



When feeling powerless, we crave nostalgia: The impact of powerlessness on the preference for nostalgic products

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Received: 29 August 2020 / Accepted: 10 November 2023 / Published online: 1 December 2023
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Abstract

Powerlessness is a prevalent experience in everyday life. Although research has indicated that consumption can restore a sense of power, it remains unclear how people cope with powerlessness when regaining power is impossible. We propose that in such circumstances nostalgia consumption can act as a coping strategy, and examine if so, then how and when powerlessness increases consumer preference for nostalgic products. Across eight studies (including three supplementary studies), we found that consumers preferred nostalgic products when they felt powerless more than when they felt powerful. Uncertainty about the future acted as the underlying mechanism, one that consumers could alleviate by consuming nostalgic products. When high-status and nostalgic products were both available and regaining power was therefore possible, consumers with higher self-acceptance still preferred nostalgic products, whereas ones with lower self-acceptance preferred high-status products.

Keywords Powerlessness · Nostalgia marketing · Uncertainty · Compensatory consumption · Self-acceptance

Introduction

Powerlessness refers to an actual or perceived loss of control over one's behavior due to others' control of valuable resources or their ability to administer rewards and

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Kelly Goldsmith served as Area Editor for this article.

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punishments (Emerson 1962; Rucker & Galinsky 2008). Powerlessness is a prevalent experience in everyday life. For example, most European citizens feel powerless when it comes to politics in the European Union, which they perceive to be beyond their influence (Dobler 2020). Similar feelings were reported by women in the United States after the U.S. Supreme Court overturned *Roe v. Wade* (Sudhakar 2021). If not chronic, then powerlessness can also be temporarily evoked by one-off incidents, including being treated unfairly by a superior at work (French et al. 1959).

A state of powerlessness can lead to feelings of helplessness (Abramson et al. 1978), embarrassment, and sadness (Keltner et al. 2003). Those adverse feelings motivate people to reduce self-deficits in power, and consumption is one strategy that they use to achieve that goal (Mandel et al. 2017). Research has suggested that consumers who feel powerless particularly favor products that can help them to regain power, either directly (e.g., by reading *Power and Influence for Dummies*; Kim & Gal 2014) or symbolically (e.g., by purchasing high-status; Rucker & Galinsky 2008, 2009). An intriguing but unaddressed question is how consumers respond to a feeling of powerlessness when opportunities to regain power are not readily available, as is common in real-world conditions. For example, reading a book about how to increase power is perceived as being unhelpful for immediately improving one's power, while acquiring a

high-status product may be impossible due to its price premium or limited distribution. In response to that question, our research examines the consumption of nostalgic products as a means to coping with powerlessness when regaining power is not readily possible.

Nostalgia refers to a sentimental longing or wistful affection for the past (Routledge et al. 2011; Sedikides et al. 2004; Wildschut et al. 2006). In the context of consumption, nostalgia often manifests in a preference for products that can evoke nostalgic feelings, including vintage products, products that were popular when one was younger, and products that reference the past through nostalgia-themed marketing communication (Holbrook 1993; Lasaleta & Loveland 2019). Research has indicated that nostalgia can prompt positive emotions (Wildschut et al. 2006), elevate self-esteem (Vess et al. 2012), enhance perceptions of social connectedness (Zhou et al. 2008) and existential meaning (Routledge et al. 2008), and strengthen self-continuity (Sedikides et al. 2008). Given nostalgia's multiple psychological benefits, consumers who feel powerless may prefer nostalgic products, with increased uncertainty about the future as the underlying mechanism. Uncertainty is a key source of the psychological discomfort induced by powerlessness (Rucker & Galinsky 2008). To reduce that uncertainty, consumers who feel powerless may turn to nostalgic products to strengthen their sense of social connectedness, which carries a promise of social support in times of need and thereby makes their future seem less unpredictable.

Although no research has linked nostalgic consumption to powerlessness, a recent sociological study provided preliminary evidence for our postulations. Based on data from the 2019 Belgian National Election Study, Rogenhofer et al. (2023) detected a positive relationship between feeling powerless and *collective nostalgia*, or a longing for the culture and traditions of the past. In our research, we focused on *personal nostalgia*, a state in which people reminisce about not collective but personal experiences in the past, and examined the causal effect of powerlessness on consumer preference for nostalgic products. In the first seven studies (i.e., Studies 1–4 and three supplementary studies) with real behavioral consequences, we demonstrated that consumers preferred nostalgic products more when they felt powerless than when they felt powerful, with uncertainty about the future as the underlying mechanism. We also found that nostalgia could indeed alleviate uncertainty induced by a sense of powerlessness.

Upon finding that low-power consumers turned to nostalgic products when regaining power was not readily possible, we wondered whether consumers would continue to prefer nostalgic products if products that could restore power were available. Answers to that question are essential to understanding consumers' choices between different

compensatory strategies, a topic that has received inadequate attention in the literature. In this research, we investigated how consumers chose between nostalgic and high-status products, which represent different compensatory goals. Whereas purchasing high-status products aims to symbolically restore a sense of power, purchasing nostalgic products serves to alleviate powerlessness-induced negative consequences (e.g., uncertainty about the future).

We propose that consumers' choices may depend on their *self-acceptance*, describing the extent to which an individual unconditionally accepts themselves (Chamberlain & Haaga 2001; Williams & Lynn 2010). By shifting one's appraisal of self-deficits from harmful to benign to self-worth, self-acceptance reduces the need for self-concept maintenance and increases the potential to address self-deficits via more adaptive, less defensive strategies (Chamberlain & Haaga 2001; Hayes 1994; Kim & Gal 2014). Therefore, powerless consumers with higher self-acceptance may prefer nostalgic products, whereas ones with lower self-acceptance may prefer high-status products. We provide supporting evidence for that proposition in Study 5.

In sum, we examined whether and, if so, then why and when a state of powerlessness increases consumer preference for nostalgic products. Our findings extend knowledge about how power shapes consumer behavior (Rucker & Galinsky 2008, 2009; Wang et al. 2020, 2022) and, more broadly, how consumption helps consumers to regulate their self-deficits (Cannon et al. 2019; Mandel et al. 2017). Our research also contributes to the literature on nostalgic consumption (Holbrook 1993; Loveland et al. 2010; Muehling & Pasca 2011; Muehling & Sprott 2004; Schindler & Holbrook 2003; Sierra & McQuitty 2007; Zhou et al. 2008) by revealing powerlessness as a new trigger and demonstrating the ameliorative effect of nostalgia on uncertainty about the future.

In practical terms, nostalgia marketing is nothing new. Brands, movie studios, and restaurants, among numerous others, have deployed that strategy for years. However, whereas some products and services have enjoyed tremendous market success by eliciting feelings of nostalgia, others seem to have been a waste of resources. Our findings provide companies with actionable suggestions on how to implement nostalgia marketing to achieve market success.

Impact of powerlessness on consumer behavior

Research on the impact of powerlessness can generally be categorized into two streams (see Table 1). The first stream, examining how people behave in line with their state of powerlessness, has shown that the powerless tend

Table 1 A review of the literature on how power shapes consumer behavior

Study	Consistent	Compensatory	Trade-offs	Major findings between coping strategies (i.e., with the powerful as the baseline)
	behaviors	behaviors	Restoring power	Reducing negative conse- quences
Anderson & Berdahl (2002)	✓			Less expression of attitudes, more negative emotions, and greater sensitivity to threats
Galinsky et al. (2003)	✓			Less action-oriented behaviors
Keltner et al. (2003)	✓			More negative affect, more attention to self-comparison, more controlled information processing, and more inhibited social behavior
Anderson & Galinsky (2006)	✓			Less risky behaviors
Galinsky et al. (2006)	✓			Increased perspective taking
Smith & Trope (2006)	✓			More concrete information processing
Smith et al. (2008)	✓			Less effective in updating, inhibiting, and planning
Lammers & Stapel (2009)	✓			Relying more on outcome-based (vs. rule-based) moral thinking
Rucker et al. (2011)	✓			More spending on others than themselves
Mourali & Nagpal (2013)	✓			A higher likelihood to reject (vs. choose) in decision-making
Jiang et al. (2014)	✓			Less switching behaviors
Jin et al. (2014)	✓			Greater perceptions of unfairness when paying more than they themselves paid in earlier transactions.
May & Monga (2014)	✓			Reduced patience by the anthropomorphism of time
Dubois et al. (2016)	✓			Creating warmer messages and being more easily persuaded by warm information
Han et al. (2017)	✓			More charitable behavior
Rucker & Galinsky (2008)		✓		A higher preference for high-status products
Rucker & Galinsky (2009)		✓		A higher preference for visible or conspicuous consumption
Inesi et al. (2011)		✓		A higher preference for large choice sets
Kim & Gal (2014)		✓	✓	A higher preference for adaptive (compensatory) consumption for high (low) self-accepting consumers
Our research		✓	✓	A higher preference for nostalgic (vs. non-nostalgic) products and a higher preference for nostalgic (vs. high-status) products for consumers with high (vs. low) self-acceptance

to be more avoidance-oriented (Keltner et al. 2003), more other-focused (Rucker et al. 2011), less action-oriented (Galinsky et al. 2003), and less optimistic (Anderson & Galinsky 2006) than the powerful. Powerlessness also makes people think more concretely (Smith & Trope 2006) and identify others' emotions better (Galinsky et al. 2006) than otherwise.

