

Ending on a Familiar Note: Perceived Endings Motivate Repeat Consumption

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People fill their free time by choosing between hedonic activities that are new and exciting (e.g., exploring a buzzed-about restaurant) versus old and familiar (e.g., revisiting the same old spot). The dominant psychological assumption is that people will prefer novelty, holding constant factors like cost, availability, and convenience between acquiring such options (“variety is the spice of life”). Eight preregistered experiments (total $N = 5,889$) reveal that people’s attraction to novelty depends, at least in part, on their temporal context—namely, on perceived endings. As participants faced a shrinking window of opportunity to enjoy a general category of experience (even merely temporarily; e.g., eating one’s last dessert before starting a diet), their hedonic preferences shifted away from new and exciting options and toward old favorites. This relative shift emerged across many domains (e.g., food, travel, music), situations (e.g., impending New Year’s resolutions, COVID-19 shutdowns), and consequential behaviors (e.g., choices with financial stakes). Using both moderation and mediation approaches, we found that perceived endings increase the preference for familiarity because they increase people’s desire to ensure a *personally meaningful* experience on which to end, and returning to old favorites is typically more meaningful than exploring novelty. Endings increased participants’ preference for familiarity even when it meant sacrificing other desirable attributes (e.g., exciting stimulation). Together, these findings advance and bridge research on hedonic preferences, time and timing, and the motivational effects of change. Variety may be the “spice of life,” but familiarity may be the spice of life’s endings.

Keywords: hedonic preferences, time use, endings, novelty/familiarity, repeat experiences

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Imagine you have some free time this weekend that you can fill to your heart’s desire. What kinds of experiences would you fill it with? On the one hand, you might consider doing something new and exciting, like watching a buzzed-about blockbuster that has been on your radar or springing for a lavish dessert that you have long wanted to try. On the other hand, you could simply return to an old favorite, like enjoying your go-to rewatch or trusty chocolate cake.

People face countless decisions regarding whether to fill their time exploring novel experiences or revisiting familiar ones, which end up wielding substantial impact on everyday well-being (Lyubomirsky et al., 2005; Sheldon et al., 2013). In turn, a large psychological literature highlights the pull of novelty: People generally prefer doing something new and exciting over repeating already-consumed activities (“variety is the spice of life”: Kahn & Ratner, 2005; Lyubomirsky et al., 2005; McAlister & Pessemer, 1982; Ratner et al., 1999; Read & Loewenstein, 1995; Sheldon et al., 2013; Simonson, 1990). Holding constant factors like cost, availability, and convenience between acquiring such options, most of us

would likely choose to enjoy yet-unseen movies and long-envisioned desserts.

Now imagine the same dilemma with one small difference: Your free time this weekend happens to mark your *last chance* that you will be able to watch any movies for a while (perhaps you are approaching an especially busy time at work) or likewise consume any desserts (perhaps you are about to start a diet). Does this change your choice? If so, would you grow even more inclined to pursue a new and exciting option, or might you try to end things on a familiar note?

The present research explores how perceived endings influence the *kinds* of experiences people pursue, even for the merely impermanent endings that arise in everyday life (like in the above examples). As we will review, perceived endings likely motivate people to try to maximize the present moment—to “end on a high note.” The present research asks: What kinds of experiences do people seek out in order to do that? We find robust evidence that endings shift people away from the tendency to chase enjoyment from new and exciting experiences and toward simply returning to old favorites, thereby revealing important nuances about current

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The preregistration study materials of the experiments are available at the given link. Experiment 1: <https://aspredicted.org/5xy86.pdf>, Experiment 2:

<https://aspredicted.org/eg5hh.pdf>, Experiment 3: <https://aspredicted.org/yd2ac.pdf>, Experiment 4: <https://aspredicted.org/q6x89.pdf>, Experiment 5: <https://aspredicted.org/7u5cq.pdf>, Experiment 6: <https://aspredicted.org/nt9dx.pdf>, Experiment 7: <https://aspredicted.org/vx5t9.pdf>, Experiment 8: <https://aspredicted.org/db992.pdf>.

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understandings of hedonic preferences, how those preferences change, and how to maximize well-being more broadly. Even when people generally prefer novelty and variety in the things they consume, the old and familiar may also add its own spice to life as opportunities to enjoy either draw to an end.

Novelty Versus Familiarity

In the present research, we examine how people navigate choices between novel hedonic activities (i.e., enjoyable activities that they have not yet experienced) versus familiar hedonic activities (i.e., enjoyable activities that they have already experienced)¹—thereby capturing the typical trade-off that people commonly face when choosing how to fill their time in the present.

Novel and familiar activities sometimes differ in substantive ways that will differentially constrain people's behavior. Even if one has a clear preference to try out skydiving this weekend, for example, doing so is inherently less feasible than relaxing (yet again) at home. In many cases, however, decisions between novel and familiar options are otherwise similar in cost, availability, convenience, and so forth. Such decisions span across everyday offerings (e.g., choosing new interests or old favorites among Netflix offerings or ice cream flavors) as well as more consequential dilemmas (e.g., having to allocate one's limited resources across different kinds of social events or passion projects).

To date, the dominant assumption in the literature is that people prefer novelty. Novelty provides many hedonic benefits, from absorbing attention and thus promoting immersion and savoring (O'Brien & Smith, 2019; Quoidbach & Dunn, 2013; Sansone et al., 1992) to satisfying curiosity and expanding one's "experiential CV" (Keinan & Kivetz, 2011) and to fostering creativity (Ritter et al., 2012) and leaving a rosy trace in memory (Ratner et al., 1999). People also derive social utility such that choosing novelty signals to others that they must have desirable traits (e.g., exciting, fun; Ratner & Kahn, 2002). Novelty also tends to be more intensely enjoyable than familiarity, given that people have not yet experienced satiation or hedonic adaptation to novel stimuli (Campbell et al., 2014; Frederick & Loewenstein, 1999; Raju, 1980); accordingly, people are slower to adapt to a stimulus as its novel features are made more salient (Langer & Moldoveanu, 2000; Quoidbach et al., 2015; Redden, 2008). In light of these benefits, it is perhaps unsurprising that positive psychologists have explicitly prescribed that people pursue novelty and variety to maximize their hedonic experiences (Lyubomirsky et al., 2005; Sheldon et al., 2013). By the same logic, researchers have also suggested that people are inherently *averse* to repeat consumption, even absent an enjoyable novel alternative—one reason that people pursue novelty is simply to avoid repetition due to the belief that many activities have little left to offer after doing them once in full and thus seem like a waste of time to reexperience (O'Brien, 2019).

Despite diverse support for these claims, they may also paint an overly uniform portrait. People sometimes actively reject novelty and instead pursue repeats to maximize their hedonic experiences (as opposed to doing so for other reasons, like differential costs or because they are passively following a routine); we *choose* to rewatch the same movies, reorder the same dishes, and so on. People prefer old favorites and "familiarity's warm glow" (Titchener, 1915)—sometimes. Therefore, it is worth taking a closer look at potential psychological explanations for this discrepancy.

Previous research documents that certain kinds of stimuli provide more subjective value upon repetition than others, such as those that are complex rather than simple (Berlyne, 1970), experiential rather than material (Kardas et al., 2021; Nicolao et al., 2009; O'Brien & Kassirer, 2019), and strongly rather than weakly emotional (Chugani et al., 2015; Yang & Galak, 2015). These findings suggest that people may be more likely to engage in repeat consumption depending on features of the stimulus. People may also *avoid* repeat consumption for similar stimulus-level reasons (e.g., avoiding revisiting a cherished spot in town to protect one's fond memories; Zauberger et al., 2009). Individual-level factors might also matter, such as a person's affective state (e.g., positive mood, Kahn & Isen, 1993; feeling nostalgic, Wildschut et al., 2006) and personality profile (e.g., trait sensation seeking; Zuckerman, 1979). People may also differentially prefer novel versus familiar experiences in response to discrete life events (e.g., the effect of the "fresh start" of New Year's Day on pursuing new goals, Dai et al., 2014; the effect of life stressors on seeking comfort foods, Wood, 2010). Finally, features of the choice context itself may further distinguish such preferences, such as when people make choices for the near versus far future (McAlister & Pessemer, 1982; Read & Loewenstein, 1995; Simonson, 1990) and in isolation versus with others (Ariely & Levav, 2000; Choi et al., 2006; Ratner & Kahn, 2002; Winet et al., 2022). These kinds of choice contexts are likely also influenced by mere framing effects (e.g., people are more likely to engage in repeat consumption when choices are framed as signaling loyalty rather than boredom; Fishbach et al., 2011; see Galak & Redden, 2018, for a review of other such frames).

The present research investigates a more general and yet untested factor that might importantly shape people's preferences beyond these known culprits. We explore how people navigate novelty and familiarity as a function of limitations on remaining opportunities to enjoy either—that is, how perceived *endings* might influence how people fill their time in the present.

The Psychology of Endings

Endings come in many shapes and sizes. Things end due to natural forces (e.g., the end of summer), time-bound plans (e.g., the end of a vacation), and unexpected events (e.g., the last week of restaurant operations before a pandemic shutdown). Things can end for good (e.g., one's last meal before death) and for the time being (e.g., one's last meal before starting a diet).

The present research focuses on such situations in which people perceive a shrinking window of opportunity to enjoy an activity category, even if the loss of these opportunities is merely temporary. Specifically, we focus on how, for a given activity category, when opportunities to enjoy *anything* in that category will become lost, this affects *which thing* people then pick for their last chance to enjoy the category at all. For example, for watching movies, facing

¹ In theory, these dimensions are separable; a first-time option could feel familiar (e.g., by reading a lot about it beforehand), whereas a repeat option could feel unfamiliar (e.g., by having forgotten about it since last experiencing it). In such cases, our framework predicts that the construal of familiarity is operative; endings will prompt preferences for a more seemingly familiar option (see General Discussion section). However, here and throughout this article, we interchangeably refer to "novel" activities as equivalent to "first-time" activities and "familiar" activities as equivalent to "repeat" activities, as we assume that these pairings reflect the vast majority of cases.

one's last movie night before a busy patch at work may affect which movie people choose to watch—a new release or an old favorite.²

Previous research suggests that perceived endings will motivate general desires to *maximize*—people likely seek to “end on a high note.” Evidence for this idea is vast. On average, for example, people prefer experiences whose sequences improve rather than decline over time despite being otherwise equivalent (Loewenstein & Prelec, 1993), that have happy rather than sad endings (Ross & Simonson, 1991), and that end with redemption (“all’s well that ends well”: Diener et al., 2001; Newman et al., 2010). People reserve their favorite experiences for the ends of sequences (“saving the best for last”: Ratner et al., 1999) and judge the same experiences as more favorable when they happen to occur at the end (“saving the last for best”; Bruine de Bruin, 2005; Li & Epley, 2009; O’Brien & Ellsworth, 2012). People want the bad news first and good news second (Legg & Sweeny, 2014). People are better at recalling the end moments of hedonic experiences than most other moments (Fredrickson & Kahneman, 1993; Redelmeier & Kahneman, 1996), making end moments especially likely to steer future behavior (Garbinsky et al., 2014). Indeed, imminent endings motivate people to invest more time and effort into savoring what precious few moments they have left to have a given experience (e.g., college students engage in more college-related activities when graduation feels like it is looming; Kurtz, 2008). Likewise, in performance settings, people work harder in their final steps of goal pursuit (Hull, 1932) and pay closer attention during their final competitive attempts (Shah et al., 2012).

These diverse examples illustrate that, generally speaking, ending contexts impel people to choose whichever hedonic activities they think will help them “make the most” of the moment. Knowing that one is about to have one’s last chance to enjoy an activity for some time may feel like an event that people will thus want to honor and match accordingly (Shu & Sharif, 2018). Returning to our research question, we ask: What *kind* of experience—a novel option or familiar option—do people pursue to make the most of the moment?

The Safer Bet: A Hypothesized Shift Toward *Familiarity*

It is tempting to assume people might seek to make the most of these last consumption opportunities by choosing things that are *new and exciting*. After all, the stereotypical notion of the “bucket list” describes people becoming motivated to pursue activities that they have always wanted to try but have not yet experienced, as they approach major life endings. Aging out of a life stage predicts a higher likelihood of running one’s first marathon and expressing interest in having an extramarital affair (Alter & Hershfield, 2014); imminently moving away from home predicts a higher likelihood of visiting yet-unvisited local landmarks (Shu & Gneezy, 2010); entering retirement predicts finally getting around to picking up new hobbies (Freund, 2020); and, indeed, approaching death predicts desires for new experiences like exotic travel and doing daring activities, with clinicians even being encouraged to provide tailored end-of-life treatment by discussing these kinds of “bucket list” items with their patients (Periyakoil et al., 2018). More broadly, studies on time perspective confirm that a tendency to prioritize one’s immediate present experiences (vs. one’s future experiences) is positively correlated with the pursuit of hedonically stimulating behaviors (Keough et al., 1999; Rothspan & Read, 1996; Zimbardo & Boyd, 1999; Zimbardo et al., 1997). More impermanent-ending contexts

(e.g., one’s choice of last dessert before officially starting a diet) are clearly less dramatic than the contexts of these major life endings, but they might still share a similar psychological foundation. All else equal, “ending on a high note” should, in principle, be more easily accomplished by consuming novelty rather than familiarity, not least thanks to the inherently stimulating and yet-to-be adapted to nature of novel experiences (e.g., Raju, 1980).

Alas, in practice, the reality of this choice is that all else is *not* equal, at least in one fundamental way: Yet-to-be-experienced novelty is inherently *riskier* than tried-and-true familiarity. This basic fact forms the basis of our hypothesis: Ending contexts may instead, on average, shift people away from exploring the new and exciting and toward simply returning to old favorites.

Indeed, a broader way for people to ensure they “end on a high note” could be to stick with what they know works for them—old favorites typically make for the safer bet as compared to novel equivalents, which could turn out to be better *or worse* (for unpredictable and yet-unforeseen reasons). In other words, given that perceived endings increase the psychological stakes of a choice, ending contexts may make people averse to taking risks that could spoil the moment, which in turn pushes them to prefer the old and familiar more than they otherwise might.

Old favorites, by definition, include familiar features that people can typically rely on to be valuable again (otherwise, they would not be old favorites). Novelty cannot promise such concrete and reliable value (e.g., one can be surer of what an old-favorite museum will be like, given one’s past experience there, whereas a new museum could be a dud right from the get-go). A wide variety of research suggests that high-stakes contexts reduce people’s risk tolerance (“Better the devil you know than the devil you don’t”), ranging from research on attachment theory (e.g., infants with more uncertain child-caregiver relationships are less willing to leave the safety of their familiar caregiver’s side to explore strange new environments; Ainsworth et al., 2015), to research on loss aversion and general threat management (e.g., when consumers feel unsafe, such as when making choices in crowded vs. uncrowded contexts, they are more receptive to prevention-focused ads and more likely to choose safety-oriented products; Maeng et al., 2013), to research on everyday decision-making (e.g., people prefer more familiar, yet harder, puzzle tasks when under pressure, Litt et al., 2011; organizations return to more familiar, yet less creative, strategies in the face of competition, March, 1991; people confronted with scarce resources put more focus on the problems at hand over less salient ones, Shah et al., 2012). Indeed, computational models of exploration-exploitation trade-offs show that shrinking time horizons tend to reduce people’s willingness to incur the risks of exploring new environments in favor of exploiting the benefits of known ones (Wilson et al., 2014). As applied to our research, perceived endings might increase the appeal of familiar options because familiar options promise stimulus features that one can count on liking at least well enough to not spoil what precious few moments remain before the ending—whereas taking a chance on novelty may indeed spoil such moments.

² We do *not* focus on the end components *within* a stimulus; these components could entail other novelty/familiarity dynamics, but such dynamics do not bear on our hypothesis. For example, perhaps the last scene of a movie prompts viewers to recall the many preceding “familiar” scenes they have viewed up to that point vs. the dwindling few “novel” scenes left; or, perhaps a movie feels more familiar by the time that viewers reach the last scene—but these are unrelated to our hypothesis.

Safer *How?* Desires to End *Meaningfully*

Going further, a key question is: What specific features do old favorites uniquely promise that might satisfy people's desires to end well?

One straightforward answer is that people can be more certain about the hedonic quality of familiar (vs. novel) stimuli—people know for sure that they really did enjoy having that experience at some point in the past. Accordingly, perhaps endings motivate people to *ensure hedonic quality* (e.g., pure sensory pleasure) as best they can, which leads them to take the safer bet: the familiar option. In celebrating their last restaurant visit before starting a diet, people might prefer a restaurant where they already know the food will be sufficiently tasty. This choice guarantees some certainty for indulging in one's "last hurrah", and so people's preferences may shift toward a go-to spot with familiar, tried-and-true dishes, even if this means losing out on more exciting but yet-untested dishes at a hot new spot they have been longing to try.

