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Research Article

Stitching time: Vintage consumption connects the past, present, and future

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Abstract

We investigated a novel avenue for buffering against threats to meaning frameworks: vintage consumption. Although the appeal of vintage goods, defined as previously owned items from an earlier era, is strong and growing, this paper is among the first to examine the possible psychological ramifications of vintage consumption. Six studies found that vintage items mitigated the typical reactions to meaning threats. Four of these studies also showed that vintage consumption facilitates mental connections among the past, present, and future. As a result, people whose meaning structures had been threatened, for example, by being reminded of their own eventual death, preferred vintage products more than others who had not experienced a meaning threat, and more than similar non-vintage products. These findings suggest that meaning disruptions stimulate a desire for intertemporal connections, a desire that vintage products—as existing and continuing symbols of bygone eras—seem to satisfy.

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Vintage conjures up a link to the past. Different from a relic, inactive artifacts from forgone time, vintage items have potential. The potential to be acquired, to be used, to be kept, or to be resold. That is, vintage items possess a distinct tie with the past, and contain the possibility to connect to the present and future.

Vintage items, defined as previously owned goods from an earlier era, appeal to consumers for a variety of reasons. There are economic reasons for buying vintage. Vintage items can be less expensive than new items or, conversely, can be investment pieces (McRobbie, 1988). Consuming vintage items also allows people to express their uniqueness (Bardey & Cogliantry, 2002; Cervellon, Carey, & Harms, 2012), authenticity (DeLong, Heinemann, & Reiley, 2005), and self-expression (Postrel, 2003). Moreover,

consumer value for vintage goods appears to only be growing, accounting for more than \$1 billion in annual sales on eBay alone (Hsiao, 2015).

We investigated the possibility that, in addition to possible economic and self-expressive reasons for preferring vintage, these items can also serve a psychological need: that of mentally connecting the past, present, and future. We argued that as enduring emblems of another time, and as items that can still be used now and into the future, vintage pieces are imbued with a sense of intertemporal interconnection. These items retain value and meaning despite (and often because of) having come from an era that has passed, creating a symbolic connection across time.

We further argued that strengthened intertemporal connections—seeing the past, present, and future as being closely tied together—can serve as way of bolstering meaning frameworks (Heine, Proulx, & Vohs, 2006), thus protecting people against meaning threats. To the extent that vintage items serve the symbolic purpose of facilitating intertemporal connections, we predicted that consumers would especially value these goods when they experience meaning threats.

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The psychology of vintage consumption

Vintage consumption and meaning maintenance

The Meaning Maintenance Model proposed that people use meaning frameworks to interpret and understand the world, and that ultimately allows them to see their lives as meaningful and valuable (Heine et al., 2006). Meaning frameworks summarize relationships among elements in the external world and between the external world and the self. Our meaning frameworks determine how we make sense of the world, other people, and ourselves. Evidence suggests that common meaning frameworks include relational structures governing self-esteem, certainty, affiliation, and symbolic immortality (Heine et al., 2006). Meaning frameworks can be disrupted from a threat to any of these domains. Damaging one's self-esteem (Tesser, 2000), undermining the certainty of one's beliefs or understanding (Heine et al., 2006), diminishing one's relationships with others (White, Argo, & Sengupta, 2012), and contemplating one's eventual death (Greenberg, Solomon, & Arndt, 2008) have all been found to threaten meaning frameworks.

Meaning threats are psychically aversive and tend to result in attempts to shore up meaning structures, either within the same domain, or in other domains (Proulx & Heine, 2009). In other words, meaning threats can lead to “fluid compensation,” reaffirming meaning in domains other than those that were threatened. For example, a threat to certainty, such as might be caused by contemplating an absurdist parable by Franz Kafka, can cause an increased endorsement of an affiliation framework, such as reaffirming one's cultural identity (Proulx, Heine, & Vohs, 2010).

One type of meaning threat that has received a great deal of attention from researchers is the disruption caused by death reminders. Researchers have found that people cope with the anxiety of mortality salience in a number of ways. For example, people whose cognitive meaning structures have been threatened by being reminded of their impending death tend to experience increased nationalism (Greenberg et al., 2008), a tendency to see the self as an integrated whole (Landau, Greenberg, & Solomon, 2008), feelings of increased closeness to compatriots (Proulx et al., 2010), an increased tendency to punish wrong-doers (Proulx et al., 2010), and an increased likelihood of endorsing stereotypes (Schmiel et al., 1999).

Consumption decisions are also affected by the meaning threats triggered by death reminders: those who are reminded of death are more likely to have a desire to accumulate wealth (Kasser & Sheldon, 2000), engage in indulgent consumption (Ferraro, Shiv, & Bettman, 2005), build connections with brands (Rindfleisch, Burroughs, & Wong, 2009), and increase consumption (Mandel & Smeesters, 2008), relative to people who are not reminded of death.

This paper is the first to propose that a sense of connection across time can also serve this kind of salutary effect, shielding a person from the meaning threats typically associated with death reminders. The proposition that intertemporal connectedness can serve as a bulwark against meaning threats, though a novel prediction, is consistent with some previous empirical

work. For example, connecting two recent streams of research: seeing one's life as meaningful is one strategy that people can use to ward off the meaning threats associated with death (Bassett & Connelly, 2011). And, thinking beyond the present moment, into the past and future, has been found to be associated with feeling that one has a meaningful life (Baumeister, Vohs, Aaker, & Garbinsky, 2013).

Likewise, research has found that meaning threats, such as the death of someone close, influence one's intertemporal decisions. Liu and Aaker (2007) demonstrated that experiencing the death of someone close prompts people to notice and reflect upon the long-term features of options, causing changes in their intertemporal decision-making. In general, research has shown that the salience and concreteness of one's representation of future events is key in determining intertemporal decisions (Metcalf & Mischel, 1999). Consistent with these findings, Vallacher and Wegner (1985, 1987) found that higher levels of meaning were related to thoughts about longer time frames.

Liu and Aaker (2007) found that one process by which individuals' perceptions of the future become salient is through the experience of events in life that provide lessons about the present time. These findings suggest that, not only do we focus on the past when meaning frameworks have been threatened, the future also becomes salient. It is therefore reasonable to conclude that one way to mitigate meaning threats, including those caused by mortality salience, might be to consume products that existed in the past, are present now, and can be present and continue to be consumed in the future. We propose that vintage products can serve this purpose.

