

The Pursuit of Meaning and the Preference for Less Expensive Options

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ABSTRACT

Finding meaning in life is a fundamental human motivation. Along with pleasure, meaning is a pillar of happiness and well-being. Yet, despite the centrality of this motive, and despite firms' attempts to appeal to this motive, scant research has investigated how the pursuit of meaning influences consumer choice, especially in comparison to the study of pleasure. While previous perspectives would suggest that the pursuit of meaning tilts consumers toward high-quality products, we predicted and found the opposite. As compared to a pleasure or (no goal) baseline condition, 6 studies demonstrate that the pursuit of meaning causes people to consider how they can otherwise use their money (opportunity costs) which in turn leads to a preference for less expensive goods. This effect is robust across multiple product categories and usage situations, including both experiential and material purchases, and is obtained even when the more expensive product is perceived to deliver greater meaning. For participants pursuing meaning, making opportunity costs salient has no effect on their choices, and encouraging opportunity cost neglect increases their willingness to pay for a more expensive item. This research thus provides an initial answer as to how the pursuit of meaning shapes consumer choice processes and preferences.

Keywords: meaning, pleasure, opportunity costs, goals, price, well-being

Finding meaning in life is a fundamental human need (Baumeister and Vohs 2002; Heintzelman and King 2014; Maslow 1943; Ryan and Deci 2001; Steger et al. 2006). Indeed, according to many prominent models of well-being, finding meaning is a key path toward happiness (alongside the pursuit of pleasure; Ryan and Deci 2001; Waterman 1993). As such, people constantly strive for meaning, which is typically manifested as acting in ways that align with one's values, one's sense of purpose, and one's social nature.

Despite the centrality of meaning for people's lives, little is known about how the pursuit of meaning affects consumers' preferences in the marketplace. This state of affairs contrasts sharply to how much the field knows about how the pursuit of *pleasure* shapes consumer preference (Alba and Williams 2013). For example, casual observation and empirical investigation alike suggest that when people pursue pleasure, they show less price sensitivity compared to those approaching the marketplace for functional reasons (Strahilevitz 1999; Wakefield and Inman 2003). Simply put, the pursuit of pleasure prompts people to splurge. Given the positive relationship between meaning and pleasure (Kashdan, Biswas-Diener, and King 2008), one may expect the pursuit of meaning to have a similar effect on consumer preferences. However, in the present research we hypothesized and found that the pursuit of meaning orients people toward less expensive marketplace offerings.

Drawing from prior work, we anticipated that the pursuit of meaning causes people to prefer less expensive goods and services because it prompts them to consider ways of achieving meaning in the marketplace beyond the options at hand. Early perspectives on the quest for meaning recognized that seeking meaning involves adopting a broad focus which, from a hierarchical goals perspective, should cause people to consider the multiple different means that can be used to achieve that higher-order goal (Frankl 1963; Kruglanski et al. 2002; McGregor

and Little 1998; Vallacher and Wegner 1987). As such, we predict that the pursuit of meaning should prompt people to consider alternative uses for their money (i.e., opportunity cost consideration). In turn, opportunity cost consideration shifts people toward less expensive products (Frederick et al. 2009). We find evidence for this effect across multiple product categories and usage situations, including both experiential and material purchases.

Given the wealth of knowledge the field has about pleasure (Alba and Williams 2013), a key contribution of the present research is to examine whether and how the related but distinct pursuit of *meaning* has differential effects on consumer preferences. Answers to such questions promise to enhance the field's understanding of the drivers of consumer happiness and well-being. This research also contributes to the field's understanding of the drivers of consumer choice processes, by identifying the pursuit of meaning as a hitherto unrecognized antecedent of opportunity cost consideration.

In addition to theoretical implications, the phenomenon we document has potential implications for consumer welfare. Less expensive options might fail to deliver on desired benefits (Bate, Jin, and Mathur 2011; Chen, Kalra, and Sun 2009), and as a result be less likely to help people in their pursuit of meaning. Products that break down easily or services that fail to live up to expectations lead people to experience disutility, diminishing their well-being instead of enhancing it. Thus, if the pursuit of meaning leads people to buy less expensive options, they might impede their chances of obtaining well-being through consumption.

CONCEPTUAL DEVELOPMENT

Meaning and Pleasure Are Related Yet Distinct Inputs to Well-being

Many models of well-being have been advanced to describe the key components of happiness and well-being (Ryan and Deci 2001; Seligman 2011; Waterman 1993). Although such models vary in multiple respects, they invariably consider meaning and pleasure as two fundamental inputs into the broader construct of happiness. Past research has found that, while meaning and pleasure are strongly and positively related to each other, they are nevertheless distinct (Baumeister et al. 2013; Dwyer, Dunn, and Hershfield 2017; Huta and Ryan 2010).

The pursuit of pleasure involves increasing positive affect and/or decreasing negative affect in the moment (Babin, Darden, and Griffin 1994; Khan, Dhar, and Wertenbroch 2005; Seligman 2011). While the pursuit of pleasure has long been recognized as one of the most important drivers of consumer behavior (Holbrook and Hirschman 1982), the pursuit of meaning has received much less attention by consumer researchers (Rudd, Catapano, and Aaker 2019). This is surprising since there are signs that people pursue meaning in the marketplace. For example, people want companies to be purpose-driven (Barton et al. 2018), they punish firms for engaging in practices that are contrary to their values (Trudel and Cotte 2009), and they derive meaning from even mundane consumption (Wang, Sun, and Kramer 2021).

In the present research, we examine the effect of pursuing meaning on consumer preferences in contrast to pursuing pleasure (Dwyer et al. 2017; Kim, Kang, and Choi 2014; Rudd et al. 2019; Schmitt, Brakus, and Zarantonello 2015). We adopt this strategy primarily because identifying points of divergence between meaning and pleasure clarifies how these two overarching motivations shape consumer happiness and well-being.

The Pursuit of Meaning

It is widely accepted that people want their lives to be meaningful (Baumeister and Vohs 2002; Ryan and Deci 2001; Steger et al. 2006). To date, the bulk of the research on meaning has focused on the *experience* of meaning, prompting a slew of opinions and theories on the topic (Huta and Waterman 2014; King and Hicks 2021; Martela and Steger 2016; Oishi and Diener 2014). By contrast, the idea that people actively *pursue* meaning is beyond dispute (Baumeister and Vohs 2002; Heintzelman and King 2014). In this research, we focus on the motivated *pursuit* of meaning rather than the *experience* of meaning. That said, it remains useful to have some sense of what people are looking for when they pursue meaning. As we detail below, emerging perspectives coalesce around a three-part definition of meaning: the sense that one's life has significance, purpose, and connections beyond one's present self (Baumeister and Vohs 2002; Heintzelman and King 2014; King and Hicks 2021; Martela and Steger 2016; Rudd et al. 2019; Ryan and Deci 2001; Steger 2012). Accordingly, the pursuit of meaning involves motivated (goal-driven) attempts to add those elements to one's life.

Significance is the feeling that one matters to the world; that one's existence has importance and value beyond the self. Indeed, meaningfulness has been associated with deep involvement in activities that have an impact beyond the self, such as taking care of one's children, helping others, and praying (Baumeister et al. 2013). To increase feelings of significance, researchers suggest that consumers make the most of their time: maximizing the impact of each moment, each day, and ultimately their life (Rudd et al. 2019).

Purpose is the sense that one has direction, goals, or a mission in life; that one is growing as a person rather than being aimless. In this way, a meaningful life often includes engaging in

behaviors that facilitate desired states, aspirations, or outcomes (Baumeister and Vohs 2002; Steger 2012). To illustrate, a person may run long, gruelling distances to raise funds for cancer research (e.g., Terry Fox's Marathon of Hope); the activity of running feels purposeful because it represents the highly desired outcome of eradicating cancer. In the marketplace, people can buy products, services, and experiences which help them to strive towards their purposeful aspirations, such as running equipment, educational courses and degrees, or books to support new life roles and hobbies.

Lastly, meaning involves *connection*. In addition to connecting with other people, meaning also involves connecting with the external world more broadly, including different times, places, people, and ideas (Baumeister 1991; Steger 2012). For example, meaningfulness has been associated with a greater integration of past, present, and future selves (Baumeister et al. 2013). It is also associated with spending time with others and placing oneself within a coherent narrative (King and Hicks 2021). People can use the marketplace to foster connection by buying products, services, and experiences that help them to socialize with others (e.g., outdoor furniture to host social gatherings), link past, present and future selves (e.g., cameras and photo albums), or immerse themselves in new or favorite places (e.g., traveling).

Little research has systematically examined these three components of meaning but scholars have discussed how these components can relate conceptually to people's mindsets (Baumeister et al. 2013; Costin and Vignoles 2020; Rudd et al. 2019). For example, pursuing meaning causes people to invest time where it matters (Percival Carter and Williams 2017). This time investment is thought to signal to people that their activities are significant and they are purposefully engaged (Rudd et al. 2019). Meaning also has been associated with future oriented thinking (Kim et al. 2014), which is key to feeling connected between one's present and future

states and having a sense of purpose (Costin and Vignoles 2020). Lastly, meaning is associated with contemplative thought (Murphy and Bastian 2019), which supports purposeful action (Kang et al. 2019) and can be engendered by a sense that one matters (i.e., significance; Zeldin et al. 2018). In short, how consumers invest their time, orient their thoughts toward the future, and engage in contemplative thought can be nomologically indicative of their pursuit of significance, purpose, and connection (i.e., meaning) in life. Concordantly, in some of our studies we measured how much our manipulations affected the degree to which people reported *investing time* in the task, being focused on *future benefits*, and perceiving the task to involve *thinking*. We treat these measures as *theory derived manipulation checks (TDMC)*.

The Pursuit of Meaning and Marketplace Preferences

The things people buy can help them pursue meaning. Past research suggests that people routinely find meaning in the selection and consumption of marketplace goods and services (Belk, Wallendorf, and Sherry 1989; Goodman, Malkoc, and Stephenson 2016; Russell and Levy 2012; Wang et al. 2021). Whether going to the movies, enrolling in educational courses, or buying a DNA kit to learn about their ancestry, consumers have ample opportunities to use the marketplace to help infuse their lives with meaning.

Yet past research also suggests that meaning is associated with “priceless” options such as reading, praying, volunteering, connecting with loved ones, and engaging in deep thought (King and Hicks 2021; Rudd et al. 2019). Unlike seemingly free sources of meaning, marketplace goods and services are subject to market valuation. As a result, consumers are often confronted with price/quality trade-offs. For example, when buying a new camera to record

memories of an upcoming trip, consumers must decide whether to spend more (by choosing higher end options) or spend less (by choosing less expensive, lower end equipment). When consumers want to use their wallets to add meaning to their lives, how does that impact their decision-making?

Given the high correlation between meaning and pleasure (Kashdan et al. 2008), it would be reasonable to hypothesize that the preferences of consumers pursuing meaning would resemble the preferences of those pursuing pleasure. Both are affect-laden (King et al. 2006), negatively related with boredom (Baumeister et al. 2013), and positively related to feelings of vitality (Braaten et al. 2019). Against this backdrop, one could hypothesize that consumers pursuing meaning might gravitate towards more expensive options, in the same way that those pursuing pleasure do (Alba and Williams 2013; Wakefield and Inman 2003). The guiding intuition would be that if people are willing to pay a premium in the pursuit of pleasure, then surely they would *also* be willing to pay a similar premium in the pursuit of meaning. This intuition is consistent with the commonly held view that people should not be cheap when making symbolically meaningful purchases (e.g., one can never “put a price on love;” McGraw et al. 2016). In contrast, we hypothesize that the motivated pursuit of meaning (vs. pleasure) leads consumers to prefer *less* expensive options because it causes them to consider broadly the various ways in which they might find meaning.

Why the Pursuit of Meaning Prompts Opportunity Cost Consideration

When making a purchase, consumers tend to focus solely on the options in front of them instead of considering alternative ways that they can use their money (i.e., opportunity costs).

This tendency to neglect outside options has been documented when consumers consider hedonic options (e.g., entertaining videos) and utilitarian ones (e.g., breakfast items; Frederick et al. 2009; Spiller 2011). Barring specific circumstances (such as feeling financially constrained; Spiller 2011), consumers often focus narrowly on the options presented to them with little consideration of alternatives. By contrast, we contend that the pursuit of meaning causes people to consider broadly the range of means by which they can find meaning, beyond using their money to buy the focal purchase.

From early on, the search for meaning has been associated with a broad focus (Frankl 1963; Vallacher and Wegner 1987). Instead of narrowly focusing on whether a means will be efficacious for goal pursuit (the criterion associated with pleasure-oriented goals), people pursuing meaning consider whether the means they select to achieve a goal are consistent with core aspects of the self (McGregor and Little 1998). This integrative style of cognitive processing leads people to consider how multiple different means can serve that same higher-order goal (Kruglanski et al. 2002) because they consider the reasons *why* an action is performed (Vallacher and Wegner 1987). Taken together, we anticipated that these previously established processes would cause people pursuing meaning to consider alternative uses for their money beyond focal products (i.e., opportunity cost consideration).

Consistent with our proposal that the pursuit of meaning fosters a focus on opportunity costs, past work has shown that meaning and pleasure are differentially correlated with ways people approach and spend money. While pleasure was positively associated with buying luxuries and necessities (presumably because those are considered efficacious ways to make oneself feel good), meaning was not (Baumeister et al. 2013). Instead, meaning was associated with balancing one's finances, which was unrelated to pleasure (Baumeister et al. 2013).

Effectively managing one's money requires prioritizing some purchases over others, a process that involves consideration of opportunity costs by definition (Fernbach, Kan, and Lynch 2015).

Given these perspectives from the literature, we hypothesize that the pursuit of meaning prompts people to be sensitive to alternative uses for their money (i.e., opportunity costs). If the pursuit of meaning encourages people to consider the various ways they can use their money beyond a focal purchase, then less expensive marketplace options should be seen as more preferable to more expensive ones (Frederick et al. 2009). Accordingly, when deciding between more and less expensive options, we expect that the consideration of opportunity costs will increase preferences for lower priced options among those pursuing meaning.