The second stream, by contrast, examines how people cope with powerlessness and especially the role of power-associated products therein. On that count, it has been revealed that feeling powerless increases consumer preference for high-status products (Rucker & Galinsky 2008,

2009) and large choice sets (Inesi et al. 2011), both of which have symbolic value as signs of power or personal control and can thus compensate for one's diminished sense of power. Kim & Gal (2014) have further demonstrated that consumers with low self-acceptance tend to engage in symbolic compensatory consumption, whereas ones with high self-acceptance prefer products that can directly enhance their power.

Our work mostly represents the second stream of research. However, instead of studying how consumption can restore power, we investigated compensatory consumption aimed at minimizing powerlessness's negative consequences.

Does powerlessness increase the preference for nostalgic products?

We propose that powerlessness positively affects consumer preference for nostalgic products. This effect does not arise from a desire to restore power but from heightened uncertainty about the future, which motivates low-power consumers to prefer nostalgic products as a means to reduce uncertainty.

Impact of powerlessness on uncertainty about the future

Uncertainty about the future refers to the mental state of lacking information about what will happen to oneself in the future (Kagan 1972). Feelings of uncertainty can be temporarily intensified by various situational factors, ranging from forced contemplation about death to interaction with a new supervisor at work (van den Bos & Lind 2002).

By definition, *uncertainty about the future* varies with one's subjective sense of possessing information that can be used to predict future events, such that possessing less information is associated with greater uncertainty. In a social relationship marked by asymmetric power, the low-power person is more dependent on the high-power person than vice versa, because power means control over valued economic, social, cultural, and other resources, which enables the high-power person to determine outcomes for others (Emerson 1962). Dependence on others implies that what happens to the low-power person is partly influenced by the high-power person. In that dynamic, information about the high-power person, including about their beliefs, attitudes, feelings, and behaviors, is unknown or at least not fully understood to the low-power person. As a result, the low-power person has a heightened perception that they lack sufficient information to predict how the high-power person may influence their future, which makes the future seem relatively uncertain to them. Such an effect is less likely to occur for the high-power person, because their future is less dependent on the low-power person and they thus have little need for information about that person to predict the future.

Impact of uncertainty about the future on the preference for nostalgic products

Uncertainty can be threatening and trigger action to reduce it, because people have a fundamental need to feel certain about their world and their place therein (van den Bos & Lind 2002). The motivational impetus of uncertainty is particularly strong when people feel uncertain about things

that pertain to their sense of self (Grieve & Hogg, 1999; Hogg 2007).

We propose that uncertainty about the future is inherently related to the self and thus prompts people to alleviate it. Arguably, because uncertainty can induce pleasure, sometimes individuals embark on courses of action that increase their uncertainty in the short term (Lee & Qiu 2009; Shen et al. 2019; Wilson et al. 2005). That effect often occurs when uncertainty is associated with a positive event (e.g., a lottery). By contrast, when uncertainty is associated with a negative event or when people do not know the event's valence, uncertainty induces negative emotions, including anxiety and worry (Wilson et al. 2005). In our research, uncertainty about the future is heightened by an adverse experience, and both positive and negative events are likely to occur in the future. Therefore, it is reasonable to argue that powerlessness-induced uncertainty about the future triggers a desire to reduce uncertainty.

Reducing uncertainty can be achieved by making the future as cognitively manageable (van den Bos & Lind 2002). We propose that nostalgia can help low-power people to achieve that goal by reminding them of the social bonds that they can rely on. Research has shown that nostalgic narratives predominantly feature social bonds, including with family members and close friends who make people feel protected and loved (Cheung et al. 2013; Wildschut et al. 2006; Zhou et al. 2008). Those social bonds represent others to whom one can turn in times of need. With more social bonds, people expect to receive greater social support when facing difficulties, and that expectation increases their perceived manageability and control over the outcomes of future events. In other words, social bonds carry a promise of predictability about what will happen in the future, which makes the future seem less uncertain.

In consumption, nostalgia often manifests in a preference for nostalgic products, frequently triggered by a desire for nostalgia's psychological benefits. For example, being socially excluded leads consumers to prefer nostalgic products as a means to satisfy the activated need to belong (Loveland et al. 2010). Threats to self-authenticity prompt the preference for nostalgic products because nostalgia-evoked perceptions of self-continuity can help people to reinforce their threatened selves (Lasaleta & Loveland 2019). In line with those studies, we propose that uncertainty about the future induces people to perceive nostalgic products as being particularly appealing because the nostalgic feelings evoked by such products exert an ameliorative effect on their uncertainty. Based on the above, we hypothesize that:

H1 Consumers show a greater preference for nostalgic products when they feel powerless than when they feel powerful.

H2 Uncertainty about the future mediates the effect of powerlessness on consumer preference for nostalgic products.

Do consumers still prefer nostalgic products when both nostalgic products and high-status products are available?

In the preceding sections, we have focused on situations in which restoring power is not readily possible, presumably because power-associated products are unavailable or perceived as being useless for immediately restoring power. In this section, we address our second research question: In situations when both nostalgic products and high-status products are available, do consumers still prefer nostalgic products? The answer to that question depends on the compensatory goal that consumers pursue, for nostalgic products can serve to reduce powerlessness-induced uncertainty, whereas high-status ones are used to restore power symbolically. We propose that self-acceptance may determine which compensatory goal prevails.

Self-acceptance refers to the detachment of self-worth from an individual's self-assessment of the extent to which their actual self meets their ideal self (Hayes 1994). Research has shown that self-acceptance influences individuals' appraisals of perceived self-deficits, such that ones with high self-acceptance view self-deficits as being less alarming and less threatening than ones with low self-acceptance (Kim & Gal 2014). Appraisals of self-deficits determine how individuals respond, such that self-acceptance positively affects the tendency to address self-deficits in adaptive instead of defensive ways (Hayes 1994). For example, Chamberlain & Haaga (2001) have found that individuals with greater self-acceptance are less likely to denigrate other individuals who evaluate their performance unfavorably and less inclined to recognize any need to prove themselves to others. Kim & Gal (2014) have also shown that when feeling powerless, individuals with low self-acceptance feel a strong need to protect their self-worth and prefer high-status products for their value in signaling power, whereas individuals with high self-acceptance are relatively objective in their self-evaluations and prefer products that can help to directly improve their power.

Along those lines, we suggest that self-acceptance influences low-power consumers' choices between nostalgic and high-status products. For consumers with low self-acceptance, lacking power poses a threat to their self-worth, which prompts them to deny the idea of being powerless. To make this denial justifiable, consumers are motivated to seek evidence demonstrating their high power. In that situation, high-status products seem more appealing because they can signal power to others, whereas nostalgic products are rarely associated with power. For consumers with

high self-acceptance, however, powerlessness is appraised as relatively benign and unthreatening to their self-worth. This appraisal reduces the need for self-concept maintenance and permits consumers to focus on reducing the negative consequences associated with the powerless status. As such, high-status products are perceived as less appealing, whereas nostalgic products are preferred for their function in alleviating powerlessness-induced uncertainty about the future. Based on the above, we formally hypothesize that:

H3 When feeling powerless (vs. powerful), consumers with higher self-acceptance prefer nostalgic products over high-status products, whereas consumers with lower self-acceptance prefer high-status products over nostalgic products.