On the other hand, drawing on research from elsewhere in psychology, we hypothesize that people might also seek to "end on a high note," so as to ensure a different feature than pure hedonic enjoyment: *personal meaning*. This quality is something that people can *also* be characteristically certain of finding among the old and familiar (vs. the new and exciting).³

That is, we posit that when people try to end well, they mainly look for a *personally meaningful* experience on which to end—and this quality is more certain to be found among old favorites than new interests. In celebrating their last restaurant visit before starting a diet, people might prefer to have an experience that helps them poignantly honor the moment as best they can. Rather than primarily try to ensure that the food itself is tasty (i.e., to ensure hedonic value), they may try to ensure that the experience has sentimental qualities (i.e., to ensure personal meaning). More often than not, such sentimentality will call for a familiar experience.

Defining "Meaning"

Scholars have long noted the difficulty of defining meaning (Leontiev, 2013). However, there is general consensus around the importance of personal value. Heintzelman and King (2013) define meaning as being comprised of "purpose," "mattering," and "coherence." Steger (2012) defines meaning as a "web of connections, understandings, and interpretations" that promotes "the sense that our lives matter, that they make sense, and that they are more than the sum of our seconds, days, and years" (p. 65). McAdams (1993) defines meaningful experiences as those that feed into one's life narrative and signal identity closeness; experiences that answer "Who am I?" are meaningful. As such, we broadly refer to people shifting toward preferring "meaningful" experiences as shifting toward preferring experiences with higher personal value (e.g., those that are more sentimentally linked with "who they are").

Endings Prompt Desires for Personally Meaningful—and Thus Familiar—Experiences

With this definition in mind, other research suggests that ending contexts may indeed shift preferences toward choosing a meaningful experience on which to end, which familiar experiences may be

more disposed to offering relative to their novel equivalents (on average).

First, as reviewed, one's final consumption opportunity for a while likely feels like an event that people may prefer to match appropriately (akin to "occasion matching"; Shu & Sharif, 2018)—and people might view something that is *meaningful* as an especially appropriate match for that moment (vs. something that offers purely exciting stimulation, for example). Broadly speaking, personal meaning is regarded as among the most elevated attributes with which to imbue an experience (King et al., 2006; King & Napa, 1998). Therefore, seeking out meaningful experiences may represent an especially befitting way to honor a special occasion. More specific to *ending* occasions, however, other research finds that endings (e.g., graduating from college) often elicit mixed emotions that are both positive and negative (e.g., feelings of poignancy; Ersner-Hershfield et al., 2008; Larsen et al., 2001), in part, because people are reminded of good times but then lament that they are lost to the past⁴ (Larsen et al., 2021). In turn, returning to old favorites may reflect this type of bittersweet experience better than the uniform excitement of novelty would. As old favorites may be more intertwined with one's closely held and personally meaningful memories (whose value does not necessarily come from pure hedonic pleasure), these revisits to the past may seem like especially good matches for ending contexts. Other occasions, like new beginnings, may instead be better suited to novelty's uniform excitement.

Second, socioemotional selectivity theory (Carstensen et al., 1999) posits that shrinking time horizons motivate people toward emotionally rewarding goals (as opposed to learning new things, for example), which is typically tested in the context of end-of-life effects on who older adults prefer to spend time with. For example, older (vs. younger) adults tend to prefer spending more time with close friends and family and less time with strangers and new acquaintances (e.g., Carstensen, 2006; Ersner-Hershfield et al., 2008; Fredrickson & Carstensen, 1990). To our knowledge, a major reason for this shift is that novel tastes often take time to be acquired, and time is precisely what such individuals lack. This is especially true in the social domain, as usually tested in this literature. Trading one-liners with a stranger cannot compete with intimately joking with a friend—and so lacking the time it takes to turn strangers into friends makes otherwise fun novel interactions less attractive and *already-rich* interactions more attractive. As applied to our research

³ Of course, some familiar experiences decidedly *lack* positive qualities like meaning (e.g., presumably, few people would actively seek out their monotonous bumper-to-bumper commute in any context; van Tilburg & Igou, 2012). Note that we focus on "old favorite" hedonic activities, such that people indeed value them to begin with (in order to provide a fair comparison with exciting novel counterparts). In any case, an emerging line of research suggests that people often come to view even seemingly dull routines (and the like) as surprisingly meaningful (Martela & Steger, 2016; Heintzelman & King, 2019)—especially in response to losing them (Powell et al., 2022)—so they may fit into our framework just the same. We return to this potential (lack of) moderation in the General Discussion section.

⁴ This kind of cognitive explanation suggests yet another mechanism that might push people toward familiarity in the context of endings: Perceived endings may remind people of their *best* past experience, which they then compare to an *average* (for instance) novel experience. However, our studies, by design, will largely rule out this possibility as a lone driver (e.g., by having all participants compare equally desirable stimuli, and even the same identified stimulus, across temporal contexts). In any case, such an explanation suggests yet another reason why our hypothesized effect might emerge beyond the laboratory in everyday life.

and extending far beyond end-of-life effects on social preferences, familiar experiences may become more attractive in ending contexts because people can generally be more certain that they will strike a sufficiently meaningful chord in those last moments without requiring further investment (a luxury that they lack) to *make* them meaningful. In the General Discussion section, we return to how our research helps enrich and expand this typical understanding of socioemotional selectivity theory.

Third, people may also increasingly prefer to end with familiar experiences because meaningful endings feel more psychologically fluent than nonmeaningful endings. That is, familiar experiences may fit a natural relationship between endings and a desire for emotional closure. One cannot help but notice how the sentimental theme of ending on both meaningful and familiar notes pervades many hedonic cultural products like storytelling (e.g., protagonists who return home at the end of the *hero's journey*, a narrative that dates back over 3,000 years; Campbell, 1949) and music (e.g., end-of-song codas that repeat earlier refrains; Perle, 1990). The existence of such common themes might provide evidence of this sort of ingrained preference. Indeed, people tend to prefer experiences that end with emotional closure (Schwörer et al., 2020), and returning to old favorites (vs. ending on a fun but new note) might be an especially good way to obtain this kind of closure. To the extent that familiar endings “just feel right,” and such psychologically fluent experiences are pleasurably reinforced and adopted (Reber et al., 2004), people might show a corresponding shift in their hedonic choices as well.

To sum, we have proposed that perceived endings (even impermanent ones) may shift hedonic preferences toward ending things on a *meaningful* note, and returning to the familiar (e.g., enjoying one's old-favorite dessert one last time before starting a diet) may, in most cases, afford just that. Familiar (vs. novel) options should indeed represent the more meaningful options, on average, because people are more likely to have established special connections with familiar experiences than purely novel ones (Carmon et al., 2003; Heintzelman & King, 2019; Zhang et al., 2014). In one study, for example, nearly half of the participants described the importance of familiar foods in terms of their nostalgic value (Wood, 2010). Associations between revisiting the ordinary and consequential outcomes like happiness grow stronger as people age (Bhattacharjee & Mogilner, 2014), further hinting that people may shift more toward familiarity in ending contexts.

To be sure, old favorites often make for a safer bet on both dimensions posed here—one's cherished restaurant (*personal meaning*) may also serve one's favorite foods (*hedonic quality*). However, our key points are that (a) both possibilities make the same directional prediction: Ending contexts may directionally shift people's preferences *away* from novelty and *toward* familiarity; and that (b) both possibilities share the same umbrella mechanism: This shift may reflect people being compelled *away* from the risks associated with novelty and *toward* the safer bets associated with familiarity with regard to having a positive experience; and lastly, that (c) teasing apart these dimensions of “positive experience” as drivers of this preference shift can provide more nuanced insight into what kinds of experiences people try to optimize in the face of perceived endings. Such nuance not only bears on when and why people would exhibit such a shift, but it also reveals the specific kinds of utility that people derive from “familiarity's warm glow.”

The Present Research

We sought answers to these questions by conducting eight pre-registered experiments (total $N = 5,889$), spanning a diverse range of contexts, measures, and participant populations. Across all experiments, we investigated whether people's preferences for familiar versus novel hedonic experiences change as a function of perceived endings—and if so, how and why they change.

We hypothesized that perceived endings would increase people's preferences for the familiar over the novel, and that this would be driven by increased desires to end on the safer bet for having a positive experience—specifically, to have a more *personally meaningful* experience. We designed our experiments such that they hold constant other differences between novel and familiar options that might otherwise influence people's preferences (e.g., cost, availability, convenience), except in studies where we intentionally manipulated these features for purposes of hypothesis testing (e.g., to disentangle hedonic quality from personal meaning). To further serve this goal, our experiments largely focus on impermanent endings (i.e., when people face their “last chance for a while” to engage in a hedonic activity) as opposed to literally permanent endings (e.g., when people face the end of life). Such endings entail explicitly *temporary* restrictions on future opportunities to enjoy a given experience. These types of endings are presumably more common than literally permanent endings, yet they are also far less studied in the literature, to our knowledge. In the General Discussion section, we return to how these kinds of endings might compare and contrast with one another, and discuss how future research might uniquely benefit from further study of more impermanent endings (as most of our experiments help highlight).

Experiment 1 assessed the basic effect—whether perceived endings increase people's preferences for familiar (vs. novel) activities—via hypothetical behavior across many domains. Experiments 2–4 extended this effect to real behavior. Experiments 5–8 again replicated this effect while also assessing mechanism: Perceived endings may increase people's preferences for old favorites because old favorites are more likely to offer a *personally meaningful* experience on which to end (beyond ensuring hedonic quality per se).

For each experiment, we predetermined sample sizes of at least 250 participants per experimental cell, depending on available resources. We reported all manipulations, measures, and exclusions (if any). All data files, full original study materials, and preregistration documents have been made public for review on the Open Science Framework: <https://osf.io/pf63y/>.

We predetermined this sample size based on a rule-of-thumb of 100 participants per cell, and then, because our primary dependent variable is choice, we multiplied this number by 2.5 \times for good measure (following Simonsohn, 2015, who advises collecting 2.5 \times one's original sample size to safeguard the power of replication attempts). For each experiment, we report a sensitivity analysis of the minimum effect size each of our samples had power to detect, all via G*Power (Faul et al., 2007), assessing each critical test at $\alpha = .05$, 80% power.

Experiment 1: Perceived Endings and Hedonic Preferences

In Experiment 1, we assessed initial evidence for how perceived endings influence the kind of activity that people choose to do—a new and exciting option versus an old-favorite equivalent—for this “last time” for a while to enjoy either. For robustness and

generalizability, participants reported their preferences across 10 unique hedonic domains, and we conducted this same experiment among three unique participant populations. In all cases, we hypothesized that perceived endings (vs. control contexts) would increase people's preferences for old favorites.

Method

Participants

We launched the same experiment among three populations, comprised of laboratory participants, student participants, and national online participants (total $N = 1,124$).

First, we requested 500 participants through Amazon's Mechanical Turk, yielding 501 ($M_{\text{age}} = 35.81$, $SD_{\text{age}} = 10.44$; 40.12% female; 25.95% non-White), who participated for \$1.00 (sensitivity analysis: minimum effect size that can be detected by this sample size is $w = 0.13$).

Second, we requested 500 participants from our university subject pool, yielding 460 ($M_{\text{age}} = 31.66$, $SD_{\text{age}} = 13.90$; 48.70% female; 59.35% non-White), who participated for \$1.20. Our pool is a mix of students, staff, and locals in a large Midwestern city in the United States (sensitivity analysis: minimum effect size that can be detected by this sample size is $w = 0.13$).

Third, we recruited 163 MBA students from the same university ($M_{\text{age}} = 31.05$, $SD_{\text{age}} = 4.37$; 26.99% female; race/ethnicity not reported, and 7 participants did not report age), who participated as part of a course. The study was made available to the total course enrollment of 165 students (sensitivity analysis: minimum effect size that can be detected by this sample size is $w = 0.22$).

Procedure

The study design was identical between our Amazon Mechanical Turk participants and subject-pool participants: Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) \times 10 (domain: 10 unique scenarios, within subjects) design. For MBA participants, we turned the design fully within subjects in order to make maximal use of the more limited sample size. Doing so also further generalizes the potential effects of ending contexts regardless of whether they are assigned between subjects or within subjects.

Participants evaluated 10 different scenarios, each involving a choice between hedonic activities in a different domain, and reported how they would behave in each. The scenarios included: seeing live bands, going to the beach, reading books, visiting cities, eating desserts, seeing movies, visiting museums, eating out at restaurants, socializing, and playing sports.

For each, participants faced a choice between pursuing a new activity that they would very much enjoy experiencing versus pursuing an already-consumed activity that they very much enjoyed experiencing (holding all else equal). For example, participants read the following for the *restaurants* scenario (see OSF for all 10 scenarios, which used similar phrasings as below):

Imagine you have the choice between 2 restaurants: One is a restaurant that you have gone to before and absolutely loved eating at, and the other is a restaurant that you haven't gone to before and would absolutely love to eat at. Both cost the same money, time, etc. to go to. Imagine you now happen to have equal access to both (e.g., you're equally available and able to go to either). The choice is entirely yours

for the choosing. Ok: Which restaurant would you choose to go to for your next restaurant opportunity?

Then, *control* participants (MTurk: $n = 256$; subject pool: $n = 229$; MBA: $n = 163$) made their choice between two options, comprising our key dependent variable (e.g., for *restaurants*): "In this case, I'd choose the restaurant that I haven't gone to before and would absolutely love to eat at" (novel option) versus "In this case, I'd choose the restaurant that I have gone to before and absolutely loved eating at" (familiar option), with participants making 10 such choices in total.

We compared the choices of control participants to those of *ending* participants (MTurk: $n = 245$; subject pool: $n = 231$; MBA: $n = 163$ —the same sample), who followed the exact same procedures, except they read the following additional text (e.g., for *restaurants*):

There's one rule: It turns out, your next restaurant opportunity is the last time you'll be able to go to a restaurant for a while. Imagine that whatever you choose for this would be the last time you get to go to a restaurant for quite some time.

For each scenario, the presentation order of new and old activities was randomized between subjects as written in the text and randomized within subjects as choice options. All participants were instructed to treat the scenarios independently (i.e., to assume their choices in one have no bearing on their choices in any other). Each scenario was presented on a separate page, with participants reading and reporting their responses one at a time in randomized order.

Other Variables. At the end of the study and after making all 10 choices, participants reported their demographic information, rated their study confusion (1 = *not confusing*; 7 = *very confusing*), and rated whether mental images indeed came to mind for them (1 = *no, not really*; 7 = *yes, very much*). In this and other experiments, we assessed confusion and mental imagery to account for the possibility that our context manipulation had differential effects on what came to mind, since ending participants had more information to read and process than control participants (which could manifest as differences either way—as more or less confusing and more or less cognitively engaging). We assumed that an ideal test of our hypothesis would yield *no* such differences on these measures, as we intended when designing the stimuli. Finally, participants completed a manipulation check regarding their awareness of endings in each scenario: "To what extent were you imagining each would be the last such opportunity to experience each thing for quite a while?" (1 = *definitely wasn't imagining this*; 7 = *definitely was imagining this*). Given their fully within-subjects design, MBA participants only reported demographic information and did not complete these condition-specific checks, as they had experienced both conditions.

