



# Societal reminiscence and decisions for a better society: A belief in progress explanation<sup>☆</sup>

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## ABSTRACT

This research investigates how reminiscing a society's past can encourage risk taking for the society. In one field study and four experiments, we show that encountering objects or appeals linked to their society's past can lead individuals to become more risk taking and to choose less certain but potentially better options in decisions for society. This effect is mitigated when the reminiscence concerns one's personal past and when the decisions concern personal welfare. It can also be mitigated by heightening or suppressing the belief that society has progressed. Our findings validate belief in progress as a novel explanation, suggesting that the thoughts evoked in reminiscence supplement their emotional counterparts such as nostalgic and upbeat feelings in altering how decisions are made. This investigation has pragmatic implications for designing past-linked appeals in advertising and branding as well as in advocacy for social change or innovation.

## 1. Introduction

Because change and innovation inherently involve some uncertainty, they are often met with resistance even though they can potentially benefit the society. For example, firms are constantly in search of cleaner energy sources and greener products. The success of these green projects depends on public support. Although exploring novel options (e.g., electric vehicles) might deliver more efficient results, the outcome is less certain when compared to upgrading existing options (e.g., gas vehicles) whose efficiency and impacts are known. When presented with a potentially more desirable but less certain outcome (i.e., a risky option; [Tversky & Kahneman, 1981](#)), consumers may find it difficult to embrace uncertainty. Therefore, it is critical for parties committed to pushing for innovation and social change to convince people to take some risks to achieve a better society. Understanding how to alter individuals' risk preferences in decisions for society is of pragmatic significance.

This research examines how businesses and policy makers can draw on history to shed light on possibilities for the future and nudge people towards choices with less certain but potentially more desirable societal outcomes. Our premise is built on a recent finding in psychology that looking back to the past can make people more forward-looking (e.g., [Cheung et al., 2013](#); [Sedikides & Wildschut, 2016](#)). Relating this finding

to business studies on nostalgia marketing and heritage branding, this investigation broadens existing knowledge by stipulating which part of the past needs to be brought to mind for the reminiscence effect on decisions for society to occur. We conceptualize that on top of eliciting *feelings*, the mental process of looking back to a society's past (referred to as societal reminiscence) can activate certain *thoughts* related to changes in society and lead to a belief in progress in terms of improved living standards and technological advancement. In five studies, we use various past-linked marketing stimuli (e.g., classic car models, a traditional local snack, and a retro-styled ad) to study societal reminiscence. Our results show that societal reminiscence encourages risk taking when making decisions for society but not for decisions concerning an individual's own interests. People who look back to their society's past are more likely to endorse risky public-policy options and are willing to pay more for innovative products that may benefit society. Offering insights for business practice, our findings outline the boundaries of using reminiscence as an appeal: although many marketing appeals or consumption experiences linked to the past can elicit nostalgic and upbeat feelings, these appeals or experiences do not necessarily prompt people to take risks for society. For the effect to occur, thoughts related to the society's past and, specifically, a belief in progress must be activated.

This research introduces a novel lens through which to conceptualize

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different types of reminiscence and shows that societal reminiscence has a unique impact on individuals' decisions for a society. Our findings illuminate the importance of considering both the thought and feeling processes in understanding reminiscence experiences and their impacts. We also expand reminiscence research by studying its effects on decision making while existing studies largely focused on marketing outcomes such as ad responses and brand perceptions (e.g., Brown et al., 2003; Muehling & Pascal, 2011; Muehling et al., 2014). Our findings offer managerial insights not only on the use of past-linked appeals in advertising and branding to marketers, but also on how to take advantage of societal reminiscence to encourage risk taking for a better world to innovative firms, policy makers, or any parties committed to pushing changes.

## 2. Conceptual framework

### 2.1. The conceptualization of societal reminiscence

Reminiscence—recollection of the past—is a mental process of looking back to and thinking about the past, during which certain mental representations of that time are brought to mind. These mental representations consist of both cognitions and emotions (Werman, 1977; Baumgartener, 1992). Cognitions refer to the reconstruction of past memories, whereas emotions concern the affective responses that these memories evoke (Merchant & Ford, 2008). In psychology and marketing, the majority of research emphasizes the emotional aspects of reminiscence and examines the phenomenon under the concept of nostalgia (e.g., Ford & Merchant, 2010; Holbrook, 1993; Lasaleta et al., 2014; Loveland et al., 2010; Merchant et al., 2011; Muehling et al., 2014; Zhou et al., 2012). By definition, nostalgia is a positive-valenced complex feeling, emotion, or mood produced by reflecting on things linked to the past (Holak & Havlena, 1998). Since cognitions and emotions are inextricably intertwined in the reminiscence process, nostalgic experiences are often evoked alongside thoughts about the past. Core to our premise is that while looking back to different parts of the past could be similar in term of the nature of emotional experiences (i.e., the bittersweet nostalgic feeling; Holak & Havlena, 1998), the thoughts and cognitions that come to mind can vary greatly. That is, the thoughts associated with one's childhood are probably not the same as, for example, those associated with a society's past, even though they both might elicit nostalgic feelings.