As mentioned, consumers often neglect to consider opportunity costs (Frederick et al. 2009). Thus, we expect that any conditional difference observed in the preference for less expensive options will be driven by the pursuit of meaning prompting opportunity cost consideration, rather than the pursuit of pleasure prompting (greater than usual) opportunity cost neglect.

An Alternative Resource Conservation Account

The literature suggests that meaning (as compared to pleasure) orients people towards the future (Baumeister et al. 2013; Kim et al. 2014). Although we hypothesize that the pursuit of meaning elicits the consideration of alternative uses of money, which can include spending *and/or* saving, we recognize the possibility that the future orientation associated with meaning could cultivate the desire to conserve rather than spend current resources (Malkoc and Zauberan 2018; Muraven, Shmueli, and Burkley 2006).

These two theoretical accounts are not necessarily antagonistic to each other. The resource conservation account is a close cousin of our opportunity cost consideration theory, but it has different implications. First, if the resource conservation account is correct, then a focus on saving money should mediate our observed effect, and a trait-level tendency to budget money (e.g., propensity to plan) should moderate it. Second, if the effect of pursuing meaning on preference for less expensive options is driven by opportunity cost consideration (as we propose), then inducing opportunity cost *neglect* should reduce meaning-motivated consumers' preference for less expensive options. However, if instead a future-oriented desire to save money is responsible for our effect, then, *ceteris paribus*, engendering opportunity cost neglect should have no effect on preferences. We test these possibilities and consistently find support for the opportunity cost consideration account but not the resource conservation account.

SUMMARY OF WHAT WE DO (AND DO NOT) FIND

In the present research, we test the hypothesis that people who seek meaning (vs. pleasure) in their consumer choices exhibit a preference for less expensive options. We first document that basic effect across a range of material goods, experiential goods, and services using two different goal manipulations (studies 1a-1b). Then, in an incentive compatible shopping study, we confirm that the pursuit of meaning increases people's preferences for less expensive products by comparing the pursuit of meaning to a no-goal baseline condition (study 2). Next, we verify the mediating role of opportunity cost consideration by measuring it directly (study 3). A follow-up study replicated the indirect effect of the meaning (vs. pleasure) goal on preference for less expensive products through opportunity cost consideration (but not resource

conservation) by coding participants' open-ended explanations for their preferences (web appendix E). Lastly, studies 4a and 4b take a causal chain approach (Spencer, Zanna, and Fong 2005) to provide converging evidence for our proposed mechanism by manipulating opportunity cost consideration. The basic effect holds even when the more expensive option is perceived as more meaningful (study 4b).

In shedding light on how the basic motive for meaning affects consumer preference, we rule out several alternative accounts for our results. The data suggest that our findings are not due to an association between the pursuit of meaning and financial constraint (Roux, Goldsmith, and Bonezzi 2015) or a future orientation which could elicit a desire to conserve resources (Malkoc and Zauberan 2018). Our key result is obtained for both experiential and material goods (Van Boven and Gilovich 2003), and it is not reliably moderated by ethically-minded consumer behavior (Sudbury-Riley and Kohlbacher 2016) or materialism (Richins 2004). Instead, we uncover a mindset not previously associated with the pursuit of meaning, a focus on monetary opportunity costs.

For each study, we report all experimental conditions and measures (OSF data and materials: https://osf.io/nm8vp/?view_only=93727f6eeab743d9bcc7186e37cf4962). For ease of exposition, we report analyses for ancillary measures in the web appendix; consideration of these has no impact on the focal results. All data were analyzed after data collection was complete. Post-hoc power analyses indicated that, for our predicted main effects, achieved power was at least 76%. See web appendix H for each study's post-hoc power and sensitivity analyses.

STUDIES 1A-1B: THE PREFERENCE FOR LESS EXPENSIVE OPTIONS

In studies 1a and 1b, we tested the hypothesis that the pursuit of meaning (vs. pleasure) increases people's preferences for less expensive goods and services. Thus, we provided participants with two alternatives, one of which was more expensive than the other, and we asked participants to tell us their preference between the two. To ensure any obtained effect was not specific to a particular product category, we tested preference for more (vs. less) expensive options across a mix of material goods, experiential goods, and services.

Both studies were a two-group (meaning vs. pleasure) between-subjects design. Study 1a was conducted with undergraduate students. Study 1b was a conceptual replication of study 1a using an online respondent population (Prolific) and a different goal induction technique.

Study 1a Design and Method

The prospective effect size was unknown, so we aimed to collect as many responses as possible before the end of the semester. At the end of data collection, 182 undergraduate students at a large Australian public university completed the study in exchange for partial course credit. To comply with the institutional review board (IRB) requirements for this research, we excluded the data from nine participants (7 in the meaning condition) who requested that their data not be included in the final dataset. Therefore, the final sample consisted of responses from 173 participants (88 women; $M_{\text{age}} = 19.23$).

To induce a meaning or pleasure goal for the product preference task, we used a manipulation informed by previous literature (Baumeister et al. 2013; Percival Carter and Williams 2017). Specifically, participants in the *meaning condition* read the following:

As you make your choices, please focus on deriving **meaning from your choices**. That is, focus on the aspects of each option that you find most purposeful, fulfilling, and valuable. Really try to make it a **meaningful** experience!

Hence, for the meaning induction, we emphasized concepts (purpose, fulfillment, values) that can be viewed as lay interpretations of the three-part definition of meaning embraced by scholars (purpose, connection, and significance). By contrast, participants in the *pleasure condition* read:

As you make your choices, please focus on deriving **pleasure from your choices**. That is, focus on the aspects of each option that delight you and that you think are fun. Really try to enjoy yourself and make it a **pleasurable** experience!

All participants were then given two minutes to write about what it means to make choices that are primarily driven by a desire for meaning (or pleasure). Specifically, participants read and completed the following:

To help you get into the right mindset, please describe what it means to make choices that are primarily driven by a desire for *meaning (pleasure)*. You will be given two minutes to complete this task. Please write for the entire time.

After the goal manipulation, participants completed the product preference task, which served as the dependent measure. At the start of the task, participants were instructed to imagine that they needed to make a purchase from each product category shown to them. Their task was

to indicate which of the two product alternatives they preferred to purchase (for their own personal consumption) in the pursuit of meaning (or pleasure).

Participants were shown 12 product sets, with each set featuring a more-expensive option and a less-expensive option (see appendix A for exact stimuli). The sets spanned six product categories (cars, coffee, dining, skiing, cameras, and water products) and featured a mix of durable and nondurable goods (e.g., digital cameras and disposable cameras), big ticket and small ticket items (e.g., cars and Uber rides), and experiential and material options (e.g., cooking classes and water bottles). For each product set, participants indicated which product they preferred in their pursuit of meaning (vs. pleasure) using a six-point scale, with the less expensive product (e.g., “Definitely Cuisinart”) presented on the right (i.e., high anchor) and the more expensive product (e.g., “Definitely De’Longhi”) presented on the left (i.e., low anchor; numerical anchors were not given). In this way, higher responses indicate a stronger preference for the *less expensive* option. By using an even-numbered scale, participants were unable to express indifference between the provided options (Nowlis, Kahn, and Dhar 2002). The product sets were displayed in a random order. The reliability for the preferences across sets was acceptable ($\alpha = .79$) so we created an average preference score ($M = 3.75$) with higher numbers representing a stronger preference for the less expensive options.

To ensure the manipulation had operated as intended, participants completed two different manipulation checks after the product preference task. First, they indicated which goal they pursued as they made their choices (meaning vs. pleasure; dichotomous choice). Second, they completed three items nomologically related to meaning which served as a *theory derived manipulation check (TDMC)*. These items were derived from past research which aimed to differentiate meaning from pleasure (Baumeister et al. 2013; Dwyer et al. 2017; Kim et al. 2014;

Percival Carter and Williams 2017). More specifically, participants received the following prompt “As I completed the study, I;” and indicated the degree to which they (1) were focused on *future benefits* (vs. immediate gratification), (2), treated it as a *thinking task* (vs. a feeling task) and (3) tried to *invest as much time as necessary* (vs. completing it as fast as possible). Responses to each question were made on seven-point scales, with the high anchor corresponding to the characteristic we expected to be associated with meaning (higher scores = more meaningful).

Participants completed two additional items assessing the degree to which they (1) made choices that were *unique to them* (vs. choices others would make) and (2) relied on previous *experience and expertise* (vs. not). These items were included as part of a separate project. Consideration of these items does not substantively impact the results reported below, so they will not be discussed further (see web appendix table A1 for analyses).

In an effort to learn more about the pursuit of meaning at the beginning of this investigation, we measured two individual difference variables: trait materialism and tendency to engage in ethically minded consumer behavior. In addition, we assessed involvement with each type of product, to make sure this did not meaningfully influence our results. None of these measures moderated our predicted effects and the consideration of these measures does not substantively impact the results reported below, so they will not be discussed further. See web appendix A for full details of the measures and the corresponding analyses. At the end of the study participants provided demographics information and were debriefed.

Study 1a Results

Manipulation check. The manipulation successfully induced participants to pursue their randomly assigned goal: 88.9% of meaning participants and 89.1% of pleasure participants reported that they were pursuing meaning and pleasure, respectively. Furthermore participants in the meaning condition ($M = 4.52$) reported higher scores on the theory derived manipulation check as compared to participants in the pleasure condition ($M = 4.03$; $t(171) = 3.17$, $p = .002$, $d = .48$). The manipulation check analyses for the remaining studies also suggest that the manipulation operated largely as intended so they will not be discussed further (see table 1 and web appendix B for full details).

Product preference task. When people are focused on gaining meaning (vs. pleasure) from consumption, how does that affect their preference for more versus less expensive products? Supporting our key hypothesis, participants in the meaning condition reported a stronger preference for the less expensive products ($M = 4.04$) as compared to participants in the pleasure condition ($M = 3.49$; $t(171) = 3.86$, $p < .001$; $d = .59$; figure 1).

Table 1. Effects of goal condition (meaning vs. pleasure or baseline) on key measures across studies.

	$M_{\text{Meaning}} (SD)$	$M_{\text{Pleasure}} (SD)$	Contrast
<u>Study 1a</u>			
Preference DV	4.04 (.690)	3.49 (1.12)	$t(171) = 3.86$, $p < .001$, $d = .59$
Focus on future benefits	4.44 (1.45)	4.05 (1.76)	$t(171) = 1.58$, $p = .116$, $d = .24$
Treat as thinking task	4.32 (1.43)	3.57 (1.71)	$t(171) = 3.08$, $p = .002$, $d = .47$
Invest time	4.79 (1.19)	4.47 (1.30)	$t(171) = 1.70$, $p = .091$, $d = .26$
Aggregate TDMC	4.52 (.843)	4.03 (1.13)	$t(171) = 3.17$, $p = .002$, $d = .48$
<u>Study 1b</u>			
Preference DV	4.07 (1.04)	3.45 (1.04)	$t(323) = 5.30$, $p < .001$, $d = .59$
Focus on future benefits	4.51 (1.55)	3.84 (1.63)	$t(323) = 3.80$, $p < .001$, $d = .42$
Treat as thinking task	3.93 (1.75)	3.40 (1.76)	$t(323) = 2.74$, $p = .007$, $d = .30$
Invest time	4.73 (1.88)	5.31 (1.63)	$t(323) = -3.00$, $p = .003$, $d = .33$
Aggregate TDMC	4.39 (1.18)	4.18 (1.10)	$t(323) = 1.64$, $p = .102$, $d = .18$
<u>Study 2*</u>			
Price of selected item DV	£33.86 (19.63)	£38.89 (18.57)	$t(424) = 2.70$, $p = .007$, $d = .26$

<i>Focus on future benefits</i>	5.44 (1.32)	5.21 (1.41)	$t(424) = 1.77, p = .078, d = .17$
<i>Treat as feeling task*</i>	3.81 (1.66)	3.41 (1.62)	$t(424) = 2.52, p = .012, d = .24$
<i>Invest time</i>	5.40 (1.23)	5.17 (1.31)	$t(424) = 1.80, p = .072, d = .18$
<i>Aggregate TDMC*</i>	4.88 (.822)	4.60 (.813)	$t(424) = 3.61, p < .001, d = .35$

Study 3

<i>Preference DV in elaboration condition</i>	4.23 (.949)	3.35 (1.11)	$t(434) = 5.84, p < .001, b = .38$
<i>Preference DV in no elaboration condition</i>	4.14 (1.14)	3.54 (1.15)	$t(434) = 4.16, p < .001, b = .26$
<i>Focus on alternative uses of money (self-report mediator)</i>	3.79 (2.06)	3.02 (2.07)	$t(436) = 3.89, p < .001, d = .37$
<i>Focus on price</i>	5.10 (1.63)	4.65 (1.78)	$t(434) = 2.71, p = .007, d = .26$
<i>Focus on alternative uses of time</i>	2.57 (1.86)	2.14 (1.66)	$t(434) = 2.52, p = .012, d = .24$
<i>Focus on alternative uses of energy</i>	2.82 (1.97)	2.15 (1.71)	$t(434) = 3.84, p < .001, d = .37$

Study 4a

<i>Effect of goal on % who do not buy in control condition</i>	35.9%	17.1%	$Wald(1) = 9.44, p = .002, OR = 2.72$
<i>Effect of goal on % who do not buy in opportunity costs condition</i>	44.4%	41.4%	$Wald(1) = .214, p = .643, OR = 1.13$
<i>Focus on future benefits</i>	4.66 (1.47)	3.93 (1.78)	$t(436) = 4.68, p < .001, d = .45$
<i>Treat as thinking task</i>	4.12 (1.78)	3.06 (1.63)	$t(436) = 6.52, p < .001, d = .62$
<i>Invest time</i>	5.44 (1.26)	5.32 (1.31)	$t(436) = 1.00, p = .316, d = .10$
<i>Aggregate TDMC</i>	4.74 (1.03)	4.10 (1.01)	$t(436) = 6.56, p < .001, d = .63$

Study 4b

<i>WTP of those in baseline condition</i>	\$8.32 (7.15)	--	--
<i>WTP of those in focus on alternative uses of money condition</i>	\$9.68 (7.83)	--	$t(328) = -1.31, p = .191, b = .08$ (compared to meaning/baseline)
<i>WTP of those in focus solely on the options at hand condition</i>	\$11.85 (8.22)	--	$t(328) = 3.38, p = .001, b = .21$ (compared to meaning/baseline)

NOTE. TDMC = theory-derived manipulation check. Higher numbers on the preference DV = greater preference for *less* expensive items. *In study 2 the meaning condition was contrasted with a no-goal baseline condition, therefore means in the $M_{Pleasure}$ column should be interpreted as $M_{Baseline}$. Additionally, unlike studies 1a and 1b, where we expected the pursuit of meaning (vs. pleasure) to be associated with more thoughtfulness, in study 2 we anticipated that the pursuit of meaning (vs. a no-goal baseline) will be associated with more *feeling* given that meaning is associated with affect (King et al. 2006). Therefore, in this study we reverse code the feeling (vs. thinking) item.