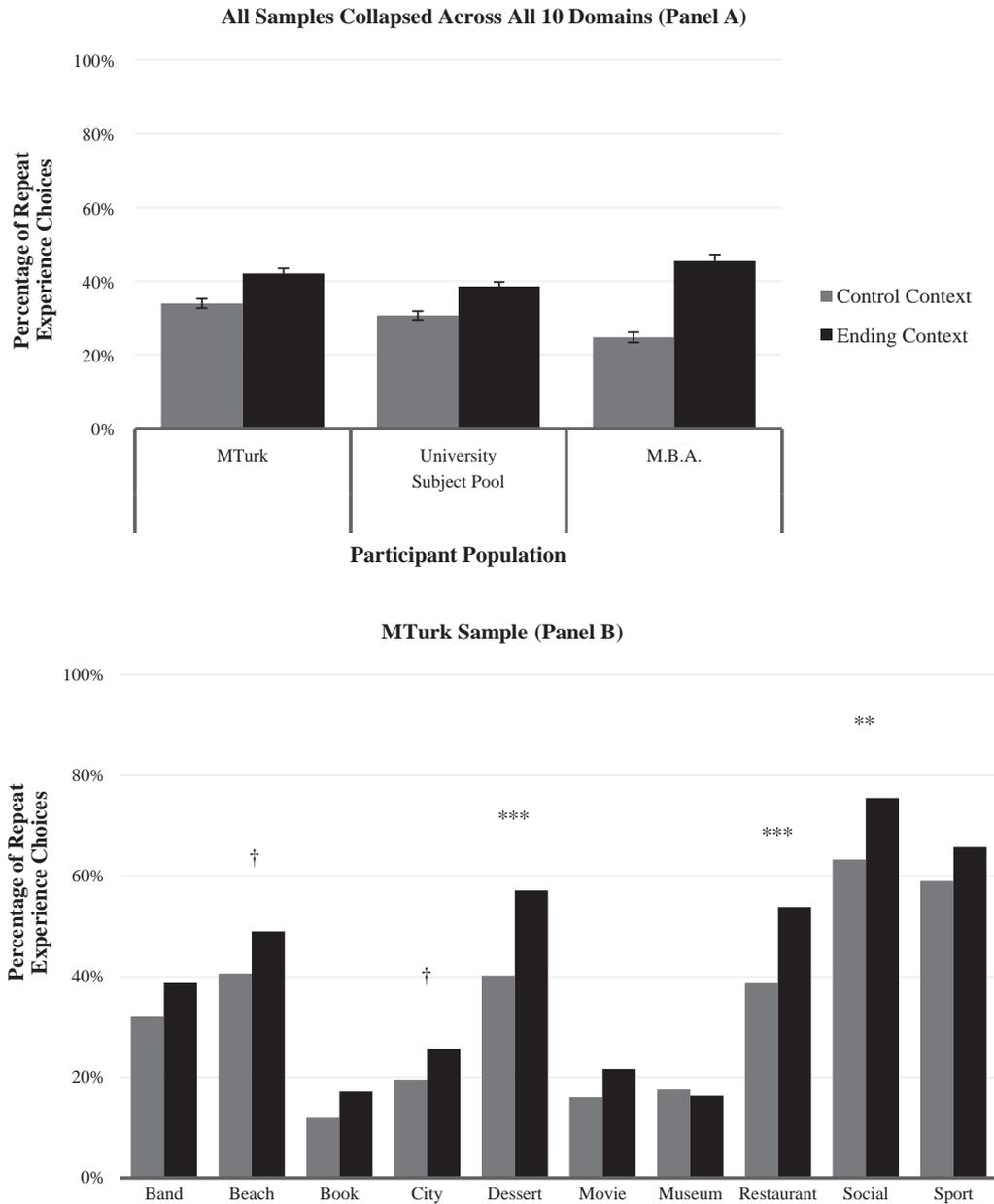
Results and Discussion

Separately for each participant population, we conducted repeated-measures logistic regression analyses via the SPSS GEE command, entering context, domain, and their interaction term as predictors of activity choice (novel vs. familiar option).

Main Results (Activity Choice)

We observed robust support for the hypothesis in each participant population (see Figure 1, Panel A, for overall means such that they collapse across domains, thus showing the average share of repeat choices per participant out of 10 choices).

Figure 1
 Experiment 1: Percentage of Repeat Choices by Population and Domain



(figure continues)

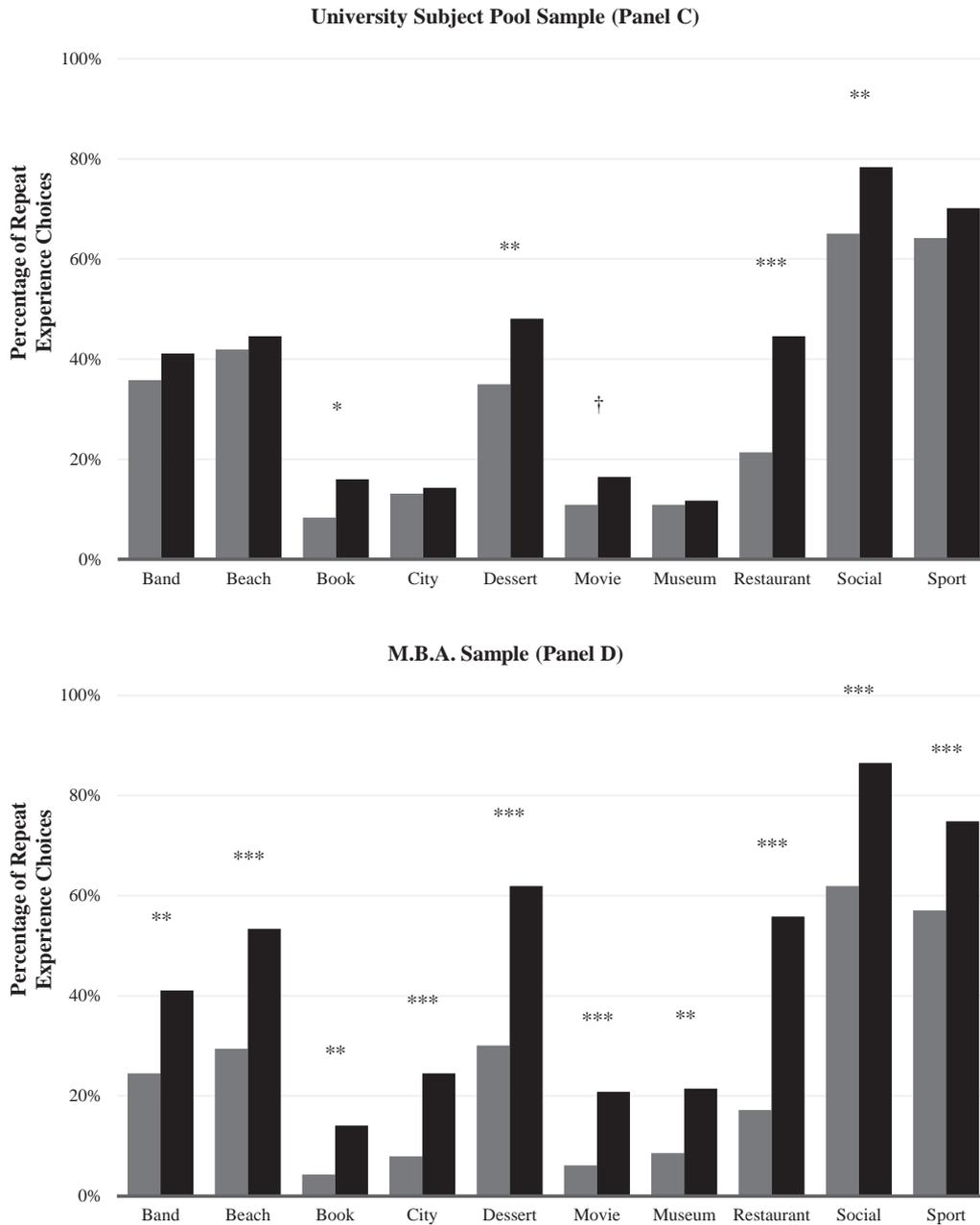
First, among MTurkers (see Figure 1, Panel B): There was the critical main effect of context, such that ending participants were more likely to choose familiar activities (percentage of repeat choices out of 10 choices: $M = 42.08\%$, $SD = 20.98\%$) than control participants ($M = 33.91\%$, $SD = 20.28\%$), $Wald = 16.24$, $df = 1$, $p < .001$, $w = 0.18$ (incidental main effect of domain, $Wald = 403.35$, $df = 9$, $p < .001$, $w = 0.90$; interaction, $Wald = 10.72$, $df = 9$, $p = .296$, $w = 0.15$).

Second, this critical main effect of context replicated among subject-pool participants (see Figure 1, Panel C): Ending participants

were again more likely to choose familiar activities ($M = 38.53\%$, $SD = 19.21\%$) than control participants ($M = 30.66\%$, $SD = 17.99\%$), $Wald = 17.89$, $df = 1$, $p < .001$, $w = 0.20$ (incidental main effect of domain, $Wald = 663.35$, $df = 9$, $p < .001$, $w = 1.20$; interaction, $Wald = 24.84$, $df = 9$, $p = .003$, $w = 0.23$).

Third, among MBA students too—in a fully within-subjects design—this critical main effect of context also replicated (see Figure 1, Panel D): Ending participants were again more likely to choose familiar activities ($M = 45.46\%$, $SD = 21.75\%$) than control participants ($M = 24.72\%$, $SD = 17.82\%$), $Wald = 85.01$, $df = 1$, $p < .001$,

Figure 1 (continued)



Note. Panel A plots the mean percentage of repeat choices across all 10 domains (error bars show $\pm 1 SE$). Panels B, C, and D use the following significance markers.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

$w = 0.72$ (incidental main effect of domain: Wald = 305.72, $df = 9$, $p < .001$, $w = 1.37$; interaction, Wald = 24.83, $df = 9$, $p = .003$, $w = 0.39$).

Other Results

The results of the manipulation check confirmed that ending participants had endings on their minds to a greater degree than control participants, both among MTurk participants ($M_{\text{Ending}} = 6.18$,

$SD = 1.22$ versus $M_{\text{Control}} = 3.64$, $SD = 2.24$), $t(499) = 15.67$, $p < .001$, $d = 1.40$, and among subject-pool participants ($M_{\text{Ending}} = 5.00$, $SD = 1.85$ versus $M_{\text{Control}} = 2.72$, $SD = 1.97$), $t(458) = 12.84$, $p < .001$, $d = 1.20$.

In addition, there were *no* incidental differences between conditions on study confusion among MTurk participants ($M_{\text{Ending}} = 1.73$, $SD = 1.58$ versus $M_{\text{Control}} = 1.51$, $SD = 1.28$), $t(499) = 1.70$, $p = .089$, $d = 0.15$, nor among the subject-pool participants ($M_{\text{Ending}} = 1.35$, $SD = 0.96$ versus $M_{\text{Control}} = 1.39$, $SD = 0.99$),

$t(458) = 0.42, p = .677, d = 0.04$. We also found no such differences in mental imagery, neither among MTurk participants ($M_{\text{Ending}} = 5.59, SD = 1.55$ versus $M_{\text{Control}} = 5.44, SD = 1.59$), $t(499) = 1.07, p = .284, d = 0.10$, nor among the subject-pool participants ($M_{\text{Ending}} = 5.07, SD = 1.72$ versus $M_{\text{Control}} = 4.99, SD = 1.77$), $t(458) = 0.51, p = .613, d = 0.05$. As stated, MBA students did not complete either of these two condition checks, given their fully within-subjects study design.

Finally, all patterns remain when reanalyzing the results while entering study confusion, mental imagery, and demographic information as covariates (see Supplemental Materials).

Experiment 1 reveals initial but robust evidence that ending contexts indeed shifted people's hedonic preferences, specifically by increasing preferences for the familiar.

Next, Experiments 2–4 sought to extend these findings beyond hypothetical scenarios by testing for the basic effect within specified contexts involving real behaviors with higher stakes.

Experiment 2: New Year's Resolutions (Real Choice)

In Experiment 2, we capitalized on the timing of a naturally occurring event that involves a temporary halt of hedonic activities: the New Year's holiday—in particular, the act of keeping a New Year's resolution. In December 2019, we recruited participants who expected to give something up for the New Year of 2020. We hypothesized that participants' preferences would shift toward familiar (vs. novel) options during this window of time in December—an ending context that entails choosing which activities to consume within their given resolution category before giving it up for a while. Then, via a longitudinal design, we tracked these same participants over time to assess whether their preferences shifted back toward novelty once they were no longer caught within this ending context.

Method

Participants

We collected data in three waves across 3 months, all via Cloud Research. These specific recruitment dates (and only these dates) can be seen in our preregistration.

To begin, we sought to recruit participants who were planning to give something up as a New Year's resolution. Thus, upon launching Wave 1 (December 28, 2019), we requested 500 participants and on the opening page, we screened participants for whether they intended to make a New Year's resolution that would start on January 1, 2020 (forced choice: *no*; *yes*). As preregistered, only those participants who indicated “yes” were retained and proceeded to the study measures; those who indicated “no” were piped to unrelated research for the remainder of data collection.

This process yielded a starting sample of 386 participants ($M_{\text{age}} = 37.95, SD_{\text{age}} = 12.29$; 50.78% female; 23.58% non-White), who began Experiment 2, all of whom were about to start a New Year's resolution (i.e., all of whom began the study already in an ending context).

Wave 1 (December 28, 2019)

These 386 participants then completed Wave 1 for \$0.25.

Wave 2 (January 28, 2020)

Next, we contacted these 386 participants from Wave 1 to complete Wave 2. This process yielded 307 participants who completed Wave 2 for \$0.25.

Wave 3 (March 28, 2020)

Last, we contacted the 386 participants from Wave 1 to complete Wave 3, all via the same recruitment procedures. This process yielded 278 participants, 257 of whom had completed both of the previous waves, who completed Wave 3 for \$0.25.

Thus, all told: We tracked the same 257 participants ($M_{\text{age}} = 39.92, SD_{\text{age}} = 12.56$; 50.58% female; 20.23% non-White), who completed all three experimental waves, beginning in December 2019 and ending in March 2020, representing a retention rate of 66.58% (257 of 386; sensitivity analysis: minimum effect size that can be detected by this sample size is $w = 0.17$).

Procedure

This study tracked the same participants over time, fully within subjects. All participants took one survey at each wave's calendar date: Wave 1 (*ending* wave, with endings salient), Wave 2 (*control* wave, with endings less salient), and Wave 3 (another *control* wave, with endings less salient). Each survey automatically recorded each participant's unique user ID, unbeknownst to the participants while taking the study, thus allowing us to link their responses.

Wave 1: Saturday, December 28, 2019 (Ending Wave)

To begin, participants best categorized a New Year's resolution that they would be implementing 4 days later (on January 1, 2020). They chose 1 of 10 options (shown in randomized order): going out to eat less often, shopping less often, watching less television, spending less time online, spending less time on the phone, spending less time gaming, cutting back on unhealthy drinks, cutting back on sweets, cutting back on a private bad habit, or cutting down on fun. The most popular resolution was “Cutting back on sweets,” selected by 25.29% of participants (65 of 257).

Next came our key dependent variable. Participants were informed that they may be randomly invited to participate in an additional short follow-up study we would be launching at some point over the next 3 days (December 29, 30, or 31), to start and complete during that window. Then they were asked to choose which of two kinds of tasks they would want to complete in this other study and were told that we would assign them whichever they chose. Shown in randomized order, they chose from “Tasks involving [description of novel option from resolution category]” versus “Tasks involving [description of familiar option from resolution category].”

For example, if participants indicated that they would be giving up *going out to eat less often*, then for this potential follow-up study they chose between “tasks involving places I've never eaten at before, but I'd love to eat at” (novel option) and “tasks involving places I've eaten at before, and I love eating at” (familiar option). Thus, all participants were in an ending context in the moment of their choice in Wave 1, which therefore allowed us to assess our hypothesis that participants may be more likely to choose familiarity in this wave as compared to other waves.

After making their choice, participants were informed that we would contact them during this window if they were indeed chosen and that a lack of contact meant they were not chosen (in reality, no participants were contacted). Finally, they completed Wave 1 by reporting their demographic information and any technical problems or confusions with the study (forced choice: *no; yes [explain]*), as well as two other items that we were simply curious to measure without a hypothesis (see preregistration): the timeline of their resolution (forced choice: *giving up for a few days, a few weeks, a few months, the whole year*) and their confidence in sticking with this timeline (forced choice: *definitely will not succeed, may succeed, definitely will succeed*).

Wave 2: Tuesday, January 28, 2020 (Control Wave)

About 1 month later, participants were invited to take a new study, which was advertised without any explicit connection to Wave 1. We chose this date to match the calendar date number of Wave 1 and capture a context in which such endings were presumably less salient than they were in Wave 1.

Participants began by completing the same key dependent variable from Wave 1: They were informed that we would be launching an additional short follow-up study at some point over the next 3 days (January 29, 30, or 31), as in Wave 1, and they again chose between a novel and familiar option. Again, no participant was actually contacted for this follow-up study.

Participants finished Wave 2 by being reminded of their New Year's resolution from Wave 1 and were asked whether they were still upholding it (forced choice: *no; yes*). If not, they were also asked when they stopped (forced choice: *during the first week of January, the second week, the third week, the fourth week*), and why they stopped (forced choice: *because I freely wanted to, because it proved to be too hard, other [explain]*). As in our end-of-study questions from Wave 1, we included these items simply for curiosity. Finally, participants also reported any technical problems or confusions with the study (forced choice: *no, yes [explain]*).

Wave 3: Saturday, March 28, 2020 (Control Wave)

Another 2 months later, participants were invited to take a third distinct study. They completed the same procedures as Wave 2, again indicating their choice between novel and familiar tasks for a potential follow-up study in the next 3 days (March 29, 30, or 31). The only difference was that Wave 3 included additional choice options for our follow-up question about when participants stopped pursuing their resolution (if they stopped): one for each week throughout February and March.

Wave 3 serves a number of purposes. If participants make different choices in Wave 1 versus Wave 2 as proposed, perhaps this reflects boredom (i.e., choosing the other option for the sake of doing something different) or strategy (i.e., choosing the other option to increase one's chances of being invited to do the follow-up study, since their previous choice resulted in them not being invited), as opposed to reflecting a differential salience of endings. If so, then we should observe a similar shift in choices between Waves 2 and 3. Likewise, perhaps there is something unique about Saturdays (Wave 1 day) versus Tuesdays (Wave 2 day) that explains the effect; if so, Wave 3 (also a Saturday) should resemble Wave 1. Also, Wave 3 is simply further away from Wave 1, adding additional assurance that the key difference captured by our longitudinal design is that the ending context of New Year's has faded over time.