The etymology of the word “vintage” comes from wine making, characterizing the year and location in which a particular wine was made. More recently, it has been used to describe clothing, accessories, furniture, cars, and other artifacts that come from an earlier era. Within fashion circles, items more than 20 years old are generally considered vintage (Bardey & Cogliantry, 2002; Cervellon et al., 2012). The term is especially applicable to items seen as emblematic or representative of a particular time period. Vintage products also tend to be valued because they are still in working condition. For the purposes of this research, we limited our consideration to items more than 20 years old, previously owned, and in good, working condition (Veenstra & Kuipers, 2013).

From a consumer theory perspective, of course, “vintage” is not a proper psychological construct. Rather, vintage products are interesting for the reactions they evoke in customers. From this perspective, vintage products tend to have two distinct properties that distinguish them from non-vintage products, in terms of the psychological reactions they will produce in consumers. First, vintage items do not simply *look* like they came from a different time (i.e., they are not replicas in the style of an earlier era). Despite the strong general preference for new goods—a preference for novelty starts as early as infancy (Roder, Bushnell, & Sasseville, 2000)—vintage goods are valued specifically because they have been previously used. These items have a history, one that predates acquisition by the consumer. Vintage items are products that produce a connection with the past.

Second, vintage items are appealing to consumers because they present an opportunity to give new life to something from the past (Campbell, 1987). Fashion writers Bardey and Cogliantry (2002) have explored the trend of mixing vintage clothing and accessories with contemporary styles, which they characterize as a “juxtaposition of the old with the new” (p. 22). Vintage goods exist simultaneously in the past and present, and represent an opportunity to continue to be used, repurposed, and customized into the future. Thus, vintage items are products that also produce a connection with the present and the future.

We reasoned that vintage items, as pieces that have stood the test of time, represent the continuity of existence—connection among the past, present, and future. That is, the psychological value of a vintage item is not primarily in its connection to any single point in time—not just to the past from which it came, nor just to the present in which it is being acquired, nor just to the future in which, as a material good (as opposed to an experience; Sarial-Abi et al., working paper), it will continue to exist. Rather, we argue that vintage items can be seen as not simply of one time, but can be symbolic of the *connectedness* of time. Hence, we proposed that vintage items can meet consumers’ occasional need to perceive the past, present, and future as closely interconnected.

In summary, we predicted that evaluating or using vintage items can serve as a palliative to meaning threats, resulting in reductions in the need to reinforce meaning structures identified by previous research. We argued that the way vintage items combat meaning threats is by serving as a physical symbol for the idea that time is interconnected: that the past, present, and future are closely linked. We further predicted that the ability of vintage products to alleviate meaning threats would lead to increased preference for vintage goods, relative to conditions where a person’s meaning structures have not been threatened. And last, we posited that thoughts about temporal connectedness would account for (statistically mediate) preferences for vintage items caused by meaning threats.

Vintage consumption and nostalgia

Vintage goods are not the only consumer products that can buffer against meaning threats. Nostalgic items can also reduce the impact of meaning threats (Routledge et al., 2011). Because some vintage items might also induce a sense of nostalgia in some consumers, it is worth discussing the differences between the account we propose and nostalgia.

Prior research has defined nostalgia as a preference for things coming from an earlier time in one’s own life (Havlena & Holak, 1991; Holbrook & Schindler, 1991; Routledge et al., 2011; Stern, 1992). There are at least three theoretically relevant differences between vintage items, as we have defined them, and nostalgic items, as they have been defined in the literature. First, nostalgia primarily emphasizes personal experiences that have somehow been lost (Holbrook & Schindler, 2003). Second, nostalgia is a wishful desire to return some time from one’s own past (Batcho, 2013; Wildschut, Sedikides, Arndt, & Routledge, 2006; Zhou, Zhou, Wildschut, Sedikides, Shi, & Feng, 2012). Third, nostalgic

products serve a restorative social function (Loveland, Smeesters, & Mandel, 2010). Specifically, nostalgic products tend to be preferred by those with an active need to belong (Loveland et al., 2010) or with a strong desire for social connectedness (Abeyta, Routledge, Roylance, Wildschut, & Sedikides, 2015; Lasaleta, Sedikides, & Vohs, 2014).

While some vintage items might be nostalgic for some customers, it is not the case that vintage items *must* be nostalgic, nor that nostalgia can only be activated by items considered vintage. For example, a man in his 60s might buy a vintage convertible, because it is the same make, model, and year of his first car. For this man, this vintage item is likely to cause him to be nostalgic, because it reminds him of an earlier, bygone time in his life. In contrast, if a man in his 20s were to purchase the same vintage car, it is unlikely to make him feel nostalgic, because it would not evoke any sense of personal loss, nor connect him with an earlier time in his life.

The present studies

Six studies and a pilot test run in a field setting tested the predictions (Fig. 1). The pilot test measured the physical health of nursing home residents as a proxy for likelihood of meaning threats and found that vintage items were more strongly preferred by elderly participants in poor health, relative to those in good health. Study 1 tested the central premise of this research: namely, that the effects of a meaning threat will be mitigated when people consume vintage items. Study 2 tested the same basic phenomenon, using different independent and dependent variables.

The next two studies aimed to provide evidence of the proposed process. Study 3 examined whether merely evaluating a vintage item, relative to an equivalent non-vintage version, would induce an increase in thoughts about intertemporal connection: thinking of the past, present, and future as being connected. Study 4 tested whether evaluating a vintage item, relative to an equivalent non-vintage version, would lead to stronger judgments that life has meaning. This study further tested whether increased feelings that life has meaning would be caused by vintage items would be mediated by intertemporal connectivity.

The last two studies examined whether consumers who have experienced a meaning threat, such as a death reminder, would subsequently seek out vintage items and value them more than consumers who had not experienced a meaning threat. Study 5 measured choice as the outcome, whereas Study 6 assessed time spent in contact with the item, a behavioral measure.

Pilot test: Poor physical health correlates with preference for vintage items among nursing home residents

As an initial test of the prediction that vintage items might be more valued by more when meaning frameworks are threatened than in unthreatened states, we conducted a correlational field study. We anticipated that when people feel they are temporally proximal to death, due to advanced age and poor health, they will be chronically more likely to experience meaning threats.

