherwise mundane landmarks as more meaningful and observing subsequent decisions. Finally, Studies 4a and 4b provide direct evidence of our hypothesized mechanism.

Study 1

Study 1 has two objectives. First, we seek to test the hypothesis that people are more motivated to begin pursuing their goals following inherently more meaningful temporal landmarks (Hypothesis 1). The second objective of Study 1 is to address the possibility that more meaningful temporal landmarks are associated with more substantial routine changes, which alone facilitate the establishment of constructive habits (Wood et al., 2005). To these ends, we employed a three-condition between-subject design and described a temporal landmark in one of three ways: (a) as a psychologically meaningful event with no associated daily routine changes, (b) as a less psychologically meaningful event that involved routine changes, or (c) as a less psychological meaningful event with no associated routine changes.

Method

In a large train station in the Northeastern United States, 595 participants (52% female, four unspecified; $M_{age} = 34$, three unspecified; $M_{\text{years of work experience}} = 14$, two unspecified) were recruited by research assistants (who were blind to our hypotheses) to complete a two-minute survey in exchange for a snack. Participants were first asked to think of and briefly describe one goal that they had not succeeded in achieving and would like to pursue in the future. Then, on the

next page of the questionnaire, participants were asked to imagine that they had worked in the

same position for many years and had just started a new job this week (with the same pay as their

previous position) at a different company (see Supplemental Material Appendix B for stimuli).

Participants were randomly assigned to one of three experimental conditions. In the

meaningful change condition, participants were told to imagine that this transition to a new

position was a meaningful change for them but that it would *not* affect their daily routine. In the

routine change condition, participants were told to imagine that this transition would affect some

of their daily routines, but that they would *not* consider the new position to be a meaningful

change. Finally, participants assigned to the *control condition* were told to imagine that they did

not perceive the transition to the new position to be meaningful, and that it would not affect their

daily routines. Participants then rated how motivated they would be to begin pursuing the

personal goal that they had described on the previous page of the questionnaire upon starting the

new job (1 = not at all motivated to 7 = very motivated). Finally, participants reported their

gender, age, and the number of years they had been working.[4]

Results

Goals listed by participants varied widely (e.g., relating to health, finance, education,

traveling, etc.). We conducted a one-way ANOVA with participants' motivation to tackle their

goal as the dependent variable and our experimental conditions (*meaningful change, routine*

change, and *control*) as the independent variables. Consistent with Hypothesis 1 (see Figure 1),

there were significant differences between the three conditions (F (2, 594) = 12.59, $p < .0001$,

$\eta_p^2 = 0.04$). Planned contrasts revealed that, as predicted, a meaningful job change involving no

---

[4] We collected gender and age at the end of all studies. Study 1 is the only study where we measured a third

demographic variable in addition to gender and age: years of work experience.

routine change was rated as more motivating ($M = 5.06$, $SD = 1.74$) than a new job that would affect people's daily routines but that did not feel like a meaningful landmark ($M = 4.53$, $SD = 1.80$, $t(591) = 2.96$, $p < .01$), which in turn was more motivating than a new job in the *control condition* that involved no routine change and did not feel meaningful ($M = 4.17$, $SD = 1.28$, $t(591) = 2.03$, $p < .05$).

According to Wood et al. (2005), changes in a person's routines make it easier to break habits (and thus easier to establish good new habits), which likely explains why a new job accompanied by routine change was rated as more likely to motivate goal pursuits than a new position associated with no routine change. However, importantly, a routine-change account cannot explain why a meaningful job change that would not involve routine change is expected to stimulate more goal pursuit than a less meaningful job change with or without routine change.

Discussion

In support of Hypothesis 1, Study 1 demonstrates that people expect inherently meaningful personal landmarks to bolster their own motivation to engage in goal pursuit more than less meaningful landmarks. Further, our study designs rule out the possibility that our findings can be explained by increased routine change accompanying more meaningful landmarks.

<div align="center">

Study 2

</div>

In Study 2, we move beyond people's forecasted motivation and examine their actual engagement in activities that facilitate goal pursuit. The temporal landmarks we study are otherwise identical days that are experimentally imbued with either more or less meaning.

Study 2a

Method. At the beginning of March 2014, participants interested in learning how to more effectively tackle their goals were recruited from Amazon's Mechanical Turk (a crowdsourcing internet marketplace) to take part in a short survey. Participants were first instructed to describe a goal that they planned to begin pursuing in April 2014 and then were asked to list one thing that they planned to do to facilitate their pursuit of the aforementioned personal goal. Next, participants were informed that if they would like, we would send them an email reminder in late March that would describe their goal, their plan for accomplishing it, and a message they could customize. Only participants who signed up to receive a reminder went on to complete our survey and comprised our actual study sample ($N = 165$, 61% female, one unspecified; $M_{age} = 32$, one unspecified). Participants who chose not to receive a reminder exited our survey.