A closer look at the literature points to some differences in the cognitions involved in reminiscence. One important difference is that nostalgia can be classified into personal nostalgia and vicarious nostalgia based on what kind of past memories people recall: autobiographical memories or fantasized reality (e.g., Merchant & Ford, 2008; Merchant et al., 2011). Personal nostalgia stems from reminiscing about the past one actually lived (i.e., direct experiences; Baker & Kennedy, 1994). These experiences create bonds that connect the self to people, events, and things that serve to anchor identity and continuity (Rubin et al., 1998; Wildschut et al., 2010). With references to the self, personal nostalgia is often associated with intense emotions (Batcho, 1998) and can be evoked spontaneously in many situations related to consumption (Holbrook, 1993). In contrast, vicarious nostalgia is a longing for a period outside one's living memory (Goulding, 2002), the basis of which could be pure fantasy (Sohn, 1983). It is evoked when people vicariously experience the idealized past by consuming objects that take them to that time (Belk, 1991; Rose & Wood, 2005). For example, people may feel temporarily transported to a purported "golden age" of history and experience vicarious nostalgia when encountering heritage objects such as historical buildings, cultures, and traditional customs that stimulate fantasies about past eras (Merchant & Rose, 2013). Yet, despite initiatives to consider the cognitions involved, most studies did not differentiate between types of nostalgic experiences or address the distinction between the cognitive and emotional aspects of reminiscence. Scant studies have examined how the cognitions involved supplement the

evoked emotions in explaining decision-making. Even fewer studies have examined whether it makes a difference when different parts of the past are brought to mind. Existing knowledge on reminiscence and the psychology of nostalgia may not be sufficient to understand the power of recollection.

To fill this theoretical gap, this research distinguishes the thoughts and beliefs associated with specific parts of the past and categorize reminiscences into two types. One refers to *societal* reminiscence, which involves a shared understanding of a society's past; the other type is known as *personal* reminiscence, which is concerned with a person's direct experiences with significant others such as family, friends, and/or others in a collective entity. In fact, researchers have begun to realize the restricted scope of prior investigations and have put forth concepts for various levels of nostalgic recollection. Hartmann and Brunk (2019, p. 671) offered a sociohistorical perspective on nostalgia, noting that reminiscence may stem from the people and objects, the rituals and values, and the stories and events that connect to a society's past (Brunk et al., 2018; Stern, 1992). Along the lines of this logic, we conceptualize societal reminiscence as any recollection of a society's past, whether based on individuals' experiences, their knowledge about the world, or their idealized fantasies. It constitutes memories and thoughts about how a society was. For societal reminiscence to occur, direct personal experiences are not necessary (Stern, 1992; Wildschut et al., 2014), but usually it requires some historical understanding of a shared communal past (Muehling & Pascal, 2011; Muehling & Sprott, 2004). Much like vicarious nostalgia, it can include vicarious experiences derived from fantasies or simulations of a past era (Baker & Kennedy, 1994; Stern, 1992). Thus, people can reminisce either about a time that they lived or a distant era in history before their birth (Muehling, 2013; Stern, 1992). Concerning the distinction between societal and personal reminiscence, it does not matter if the experiences are authentic or realistic.

With a predominant focus on personal reminiscences, extant conceptualizations of reminiscence are likely incomplete. Note, however, that our aim is not to compare different types of reminiscences. This research focuses on societal reminiscence and investigates how it shapes the way individuals see the society. We seek to identify conditions in which reminiscence is likely to alter decisions for a society and particularly for individuals' risk preference. While focusing on thoughts and cognitive processes, we do not contend that emotions play no role in the process. Neither do we attempt to play down any aspect of reminiscence, nor attack any established effects accounted for by nostalgia. In this investigation, we consider both thoughts and emotions as possible underlying processes to provide a more holistic picture of societal reminiscence.