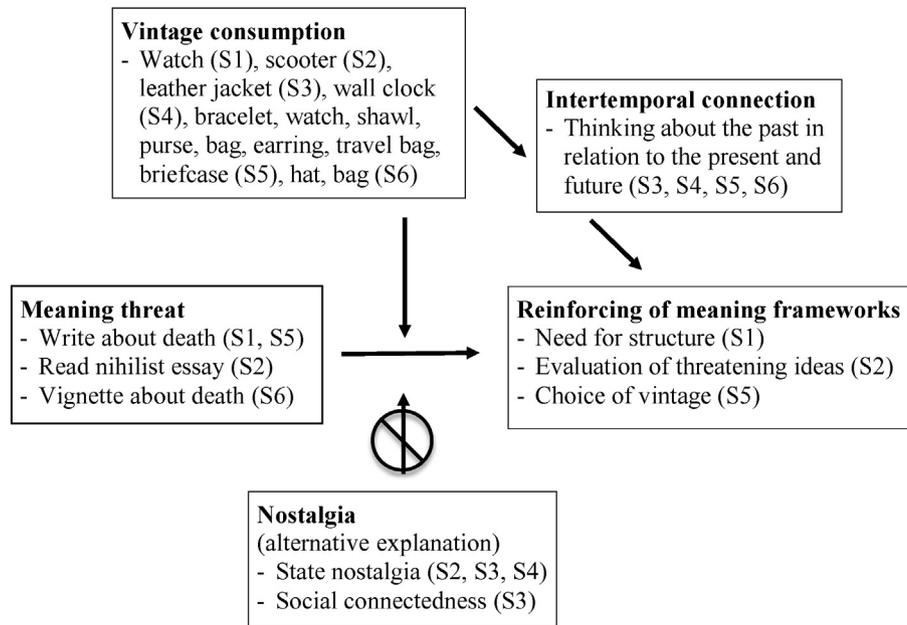


Fig. 1. Theoretical overview: vintage consumption mitigates meaning threats by facilitating intertemporal connections.

As a result, we predicted that people who are of an advanced age who also feel that they are in poor health would tend to have a stronger preference for vintage items than those who feel they are in good health.

We tested such a scenario by asking 25 residents of a nursing home (ages 73 to 99, average age 88.3) to evaluate vintage and modern versions of 9 types of products: car, phone, e-book (modern) or an old print book (vintage), bicycle, compact disk player (modern) or a vinyl record player (vintage), motorcycle, camera, luggage, and watch.

We then assessed participants' perceptions of their own physical health by having them answer the following two questions using three-point scales (1 = never, 2 = sometimes, 3 = often): "How often does a long-term physical condition reduce the amount or kind of activity you can do?" and "How often does a long-term health problem reduce the amount or the kind of activity you can do?" ($\alpha = .86$). Importantly, this self-reported assessment of health was not, in this case, correlated with age; $R = -.001, p = .995$.

The result was a significant interaction ($F(1, 23) = 20.04, p < .001$), such that retirement home residents in poorer health had a stronger preference for vintage items than residents in better health ($\beta = .512, t(24) = 2.855, p = .009$). This relationship was not present for modern goods—in fact, it trended in the opposite direction ($\beta = -.337, t(24) = 1.719, p = .099$).

Study 1: Vintage items mitigate need for structure following a death reminder

Thinking about death can threaten the stability of meaning frameworks, and when people experience meaning threats, they tend to react with an increased desire for structure (Proulx et al., 2010). This study measured Need for Structure (Thompson, Naccarato, & Parker, 1989) to assess the strength of participants'

desire to assert meaning frameworks. Because people tend to want more structure after a meaning threat, compared to other times (Heine et al., 2006; Proulx et al., 2010), we expected that participants would demonstrate an increased Need for Structure following a meaning threat. However, we predicted that vintage items might moderate this relationship by reducing the meaning threat caused by a death reminder. Thus, we predicted that thinking about owning and wearing a vintage article (as opposed to a modern equivalent or a neutral condition in which participants looked at unrelated pictures for a few minutes) would mitigate the need to reassert meaning following a death reminder.

Participants

Two hundred and twenty-nine adults (100 female) from Amazon's Mechanical Turk participated in exchange for \$0.30. Age was measured with a scaled-response question, with 1 = under 18, 2 = 19–24, 3 = 25–34, 4 = 35–44, 5 = 45–54, 6 = 55–64, 7 = 65 or over. The average response was 4.62, $SD = 1.25$. No participants answered with a 1 or 2. Participants were randomly assigned to the conditions of a 2 (meaning threat vs. no meaning threat) \times 3 (vintage item vs. modern item vs. no item) factorial design.

Procedure

Participants first indicated their age and gender. In the meaning threat condition, participants wrote a paragraph in response to this prompt (Schmeichel et al., 1999): "Please take a few moments to think about your own death. Then, in the space below, please write a short paragraph about how you feel when you think about your own death AND what would happen to you as you physically died." Participants in the no meaning threat condition wrote in response to this prompt:

“Please take a few moments to think about your dental pain. Then, in the space below, please write a short paragraph about how you feel when you have dental pain AND what would happen to you when you have dental pain.” In both conditions, participants were instructed to write at least 250 characters.

Participants then performed a task that varied in whether it cued thinking about vintage items, modern items, or neither. In the vintage and modern conditions, participants were shown a picture of an upmarket, gender-appropriate watch, with the same picture used for both conditions. Depending on condition, participants were told that the watch was either vintage from the 1950s or new (Web Appendix A). They were instructed to imagine wearing the watch, including how they would feel, occasions on which they would wear it, and types of outfits that would complement it. Participants were instructed to write at least 250 characters. In the neutral condition, participants saw 20 images of seashells arranged randomly on screen for three minutes.

Participants then completed the twelve-item state version of the Personal Need for Structure scale (Thompson et al., 1989). Sample items: “I enjoy having a clear and structured mode of life” and “I find that a consistent routine enables me to enjoy life more.” Participants indicated how much they agreed with each item on a 9-point scale. They were instructed to respond as they felt at that moment. We averaged the responses to create the dependent variable.

Results

We predicted an interaction between the death reminder condition and the product condition. In particular, we expected that, consistent with previous research, among participants exposed to non-vintage items (modern item condition) and those exposed to pictures of sea shells (non-item condition) those who were reminded of death would have higher the Need for Structure scores than participants who had been reminded of

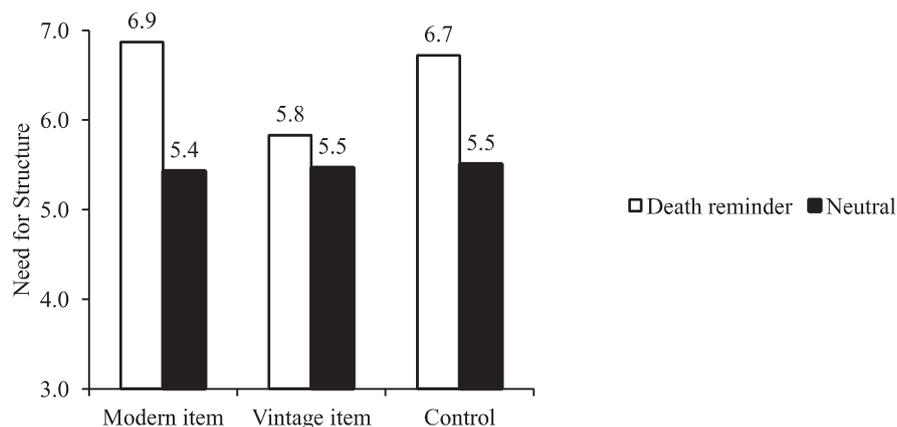
dental pain. But we expected the effect of the death reminder to be reduced for participants in the vintage item condition.