Results and Discussion

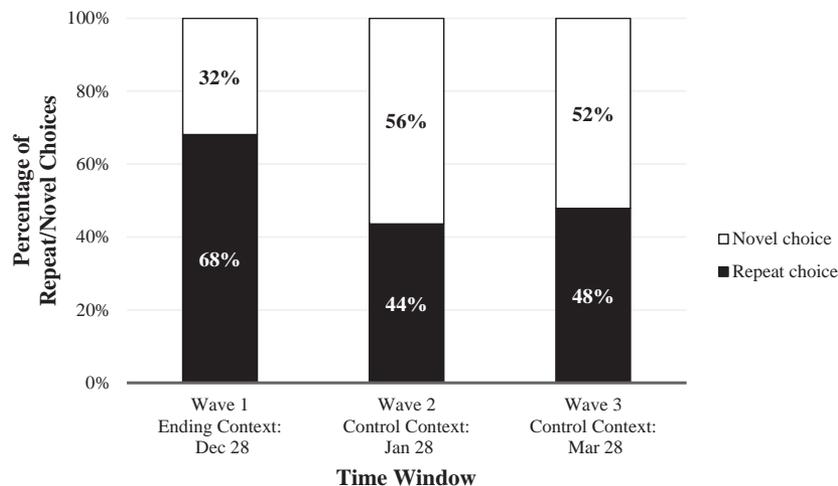
We conducted repeated-measures logistic regression analyses via the SPSS GEE command, entering Wave as a predictor of activity choice (novel vs. familiar option).

Main Results (Activity Choice)

As hypothesized, participants' choices indeed depended on *when* they made them, Wald = 41.02, $df = 2$, $p < .001$, $w = 0.40$ (see Figure 2).

Participants became more likely to choose old favorites rather than new interests in Wave 1 (an ending context right before implementing one's New Year's resolution) as compared to

Figure 2
Experiment 2: Percentage of Participants Choosing the Novel Versus Repeat Option by Time



Wave 2 (a control context, 1 month later): 68.09% (175 of 257) of participants chose activities involving old favorites in Wave 1, but only 43.58% (112 of 257) of participants did so in Wave 2, Wald = 38.14, $df = 1$, $p < .001$, $w = 0.39$. Yet, 2 more months later, in Wave 3, there was *no* such shift from Wave 2 to Wave 3 (47.86%, 123 of 257), Wald = 1.46, $df = 1$, $p = .227$, $w = 0.08$ (Wave 1 vs. Wave 3: Wald = 26.70, $df = 1$, $p < .001$, $w = 0.32$), suggesting Wave 1's ending context (and not some incidental change in preferences over time) uniquely shifted preferences toward familiarity.

Another way to gauge effect size is to explore individual profiles of preference changes. We found that a full 20.62% of the sample (53 of 257) fit our hypothesized pattern—that is, they chose familiarity in Wave 1, novelty in Wave 2, and novelty in Wave 3. Only 5.45% (14 of 257) shifted their responses conversely (novelty in Wave 1, familiarity in Wave 2, and familiarity in Wave 3), $\chi^2(1) = 22.70$, $p < .001$, $w = 0.58$. Table 1 shows all eight possible combinations. Our hypothesized pattern was the second most common, which did not significantly differ from the first most common (all familiar choices at each time point), $\chi^2(1) = 0.70$, $p = .401$, $w = 0.08$.

Other Results

In Wave 1, most participants expected to stick with their resolution for “the entire year” (62.26%, 160 of 257) and expected they “might succeed” (74.32%, 191 of 257). By Wave 2, most were still upholding their resolution (83.66%, 215 of 257), with the remainder lasting about 2 weeks (54.76%, 23 of 42) and citing “too difficult” (40.48%, 17 of 42) for why they stopped. By Wave 3, most were still upholding their resolution (64.20%, 165 of 257), with the remainder lasting about 6 weeks (18.48%, 17 of 92) and again citing “too difficult” for why they stopped (35.87%, 33 of 92). See Supplemental Materials for all of these exploratory results.

Finally, across waves, most participants reported having no technical problems with the survey (Wave 1: 98.83%, 254 of 257; Wave 2: 99.61%, 256 of 257; Wave 3: 100.00%, 257 of 257). All patterns remain when reanalyzing the results while entering these other variables, as well as demographic information, as covariates (see Supplemental Materials).

Experiment 2 replicates the basic effect in a naturalistic context with real behavior: Preferences for familiar options uniquely increased when expecting to give up a given hedonic category.

Table 1

Experiment 2: Choice Composition of Novelty Versus Familiarity Across Waves

Each specific choice composition across waves (from most common to least common)			Percentage of participants who showed each specific choice composition across waves
Wave 1	Wave 2	Wave 3	
Familiar	Familiar	Familiar	24.12% (62 of 257 participants)
Familiar	Novel	Novel	20.62% (53 of 257 participants)
Novel	Novel	Novel	17.51% (45 of 257 participants)
Familiar	Novel	Familiar	13.23% (34 of 257 participants)
Familiar	Familiar	Novel	10.12% (26 of 257 participants)
Novel	Familiar	Familiar	5.45% (14 of 257 participants)
Novel	Novel	Familiar	5.06% (13 of 257 participants)
Novel	Familiar	Novel	3.89% (10 of 257 participants)

Experiment 3: Lab Challenge (Real Choice)

Experiment 3 tested for this effect in the laboratory. We challenged participants to abstain from their most tempting hedonic activity for 1 week. Before they began this challenge, we invited them for a “last hurrah” in which they could choose to complete an activity related to novel or familiar experiences within their to-be-sacrificed category. We hypothesized that these participants would be more likely to choose familiarity (vs. novelty) as compared to control participants who were assigned to skip the challenge and thus made their choice outside of this ending context.

Method

Participants

This study was conducted via our university subject pool. We utilized a screening procedure near the start of the study (see Procedure section) such that we preregistered to recruit 300 participants who successfully passed, who then proceeded to complete the study. In total, we ended up recruiting 344 participants before meeting this threshold.

Thus, the present study involved 301 successfully screened participants (representing an attrition rate of just 12.50%; $M_{age} = 27.70$, $SD_{age} = 10.62$; 66.78% female; 57.67% non-White; one participant did not report their age or ethnicity), who participated for \$1.00 (sensitivity analysis: minimum effect size that can be detected by this sample size is $Exp(B) = 1.80$).

Procedure

Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) design.

First, all participants were informed that the study involved pleasurable activities they do in daily life—“things that may technically take time away from doing work/staying focused on other goals, but we derive pleasure from them”—and indicated which of 10 activities they most enjoy (shown in randomized order): reading for fun, listening to podcasts/music for fun, eating junk food/sweets, drinking alcohol, smoking cigarettes/tobacco products, playing sports, using social media, ordering from/going out to restaurants, online shopping, or playing video games. The most popular option was “podcasts/music,” selected by 23.26% of participants (70 of 301).

Next (screening procedure): All participants were informed that they would be entered into a lottery that would randomly select some of them to complete a self-control study in which they would be required to give up their chosen hedonic category for 1 week (starting that day, immediately upon exiting the laboratory). They were asked whether they were willing to proceed (forced choice: *no*, *yes*), knowing they might be selected for this self-control study. As preregistered, only those participants who indicated “yes” were retained and proceeded to the study measures and those who indicated “no” were piped to unrelated research.⁵

⁵ Given this order of operations, the only question for which we could assess selective attrition was activity choice. Among those who opted out, their most popular option was *also* “podcasts/music,” selected by 25.58% of them (11 of 43). In addition, we utilized a similar design in Experiment 7 except that we thought to include more participant-level variables before the screening item; as will be reported within that study, we found few selection differences.

Then, all successfully screened participants clicked to the next page where they saw a waiting screen (“Random draw being calculated.”), displayed for 6 s. Then, the study automatically continued to a new page where they were randomly assigned to condition. *Control* participants ($n = 151$) learned that they were not selected for this self-control study. They read:

You have *not* been randomly selected. You are being asked to continue [chosen hedonic category] as usual. For this upcoming week, once you leave the virtual lab, please assume you will engage in [chosen hedonic category] as you normally would.

In contrast, *ending* participants ($n = 150$) learned that they indeed were selected for this self-control study. They read:

You have been randomly selected. Starting today, you are being asked to give up [chosen hedonic category] for 1 full week. For this upcoming week, once you leave the virtual lab, please assume you will not engage in [chosen hedonic category] at all until 1 week from today.

Before leaving the lab, all participants then proceeded to finish the present study in the same way, where we assessed our key dependent variable. They were reminded that the present study involved pleasurable activities that they regularly do in everyday life, and thus, for the present study, they would complete “a fun activity” involving whichever preferred hedonic category they had chosen earlier. Marking our key dependent variable, we gave participants the choice of what kind of fun activity to complete then and there. They chose one of two options (shown in randomized order): “An activity about [description of novel option]” versus “An activity about [description of familiar option],” with both falling within their preferred hedonic category.

For example, if a participant indicated that their preferred hedonic category was *eating junk foods/sweets*, they later chose between completing “an activity about junk foods/sweets that you’ve never eaten before, but you’ve been wanting to enjoy” (novel option) and “an activity about junk foods/sweets that you’ve eaten before and enjoyed” (familiar option). Thus, we assessed our hypothesis that participants may be more likely to prefer familiarity when randomly assigned to believe they would be giving up this hedonic category for the next week.

Participants then completed their chosen activity, which entailed writing about a favorite past experience involving their choice. As preregistered, this task is irrelevant to our hypothesis and will not be discussed further (i.e., our key dependent variable had already been measured at the moment of choice). We retain all responses as written in our data file for interested researchers.

Other Variables. After making their choice and before writing, all participants were reminded of their chosen most-enjoyed category (e.g., *eating junk food/sweets*) and rated how much they enjoy it in everyday life (1 = *not at all*; 7 = *very much*); how many times per week they engage in it (open-ended); how much of a challenge it [“would be” for control; “will be” for ending] to give up that category for the next week (1 = *not at all*; 7 = *very much*); and their confidence they [“would succeed” for control; “will succeed” for ending] in completing the challenge (forced choice: *definitely would/will succeed*; *might succeed*; *definitely wouldn’t/won’t succeed*). We included these measures simply for curiosity (see pre-registration), and they were all presented after our dependent variable; we report these results in the Supplemental Materials.

Finally, all participants reported their demographic information and any technical problems or confusions with the study (forced choice: *no, yes [explain]*). They also completed an attention check regarding their condition (forced choice: *selected for the lottery, not selected for the lottery*), as well as a manipulation check regarding their awareness of endings: “When you were choosing which activity to do, to what extent were you imagining that this would be your last opportunity to experience that thing for 1 week?” (1 = *definitely wasn’t imagining this*; 7 = *definitely was imagining this*). To end, all participants were informed that there was no such self-control study but we encouraged them to spend the week as instructed if they were interested.

Results and Discussion

We conducted logistic regression analyses, entering context as a predictor of activity choice (novel vs. familiar option).

Main Results (Activity Choice)

We again observed the hypothesized shift: More ending participants (66.00%, 99 of 150) than control participants (54.97%; 83 of 151) chose familiarity over novelty, $B = 0.46$, $SE = 0.24$, $p = .051$, $\text{Exp}(B) = 1.59$.⁶

Other Results

The results of the manipulation check confirmed that ending participants had endings on their minds ($M = 3.85$, $SD = 2.40$) to a greater degree than control participants ($M = 2.50$, $SD = 1.91$), $t(299) = 5.37$, $p < .001$, $d = 0.62$. Most participants (99.00%, 298 of 301) passed the attention check (basic effect changes from $p = .051$ to $p = .047$, if we exclude failures).

All patterns remain when reanalyzing the results while entering these other variables, as well as demographic information, as covariates (basic effect changes from $p = .051$ to $p = .022$; see Supplemental Materials).

Experiment 3 replicates the basic effect on real behavior in a controlled laboratory setting. This study further highlights the causal effect of ending contexts by avoiding selection bias—it cannot be that because ending participants were all willing to complete a self-control study, they were simply more prudent types of people than control participants (which itself might explain why they were more attracted to familiarity), since all participants were screened for this willingness *before* their fate was decided (i.e., their ending-related condition had not been randomly assigned and made known to them yet). As in Experiment 2, we also tailored this study to each participant’s actual preferences, thus further bolstering the effect’s real-world relevance.

⁶ As it turned out, this basic effect was the statistically weakest across all of our studies. One reason may be that our sample size proved to be relatively less well-powered (as reported, post hoc sensitivity analyses revealed that the minimum critical effect size that can be detected by this sample size was $\text{Exp}(B) = 1.80$, while our observed effect size was $\text{Exp}(B) = 1.59$). A more substantive reason may be that the dependent variable involving completing a task “*about*” the novel or familiar option rather than literally consuming the option itself. We did this for feasibility reasons, but in hindsight, it might also explain this smaller effect relative to our other studies; a task *about* the option may elicit generally less appeal in ways that disrupt the detection of our hypothesized difference (e.g., perhaps some participants “checked out” altogether and chose more randomly). This methodological limitation mostly applies to Experiment 3; other experiments almost all test more direct consumption.

Experiment 4: Gift Cards (Real Choice)

In Experiment 4, we sought to extend the basic effect further by assessing another kind of ending context and another real behavior—here via choosing between experiences with concrete monetary value. Participants reflected on the many (vs. few) opportunities they would have to enjoy eating in restaurants in the near future. Next, they chose between real gift cards to spend at either a desired familiar restaurant or a desired novel restaurant during this time window (holding constant other features, like cost). We hypothesized that participants would become more likely to choose gift cards for old-favorite restaurants when endings were made salient.

Method

Participants

We requested 500 participants through Cloud Research, yielding 501 ($M_{\text{age}} = 36.93$, $SD_{\text{age}} = 11.29$; 47.70% female; 24.35% non-White), who participated for \$0.40 (sensitivity analysis: minimum effect size that can be detected by this sample size is $\text{Exp}(B) = 1.58$).

Procedure

Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) design.

To begin, participants were informed that they would be entered into a raffle for a \$30.00 gift card to a restaurant of their choice, and that the gift card would expire 1 month from “today” (i.e., their participation date, which was the date they would receive the gift card if they won). We ran the study on January 14, 2020 (i.e., “pre-COVID,” at least in popular American awareness).

Before making their choice, however, participants completed a reflection task. Based on random assignment, *control* participants ($n = 241$) read:

Consider how you'll have plenty of opportunities to go out to restaurants over the next month. Take some time to think about how common they will be, and about what specific things will encourage you to go out to restaurants many times throughout the next month.

Ending participants ($n = 260$) read:

Consider how limited your opportunities will be to go out to restaurants over the next month. Take some time to think about how rare they will be, and about what specific things will prevent you from going out to restaurants much throughout this next month.

In both conditions, participants were instructed to write out their thoughts in response to the prompt via an open-ended essay box (as preregistered, we had no particular hypotheses relating to what participants wrote, and thus, this task will not be discussed further; we retain the essays in our data file for interested researchers).

All participants then chose a gift card for one of two options (shown in randomized order): “A restaurant I haven't gone to before” (novel option) versus “A restaurant I have gone to before” (familiar option). They also read: “After you choose, we'll ask you a series of questions, including listing specific restaurants in your life that fit these criteria, which we'll use to get a gift card”; and, “One rule to know in advance is that both restaurants need to generally cost the same amount of money, time, etc., to go to.”

After choosing, participants listed a restaurant they had in mind for each category, as well as their email address for linking their gift card, if won.

Other Variables. After choosing, all participants reported their demographic information and rated their confusion with the study (1 = *not confusing*; 7 = *very confusing*). They also completed an attention check regarding their condition (forced choice: *wrote about few future opportunities*; *wrote about many future opportunities*; *wrote about any opportunities*; *no such prompt*), as well as a manipulation check regarding their awareness of endings for their choice: “To what extent do you expect that your next restaurant opportunity will be your last restaurant opportunity for quite a while?” (1 = *definitely do not expect this*; 7 = *definitely expect this*). Upon completion of the study, we conducted the lottery as described and sent the winner their gift card.

Results and Discussion

We conducted logistic regression analyses, entering context as a predictor of gift card choice (gift card to novel vs. familiar restaurant).

Main Results (Gift Card Choice)

We again observed the hypothesized shift: Significantly more ending participants (67.31%, 175 of 260) than control participants (48.96%, 118 of 241) chose gift cards to old-favorite restaurants, $B = 0.76$, $SE = 0.18$, $p < .001$, $\text{Exp}(B) = 2.15$.

Other Results

The results of the manipulation check confirmed that ending participants had endings on their minds ($M = 3.99$, $SD = 1.83$) to a greater degree than control participants ($M = 2.46$, $SD = 1.79$), $t(499) = 9.44$, $p < .001$, $d = 0.84$. There were no differences between conditions on study confusion ($M_{\text{Ending}} = 1.46$, $SD = 0.91$ versus $M_{\text{Control}} = 1.49$, $SD = 1.10$), $t(499) = 0.40$, $p = .688$, $d = 0.04$. Most participants passed the attention check (95.41%, 478 of 501).