At this stage in the study, participants were randomly assigned to one of two experiment conditions: the *meaningful landmark condition* or the *control condition*. In both conditions, participants chose when to receive their personalized reminder from a list of seven consecutive dates ranging from March 18, 2014 (Tuesday) to March 24, 2014 (Monday) with the day of the week indicated in parentheses following the date. Our (subtle) manipulation involved highlighting the meaningfulness of March 20, 2014 – a day corresponding to the start of spring (or the Spring Equinox). Specifically, in the *meaningful landmark condition*, the date - March 20, 2014 - was followed by a description which read: "(Thursday; The First Day of Spring 2014)". In the *control condition*, the description following March 20, 2014 was intended to be less meaningful and read: "(Thursday; The third Thursday in March 2014)". After choosing a date from the list, participants were offered the opportunity to customize the text of their email

reminder. Finally, participants provided their email address[5] and rated to what extent March 20, 2014 (described either as the first day of spring or the third Thursday in March depending on the participant's experimental condition) felt meaningful to them. See Supplemental Material Appendix C for stimuli.

Results. Our manipulation check confirmed that March 20, 2014 felt more meaningful when it was described as the first day of spring ($M = 3.68$, $SD = 2.02$) than when it was described as the third Thursday in March ($M = 2.45$, $SD = 1.74$, $t(163) = 4.20$, $p < .0001$). Our dependent measure was whether or not participants chose to receive a reminder on March 20, 2014. We predicted that participants would choose to receive a message reminding them to tackle their goals on March 20, 2014 at a higher rate when it was described as a more meaningful landmark (the first day of spring) than when it was described as less meaningful (the third Thursday in March). Consistent with Hypothesis 1, participants in the *meaningful landmark condition* were significantly more likely to choose to receive a reminder to pursue their goal on March 20, 2014 than participants in the *control condition* (25.61% vs. 7.23%,[6] $\chi^2(1) = 10.18$, $p = .001$; Figure 2). This is a remarkably large response (a 354% increase in sign-ups on March 20th) to a very subtle intervention: relabeling a date many would have already recognized as the first day of spring.

---

[5] Eight participants did not provide their email address at the end. Excluding them from our analysis did not meaningfully change our results. The number of participants who did not provide an email address did not differ significantly across conditions.

[6] The last day on the list (i.e., March 24, 2014) was selected significantly more frequently than any other days in both conditions (all ps < .002). The likelihood that the focal date (March 20, 2014) was selected in *the control* condition was not significantly lower than any other days except the last day; thus the finding that March 20 was selected more frequently in the *meaningful landmark condition* than in the *control condition* cannot be simply explained by a dislike for March 20th when it was labeled as "The third Thursday of March 2014".

Study 2b

      Method. In December 2013, we invited individuals (primarily students) who were signed up to participate in studies at the behavioral lab of a large university in the northeastern United States to take part in an online survey in exchange for a chance to win a $50 Amazon gift card. Study 2b followed a similar procedure to Study 2a with a few key differences. First, participants were asked to describe a goal that they planned to begin pursuing in the *summer* of 2014 (rather than in April 2014) and were offered the opportunity to receive an email reminder sometime in the spring. Second, participants who signed up to receive a future reminder were asked to choose from a list of 14 consecutive dates ranging from May 3, 2014 (Saturday) to May 16, 2014 (Friday). We manipulated our description of May 14, 2014 to read as either "(Wednesday; First Day of [University name here]'s Summer Break)" (*meaningful landmark condition*) or "(Wednesday; [University name here]'s Administrative Day)" (*control condition*). See Supplemental Material Appendix C for stimuli. Our sample consisted of 278 participants (62% female, three unspecified; $M_{age} = 23$, three unspecified).[7]

      Results. A manipulation check using a non-overlapping group of participants from the same population ($N = 45$) confirmed that May 14, 2014 felt more meaningful when it was described to students as the beginning of summer break ($M = 5.09$, $SD = 2.45$) than when it was

---

[7] Of those who signed up to receive a reminder, two participants did not complete our survey. They were both in the *control condition* and exited the survey without indicating the date on which they would like to receive the reminder. Therefore, they were not included in our final sample. Among our final study sample (i.e., people who signed up to receive a reminder), three participants completed our survey twice, and only their first response was included in our analysis reported here. Our results remain virtually identical if we instead exclude these participants entirely or include each of their multiple responses.

described as their university's "Administrative Day" ($M = 2.00$, $SD = 1.48$, $t(43) = 5.09$, p < .0001). Consistent with Hypothesis 1, participants in the *meaningful landmark condition* were significantly more likely to choose to receive a reminder to pursue their goal on May 14, 2014 than participants in the *control condition* (28.57% vs. 4.35%, $\chi^2(1) = 29.53$, $p < .0001$; Figure 2). Again, we see a remarkably large effect (a 657% increase in sign-ups on May 14th) of a subtle relabeling intervention.

Discussion

In study 2, we framed an otherwise identical day as a more meaningful landmark by highlighting its role in demarcating seasons (Study 2a) or its personal relevance (Study 2b). Study 2 demonstrates that when a day is imbued with meaning, people are more interested in pursuing aspirational activities starting on that day.

<div align="center">

Study 3

</div>

In Study 3, we vary the meaningfulness associated with an otherwise identical temporal landmark using a writing manipulation and then examine people's actual engagement in goal-directed activities.