Study 1: Powerlessness increases the preference for nostalgic products

In Study 1, we tested H1 using a customization task with real behavioral consequences. After manipulating participants to feel powerful or powerless, we asked them to customize a coffee mug for themselves. We predicted that participants in the low-power condition would be more likely to customize a nostalgia-themed mug than ones in the high-power condition.

Method

Eighty-three students from a large university in the United States (43.2% female, $M_{age} = 21.22$) participated in the study for monetary compensation. They were randomly assigned to either the high-power condition or the low-power condition.

In a behavioral lab, participants were first asked to recall and write about an experience in which they had power over others (i.e., high-power condition) or in which someone else had power over them (i.e., low-power condition; Rucker & Galinsky 2008). After that, for a manipulation check, they reported their perceived power (see Appendix Table 3 for the results of all manipulation checks for powerlessness in Studies 1–5).

Next, we asked participants to customize a coffee mug for themselves on a customization platform that we created specifically for Study 1 (<http://www.thediymug.com>; see Web Appendix A for screenshots of the platform). We informed participants that they had a 15% chance of receiving their self-designed mug for free after the experiment. On the platform, participants could add one of 10 pictures to a white mug, preview the design, and revise it; five pictures were nostalgic and the other five non-nostalgic (see Web Appendix B). A pretest conducted at the same university ensured that the two groups of pictures differed in their capacity to elicit nostalgic feelings ($N = 200$, $M_{nostalgic} = 4.53$, $SD =$

1.06, $M_{\text{non-nostalgic}} = 3.17$, $SD = 1.13$, $F(1,198) = 77.42$, $p < .001$) but were equally attractive ($M_{\text{nostalgic}} = 5.38$, $SD = 0.79$, $M_{\text{non-nostalgic}} = 5.49$, $SD = 0.87$, $F(1, 198) = 0.81$, $p > .10$) and equally unassociated with power ($M_{\text{nostalgic}} = 2.61$, $SD = 1.36$, $M_{\text{non-nostalgic}} = 2.83$, $SD = 1.25$, $F(1,198) = 1.47$, $p > .10$). Those results ruled out the effect of the image's attractiveness and capability to restore power on design outcomes.

After customizing their mugs, participants saved their designs on the desktop and provided their contact information. We randomly selected 12 participants, produced 12 mugs according to their designs, and delivered the mugs to the corresponding participants.

Results and discussion

We coded the design outcomes as 1 for a mug featuring a nostalgic image and 0 for otherwise. A chi-square test indicated that the participants were more likely to design a nostalgia-themed mug after recalling a low-power instead of a high-power experience, which confirmed H1 ($P_{\text{low-power}} = 58.97\%$, $N = 39$; $P_{\text{high-power}} = 34.09\%$, $N = 44$; $\chi^2(1) = 5.16$, $p = .023$, $\phi = 0.25$).

In Study 1, to manipulate powerlessness, we used an episodic recall task that has been widely leveraged in the literature on power (Rucker et al. 2012). To demonstrate the treatment variation validity of our findings, we conducted a supplementary study (i.e., Supplementary Study 1, $N = 178$, preregistered at https://aspredicted.org/blind.php?x=Y69_Y46), using a scrambled sentence task to manipulate powerlessness (Smith & Trope 2006). The results indicated that when participants were asked to choose between a nostalgic brand and a non-nostalgic brand, ones primed to feel powerless were more likely to choose the nostalgic brand than those primed to feel powerful ($P_{\text{low-power}} = 28.5\%$; $P_{\text{high-power}} = 9.09\%$; $\chi^2(1) = 5.79$, $p = .016$, $\phi = 0.18$). Details about Supplementary Study 1 appear in Web Appendix C.

Study 2: Nostalgia increases ecofriendly behavior among the powerless

Study 2 (preregistered at https://aspredicted.org/LTD_TZ5) had two purposes. The first was to enhance our research's practical relevance, and, to that end, we tested H1 in the context of public service advertising. If a state of powerlessness makes nostalgic products more appealing, it is reasonable to predict that compared with non-nostalgic appeals, nostalgic appeals in advertising for ecofriendly behavior can induce more favorable responses and accordingly more ecofriendly behavior for the powerless. We examined this hypothesis in Study 2.

The study's second purpose was to rule out an alternative explanation for the findings of Study 1. Arguably, the outcomes of mug customization might have differed because a sense of power decreases the preference for nostalgic products, not because a sense of powerlessness increases that preference. To evaluate that possibility, in Study 2 we treated nostalgic appeal as a between-subjects factor and examined how consumers responded to a nostalgic versus a non-nostalgic public service advertisement that promotes plastic reduction. We predicted that advertising appeals (i.e., nostalgic vs. non-nostalgic) influence plastic-reduction behavior for the powerless but not the powerful.

Method

In Study 2, 406 registered users of Amazon Mechanic Turk (hereafter called MTurkers) in the United States (55.9% female, $M_{\text{age}} = 39.92$) participated for monetary compensation. They were randomly assigned to one of the four conditions of a 2 (powerlessness: powerful vs. powerless) \times 2 (advertising appeal: non-nostalgic vs. nostalgic) between-subjects design.

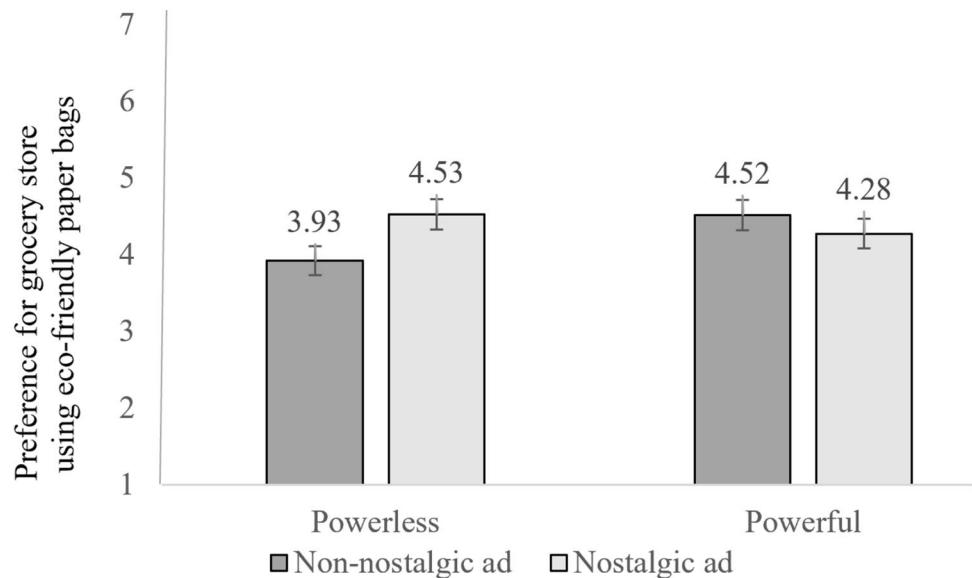
The experiment consisted of two ostensibly unrelated tasks. We first used the same recall task in Study 1 to manipulate powerlessness, followed by the same measure of perceived power as a manipulation check. After completing the recall task, participants were asked to take a short break, during which they were shown a pretested public service advertisement encouraging people to reduce their use of plastic, using either a nostalgic or a non-nostalgic appeal (see Web Appendix B for the stimuli and pretest results).

After the break, participants completed a series of evaluation tasks, including a target task and three filler tasks to reduce demand effects. In the target task, participants were asked to imagine that they were going to buy groceries at one of two grocery stores near their home: one used plastic bags to pack groceries, whereas the other used ecofriendly paper bags. Although the stores did not differ in terms of product quality or price, the store using paper bags was two miles farther from their home than the one using plastic bags. We counterbalanced the display order of the two stores and asked participants to indicate which one they would visit (1 = *definitely go to the grocery store on the left*, 7 = *definitely go to the grocery store on the right*).