### 2.2. Societal reminiscence and belief in progress

The thought processes underlying societal reminiscence form the basis of our predictions. Thinking about a society's past likely evokes representations of what past eras were like (Belk, 1990). Psychologists and sociologists have theorized that these representations cultivate memories that are shared by the members of a collective entity (e.g., a social group, a generation, or a country) (Baker et al., 2004; Motley et al., 2003) and perpetuate or modify the meanings of past events (Baker et al., 2004; Belk, 1990; Jetten & Wohl, 2012). When looking back to a society's past, people are likely to recall the major events in history and mentally simulate how their society has evolved over time. This enables them to gauge the advances in knowledge and technology, wealth and living standards, business and economy, and other aspects of their society. Relatedly, psychologists noted that observations of advances and progress form the basis for belief in progress (Kashima et al., 2009, 2011; Plant, 2009; Rutjens et al., 2009; Rutjens et al., 2010; Gray, 2004; Gray, 2007)—that is, a lay belief that things will get better despite uncertainty and unpredictability (Rutjens et al., 2010).

Further, there is a psychological motivation to believe in societal progress. Rutjens et al. (2010) argued that humans have an innate desire

for control and thus want to convince themselves that things will get better. In support of this, they found that people bolster their belief in progress against the notion of illusory progress when they lack control. Although this is particularly true when one lacks control or faces threats, belief in progress likely exists for most individuals (see Experiment 4, Rutjens et al., 2010). It is therefore plausible that people hold on to this belief even if certain aspects of their society, such as morality, have been corrupted (cf. the lay theory of social development; Kashima et al., 2009, 2011). Extending this logic, we hypothesize that by directing one's thoughts to changes in society and historical advances, societal reminiscence makes the progress of a society (scientific and technological progress in particular) salient and activates the belief in progress.

### 2.3. Belief in progress and risk preference

As alluded to earlier, when people believe in a society's progressive course, they experience less fear and anxiety (Rutjens et al., 2009) and a greater sense of control (Rutjens et al., 2010). These experiences are associated with risk perceptions and risk-taking behaviors (e.g., Lerner & Keltner, 2000, 2001; Scheier et al., 1994; Slovic, 1987). In particular, decision scientists found that fear and anxiety induce pessimistic risk assessments and increase risk aversion (Lerner & Keltner, 2000, 2001). In the Asian disease problem (Tversky & Kahneman, 1981), for example, fearful individuals tend to choose risk-free options with a known outcome over options with an uncertain but potentially more favorable outcome (Lerner & Keltner, 2001). In a related vein, coping research points to belief in progress and in particular, the hope associated with it, as a buffer against fear and uncertainty (Lazarus, 1999). Although hope inherently involves uncertainty, it represents the odds of desired outcomes. People with hope likely find it possible, although not certain, that they can get what they want (Smith & Ellsworth, 1985). Therefore, it is logical to expect that belief in progress increases hope and control while decreasing fear and anxiety, and thus people who believe in progress are more likely to embrace uncertainty and become less risk-averse. Building on this logic, we hypothesize that reminiscing about a society's past makes the belief in progress accessible and salient and alters the assessment of the odds of bringing forth improvements in the society. With reference to Lerner and Keltner (2001), we gauge risk preference by examining the likelihood of choosing risky policies with uncertain but potentially more favorable outcomes over conservative policies with known but relatively unfavorable outcomes. We predict that societal reminiscence increases this risk preference, and belief in progress mediates this effect. Fig. 1 depicts the relations among societal reminiscence, belief in progress, and risk preferences concerning

society's good.

### 2.4. Further considerations

Acknowledging that most research has attributed the reminiscence effect to its emotional response (i.e., the feeling of nostalgia), it is important to differentiate belief in progress and illustrate theoretically and empirically the unique explanatory power of cognitive processes. In this regard, several considerations are noteworthy.

First, this research offers a broad definition of reminiscence as a mental process of thinking about the past that may evoke cognitive thoughts, emotional reactions, or both. These responses are conceptually distinct and not always linked. Hallegatte and Marticotte (2014) pointed out that yearning for the past is an emotional factor whereas the evaluation of the past, present, and future, as well as the determination of how things evolve over time are distinguishable cognitive factors, which are not necessarily correlated (Batcho, 1995, 1998). Furthermore, Schindler and Holbrook (2003) found that individuals who believe in progress tend to prefer technologically advanced models over vintage models—a reversed pattern of what nostalgic feeling would typically predict. These findings hint that the cognitive and emotional aspects of reminiscence can be independent. In addition, given that societal reminiscence does not necessarily involve self-relevant experiences, it is reasonable to expect that the emotions evoked by societal reminiscence are less intense (Johnson et al., 1988; Krishnamurthy & Sujun, 1999). In fact, we usually do not feel as nostalgic when reminiscing about society's past as about an era that we personally experienced. While societal reminiscence may elicit nostalgia together with the belief in progress, we expect that changes in mood and/or nostalgic feelings, even if elicited, do not mediate the proposed effect and do not undermine the explanatory power of belief in progress.