Analysis revealed a significant interaction of reminder condition and product condition, $F(2, 223) = 3.06, p = .049$. There was a marginally significant effect of reminder condition, $F(1, 223) = 8.86, p = .06$, and no main effect product condition, $p > .51$ (Fig. 2). Planned contrasts supported the predictions. There was a significant difference in Need for Structure scores among participants who imagined wearing the modern watch as a function of death reminder versus neutral condition ($M_{\text{threat}} = 6.87, SD = 1.17$ vs. $M_{\text{no threat}} = 5.43, SD = 1.59$; $F(1, 223) = 20.06, p < .01$), a pattern also seen in participants in the non-item condition, who saw images of sea shells ($M_{\text{threat}} = 6.72, SD = 1.31$ vs. $M_{\text{no threat}} = 5.51, SD = 1.44$; $F(1, 223) = 11.73, p < .01$). As predicted, this increased Need for Structure following a death reminder was mitigated by thinking about owning and using a vintage product. In the vintage product condition, there was no difference in the Need for Structure caused by a death reminder vs. dental pain reminder ($M_{\text{threat}} = 5.83, SD = 1.66$ vs. $M_{\text{no threat}} = 5.47, SD = 1.47$; $F(1, 223) = 1.21, p > .27$).

Participants’ ages might have affected the results, particularly as older participants might be more likely to feel nostalgia when thinking about a vintage item. In a separate test, we examined whether age interacted with the death reminder condition and product condition to influence the Need for Structure scores. Results demonstrated that age did not interact with independent variables to influence the Need for Structure scores ($p > .3$).

Discussion

Experiment 1 tested whether vintage products can mitigate threats to meaning structures that have previously been shown to occur after a reminder of death. Consistent with predictions, death cues heightened a need for structure among participants, except those who had been prompted to think about using a vintage product. When so reminded, the need for structure was



NOTE— Higher Need for Structure scores represent unresolved meaning threats. Exposure to a vintage item mitigates the increased need for structure that comes from a death reminder.

Fig. 2. Study 1: Need for structure as a function of condition. Note— higher Need for Structure scores represent unresolved meaning threats. Exposure to a vintage item mitigates the increased need for structure that comes from a death reminder.

similar to those in the non-death reminder conditions, suggesting that vintage items can act as a buffer against the meaning threat caused by thoughts of death.

Study 2: Exposure to a vintage item mitigates negative evaluations of an argument on the meaninglessness of life

This study sought to examine the scope of the phenomenon identified in Study 1. Specifically, this study used both a different meaning threat (a nihilistic persuasive essay, in which the author argues that life has no meaning) and a different dependent variable (evaluations of the persuasive essay). Previous research has found that when people receive messages that threaten their meaning frameworks, they often reject the message as a defensive measure (Routledge et al., 2011). As in Study 1, we expected that exposure to vintage products would mitigate this reaction, leading participants who evaluated an ad for a vintage product to be less likely to reject the threatening essay than participants who evaluated an ad for a modern product.

This study also provided an initial test of the idea that the effect documented in Study 1 is not a result of nostalgia. The results of Study 1 indicated that age did not moderate. This is consistent with the idea that nostalgia is not a driver, as older participants might be expected to experience more nostalgia over vintage products. However, Study 1 did not provide conclusive evidence that nostalgia is not a mediating factor. Study 2 measured nostalgia directly.

Participants

One hundred and eight students (82 female) from a European university participated in the study for course credit. The age of the participants ranged from 19 to 25, with a mean of 21.6 ($SD = 1.1$). Participants were randomly assigned to conditions of a 2 (meaning threat vs. no meaning threat) \times 2 (vintage item vs. modern item) factorial design.

Procedure

First participants evaluated flyer advertising a Vespa scooter for sale. The flyer had information about the scooter, including maximum speed, miles per gallon, and price. Participants in the vintage condition saw a flyer for a “vintage scooter from 1975.” Participants in the modern condition evaluated a scooter described as “brand new” (Web Appendix B). While evaluating the flyer, participants wrote four words they felt that described the scooter.

Next, participants read an ostensibly unrelated essay. Participants in the meaning threat condition read an “extract from an essay written by the philosopher Dr. James Park of Oxford University.” The nihilistic essay, used in previous research to induce a meaning-threat (Routledge et al., 2011), argued that life has no meaning: “I first glimpsed the meaninglessness of life in my late teens, when I began to look deeply into my future, trying to decide what to do with my life. It was a time of deep searching and questioning. These questions have remained until today; let me share them with you. There are approximately 7 billion people living on this planet. So take a moment to ponder the following

question: In the grand scheme of things, how significant are you? The Earth is 5 billion years old and the average human life span across the globe is 68 years. These statistics serve to emphasize how our contribution to the world is paltry, pathetic, and pointless. What is 68 years of one person’s rat race compared to 5 billion years of history? We are no more significant than any other form of life in the universe.”

Participants in the no meaning threat condition read an essay about computers, which was designed to not threaten meaning structures, and read, in part: “Computers are able to recognize, remember, store, and manipulate many forms of abstract symbols, including every human language and the special mathematical languages of the sciences. In fact, the words you are looking at right now were put through a machine which stored them electronically and which allowed me, the author, to manipulate them several times before they were finally printed out by another machine..”

After reading the essay, participants evaluated the essay. Specifically, participants indicated the extent to which “the author is a reliable source,” “the author makes a strong case,” “I would like to have the author as my course instructor,” “I would like to meet with the author,” “I agree with the author’s opinion,” “The essay is convincing in conveying its point,” and “I believe that the information in the essay is true” on 5-point scales. We averaged the scores on these items to compose level of defensiveness score ($\alpha = .843$). Previous research has found that defensiveness is one reaction to meaning threats (Berger & Luckman, 1967; Green, Sedikides, & Gregg, 2008). Higher scores signaled more favorable attitudes toward the author and essay and thus a less defensive response.