Method

In early March 2014, participants from Amazon's Mechanical Turk were recruited to take part in a survey about goal pursuit. They were asked to first describe one goal that they had failed to achieve in 2013 and then they were asked to indicate what category in a dropdown menu best captured their goal. Next, participants indicated whether they planned to pursue the aforementioned goal again this year (i.e., in 2014). Participants who did not plan to pursue the goal in 2014 exited our survey and were not included in our sample. Participants who planned to

pursue their goal again in 2014 comprised our study sample ($N = 216$; 64% female; $M_{age} = 29$) and went on to engage in a directed writing task.

In the writing task, we told participants that we were interested in learning how different people view the start of a New Year, and we randomly assigned participants to one of two conditions. In the *meaningful landmark condition*, participants were told that many people viewed the start of each New Year as a very meaningful day and were then asked to describe three to five reasons why the start of this New Year felt meaningful to them. Participants in the *control condition* were told that many people viewed New Year's as no different from any other day and were instructed to list three to five reasons why this New Year felt ordinary to them.

Next, we presented participants with information about and links to six different websites that could help them achieve their personal goals, including (a) a website that would allow participants to put money on the line that they would forfeit if they failed to follow-through on their goal, (b) four popular goal-tracking websites, and (c) a *New York Times* article summarizing insights from recent behavioral science research about how people could increase their chances of achieving their goals. We tracked the number of websites participants clicked on (min = 0, max = 6) as well as the amount of time participants spent reviewing the descriptions of different goal-related websites we provided. At the end of our study, as a manipulation check, participants reported on the extent to which New Year's Day 2014 felt meaningful to them. See Supplemental Material Appendix D for complete study stimuli.

Results and Discussion

Our manipulation was effective: New Year's Day 2014 felt more meaningful to participants in the *meaningful landmark condition* ($M = 4.85$, $SD = 1.72$) than to participants in the *control condition* ($M = 3.45$, $SD = 1.65$, $t(214) = 6.09$, $p < .0001$). Following Hypothesis 1,

we predicted that people would engage more in activities designed to facilitate goal pursuit when a past temporal landmark (in this case, New Year's Day) was framed as a more meaningful landmark. First, while most participants did not click on a website (82% clicked zero links in the *meaningful landmark condition* versus 90% in the *control condition*) probably due to an eagerness to complete this job quickly and earn their pay, consistent with our prediction, participants in the *meaningful landmark condition* clicked on three times as many goal-related websites ($M = 0.62$, $SD = 1.54$) as participants in the *control condition* ($M = 0.21$, $SD = 0.75$, $t(214) = 2.4$, $p = .01$). Similarly, participants in the *meaningful landmark condition* spent 46% more time reading our descriptions of these websites ($M = 41.37$ seconds, $SD = 60.09$) than participants the *control condition* ($M = 28.39$ seconds, $SD = 29.62$, $t(211) = 2.00$, $p < .05$).[8] Study 3 demonstrates that having people reflect on the significance of a past temporal landmark increases their engagement in aspirational activities.

Study 4

In Studies 4a and 4b, we examine one hypothesized mechanism for the effects of meaningfulness as documented in our previous studies: namely, that more meaningful temporal landmarks create a greater disconnect between a person's current self and her past, inferior self (Hypothesis 2), which motivates aspirational behavior (Hypothesis 3). Following previous research (e.g., Gino & Schweitzer, 2008), our experimental procedures use mediation analysis to test the underlying mechanism responsible for our effect.

Study 4a

---

[8] The time participants spent reviewing these website descriptions was not successfully recorded for three participants. We included these participants in our other analyses, but removing them does not meaningfully alter our results.

In Study 4a, we ask people to read a scenario and predict a hypothetical man's (a) motivation to pursue a challenging goal as well as his (b) psychological distance from his past imperfections following a birthday. We manipulate the perceived meaningfulness of an otherwise identical birthday through a framing manipulation, following Studies 2a and 2b.

Method. Two hundred participants (44% female, $M_{age} = 32$) were recruited through Amazon's Mechanical Turk. Participants were asked to imagine that a man named Chang who lived in China had just celebrated his 36th birthday yesterday. They were told that Chang had wanted to quit smoking for a long time but had never actually succeeded. We randomly assigned participants to one of two experimental conditions. In the *meaningful landmark condition*, participants were introduced to the concept of the 12-year Chinese zodiac cycle and were told that Chang's 36th birthday represented the beginning of his fourth zodiac cycle. In the *control condition*, participants were not told about the Chinese zodiac cycle. Participants in both conditions rated how motivated Chang would be to quit smoking after celebrating his 36th birthday (1 = not at all motivated to 7 = very motivated).

In addition, participants were prompted to think about the comparison between a person's current and past selves. Specifically, they were told the following:

"Most people agree that they have not behaved perfectly in the past (or that their past self has imperfections). There are always some aspects of ourselves and our lives that we would like to improve. Sometimes our imperfect, past self feels very far away, while at other times our past imperfections feel very close."