Second, the central premise of our proposed mechanism lies in the activation of thoughts about a society and its advancements, which makes belief in progress salient. As noted, not all kinds of reminiscence evoke mental representations concerning a society and its past. We should not expect that the effect occurs when attention is called to other aspects of the past such as individuals' direct experiences with significant others (family and friends) or with organizations and institutions such as a college or a company (i.e., personal reminiscence). Thus, we predict that the proposed effect is evident for societal reminiscence but not personal reminiscence.

Third, the effect on risk preference resulting from belief in progress is likely to be domain specific. Whereas nostalgia lifts a general sense of optimism by eliciting positive affect, boosting self-esteem, and

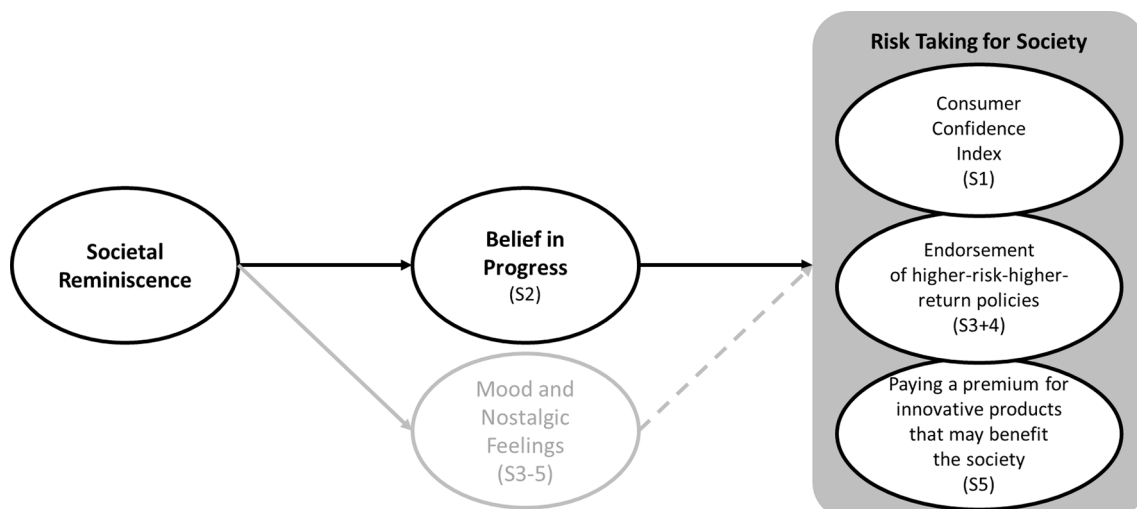


Fig. 1. Conceptual model.

**Table 1**  
Summary of Major Findings.

	Design	Source of Societal Reminiscence	Dependent Variables	Major Findings
Study 1	Field Data Study (Correlational)	Purchases of Classic (vs Modern) US Car Models	Consumer Confidence Index	1. Monthly sales of classic US car models predict American consumer confidence but the sales of modern US models and the sales of either classic or modern models of foreign brands do not.
Study 2	EXP: 2 (Temporal Focus: Past vs Present) × 2 (Content: Societal vs Personal) plus Control	Reminiscence about an era in HK when a traditional snack was popular	Belief in Progress	2. Participants in the societal past condition reported a higher score in belief in progress than those in other conditions.
Study 3	EXP: 2 (Reminiscence: Societal vs Control)	Reminiscence about an era in HK when a traditional snack was popular	Preference for risky options with higher return over more conservative options	3. The societal-remembrance effect observed in Study 2 replicated in decisions for the society (i.e., policy endorsement) but not decisions concerning a person's own interests. 4. Belief in Progress mediated the effect of societal reminiscence on the difference in preferences for riskier policies across conditions.
Study 4	EXP: 2 (Reminiscence: Societal vs Control) × 3 (Belief in Progress: Baseline vs High vs Low)	Reminiscence about the past era(s) of America based on a Starbucks ad	Preference for risky options with higher return over more conservative options	5. The societal-remembrance effect observed in Study 3 replicated only in the baseline condition but was attenuated in the other two conditions in which the level of belief in progress was heightened or suppressed experimentally.
Study 5	EXP: 2 (Reminiscence: Societal vs Control)	Reminiscence about the past era(s) of America based on a Starbucks ad	WTP for electric over fuel vehicles	6. The societal-remembrance effect can be generalized to purchase decision. Participants in the societal past (vs control) condition were willing to pay more for an electric vehicle than for a gasoline vehicle.

strengthening social connectedness (Cheung et al., 2013; Hepper et al., 2012; Wildschut et al., 2006, 2010), belief in progress alters risk assessment by nourishing progressive hope for societal development and advancement. Given these differences in mechanism, we expect that if the proposed effect relies on nostalgic feeling and global optimism, people are likely to expect a better outcome in general and manifest a preference for risky options in all domains. If societal reminiscence shapes risk preference via the activation of belief in progress, the effect should be specific to the domains where the progress of society is relevant.