Finally, all patterns remain when reanalyzing the results while entering these other variables, as well as demographic information, as covariates, and also when we exclude all attention check failures (see Supplemental Materials).

Experiment 4 further extends our observed shift toward the familiar, here via the effects of another kind of ending context on real choices for upcoming dining opportunities.

Next, Experiments 5–8 sought to further replicate this basic effect while also shining a light on *why* it occurs, assessed across a variety of mediation- and moderation-based approaches.

Experiment 5: Endings Increase Desires for the Safer Bet (and Thus Increase Familiarity Seeking)

As reviewed in the Introduction, familiar options typically represent safer bets than their novel equivalents—returning to old and familiar experiences tends to ensure a certain level of known hedonic quality *and* a certain level of known personal meaning. Exploring new and exciting experiences typically cannot make such guarantees—and given that ending contexts create higher stakes for

choices, a safer bet mechanism might generally explain the robust shift toward familiarity that we have consistently observed thus far.

Before attempting to disentangle people's specific safer bet motivations (i.e., ensuring hedonic quality vs. ensuring personal meaning) in driving this effect, Experiment 5 sought to assess this broader safer-bet mechanism more generally. This experiment essentially served as a replication of Experiment 1, except that we also asked participants to report on *why* they chose the familiar or novel option they chose (for each domain). We hypothesized that ending contexts would again shift participants' preferences toward familiarity, and that this shift would be explained by a general effect of endings *increasing* participants' desires to take the safer bet.

Method

Participants

We requested 500 "Cloud Approved" participants through Cloud Research, yielding 501 ($M_{\text{age}} = 40.41$, $SD_{\text{age}} = 12.24$; 43.51% female; 27.94% non-White), who participated for \$1.00 (sensitivity analysis: minimum effect size that can be detected by this sample size is $w = 0.13$).

Procedure

Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) \times 10 (domain: 10 unique scenarios, within subjects) design.

The study design was essentially identical to Experiment 1—participants indicated their preferences for a novel activity versus a familiar activity for each of 10 hedonic domains, having been randomly assigned to a *control* condition ($n = 248$) or an *ending* condition ($n = 253$). Again, we held constant cost and other such differences between the activities. There were two differences to note between the design of this experiment relative to the design of Experiment 1:

First, of minor importance and simply for conceptual clarity, we added text to the control condition (for each domain) that specified its intended *nonending* nature. For example, in the *restaurants* scenario, control participants read:

It turns out, your next restaurant opportunity is by no means the last time you'll be able to go to a restaurant for a while. Imagine that after whatever you choose for this would be just one of many times you get to go to a restaurant for quite some time.

As before, ending participants instead read:

It turns out, your next restaurant opportunity is the last time you'll be able to go to a restaurant for a while. Imagine that whatever you choose for this would be the last time you get to go to a restaurant for quite some time.

Second, and of substantive importance, we assessed *why* participants made their choice. Participants completed a single item for each domain, presented in randomized order with the dependent variable (choice of familiarity vs. novelty). It was:

Given this particular occasion, which is more important for your choice? Taking a risk to max out your experience (where you shoot for the best possible time, even if there's a bigger chance you'll only

have a so-so time), or wanting a safe bet for your experience (where you can guarantee you'll have a good enough time, even if it means missing out on other desirable options).

This item was rated from 1 (*better to try to max out*) to 10 (*better to choose the safe bet*). For each domain, for each participant, we randomized the presentation order of scale anchors (sometimes *max out* was described first and placed on the left-most scale anchor, and other times *safe bet* was described first and placed on the left-most scale anchor instead).

Other Variables. At the end of the study and after making all 10 choices, all participants rated the same other variables from Experiment 1. They also completed an additional attention check regarding what the study was about (forced choice: *enjoyable experiences*; *painful experiences*; *neutral experiences*), as well as a no-penalty honesty check regarding whether we should trust their responses as genuine (forced choice: *no*; *yes*).

Also, at the end of the study and of more substantive relevance, we were curious to assess some initial evidence for the specific reasons underlying a potential shift to less-risky familiarity (which we will then directly assess in all remaining experiments). All participants completed a single item asking them to report which of two options better described the kind of experiences they had been intending to choose (presented in randomized order): An option that would describe their prior choices as *maximizing hedonic quality* ("An experience that's high on Pure Pleasure [e.g., going to a restaurant that has extraordinary/amazing-tasting food], but it happens to be low on Sentimental Connection [e.g., this same restaurant doesn't really mean much to you on a personal level]") versus another option that would describe their prior choices as *maximizing personal meaning* ("An experience that's high on Sentimental Connection [e.g., going to a restaurant that has a uniquely special place in your 'life story'/'who you are'], but it happens to be low on Pure Pleasure [e.g., at this same restaurant, the taste of the food is bland/unremarkable].") We hypothesized that more ending participants than control participants would indicate that their prior choices had reflected them trying to maximize *personal meaning*.

Results and Discussion

Main Results (Activity Choice)

We conducted repeated-measures logistic regression analyses via the SPSS GEE command, entering context, domain, and their interaction terms as predictors of activity choice (novel vs. familiar option).

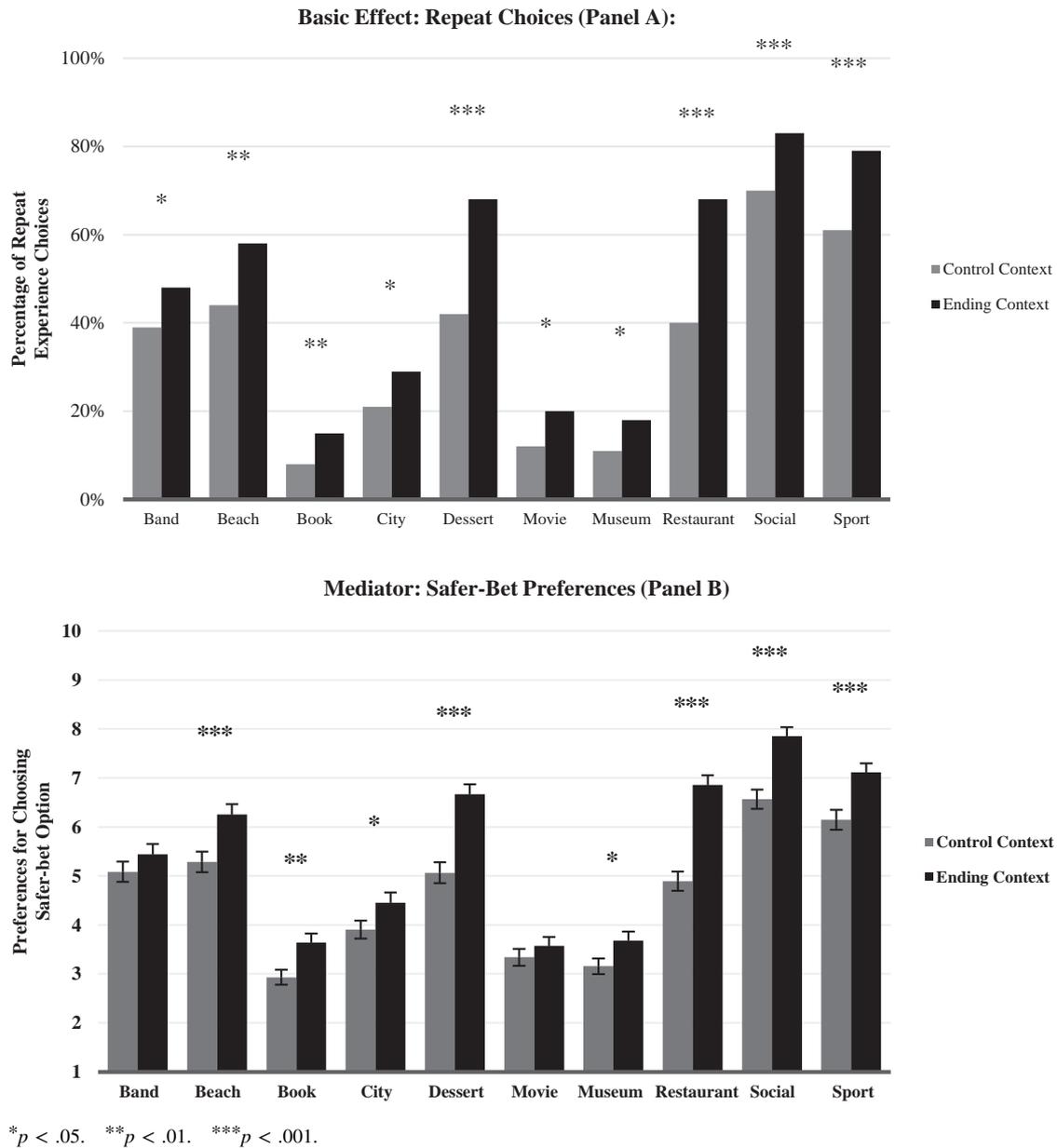
The basic effect again replicated (see Figure 3, Panel A): The critical main effect of context showed that ending participants were significantly more likely to choose familiar activities (percentage of repeat choices out of 10: $M = 48.62\%$, $SD = 19.68\%$) as compared to control participants ($M = 34.76\%$, $SD = 21.27\%$), Wald = 48.17, $df = 1$, $p < .001$, $w = 0.31$ (incidental main effect of domain: Wald = 593.48, $df = 9$, $p < .001$, $w = 1.09$; interaction, Wald = 15.80, $df = 9$, $p = .071$, $w = 0.18$).

Main Results (Reason for Choice)

For the mechanism items, we recoded responses where appropriate, such that higher ratings (via a single item ranging from 1 to 10,

Figure 3

Experiment 5: Percentage of Repeat Choices by Hedonic Domain (Panel A), and Participants' Self-Rated Preferences Toward the Safer Bet for Each Domain (Panel B)



rated for each of the 10 domains) indicate a stronger preference for safer bets (vs. taking a risk), and then we conducted the same analysis as above, except via linear regression (rather than logistic regression).

In turn, we indeed found evidence for *why* participants made these choices (see Figure 3, Panel B): As hypothesized, ending participants were significantly more motivated to reduce risk and choose the safer bet (overall, across domains: $M = 5.55$, $SD = 1.41$) as compared to control participants (overall, across domains: $M = 4.64$, $SD = 1.64$); main effect of context, Wald = 44.85, $df = 1$, $p < .001$, $w = 0.30$ (incidental main effect of domain: Wald = 755.99, $df = 9$,

$p < .001$, $w = 1.23$; interaction, Wald = 35.44, $df = 9$, $p < .001$, $w = 0.27$).

Mediation Analyses

To more directly assess this driving influence, we conducted a mediation analysis (SPSS PROCESS Model 4, 5,000 bootstrapped iterations: Hayes, 2017) using context (control vs. ending) as the independent variable, activity choice (novel vs. familiar option, across all domains) as the dependent variable, and safe-bet ratings (across all domains) as the mediator. This analysis indeed revealed a

significant indirect effect via safe-bet ratings, indirect effect = 0.10, $SE = 0.02$; 95% CI_{boot} [0.07, 0.13], indicating mediation.

End-of-Study Item: Ensuring Personal Meaning

Providing initial support for teasing apart specific reasons for what makes familiar options less risky—and thus more appealing in the context of endings—we further found using logistic regression that more ending participants (36.76%, 93 of 253) than control participants (23.39%, 58 of 248) reported that their primary motivation for their choices had been to maximize personal meaning (over hedonic quality), $B = 0.64$, $SE = 0.20$, $p = .001$, $Exp(B) = 1.90$. As noted, we will directly unpack this idea in all remaining studies.

Other Results

The results of the manipulation check confirmed that ending participants had endings on their minds ($M = 9.17$, $SD = 1.43$) to a greater degree than control participants ($M = 3.01$, $SD = 2.89$), $t(499) = 30.29$, $p < .001$, $d = 2.71$. There were incidental differences between conditions on study confusion ($M_{Ending} = 1.59$, $SD = 1.43$ versus $M_{Control} = 1.85$, $SD = 1.60$), $t(499) = 1.96$, $p = .051$, $d = 0.18$; no such differences emerged for mental imagery ($M_{Ending} = 8.17$, $SD = 1.86$ versus $M_{Control} = 7.92$, $SD = 2.12$), $t(499) = 1.40$, $p = .161$, $d = 0.13$. Most participants passed the attention check (99.00%, 496 of 501) and the honesty check (99.40%, 498 of 501).

Finally, all patterns remain when reanalyzing the results while entering study confusion, mental imagery, and demographic information as covariates, and when excluding attention check and honesty check failures (see Supplemental Materials).

Experiment 5 again replicates the basic effect while also shining initial light on why it occurs, at a general level: Ending participants shifted away from novelty and toward familiarity because they became more interested in safer bets, and thus in familiar options.

Next, in Experiment 6, we assess more specific process evidence. In doing so, we also address a potential confound between hedonic quality and meaning within the mediator item in this experiment: Participants may have calculated a generally higher expected value for the familiar option versus the novel option, as we pitted a familiar option with some guaranteed quality against a novel option with an uncertain peak. This setup was designed to mimic real-world differences between familiarity and novelty, but nonetheless warrants a methodologically cleaner test. In Experiment 6, we manipulate and equally guarantee hedonic quality and meaning.

Experiment 6: Ensuring Meaning Dominates Ensuring Hedonic Quality—Specifically for Endings

In what specific ways are familiar options “safer bets” (compared to novel options) that become more attractive in the context of endings? Next, expanding on the initial insights from our end-of-study item in Experiment 5, Experiment 6 directly teased apart the two underlying possibilities we reviewed earlier: ensuring the hedonic quality of the stimulus itself versus ensuring its personal meaning. Using a moderation-based approach, we tested our hypothesis that *ensuring personal meaning* is the stronger driver of the effect between these two possibilities. To take the restaurant domain as an example, endings might prompt people to choose a restaurant with sufficiently good-tasting food above all, independent of one’s own

sentimental connection to it (i.e., perhaps endings lead people to care mostly about ensuring hedonic quality, even if it means sacrificing personal meaning); or, endings might prompt the opposite: People may instead choose a restaurant they feel personally connected to above all, independent of the food’s taste (i.e., perhaps endings lead people to care mostly about ensuring personal meaning, even if it means sacrificing hedonic quality). We hypothesized that the latter takes priority specifically in ending contexts, as revealed when people are forced to make trade-offs between these features.

Method

Participants

We requested 2,000 “Cloud Approved” participants through Cloud Research, yielding 2,004 ($M_{age} = 40.39$, $SD_{age} = 12.58$; 48.25% female; 25.65% non-White), who participated for \$0.30 (sensitivity analysis: minimum effect size that can be detected by this sample size is $\eta_p^2 = 0.06$).

Procedure

Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) \times 2 (hedonic quality: high vs. low, between subjects) \times 2 (personal meaning: high vs. low, between subjects) design (thus yielding 8 unique cells; $ns \geq 228$).

All participants evaluated the same single domain (new to this experiment), involving taking a leisurely walk. To begin, they read:

Imagine you’re heading out to take a walk around town. There are various kinds of routes in town to take. However, due to temporary construction lasting only for today, here’s the specific route that you have to take . . .

Participants were then randomly assigned to condition, in which we varied the hedonic and sentimental properties of the route as well as its temporal context.

Regarding hedonic and sentimental properties, all participants learned where the route fell on *hedonic quality* (high or low) and where it fell on *personal meaning* (high or low), presented in randomized order. For *hedonic quality*, they read that this particular route “happens to rank high [low] on exciting stimulation for you (for example: this route has many [few] interesting sights, smells, and sounds for you to explore/enjoy.” For *personal meaning*, they read that this same route also “happens to rank high [low] on sentimental connection for you (for example: this route is related [unrelated] to your ‘life story’/‘who you are’ in this town).”

With their specific route configuration in place, all participants were further assigned to one of two context conditions that varied the walk’s temporal backdrop. *Control* participants faced no end-related restrictions. They read:

The season is in full swing. This means that, after today’s walk, you’ll still be able to take many more walks (anywhere) this season; today by no means marks your last time this season taking a walk like this.

By contrast, *ending* participants read:

The season is coming to an end. This means that, after today’s walk, you will not be able to take any more walks (anywhere) this season; today marks your last time taking a walk like this.

All other procedures and phrasings were identical across conditions, with all participants completing the same key dependent variable: They rated a single item regarding their reaction to taking their specifically configured route, from $-5 = \textit{terrible fit for this particular occasion; I'm especially bummed}$, to $+5 = \textit{perfect fit for this particular occasion; I'm especially thrilled}$ (with the scale midpoint $0 = \textit{does not matter; no strong feelings either way}$). We hypothesized to find a critical three-way interaction, such that imbuing the route with high personal meaning would boost evaluations regardless of the route's hedonic quality (and vice versa)—but specifically for ending participants, the boost from meaning would be *even more pronounced* than the boost from hedonic quality. This pattern would thus highlight a special link between *meaning* and *endings*.