Results

We recoded the preference ratings such that a higher score indicated a greater preference for the ecofriendly store, and performed a 2 \times 2 analysis of variance (ANOVA) on the ratings. The results revealed a significant interaction between powerlessness and advertising appeal ($F(1,402) = 4.42$, $p = .036$). In support of our hypothesis, low-power participants

Fig. 1 Interactive effect of powerlessness and advertising appeal on grocery store preference (Study 2)



were more likely to go to the ecofriendly store after viewing the nostalgic advertisement than after viewing the non-nostalgic one ($M_{\text{nostalgic}} = 4.53$, $SD = 1.95$; $M_{\text{non-nostalgic}} = 3.93$, $SD = 2.03$; $F(1,402) = 4.57$, $p = .033$, $\eta^2 = 0.01$, see Fig. 1). That effect was less salient for high-power participants ($M_{\text{nostalgic}} = 4.52$, $SD = 1.86$; $M_{\text{non-nostalgic}} = 4.28$, $SD = 2.03$; $F(1,402) = 0.70$, $p = .41$).

Discussion

In Study 2, we extended the focal effect to the context of public service advertising, which broadens the practical implications of our research. Moreover, by using a between-subjects design for nostalgic appeal, we demonstrated that the preference for nostalgic products observed across conditions in Study 1 differed because low power increased that preference, not because high power decreased it. To further support that conclusion, we conducted a separate supplementary study (i.e., Supplementary Study 2, $N = 318$, preregistered at https://aspredicted.org/5C3_6QS), which included a high-power condition, a low-power condition, and a control condition involving no manipulation of power. Participants were asked to indicate their preferences for a nostalgic brand relative to a non-nostalgic brand (see Web Appendix B for the stimuli and results of the pretest). The results showed that low-power consumers preferred the nostalgic brand ($M = 3.66$, $SD = 1.83$) more than high-power consumers ($M = 3.14$, $SD = 1.84$; $F(1, 315) = 4.24$, $p = .040$) and consumers in the control condition ($M = 3.03$, $SD = 1.71$; $F(1, 315) = 6.69$, $p = .010$), and that the latter two groups showed no difference in brand preference ($F(1, 315) = 0.21$, $p = .65$). Details about Supplementary Study 2 appear in Web Appendix D.

Study 3: Uncertainty about the future as the underlying mechanism

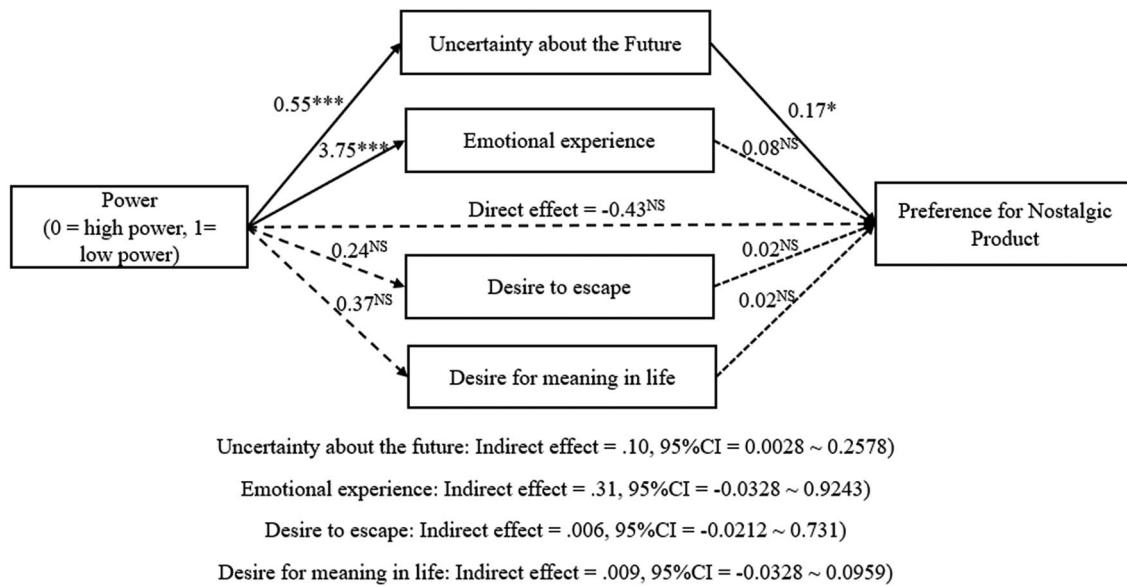
In Study 3 (preregistered at https://aspredicted.org/RSL_QBR), we examined why a state of powerlessness increases the preference for nostalgic products. We predicted that uncertainty about the future serves as the underlying mechanism (H2) and aimed to rule out several alternative explanations.

Nostalgia is a bittersweet but predominantly positive emotion (Wildschut et al. 2006). If uncertainty about the future is associated with negative emotions (Wilson et al. 2005), then the powerless may engage in the consumption of nostalgic products as a means to cheer themselves up (Koole 2009). Nostalgia can also offer “a sanitized version of the past as an escape from a problem-laden present” (Stern 1992; p. 20). Therefore, feeling powerless may prompt consumers to prefer nostalgic products as a means to reduce the salience of their current adverse state. Added to that, feeling powerless implies a lack of control over the outcomes of one’s life (Rucker et al. 2012), which may decrease the perception of a meaningful life (Chen et al. 2016). Therefore, consumers resort to nostalgic products probably because nostalgia can be harnessed to imbue their lives with an overarching sense of meaning and purpose (Routledge et al. 2011). We tested those alternative explanations in Study 3.

Method

In Study 3, 241 American preregistered users of Prolific participated for financial compensation. They were randomly assigned to either the high-power or low-power condition.

Study 3 began with a recall task to manipulate powerlessness, followed by a measure of perceived power as a



Note: *** indicates $p < .001$, ** indicates $p < .01$, * indicates $p < .05$, NS indicates $p > .05$

Fig. 2 The mediation process of uncertainty about the future (Study 3)

manipulation check. Next, participants evaluated their emotional experience (1 = *very negative*, 7 = *very positive*), desire to escape (Cronbach's $\alpha = .97$; Korgaonkar & Wolin 1999), desire for meaning in life (Cronbach's $\alpha = .93$; Steger et al. 2006), and uncertainty about the future (Cronbach's $\alpha = .92$; Faraji-Rad & Pham 2017) based on their current thoughts and feelings (see Appendix Table 4 for the items and Appendix Table 5 for the correlations between the constructs).

The second task was brand evaluation. We showed participants the two pretested advertisements used in Supplementary Study 1: one for the bread brand Allinson, and the other for Hovis. Both were real-world advertisements: Allinson's used a nostalgic appeal, whereas Hovis's used a non-nostalgic appeal (see Web Appendix B for the stimuli and results of the pretest). We asked participants to indicate their relative preferences for the two brands.

Results

Based on our preregistered criterion, we excluded three participants whose ratings of brand preference or time taken to complete the experiment were outliers.¹ Thus, the final sample had 238 participants (79% female, $M_{\text{age}} = 39.58$).

¹ In Study 3 and all other studies presented in this article, we calculated the sample mean and standard deviation for each variable and identified responses 3 SD above or below the sample mean as outliers. In Study 3, when we used the full sample, the effect of powerlessness on the preference for the nostalgic brand was marginally significant ($F(1, 239) = 3.62, p = .06$).

Brand preference As expected, a one-way ANOVA for brand preference revealed that low-power participants preferred the nostalgic brand ($M = 2.66, SD = 1.60$) more than high-power participants ($M = 2.29, SD = 1.08, F(1, 236) = 4.56, p = .034, \eta^2 = .02$).

Mediators A one-way MANOVA for the mediators indicated that feeling powerless produced greater uncertainty about the future ($M_{\text{low-power}} = 4.96, SD = 1.22; M_{\text{high-power}} = 4.40, SD = 1.00; F(1, 236) = 14.62, p < .001, \eta^2 = 0.06$) and more negative emotions ($M_{\text{low-power}} = 6.17, SD = 0.98; M_{\text{high-power}} = 2.42, SD = 1.40, F(1, 236) = 566.26, p < .001, \eta^2 = 0.70$) than feeling powerful did. No significant effect emerged for desire to escape ($M_{\text{low-power}} = 3.16, SD = 1.29, M_{\text{high-power}} = 2.91, SD = 1.36; F(1, 236) = 1.96, p = .16$) or the desire for meaning in life ($M_{\text{low-power}} = 4.13, SD = 1.69, M_{\text{high-power}} = 3.76, SD = 1.74; F(1, 236) = 2.84, p = .093$).