### 3. Study overview

One correlational study and four experiments provide converging evidence that societal reminiscence leads people to believe in progress and take risks for their society. Based on the historical data for vehicle sales in the United States, Study 1 provided preliminary evidence that the purchase of past-linked products (i.e., classic car models from American brands)—presumably a trigger of societal reminiscence—is positively correlated to belief in progress as reflected by boosts in consumer confidence. In the subsequent experiments, we adopted Bryant et al. (2005) method and induced societal reminiscence with two stimuli: a traditional local snack (Studies 2 and 3) and a retro-styled ad (Studies 4 and 5). Study 2 showed that societal reminiscence induced belief in progress but thinking about the present society did not show this effect. Study 3 showed that societal reminiscence increased preference for risky policies and that belief in progress mediated the effect of societal reminiscence on risk preference. We further found that the effect occurred for decisions about society and not those about the individual. To consolidate the evidence for belief in progress, we mitigated the proposed effect in Study 4 by manipulating belief in progress directly. Lastly, Study 5 explored the societal-remembrance effect on consumers' willingness to pay for innovative products. Our findings consistently show that societal reminiscence strengthens belief in progress and in turn shapes decisions for society. Our studies also ruled out several mechanisms including mood, psychological distance, and construal level. Please see Table 1 for an overview of our studies and the major findings.

### 4. Study 1

In our conceptualization, societal reminiscence can be triggered spontaneously when encountering marketing communications and/or products that are linked to a society's past. We therefore speculate that if people engage in the consumption of past-linked products, they are likely to believe more firmly in progress and feel upbeat about their society's future. Specifically, this study provides preliminary real-life evidence by testing the relationship between the monthly sales of classic US vehicle models and belief in progress as reflected by consumer confidence.

#### 4.1. Method

From online databases, we obtained historical data for vehicle sales in the US market<sup>1</sup> and the consumer confidence index (CCI) in different regions (OECD, 2021).<sup>2</sup> This resulted in a dataset that covers every month from January 2005 to December 2020 (i.e., involving 192 months total). To examine the effect of societal reminiscence, we looked into the sales of all vehicle models sold in the US. We first classified vehicle models offered by American brands into two types—*classic* models that were first launched before the year 2000 (30 models in total; e.g., Ford Mustang) and *modern* models first launched in 2000 or after (51 models in total; e.g., Ford GT). Based on the same criterion, we identified classic models of European and Japanese-Korean brands (23 and 34 models in total, respectively). This resulted in four categories (i.e., US classic, US modern, EU classic, and JK classic). By summing the sales of all models in each category and log transforming the summated score, we obtained four independent monthly sales indexes. Note particularly that it often takes time for certain types of purchase and consumption to have an

<sup>1</sup> We obtained the vehicle sales from a website (<https://www.goodcarbadcar.net>) that covers an exhaustive list of automobile models of major brands and manufacturers sold in the US, such as BMW, FCA, Ford, General Motors, Honda, Hyundai and Kia, Jaguar Land Rover, Mazda, Nissan, Subaru, Toyota, Volkswagen, and Volvo.

<sup>2</sup> We obtained the CCI data from the website of Organisation for Economic Co-operation and Development (OECD).



effect on judgments and decisions. To explore possible lagging effects (i. e., whether consumption of past-linked products has an impact with a delay), we created a variable lagging six months for each index. In addition, we formulated dummy variables to control for the fixed effect of year and month as well as a continuous variable (from 1 to 192, each representing a month, in ascending chronological order) to capture the trend over time.

#### 4.2. Results

We separately regressed the CCI of the US, Europe, and Japan on the sales indexes and their lagged variables while controlling for the fixed effects of year and month and the trend effect. Results indicated that the CCI of the US increased significantly with the sales of classic models of American brands ( $\beta = 0.256$ ,  $t(151) = 2.36$ ,  $p = .019$ ) and not with the sales of European and Japanese-Korean brands (see Table 2). The sales of modern US models and their lagged variables also had no significant correlation with the CCI of the US. Concerning the CCI of other regions, there was no significant effect. As expected, the sales of European or Japanese cars in the US did not correlate with the CCI of European or Japanese consumers.