Other Variables. At the end of the study, all participants completed the same other variables from Experiment 1, plus three attention checks: one about the topic of the study (forced choice: *taking leisurely strolls through town; reading books by William James; planning Halloween parties*); one about their assigned route condition (forced choice from 1 of 4 options, corresponding to each combination of high/low hedonic quality and high/low meaning); and one about their assigned context condition (forced choice from 1 of 2 options: the control prompt or the ending prompt). They also completed the same honesty check from the previous experiment.

At the end of the study, and of more substantive relevance, we also asked all participants a confirmation question whereby they generally categorized each of two walking routes: one that is “high in sentimental connection + low in exciting stimulation” and another that is “low in sentimental connection + high in exciting stimulation.” Namely, we asked participants to designate one of these routes as being more likely to be an “old route (done it before)” and the other as being more likely to be a “new route (haven't yet done it).” We hypothesized that most participants would categorize these routes as we assume they exist in daily life—with the sentimental route as the old route and the stimulating route as the new route. Such a finding would help confirm that if our main test finds that ending participants indeed show a unique boost

toward the high-meaning option over the high-quality option, then this effectively translates into showing an increased preference for *familiarity* over novelty (as in prior studies).

Results and Discussion

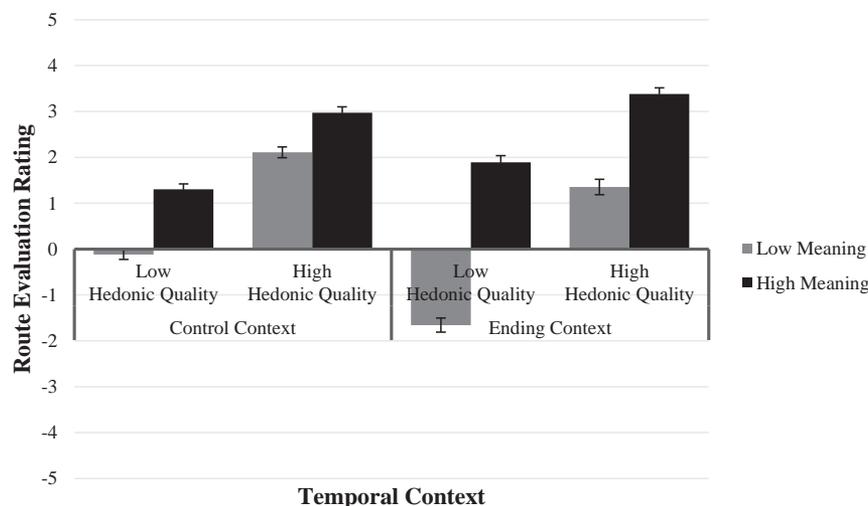
We conducted univariate GLM analyses, entering context (control vs. ending), hedonic quality (high vs. low), personal meaning (high vs. low), and their interaction terms as independent variables, and route evaluation (the single item ranging from -5 to $+5$) as the dependent variable.

Main Results (Route Evaluation)

See Figure 4 for all results. Of key interest, we indeed observed a significant three-way interaction as hypothesized, $F(1, 1996) = 6.16, p = .013, \eta_p^2 = 0.003$. All remaining output aside from this key interaction includes the following: main effect of context, $F(1, 1996) = 11.28, p = .001, \eta_p^2 = 0.01$; main effect of hedonic quality, $F(1, 1996) = 476.78, p < .001, \eta_p^2 = 0.19$; main effect of meaning, $F(1, 1996) = 417.29, p < .001, \eta_p^2 = 0.17$; Context \times Hedonic quality, $F(1, 1996) = 2.42, p = .120, \eta_p^2 = 0.001$; Context \times Meaning, $F(1, 1996) = 73.40, p < .001, \eta_p^2 = 0.04$; Hedonic Quality \times Meaning, $F(1, 1996) = 29.29, p < .001, \eta_p^2 = 0.01$.

First, generally speaking (and unsurprisingly): Pairwise comparisons show that imbuing the route with hedonic quality indeed boosted positive evaluations of it, regardless of its personal meaning and its temporal context. Control participants, for example, evaluated the *low-meaning* route more positively when it had higher ($M = 2.11, SD = 1.89$) versus lower ($M = -0.12, SD = 1.67$) hedonic quality, $t(508) = 14.15, p < .001, d = 1.25$. They likewise evaluated the *high-meaning* route more positively when it had higher ($M = 2.97, SD = 1.94$) versus lower ($M = 1.30, SD = 1.96$) hedonic quality, $t(485) = 9.42, p < .001, d = 0.86$. However, such results are unsurprising on their own because, all else equal, hedonic quality is presumably a desirable property for *any* experience to have.

Figure 4
Experiment 6: Mean Route Evaluation Ratings Across Conditions (± 1 SE)



Second, generally speaking (and also unsurprisingly): Pairwise comparisons show that imbuing the route with meaning indeed boosted positive evaluations of it, regardless of its hedonic quality and its temporal context. Control participants, for example, evaluated the *low*-hedonic-quality route more positively when it was more ($M = 1.30$, $SD = 1.96$) versus less ($M = -0.12$, $SD = 1.67$) personally meaningful, $t(514) = 8.87$, $p < .001$, $d = 0.78$. They likewise evaluated the *high*-hedonic-quality route more positively when it was more ($M = 2.97$, $SD = 1.94$) versus less ($M = 2.11$, $SD = 1.89$) personally meaningful, $t(479) = 4.92$, $p < .001$, $d = 0.45$. Much like hedonic quality, such results are unsurprising on their own because, all else equal, personal meaning is presumably a desirable property for *any* experience to have.

Third, and most informatively: The three-way interaction indicates that this positive effect of personal meaning was uniquely stronger than the effect of hedonic quality for one group of participants in particular: our *ending* participants. Ending participants evaluated the route more positively when it was more (vs. less) personally meaningful ($M_{\text{High Meaning}} = 2.65$, $SD_{\text{High Meaning}} = 2.34$ versus $M_{\text{Low Meaning}} = -0.06$, $SD_{\text{Low Meaning}} = 2.97$); as compared to control participants ($M_{\text{High Meaning}} = 2.08$, $SD_{\text{High Meaning}} = 2.12$ versus $M_{\text{Low Meaning}} = 0.99$, $SD_{\text{Low Meaning}} = 2.10$), $F(1, 1996) = 73.40$, $p < .001$, $\eta_p^2 = 0.04$. Crucially, this boost was *especially strong* relative to how positively they evaluated the route when it was of higher versus lower *hedonic quality* ($M_{\text{High Quality}} = 2.36$, $SD_{\text{High Quality}} = 2.65$ versus $M_{\text{Low Quality}} = 0.17$, $SD_{\text{Low Quality}} = 2.93$); as compared to control participants ($M_{\text{High Quality}} = 2.52$, $SD_{\text{High Quality}} = 1.96$ versus $M_{\text{Low Quality}} = 0.59$, $SD_{\text{Low Quality}} = 1.95$), $F(1, 1996) = 2.42$, $p = .120$, $\eta_p^2 = 0.001$, as indicated by the significant three-way interaction reported above.

Put another way: Regardless of a stimulus' hedonic quality, its *personal meaning* matters more when endings are looming than when they are not (on average, the degree of meaning shifted route evaluations by 2.72 points during endings and by 1.10 points during nonendings). These differences are larger in the context of endings than the differences for hedonic quality, regardless of the route's personal meaning (on average, the degree of hedonic quality shifted route evaluations by 2.19 points during endings and by 1.92 points during nonendings). While both personal meaning and hedonic value mattered for route evaluations in general, when things were ending, personal meaning mattered more than hedonic quality.

Other Results

There were incidental differences between conditions on study confusion ($M_{\text{Ending}} = 1.53$, $SD = 1.10$ versus $M_{\text{Control}} = 1.69$, $SD = 1.28$), $t(2002) = 3.12$, $p = .002$, $d = 0.14$, (all effects hold when controlling this variable), and no difference on mental imagery ($M_{\text{Ending}} = 5.04$, $SD = 1.64$ versus $M_{\text{Control}} = 5.03$, $SD = 1.64$), $t(2002) = 0.20$, $p = .842$, $d = 0.01$. Most participants passed the attention check for what the study was about (98.75%, 1,979 of 2,004), the attention check for their route condition (89.87%, 1,801 of 2,004), the attention check for their context condition (95.61%, 1,916 of 2,004), and the honesty check (99.10%, 1,986 of 2,004).

In addition, as revealed by our end-of-study confirmation item, nearly all participants (90.27%, 1,809 of 2,004) indeed categorized a route that was high on meaning (but low on hedonic quality) as more likely to be the old route, and a route that was high on hedonic quality (but low on meaning) as more likely to be the new route.

These findings simply confirm that our observed boosts to evaluations of personally meaningful routes in our main results most likely reflect increased preferences for familiar experiences over novel ones (as in our prior studies).

Finally, all patterns remain when reanalyzing the results while entering study confusion, mental imagery, and demographic information as covariates, and when excluding attention check and honesty check failures, and also those who answered the reverse of what was expected on our route-categorization item (see Supplemental Materials).

Experiment 6 highlights a special link between meaning and endings as hypothesized: By forcing participants to trade off meaning and hedonic quality, we directly establish that the desire to ensure a personally meaningful experience is an especially strong driver of the basic effect, relative to the desire to ensure hedonic quality (another clearly important feature of any hedonic experience). Participants *still* preferred to end meaningfully even when they knew that this meant sacrificing other thrills—dull endings remained desirable so long as they felt meaningful.

Experiment 7: Meaning as Mediator (Real Choice)

To sum our mechanism evidence so far: Experiment 5 showed that the basic effect (i.e., a directional shift toward familiarity in the context of endings) is driven by endings increasing people's desire to take the *safe bet* for having a positive experience, which tends to be better satisfied by familiar experiences than novel ones. Experiment 6 then unpacked the underlying components of this ensured positive experience by showing via a moderation-based approach that people are specifically driven to ensure a *meaningful* ending (vs. ensure hedonic quality).

Putting these findings together, Experiment 7 returned to a mediation-based approach, but we now assessed this personal meaning dimension more precisely (i.e., beyond simply being a "safer bet"). We hypothesized that endings would again shift preferences toward the familiar and that this occurs because endings specifically shift preferences toward a safer bet on *meaning*.

Method

Participants

Similar to Experiment 3, we utilized a screening procedure near the start of the study (see Procedure section) such that we preregistered to recruit 575 participants who successfully passed, who then proceeded to complete the study. In total, we ended up recruiting 618 participants before meeting this threshold.

Thus, the present study involved 580 successfully screened participants (representing an attrition rate of just 6.15%⁷; $M_{\text{age}} = 40.38$,

⁷ As seen in our preregistration, we had requested 575 participants in order to account for any potential attrition based on this screening item, with the goal of yielding ~500 successfully screened participants. Unbeknownst to us when designing the study, however, the posting of the study would exclude any participants who would be screened out from counting toward our requested quota (i.e., by us requesting 575 participants, the platform then collected approximately 575 *successfully screened* participants, which we learned upon checking the data). When rerunning all analyses *only* including the first 575 *chronologically* participating participants—as had been our preregistered intended mark—our attrition rate was just 6.43%, and all reported results remain unchanged (see Supplemental Materials).

$SD_{age} = 13.09$; 48.97% female; 27.24% non-White) who participated for \$1.50 (sensitivity analysis: minimum effect size that can be detected by this sample size is $\text{Exp}(B) = 1.53$).

Procedure

Participants were randomly assigned to a 2 (context: control vs. ending, between subjects) design.

In addition to this experiment's main goals of replicating the basic effect and assessing meaning-specific mediation, we also extended the paradigm to another new domain involving real behavior: listening to one's choice of music. Procedures were generally similar to the Lab Challenge from Experiment 3—participants were assigned to either give up or not give up listening to music for pleasure for 1 week, then we measured what kind of song they chose for their “last hurrah” (or ordinary listening experience without any restrictions). As before, participants chose between a new interest versus an old favorite and here we also assessed the *reason* for their choice.

The study was not made available to anyone participating on a phone or tablet. Right at the start of the study, all participants reported their demographic information, how much they enjoy listening to music (1 = *not at all*; 7 = *very much*), what they usually do when listening to music (forced choice: *explore yet-unheard music*; *relisten to already-heard music*; *a mix of these*), and how frequently they listen to music (forced-choice from 0 = *days week, on average* to 7 = *days a week, on average*).

They then completed our screening procedure: As in Experiment 3, all participants were informed that they would be entered into a lottery that would randomly select some of them to complete a self-control study. In that study, they would be required to give up listening to music for 1 week starting that day, immediately upon finishing the study. They were asked whether they were willing to proceed (forced choice: *no*; *yes*), knowing they might be selected for this self-control study. As preregistered, only those participants who indicated “yes” were retained and proceeded to the study measures; those who indicated “no” were thanked and dismissed.⁸

All “yes” participants (i.e., our entire reported sample from this point on, $N = 580$) then proceeded to complete the study. First, all participants were asked to identify a novel song (a “new and exciting” song that they have “never heard before at all; it’s ‘still on [their] list’”) and a familiar song (an “old and familiar” song that they have “heard before many times”), in randomized order. Via guided prompts, participants were instructed to identify and locate each song via browsing YouTube (without listening to either song yet), and then upload each song’s YouTube link within the study survey.⁹

Next, participants were then randomly assigned to condition. We conducted the self-control lottery exactly as described, with some participants learning they were *not* selected for this self-control study (*control* condition, $n = 288$) and others learning they *were* selected for this self-control study (*ending* condition, $n = 292$). Thus, control participants did not face a looming ending, while ending participants indeed faced a looming ending because they would have to give up listening to music for the next week, starting immediately after completing the study.

Then, serving as our key dependent variable, all participants were asked to choose which of their two songs they wanted to listen to, right then and there as part of the study: their self-chosen *new and exciting* novel song or their self-chosen *old and familiar* repeat song

(these two choice options were piped in and displayed in randomized order). We hypothesized that more ending participants would choose to relisten to their familiar song than control participants.

In addition, all participants indicated *why* they chose whichever song they chose, which served as our proposed mediator (presented in randomized order with the choice measure).¹⁰ They were asked: “What are you mainly trying to prioritize regarding your choice?,” rated from 1 (*I prefer something that’s maximally fun/stimulating, even if I don’t yet have deeper sentimental feelings for it*) to 7 (*I prefer something that I have deeper sentimental feelings for, even if it’s not maximally fun/stimulating*).¹¹ As in our previous experiment, we randomized the presentation order of scale anchors (sometimes *fun* was described first and placed on the left-most scale anchor; other times *sentimental* was described first and placed on the left-most scale anchor). We hypothesized that ending participants would uniquely shift their preferences toward personal meaning, thus explaining their potential increase in choosing the familiar song over the novel one.

Other Variables. Whatever song participants chose, we then played with its audio in full (piped in from participants’ uploaded links), embedded in our survey to ensure participants listened. After, all participants rated their enjoyment of the experience (1 = *very negative*; 11 = *very positive*), completed a manipulation check regarding the extent to which they were assuming they were listening to music for the last time for a week (1 = *definitely not imagining this*; 7 = *definitely was imagining this*), completed an attention check regarding their context condition (forced choice: *selected for the lottery*; *not selected for the lottery*), reported any technical problems or confusions (forced choice: *no*; *yes [explain]*), and completed the same honesty check from previous experiments. To end, all participants were informed that there was no such self-control study but we encouraged them to spend the week as instructed if they were interested.

⁸ Having learned from Experiment 3—where we did not put participant-level questions before the screening item (and thus could not assess selective attrition)—note here that we intentionally included the demographic/music questions *before* the screener, allowing us to assess these potential effects. As we reported earlier, we ended up recruiting a total of 618 participants before meeting this threshold (representing an attrition rate of just 6.15%). Participants who opted out tended to be older ($p = .039$), and more frequently listen to music ($p = .008$) than participants who opted in. We found no other differences beyond these. When rerunning all analyses when controlling for these variables, all reported results remain unchanged (see Supplemental Materials).

⁹ Simply for thoroughness (as preregistered), we also asked participants to rate each song on basic dimensions like genre and length. There were no systematic differences in songs across conditions (see Supplemental Materials).

¹⁰ Due to a programming error that we only discovered upon downloading the data, this presentation order had not been randomized for ending participants, who all rated the dependent variable first, followed by the mediator item.

¹¹ We opted to use a single item that forced a tension between quality and meaning, rather than measure each of these dimensions separately, to help isolate which feature matters more for explaining the basic effect. Separate items would invite participants to rate both equally highly (which they unsurprisingly *should* do if they are able to, as both are desirable properties for an experience to have), thereby obscuring the statistical detection of which matters more.