Mediation process analyses We performed a mediation analysis using the PROCESS macro in SPSS (Model 4, sample size = 5,000; Hayes 2017), with powerlessness (0 = *high power*, 1 = *low power*) as the independent variable, brand preference as the dependent variable, and emotional experience, desire to escape, desire for meaning in life, and uncertainty about the future as mediators (see Fig. 2). In support of H2, powerlessness (vs. power) increased uncertainty about the future ($\beta = 0.55, t(236) = 3.82, p < .001$), which increased the preference for the nostalgic bread brand ($\beta = 0.17, t(232) = 2.05, p = .041$). After the direct effect of powerlessness was controlled for ($\beta = -0.43, t(236) =$

$-0.13, p = .90$), the mediating effect of uncertainty about the future was positive and had a 95% confidence interval (CI) that excluded 0 ($\beta = 0.10, 95\% \text{ CI: } [0.0028, 0.2578]$).

Brand preference was not influenced by any of the alternative mediators (emotional experience, $\beta = 0.08, t(232) = 1.07, p = .28$; desire to escape, $\beta = 0.02, t(232) = 0.32, p = .75$; and desire for meaning in life, $\beta = 0.02, t(232) = 0.40, p = .69$). Moreover, their mediating effects all had 95% CIs that included 0 (emotional experience: $\beta = 0.31, 95\% \text{ CI: } [-0.0328, 0.9243]$; desire to escape, $\beta = 0.006, 95\% \text{ CI: } [-0.0212, 0.731]$; desire for meaning in life, $\beta = 0.009, 95\% \text{ CI: } [-0.0328, 0.0959]$).

Discussion

Study 3 replicated the finding that lacking (vs. possessing) power made nostalgic products more appealing and confirmed the mediating mechanism of uncertainty about the future. Our findings also revealed that low-power consumers turned to nostalgic products but not to regulate negative emotions, escape from the present, or search for meaning in life.

A potential limitation of Study 3 was that we asked participants to self-report their uncertainty about the future, which does not clarify whether increased uncertainty was a naturally arising consequence of powerlessness or a consequence evoked by our explicit instruction to participants to think about how uncertain they felt at the moment. To address that issue, we conducted a supplementary study (i.e., Supplementary Study 3, $N = 84$; see details in Web Appendix E), in which participants wrote down their thoughts and feelings after the manipulation of high power or low power. Three coders rated each answer for the extent to which the participant was conveying feelings of uncertainty about the future. A one-way ANOVA on the average of their ratings revealed that participants conveyed greater feelings of uncertainty after recalling an experience with powerlessness than after recalling an experience with powerfulness ($M_{\text{powerless}} = 4.09, M_{\text{powerful}} = 2.17, F(1, 82) = 50.89, p < .001$). That finding demonstrates that uncertainty about the future naturally arises when people feel powerless, which lends further support to its mediating effect on the increased preference for nostalgic products.

Study 4: Nostalgic products' efficacy in reducing uncertainty

Although Study 3 supported our proposition that uncertainty about the future drives the focal effect, it remained unclear whether nostalgic products could effectively reduce that uncertainty.

In Study 4, we measured uncertainty both before and after participants were shown nostalgic products and tested whether uncertainty declined after feelings of nostalgia were aroused.

Method

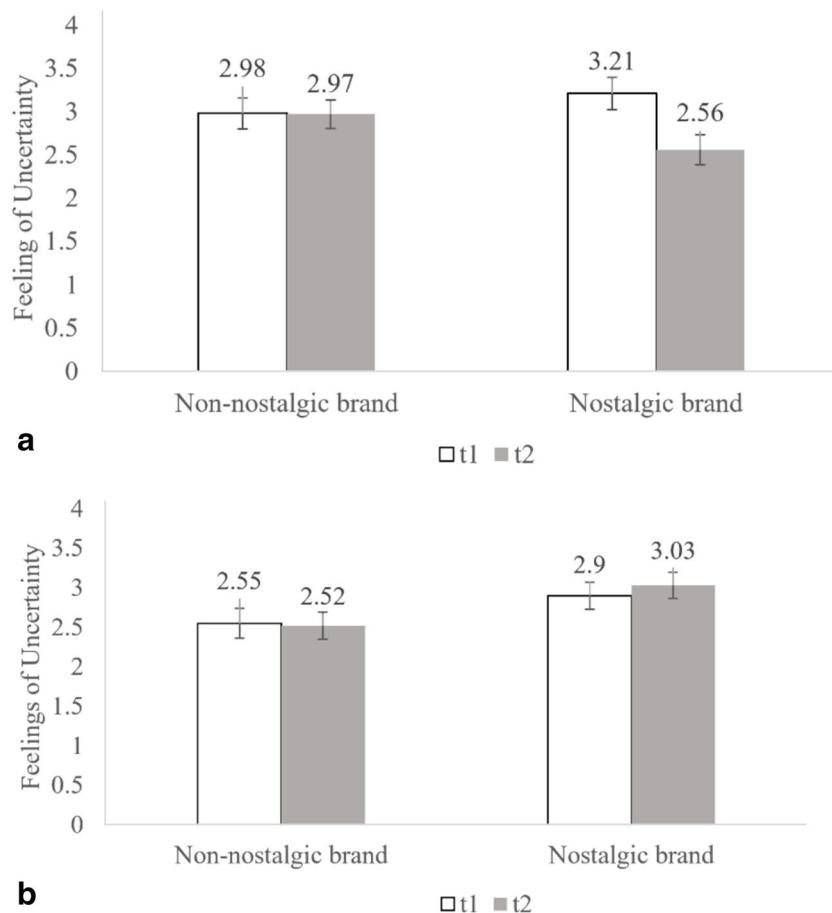
The experiment employed a 2 (powerlessness: low power vs. high power) \times 2 (brand image: nostalgic vs. non-nostalgic) \times 2 (time of measuring uncertainty: before vs. after reading the advertisement) mixed design, with the time of measurement as a within-subject factor and the other two variables as between-subjects factors. Two hundred and forty students at the same university where Study 1 was conducted participated for extra class credit and were randomly assigned to one of the four conditions.

Study 4 consisted of two ostensibly unrelated tasks. The first was a role-play task used to manipulate participants' state of power (Rucker et al. 2011). In the high-power condition, each participant imagined that they were the boss of a company who controlled and supervised the work of employees. In the low-power condition, by contrast, each participant imagined that they were a junior employee at a company who was required to follow the boss's instructions.² Participants were asked to write down how they would feel if they were in the assigned position, after which we measured perceived power as a manipulation check and measured uncertainty (t_1) as done in Study 3.

Next, a pretested advertisement for spaghetti was presented to manipulate brand image. In the nostalgic condition, the advertisement included the message "A Tasty Bite of Your Childhood: Your childhood was special. ... Take time to remember yesterday. ... Wouldn't it be great to return to those flavors?" In the non-nostalgic condition, the message was "A Tasty Bite: Today is special. ... Take time to think about this moment. ... Wouldn't it be great if it always tasted like this?" (see Web Appendix B for the stimuli and results of the pretest and post-test).

² A post-test ($N = 153$) examined whether our manipulation of powerlessness influenced perceptions of how the boss treated the employee. After viewing the same job description used in the main experiment, participants evaluated their perceptions of the boss in two items: "How nicely/respectfully do you think the boss treats the employee?" (1 = *not nicely/respectfully at all*, 7 = *very nicely/respectfully*). The results indicated that low-power and high-power participants provided similar evaluations for nicely ($M_{\text{high-power}} = 3.25, SD = 1.39, M_{\text{low-power}} = 3.50, SD = 1.46; F(1, 151) = 1.21, p = .27$) and respectfully ($M_{\text{high-power}} = 3.19, SD = 1.50, M_{\text{low-power}} = 3.57, SD = 1.67; F(1, 151) = 2.10, p = .15$). Those results allowed us to rule out the employee's treatment as an alternative explanation for the focal effect. We are grateful to an anonymous reviewer for the suggestion to examine that possibility.

Fig. 3 **A** Changes in uncertainty about the future for low-power consumers (Study 4). **B**. Changes in uncertainty about the future for high-power consumers (Study 4)



After viewing the advertisement, participants were asked to write down how they would feel if they were to consume the advertised spaghetti, after which we measured their uncertainty again (t_2). After answering all questions, the participants were debriefed and dismissed.