#### 4.3. Discussion

Study 1 shows that there was a significant positive correlation between the purchase of products linked to historical eras of American society and the perception of progress in the US. However, such a relationship was not evident for the products that were launched in recent years, nor for the products of non-American brands. That is, Americans are likely to feel more confident about the economy if they recently purchased a Ford Mustang as compared to a Tesla or a Porsche 911. This study illuminates the possible impacts of societal reminiscence in real life, suggesting that the mere activation of thoughts about a society or a past about which people have little understanding is probably not sufficient to make them believe in progress. We validate this finding with an experiment in the next study.

### 5. Study 2

Societal reminiscence calls attention to the past as well as to the society. To validate the role of societal reminiscence, this study tested whether variations in either temporal focus (past vs present) or the content of thoughts (societal vs personal) alone can activate belief in progress. Specifically, we guided participants to write about present or past events in relation to their society or to themselves. We also included a condition in which they described the features of the stimulus as a control for comparison.

**Table 2**  
Regression Results (Study 1).

Predictors	Consumer Confidence Index (CCI)		
	US	Europe	Japan
Monthly Sales of Respective Car Models			
US (Classic)	<b>0.256</b>	0.080	0.017
US (Classic) lag	0.163	-0.002	-0.055
US (Modern)	-0.147	0.086	0.114
US (Modern) lag	-0.224	-0.117	0.058
EU (Classic)	0.038	-0.094	0.075
EU (Classic) lag	-0.112	-0.064	-0.030
JK (Classic)	0.077	0.165	0.174
JK (Classic) lag	0.172	0.168	-0.080
Trend over time	Controlled	Controlled	Controlled
Month fixed effect	Controlled	Controlled	Controlled
Year fixed effect	Controlled	Controlled	Controlled
R-Square	0.914	0.871	0.875

Note. Boldfaced estimates (standardized coefficients) are statistically significant at  $p < .05$ .

#### 5.1. Method

From a major Hong Kong university, we recruited undergraduate students who were locally born and raised. A total of 208 respondents (62 males,  $M_{Age} = 20.51$ ,  $SD = 2.05$ ) participated for a monetary incentive (US \$4.00). They were randomly assigned to one of the five conditions of a 2 (temporal focus: past vs present events)  $\times$  2 (content: societal vs personal) plus control between-subjects design. Under the guise of a leisure writing exercise, the participants first answered some questions about a traditional snack (red bean pudding) and then wrote a short essay based on their answer to the questions (see Appendix A). In the societal-past conditions, participants wrote about the era when the pudding was popular and the social situation in Hong Kong at the time. Those in the personal-past conditions wrote about a personal childhood story involving red bean pudding. In the societal-present and the personal-present conditions, the participants wrote about how the pudding related to today's Hong Kong society and their own daily life, respectively. In the control condition, the participants described the ingredients and other features of the pudding. It is important to note that the writing tasks did not guide participants to think over progress and not even to compare the past, the present, and the future. In an ostensibly unrelated task involving their perceptions about their society, participants reported belief in progress on four items (e.g., "I believe it's getting better and better all the time" and "Modern business constantly builds a better tomorrow;"  $\alpha = 0.785$ ), along a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). They then rated their mood on the Positive and Negative Affect Schedule (PANAS, 20 items) developed by Watson, Clark, and Tellegen (1988), using a scale from 1 (*not at all descriptive*) to 7 (*completely descriptive*) (positive:  $\alpha = 0.905$ ; negative:  $\alpha = 0.923$ ). Finally, they reported their gender, birthplace, and living duration.

#### 5.2. Results

##### 5.2.1. Manipulation check

Two independent judges who were blind to the research purpose and conditions coded the essays by matching them to five descriptions (that were based on the conditions): whether the story was about (1) people and things related to Hong Kong in the past and not the participants; (2) people and things related to present-day Hong Kong and not them; (3) the participants' personal experiences in the past; (4) their daily experiences; and (5) red bean pudding and its features (Krippendorff's  $\alpha = 0.838$ ). Conflicting cases were resolved by discussion among the judges and researchers. As expected, the majority of participants wrote an essay about the topic in line with the assigned conditions (92.7 % vs 90.5 % vs 97.4 % vs 73.7 % vs 83.7 % for societal past, societal present, personal past, personal present, and control conditions, respectively;  $\chi^2(16) = 588.04$ ,  $p < .001$ ). The results validated the manipulation.