Study 1b Design and Method

Study 1b was a near replication of study 1a with an online sample and a different goal induction task to ensure that the key results were not due to any peculiarities of the goal induction task used in study 1a. Three hundred and thirty-two Prolific workers from the United Kingdom (UK) completed this pre-registered study (<https://aspredicted.org/dz9c3.pdf>) in exchange for a small monetary payment. Because the goal induction was indirect and possibly more subtle, we recruited a large enough sample to detect a potentially smaller effect than in study 1a. One participant experienced a technical error preventing them from seeing the (meaning) goal manipulation. In line with the preregistration, we excluded the data of six additional participants who completed the study in fewer than three minutes (3 in the meaning condition). Therefore, the final sample consisted of 325 participants (173 women; $M_{\text{age}} = 35.99$).

The procedure for the study was near-identical to study 1a, but instead of directly inducing the (meaning or pleasure) goal, participants were asked to read a mock article that highlighted the benefits of pursuing either meaning or pleasure for consumer well-being (exact stimuli in appendix B). Afterwards, participants completed the same preference task from study 1a ($\alpha = .82$; $M = 3.75$), the same manipulation checks from study 1a, listed 1-2 thoughts they had while making choices¹, and provided an open-ended description of the article they read.

Study 1b Results

Conceptually replicating study 1a with a different manipulation, study 1b again found that participants in the meaning condition ($M = 4.07$) reported a stronger preference for the less

¹ Given the substantial nature of the product preference task (i.e., 12 sets of diverse products), this prompt was insufficient for eliciting responses that could be reliably coded. We improve upon this prompt in the study reported in web appendix D.

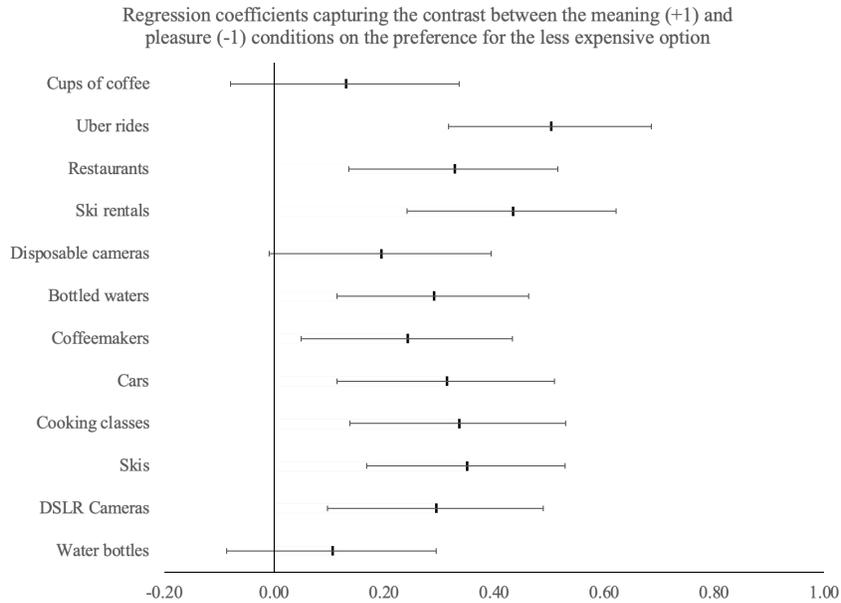
expensive products as compared to those in the pleasure condition ($M = 3.45$; $t(323) = 5.30$, $p < .001$; $d = .59$; figure 1).

Discussion

The results of two studies support the prediction that pursuing meaning (vs. pleasure) leads to a stronger preference for less expensive options. The key result was generalizable across populations (university students; online respondents), countries (Australia; UK), and instantiations of the independent variable (direct goal induction; indirect goal activation). Follow-up analyses for these (and all other studies reported in this manuscript) indicated that the core effects were not systematically moderated by age or gender (web appendix table A1). As apparent in figure 1, the preference for less expensive options amongst those in the meaning (vs. pleasure) condition was evident for both products and services, material and experiential options, and durable and non-durable goods.

FIGURE 1

THE EFFECT OF THE GOAL MANIPULATION ON PREFERENCE FOR LESS EXPENSIVE PRODUCTS, COLLAPSED ACROSS STUDIES 1A AND 1B



NOTE. Error bars = 95% confidence intervals; positive coefficients indicate a stronger preference for less expensive items amongst those in the meaning (vs. pleasure) condition.

Lastly, to address a concern that the above results were driven by the meaning manipulation reducing the search for pleasure rather than enhancing the search for meaning, in a pre-registered near replication of study 1a (<https://aspredicted.org/7cy85.pdf>) we assessed the operation of the manipulated goals using continuous manipulation checks (web appendix C). We found that 1) continuous measures of meaning and pleasure were impacted by the manipulation in the expected directions and, more importantly, 2) independent of the manipulation, participants' self-reported pursuit of meaning (pleasure) positively (negatively) predicted their preference for less expensive options. This result casts doubt on the view that the effects of the meaning manipulation are attributed solely to deactivating pleasure motives.

STUDY 2: INCENTIVIZED CHOICE

We next tested our hypothesis in a naturalistic, incentive-compatible online shopping study. Participants were given a budget of £75 (approximately \$100 USD at the time of data collection) and were asked to choose a product available for purchase on Amazon.co.uk that would help them on their quest for meaning (vs. no explicit goal; baseline). To make the choice consequential, participants' selections were entered into a lottery. We predicted that participants pursuing meaning would choose less expensive products compared to those in a baseline (no goal) condition. The inclusion of a baseline (no goal) comparison condition is important because it allows us to test whether the results of studies 1a-1b were driven not by meaning but by pleasure increasing participants' preference for expensive products (Wakefield and Inman 2003).

We also examined potential alternative accounts for our key result. Baumeister and colleagues (2013) found that meaning is associated with a future orientation, which could cause people to want to conserve their resources by spending less (Malkoc and Zauberman 2018; Muraven et al. 2006). If this alternative hypothesis is plausible, then consumers' propensity to plan for the future should attenuate our effect (i.e., those high in propensity to plan should be relatively unaffected by the meaning goal manipulation; Lynch et al. 2010). Similarly, we examined whether the pursuit of meaning causes people to feel financially constrained, which in turn could promote a preference for less expensive products because of a desire to conserve resources (Cannon, Goldsmith, and Roux 2019). We do not find support for either of these alternative accounts.

Design and Method

Four hundred and forty Prolific workers from the United Kingdom (UK) completed this two-group (meaning vs. baseline) between-subjects study. We anticipated that the effect of the goal manipulation on product choice would be weaker than on product preference, so we recruited a large enough sample to detect a small effect. Thirteen participants failed to complete the dependent measure by not providing a verifiable product, and one participant chose a product that cost over £75 leaving a final sample of 426 participants (295 women and 3 non-binary; $M_{age} = 33.66$; 8 exclusions in the meaning condition).

At the start of the study, all participants were informed they would select one product on Amazon.co.uk which they could win in a lottery. We specified that the product must cost £75 or less and should not be something participants were already planning to purchase. To make the choice realistic, we told participants that, if they won the lottery, they would receive the product they selected as well as the remainder in cash so that the total value they received was £75. For example, if a participant selected a product that cost £50 and won the lottery, they would win that product plus a £25 bonus. Participants had to demonstrate that they understood the nature of the payoff before being allowed to proceed to the study.

To induce the meaning goal, we used the same meaning manipulation from study 1a. In the baseline condition, participants completed the shopping task immediately after receiving the shopping-task instructions described in the previous paragraph (no goal activated).

All participants were asked to shop on Amazon.co.uk. The critical dependent variable in this study was the price of the product participants identified (supplied by them). Participants also provided a link to the product page on Amazon.co.uk, which allowed us to verify prices².

² The perceived meaningfulness of participants' product choices was coded by two trained research assistants blind to condition. No significant differences emerged between the meaning and the baseline condition. We discuss our belief that this null result is due to the inherent difficulty of outside observers deciding what is meaningful in web appendix D.

Next, to examine the future orientation alternative explanation, participants completed the six-item propensity to plan measure for the long run use of money (1-2 years; Lynch et al. 2010; $\alpha = .93$). People who score high on this measure tend to generate and consider future plans related to spending, saving, and budgeting. To assess the financial constraint alternative explanation, we asked participants to respond to the measure: “As I completed this study, I felt financially constrained” (1 = not at all; 7 = very much so; Goldsmith, Roux, and Wilson 2020). At the end of the study participants provided demographics information and were debriefed.

Results and Discussion

Price of selected items. When people are pursuing meaning (vs. no specific goal), do they select less expensive products? Results of a t-test suggest that they do: participants who were pursuing meaning selected less expensive items ($M = £33.86$) as compared to those in the baseline (no goal) condition ($M = £38.87$; $t(424) = 2.703$, $p = .007$, $d = .26$). Thus, using an incentive compatible choice design, we found that participants selected lower priced products on Amazon.co.uk when they were pursuing meaning as compared to if they were not given a specific goal for choosing. Thus, even in the absence of a pleasure condition it appears that the pursuit of meaning shifts participants’ preferences towards less expensive options.

Alternative explanations. First, we evaluated the role future orientation plays in producing the key result. To do so, we predicted product price from experimental condition, individual differences in propensity to plan (centered), and the interaction between the two. This analysis revealed the predicted main effect of meaning ($b = -5.15$, $t(422) = 2.776$, $p = .006$). Inconsistent with the future-orientation explanation, the main effect of meaning was not

moderated by individual differences in propensity to plan ($p = .475$) nor were propensity to plan scores significantly related to product price ($p = .194$). Second, we examined whether the pursuit of meaning predicted perceptions of financial constraint (which could prompt a preference for less expensive options; Cannon et al. 2019). There was no effect of meaning (vs. baseline) on perceptions of financial constraint ($p = .808$). These analyses cast doubt on the notion that meaning-motivated participants choose less expensive products because they want to conserve resources due to a future orientation or feelings of financial constraint.

Discussion. Study 2 confirms that, relative to baseline, the pursuit of meaning increases people's preference for less expensive products. Importantly, the findings suggest that the effect of pursuing meaning on preference is not simply due to future orientation or feelings of financial constraint, both of which could elicit a desire to conserve resources. Although it is useful to rule out potential underlying drivers of the key result, these null findings do not provide positive evidence of process. In the remaining studies, we test our proposed opportunity cost mechanism.

STUDY 3: SELF-REPORTED OPPORTUNITY COST CONSIDERATION AND A ROBUSTNESS CHECK

In study 3 we began to examine the mechanism by which the pursuit of meaning (vs. pleasure) elicits a stronger preference for less expensive options using a process-by-mediation approach. After completing the product preference task used in studies 1a-1b, we asked participants to report how much they considered alternative uses for their money when making their decisions (i.e., opportunity costs). We expected that meaning (vs. pleasure) participants

would report a stronger preference for less expensive products and that that effect would be statistically mediated by increased focus on opportunity costs.

In study 3 we ensured that our key result was not affected by whether people wrote about their assigned goal as part of the goal induction manipulation. Participants in the writing instructions *present* condition completed the same manipulation as in study 1a (i.e., after being randomly assigned to a goal, they were asked to write about it for two minutes). Participants in the writing instructions *absent* condition received the same goal manipulation, but they were not prompted to write about their randomly assigned goal as part of the goal induction process. We expected the meaning (vs. pleasure) manipulation to activate the respective goals and their attendant consequences, regardless of whether people wrote about the goals.

Design and Method

In study 3, 443 American Prolific workers completed this 2 (goal: meaning vs. pleasure) by 2 (writing instructions: present vs. absent) between-subjects design. To comply with the IRB requirements for this research, we excluded data from five participants (3 in the meaning condition) who requested that their data not be included in the final dataset. Therefore, the final sample consisted of responses from 438 participants (220 women; $M_{\text{age}} = 32.18$).

The procedure of this study largely followed the pattern of study 1a. Participants randomly assigned to the *writing instructions present condition* were instructed to pursue either meaning or pleasure following the same procedure used in study 1a. Those randomly assigned to the *writing instructions absent condition* were told to pursue meaning or pleasure (depending on their condition) but were not prompted to write for two minutes about that goal pursuit.

Following the goal manipulation, all participants completed the same preference task as that used in studies 1a-1b. Specifically, they indicated their preference for more and less expensive product alternatives in 12 product sets. The products showed good reliability ($\alpha = .85$), so they were combined to form an average product preference index ($M = 3.96$). Again, higher numbers signify greater preference for the *less expensive* alternative. To assess the hypothesized mediator—opportunity cost consideration—participants responded to the prompt “As I completed this study, I...” using a numerical scale of 1-7 that was anchored by “did not focus on alternative uses for money” on the lower/left-hand side and “focused on alternative uses for money” on the higher/right-hand side.³ Finally, participants provided demographics information and were debriefed.