They were then asked to rate the psychological distance between Chang's present self and his imperfect, past self on three different scales. First, participants were presented with six pairs of Euler circles, which varied in their degree of overlap. Within each pair, one circle

represented Chang's imperfect past self two years ago, and the other represented Chang today. Participants were instructed to select whichever pair of circles best reflected their opinion about how far away Chang would feel today from his imperfect past self, where no overlap between circles meant "extremely far away" and complete overlap meant "extremely close" (adapted from Bartels & Rips, 2010). A second question (adapted from Wilson & Ross, 2001) asked participants to predict the extent to which Chang would feel *distant* from his imperfect past self (two years prior) (1 = extremely close to 7 = extremely far away). A final question (adapted from Bartels & Rips, 2010) measured participants' perceptions of the extent to which Chang would feel *different* from his imperfect past self (two years prior) (1 = exactly the same to 7 = completely different). At the end of the survey, participants evaluated the meaningfulness associated with Chang's 36th birthday as a manipulation check (1 = not at all to 7 = very much). See Supplemental Material Appendix E for complete study stimuli.

Results. We first confirmed that our manipulation was effective: indeed, participants believed Chang's 36th birthday would be more meaningful to him in the *meaningful landmark condition,* where his 36th birthday was described as corresponding to the start of a new zodiac cycle ($M_{meaningful}$ = 5.68, SD = 1.22 vs. $M_{control}$ = 4.56, SD = 1.49, $t(198)$ = 5.88, $p < .0001$). Further, consistent with Hypothesis 1, we found that participants believed Chang would be more motivated to quit smoking in the *meaningful landmark condition* (M = 4.93, SD = 1.31) than in the *control condition* (M = 4.02, SD = 1.64, $t(198)$ = 4.35, $p < .0001$).

We next test Hypothesis 2, which predicts that Chang would feel more psychologically disassociated from his past imperfections in the *meaningful landmark condition* than in the *control condition*. To do this, we first standardized each of our three *psychological disassociation* ratings and averaged them (with the first rating reverse-coded) to create an index

of psychological dissociation (Cronbach's α = .77). We then follow standard procedures to test whether *psychological dissociation* mediates the relationship between meaningful landmarks and goal motivation (Preacher & Hayes, 2008). Consistent with our hypothesis, participants believed that Chang would feel more dissociated from his imperfect, past self in the *meaningful landmark condition* (M = 0.18, SD = 0.82) than in the *control condition* (M = - 0.18, SD = 0.80, $t(198)$ = 3.15, $p < .01$). The composite *psychological disassociation* score was a significant, positive predictor (β = 0.32, p = .01) when we included this measure and a *meaningful landmark condition* indicator variable in an ordinary least squares (OLS) regression to predict the extent to which participants predicted Chang would be motivated to quit smoking after his 36th birthday. A bootstrap analysis showed that the 95% biased-corrected confidence interval for the size of the indirect effect (b = 0.12, SE = 0.07) excluded zero [0.01, 0.29]), indicating a significant, positive indirect effect of the *meaningful landmark condition* (relative to the *control condition*) through the *psychological disassociation* measure. These mediation analyses support the predictions of Hypotheses 2 and 3 that meaningful temporal landmarks dissociate the current self from the past, imperfect self and through this mechanism, motivate aspirational behavior.[9]

Study 4b

---

[9] It is possible that Chang might also feel happier at the beginning of a new zodiac cycle than following a typical birthday. To test whether the *psychological disassociation* score is still a significant mediator even when we control for the effects of changes in mood, we repeated this study using the same scenario and measures but also including a PANAS scale to measure the positive and negative affect participants expected Chang to experience upon celebrating his birthday (Watson, Clark, & Tellegen, 1988). We replicated all of our findings in Study 4a controlling for PANAS measures of Chang's forecasted positive and negative affect.

Study 4b extends Study 4a by examining people's predictions about achieving their own, personal goals after yet another type of landmark event – moving to a new apartment.

Method. We recruited 300 participants (41% female, one unspecified; M_{age} = 32) online through Amazon's Mechanical Turk. As in Study 1, participants were first asked to think of and briefly describe one goal that they had not succeeded in achieving and would like to pursue in the future. Participants were then asked to imagine that they had just moved to a new apartment that had a similar layout, rent, and commute to work as their previous apartment. They were randomly assigned to either imagine that they had moved for the first time since coming to this city nine years ago (the *meaningful landmark condition*) or imagine that they had moved every year since coming to this city (the *control condition*). Participants then rated how motivated they would be after moving to this apartment to begin pursuing the personal goal that they had described earlier (1 = not at all motivated to 7 = very motivated). Next, participants used the same scales described in Study 4a to forecast the psychological disassociation they would feel from their imperfect past self, imagined one year prior to this move. Finally, participants responded to a manipulation check question assessing the perceived meaningfulness of the relocation described (see Supplemental Material Appendix F for complete stimuli).

Results. Again, our manipulation was effective: participants considered moving to a different apartment to be more meaningful when it was described as their first relocation in nine years (M = 4.99, SD = 1.55) than when it was described as their ninth relocation over the same time period (M = 4.01, SD = 1.80, $t(298)$ = 5.06, p < .0001). Consistent with Hypothesis 1, participants reported that they would be more motivated to start tackling their personal goal after a psychologically meaningful relocation (M = 5.05, SD = 1.73) than they would be after a

relocation that was less psychologically meaningful ($M = 4.42$, $SD = 1.89$, $t(298) = 2.98$, p

$< .01$).