##### 5.2.2. Belief in progress

We ran a 2  $\times$  2 analysis of variance (ANOVA) to examine the predicted temporal focus (past vs present)  $\times$  content (societal vs personal) interaction effect, and then tested the focal condition (i.e., societal past condition) against the control condition. A two-way ANOVA on belief in progress yielded a marginally significant main effect of temporal focus ( $F(1, 161) = 3.70$ ,  $p = .056$ ) and a significant interaction effect ( $F(1, 161) = 4.52$ ,  $p = .035$ ). Planned contrasts showed that participants in the societal-past condition were more likely to perceive their society as making progress over time ( $M_{SocPast} = 4.77$ ,  $SD = 0.82$ ) as compared to those in the personal-past condition ( $M_{PerPast} = 4.36$ ,  $SD = 0.88$ ;  $F(1, 161) = 4.36$ ,  $p = .038$ ) and the societal-present condition ( $M_{SocPresent} = 4.21$ ,  $SD = 0.97$ ;  $F(1, 161) = 8.35$ ,  $p = .004$ ). Analyses indicated no significant difference between the two present conditions or between the two personal conditions ( $F_s < 1$ , see Table 3). As predicted, a one-way ANOVA yielded a significant difference between the societal-past and the control conditions ( $M_{Control} = 4.33$ ,  $SD = 0.92$ ;  $F(1, 82) = 5.23$ ,  $p = .025$ ).

5.2.3. Moods

Two-way ANOVA results yielded no significant effect on positive and negative moods ( $ps > 0.20$ ), except a marginally significant main effect of content on negative mood ( $M_{Soc} = 2.56, SD = 1.05$  vs  $M_{Per} = 2.89, SD = 1.25; F(1, 161) = 3.36, p = .068$ ). The observed interaction of temporal focus and content on belief in progress remained significant after controlling for the effect of moods ( $F(1, 159) = 4.49, p = .036$ ). This was also true concerning the difference between the societal-past and the control conditions ( $F(1, 80) = 4.14, p = .045$ ).

5.3. Discussion

Based on our conceptualization, the proposed effect of societal reminiscence does not lie in activating the representations of a collective entity. We proposed that societal reminiscence instead calls attention to historical events and society’s development. In support of this, the results showed that belief in progress became salient only in the societal-past condition. This suggests that mere activation of the concepts related to a society, without reminiscence, is insufficient to activate the belief. By the same token, reminiscing about a person’s direct past experiences cannot produce the effect.

6. Study 3

This study assessed belief in progress and statistically examined its mediating role. Further, we examined if the proposed effect can be generalized across decision types. If societal reminiscence lifts a general sense of optimism (which is associated with nostalgia; Cheung et al., 2013), the effect should be evident in decisions either for the society or for the individual.

6.1. Method

We recruited 149 undergraduate students from the same pool as Study 2 (44 males;  $M_{age} = 20.35, SD = 1.38$ ) using a monetary incentive. They were randomly assigned to one of the two conditions (reminiscence: societal vs control). As in Study 2, we manipulated societal reminiscence with a writing task in which participants composed an article about a traditional snack (red bean pudding) in response to several guided questions. After finishing the writing task, they proceeded to answer some questions concerning the characteristics of Hongkongers, the features of the snack, and the temporal perception of the events they wrote as manipulation checks. They then responded to the PANAS questions (positive:  $\alpha = 0.901$ ; negative:  $\alpha = 0.915$ ) and the item for nostalgia. In another survey, participants indicated their agreement on the four-item scale of belief in progress used in Study 2 ( $\alpha = 0.801$ ). All items were measured in a 7-point Likert scale unless otherwise specified. In an ostensibly unrelated task, participants made four choices on public policies (e.g., waste-reduction policy, pension policy, crime program, and trade protection) and four concerning one’s personal interests (e.g., surgery options), modified from Tversky and Kahneman (1981; Appendix B). For each choice, they chose between an option with a known but less desirable outcome (i.e., conservative option) and another with an uncertain but potentially better outcome (i.e.,

risky option). Finally, they did two independent tasks: a 12-item task on behavior identification (BIF; Vallacher & Wegner, 1989) and an 8-item task on global/local processing (GLP; Kimchi & Palmer, 1985). The latter two tasks were employed to assess the construal level, with a higher score indicating a more abstract level.

6.2. Results

6.2.1. Manipulation check

A one-way ANOVA showed that participants in the societal condition wrote more about the characteristics of Hong Kong society ( $M_{Soc} = 3.75, SD = 1.54$  vs  $M_{Control} = 2.50, SD = 1.49; F(1, 147) = 25.13, p < .001$ ), whereas those in the control condition wrote more about the features of the pudding ( $M_{Soc} = 2.59, SD = 1.57$  vs  $M_{Control} = 4.34, SD = 1.40; F(1, 147) = 51.71, p < .001$ ). Moreover, those who wrote about their society’s past indicated that the things and events they recalled were more distant than did those who wrote about the features of the pudding ( $M_{Soc} = 4.99, SD = 1.36$  vs  $M_{Control} = 3.41, SD = 1.74; F(1, 147) = 38.16, p < .001$ ).