Results and Discussion

Product preference. A 2 (meaning vs. pleasure) by 2 (writing instructions present vs. absent) ANOVA revealed the predicted main effect of the goal manipulation on product preference ($F(1, 434) = 50.33, p < .001; \eta_p^2 = .104$). Replicating the earlier results, participants who were induced to pursue meaning reported a stronger preference for less expensive products ($M = 4.18$) compared to participants induced to pursue pleasure ($M = 3.44$). Consistent with expectations, this main effect was not qualified by the writing instructions manipulation ($p = .185$) nor was the effect of the writing instructions manipulation significant ($p = .652$).

³ Participants also reported their focus on price and their focus on alternative uses of their time and energy. The goal manipulation had a significant effect on these three items ($ps < .013$; see web appendix table A1). For the sake of conceptual clarity, we limit our main text analysis to the “alternative uses of money” item but note that the indirect effect of meaning (vs. pleasure) on product preference via this broader composite of opportunity costs is also significant ($b = .196, 95\% \text{ CI } [.103, .300]$).

Opportunity costs as a mediator. Next, we tested the prediction that the meaning (vs. pleasure) goal increased participants' consideration of opportunity costs (operationalized as a focus on alternative uses of their money). Treating self-reported opportunity cost consideration as the outcome, a 2 (meaning vs. pleasure) by 2 (writing instructions present vs. absent) ANOVA revealed the predicted main effect of the goal manipulation ($F(1, 434) = 15.251, p < .001; \eta_p^2 = .034$). Supporting our proposed conceptual model, participants in the meaning condition reported a stronger focus on alternative uses for their money ($M = 3.79$) compared to participants in the pleasure condition ($M = 3.02$). Consistent with expectations, neither the main effect of the writing instructions factor nor the interaction was significant ($ps > .65$).

We conducted a bootstrapped mediation analysis (Hayes 2017) to evaluate the hypothesis that the effect of pursuing meaning (vs. pleasure) on participants' preference for less-expensive options occurred via an enhanced focus on opportunity costs. Because the presence or absence of the writing instructions had no bearing on product preferences or opportunity cost consideration, we collapsed across that factor. Using the PROCESS macro (model 4), we ran a model treating the goal manipulation as the independent variable, opportunity costs as the potential mediator, and product preference as the dependent variable. Supporting our proposed conceptual model, the indirect effect of meaning (vs. pleasure) on enhanced preference for less-expensive products via opportunity costs was significant ($b = .177, 95\% \text{ CI } [.085, .278]$).

Discussion. The results of study 3 support the hypothesis that participants pursuing meaning (vs. pleasure) prefer less expensive options because they are more focused on alternative uses for their money. While this study provides direct evidence for our proposed process, measuring opportunity cost consideration after the product preference task could have inflated the self-report measure. In other words, after observing themselves preferring less

expensive products, participants in the meaning condition may have inferred from their preferences that they were focused on opportunity costs. To address this issue, we conducted an additional study in which we asked participants to explain their product preference; these responses were then coded for how much the responses reflected a focus on a) alternative uses for money (Frederick et al. 2009; Spiller 2011), b) resource conservation (i.e., saving money for future unknown circumstances), and c) financial scarcity (i.e., discrepancy between current and desired resources). Conceptually replicating and extending study 3, the results of that study indicate that participants pursuing meaning (vs. pleasure) reported a stronger preference for less expensive products because they were more focused on alternative uses for their money (web appendix E). Consistent with study 2, we observed no evidence that our key effect was driven by resource conservation or financial scarcity (web appendix E).

STUDY 4A: PROCESS BY MODERATION

Study 3 provided evidence for the role of opportunity cost consideration via a measured mediator approach. In this pre-registered study (<https://aspredicted.org/nn22e.pdf>), we used a causal chain approach to further assess the hypothesis that the pursuit of meaning (vs. pleasure) leads people to choose less expensive options because of a focus on opportunity costs. As a first step, in this study we evaluated the impact of meaning (vs. pleasure) on the proposed process, opportunity cost consideration, through a process-by-moderation approach. More specifically, we adapted a paradigm developed by Frederick and colleagues (2009), manipulating both consumption goal (meaning vs. pleasure) and the salience of opportunity costs. If the pursuit of meaning spontaneously leads people to consider opportunity costs, then the Frederick et al.

(2009) opportunity-cost manipulation should have no impact on the choices of those pursuing meaning. We predict that when opportunity costs are not mentioned, we should obtain our basic result. However, when opportunity costs are made salient, the choices of those pursuing pleasure should then resemble the choices of those pursuing meaning.

Design and Method

This study features a 2 (meaning vs. pleasure) by 2 (opportunity costs salient vs. not) between-subjects design. Four hundred and thirty-eight Prolific workers from the UK completed the experiment (no exclusions; 319 women and 2 non-binary; $M_{\text{age}} = 31.10$). Sample size was determined by budget and anticipated power to detect an interaction. (Due to a recruitment error, we collected more data than we had planned in the pre-registration. Again, though, all data were analyzed after data collection was complete.)

First, participants were instructed to pursue either meaning or pleasure using the manipulation from study 1a. Afterwards, the procedure largely followed that of Frederick et al. (2009) study 1a. Participants read a scenario in which they imagined considering the purchase of a video for £9.99 (see appendix C). They then indicated whether they would buy the video or not, which served as the measure of opportunity cost consideration. For half of participants, the choice task made opportunity costs salient, by indicating that if they did not buy the video, they would “keep the £9.99 for other purchases.” For the remaining participants, the choice task made no mention of opportunity costs.

As a check for the opportunity cost manipulation, participants listed 1-2 thoughts they had while making their choice. These were coded by two trained coders for how much

participants mentioned or focused on other things they could do with their money besides buy the product in question (1 = little to no focus; 5 = a lot of focus). The manipulation worked as intended. The opportunity cost manipulation increased coded consideration of opportunity costs among both pleasure ($M_s = 2.30$ vs. 1.62) and meaning participants ($M_s = 2.08$ vs. 1.75; main effect $F(1, 434) = 23.030, p < .001, \eta_p^2 = .050$). Notably, this effect was marginally weaker among meaning participants (interaction $F(1, 434) = 2.743, p = .098, \eta_p^2 = .006$). Finally, participants reported demographics and were debriefed.

Results and Discussion

Purchase decision. If opportunity cost consideration underlies the preference for less expensive items amongst those pursuing meaning (vs. pleasure), then explicitly prompting participants to consider opportunity costs should affect the choices of those pursuing pleasure but have no impact on the preferences of those pursuing meaning. A 2 (meaning vs. pleasure) X 2 (opportunity costs salient vs. not) logistic regression on the video purchase decision (buy vs. not) supported this reasoning. This analysis revealed a main effect of the goal manipulation ($b = .281, Wald(1) = 7.07, p = .008$) and a main effect of the opportunity cost salience manipulation ($b = .396, Wald(1) = 14.05, p < .001$), both of which were qualified by the predicted interaction ($b = -.218, Wald(1) = 4.27, p = .039$; figure 2).

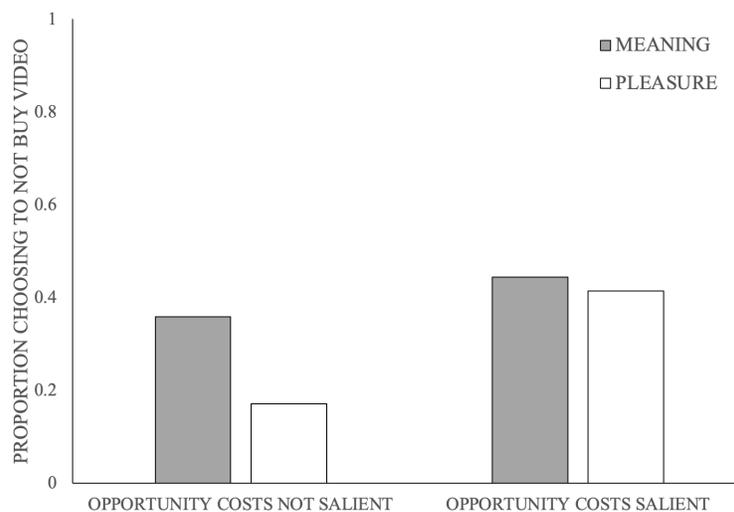
The pattern of results supports our conceptual model. The opportunity cost salience manipulation did not significantly influence the choices of those pursuing meaning: 44.4% of participants in the meaning condition did not buy the video when opportunity costs were made salient as compared to 35.9% of their counterparts when opportunity costs were not mentioned (b

= .356, $Wald(1) = 1.59, p = .208$). This pattern suggests that the pursuit of meaning in itself makes opportunity costs salient. In contrast, and consistent with predictions, making opportunity costs salient led those pursuing pleasure to be significantly more likely to forego buying the video (41.4%) as compared to when opportunity costs were not mentioned (17.1%; $b = 1.23, Wald(1) = 15.25, p < .001$).

Considered differently, when opportunity costs were *not* mentioned, participants pursuing meaning were more likely to forego buying the video compared to those pursuing pleasure (35.9% vs. 17.1%; $b = .999, Wald(1) = 9.44, p = .002$). Again, this result suggests that the pursuit of meaning itself makes opportunity costs salient. By contrast, but consistent with predictions, when opportunity costs were made salient, there was no difference in purchase choice across the meaning and pleasure conditions (44.4% vs. 41.4%; $b = .125, Wald(1) = .214, p = .643$).

FIGURE 2

THE EFFECT OF THE GOAL AND OPPORTUNITY COST SALIENCE MANIPULATIONS ON LIKELIHOOD OF CHOOSING TO FOREGO BUYING THE VIDEO (STUDY 4A)



Discussion. The results from this study complement the process-by-mediation results from study 3. Making opportunity costs salient did not affect the choices of participants pursuing meaning, but it did alter the choices of participants pursuing pleasure. This suggests that the pursuit of meaning in itself makes opportunity costs salient. Study 4b completes the causal chain.

STUDY 4B: WILLINGNESS TO PAY

To complete the causal chain, we hold constant the pursuit of meaning and we manipulate the mediator to provide additional evidence for our proposed account that opportunity cost consideration can explain the effect of the pursuit of meaning on the preference for less expensive items (Spencer et al. 2005). Specifically, we examine how the preferences of those pursuing meaning are affected by instructions to ignore opportunity costs. Additionally, we extend the previous studies by examining how the documented preference for less expensive options translates to people's willingness to pay (WTP) for a more expensive item, using the incentive compatible Becker, DeGroot, and Marschak (1964; BDM) procedure.

Opportunity cost neglect occurs when people narrowly focus on the options at hand, without thinking of other alternatives beyond the focal choice (Frederick et al. 2009). Accordingly, we asked some participants who were pursuing meaning to narrow their attention and focus solely on the options at hand. We expected that these opportunity cost neglect instructions would *increase* meaning-motivated participants' WTP for a handmade premium photo album relative to those merely pursuing meaning. Moreover, we expected no difference in WTP between those who were merely pursuing meaning and those who were pursuing meaning and instructed to focus on opportunity costs.

We chose the photo album category because we anticipated that people would find this product category to be particularly meaningful. Furthermore, we expected that participants would perceive the more expensive, handcrafted photo album to be *more* meaningful than the less expensive, hardcover photo album. A validation test confirmed those expectations. Participants induced to pursue a meaning goal (using the same goal manipulation as in the current study 4b) perceived both photo albums to be meaningful as compared to the midpoint of a seven-point scale ($M_{\text{inexpensive}} = 5.06$, $t(103) = 8.034$, $p < .001$; $M_{\text{expensive}} = 5.50$, $t(103) = 12.430$, $p < .001$). More important, participants induced to pursue meaning perceived the *more* expensive product to be more meaningful than the less expensive product ($t(103) = 2.909$, $p = .004$, $d = .29$). The results were descriptively similar, if not stronger, among baseline participants who did not receive a goal ($M_{\text{inexpensive}} = 5.69$ vs. $M_{\text{expensive}} = 4.80$; $t(96) = 4.968$, $p < .001$, $d = .51$). For full details see web appendix G.

Design and Method

This study features a 3-groups (opportunity cost consideration vs. opportunity cost neglect vs. baseline) between-subjects design. Three hundred and thirty-two American Prolific workers completed the experiment (no exclusions; 166 women and 6 non-binary; $M_{\text{age}} = 32.39$). Sample size was determined by anticipated power to detect a small to medium effect.

First, all participants were prompted to pursue meaning by reading an article about the link between the pursuit of meaning in the marketplace and well-being (the same meaning manipulation used in study 1b). Next, depending on condition, participants were instructed to:

Please do your best to **focus solely on the options at hand**. Please **narrow your attention** and base your responses only on a consideration of the strengths and weaknesses of the options we present to you.

or

Please do your best to **focus on alternative uses for your money, beyond the options at hand**. Please **broaden your attention** and base your responses on a consideration of the merits of alternative uses for your money outside of the ones we present to you.

Participants in the baseline condition received no such instructions. Following these manipulations, participants were presented with an overview of the double-lottery BDM procedure for eliciting willingness to pay (e.g., Fuchs, Schreier, and van Osselaer 2015; Wertenbroch and Skiera 2002). First, they were told that they would be entered into a lottery for a \$50 bonus. Next, we instructed them on the BDM set-up. Participants saw a description of two items (two photo books), one of which was basic (a hardcover photo book) and the other of which was more luxurious (a premium handcrafted photo book; see appendix D).

They were provided with the price of the hardcover photo book (\$20) and asked to indicate how much *more* they would be willing to spend on the premium handcrafted photo book, using a slider scale anchored by \$0 and \$30. Participants were informed that the amount they were willing to pay for the more expensive option would be compared to a randomly generated price. As such, if they won the lottery and their stated willingness to pay was greater than that price, they would “purchase” the photo book and receive it plus whatever remaining

balance in the bonus (total value = \$50). If participants won the lottery and their WTP was lower than the randomly generated price, they would simply receive the \$50 bonus. The majority of participants passed a check assessing their comprehension of the instructions (94.6%), and those who failed this check were presented with the instructions a second time.