As in Study 4a, we standardized the three measures of *psychological disassociation* and

averaged them to form a composite score (Cronbach's $\alpha = .88$) in order to conduct mediation

analyses. Consistent with Hypothesis 2, participants expected to feel more disconnected from

their imperfect, past self in the *meaningful landmark condition* ($M = 0.15$, $SD = 0.79$) than in the

control condition ($M = - 0.15$, $SD = 0.96$, $t(298) = 3.00$, $p < .01$). Furthermore, as in Study 4a

and consistent with Hypothesis 3, the *psychological disassociation* score mediated the

relationship between the *meaningful change condition* indicator variable and motivation ($b =$

0.07, $SE = 0.05$, 95% biased-corrected CI [0.003, 0.22]).

Discussion

In Studies 4a and 4b, the same temporal landmark (i.e., celebrating a 36th birthday;

moving to a new apartment) was described as either a meaningful temporal landmark or a less

substantial one. Consistent with Hypotheses 2 and 3, we find that more meaningful temporal

landmarks are expected to induce greater subjective distance between a person's current self and

imperfect, past self. This, in turn, mediates the positive effect of more meaningful temporal

landmarks on individuals' motivation to engage in aspirational behaviors.

<div align="center">

General Discussion

</div>

Across a series of six studies, we show that on or following more meaningful temporal

landmarks, people: (a) are more likely to engage in goal-directed activities (Studies 2a, 2b, and

3) and (b) forecast that their and others' motivation to tackle personal goals will be higher

(Studies 1, 4a, and 4b). This finding holds true both for temporal landmarks that vary in their

inherent meaning (Studies 1 and 4b) and for otherwise ordinary days that are imbued with

personal or cultural significance through framing manipulations (Studies 2a, 2b, 3, and 4a). Our hypotheses were also supported for different types of temporal landmarks including markers on shared timetables (e.g., the first day of spring, the first day of summer break) and transition points in people's life histories (e.g., a relocation, a job change, a birthday). Further, we present evidence that supports our theoretical account of the psychological mechanism underlying our effects. Specifically, integrating past research on time perceptions with the theory of self-appraisal, we propose and show that more meaningful landmarks increase people's intentions to engage in goal pursuit by magnifying the perceived psychological distance between a person's current self and her past, inferior self (Studies 4a and 4b).

Building on previous work showing that people do not treat time as continuous and linear (e.g., Ancona, Okhuysen, & Perlow, 2001; Fried & Sloick, 2004), we demonstrate that the non-linear way in which people perceive and experience time as a result of temporal landmarks can alter their motivation to pursue goals. In particular, our findings highlight the motivating effects of meaningful temporal landmarks. It is well-documented that people are most motivated to pursue the causes that they find most meaningful (e.g., Grant, 2012; Cryder, Loewenstein, & Scheiner, 2013). However, we show that the perceived meaningfulness of a temporal landmark (e.g., a relocation, a desk move, a birthday) can inspire people to engage in an *unrelated* cause (e.g., being on time, quitting smoking).

In this paper, we examine the mechanism underlying people's increased motivation to pursue their aspirations following more meaningful temporal landmarks. In doing so, we shed light on the psychological processes underlying the fresh start effect (Dai et al., in press). Specifically, our findings help explain why people engage in aspirational behaviors more frequently following a temporal landmark (e.g., at the beginning of the week, right after a

holiday) than on an ordinary day (e.g., Wednesday, seven days after a holiday): temporal landmarks are more meaningful segregators of time than ordinary days.

Notably, in this paper we elucidate just *one* underlying mechanism for the fresh start effect and the link between meaningful landmarks and aspirational behaviors. However, there may be additional mechanisms that help explain why more meaningful landmarks are more likely to strengthen people's intentions to pursue their aspirations. In the current research, we rule out the possibility that routine changes accompanying meaningful landmarks could explain our findings by holding anticipated routine change constant across our experimental conditions. Further, our findings cannot be explained by the possibility that opportunities to relax, which can facilitate goal pursuit by restoring people's exhausted self-control resources (Tyler & Burns, 2008), tend to accompany more meaningful temporal landmarks. In our experiments, framing otherwise identical days as more meaningful (e.g., describing the third Thursday in March as the first day of spring) did not provide any additional opportunities to relax. Yet landmarks imbued with greater meaning were still associated with increases in people's motivation to pursue their aspirations (Studies 2, 3, and 4a). However, routine change and repletion may strengthen the fresh start effect in many settings, and future research exploring the impact of these additional mechanisms on the effects described in this manuscript would be valuable.

A number of other potentially interesting avenues for future research are also suggested by the current studies. For one, future research could explore other types of decisions that may be influenced by temporal landmarks besides those involving aspirational behaviors. For example, it is possible that when temporal landmarks segment people from their past imperfections, people experience a higher degree of self-efficacy and a stronger sense of control over their future, two outcomes that past research has shown positively contribute to both physical and psychological

well-being (Magaletta & Oliver, 1999). Future research examining the relationship between (meaningful) temporal landmarks and individuals' well-being would be valuable. In addition, our hypotheses are largely based on past research showing that people tend to view their remote, past self as inferior to their current self. However, leveraging temporal landmarks to disconnect an individual from her past self may not always be beneficial. For example, people who achieved challenging personal goals in the past may feel more motivated when they are "reconnected" with these successes. Thus, the boundary conditions of our findings are worthy of exploration.