In order to assess nostalgia as a possible alternative explanation for the results, participants indicated the extent to which they felt nostalgia on two 5-point scales (e.g., “I feel nostalgic at the moment,” and “Right now I am having nostalgic feelings;” Wildschut et al., 2006). We averaged the scores on these two items to compose state nostalgia score ($\alpha = .90$). Last, participants indicated their age and gender.

Results

Level of defensiveness

As predicted, there was a significant message by item interaction on level of defensiveness, $F(1, 104) = 4.23, p = .042$. There was no main effect of neither the meaning threat ($p = .90$) nor the product condition ($p = .68$). Consistent with the idea that vintage consumption buffers against meaning threats, participants in the meaning threat condition evaluated the nihilistic essay less unfavorably after evaluating the vintage item than did participants who had first evaluated the modern item ($M_{\text{vintage}} = 3.93, SD = .54$ versus $M_{\text{modern}} = 3.46, SD = .43, F(1104) = 7.73, p = .006$). Our proposed account predicts that this difference would occur only for a message that induced a meaning threat. Consistent with this idea, participants in the no meaning threat condition message condition did not differ in their evaluations of the essay on computers differently as a function of

evaluating the vintage or modern item ($M_{\text{vintage}} = 3.64$, $SD = .50$ versus $M_{\text{modern}} = 3.66$, $SD = .73$, $F(1104) = .017$, $p = .90$).

State nostalgia

There was no significant difference in state nostalgia across conditions ($M_{\text{modern}} = 3.42$, $SD = 2.32$ versus $M_{\text{vintage}} = 3.23$, $SD = 2.15$, $t(106) = .43$, $p = .67$). Furthermore, there was also no significant interaction effect of message by item conditions on state nostalgia, $F(1, 104) = 1.68$, $p = .20$. This suggests that nostalgia is not driving the effects observed in this study.

Gender and age

We next tested whether age interacted with the message and item conditions to influence the level of defensiveness. Results demonstrated that age did not interact with independent variables to influence the level of defensiveness ($p > .43$). In a separate test, we examined whether gender interacted with the independent variables to influence the level of defensiveness. Results demonstrated that gender did not interact with message and item conditions to influence the level of defensiveness ($p > .3$).

Discussion

This study extended the results of Study 1, showing that the palliative effects of vintage consumption serve not just as a buffer against mortality salience, but also against nihilistic persuasive messages. This suggests that these effects may be found for meaning threats in general, and not just those associated with death reminders.

Study 2 also presented direct evidence that nostalgia does not provide a compelling alternative account for the findings. Although it is certainly possible for vintage items to produce nostalgic feelings in certain populations, depending on age and personal history, we found no differences in experienced nostalgia in this study.

Study 3: Vintage items facilitate intertemporal connections but not social connectedness

The first two studies found that vintage items can mitigate the effects of meaning threats. We argued, though thus far have not documented, that vintage items buffer against meaning threats by facilitating intertemporal connections. In this study, we tested the prediction that vintage consumption can cause an increase in intertemporal connectedness: that is, an increase in thinking about the past in relation to the present and the future. To do so, we asked people to rate the extent to which they were thinking about various times (i.e., the past, present, and/or future), with the prediction that being reminded of vintage products would enhance mental connections among the past, present, and future more so than any other set of times or intertemporal connections.

This study also provided a further test of nostalgia as an alternative explanation for Studies 1 and 2 by examining whether vintage items strengthen social connectedness and hence meaning

in life. Previous research has shown that nostalgia increases a person's sense of social connectedness (Routledge et al., 2011). We measured social connectedness by administering the Social Provisions Scale (Cutrona & Russell, 1987). This scale includes twenty-four items that measure attachment, social integration, reassurance of worth, reliable alliance, guidance, and opportunity for nurturance.

Participants

One hundred and fifty-two students (113 female) from a European university participated in the study for course credit. The age of the participants ranged from 19 to 25, with a mean of 21.4 ($SD = 1.1$). Participants completed all materials online.

Procedure

Participants were randomly assigned to either the vintage item or modern item condition. Everyone first saw some information on a leather jacket for sale. The jacket was described in detail, along with a picture. In the vintage condition, the product was described as a leather jacket from 1970s and that the jacket shows light wear, which is typical for the age. In the modern condition, the jacket was described as being brand new (see Web Appendix C for stimuli). As they viewed the information, participants were instructed to write down four key words they felt described the jacket.

Next, participants indicated the extent to which they felt nostalgia on the same two items used in Study 2. We averaged these scores to compose a state nostalgia score ($\alpha = 90$).

For the main dependent variable, participants described the thoughts that came to their minds when they were reading about the jacket. We assessed the intertemporal nature of their thoughts (Baumeister et al., 2013) by asking them the extent to which they were thinking right then about (1) the past, (2) the present, (3) the future, (4) the past in relation with the present, (5) the past in relation with the future, (6) the present in relation with the future, and (7) the past in relation with the present and the future. All questions were answered on 5-point scales (1 = not at all and 5 = very much), with the order randomized across participants.

As an additional measure of a possible influence through nostalgia, we next provided participants with the Social Provisions Scale (SPS; Cutrona & Russell, 1987). Sample items included "There are people I can depend on to help me if I really need it," "I feel part of a group of people who share my attitudes and beliefs," and "I have relationships where my competence and skills are recognized." We reverse coded appropriate items and averaged them all to create an SPS index score ($\alpha = 86$). We randomized the order of the intertemporal connections items and the SPS items. Finally, participants indicated their age and gender.

Results

Intertemporal connections

As predicted, participants in the vintage condition indicated that they thought more about past in relation to the present and

the future compared to the participants in the modern condition ($M_{\text{modern}} = 3.21$, $SD = 1.19$ versus $M_{\text{vintage}} = 3.64$, $SD = 1.02$, $t(150) = -2.39$, $p = .018$). That was the only temporal connection question that was sensitive to the vintage vs. modern condition manipulation. Thinking about any of the other time frames or temporal connections were not significantly affected by condition: thinking about the past ($p > .83$); past in relation to present ($p > .61$); present ($p > .07$); present in relation to future ($p > .95$); future ($p > .86$); or the past in relation to the future ($p > .81$).

We next tested whether age interacted with the product condition to influence intertemporal connections. Results demonstrated that age did not interact with independent variable to influence intertemporal connections ($p > .83$). In a separate test, we examined whether gender interacted with the independent variable to influence intertemporal connections. Results demonstrated that gender did not interact with the product condition to influence intertemporal connections ($p > .51$).