Participants' WTP was the dependent measure in this study. Afterwards, as a manipulation check, we asked participants to report what they were doing as they determined their WTP (focusing mainly on the options at hand vs. focusing on alternative uses of money vs. other) using a forced choice measure. The manipulation worked as intended. Participants instructed to focus solely on the options at hand were less likely to indicate that they focused on alternative uses of money (10.9%) as compared to those in the baseline condition (22.7%) and those instructed to focus on opportunity costs (58.6%, $\chi^2(4) = 61.300, p < .001$). At the end of the study, participants reported demographics and were debriefed.

Results and Discussion

Results. Our previous studies suggest that the preference for less expensive options among participants pursuing meaning is driven by opportunity cost consideration. If so, then the WTP of those in the baseline and those in the opportunity cost focus condition should not differ. Conversely, participants who are expressly focusing on the options at hand should report a higher WTP compared to those in the baseline condition. This is precisely what we found.

In a three groups one-way ANOVA, participants' WTP for the more expensive photo book varied significantly depending on condition ($F(2, 328) = 5.796, p = .003, \eta_p^2 = .034$). As expected, follow-up contrasts indicated that the WTP of those merely pursuing meaning ($M =$

\$8.32) and those who were pursuing meaning and instructed to focus on opportunity costs ($M = \$9.68$) did not significantly differ from each other ($p = .191$). This suggests that participants pursuing meaning spontaneously consider opportunity costs. More important, those pursuing meaning who were instructed to neglect opportunity costs expressed a significantly higher WTP for the premium option ($M = \$11.85$) compared both to those merely pursuing meaning ($t(328) = 3.376, p = .001$) and those who were pursuing meaning and instructed to focus on opportunity costs ($t(328) = 2.073, p = .039$).

Discussion. Study 4b completed the causal chain design that we began in study 4a. In this study, we manipulated opportunity cost neglect among participants pursuing meaning and examined how that impacted preference for a more expensive, but more meaningful product, using an incentive compatible BDM WTP design. Amongst participants pursuing meaning, the instruction to focus solely on the options at hand and hence neglect opportunity costs increased willingness to pay for a more expensive handmade photo book. In contrast, and consistent with study 4a, the instruction to focus on opportunity costs had little influence on responses among those pursuing meaning. This pattern further validates our theorizing that the pursuit of meaning spontaneously prompts the consideration of opportunity costs. Notably, we document a way to get meaning-motivated consumers to be more interested in expensive options: increase their attention on the merits of the options at hand, thereby decreasing their consideration of alternative uses of money.

GENERAL DISCUSSION

The notion that consumers buy and consume marketplace goods to improve their happiness and well-being is a cornerstone of marketing research. Alongside pleasure, meaning is a key input into happiness, yet it has received less attention from marketing researchers. This does not mean that consumers are not motivated to find meaning in the marketplace. Even mundane products—a cup of lemon tea or Oreo cookies—can be sources of meaning when people are motivated to find it (Wang et al. 2021).

A common intuition is that money should be no object when it comes to symbolically meaningful purchases (McGraw et al. 2016). But what are consumers actually willing to spend when they pursue meaning? While various perspectives point to the possibility that the pursuit of meaning causes consumers to splurge, we found instead that it caused them to spend less. Across 6 studies, the pursuit of meaning led to a preference for less expensive options.

The basic effect was robust across age, gender, income, nationality, operationalizations of the goal manipulation, product involvement, and a diverse array of products, services, and experiences. It cannot be explained away by the price insensitivity characteristic of the pursuit of pleasure (Wakefield and Inman 2003). As compared to those who were *not* given an explicit goal, participants who were induced to pursue meaning chose less expensive products when shopping on Amazon in a naturalistic-incentive compatible shopping study (study 2). Furthermore, independent of pleasure, the degree to which participants reported pursuing meaning predicted preference for less expensive products (web appendix C). Finally, the basic effect cannot be explained away by the argument that participants in our studies simply did not find the expensive products to be instrumental for their pursuit of meaning. The validation test in study 4b confirmed that the products used in that study—photo albums—were to be considered meaningful, and the *more* expensive product was perceived to deliver more meaning than the

less expensive product. Nonetheless, in that study participants instructed solely to pursue meaning were willing to pay less for the more expensive—and more meaningful—product.

The tendency for consumers pursuing meaning to prefer less expensive options was explained by a heightened focus on alternative uses for their money (i.e., opportunity costs). In addition to documenting the process via mediation analyses in two studies (study 3 and web appendix E), we observed that encouraging opportunity cost consideration or neglect produced results that were supportive of our conceptualization (i.e., process by moderation; Spencer et al. 2005). In study 4a, the choices of participants pursuing meaning was not affected by opportunity cost salience. By contrast, replicating Frederick et al. 2009, highlighting opportunity costs altered purchase decisions among those pursuing pleasure, making them resemble meaning-oriented participants. In study 4b, inducing opportunity cost neglect (by asking meaning-motivated participants to narrow their attention and focus solely on the options at hand) led to an increased willingness to pay for a handcrafted premium photo book. Taken together, these four process studies provide strong evidence to suggest that our basic finding is driven by the unique effect of the pursuit of meaning on opportunity cost consideration, which in turn drives preference for less expensive goods. Alternative processes, such as a desire to conserve resources, were not supported by obtained findings.

Theoretical Contributions

Pleasure is one of the most important drivers of consumer behavior (Holbrook and Hirschman 1982). Even though the pursuit of meaning is also an important path to happiness and well-being, it has received much less attention by consumer researchers. Perhaps researchers

thought that the pursuit of meaning operated similarly to the pursuit of pleasure given that the two are highly related (e.g., Dwyer et al. 2017). Indeed, just as money is expected to be no object for symbolically meaningful purchases (McGraw et al. 2016), pleasure reduces price sensitivity (Wakefield and Inman 2003) and encourages people towards luxury products (Hagtvedt and Patrick 2009). Nevertheless, pleasure and meaning have been shown to be distinct (Baumeister et al. 2013; Dwyer et al. 2017; King and Hicks 2021). The current research presents a further distinction by systematically detailing how these two motives have differential effects for consumer preferences and choice processes.

This research also advances our understanding of choice processes. From a normative perspective, consumers should consider opportunity costs when they make consumption decisions. Nevertheless, past work suggests that opportunity cost neglect is quite common (Becker, Ronen, and Sorter 1974; Frederick et al. 2009; Legrenzi, Girotto, and Johnson-Laird 1993). Despite the important role that opportunity cost consideration plays in shaping consumer choice, the antecedents of such consideration are seldom studied and not well understood (Spiller 2011). The present research suggests that the goal to infuse one's life with meaning may be one of those antecedents.

Finally, the current work adds to a growing body of research which suggests that higher-order motives can orient consumers away from hedonically superior options (Cavanaugh 2014; Keinan and Kivetz 2011; Stuppy, Mead, and van Osselaer, 2020). Bringing opportunity costs to bear on current decisions can positively impact consumers' financial well-being by helping them make the best use of their limited resources (Larrick, Nisbett, and Morgan 1993; Lynch et al. 2010; Spiller 2011), but it can also negatively impact the utility they derive from consumption by limiting their consideration (and choice) of high quality, superior options in the market.

Practical Implications

Increasingly, companies wish to achieve more than mere profit. They strive to act with purpose and provide value to their stakeholders, including the environment, consumers, and the community (Gelles and Yaffe-Bellany 2019). This may be due in part to increased awareness that consumers pursue meaning in the marketplace (e.g., millennials are the ‘purpose-driven generation’; Barton et al. 2020). Nevertheless, for firms that wish to appeal to meaning motives, there is scant research offering insights as to how this pursuit affects consumer behavior.

Given that consumers’ goals are often activated by incidental cues (e.g., advertisements; Chartrand et al. 2008) and editorial content can influence people’s responses to marketing messages (e.g., Janiszewski 1990), the current work offers novel insight. When decision-makers are pursuing meaning, their preferences and choices flow from a heightened focus on opportunity costs. This knowledge should inform when and how firms communicate with purpose-driven consumers. For example, advertising alongside editorial content about the pursuit of meaning (e.g., the New York Times’s *Living Well* section or the Atlantic’s *How to Build a Life* column) might be most effective when calling attention to low prices, because consumers reading such content are more likely to prefer less expensive products (study 1b). Future research can explore this hypothesis.

In addition, firms wishing to appeal to the meaning motive may want to consider fostering opportunity cost neglect, as that was shown to increase meaning-motivated participants’ willingness to pay (study 4b). For example, Shutterfly (and other photo gift companies) position their products as a source of meaning, and they often use steep price

promotions to stimulate demand. Instead of offering discounts, these companies could encourage customers to focus narrowly on preserving meaningful memories. Doing so could increase demand amongst those pursuing meaning while allowing the companies to protect their margins.

This research also has implications for sustainable consumption. Consumers recognize that high-end products are more durable and sustainable than mid-range and low-end products because high-end products have longer life cycles (Sun, Bellezza, and Paharia 2021). In the current work, the pursuit of meaning caused people to prefer less expensive products over more expensive products, even though the former products are less durable and environmentally friendly than the latter. An implication of this work, then, is that the pursuit of meaning may reduce sustainable consumption, at least in the absence of clear information about environmental considerations. While this implication should be verified in future research, for now we note that the deleterious effect of the pursuit of meaning on willingness to purchase high-end and thus less sustainable products may be alleviated by reminding those pursuing meaning that high quality purchases last longer (web appendix E).

Finally, this research could have implications for consumer welfare. Among those pursuing meaning, buying relatively cheaper products may reduce satisfaction because cheaper products might fail to deliver on desired benefits (Bate et al. 2011; Chen et al. 2009). A less expensive coffee machine, for example, may be enjoyed less than a more expensive one. It may also break down earlier and be more environmentally costly. The ramifications of buying less expensive products may lead to disutility, diminishing rather than enhancing well-being. Given the importance of meaning for well-being, it behooves future researchers to examine how choosing less expensive options impacts the happiness of consumers pursuing meaning.

Directions for Future Research

We advocate that, because people buy products to enhance their happiness and well-being, and because meaning is one of the two key inputs to those outcomes, the pursuit of meaning is likely an important but overlooked driver of consumer choice. In this investigation, we focused on how this goal influences consumer preferences for products that vary on price and to some extent quality. While these two factors are universal features of consumer choice, they are by no means the only dimensions on which consumers make their choices. We encourage researchers to continue to uncover how the pursuit of meaning influences the many other dimensions of consumer choice behavior, such as variety seeking, the use of (non)compensatory processes, and purchase deferral.

We hypothesized and found that the pursuit of meaning fostered a spontaneous focus on opportunity costs; by contrast little evidence pointed to a desire to conserve resources as driving our effects. However, given the possible conceptual and empirical overlap between opportunity cost consideration and resource conservation, researchers may wish to study the potential links between meaning, opportunity cost consideration, and resource conservation in the future. Future research could also examine whether the focus on opportunity costs is caused by one or more of the three components of meaning: significance, purpose, and connection.

One limitation of the present research is that we did not manipulate the perceived meaningfulness of choice stimuli, limiting insight into what happens when the desire for meaning conflicts with the preference for spending less. Intuition suggests that when meaning goals are active, people will gravitate towards that which they perceive to be most meaningful, even if those options are more expensive (e.g., sustainably-farmed foods, identity-relevant

clothing). However, could a focus on opportunity costs create situations where the preference for spending less supersedes the desire for meaning at the moment of choice? We hope future researchers will shed light on this interesting question.

Similarly, future research also might identify moderating factors that lead those pursuing meaning to prefer more expensive goods. For example, do certain institutional structures cause meaning to be associated with more expensive items in some cultures or in specific consumption domains (e.g., wedding rings)? Such investigations could help explain the nature of the lay intuition that symbolically meaningful experiences should be more expensive (McGraw et al. 2016). Answers to this question could also benefit practitioners who seek to build purposeful brands but find it difficult to do so when consumers choose based on price rather than values tied to meaning. For example, Danone Portugal launched Juntos— “together” in Portuguese—a yogurt brand that sought appeal to consumers’ desire for meaning by donating a yogurt to a family in need for every pack of yogurt purchased. Despite sinking millions of dollars into brand development, Danone pulled Juntos from the market six months after launch because it was a failure (Ludovic Reysset, CEO of Danone Portugal, in Webex conversation with author, March 24 2021). Research that identifies when and why the pursuit of meaning leads to a preference for high-end, premium goods could help brands avoid such costly failures.

Lastly, it would be useful for future research to examine if the *experience* of meaning leads to different choice outcomes than the *pursuit* of meaning. For example, it is possible that when consumers already feel they have a sense of significance, purpose, or connection in their lives, such as when they have just received a promotion, lent a helping hand, or tied the knot, that feeling of meaning could lead them to choose products that are high quality and longer lasting. We encourage researchers to compare the experience of meaning to the pursuit of meaning.

Conclusion

The need to pursue and create meaning is a challenging, but integral part of daily life. Despite the centrality of this motive, little is known about how this quest shapes consumers' choices. Here, we provide a preliminary answer to help fill that gap in knowledge. We document and explain a counterintuitive yet robust pattern: consumers pursuing meaning prefer less expensive products because they are focused on alternative uses for their money. We hope that this investigation inspires future researchers to continue understanding how the quest for meaning unfolds in the marketplace.

DATA COLLECTION PARAGRAPH

For all studies reported, each author analyzed the data for each experiment independently to ensure reliability. Data for study 1a were collected by a research assistant under the supervision of Nicole Mead at the University of Melbourne in May 2018. Data for study 1b were collected through Prolific by a research assistant under the supervision of Nicole Mead in March 2021. Data for study 1_{Discussion} (also reported in web appendix C) were collected by a research assistant under the supervision of Nicole Mead using Prolific in August 2021. Data for study 2 were collected by a research assistant under the supervision of Nicole Mead using Prolific in February 2021. Data for study 3 were collected by Lawrence Williams using Prolific in February 2019. Data for study 3_{Discussion} (also reported in web appendix D) were collected by Nicole Mead using Prolific in November 2018; the data were coded by trained research assistants under the supervision of Nicole Mead. Study 4a was conducted using Prolific in February 2021; the data were collected by a research assistant under the supervision of Nicole Mead, and the data were coded by trained research assistants under the supervision of Lawrence Williams. The data for study 4b_{validation} were collected on Prolific by a research assistant under the supervision of Nicole Mead in July 2021. Study 4b was conducted using Prolific in March 2021; the data were collected by a research assistant under the supervision of Nicole Mead. All data are available on OSF (https://osf.io/nm8vp/?view_only=93727f6eeab743d9bcc7186e37cf4962).