Results and Discussion

Main Results (Song Choice)

We conducted logistic regression analyses, entering context as a predictor of song choice (novel vs. familiar song).

As hypothesized, participants' song choice depended on temporal context: Significantly more ending participants (59.59%, 174 of 292) than control participants (39.93%, 115 of 288) chose to listen to their *old and familiar* song over their *new and exciting* song, $B = 0.80$, $SE = 0.17$, $p < .001$, $\text{Exp}(B) = 2.22$.

Main Results (Reason for Song Choice)

For the mechanism item, we recoded responses where applicable, such that higher ratings indicated a stronger motivation to choose a personally meaningful song (vs. a maximally fun/stimulating song). We then conducted an independent-samples t test with condition as the independent variable and this rating (1–7) as the dependent variable.

We again found evidence for *why* participants made these choices: As hypothesized, ending participants were significantly more motivated to listen to a personally meaningful song ($M = 4.22$, $SD = 2.20$) as compared to control participants ($M = 3.52$, $SD = 1.86$), $t(578) = 4.14$, $p < .001$, $d = 0.34$.

Mediation Analyses

In turn, mediation analyses (SPSS PROCESS Model 4, 5,000 bootstrapped iterations) using context (control vs. ending) as the independent variable, song choice (novel vs. familiar song) as the dependent variable, and meaning ratings as the mediator revealed a significant indirect effect via meaning, indirect effect = 0.62, $SE = 0.16$; 95% CI_{boot} [0.33, 0.95], indicating mediation.

Other Results

The results of the manipulation check confirmed that ending participants had endings on their minds ($M = 5.40$, $SD = 1.89$) to a greater degree than control participants ($M = 2.62$, $SD = 2.10$), $t(578) = 16.77$, $p < .001$, $d = 1.39$. Most participants passed the attention check (98.79%, 573 of 580) and the honesty check (99.14%, 575 of 580), and reported having no technical problems (98.10%, 569 of 580). Regarding our general start-of-study items, participants largely reported enjoying listening to music in everyday life (overall, $M = 6.26$, $SD = 0.94$), listening to a mix of new and old music (overall, chosen by 48.62%, 282 of 580; with the remaining 47.76% mostly relistening to old music, and 3.62% mostly listening to new music), and listening to music frequently (overall, $M = 6.45$, $SD = 1.80$, i.e., about 5 days a week). Regarding their actual enjoyment of their chosen song within the study, participants (unsurprisingly) highly enjoyed whatever they freely chose (overall, $M = 9.55$, $SD = 1.84$).¹²

Finally, all patterns remain when reanalyzing the results while entering all demographic information as covariates, as well as actual song enjoyment and general music preferences, and also when excluding participants who failed any of the checks (see Supplemental Materials).

Experiment 7 provides direct support for our proposed process of personal meaning driving the basic effect. Having to give up

listening to music for the coming week prompted participants to care more about ending on a *meaningful* note (even if that note was not maximally hedonically stimulating)—which explained why they selected a *familiar* song on which to end.

Experiment 8: Naturalistic Application as COVID-19 Closed Hedonic Windows

Finally, we took advantage of a naturalistic shock—COVID-19 activity closures—to explore these dynamics in a new real-world context. As the ongoing COVID-19 pandemic first took hold of American attention in Spring 2020, the restaurant industry was at the forefront of activities announcing temporary closures (i.e., by suspending in-person dining; Severson & Moskin, 2020). This created an unusual but consequential ending window whereby people faced dwindling opportunities to enjoy dining out at restaurants for the coming future (news outlets provided ongoing coverage as states announced stay-at-home orders on a rolling basis over the course of 3 weeks, starting as early as March 19, 2020; Mervosh et al., 2020). Experiment 8 capitalized on this window. We assessed participants' preferences for pursuing desired familiar restaurants versus desired novel restaurants as their restaurant opportunities were coming to a halt. We hypothesized that participants would be especially likely to prefer an old-favorite restaurant for their “last time out” before closures took effect—and that the motivational pull of returning to *personally meaningful* experiences during endings would drive this shift.

Method

Participants

We requested 600 participants through Cloud Research, yielding 607 ($M_{age} = 36.28$, $SD_{age} = 11.67$; 37.73% female; 27.68% non-White), who participated for \$0.70 (sensitivity analysis: minimum effect size that can be detected by this sample size is $\text{Exp}(B) = 1.51$).

Procedure

We administered two separate study tasks, all with the same participants, taken one at a time in randomized order. We launched the single survey link, which contained all measures, on March 25, 2020.

In both tasks, participants were asked to choose which of two restaurants they would prefer: “A restaurant that I haven't gone to before and would absolutely love to eat at” (novel option) versus “A restaurant that I have gone to before and absolutely loved eating at” (familiar option). The central idea behind each task was to assess

¹² While actual enjoyment is an important matter to understand well, we did not preregister to find any particular pattern regarding this item, as it is independent from the basic effect on choice and preferences documented in the present article. Moreover, the question of whether choices indeed translate into actual experience is a large one that this particular experimental design may not be well-suited to answer. Unrelated factors like ceiling effects (given such high average enjoyment) and experimenter demand or social desirability effects (there may be a tendency to report artificially high enjoyment to appear to justify one's earlier choice) suggest that more carefully designed studies may be necessary to gauge actual enjoyment. We discuss this issue and provide preliminary data on this topic in the General Discussion section. See Supplemental Materials for all specific enjoyment ratings from this experiment.

whether restaurant shutdowns were leading people to shift toward familiar (vs. novel) restaurant choices for their final opportunities to enjoy dining in restaurants. We attempted to bottle this idea in two different ways.

Task 1. For Task 1, participants imagined going to dine in person at a sit-down restaurant and were randomly assigned to a 2 (context: control vs. ending, between subjects) design. In the key *ending* condition, participants ($n = 303$) were instructed to make their choice as if it were “1 week ago,” marking their last time going out to dine indoors before the shutdown. For a nonending comparison, *control* participants ($n = 304$) were instead instructed to make their choice as if it were “2 months ago,” before any knowledge of impending restaurant shutdowns. We hypothesized that more ending participants than control participants would report preferring to dine in a familiar (vs. novel) restaurant.

Task 2. If we indeed found this effect, however, one alternative explanation is that ending participants chose the familiar option because they were signaling support for known or close others during hard times and not because restaurants opportunities were ending, per se.

We designed Task 2 to rule out this possibility. Participants were again randomly assigned to a 2 (context: control vs. ending, between subjects) design. In the key *ending* condition, participants ($n = 304$) were asked to indicate which of two descriptions (using the *familiar* and *novel* options as above) better described where they dined in person most recently for their *final* indoor dining opportunity before the impending shutdown. As opportunities to dine indoors were ending during this temporal window, this answer exists within an ending context.

For our nonending comparison in this task, *control* participants ($n = 303$) were asked to indicate which of these same descriptions better described from where they intended to order food for delivery for their *next* delivery opportunity. As delivery services continued to be available after indoor dining shut down, this choice does *not* exist within an ending context (even though it occurs during the same temporal window). In this task, if participants simply wanted to signal support for known or close others during hard times, then they would be just as likely to choose a familiar option for both indoor dining and delivery. However, we hypothesized that participants would be more likely to choose a familiar restaurant specifically in an *ending* context (i.e., when choosing for their *final* dine-in opportunity) compared to a nonending context during the same hard times (i.e., when choosing for their *next* delivery opportunity).

After making their choices, we also asked all participants (separately for each task) why they chose whichever option they chose, as rated on various dimensions. Of key interest, they rated the importance of *personal meaning* via the following item: “Because this kind of place, during this window, is especially important for my meaning/connection (e.g., I feel close with this place and its people),” from 1 (*not an especially big part of my thinking here*) to 7 (*an especially big part of my thinking here*).¹³ Also separately for each task, all participants completed a manipulation check (as in previous studies) regarding the extent to which they assumed they were making their “last” choice when making each choice (1 = *not at all*; 7 = *very much*).

Other Variables. At the end of the study and after both tasks, participants reported their demographic information and any technical problems or confusions with the studies (forced choice: *no, yes [explain]*). We also asked participants to report their current

quarantine status (forced choice: *currently self-quarantined; plan to self-quarantine in the near future; no plans to self-quarantine*), their current location (city and state), and the state of the “restaurants, stores, and other public offerings” near them (forced choice: *most things are now closed; most things are still open*). Finally, we were also curious to assess participants’ general thought content during this unique window. They independently rated two items (in randomized order): the extent to which pandemic shutdowns were making them think about exploring novel experiences and also simply returning to old-favorite experiences, with each item rated from 1 (*not at all*) to 7 (*a lot*).

Results and Discussion

Main Results (Restaurant Choice)

Separately for each task, we conducted logistic regression analyses, entering context (control vs. ending) as a predictor of restaurant choice (novel vs. familiar restaurant).

For Task 1: As hypothesized, significantly more ending participants (75.91%, 230 of 303) than control participants (60.20%, 183 of 304) preferred to dine in at a familiar restaurant rather than a novel one, $B = 0.73$, $SE = 0.18$, $p < .001$, $\text{Exp}(B) = 2.08$.

Likewise, for Task 2: Significantly more ending participants (80.59%, 245 of 304) than control participants (62.71%, 190 of 303) chose a familiar restaurant rather than a novel one, $B = 0.90$, $SE = 0.19$, $p < .001$, $\text{Exp}(B) = 2.47$.

Main Results (Reason for Choice)

Separately for each task, we conducted independent-samples t tests with context (control vs. ending) as the independent variable and rating of pursuing personal meaning (single item ranging from 1 to 7) as the dependent variable.

For Task 1: As hypothesized, ending participants were significantly more likely to make their restaurant choice based on personal meaning ($M = 4.62$, $SD = 1.94$) as compared to control participants ($M = 4.05$, $SD = 1.87$), $t(605) = 3.67$, $p < .001$, $d = 0.30$.

Likewise, for Task 2: Ending participants were again significantly more likely to make their restaurant choice based on personal meaning ($M = 4.73$, $SD = 1.83$) as compared control participants ($M = 4.24$, $SD = 1.89$), $t(605) = 3.24$, $p = .001$, $d = 0.26$.

¹³ All participants also rated two other dimensions (all presented in randomized order and rated via the same scale): *hedonic pleasure*: “Because this kind of place, during this window, is especially important for my hedonic pleasure (e.g., the pure taste of the food itself, and only the taste);” and *mere certainty*: “Because this kind of place, during this window, is especially important for my mere certainty (e.g., it’s just a place I happen to know well about, even if I know it’s not good or to my taste, and even if I know I have no personal connection there).” As can be seen in our preregistration, we did not preregister hypotheses for these two items; instead, we specifically preregistered the hypothesized effect for *meaning*, as reported. Because the pandemic shutdown is such a unique context, we were curious to assess other potential motivations people might have wanted to satisfy, measured independently (e.g., note that participants were free to rate all three dimensions equally highly, by design, but doing so also obscures the statistical detection of which matters “most”). See Supplemental Materials for details and results. Later in the main text, we report key insights when comparing all dimensions (see next footnote, in Experiment 8’s Results section).

Mediation Analyses

To more directly assess this driving influence: Separately for each task, we conducted a mediation analysis (SPSS PROCESS Model 4, 5,000 bootstrapped iterations) using context (control vs. ending) as the independent variable, restaurant choice (novel vs. familiar restaurant) as the dependent variable, and meaning rating as the mediator. This analysis indeed revealed a significant indirect effect via meaning ratings for both Task 1, indirect effect = 0.19, $SE = 0.06$; 95% CI_{boot} [0.08, 0.32], and Task 2, indirect effect = 0.11, $SE = 0.04$; 95% CI_{boot} [0.04, 0.21], indicating mediation.¹⁴

End-of-Study Items: General Thought Content as COVID-19 Closures Unfolded

Along with these main results, we also happened to observe parallel effects on our end-of-study items regarding general thought content: Participants reported that their thoughts were dominated by desires to enjoy familiar experiences ($M = 4.71$, $SD = 1.72$) over new experiences ($M = 3.25$, $SD = 1.90$) as things around them were shutting down, $t(606) = 14.30$, $p < .001$, $d = 0.58$ (see Supplemental Materials).

Other Variables

For Task 1, the results of the manipulation check confirmed that ending participants had endings on their minds ($M = 5.21$, $SD = 1.83$) to a greater degree than control participants ($M = 3.04$, $SD = 2.09$), $t(605) = 13.61$, $p < .001$, $d = 1.11$; the same difference was found for Task 2 ($M_{Ending} = 4.82$, $SD = 1.91$ versus $M_{Control} = 3.68$, $SD = 1.93$), $t(605) = 7.26$, $p < .001$, $d = 0.59$. Most participants reported having no technical problems (99.34%, 603 of 607). Most participants reported they were currently self-quarantining (85.83%, 521 of 607), while some reported planning to self-quarantine in the near future (5.44%, 33 of 607), and others reported not having any plans to self-quarantine (8.73%, 53 of 607). As can be seen in our data file, we recruited participants from across the country (there are 400 unique city/state responses; we encourage researchers to explore these data for their own research).

Finally, all patterns remain when reanalyzing the results while entering all checks and demographic information as covariates (see Supplemental Materials).

Experiment 8 again replicated the basic effect, and again found that meaning played a mediating role in producing it—this time across varied study tasks related to more naturalistic ending contexts.

General Discussion

How do people fill their free time? Countless answers to this question boil down to just one of two kinds. On the one hand, we can return to the past and repeat experiences we have had before—we could rewatch a classic movie, reorder a favorite dish, and revisit a beloved travel destination. On the other hand, we can venture into the future and try something new—we could check out the newest blockbuster, spring for the soup du jour, and take the road less traveled.

The present research reveals that people adjust their answer to this question depending on their temporal context. In ending contexts—that is, when people perceive a shrinking window of opportunity to

enjoy some type of activity (even if it's only temporary)—their hedonic preferences directionally shift away from novelty and toward familiarity (holding constant other factors like cost, availability, and convenience between such options). We observed this effect across many populations, hedonic domains, instantiations of ending contexts, and actual choices and behaviors. Furthermore, we found that this effect appears to be driven by a desire to avoid risk and end things on a safely known note—specifically, a *personally meaningful* note—which familiar experiences typically promise to a greater extent than novel experiences. Moreover, this shift occurs even when valuing meaning means sacrificing other desirable attributes (e.g., exciting stimulation).

Insights and Implications

On the one hand, some of our results replicate and extend the widely documented appeal of novelty (e.g., Lyubomirsky et al., 2005; Sheldon et al., 2013). Although three of our seven applicable experiments (i.e., including all but Experiment 6) showed that ending contexts led to an *absolute* shift in preferences, where the majority of participants switched from preferring novelty to preferring familiarity (Experiments 2, 4, and 7), the other four experiments showed a *relative* shift, where ending participants shifted their preferences toward familiarity more than control participants, but the majority in both conditions still consistently preferred novelty (Experiments 1 and 5) or familiarity (Experiments 3 and 8). Either way, the fact that we found that ending contexts (even impermanent ones) consistently shifted people toward preferring the familiar—in spite of novelty's well-established gleam—is perhaps a testament to familiarity's own unique pull that is yet underemphasized in the literature.

Indeed, a large psychological literature has examined the relative value of pursuing new ventures versus sticking with the status quo (e.g., research on exploration-exploitation trade-offs; see Mehlhorn et al., 2015, for a review). An equally impressive literature has examined resource restrictions and how they affect psychological functioning (e.g., opportunity scarcity; see Shah et al., 2012, for a review). Our research makes numerous contributions at the intersection between these long-standing lines of research.

The Meaning of “High Note”

Our findings unveil nuance in what people really mean by “ending on a high note.” All else equal, this motivation often translates into an increased pull to end on a *meaningful* note. As we detail below, we add to research on permanent endings and end-of-life effects, particularly as studied by socioemotional selectivity theory (SST; Carstensen et al., 1999), in several substantive ways. Taken together, our findings help bolster key theoretical claims and

¹⁴ Of all three rated dimensions (see Supplemental Materials): Hedonic pleasure was highest, but showed no difference across conditions and thus did not mediate the effect. Mere certainty resembled the patterns of personal meaning, and the two were highly correlated at $r = .34$ (Task 1) and $r = .31$ (Task 2), $ps < .001$. When rerunning our main mediation analyses while controlling for hedonic pleasure and mere certainty, all results are unchanged: The indirect effect of context on restaurant choice via personal meaning remained significant; Task 1: indirect effect = 0.12, $SE = 0.05$; 95% CI_{boot} [0.03, 0.22]; Task 2: indirect effect = 0.06, $SE = 0.03$; 95% CI_{boot} [0.01, 0.14].

suggest that end effects are perhaps even more malleable and broadly applicable (e.g., across domains, types of endings) than has been shown previously.