One limitation of the current research is that we do not directly investigate how long landmark-induced behavior changes last. Survey studies suggest that the motivation inspired in many by New Year's Day dissipates quickly: only 64% of New Year's resolutions continue to be pursued in February (Norcross et al., 2002). We speculate that self-improvement intentions produced by other temporal landmarks will also recede fairly quickly, but future research is needed in order to determine how quickly such motives recede for various landmarks. It would also be worth investigating whether life events that permanently alter people's lives (e.g., getting married, turning 18 and thus no longer being a minor) are more likely to induce sustained behavior change than shared, repeated calendar markers that are not accompanied by material changes in routines.

The findings presented in this paper have a number of practical implications for individuals, managers, and policy makers. Past research suggests that people who have engaged in repeated goal-incongruent practices can succumb to "what the hell" rationalizations, leading to vicious cycles of impulsive behavior (Cochran & Tesser, 1996; Scott, Pereira, & Burson, in press). Our findings demonstrate that temporal landmarks, and especially meaningful landmarks, can help individuals dismiss their past failures and renew their pursuit of goals. Further, these

findings may have broader implications for general self-efficacy and performance. Prior work suggests that people reflect on their past history of success or failure when evaluating their competence (Bandura, 1997) or their fit with a specific role in a team (DeRue & Morgeson, 2007). A particularly opportune time for team leaders to enhance subordinates' morale may be right after milestone events that mark a transition to a new performance cycle (e.g., at the midpoint or completion of a major project; Gersick, 1988; Morgeson, 2005).

Managers and policy makers who are interested in helping individuals pursue their aspirations may be able to put the new ideas in this paper to direct use. For example, tools and interventions designed to encourage aspirational behaviors (e.g., planning prompts, commitment devices, temptation bundling devices; Milkman, Beshears, Choi, Laibson, & Madrian, 2011; Schwartz, Mochon, Wyper, Maroba, Patel, & Ariely, 2014; Milkman, Minson & Volpp, 2014) may be better-received if they are provided following meaningful temporal landmarks (e.g., a person's 40th birthday). Further, our research suggests that highlighting the meaningfulness associated with a temporal landmark or framing an otherwise insignificant landmark in a meaningful way can be an effective "nudge" technique (Thaler & Sunstein, 2008), capable of bolstering people's interest in engaging in goal-directed behaviors.

REFERENCES

Albert, S. (1977). Temporal comparison theory. *Psychological Review, 84*(6), 485-503. doi: 10.1037//0033-295x.84.6.485

Ancona, D. G., Okhuysen, G. A., & Perlow, L. A. (2001). Taking time to integrate temporal research. *Academy of Management Review, 26*(4), 512-529. doi: 10.2307/3560239

Ariely, D., & Berman, K. (2013). 5 New Year's resolutions that might actually work. Retrieved from http://danariely.com/

Ayers, J. W., Althouse, B. M., Johnson, M., & Cohen, J. E. (2014). Circaseptan (weekly) rhythms in smoking cessation considerations. *Jama Internal Medicine, 174*(1), 146-148. doi: 10.1001/jamainternmed.2013.11933

Baca-Motes, K., Brown, A., Gneezy, A., Keenan, E. A., & Nelson, L. D. (2013). Commitment and behavior change: Evidence from the field. *Journal of Consumer Research, 39*(5), 1070-1084. doi:10.1086/667226

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bartels, D. M., & Rips, L. J. (2010). Psychological connectedness and intertemporal choice. *Journal of experimental psychology. General, 139*(1), 49-69. doi: 10.1037/a0018062

Baumeister, R. F. (1991). *Meanings of life*. New York, NY: Guilford Press

Baumeister, R. F., Vohs, K. D., Aaker, J. L., & Garbinsky, E. N. (2013). Some key differences between a happy life and a meaningful life. *The Journal of Positive Psychology, 8*(6), 505-516

Bhargave, R., & Miron-shatz, T. (2012). *Forty and fabulous? Milestone agers assess life satisfaction more on income than positive emotion*. Working Paper. The University of Texas at San Antonio, San Antonio, TX and Ono Academic College, Israel

Bryan, C. J., Walton, G. M., Rogers, T., & Dweck, C. S. (2011). Motivating voter turnout by invoking the self. *Proceedings of the National Academy of Sciences of the United States of America, 108*(31), 12653-12656. doi: 10.1073/pnas.1103343108

Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology, 53*(6), 1178-1191. doi: 10.1037/0022-3514.53.6.1178

Cialdini, R. B. (2007). *Influence: The psychology of persuasion*. New York, NY: HarperCollins

Cochran, W., & Tesser, A. (1996). The "what the hell" effect: Some effects of goal proximity and goal framing on performance. In L. L. Martin & A. Tesser (Eds.), *Striving and feeling: Interactions among goals, affect, and self- regulation*. Hillsdale, NJ: Psychology Press

Cryder, C. E., Loewenstein, G., & Scheines, R. (2013). The donor is in the details. *Organizational Behavior and Human Decision Processes*, *120*(1), 15-23

Dai, H., Milkman, K. L., & Riis, J. (In press). The fresh start effect: Temporal landmarks motivate aspirational behavior. *Management Science*

DeRue, D. S., & Morgeson, F. P. (2007). Stability and change in person-team and person-role fit over time: The effects of growth satisfaction, performance, and general self-efficacy. *Journal of Applied Psychology, 92*(5), 1242-1253. doi:10.1037/0021-9010.92.5.1242