APPENDIX A

Preference Task Stimuli Used in Studies 1a, 1b, and 3

For each item participants were asked: “If you are focused on the pursuit of MEANING (PLEASURE), which would you prefer to buy” (with parenthetical information varying across the goal condition). Items were displayed randomly.

De'Longhi coffee-maker (price = \$299) vs. Cuisinart coffee-maker (price = \$59)

Cup of coffee from a boutique cafe (e.g., Higher Ground; price = \$4.99) vs. cup of coffee from a basic coffee chain (e.g., Starbucks; price = \$1.99)

A ride in an Uber Black (average price = \$70/trip) vs. a ride in an UberX (average price = \$15/trip)

Dinner at a Good Food Guide 2 hat restaurant (price = \$95/dish) vs. dinner at a gastropub (price = \$25/dish)

Audi A4 (price = \$48,880) vs. Volkswagen Golf (price = \$23,990)

"Secrets of a Michelin-star Chef" cooking class (price = \$95/session) vs. "Mastering Home Cooking" cooking class (price = \$25/session)

Buying a set of Lacroix LX Carbon skis + bindings (price = \$1300) vs. a set of Rossignol Experience Carbon skis + bindings (price = \$300)

Renting a Premium ski equipment package (price = \$70/day) vs. a Basic ski equipment package (price = \$22/day)

Fujifilm QuickSnap 35mm Single Use Camera (price = \$19) vs. Kodak 35mm One Time Use Disposable Camera (price = \$8)

Nikon D750 Digital SLR Camera (price = \$1797) vs. Nikon Coolpix A900 Digital Camera (Price = \$549)

Hydro Flask Insulated Water Bottle (price = \$35) vs. CamelBak Chute Water Bottle (price = \$13)

10 Thousand BC Bottled Water (price = \$14.00/750 ml) vs. Pump Pure Bottled Water (price = \$2.75/750ml)

APPENDIX B

Article Goal Manipulations Used in Studies 1b and 4b (meaning only)

[US](#) [World](#) [Politics](#) [Business](#) [Opinion](#) [Health](#) [Entertainment](#) [Style](#) [Travel](#) [Sports](#) [Videos](#)

Finding meaning in consumption improves well-being, researchers say

Boulder, COLO - When people make purchases, they often use them to add purpose to their lives and connect with their values. Researchers refer to these types of purchases as eudaimonic (yoo-DAY-mahn-ik) consumption. This refers to the idea that if someone spends \$8.00 to rent a dramatic movie, that \$8.00 purchase is adding meaning to their life.

New research shows how eudaimonic consumption improves consumer welfare, because it increases happiness. In the study, people who report thinking about the meaningfulness of their purchases when they shop reported more happiness. "Thinking about the purpose and significance of what we buy helps us be sure we really get what we need," says Dr. Kevin Peterson, the study's lead author. "It is healthy to take the time to think about meaning."

[US](#) [World](#) [Politics](#) [Business](#) [Opinion](#) [Health](#) [Entertainment](#) [Style](#) [Travel](#) [Sports](#) [Videos](#)

Finding pleasure in consumption improves well-being, researchers say

Boulder, COLO - When people make purchases, they often use them to add fun to their lives and immediate gratification. Researchers refer to these types of purchases as hedonic (hee-DAH-ik) consumption. This refers to the idea that if someone spends \$8.00 to rent a comedic movie, that \$8.00 purchase is adding pleasure to their life.

New research shows how hedonic consumption improves consumer welfare, because it increases happiness. In the study, people who report thinking about the pleasure of their purchases when they shop reported more happiness. "Thinking about the fun and exciting aspects of what we buy helps us be sure we really get what we need," says Dr. Kevin Peterson, the study's lead author. "It is healthy to take the time to think about pleasure."

APPENDIX C

Scenario Used in Study 4a

Imagine that you have some extra money set aside to make some purchases. While browsing the Internet, you come across a **special sale on a video**. This video is one with your favorite actor or actress, and your favorite type of movie (such as a comedy, drama, thriller, etc.). This particular video that you are considering is one **you have been thinking about buying a long time**. It is available at the special sale price of \$12.99.

APPENDIX D

Double Lottery BDM Procedure Used in Study 4b

To make this choice more realistic, you will be entered into a lottery for a \$50 bonus. Each participant has a **1 in 100 chance of winning the lottery**.

If you are randomly selected as a lottery winner, we will compare your stated willingness to pay for the item to a randomly generated price.

- If you win the lottery and were willing to pay **MORE** than the randomly generated price, you will receive the item and pay the randomly generated price. In addition, you will receive any change leftover as a bonus (total value = \$50).
- If you win the lottery and were willing to pay **LESS** than the randomly generated price, you will not receive the item, and you will not pay anything. You will simply receive the \$50 bonus.

There are no right or wrong answers, but it is important that you report your true willingness to pay for the item. Please answer as honestly as possible, based on your own personal preferences.

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Web Appendix

Mead and Williams “The Pursuit of Meaning and the Preference for Less Expensive Options”

- A. Description of additional measures and analyses across studies 1-4b
- B. Manipulation check analyses
- C. Replication of study 1a with continuous manipulation check (studies 1a/b_{Discussion})
- D. Supplemental analysis of coded meaningfulness of participants’ choices in study 2
- E. Replication and extension of study 3 with coded mediator (study 3_{Discussion})
- F. Opportunity Cost Consideration, Resource Conservation, and Financial Scarcity Coding Schemes for study 3_{Discussion}
- G. Validation test for stimuli reported in study 4b
- H. Post-hoc power and sensitivity analyses for all studies

APPENDIX A. DESCRIPTION OF ADDITIONAL MEASURES AND ANCILLARY ANALYSES ACROSS STUDIES 1-4b

In table A1, we report all supplemental analyses on key demographic variables and all additional measures.

The demographics analyses examined the potential moderating influence of *gender*, *income*, and *age*.

The individual difference analyses examined the potential moderating influence of *materialism* and *ethically-minded consumer behavior*. In studies 1a and 2, after completing the focal dependent variable and responding to the manipulation check participants completed the 9-item Materialism scale (short form; Richins 2004; α s range from .75 to .83). In study 1a only, participants also completed the 10-item Ethically-Minded Consumer Behavior scale (Sudbury-Riley and Kohlbacher 2016; $\alpha = .90$ to .95). For each scale, responses were averaged into an index and mean-centered. These individual difference scales were measured as potential moderators of our anticipated effect of the goal manipulation on preference for less expensive items.

In study 1a, we also measured product involvement. Specifically, participants were asked to indicate how much they cared about eight products/product categories on scales ranging from 1 (not at all) to 5 (very much so). These items corresponded with the choice sets participants saw previously (*cooking, cars, cameras, coffee, water, skiing, Uber, and fine dining*). We summarized involvement measures into an index ($\alpha = .46$ to .69) and examined whether overall involvement moderated the key result.

Across multiple studies we included two items tied to one author’s earlier conceptualization of the characteristics of meaningfulness in consumption. These relate to a separate project and have no bearing on the present results. Participants were asked to indicate the degree to which they (1) made choices that were *unique to them* (vs. choices others would make) and (2) relied on previous *experience and expertise* (vs. not) on seven-point slider scales.

Lastly, in study 3, we asked about the degree to which participants focused on price, as well as alternative uses of their time and energy. For the sake of conceptual clarity, our operationalization of opportunity costs consists solely of participants’ focus on alternative uses of money. These measures were included to examine other potential representations of opportunity costs.

Table A1. Supplemental analyses of demographic and ancillary measures across all studies.

	Study	M_{Meaning} (SD)	M_{Pleasure} (SD)	Contrast
Gender				
<i>Effect on preference DV controlling for gender</i>	1a	--	--	$b = .28, t(169) = 2.69, p = .008, b = .28$
	1b	--	--	$b = .34, t(321) = 4.04, p < .001, b = .31$
	1a ^{Footnote}	--	--	$b = .34, t(435) = 2.58, p = .010, b = .34$
	3 ^{Discussion}	--	--	$b = .39, t(434) = 5.22, p < .001, b = .34$ $b = .36, t(281) = 3.41, p = .001, b = .28$
<i>Effect on price DV controlling for gender</i>	2	--	--	$b = -2.93, t(422) = -1.75, p = .081, b = -.15$
<i>Effect on WTP (baseline vs. opportunity cost neglect) controlling for gender</i>	4b	--	--	$b = 3.36, t(327) = 3.20, p = .001, b = .20$
<i>Effect on WTP (baseline vs. opportunity cost consideration) controlling for gender</i>	4b	--	--	$b = 1.23, t(327) = 1.17, p = .241, b = .07$
<i>Goal X gender interaction</i>	1a	--	--	$b = -.003, t(169) = -.02, p = .981, b = -.003$
	1b	--	--	$b = -.06, t(321) = -.542, p = .588, b = -.04$
	1a ^{Footnote}	--	--	$b = .10, t(435) = .742, p = .458, b = .10$

	2	--	--	$b = .54, t(422) = .270, p = .788, b = .02$
	3	--	--	$b = -.04, t(434) = -.363, p = .717, b = -.02$
	3 ^{Discussion}	--	--	$b = -.05, t(281) = -.330, p = .741, b = -.03$
Income				
<i>Effect on preference DV controlling for income</i>	1b	--	--	$b = .31, t(317) = 5.39, p < .001, b = .29$
<i>Effect on price DV controlling for income</i>	2	--	--	$b = -5.69, t(400) = -2.55, p = .076, b = -.30$
<i>Effect on WTP (baseline vs. opportunity cost neglect) controlling for income</i>	4b	--	--	$b = 3.52, t(318) = 3.31, p = .001, b = .21$
<i>Effect on WTP (baseline vs. opportunity cost consideration) controlling for income</i>	4b	--	--	$b = 1.27, t(318) = 1.19, p = .236, b = .08$
<i>Goal X income interaction</i>	1b	--	--	$b = -.02, t(317) = -.947, p = .345, b = -.05$
	2	--	--	$b = -.66, t(400) = -1.07, p = .284, b = -.18$
Age				
<i>Effect on preference DV controlling for age</i>	1a	--	--	$b = .28, t(169) = 3.88, p < .001, b = .29$
	1b	--	--	$b = .33, t(319) = 5.55, p < .001, b = .30$
	1a ^{Footnote}	--	--	$b = .43, t(434) = 10.1, p < .001, b = .44$
	3	--	--	$b = .37, t(432) = 7.01, p < .001, b = .32$
	3 ^{Discussion}	--	--	$b = .33, t(281) = 4.55, p < .001, b = .26$
<i>Effect on price DV controlling for age</i>	2	--	--	$b = -2.28, t(419) = -2.45, p = .015, b = -.12$
<i>Effect on WTP (baseline vs. opportunity cost neglect) controlling for age</i>	4b	--	--	$b = 3.54, t(327) = 3.37, p = .001, b = .21$
<i>Effect on WTP (baseline vs. opportunity cost consideration) controlling for age</i>	4b	--	--	$b = 1.38, t(327) = 1.32, p = .188, b = .08$
<i>Goal X age interaction</i>	1a	--	--	$b = -.08, t(169) = -1.48, p = .140, b = -.11$
	1b	--	--	$b = .01, t(319) = 1.80, p = .073, b = .25$
	1a ^{Footnote}	--	--	$b = .00, t(434) = .017, p = .987, b = .001$
	2	--	--	$b = .11, t(419) = 1.48, p = .139, b = .07$
	3	--	--	$b = -.001, t(432) = -.123, p = .902, b = -.01$
	3 ^{Discussion}	--	--	$b = -.01, t(281) = -.926, p = .355, b = -.05$
Materialism				
<i>Effect on preference DV controlling for materialism</i>	1a	--	--	$b = .28, t(169) = 3.83, p < .001, b = .28$

<i>Effect on price DV controlling for materialism</i>	2	--	--	$b = -2.48, t(422) = -2.70, p = .007, b = -.13$
<i>Goal X materialism interaction</i>	1a	--	--	$b = -.01, t(169) = -.117, p = .907, b = -.01$
	2	--	--	$b = 1.54, t(422) = 1.19, p = .234, b = .06$
EMCB				
<i>Effect on preference DV controlling for EMCB</i>	1a	--	--	$b = .27, t(169) = 3.76, p < .001, b = .28$
<i>Goal X EMCB interaction</i>	1a	--	--	$b = -.06, t(169) = -.602, p = .548, b = -.04$
Involvement				
<i>Effect on preference DV controlling for involvement</i>	1a	--	--	$b = .32, t(169) = 4.49, p < .001, b = .32$
<i>Goal X involvement interaction</i>	1a	--	--	$b = .06, t(169) = .929, p = .354, b = .07$
Made choices unique to me	1a	5.42 (1.67)	5.23 (1.80)	$t(171) = .721, p = .472, d = .11$
	1b	5.38 (1.82)	5.90 (1.46)	$t(323) = 2.85, p = .005, d = .32$
	2	5.71 (1.19)	5.62 (1.37)	$t(424) = .676, p = .500, d = .07$
	3 ^{Discussion}	5.75 (1.40)	5.74 (1.19)	$t(283) = .072, p = .942, d = .01$
	4a	5.45 (1.60)	5.48 (1.59)	$t(436) = .225, p = .822, d = .02$
Relied on my expertise	1a	4.83 (1.56)	4.21 (1.98)	$t(171) = 2.27, p = .025, d = .35$
	1b	4.52 (1.81)	4.70 (1.86)	$t(323) = .868, p = .386, d = .10$
	2	3.72 (1.75)	3.37 (1.78)	$t(424) = 2.01, p = .045, d = .20$
	3 ^{Discussion}	5.33 (1.64)	5.37 (1.50)	$t(283) = -.213, p = .831, d = .03$
	4a	4.31 (1.69)	4.10 (1.84)	$t(436) = 1.22, p = .222, d = .12$
Focus on price	3	5.10 (1.63)	4.65 (1.78)	$t(436) = 2.71, p = .007, d = .26$
Focus on alternative uses of time	3	2.57 (1.86)	2.14 (1.66)	$t(436) = 2.52, p = .012, d = .24$
Focus on alternative uses of energy	3	2.82 (1.97)	2.15 (1.71)	$t(436) = 3.84, p < .001, d = .37$

NOTE. In analyses involving gender, females are coded as 1, all other genders coded as 0. EMCB = ethically-minded consumer behavior. For study 2, the comparison to the meaning condition was not pleasure, but instead a no-goal baseline condition. Study 3^{Discussion} = the study referenced in the discussion of study 3 that replicates and extends it by examining a coded mediator.