First, SST research typically examines preference shifts in the context of permanent (or seemingly permanent) endings (e.g., dying, moving across the country). While such experiences unambiguously represent ending contexts, there is still ambiguity about the boundaries of what people consider an “ending.” For SST’s predictions to apply, do endings require finality (where opportunities are lost *forever*) or are explicitly nonfinal endings (where lost opportunities will return in the future) treated the same way? Our findings reveal that end effects do not require a literal loss of opportunities and can simply entail perceived restrictions (e.g., Experiment 4). As such, we hope to plant a seed for future research to explore further nuances of *impermanent* endings, which are presumably quite common in everyday life, yet are less studied in the literature.

Second, we advance SST by providing empirical evidence for one of its key theoretical predictions—that endings prompt the pursuit of meaning. The theoretical underpinnings of SST predict meaningful pursuits of all kinds. Yet, the typical empirical evidence to date (to our knowledge) is comprised of studies that assess behavioral outcomes which *presuppose* a desire for meaning rather than measure it directly, and do so specifically within (or using) the social domain (e.g., by measuring older adults’ partner choices). Our findings provide direct empirical support for meaning far beyond the social domain.

Third, to our knowledge, one key facet of SST is that shrinking time horizons make people prefer socializing with close others because they lack the time needed to turn strangers into friends. That is, such situations would fail to provide experiences that could be meaningfully enjoyed *right now*, during the only window of opportunity such individuals have left (e.g., Fredrickson & Carstensen, 1990). Our findings reveal that such a “learning curve” is not required for SST-type effects to still emerge. Indeed, note that this assumption pits a familiar option against a novel option that is objectively worse (e.g., a warm interaction with a friend vs. an awkward interaction with a stranger). Experiences like these confound the pursuit of a meaningful experience with the pursuit of *any* superior experience. We rule out this potentially confounding explanation by (a) directly measuring meaning (as noted above); (b) examining domains for which first-time exposures should be immediately enjoyable without any “warm up” (e.g., enjoying a long-desired new dessert is unlike awkwardly meeting a new stranger); and (c) holding constant other dimensions of value between novel and familiar options (including cases in which the *familiar* choice comes with sacrificed desirability). The fact that SST-type effects still emerge in such conditions suggests they are influenced by additional mechanisms and are perhaps even more broadly applicable than is currently depicted in the literature.

Lastly, our findings shed light on the extent to which the pursuit of familiar experiences in ending contexts includes the pursuit of *repeat* experiences. In a typical SST study, participants might be found to prefer the familiar choice of socializing with close others—but note that each of these interactions is still its own new experience in a way that is not identical to rewatching the same exact movie or relistening to the same exact song (for example). Further expanding the potential parameters of SST, our findings reveal that SST-type predictions may hold for truly repeated experiences beyond

the simply “familiar” aspects of those experiences per se (O’Brien, 2021).

Together, these insights hint that the findings of Carstensen and others perhaps *underemphasize* the influence of endings on people’s everyday life experiences. As reviewed in the Introduction, many aspects of life seem to include elements of “coming full circle,” such that endings prompt a return to familiar themes. This pattern may suggest a broader psychological link between endings, familiarity, and meaning, that could manifest in other interesting and yet-undiscovered ways, and may operate through a variety of processes that could include (but are not limited to) socioemotional selectivity effects, occasion matching, processing fluency, risk aversion, and general threat management, among other potentially related, still-unknown dynamics.

Considering this broader effect of endings allows one to valuably revisit past research on maximization motivations in ways that the typical scope of socioemotional selectivity would not have incorporated. For example, the finding that endings prompt more cheating behavior (e.g., Effron et al., 2015) would, on the surface, seem at odds with the finding that endings prompt less cheating behavior (Touré-Tillery & Fishbach, 2012). Our findings help explain this discrepancy: If all participants were fundamentally motivated to end *meaningfully* (as our findings suggest), then the two study contexts must have included their own unique cues that changed what participants found meaningful (e.g., cueing different aspects of *who they are* to be more or less salient—such as the desire to be competent and thus maximize earnings vs. the desire to be moral and thus maximize integrity). As another application, our findings suggest the reputed connection between endings and novelty seeking (e.g., stereotypical notions of the “bucket list”) may be exaggerated. Past studies tended to *only* assess the effects of endings on people’s preferences for *new* activities. Shu and Gneezy (2010), for example, find that people put off visiting novel landmarks until they are expecting to move away, but the research does not assess whether people also become similarly (or *more*) motivated to revisit familiar spots in town. Current understandings of such effects may be skewed toward novelty to the extent that studies only measure novelty seeking behaviors. Pursuing novelty may not be the only thing people do when facing endings, nor may it always be the most likely.

A Closer Look at Hedonic Adaptation, Variety Seeking, and Related Processes

Our findings also highlight that the pull of novelty may not be as uniformly strong as depicted in the literature and in popular culture (e.g., “bucket lists”). We find that endings increase people’s preferences to return to old favorites by their own free choice, suggesting that old and familiar experiences may not hopelessly gather as much dust as is assumed (O’Brien, 2019). This finding is noteworthy in light of positive psychology’s traditionally grim view of constructs like hedonic adaptation as an inevitably dulling force on the value of people’s experiences (e.g., “Hedonic adaptation can be resisted, but only with conscious, active efforts”: Lyubomirsky, 2010, p. 219; “What we miss is one simple thing: Once we have owned the car for a few weeks, other things will be on our minds while driving and we would feel just as well driving a cheaper alternative”: Schwarz & Xu, 2011, p. 144; “This point cannot be overstated: *Every* desirable experience is transitory”: Myers, 1992,

p. 53). Our findings emphasize the need for a better understanding of *when* people overlook the old and familiar beyond the fact that they simply will (Galak & Redden, 2018).

One relevant question on this front is whether our participants were choosing “correctly” by shifting toward familiarity during endings. That is, are endings *actually better* when people choose to end on a familiar note than if they are given a novel equivalent instead? We suspect the answer is often yes, assuming that people generally choose experiences that they will like (albeit imperfectly on the margins: Gilbert & Wilson, 2000). Note that we designed our measures to assess choices that, in principle, bear directly on how people plan and spend their time in the future, including nonhypothetical decisions that tap directly into hedonic preferences.

In any case, we were also curious to test this claim with some initial data: In a posttest emulating the *song* design from Experiment 7 (see Supplemental Materials; preregistration: <https://aspredicted.org/ee5fz.pdf>), we recruited a new sample of participants ($N = 503$; $M_{\text{age}} = 40.21$, $SD_{\text{age}} = 12.41$; 56.06% female; 24.65% non-White; sensitivity analyses' minimum critical effect size, $d = 0.25$), all of whom were assigned to the ending condition. They made their choice for their last song (novel vs. familiar song)—and then, of key interest, we randomly assigned participants to either listen to the song they chose or whichever song they did *not* choose (a feature that circumvents the measurement issues posed back in Footnote 11). Upon completion, they reported their evaluation of this last listening experience (1 = *very negative*; 11 = *very positive*). As it turned out, participants who chose to end on a familiar note were *right* to do so: They enjoyed their last listening experience very much ($M = 10.03$, $SD = 1.43$)—and in fact, if they were given their novel song to end on instead, they would have enjoyed that *less* ($M = 8.42$, $SD = 2.53$), $t(309) = 6.78$, $p < .001$, $d = 0.77$. Meanwhile, the *opposite* pattern emerged the other way around: While participants who chose to end on a novel note also enjoyed their last listening experience very much ($M = 9.30$, $SD = 2.04$)—if they were given their familiar song to end on instead, they would have enjoyed that *just as much*, if not *more* ($M = 9.69$, $SD = 1.62$), $t(190) = 1.41$, $p = .161$, $d = 0.20$.

Thus, all told—although much more research is surely needed on this front, it is worth speculating on the practical implications of our research as it now stands. Again, assuming that people's reported preferences tend to reflect their actual experiences, then our research provides nuance to psychological models of boosting present enjoyment. When people grow bored of something, for example, many positive psychologists *prescribe* that they consume something novel or varied (e.g., Lyubomirsky et al., 2005; Sheldon et al., 2013). Our findings suggest that such models could fruitfully incorporate temporal context to consider that people may become more likely to prefer (and perhaps even benefit from) consuming the same old things—*specifically* during endings (even impermanent ones). This idea adds to recent findings that emphasize the unforeseen value of repeat experiences (O'Brien, 2019, 2021) by suggesting that endings may orient people toward this value.

People may especially enjoy returning to the old and familiar when opportunities feel limited and trying new and exciting things when opportunities feel vast.¹⁵ For themselves, people could structure their hedonic activities in anticipation of this effect—rather than revisit one's old-favorite attraction on Day 1 of a trip to a familiar vacation spot, travelers could save this ritualistic return for the last day of the trip instead. For others, people could strategically exploit

this effect—marketers might advertise vintage offerings near the ends of seasonal cycles; a café that is set to temporarily close for renovations might make more money on tried-and-true best sellers during the weeks leading up to closing; and so forth. Experiment 4's writing task (in which participants brought to mind different upcoming plans) hints at one broadly applicable manipulation of ending contexts: Rather than needing to await an actual closure, for example, a café could simply make a busy (vs. less busy) future more salient to customers to spur their desire for familiar (vs. novel) offerings. Perhaps such psychological framings could be useful for addressing larger societal problems as well, by nudging people toward repeat consumption (e.g., by emphasizing endings and last chances), which could subtly encourage sustainable consumption by curbing the waste that necessarily accumulates from perpetual novelty seeking.

Other Future Directions

These broader insights also invite novel research on the basic effect itself. One question pertains to whether idiosyncratic features of our study designs partly contributed to the effect. For example, in Experiments 5–8 (which tested process), we typically *gave* participants a trade-off between hedonic quality and meaning. We found that endings pulled them toward meaning, but perhaps people might not *spontaneously* bring to mind such dynamics. In a second separate posttest (see OSF; preregistration: <https://aspredicted.org/in9c7.pdf>), we recruited a new sample of participants ($N = 250$; $M_{\text{age}} = 41.28$, $SD_{\text{age}} = 13.13$; 50.40% female; 26.40% non-White; sensitivity analyses' minimum critical effect size, $w = 0.18$), all of whom were asked to imagine it was their “last night in town for a while” and then spontaneously write out the kinds of features they hoped to ensure this night would have (via an open-ended text box; 300-character minimum). After writing, we piped back their freely written response and asked them to code it as mostly describing one of three forced-choice options (shown in randomized order): “ending on a personally meaningful/sentimental note”; “ending on a purely pleasurable/hedonic note”; or “neither of these” options. Just 2.00% of participants chose “neither” (5 of 250); of the rest, more participants spontaneously prioritized ending meaningfully (spontaneously generated by 63.60%, 159 of 250) as compared to ending hedonically (spontaneously generated by 34.40%, 86 of 250), $\chi^2(1) = 21.75$, $p < .001$, $w = 0.29$ (all written responses, in full, are in our data file).

More generally, because we assessed many varied contexts, we presume this basic effect should emerge regardless of whether ending contexts entail dwindling time, money, or energy; whether they are intentional or unplanned, recurring or rare; and so forth. In any case, a systematic taxonomy of different instantiations of ending contexts would prove useful for future research. As noted, one's *very last choice* of what to consume before an ending is not exactly the same as one's *last window of choices* before an ending (during which endings are still top of mind but one's choices are not yet

¹⁵ Our experiments tested the effects of perceived ending contexts on enjoying that specific experiential category, but to the extent that desires for meaning underlie the effect, then similar shifts might also emerge for unlinked events as well—facing the last days of a trip might make an old-favorite movie more appealing, even if one can still freely watch that movie after returning home. Many of the ideas that we propose in this section could test this possibility.

literally the *final* choice); facing *last* opportunities is not exactly the same as facing *limited* opportunities (yet some of our study measures tilted more toward the latter, e.g., in Experiment 4); and shorter ending periods are not exactly the same as longer ending periods (including, e.g., permanent endings) and thus pose different threats. We suspect that differences in how such parameters bear on our results will be a matter of degree. The more that one's "end moment" feels like a personally meaningful *event* (in which the above possibilities, and others, could serve as inputs), the more we would expect our theorized dynamics to play out. Another possibility is that different underlying mechanisms may drive the same effect, depending on the kind of event. In some domains (e.g., socializing, as is assessed in the research of Carstensen and others), endings might lead people to worry about their limited time frame for warming up to a stranger; in other domains (e.g., solo leisure activities, like those that we assess in our research), endings might lead people to worry about being blocked from adequately satisfying a new, piqued interest—but note that in either of these cases, our theory predicts that endings should produce the same directional shift toward familiarity, simply for different psychological reasons.

More research should also scale the basic effect to field settings. Borrowing from major life endings, one suggestive (albeit surely multiply determined) analysis of prisoners' last meals on death row finds that they tend to choose familiar foods, like their go-to cheeseburger, despite being offered a vast array of possibilities that includes other foods that they may have always wanted to try (Jones, 2014). Other field settings might be able to capture such dynamics for more endings as well. The popular music streaming service Spotify offers its users custom-curated playlists, including *Release Radar* and *Discover Weekly* playlists filled with novel songs that users are likely to enjoy, as well as *On Repeat* and *Repeat Rewind* playlists filled with familiar songs based on users' own past song choices (Jacobson et al., 2016). Such offerings parallel our own Experiment 7 in ways that may be fruitfully tapped by future field research.

Future research should also further explore boundaries. First: Our framework suggests that conditions that dissociate perceptions of meaning from familiar options should attenuate the effect. Perhaps stereotypical notions of the "bucket list" rely on this idea—if people at long last pursue an activity that they have spent a lifetime thinking about, it may feel like an old favorite despite technically counting as a novel experience. This might explain why, at least in some cases, other research ostensibly suggests that endings increase novelty seeking over familiarity seeking, as reviewed in the Introduction. Finally visiting a local landmark upon moving away (Shu & Gneezy, 2010) or finally getting around to running one's first marathon upon aging out of one's youth (Alter & Hershfield, 2014) might *actually* reflect the pull of familiarity. These endings may motivate people toward meaningful activities with which they personally identify, and these activities may feel "familiar" despite people having never done them before.

Second: Future research should further unpack how our observed patterns are affected by different methods of measurement. As discussed, there may be differences in how direct these measures are (e.g., Experiment 3's measures were *about* consuming one's chosen experience vs. literally consuming the chosen experience *itself*). Moreover, three of our eight experiments assessed hypothetical laboratory judgments, which may carry unique self-report biases (e.g., experimenter demand, social desirability) that are not present in real, everyday decision-making. Fortunately, our other

experiments help speak to these concerns, at least in part: Participants made real, incentive-compatible choices with real financial costs (e.g., \$30.00 gift cards) and time costs (e.g., actually having to then complete one's chosen activity). In fact, some of these self-report biases work *against* our hypothesis. For example, people tend to seek variety more when in public versus in private (Ratner & Kahn, 2002)—if anything, this would predict all participants would shift toward *novelty* in the research context. In any case, self-report bias is a valid concern that our aforementioned proposals of field applications could further rule out. Assessing individual differences in sensitivity to endings represents another way to gain traction, with certain individuals potentially showing stronger or weaker effects in theoretically consistent ways. For example, maximizers may prefer to "make the most" of last opportunities to a greater degree than satisficers (Schwartz et al., 2002), and people from cultures that view events as unfolding linearly over time, as opposed to cyclically (as with Taoist ideology), may treat ending moments as more precious (Ji et al., 2001).

Third: What kinds of familiarity "count"? Highly dull routines, despite being old and familiar, presumably never make it to one's hedonic consideration set in *any* context—in turn, ending contexts may not make them particularly preferable either. However, we suspect that even ending with more neutral or negative familiarity may prove to be surprisingly positive in how people regard it in the long run (e.g., Powell et al., 2022); perhaps the dullness of a familiar activity wields a less-detracting effect on people's desires to return to it at a distance (Trope & Liberman, 2010). Relatedly: What kinds of endings "count"? In general, if ending contexts do not feel higher stakes to begin with, then safer bet motivations (and all that follows from this in our theorizing) should be less activated. For example, the intensifying effect of endings is more pronounced when they have obvious personal relevance (Tully & Meyvis, 2016), which may explain why we happened to observe domain-level fluctuations in effect sizes and occasional (but inconsistent) interactions with domain (e.g., Experiment 1); one's last chance to savor a dessert may feel more personal than one's last chance to schedule a work task. Moreover, other temporal markers might also produce different kinds of effects. We explored this idea in Supplemental Experiments S1–S4 (see Supplemental Materials). Although other markers (e.g., new beginnings: one's "*first* time in a while") sometimes shifted preferences toward familiarity, the markers that most strongly and consistently showed this effect across all supplemental studies were those entailing endings. This pattern perhaps hints at a uniquely tight link between meaning, familiarity, and *endings*, specifically.

In sum, the present research highlights an underemphasized "spice" of the familiar in everyday hedonic decision-making—an insight that both qualifies and advances existing understandings of novelty's well-established gleam. As your free time this weekend draws to a close and you begin gearing up for a stressful patch of work ahead, you may find yourself wanting to end on a high note. Simply winding down with an old favorite may do just the trick.

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