DeVoe, S. E., House, J., & Zhong, C. B. (2013). Fast food and financial impatience: A socioecological approach. *Journal of Personality and Social Psychology, 105*(3), 476-494. doi: 10.1037/A0033484

Festinger, L. (1962). *A theory of cognitive dissonance* (Vol. 2). Stanford, CA: Stanford university press

Finch, J. (1987). The vignette technique in survey-research. *Sociology-the Journal of the British Sociological Association*, 21(1), 105-114. Doi:10.1177/0038038587021001008

Fried, Y., & Slowik, L. H. (2004). Enriching goal-setting theory with time: An integrated approach. *Academy of Management Review, 29*(3), 404-422

Fry, J., & Neff, R. (2010). *Healthy Monday: Two literature reviews*. Working Paper. The Johns Hopkins Center for a Livable Future, Baltimore, MD

Gersick, C. J. G. (1988). Time and transition in work teams - toward a new model of group development. *Academy of Management Journal, 31*(1), 9-41. doi:10.2307/256496

Gino, F., & Schweitzer, M. E. (2008). Blinded by anger or feeling the love: How emotions influence advice taking. *Journal of Applied Psychology, 93*(5), 1165-1173. doi: 10.1037/0021-9010.93.5.1165

Grant, A. M. (2012). Leading with meaning: Beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal, 55*(2), 458-476. doi: 10.5465/amj.2010.0588

Haddock, G. (2004). Temporal self-appraisal and attributional focus. *Journal of Experimental Social Psychology, 40*(6), 787-794. doi: 10.1016/j.jesp.2004.04.004

Hanko, K., Crusius, J., & Mussweiler, T. (2010). When i and me are different: Assimilation and contrast in temporal self-comparisons. *European Journal of Social Psychology, 40*(1), 160-168. doi: 10.1002/Ejsp.625

Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing saving behavior through age-progressed renderings of the future self. *Journal of Marketing Research, 48*, S23-S37

Korman, A. K. (1976). Hypothesis of work behavior revisited and an extension. *Academy of Management Review, 1*(1), 50-63

Libby, L. K., & Eibach, R. P. (2002). Looking back in time: Self-concept change affects visual perspective in autobiographical memory. *Journal of Personality and Social Psychology, 82*(2), 167-179. doi: 10.1037//0022-3514.82.2.167

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.

Lynch, K. (1960). *The image of the city* (Vol. 11). Cambridge, MA: MIT press

Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will, and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55*(5), 539-551

McGregor, I., & Little, B. R. (1998). Personal projects, happiness, and meaning: On doing well and being yourself. *Journal of personality and social psychology, 74*(2), 494

Milkman, K. L., Beshears, J., Choi, J. J., Laibson, D., & Madrian, B. C. (2011). Using implementation intentions prompts to enhance influenza vaccination rates. *Proceedings of the National Academy of Sciences of the United States of America, 108*(26), 10415-10420. doi: 10.1073/pnas.1103170108

Milkman, K. L. (2012). Unsure what the future will bring? You may overindulge: Uncertainty increases the appeal of wants over shoulds. *Organizational Behavior and Human Decision Processes, 119*(2), 163-176. doi: 10.1016/j.obhdp.2012.07.003

Milkman, K., Minson, J., & Volpp, K. (2014). Holding the hunger games hostage at the gym: An evaluation of temptation bundling. *Management Science*

Morgeson, F. P. (2005). The external leadership of self-managing teams: Intervening in the

    context of novel and disruptive events. *Journal of Applied Psychology, 90*(3), 497-508.

    doi:10.1037/0021-9010.90.3.497

Norcross, J. C., Mrykalo, M. S., & Blagys, M. D. (2002). Auld lang syne: Success predictors,

    change processes, and self-reported outcomes of new year's resolvers and nonresolvers.

    Journal of Clinical Psychology, 58(4), 397-405. doi: 10.1002/Jclp.1151

Peetz, J., & Wilson, A. E. (2013). The post-birthday world: Consequences of temporal landmarks

    for temporal self-appraisal and motivation. *Journal of Personality and Social Psychology,*

    104(2), 249-266. doi: 10.1037/A0030477

Peetz, J., & Wilson, A. E. (2014). Marking time: Selective use of temporal landmarks as barriers

    between current and future selves. *Personality and Social Psychology Bulletin, 40*(1), 44-

    56. doi: 10.1177/0146167213501559

Phillips, D. P., & King, E. W. (1988). Death takes a holiday - mortality surrounding major social

    occasions. *Lancet, 2*(8613), 728-732

Phillips, D. P., & Smith, D. G. (1990). Postponement of death until symbolically meaningful

    occasions. *Jama-Journal of the American Medical Association, 263*(14), 1947-1951. doi:

    10.1001/jama.263.14.1947

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and

    comparing indirect effects in multiple mediator models. *Behavioral Research Methods,*

    40(3), 879-891. doi:10.3758/BRM.40.3.879.

Robinson, J. A. (1986). Temporal reference systems and autobiographical memory. In D. C.