APPENDIX B. MANIPULATION CHECK ANALYSES

Primary (Dichotomous) Manipulation Check Used in Studies 1a-b, 3, and 3^{Discussion}

Our focal manipulation check question asked respondents to indicate which goal they pursued as they completed the shopping task: pursue meaning or pursue pleasure (forced choice). This manipulation check was not used in studies 2, 4a, or 4b. Table B1 summarizes the success of the manipulation for each study in which the check was used. Overall, we find evidence that the manipulation worked as intended.

Table B1. Summary of focal manipulation check across all studies in which it was employed.

Study	%Pass manipulation check	% ^{Meaning}	% ^{Pleasure}
1a	89.0%	88.9%	89.1%
1b	80.3%	72.3%	88.0%
2	--	--	--
3	92.0%	91.3%	92.7%
3 ^{Discussion}	87.0%	91.5%	82.5%
4a	--	--	--
4b	--	--	--

Mediating effect of the theory-derived manipulation check in studies 1a, 1b, 2, and 4a

In a subset of studies, we presented participants with additional manipulation check questions derived from extant theory (documented in the main text). Here we examine whether these items (in aggregate) mediate the effect of the goal manipulations on the relevant dependent variables in those studies. We note that the inclusion of these theory-derived manipulation check measures (treat as thinking/feeling task, focus on future benefits/immediate gratification, invest

as much time as necessary/complete as fast as possible) was intended to increase confidence that our manipulations operated as intended (evinced by a relationship between the meaning/pleasure manipulation and the manipulation check measures). We have no real expectations about the b-path in a mediation model (between these manipulation check measures and preference for less expensive options DVs). However, we present these analyses for the sake of completeness.

Mixed evidence for such mediation emerges. All analyses conducted using the PROCESS macro (model 4; 10,000 resamples).

Table B2. Summary of mediating effect of theory-derived manipulation check across all studies in which it was employed.

Study (Measure)	a path (95% CI)	b path (95% CI)	a*b (95% CI)
1a (aggregate)	.243 (.092, .394)	.234 (.096, .372)	.057 (.013, .121)
1a (invest time)	.161 (-.0263, .349)	.009 (-.105, .124)	.002 (-.019, .027)
1a (focus future)	.195 (-.049, .439)	.076 (-.012, .163)	.015 (-.005, .056)
1a (thinking task)	.373 (.133, .612)	.197 (.112, .282)	.073 (.023, .138)
1b (aggregate)	.104 (-.021, .228)	.206 (.109, .304)	.021 (-.004, .054)
1b (invest time)	-.292 (-.483, -.100)	.026 (-.039, .091)	-.008 (-.028, .011)
1b (focus future)	.336 (.162, .510)	.122 (.051, .192)	.041 (.011, .083)
1b (thinking task)	.267 (.075, .458)	.134 (.071, .197)	.036 (.010, .072)
2 (aggregate)	.143 (.065, .221)	-.955 (-3.18, 1.27)	-.137 (-.518, .192)
2 (invest time)	.111 (-.010, .233)	-.505 (-1.94, .928)	-.056 (-.275, .120)
2 (focus future)	.117 (-.013, .248)	.636 (-.696, 1.97)	.075 (-.099, .295)
2 (feeling task)*	.200 (.044, .357)	-.850 (-1.96, .259)	-.170 (-.510, .048)
4a (aggregate)	.320 (.224, .416)	.390 (.182, .598)	.125 (.057, .213)
4a (invest time)	.062 (-.059, .183)	-.096 (-.249, .057)	-.006 (-.030, .007)
4a (focus future)	.367 (.213, .521)	.470 (.326, .613)	.172 (.089, .283)
4a (thinking task)	.531 (.371, .691)	.071 (-.045, .187)	.038 (-.022, .108)

Note: In study 2 we reverse code the feeling (vs. thinking) item.

APPENDIX C. REPLICATION OF STUDY 1A WITH CONTINUOUS MANIPULATION

CHECK (STUDY 1A/B_{DISCUSSION})

This follow-up study was a near replication of study 1a, designed to provide additional validation for the goal induction manipulation. Four hundred and forty Prolific workers completed this pre-registered study (<https://aspredicted.org/7cy85.pdf>) in exchange for a small monetary payment. One participant from the meaning condition asked to have their data removed, leaving a final sample of 439 (394 women; $M_{age} = 23.93$).

The (meaning vs. pleasure) manipulation and the dependent variable (average preference for less expensive items) were identical to study 1a, and the study proceeded identically during these phases. At the end of the study, instead of asking participants to select which goal they were pursuing, we measured the extent to which participants' preferences were motivated by the pursuit of meaning or pleasure, using separate scales. Notably, we manipulated which of these items we presented between participants, such that half of participants reported on the influence of meaning, and the remaining participants reported on the influence of pleasure. Specifically, participants were asked, "To what extent were your purchase preferences motivated by the pursuit of MEANING [PLEASURE]," with capitalized bracketed information manipulated between groups. Responses were made on a scale ranging from 1 (not at all) to 7 (extremely).

We measured meaning and pleasure in separate samples to avoid contamination and minimize the likelihood that the results were colored by measurement artifacts (given the high correlation between meaning and pleasure; Baumeister et al. 2013; Dwyer, Dunn, and Hershfield 2017). We anticipated that both measures would separately relate to the dependent variable across independent samples.

Results and Discussion

First, we replicate the pattern observed in study 1a on our key outcome. Participants in the meaning condition ($M = 4.25$) reported a stronger preference for the less expensive products as compared to those in the pleasure condition ($M = 3.40$; $t(437) = 10.18$, $p < .001$; $d = .97$). We also obtain evidence that the manipulation operated in the way we intended. Amongst those presented with the meaning manipulation check, participants prompted to pursue meaning reported that their preferences were more motivated by meaning ($M = 5.09$), compared to those in the pleasure condition ($M = 3.83$; $t(214) = 6.06$, $p < .001$; $d = .83$). Likewise, amongst those presented with the pleasure manipulation check, participants prompted to pursue meaning reported that their preferences were less motivated by pleasure ($M = 4.24$), compared to those in the pleasure condition ($M = 5.87$; $t(221) = -9.24$, $p < .001$; $d = -1.24$). This result corroborates the pattern observed with the forced-choice manipulation check employed in study 1a.

As a follow-up analysis, we examined the degree to which the two manipulation check items related to participants' expressed preference for less expensive items. Corroborating the pattern we obtain when we predict product preference from experimental condition, we found that measured meaning (as assessed by the manipulation check) positively predicted people's preference for less expensive items ($b = .12$, $t(214) = 2.98$, $p = .003$). Conversely, and consistent with past research (e.g., Wakefield and Inman 2003), we found that measured pleasure (again, as assessed by the manipulation check) negatively predicted people's preference for less expensive items ($b = -.31$, $t(221) = -8.58$, $p < .001$).

Thus, we conclude that meaning and pleasure separately influence people's preference for less expensive items. While it is known that pleasure correlates with an interest in more expensive things (e.g., Wakefield and Inman 2003), we show that the pursuit of meaning leads to an opposite pattern. Importantly, these results speak against an interpretation that our key finding is driven merely by reduced pleasure amongst those pursuing meaning (studies 2, 4a, and 4b provide additional evidence against such an interpretation).

APPENDIX D. SUPPLEMENTAL ANALYSIS OF CODED MEANINGFULNESS OF PARTICIPANTS' CHOICES IN STUDY 2

Two research assistants coded the meaningfulness of each participant's product choice from study 2. More specifically, they reviewed the chosen product on Amazon.com and indicated the extent to which the product could help achieve a sense of purpose, fulfillment, and value (1 = not at all meaningful; 5 = very meaningful). This definition of meaning is the same definition that was presented to participants in the main study in the meaning goal condition. The coding of the two raters was reliable ($\alpha = .90$). However, the products purchased by participants in the meaning condition ($M = 2.65$) and participants in the baseline condition ($M = 2.52$) were not rated as differing in meaningfulness ($t(417) = 1.279, p = .202$).

In our view, this null result does not suggest a failure of the meaning manipulation. Recall that two manipulation checks (one forced choice, the other a theory derived scalar check) together indicate that the manipulation successfully instantiated the pursuit of meaning in the study. Instead, we speculate that the null result stems from coders' difficulty in inferring what products are perceived to be meaningful to participants. Meaning is idiosyncratically and subjectively determined (Hicks and King 2009). That is to say, what one person finds very meaningful (such as the original participant who chose the product) might be completely devoid of meaning for another (such as a coder). In the absence of additional knowledge about each individual participant's life experiences and preferences, we believe it is extremely difficult for outside observers to infer whether products chosen by participants were meaningful.

APPENDIX E. REPLICATION AND EXTENSION OF STUDY 3 USING CODED MEDIATOR (STUDY 3_{DISCUSSION})

Here, we conceptually replicate and extend the results of study 3 by examining the effect of the meaning goal on participants' thoughts about alternative uses for their money. More specifically, for each of four product sets, after indicating their preference between more and less expensive products participants explained their preference in 1-2 sentences. This rich set of responses was then coded by trained research assistants for opportunity cost consideration.

Furthermore, we examine the effect of reminding participants of the typical link between a product's quality and its durability. This durability factor allowed us to examine a boundary at which the effect of the pursuit of meaning (vs. pleasure) on the preference for less expensive items would not be obtained. Specifically, we predicted that prompting participants to think about the link between quality and durability would cause meaning-motivated participants to shift away from thinking about opportunity costs, and presumably move them towards thinking more narrowly about the options at hand. If so, then the key result should be attenuated amongst those who are reminded that higher quality products tend to be more durable. Furthermore, this moderated pattern should be mediated by the coded index of opportunity cost consideration.

Design and Method

Two hundred and eighty-nine American Prolific workers completed this 2 (goal: meaning vs. pleasure) by 2 (durability-quality link reminder: present vs. absent) between-subjects design. Sample size was determined by budget and anticipated power to detect a possible interaction

between the durability and goal manipulations. To comply with the IRB requirements for this research, we excluded data from four participants (1 in the meaning condition) who requested that their data not be included in the final dataset. Therefore, the final sample consisted of responses from 285 participants (148 women; $M_{\text{age}} = 31.82$).

The study design was identical to study 3 with four exceptions. First, we did not manipulate the goal writing task instructions; all participants completed the goal manipulation with the writing task instructions, taken from study 1a. Instead, in this study, we manipulated a dependent variable factor: whether participants were reminded of the link between a product's quality and its durability as they made choices. More specifically, those in the *durability-quality link present condition* received a reminder before completing the shopping task that "products with higher quality tend to be more durable." In addition, they were shown the reminder that "high quality options tend to be more DURABLE" at the top of every choice set. Participants in the *durability-quality link absent condition* proceeded from the manipulation to the preference task as they did in study 1a and study 3.

Second, instead of providing a self-report of opportunity cost consideration, participants were asked to explain their thought process as they indicated their preferences. Third, participants viewed and rated only four product sets (from the coffee and car categories) as opposed to 12. We limited the number of product sets in this study because we wanted participants to generate rich (codable) responses to the thought listing task. Similar to Spiller (2011), participants were asked to "write 1-2 sentences explaining your preference" for each of the four product sets on a subsequent page so they could not change their preference rating based on their explanation. The four free responses were then coded by two research assistants (who were blind to the research hypotheses and participants' experimental condition) for how much

the participant was focused on opportunity costs (i.e., how much participants mentioned or focused on other things they could do with their money besides buy the product in question; 1 = little to no focus; 5 = a lot of focus). To evaluate alternative explanations for our key result, responses were also coded for *resource conservation* (i.e., how much participants appeared to be trying to save money for future unknown circumstances; 1 = little to no focus; 5 = a lot of focus) and *financial scarcity* (i.e., how much participants appeared to be feeling as though there was a discrepancy between their current level of resources and a higher, more desirable reference point; 1 = little to no focus; 5 = a lot of focus). For the exact coding scheme see web appendix E. Responses were treated as a missing variable (3.6% of the sample) when a) any explanation was too generic or vague to be coded (e.g., “price”) or b) when participants wrote nonsense phrases (e.g., “dfdhdhdhdhd”). The coding for each product was reliable (opportunity costs: $\alpha_s > .78$; financial scarcity: $\alpha_s > .74$; resource conservation: $\alpha_s > .87$) so we averaged the coders’ ratings to form an index for each possible process ($M_{\text{opportunity cost consideration}} = 1.83$; $M_{\text{financial scarcity}} = 1.12$; $M_{\text{resource conservation}} = 1.23$).

Fourth, participants completed the same theory-derived manipulation check used in studies 1a and 1b and a manipulation check for the durability manipulation (“When you made your choices, to what extent were you focused on the durability of the options,” 1 = not at all; 7 = extremely; table D1).