State nostalgia

Consistent with the idea that vintage items need not activate nostalgia, we found that participants did not significantly differ in terms of their state nostalgia ($M_{\text{modern}} = 2.92$, $SD = 1.15$ versus $M_{\text{vintage}} = 2.79$, $SD = 1.19$, $t(150) = .70$, $p = .49$). Furthermore, neither age ($p > .33$) nor gender ($p > .88$) interacted with the product condition to influence state nostalgia.

Social connectedness

Also as expected, participants in the vintage condition were not significantly more socially connected than participants in the modern condition ($M_{\text{modern}} = 3.07$, $SD = .18$ versus $M_{\text{vintage}} = 3.11$, $SD = .15$, $t(150) = -1.59$, $p = .12$). Results demonstrated that unlike the nostalgic items that have been shown to influence social connectedness (Wildschut et al., 2006), vintage items did not have an influence on perceptions of social connectedness.

Discussion

Study 3 showed that evaluating a vintage item caused an increase in thoughts about connections among the past, present, and future, more so than evaluating a modern product. That was the only change in temporal and intertemporal thinking caused by the manipulation. Thoughts about the past, present, and future independently, or about any pair of those three time periods did not differ across conditions. These findings are consistent with the idea that vintage consumption facilitates intertemporal connectedness generally, that is of past, present, and future together, and not simply about any one point in time nor about subsets of the timeline. This study thus provided evidence in favor of our proposed process. This study also tested, and again ruled out, an alternative account based on nostalgia. Measures of both state nostalgia and social connectedness were unaffected by the vintage manipulation; only intertemporal connectedness changed by condition.

Study 4: Intertemporal connections mediate the effect of vintage on meaning in life

Study 4 had multiple goals. One was to again test whether nostalgia is a relevant component of vintage products' ability to forge mental temporal connections, and thus can serve as a reasonable alternative explanation for the account we propose. Given the results of our prior studies, we predicted it would not. Another goal was to test the proposed ameliorating effects of vintage items using a different, converging dependent measure—meaning in life—that has previously been shown to be sensitive meaning threats (Routledge et al., 2011). A third goal was to examine the full meditational path, through intertemporal connections, proposed by our account.

Participants

One hundred and twenty-six students (90 female) from a European university participated for an extra course credit. Ages ranged from 19 to 25, with an average of 21.5 ($SD = 1.1$). Participants completed all materials online.

Procedure

Participants were randomly assigned to either the vintage item or modern item condition. Everyone then read a posting for a clock for sale. The clock was described as having a “domed glass lens with cream dial, traditional roman numerals and classic metal hands.” The only difference between the two conditions was that in the vintage item condition, the clock was described as a “vintage wall clock from 1965.” In the modern item condition, the clock was described as a “brand new wall clock.” (See Web Appendix D for stimuli.) As they evaluated the posting, participants wrote down four key words they felt described the clock.

Next, participants indicated the extent to which they felt nostalgia on the same two 5-point scales used in the previous studies. We averaged the scores on these two items to compose a state nostalgia score ($\alpha = .91$). Following the nostalgia measure, intertemporal connections were assessed. In this study, we also included “thinking about the future in relation to the past” in addition to the measures used in Study 3. We randomized the presentation of the intertemporal connection questions.

Next, as our main dependent measure, we administered the Meaning in Life scale (Steger, Frazier, Oishi, & Kaler, 2006; $\alpha = .57$). The scale included ten items that assess a person's sense that their life has meaning using agree/disagree responses measured on seven-points scales. Sample items include: “I understand my life's meaning,” “My life has a clear sense of purpose,” and “I have a good sense of what makes my life meaningful.” Finally, participants indicated their age and gender.

Results

Intertemporal connections

As predicted, and consistent with the finding in Study 3, participants in the vintage condition indicated that they thought

more about past in relation with the present and the future compared to the participants in the modern condition ($M_{\text{modern}} = 3.03$, $SD = 1.17$ versus $M_{\text{vintage}} = 3.47$, $SD = 1.17$, $t(124) = -2.09$, $p = .038$). That was the only temporal connection that was sensitive to the vintage condition. Thinking about any of the other time frames or connections among time frames was not affected by condition: thinking about the past ($p > .46$); present ($p > .58$); past in relation to present ($p > .95$); future ($p > .68$); present in relation to future ($p > .67$); future in relation to the past ($p > .82$), or the past in relation to the future ($p > .91$).

We next tested whether age interacted with the product condition to influence intertemporal connections. Results demonstrated that age did not interact with independent variable to influence intertemporal connections ($p > .91$). In a separate test, we examined whether gender interacted with the independent variable to influence intertemporal connections. Results demonstrated that gender did not interact with the product condition to influence intertemporal connections ($p > .67$).

Meaning in life

As predicted, participants in the vintage item condition indicated that they felt their lives had more meaning, compared to the participants in the modern item condition ($M_{\text{modern}} = 3.93$, $SD = 1.07$ versus $M_{\text{vintage}} = 4.29$, $SD = .75$, $t(124) = -2.22$, $p = .028$). This finding is consistent with the notion that vintage consumption can serve as a means of strengthening meaning frameworks. Furthermore, neither age ($p > .33$) nor gender ($p > .88$) interacted with the product condition to influence meaning in life.

Intertemporal connections as the underlying mechanism

We next tested whether intertemporal connections mediated the effect of condition on meaning in life. In order to test for mediation we followed the recommendations of Preacher and Hayes (2004) who suggested using a bootstrapping procedure to compute a confidence interval around the indirect effect. Results revealed a significant indirect effect via thoughts about the full complement of intertemporal connections, that is, about the past to the present and the future ($\beta = .09$, 95% CI [.02, .25]). The results supported our prediction for the mediating effect of the intertemporal connections on meaning in life.

State nostalgia

To provide an additional check on nostalgia as an alternative explanation, we also measured participants' state nostalgia. Consistent with the results of Studies 2 and 3, the results revealed that participants did not significantly differ in terms of their state nostalgia ($M_{\text{modern}} = 2.43$, $SD = 1.30$ versus $M_{\text{vintage}} = 2.52$, $SD = 1.25$, $t(124) = -.39$, $p = .70$).

Discussion

Study 4 found evidence of a relationship between evaluating a vintage item and seeing life as having more meaning—a

variable previously shown to be sensitive to meaning threats. Consistent with the account we have proposed, this connection was mediated by an increase in thoughts of intertemporal connections: When participants evaluated a vintage item, relative to a modern equivalent, they were more likely to think about the past, present, and future in relation to each other, and thus more likely to see an increase in meaning in their lives.