Results and discussion

We excluded six participants either because their responses were identified as outliers ($N = 3$) or because they did not follow our instructions when completing the writing task ($N = 3$). The final sample thus had 234 participants (52.1% female, $M_{\text{age}} = 20.90$).³

Hypotheses testing

We performed a repeated-measure ANOVA with uncertainty as the dependent variable, powerlessness and brand image as the between-subjects factors, and time that uncertainty was measured (i.e., t_1 and t_2) as the within-subject factor.

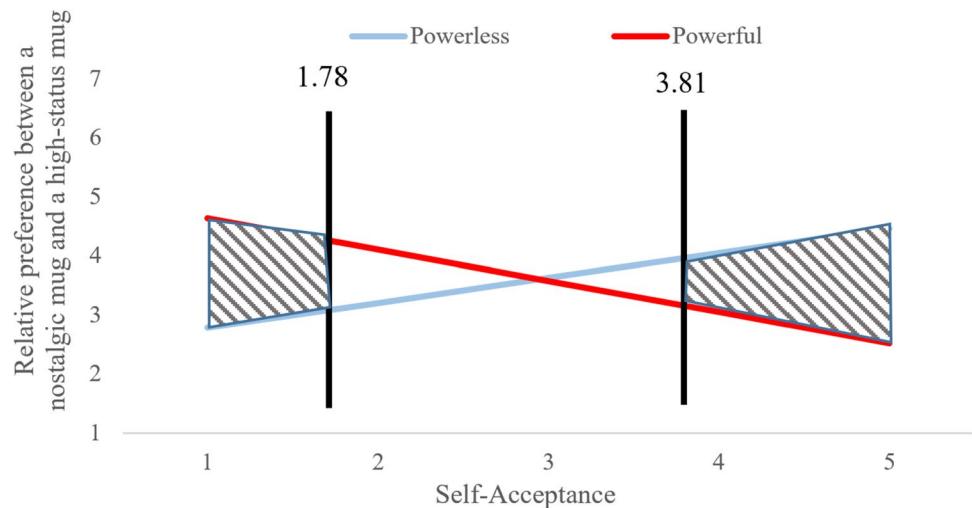
The results revealed a significant three-way interaction ($F(1, 230) = 3.89, p = .050, \eta^2 = 0.02$). As in Study 3, a state of powerlessness before viewing the advertisement produced greater uncertainty about the future than a state of power did ($M_{\text{low-power}} = 3.10, SD = 1.56; M_{\text{high-power}} = 2.74, SD = 1.23; F(1, 232) = 3.85, p = .05, \eta^2 = 0.02$). Those feelings declined significantly for low-power participants after they imagined consuming the nostalgic brand of spaghetti ($M_{\text{low-power } t1} = 3.21, SD = 1.64, M_{\text{low-power } t2} = 2.56, SD = 1.36; F(1, 230) = 9.96, p = .002$) but not the non-nostalgic brand ($M_{\text{low-power } t1} = 2.98, SD = 1.48, M_{\text{low-power } t2} = 2.97, SD = 1.34; F(1, 230) = 0.003, p = .96$, see Fig. 3a). For high-power participants, as shown in Fig. 3b, no differences in uncertainty arose between the two time points regardless of whether the brand was nostalgic ($M_{\text{high-power } t1} = 2.90, SD = 1.14, M_{\text{high-power } t2} = 3.03, SD = 1.21; F(1, 230) = 0.41, p = .52$) or not ($M_{\text{high-power } t1} = 2.55, SD = 1.31, M_{\text{high-power } t2} = 2.52, SD = 1.30; F(1, 230) = 0.02, p = .89$).

Discussion

Study 4 replicated powerlessness's positive effect on uncertainty about the future and revealed a significant decrease in such uncertainty after participants in the powerless condition

³ When using the full sample, we found a marginally significant three-way interaction ($F(1, 236) = 3.35, p = .069$).

Fig. 4 Interactive effect of powerlessness and self-acceptance on consumers' choices between nostalgic and high-status products (Study 5)



imagined consuming a nostalgic brand. Our findings thus confirm that nostalgia can reduce uncertainty about the future, thereby providing additional evidence for uncertainty as the underlying mechanism of the focal effect.

Study 5: Choice between nostalgic products and high-status products

In Study 5 (preregistered at https://aspredicted.org/24N_9WQ), we tested H3, which hypothesized self-acceptance's moderating effect on the relationship between powerlessness and the preference for nostalgic products.

Method

In Study 5, 275 MTurkers from the United States participated for monetary compensation. They were randomly assigned to either the high-power or low-power condition.

The procedure and measures in Study 5 were the same as in Study 3, albeit with two exceptions. First, we removed the measures of the mediators. Second, in the product evaluation task, participants were asked to imagine that they would like to buy a mug and were subsequently shown a pretested advertisement for each of two products: one using a nostalgic appeal and the other using a high-status appeal (see Web Appendix B for the stimuli and results of the pretest and post-test). The mugs' display positions were counterbalanced across participants.

After viewing the advertisements, participants evaluated their relative preferences for the two mugs (1 = *prefer the product on the left*, 7 = *prefer the product on the right*). Last, participants answered several questions about their demographics and a 26-item scale measuring self-acceptance (Cronbach's $\alpha = .90$; Kim & Gal 2014).

Results and discussion

Results Based on the preregistered criterion, we excluded 13 participants whose times taken to complete the experiment were outliers, which left 262 participants in the final sample (53.4% female, $M_{age} = 41.62$).⁴

To test our hypothesis, we used Model 1 of the PROCESS macro in SPSS (Hayes 2017) to examine the interactive effect between powerlessness (0 = *high power*, 1 = *low power*) and self-acceptance on the preference for the nostalgic brand. The results revealed a significant main effect of powerlessness ($\beta = -2.80$, $t(258) = -2.19$, $p = .025$), and a marginally significant main effect of self-acceptance ($\beta = -0.53$, $t(258) = -1.88$, $p = .062$). More important, we found a significant interaction between powerlessness and self-acceptance ($\beta = 0.95$, $t(258) = 2.26$, $p = .025$). In particular, a Johnson–Neyman floodlight analysis revealed that, when they felt powerless, participants with high self-acceptance ($M > 3.81$, 8.78% of the sample) preferred the nostalgic brand over the high-status brand, whereas ones with low self-acceptance ($M < 1.78$, 1.15% of the sample) preferred the high-status brand over the nostalgic brand (see Fig. 4). Thus, H3 was supported.

Discussion

Study 5 investigated how powerless consumers choose between compensatory strategies to symbolically regain power and minimize powerlessness-induced uncertainty. Our results suggest that consumers' choices depend on the extent to which they accept their powerless status.

⁴ When using the full sample, we found a marginally significant interactive effect ($t(271) = 1.84$, $p = .067$).

Consistent with previous findings that low self-acceptance individuals are more likely to prove themselves to others (Ellis & Dryden 2007) and incline to respond to self-deficit information (Kim & Gal, 2014), we found that powerless consumers with low self-acceptance are more likely to choose high-status products because high-status products allow these individuals to symbolically show power to others. By contrast, consumers with high self-acceptance tend to feel relatively comfortable with the idea that they are powerless and thus seek to reduce the negative consequences of being powerless. In that case, nostalgic products become particularly appealing due to their efficacy in reducing uncertainty.

Interestingly, we also found a marginally significant main effect of self-acceptance: that people with low self-acceptance generally showed a preference for nostalgic products versus high-status products. A possible explanation is that self-acceptance is positively associated with psychological well-being (Chamberlain & Haaga 2001), such that individuals with low self-acceptance prefer nostalgic products as a means to reap nostalgia's emotional benefits.

General discussion

In our research, we sought to understand whether and, if so, then why and when a state of powerlessness influences consumer preference for nostalgic products. Across five main studies and three supplementary studies, we found consistent evidence that when restoring power is not readily possible, consumers feeling powerless preferred nostalgic products more than ones feeling powerful (i.e., Study 1 and Supplementary Study 1), not because powerlessness decreases that preference but because powerlessness increases it (i.e., Study 2 and Supplementary Study 2). We next demonstrated that the focal effect is caused by increased uncertainty about the future, not the desire to regulate negative emotions, escape one's life, or find meaning in life (i.e., Study 3 and Supplementary Study 3), and that nostalgic products can indeed reduce uncertainty about the future (i.e., Study 4). Last, we investigated how powerless consumers choose between high-status products and nostalgic products when both are available and regaining power is thus possible. We found that self-acceptance is a key moderator of consumers' choices. In particular, powerlessness increases the preference for nostalgic products among consumers with high self-acceptance but increases the preference for high-status products among consumers with low self-acceptance (i.e., Study 5). Table 2 summarizes our research questions, corresponding hypotheses, and findings.