    Rubin (Ed.), *Autobiographical memory* (pp. 159-188). Cambridge, England: Cambridge

    University Press

Ross, M., & Wilson, A. E. (2000). Constructing and appraising past selves. In D. L. Schacter & E. Scarry (Eds.), *Memory, brain, and belief* (pp. 231-258). Cambridge, MA: Harvard University Press

Ross, M., & Wilson, A. E. (2002). It feels like yesterday: Self-esteem, valence of personal past experiences, and judgments of subjective distance. *Journal of Personality and Social Psychology, 82*(5), 792-803. doi: 10.1037//0022-3514.82.5.792

Rubin, D. C., & Kozin, M. (1984). Vivid memories. *Cognition, 16*(1), 81-95. doi: 10.1016/0010-0277(84)90037-4

Schmidt, A. M., & Dolis, C. M. (2009). Something's got to give: The effects of dual-goal difficulty, goal progress, and expectancies on resource allocation. *Journal of Applied Psychology, 94*(3), 678-691. doi:10.1037/A0014945

Schwartz, J., Mochon, D., Wyper, L., Maroba, J., Patel, D., & Ariely, D. (2014). Healthier by precommitment. *Psychological science*, 0956797613510950

Scott, R., Pereira, B., & Burson, K. (In press). The benefits of retail therapy: Making purchase decisions reduces residual sadness. *Journal of Consumer Psychology*

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*(3), 482-497. doi: Doi 10.1037//0022-3514.76.3.482

Shum, M. S. (1998). The role of temporal landmarks in autobiographical memory processes. *Psychological Bulletin, 124*(3), 423-442. doi: 10.1037//0033-2909.124.3.423

Soster, R. L., Monga, A., & Bearden, W. O. (2010). Tracking costs of time and money: How accounting periods affect mental accounting. *Journal of Consumer Research, 37*, 712–721

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge*. New Haven, CT: Yale University Press

Tu, Y., & Soman, D. (forthcoming). The categorization of time and its impact on task initiation. Journal of Consumer Research

Taylor, S. E., Neter, E., & Wayment, H. A. (1995). Self-evaluation processes. *Personality and Social Psychology Bulletin, 21*(12), 1278-1287. doi: 10.1177/01461672952112005

Tyler, J. M., & Burns, K. C. (2008). After depletion: The replenishment of the self's regulatory resources. *Self and Identity, 7*(3), 305-321. doi: 10.1080/15298860701799997

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect - the panas scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. doi: 10.1037/0022-3514.54.6.1063

Wayment, H. A., & Taylor, S. E. (1995). Self-evaluation processes - motives, information use, and self-esteem. *Journal of Personality, 63*(4), 729-757. doi: 10.1111/j.1467-6494.1995.tb00315.x

Wilson, A. E., & Ross, M. (2001). From chump to champ: People's appraisals of their earlier and present selves. *Journal of Personality and Social Psychology, 80*(4), 572-584. doi: 10.1037//0022-3514.80.4.572

Wilson, A. E., & Ross, M. (2003). The identity function of autobiographical memory: Time is on our side. *Memory, 11*(2), 137-149. doi: 10.1080/09658210244000324

Wood, W., Tam, L., & Witt, M. G. (2005). Changing circumstances, disrupting habits. *Journal of Personality and Social Psychology, 88*(6), 918-933. doi: 10.1037/0022-3514.88.6.918

Figure 1. Results of Study 1. Individuals forecasted that their motivation to pursue various aspirations would be higher after an inherently more meaningful temporal landmark.
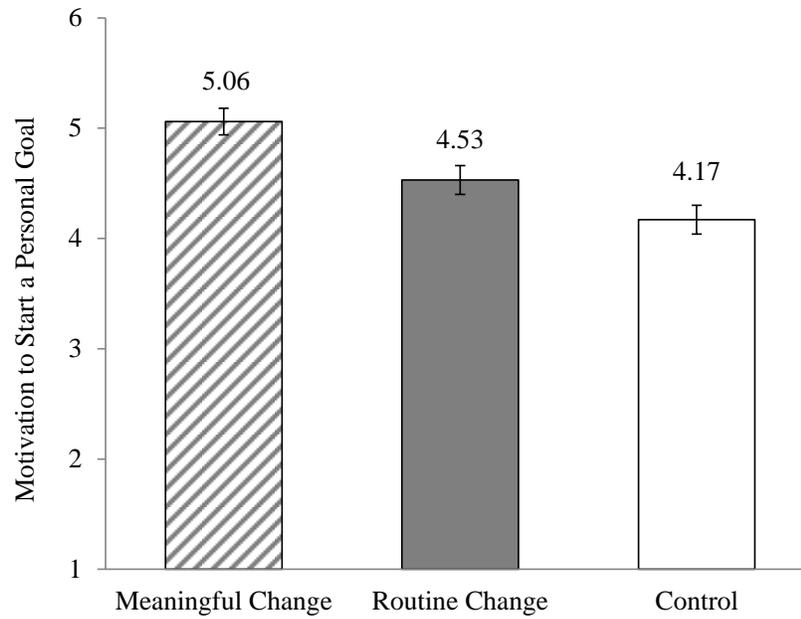
Figure 2. Results of Study 2. Framing an otherwise identical date as more meaningful increased the likelihood that participants chose to receive a reminder about a goal on the landmark date in question.

Study 2a

Study 2b