Study 5: Meaning threats cause people to choose vintage items over modern equivalents

In this study, we examined whether a meaning threat, such as a death reminder, would lead participants to choose vintage items over otherwise equivalent items that were new, vintage replications. According to the Meaning Maintenance Model (Heine et al., 2006), when people experience a meaning threat, they seek to bolster psychological meaning structures in some other way. If, as we have proposed, seeing the past, present, and future as more interconnected can serve as just such a psychological bolstering, then we should expect that vintage items will be more preferred after consumers experience a meaning threat, than when they have not.

Participants

One hundred and seventy-three adults (72 female) drawn from Amazon's Mechanical Turk participated in exchange for \$0.50. Age was measured on a scaled-response question, with 1 = under 13, 2 = 13–17, 3 = 18–25, 4 = 26–34, 5 = 35–54, 6 = 55–64, 7 = 65 or over. The average response was 3.98, $SD = .95$. No participants answered with a 1 or 2.

Procedure

Participants were randomly assigned to either the meaning threat (death reminder) or no threat (pain reminder) condition. In both conditions, they wrote brief essays, at least 250 characters long. As in Study 1, participants in the meaning threat condition wrote about their own eventual death. Those in the no threat condition wrote about dental pain.

Next participants chose between pairs of vintage and modern products in eight different categories: bracelets, watches, shawls, purses, bags, earrings, travel bags, and briefcases. All images were taken from Gilt.com, an online store that sells both vintage and modern reproductions of similar items. Vintage and modern versions of each item were described in similar terms, and included the same image for each item—in other words, the vintage and modern products looked the same in all categories. The only difference was that one item of each pair was described as brand new, whereas the other was described as vintage and included the following disclaimer, borrowed from Gilt.com: "Please note that this is a previously owned item; imperfections are a unique aspect of vintage products. Our quality control team has inspected this item and verified that it is in the condition described." We counted the number of times participants chose a vintage item to create an index score of vintage products preference ($\alpha = .66$). Last, in order to determine whether participants were

motivated to see time as interconnected, participants indicated how much they think about various time frames, as in the previous two studies (i.e., thinking about the past, thinking about the past in relation to the present and future, thinking about the present, thinking about the future, thinking about the present in relation to the future).

Results

Choice of vintage products

We tested the hypothesis that participants in the meaning threat (death reminder) condition would choose vintage products more often than participants in the no meaning threat (dental pain reminder) condition. Consistent with this prediction, participants in the meaning threat condition were more likely to choose a vintage item than were participants in the no threat condition ($M_{\text{threat}} = 4.24$, $SD = 1.81$ vs. $M_{\text{no threat}} = 3.20$, $SD = 2.07$; $t(171) = 3.52$, $p < .01$).

Intertemporal connections

As predicted, the presence of a meaning threat caused a (marginally significant) increase in thinking about the past in relation to the present and future, relative to the no threat condition ($M = 3.54$, $SD = 1.24$ vs. $M = 3.20$, $SD = 1.13$; $t(171) = 1.86$, $p = .06$). That was the only temporal connection that was sensitive to the presence or absence of a meaning threat. Thinking about any of the other time frames was not affected by condition: thinking about the past ($p > .7$); present ($p > .4$); future ($p > .8$); or the present in relation to the future ($p > .7$).

Mediation by intertemporal connections

As predicted, results revealed a significant indirect effect via thoughts about the full complement of intertemporal connections, that is the past to the present and the future ($\beta = .03$, 95% CI [.001, .072]). Thoughts about other times frames did not mediate the effect of condition on preference for vintage items.

Discussion

This study provided further evidence in favor of the account we have proposed by showing that when facing a meaning threat, people were more likely to choose vintage items over otherwise equivalent modern replicas. We further found that, consistent with the findings of Studies 3 and 4, an increase in thinking about intertemporal connectedness mediated this effect.

Study 6: Meaning threats cause people to spend more time wearing vintage items than modern equivalents

The final study sought to provide convergent evidence for the findings of Study 5. Like Study 5, Study 6 exposed some participants to a meaning threat, in the form of a death reminder, then allowed participants the opportunity of evaluating vintage and modern items. Instead of having them choose

between vintage and modern, as happened in Study 5, Study 6 asked for evaluations in the form of "liking" ratings and also used observed time holding or wearing items while looking in a mirror as an additional dependent variable indicating a desire to associate with the item.

Participants

Sixty-four (47 female) students at a major European university participated for course extra credit. All participants indicated they were between 18 and 34 years of age, with most between 18 and 25 years old.

Procedure

Participants were randomly assigned to conditions in a two-cell, between-subject design (meaning threat vs. no meaning threat), with type of product (vintage vs. modern) as a within-subjects factor. Participants read one of two scenarios developed by Cozzolino, Dawn Staples, Meyers, and Samboceti (2004). Participants in the meaning threat condition imagined waking to find themselves trapped in an apartment building fire from which there was no escape. The scenario described the scalding heat, screams of neighbors, and the room slowly filling with smoke as the reader realizes that there is nothing to do but close one's eyes and wait for the end to come. Participants in the no meaning threat condition imagined themselves in the benign scenario of heading out on the town for a day of sightseeing with a relative (methodological detail in Web Appendix E).

Next, we measured intertemporal thinking using an abbreviated version of the intertemporal connection measures used in studies 3, 4, and 5. Then, participants were told there was a second part to the study, a product evaluation task, for which they were called individually into a separate room. Participants were provided with four gender-appropriate products to evaluate: one each of a modern and vintage hat, and modern and vintage bag.

Participants were told that they could try out the products before providing their evaluation and that a mirror was provided to facilitate their evaluations. The order of evaluation was not controlled by the researchers; participants picked up each item in whichever order they wished. A research assistant blind to condition and hypotheses, surreptitiously recorded the length of time that participants spent looking at themselves in the mirror with each item. The assistant was seated behind participants and started timing as they stepped in front of the mirror and stopped the time when they took off or set down the item. Afterward, participants rated how much they liked each item on 5-point scales (1 = not at all; 5 = very much). Last, participants indicated their age and gender.

Results

Liking of vintage products

We averaged ratings of the vintage products to compute an interest-in-vintage score ($\alpha = .79$) and an interest-in-modern-products index ($\alpha = .83$). We used a mixed-factors ANOVA,

with meaning threat condition (meaning threat present vs. absent) as the between-subjects factor and type of product (vintage or modern) as the within-subjects factor. Results revealed no significant interaction ($F(1, 62) = 2.38, p = .128$). There was also no significant main effect of the product type, $p = .128$, but there was a significant main effect of the threat condition, $p = .014$.