Contributions to the literature

Our research contributes to the literature on how consumers compensate for powerlessness in several respects. First, Mandel et al. (2017) have identified five distinct strategies for coping with self-discrepancies: direct resolution, symbolic self-completion, dissociation, escapism, and fluid compensation. Earlier studies on self-discrepancy in power primarily focused on symbolic self-completion (Rucker & Galinsky 2008, 2009; Wicklund & Gollwitzer 1981) and direct resolution (Kim & Gal 2014). By contrast, consuming nostalgic products seems to be ineffective for restoring power. We consider the consumption of nostalgic products to be a fluid compensation strategy, for it serves to affirm the self in terms of perceived uncertainty, a domain distinct from the domain of self-deficit (Heine & Proulx 2006; Lisjak et al. 2015). By reducing uncertainty about the future, powerless consumers reinforce a valued aspect of themselves; the importance of the activated discrepancy in power decreases, and the self is ultimately affirmed (Steele 1988).

Second, we have revealed the role of uncertainty in powerlessness's effect on compensatory consumption. Although loss of control and uncertainty are the key sources of psychological discomfort that people seek to alleviate when feeling powerless (Keltner et al. 2003; Rucker & Galinsky 2008), research on compensatory consumption for powerlessness has focused on the role of losing control. To illustrate, high-status products are used to mitigate a diminished sense of power, which by definition means regaining control to some extent (Rucker & Galinsky 2008, 2009). Inesi et al. (2011) have also demonstrated that powerless (vs. powerful) consumers prefer larger choice sets to satisfy their need for control. By contrast, we examined the role of uncertainty in shaping compensatory consumption against powerlessness and demonstrated nostalgic consumption's ameliorative impact on uncertainty. Those findings underscore the importance of more nuanced investigations into the sources of powerlessness-induced discomfort for a better understanding of consumers' different compensatory behaviors.

Given nostalgia's various psychological benefits, it is theoretically important to rule out alternative explanations. In our research, we showed that although a state of powerlessness (vs. power) is associated with more negative emotions, such emotions did not predict consumer preference for nostalgic products. That finding is consistent with published results suggesting that emotions are "not the key ingredient for behavioral differences between high and low power to arise" (Rucker et al. 2012; p. 354). We also found that low-power consumers do not prefer nostalgic products in order to escape their current situation, likely because the salience of the self in nostalgic scenarios makes nostalgia less suitable as an escapist strategy than strategies that can help people

Table 2 Summary of research questions, hypotheses, major findings, and implications

Research questions	Hypothesis	Studies	Finding	Theoretical and managerial implications
Q1: Does a state of powerlessness increase consumer preference for nostalgic products?	H1: Consumers show a greater preference for nostalgic products when feeling powerless than when feeling powerful.	Studies 1 and 2 and Supplementary Studies 1 and 2	Hypothesis supported	<p><i>Theoretical implications</i> Nostalgia consumption is a strategy for coping with a lack of powerlessness when regaining power is not achievable.</p> <p><i>Managerial implications</i></p> <p>(1) Marketers can detect when and where consumers are more likely to feel powerless in order to determine the right time and place for nostalgia marketing.</p> <p>(2) Consumer protection officials should review companies' nostalgia-themed campaigns for pecuniary goals.</p>
Q2: Why do consumers turn to nostalgic products when they feel powerless?	H2: The effect of powerlessness on preference for nostalgic products is mediated by uncertainty about the future.	Studies 3, 4 and supplementary Study 3	Hypothesis supported	<p>(1) Our research reveals the role of uncertainty in powerlessness's effect on compensatory consumption.</p> <p>(2) Our research demonstrates the efficacy of nostalgia consumption in reducing uncertainty.</p>
Q3: If both nostalgic and high-status products are available and accessible, which product do consumers choose to compensate for their lack of power?	H3: When feeling powerless (vs. powerful), consumers with higher self-acceptance prefer nostalgic products over high-status products, whereas consumers with lower self-acceptance prefer high-status products over nostalgic products.	Study 5	Hypothesis supported	<p>Our research advances knowledge about how consumers choose between different fast compensatory strategies, which involve self-regulation for short-term goals.</p>

to avoid self-focus (e.g., eating and shopping; Heatherton & Baumeister 1991; Moskalenko & Heine 2003).

Last, the powerlessness-induced preference for nostalgic products cannot be explained by a desire for a meaningful life. That finding is inconsistent with Chen et al.'s (2016) results showing that powerlessness induces consumers in China to seek meaning in life. A possible reason for that inconsistency may lie in cultural differences in power distance beliefs—that is, the degree to which power disparities in society are deemed to be acceptable and normal (Hofstede 2001). People from cultures with high power distance belief, including China, tend to accept and even expect inequalities in society, and that belief may make powerlessness an existential threat given the inequalities expected as a result. By contrast, people from cultures with low power distance belief, including the United States, tend to maintain and honor inherent equality in social interactions (Hofstede 2001); to them, low power is less related to inequalities and therefore seems less threatening to a meaningful life. Altogether, though nostalgic consumption can serve as a multifaceted tool for self-affirmation, we have shown that powerless consumers primarily prefer nostalgic products to reduce uncertainty about the future.

Last, our research advances knowledge about how consumers choose between different compensatory strategies. A few scattered studies have explored the situational and individual characteristics that moderate those choices. For example, Kim & Gal (2014) have examined how self-acceptance influences consumers' choices between direct and symbolic compensatory strategies for self-deficits. Focusing on resource scarcity, Cannon et al. (2019) have additionally proposed that the perceived mutability of the resource discrepancy influences consumers' choices between strategies of reducing scarcity and restoring control, which maps onto the direct and fluid compensatory strategies in Mandel et al.'s (2017) model. Both of those studies focused on consumers' choices between a slow strategy involving self-regulation to achieve long-term goals (e.g., actual power improvement) and a fast strategy involving self-regulation to achieve short-term goals (e.g., immediate perceptions of high power; Cannon et al. 2019).

Our research differs from and thus extends those studies by examining consumers' choices between two fast strategies: a symbolic strategy for immediate perceptions of high power and a fluid strategy for immediately reducing uncertainty. We found that high self-accepting (low self-accepting) consumers are more likely to adopt the fluid (symbolic) strategy.

Our research also contributes to the literature on nostalgia. In explaining nostalgia's emergence as a dominant theme in the late 20th century, Stern (1992) argued that "an era's symbolic death signals a plunge into the unknown" (p. 12). Our research seconds Stern's (1992) argument by empirically validating powerlessness's effect on uncertainty about the future. Even so, Stern (1992) characterized nostalgia as a means to escape (i.e., through historical nostalgia) and gain emotional sustenance (i.e., through personal nostalgia). By contrast, our findings indicate that nostalgia can be an even more productive strategy for coping with the unknown because it can reduce uncertainty about the future.

Marketing scholars have also identified several antecedents of consumer preference for nostalgic products (Lasaleta & Loveland 2019; Loveland et al. 2010; Zhou et al. 2013). Our research adds to that list by revealing powerlessness as a new antecedent and demonstrating a previously unidentified function of nostalgia: reducing uncertainty about the future. The concept of uncertainty is somewhat related to insecurity, thereby making our research seem close to Zhou et al.'s (2013) work showing that existential insecurity and social insecurity positively relate to consumer preference for nostalgic products. However, the nostalgic products in their research were five well-known national brands in China; therefore, preference for nostalgic products was confounded with ethnocentrism that also increases with existential insecurity as a compensatory response to morality salience (Nelson et al. 1997), and with social insecurity as a means to create a favorable social image (He & Wang 2015). By contrast, we have established a causal relationship between uncertainty about the future and the preference for nostalgic products using various methods to manipulate nostalgia for products.