Results and Discussion

Product preference. Consistent with studies 1-3, participants in the meaning condition ($M = 4.34$) reported a higher preference for less expensive products as compared to participants in

the pleasure condition ($M = 3.67$; $F(1, 281) = 21.08, p < .001$; $\eta_p^2 = .070$). There was no main effect of the durability manipulation ($p = .491$). Consistent with predictions, however, we observed a near significant goal by durability interaction ($F(1, 281) = 3.832, p = .051$; $\eta_p^2 = .013$). Decomposing this interaction, we found that when the link between quality and durability was not mentioned, we replicated our previous results: participants pursuing meaning (vs. pleasure) showed a stronger preference for less expensive items ($M_{meaning} = 4.54$ vs. $M_{pleasure} = 3.58$; $F(1, 281) = 21.820, p < .001, \eta_p^2 = .072$). Consistent with our conceptual model, when the link between quality and durability was made salient, the magnitude of the effect was sharply reduced ($M_{meaning} = 4.15$ vs. $M_{pleasure} = 3.77$; $F(1, 281) = 3.408, p = .066, \eta_p^2 = .012$).

Opportunity cost as a mechanism. Next, we tested the predictions that the meaning (vs. pleasure) goal increased participants' consideration of opportunity costs (i.e., how much participants expressed a consideration of alternative uses for their money), but that reminding participants of the link between quality and durability would attenuate that effect. Treating coders' ratings of opportunity cost consideration as the dependent measure, we found that participants pursuing meaning ($M = 1.97$) focused on opportunity costs more than those pursuing pleasure ($M = 1.69$; $F(1, 277) = 10.704, p = .001$; $\eta_p^2 = .037$). We again found no main effect of the durability manipulation ($p = .180$), but we did observe the anticipated (marginally) significant goal by durability interaction ($F(1, 277) = 3.735, p = .054, \eta_p^2 = .013$). Mirroring the pattern predicting product preference, we found that when the link between quality and durability was not mentioned, participants pursuing meaning (vs. pleasure) showed a stronger preference for less expensive items, replicating the results from study 3 ($M_{meaning} = 2.10$ vs. $M_{pleasure} = 1.67$; $F(1, 277) = 13.786, p < .001, \eta_p^2 = .047$). Consistent with expectations, when the link between

quality and durability was made salient, that effect disappeared ($M_{meaning} = 1.83$ vs. $M_{pleasure} = 1.72$; $p = .349$, $\eta_p^2 = .003$).

We conducted a bootstrapped moderated mediation analysis (Hayes 2017) to evaluate the hypothesis that the effect of pursuing meaning (vs. pleasure) on participants' preference for low-price options occurred via an enhanced focus on opportunity costs but only when durability was not made salient. Using the PROCESS macro (model 8), we ran a model treating the goal manipulation as the independent variable, coded focus on opportunity costs as the potential mediator, the durability manipulation as the potential moderator, and product preference as the dependent variable. This analysis revealed evidence of moderated mediation ($b = -.277$, 95% CI $[-.572, -.001]$). Supporting our proposed conceptual model, the indirect effect of meaning (vs. pleasure) on enhanced preference for less expensive products via coded opportunity cost consideration was significant when there was no mention of durability and quality ($b = .373$, 95% CI $[.155, .593]$). Consistent with expectations, when durability was made salient, the indirect effect was not significant ($b = .096$, 95% CI $[-.089, .281]$, including zero).

Alternative explanations. Predicting coding of participants' focus on financial scarcity during the product preference task, we did not observe any main effects nor an interaction ($ps > .281$). Predicting coding of participants' focus on conserving resources, we also did not observe any effects of our manipulations ($ps > .225$). As such, these factors did not mediate our results (CIs include zero). Combined with the results of study 2, these findings cast doubt on the alternative explanation that participants pursuing meaning are inclined toward less expensive products because of a desire to conserve resources.

Discussion. The results of this study provide additional support for the hypothesis that participants pursuing meaning (vs. pleasure) prefer less expensive products because of an

enhanced focus on opportunity costs. Furthermore, this study provides evidence for a boundary condition for our key result. When the link between durability and quality was made salient, the preferences of those pursuing meaning matched the preferences of those pursuing pleasure.

Notably, the durability reminder had no effect on the preferences of those pursuing pleasure, but it did reduce the preference for less expensive products among participants pursuing meaning.

We theorized that the durability manipulation prompts participants pursuing meaning to attend more narrowly to the options at hand, reducing the degree to which they spontaneously take opportunity costs into account. The moderated mediation pattern supports this thinking. For participants not exposed to the durability reminder, we replicated the mediation results obtained in study 3 using a different measure of opportunity costs (i.e., coding of participants' free responses by trained coders) that was taken from prior work on opportunity cost consideration (Frederick et al. 2009; Spiller 2011). For participants reminded of durability, that indirect effect was attenuated.

Table D1. Effect of goal condition (meaning vs. pleasure) in study 3^{Discussion}

	M_{Meaning} (SD)	M_{Pleasure} (SD)	Contrast
Preference DV in control condition	4.54 (1.12)	3.58 (1.43)	$t(281) = 4.67, p < .001, d = .59$
Preference DV in durability-quality link salient condition	4.15 (1.06)	3.77 (1.27)	$t(281) = 1.85, p = .066, d = .59$
Focus on alternative uses of money (coded mediator)	1.97 (.688)	1.69 (.718)	$t(279) = 3.26, p = .001, d = .59$
Focus on future benefits	5.49 (1.42)	4.19 (1.80)	$t(283) = 6.74, p < .001, d = .59$
Treat as thinking task	4.91 (1.75)	3.55 (1.95)	$t(283) = 6.18, p < .001, d = .59$
Invest time	5.64 (1.19)	5.68 (1.25)	$t(283) = -.260, p = .795, d = .59$
Aggregate TDMC	5.35 (1.07)	4.47 (1.17)	$t(283) = 6.58, p < .001, d = .59$
Durability check in durability-quality link salient condition	5.22 (1.49)	4.83 (1.67)	$t(281) = 2.59, p = .010, d = .59$
Durability check in control condition	4.49 (1.51)	4.01 (1.99)	$t(281) = 2.91, p = .004, d = .59$
Main effect of durability salience manipulation on durability check	--	--	$F(1, 281) = 4.70, p = .031, d = .59$

**APPENDIX F. OPPORTUNITY COST CONSIDERATION, RESOURCE CONSERVATION,
AND FINANCIAL SCARCITY CODING SCHEMES FOR STUDY 3_{DISCUSSION}**

Opportunity Cost Coding Scheme

For each explanation, please code whether the participant appears to mention or focus on opportunity costs (e.g., other things they could do with money besides buy coffee makers or skis).

Please make all responses on the following 0-5 coding scheme:

0 N/A or indeterminable	1 Little to no focus on opportunity costs	2	3	4	5 A lot of focus on opportunity costs
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NOTE:

1. Any explanation that is too generic or vague to be coded as focusing on opportunity costs should be scored as 0 (zero).
2. Any nonsense phrases (e.g., “dfdhdhdhdhd”) should be scored as 0 (zero).

Financial Constraint/Resource Scarcity Coding Scheme

For each explanation, please code whether the participant appears to be thinking about their current financial constraints/resource scarcity when considering what they would purchase. Generally speaking, this involves feeling as though there is a discrepancy between one’s current level of financial resources and a higher, more desirable reference point.

Please make all responses on the following 0-5 coding scheme:

999 N/A or indeterminable	1 Little to no financial constraint	2	3	4	5 A lot of financial constraint
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NOTE:

1. Any explanation that is too generic or vague to be coded as expressing financial scarcity should be scored as 999 (missing value).
2. Any nonsense phrases (e.g., “dfdhdhdhdhd”) should be scored as 999 (missing value).

Resource Conservation Coding Scheme

For each explanation, please code whether the participant appears to be trying to conserve resources for the future (e.g., for a rainy day). More specifically, they are attempting to save money for future unknown circumstances. If they feel as though they currently do not have enough money but do not indicate a desire to conserve resources, then please code that as being financially constrained (see Rating 1).

Please make all responses on the following 0-5 coding scheme:

999 N/A or indeterminable	1	2	3	4	5
	Little to no focus on resource conservation				A lot of focus on resource conservation

NOTE:

1. Any explanation that is too generic or vague to be coded as focusing on opportunity costs should be scored as 999.
2. Any nonsense phrases (e.g., “dfdhdhdhdhd”) should be scored as 999.

APPENDIX G. VALIDATION TEST FOR STIMULI USED IN STUDY 4B

This validation test confirmed that participants perceived photo albums to be a meaningful product category, and that participants perceived the more expensive, handcrafted photo album to be *more* meaningful than the inexpensive, hardcover photo album. Two hundred and ten participants (80 women; $M_{\text{age}} = 32.88$) from the same population as study 4b (Prolific workers residing in the USA) received either the meaning goal manipulation from that study or no goal manipulation (i.e., baseline condition). Then all participants viewed the products from study 4b and rated how meaningful they found each product (1 = not at all; 7 = very much so). A one-sided t-test (using 4, the midpoint of the scale) indicated that participants who were induced to pursue a meaning goal (using the same goal manipulation from study 4b) perceived both photo albums (and thus the product album category) to be meaningful as compared to the midpoint of the scale ($M_{\text{inexpensive}} = 5.06$, $t(103) = 8.034$, $p < .001$; $M_{\text{expensive}} = 5.50$, $t(103) = 12.430$, $p < .001$). Perhaps more important, participants induced to pursue meaning perceived the *more* expensive product to be more meaningful than the less expensive product ($t(103) = 2.909$, $p = .004$, $d = .29$). The results were descriptively similar, if not stronger, among baseline participants who did not receive a goal ($M_{\text{inexpensive}} = 5.69$ vs. $M_{\text{expensive}} = 4.80$; $t(96) = 4.968$, $p < .001$, $d = .51$).

APPENDIX H. POST-HOC POWER AND SENSITIVITY ANALYSES

Study 1a: The preference for less expensive options (N = 173)

- Study design: 2-group (goal: meaning vs. pleasure) between-subjects study
- Statistical test: independent samples t-test
- Input parameters:
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size = Cohen's $d = .59$
 - Two-tailed test
 - Group sizes: 92 and 81
- Required effect size given our study parameters: Cohen's $d = .43$
- Achieved power of $1-\beta = .97$

Study 1b: The preference for less expensive options (N = 325)

- Study design: 2-group (goal: meaning vs. pleasure) between-subjects study
- Statistical test: independent samples t-test
- Input parameters:
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size = Cohen's $d = .59$
 - Two-tailed
 - Group sizes: 159 and 166

- Required effect size given our study parameters: Cohen's $d = .31$
- Achieved power of $1-\beta = 1.00$

Study 1a Discussion (web appendix C): Replication of Study 1a with Scalar Manipulation

Check (N = 439)

- Study design: 2-group (goal: meaning vs. pleasure) between-subjects study
- Statistical test: independent samples t-test
- Input parameters:
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size = Cohen's $d = .97$
 - Two-tailed test
 - Group sizes: 223 and 216
- Required effect size given our study parameters: Cohen's $d = .27$
- Achieved power of $1-\beta = 1.00$

Study 2: Incentivized Choice (N = 426)

- Study design: 2-group (goal: meaning vs. pleasure) between-subjects study
- Statistical test: independent samples t-test
- Input parameters:
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size = Cohen's $d = .26$
 - Two-tailed

- Group sizes: 219 and 207
- Required effect size given our study parameters: Cohen's $d = .27$
- Achieved power of $1-\beta = .76$

Study 3: Opportunity Cost Consideration as a Mediator (N = 438)

- Study design: 2 (goal: meaning vs. pleasure) by 2 (elaboration prompt: present vs. absent) with goal and elaboration as between-subjects factors
- Statistical test: ANOVA: fixed effects, special, main effects and interactions
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size (price preference): Cohen's $f = .34$
 - Obtained effect size (opportunity cost consideration): Cohen's $f = .19$
 - Numerator $df = 1$; number of groups = 4
- Required effect size: Cohen's $f = .13$
- Achieved power of $1-\beta$ (price preference) = 1.00
- Achieved power of $1-\beta$ (opportunity cost consideration) = .98

Study 3_{Discussion} (web appendix E): Coded Opportunity Cost Consideration and a Boundary Condition (N = 285)

- Study design: 2 (goal: meaning vs. pleasure) by 2 (durability reminder: present vs. absent), with goal and durability as between-subjects factors
- Statistical test: ANOVA: fixed effects, special, main effects and interactions
 - $\alpha = .05$

- Power of $1-\beta = .80$
- Main effect of goal condition on
 - price preference: Cohen's $f = .27$
 - opportunity cost consideration: Cohen's $f = .20$
- Interaction between goal and durability conditions on
 - price preference: Cohen's $f = .11$
 - opportunity cost consideration: Cohen's $f = .11$
- Numerator $df = 1$; number of groups = 4
- Required effect size: Cohen's $f = .17$
- Achieved power of $1-\beta$ for the main effect of goal condition on
 - price preference = .92
 - opportunity cost consideration = 1.00
- Achieved power of $1-\beta$ for the goal by durability interaction on
 - price preference = .46
 - opportunity cost consideration = .46

Study 4a: Process by Moderation (final sample N = 438)

- Study design: 2 (goal: meaning vs. pleasure) by 2 (opportunity cost reminder: present vs. absent), with goal and opportunity cost salience as between-subjects factors
- Statistical test: z test, logistic regression
 - Two tailed
 - Main effect: $H1 = .40$; $H0 = .30$ (Odds ratio = 1.56; Pr = .30)

- Simple effect of goal condition in the opportunity cost not salient condition $H1 = .36$; $H0 = .17$ (Odds ratio = 2.75; $Pr = .17$)
- $\alpha = .05$
- Power of $1-\beta = .80$
- X distribution: binomial
- Required effect size: Odds ratio .43
- Achieved power for the main effect of goal condition $1-\beta = .99$
- Achieved power for the simple effect of goal condition in the opportunity cost not salient condition $1-\beta = 1.00$

Study 4b: Willingness to Pay (N = 332)

- Study design: 3-groups (opportunity cost consideration vs. opportunity cost neglect vs. baseline) between-subjects design
- Statistical test: fixed effects, one-way omnibus ANOVA
- Input parameters:
 - $\alpha = .05$
 - Power of $1-\beta = .80$
 - Obtained effect size: Cohen's $f = .19$
 - Three groups
- Required effect size given our study parameters: Cohen's $f = .17$
- Achieved power of $1-\beta = .88$

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