In a replication of findings from Study 5, participants in the meaning threat (death cue) condition showed a stronger preference for vintage products than did those in the no meaning threat (sightseeing) condition, ($M_{\text{threat}} = 3.36, SD = 1.10$ vs. $M_{\text{no threat}} = 2.66, SD = 1.04; t(62) = 2.62, p < .02$). Meaning threat did not affect liking of the modern products ($M_{\text{threat}} = 2.82, SD = 1.07$ vs. $M_{\text{no threat}} = 2.66, SD = .61; t(62) = .72, p > .47$). Furthermore, when we analyzed the liking for vintage/modern bag and liking for vintage/modern hat separately, we found a significant interaction on liking for the bag ($F(1, 62) = 4.21, p = .045$), but not on liking for the hat ($F(1, 62) = 0.058, p = .81$).

Time spent trying on products

We also tested the hypothesis that a meaning threat stimulates liking for vintage (and not modern) products by measuring the time participants spent trying on the products. We used a mixed-factors ANOVA, with meaning threat condition (meaning threat present vs. absent) as the between-subjects factor and type of product (vintage or modern) as the within-subjects factor. Results revealed the predicted significant interaction ($F(1, 62) = 4.12, p = .047$). There was no main effect of the threat condition, $p = .110$, but there was a main effect of the product type condition, $p < .001$. As expected, participants in the meaning threat condition spent more time in front of the mirror with vintage products than did participants in the no threat condition ($M_{\text{threat}} = 10.02$ s, $SD = 5.69$ vs. $M_{\text{no threat}} = 7.45$ s, $SD = 4.04; t(62) = 2.07, p < .05$). There was no difference in duration spent with the modern products as a function of condition ($M_{\text{threat}} = 5.33$ s, $SD = 3.23$ vs. $M_{\text{no threat}} = 4.82$ s, $SD = 3.76; t(62) = .58, p > .56$).

Thinking about intertemporal connections

People were significantly more likely to think about the past as related to the present and future after being exposed to a death reminder ($M_{\text{threat}} = 3.30, SD = 1.49$ vs. $M_{\text{no threat}} = 2.29, SD = 1.04; F(1, 62) = 9.83, p = .003$). Thoughts about the past ($p > .40$), the present ($p > .20$), the future ($p > .45$), and the present in relation to the future ($p > .90$) did not differ by condition.

Mediation by intertemporal connectedness

A bootstrap mediation analysis revealed that thinking about past in relation to the present and future was a significant mediator of the threat condition's effect on liking of vintage products ($\beta = .41, 95\% \text{ CI } [.04, .79]$). Analysis of the other time-related thoughts revealed that none mediated the effect. In addition, thinking about past in relation to the present and

future was not a significant mediator of the threat condition's effect on, the other main dependent variable, time spent trying on products ($\beta = .56, 95\% \text{ CI } [-.35, 1.91]$).

Discussion

Study 6 measured subjective liking and actual behavior, the latter in the form of trying on and handling products. Both liking and using the products showed the expected effect, that death reminders increased the appeal of vintage products. We saw no change in the appeal of modern products as a function of condition, on either outcome. We found that thinking about connections across time undergirds the preference for vintage items after being reminded of death.

General discussion

We proposed that vintage items confer intertemporal connections. We found that thinking about vintage items led to thinking about the past, in relation to the present and future. Three studies found that these thoughts accounted for both assuaged defensive reactions (Study 4) as well as preferences for vintage over modern items (Studies 5 and 6) after experiencing a meaning threat. Evaluating, handling, or thinking about owning a vintage item increased in thoughts connecting the past with the present and future, which, in turn, was shown to buffer against threats to meaning frameworks. As summarized in Table 1, the effect was tested and found to be consistent across more than a dozen different items in categories as diverse as fashion, transportation, and home décor. The effect was also robust across different manipulations of meaning framework threat, and across convergent measures of reaction to meaning threats. The studies also ruled out nostalgia as an alternative explanation.

There is ample evidence that meaning threats, including death reminders, prompt adherence to existing meaning frameworks (Heine et al., 2006). This research is the first to posit that intertemporal connections serve as a buffer against meaning threats. The current findings provide a new insight within this class of research, that the perceived history of vintage goods can provide psychological value to consumers following a meaning threat by connecting the past, present, and the future.

Intertemporal connections, especially among the past, present, and future simultaneously, are rare and special, according to new work that tracked people's thoughts as they occurred naturalistically throughout the course of the day (Baumeister, Hofmann & Vohs, under revision). Thoughts that reflected the interconnectedness of the past, present, and future were uncommon, in that only 3% of all thoughts connected the full complement of time. By way of comparison, thinking of the present made up 53% of thought occurrences, and thoughts linking the present to the future were more than 5 times more common (17%) than thinking of the past, present, and future all at once. The fact that we consistently found evidence that vintage consumption prompt people to think about the past as related to the present and future—and only to that specific kind of thinking about time—speaks to the specificity and novelty of effects documented here.

Table 1
Overview of studies and findings.

Product category (vintage vs. new)	Past–present–future connectedness	Bolstering of meaning framework	Mediation through past–present–future	Nostalgia as alternative explanation
1 Watch		Need for structure***		
2 Scooter		Evaluation of meaning-threatening essay***		ns
3 Leather jacket	**			ns; also, social connectedness, ns
4 Wall clock	**	Meaning in life**	**	ns
5 Bracelet, watch, shawl, purse, bag, earring, travel bag, briefcase	*	Choice of vintage***	**	
6 Hat, bag	***	Preference for vintage** Time spent evaluating vintage**	**	**

* $p < .10$; ** $p < .05$; *** $p < .001$.

This research also predicts that vintage items will tend to be more preferred when people experience meaning threats, such as those that might happen more frequently during large-scale disruptions during the course of daily events. It is perhaps more than coincidental that recent upticks in embracing vintage co-occurred with the largest global economic recession in many generations. While no doubt there are many reasons for the popularity of vintage items, the current work suggests one possible explanation for this trend. Major economic uncertainty creates existential unease and presents a global threat to meaning. In our view that might well have led consumers to seek vintage items—tangible, consoling products—in order to assuage the meaning threat caused by economic malaise. If so, the current theorizing predicts that other events that prompt feelings of unease—from transitioning to a new calendar year to preparing to enter a new decade in one’s life (Alter & Hershfield, 2014) to unpredictable moves by dominant and unstable world leaders—could send people to seek shelter in the comfort of vintage.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jcps.2016.06.004>.

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