Practical implications

Our research provides important managerial implications for marketers, policymakers, and consumers. First, our findings suggest that nostalgia marketing is a powerful tactic for promoting products and brands to consumers who feel powerless. Although companies may struggle to identify individual consumers who are experiencing powerlessness, they may feasibly detect when powerlessness becomes a common feeling in society, especially with the aid of big data techniques that enable marketers to monitor and analyze user-generated content (UGC) on social media. For example, anecdotal evidence suggests that social changes (e.g., the European Union's integration; Dobler 2020) and the pronouncement or overturning of a legal act (e.g., *Roe v. Wade*;

Sudhakar 2021) are likely to evoke feelings of powerlessness in the public, because they affect people's lives but most people are powerless to change anything. The occurrence of such events provides an opportunity for nostalgia marketing, especially if UGC on social media confirms that feelings of powerlessness begin to permeate in society. Ways of monitoring UGC include leveraging the Google Trends Index to detect the frequency and geographical distribution of searches related to powerlessness and analyzing the use of hashtags associated with powerlessness and related terms on Facebook and Instagram.

Another viable strategy for improving nostalgia marketing's effect is to identify occasions when people experience powerlessness more frequently than otherwise. To that end, we examined our studies using a recall task to manipulate powerlessness ($N = 374$) and analyzed participants' responses in the low-power condition. The results showed that the most frequently recalled occasions related to work (40.29%), suggesting that office buildings and other work sites might be suitable for nostalgia marketing. There, marketers can leverage the frequently increased preference for nostalgic products by using nostalgic appeals in elevator advertisements and selling nostalgic products in vending machines. Retailers including cafés and restaurants in or near office buildings can also benefit from nostalgic promotions, including creating a nostalgic atmosphere with nostalgic decorations and music, incorporating nostalgic visuals and design elements into promotional materials, and offering nostalgic giveaways or prizes.

On the flip side of the coin, feeling powerless makes consumers particularly vulnerable to nostalgia marketing and therefore likely to engage in overspending and/or impulsive buying with respect to nostalgic products. Those unhealthy behaviors can prompt negative outcomes that harm their long-term welfare, including financial debt. Aware of the power of nostalgia marketing to shape consumers' purchase behavior, consumer protection officials may consider enacting oversight of companies' nostalgia-themed campaigns for pecuniary goals. Such oversight could be as simple as informing consumers about why nostalgia marketing resonates with them, which is especially important when powerlessness becomes a common feeling in society.

Limitations and directions for future research

Our research suggests several avenues for future research. First, in most of our experiments, we manipulated powerlessness using episodic recall tasks, which are rife with the potential for confounding variables. To address that issue,

we varied the manipulation method with a scrambled sentence task in Supplementary Study 1 and a role-play task in Study 4. However, both manipulations are difficult for marketers to implement in everyday life. Future research should therefore create manipulations that are more directly under marketers' control as a means to enhance our findings' external validity. In addition, we treated powerlessness as a between-subjects factor. However, research has suggested that an individual may transition several times in a single day between having and lacking power (Inesi et al. 2011). A longitudinal study is thus warranted to demonstrate that as one's sense of powerlessness varies within a given period, so does their preference for nostalgic products.

Second, we focused on manipulated powerlessness, not measured powerlessness, to examine whether feeling powerless is causally related to nostalgic consumption. Although other research has suggested that measured powerlessness functions similarly to manipulated powerlessness (Anderson & Galinsky 2006; Rucker & Galinsky 2009), the two types may differ in ways that have been underexplored. Future research could thus extend our work by examining whether measured powerlessness exerts the same positive impact on consumer preference for nostalgic as manipulated powerlessness does.

Third, we examined how self-acceptance moderates consumers' choices between high-status products and nostalgic products in response to a state of powerlessness. Other moderators may also influence their choices. For example, research has shown that exposure to uncertainty leads people who experienced impoverished childhoods to have a significantly lower sense of control and thereby be more impulsive than people who experienced wealthy childhoods (Mittal & Griskevicius 2014). Following that logic, one's childhood environment is likely to influence their responses to powerlessness-induced uncertainty, which consequently prompts different choices of compensatory strategies. Future research should therefore explore that possibility and other potential moderators to clarify why people engage in different consumption behaviors to deal with a lack of power.

Last, Mandel et al. (2017) have outlined five strategies for solving self-discrepancies. For powerlessness in particular, direct resolution (Kim & Gal 2014) and symbolic self-completion (Rucker & Galinsky 2008, 2009) have been studied. Our investigation adds to that list by showing that consumption can also serve as a fluid compensatory strategy against powerlessness. Future research could focus on two underexplored strategies—dissociation and escapism—to explore how powerless consumers choose between different coping strategies and why.

Appendix 1

Table 3 Results of manipulation checks for powerlessness in Studies 1–5

Studies	Mean		<i>F, p</i>
	Low power	High lower	
Study 1 (<i>N</i> = 83)	3.59 (1.15)	4.51 (1.11)	13.76, <i>p</i> < .001
Study 2 (<i>N</i> = 406)	1.80 (1.24)	5.96 (0.99)	137.53, <i>p</i> < .001
Study 3 (<i>N</i> = 241)	1.90 (0.99)	5.67 (0.89)	958.57, <i>p</i> < .001
Study 4 (<i>N</i> = 234)	3.34 (1.77)	5.03 (1.34)	67.83, <i>p</i> < .001
Study 5 (<i>N</i> = 262)	1.96 (1.18)	5.68 (1.08)	709.44, <i>p</i> < .001

Note. Numbers in parentheses are standard deviations

Appendix 2

Table 4 Table Measurement of constructs

Study	Construct	Measurement item(s)	Source	Cronbach's α
Studies 1–5	Manipulation check for powerlessness	How powerful do you feel right now? (1 = <i>very powerless</i> , 7 = <i>very powerful</i>)	Rucker et al. (2011)	–
Study 3	Emotional experience	How did you feel when you were recalling the experience? (1 = <i>very negative</i> , 7 = <i>very positive</i>)	Rucker et al. (2011)	–
Study 3	Desire to escape	To what extent would you like to escape from your life? To what extent would you like to forget about what has happened in your life? To what extent would you like to get away from your life?	Korganonkar & Wolin (1999)	.93
Study 3	Desire for meaning in life	To what extent would you like to look for something that makes your life meaningful? To what extent would you like to find your life's purpose? To what extent would you like to seek out a purpose or mission for your life?	Steger et al. (2006)	.97
Study 3	Uncertainty about the future	How do you feel about your future at this moment? 1 = <i>unsure/unconfident/hesitant</i> , 7 = <i>sure/confident/not hesitant at all</i>	Faraji-Rad & Pham (2017)	.92
Study 5	Self-acceptance (example items)	It's unbearable to fail at important things, and I can't stand not succeeding at them. I can't stand a lack of consideration from other people, and I can't bear the possibility of their unfairness.	Kim & Gal (2014)	.90
Supplementary Study 1	Nostalgia proneness	I miss the past time spent with my family. I cannot forget the delicious food that I ate in my childhood. I often recall past events that are unforgotten. Songs we heard in the past wake up numerous memories. The familiar old things certainly take me down memory lane. I still often miss my good friends from the past.	Routledge et al. (2008)	.79

Note. We measured desire to escape and desire for meaning in life on a 7-point scale (1 = *not at all*, 7 = *very much*). We measured self-acceptance and nostalgia proneness on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*)

Appendix 3

Table 5 Correlations in Study 3

Constructs	Perceptions of powerlessness	Emotional experience	Desire to escape	Desire for meaning in life	Uncertainty about the future
Perceptions of powerlessness	.90				
Emotional experience	−.87	.88			
Desire to escape	−.06	.05	.70		
Desire for meaning in life	−.09	.03	.48	.85	
Uncertainty about the future	−.32	.37	.13	−.09	.84

Note. Diagonal elements (i.e., in bold) are the square roots of the average variance extracted, while off-diagonal elements are the correlation coefficients.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11747-023-00990-y>.

Funding Preparation of this paper was supported by Grant # 72072179 and #7230021311 from the National Natural Science Foundation of China awarded to Jun Pang and Sheng Bi respectively.

Data Availability The data of our paper is currently stored in a Dropbox folder under the management of the first two authors. The data is available from the corresponding author upon request.

Declarations

Conflict of interest The authors have no conflict of interest to declare.

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