6.2.2. Risk preference and belief in progress

We formulated two indexes by counting the choice of risky options separately for each decision type, public policies (0–4) and personal decisions (0–4). As predicted, ANOVAs carried out separately on the two indexes of risk preference showed that societal reminiscence enhanced risk preference for decisions on public policy ( $M_{Soc} = 1.65, SD = 1.02$  vs  $M_{Control} = 1.27, SD = 0.88; F(1, 147) = 6.02, p = .015$ , see Table 4) and not for decisions concerning a person’s own well-being ( $M_{Soc} = 2.40, SD = 0.97$  vs  $M_{Control} = 2.45, SD = 0.95; F < 1$ ). Alternatively, an ANOVA on belief in progress indicated that societal reminiscence activated a belief in progress ( $M_{Soc} = 4.67, SD = 0.98$  vs  $M_{Control} = 4.22, SD = 0.92; F(1, 147) = 8.28, p = .005$ ).

6.2.3. Possible mechanisms

ANOVA results yielded no significant effect on nostalgic feeling, positive and negative moods, and global/local processing ( $Fs < 1$ ). Results nonetheless indicated that societal reminiscence marginally increased abstract processing (i.e., BIF;  $M_{Soc} = 6.59, SD = 2.64$  vs  $M_{Control} = 5.81, SD = 2.36; F(1, 147) = 3.58, p = .060$ ).

6.2.4. Mediation analyses

We ran a bootstrapping model based on 5,000 samples (PROCESS model 4; Hayes, 2013) with the index for decisions on public policy as the dependent variable, the societal condition (vs control) as the independent variable, belief in progress as the mediator, and other variables as covariates (i.e., mood, nostalgic feeling, global processing, and BIF). The results yielded a significant indirect effect of belief in progress (95% CI: 0.0057 to 0.2010, SE = 0.0498).

6.3. Discussion

Along with the findings from the previous studies, we obtained consolidated evidence that nostalgic feelings and general moods are not sufficient to explain the proposed effect. It is noteworthy that societal

Table 3  
Summary of Findings (Study 2).

	Societal Past		Societal Present		Personal Past		Personal Present		Control	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Belief in Progress	4.77 <sup>a</sup>	(0.82)	4.21 <sup>b</sup>	(0.97)	4.36 <sup>b</sup>	(0.88)	4.39 <sup>b</sup>	(0.86)	4.33 <sup>b</sup>	(0.92)
Positive Mood	3.65 <sup>a</sup>	(1.27)	3.72 <sup>a</sup>	(0.80)	3.37 <sup>a</sup>	(1.12)	3.59 <sup>a</sup>	(0.93)	3.31 <sup>a</sup>	(1.18)
Negative Mood	2.54 <sup>a</sup>	(1.08)	2.58 <sup>a</sup>	(1.03)	2.79 <sup>a</sup>	(1.22)	2.99 <sup>a</sup>	(1.29)	2.60 <sup>a</sup>	(1.22)

Note. Cells in each row with different superscripts differ at  $p < .05$ .

**Table 4**  
Summary of Findings (Study 3).

	Societal		Control	
	Mean	(SD)	Mean	(SD)
Risk Preference (public policy)	1.65 <sup>a</sup>	(1.02)	1.27 <sup>b</sup>	(0.88)
Risk Preference (personal interest)	2.40 <sup>a</sup>	(0.97)	2.45 <sup>a</sup>	(0.95)
Belief in Progress	4.67 <sup>a</sup>	(0.98)	4.22 <sup>b</sup>	(0.92)
Nostalgic Feeling	4.73 <sup>a</sup>	(1.74)	4.65 <sup>a</sup>	(1.72)
Positive Mood	3.51 <sup>a</sup>	(1.22)	3.36 <sup>a</sup>	(1.12)
Negative Mood	1.93 <sup>a</sup>	(0.90)	2.09 <sup>a</sup>	(1.11)
Behavioral Identification	6.59 <sup>a</sup>	(2.64)	5.81 <sup>a</sup>	(2.36)
Global/Local Processing	1.66 <sup>a</sup>	(0.26)	1.66 <sup>a</sup>	(0.24)

Note. Cells in each row with different superscripts differ at  $p < .05$ .

remembrance affects decisions for society but not for oneself. This finding differs from what the nostalgia mechanism would predict. As Cheung et al. (2013) found, nostalgia enhances global optimism. If it drove the societal-remembrance effect, then one would expect an increase in risk tendency regardless of whether the decisions pertain to the collective good or one's own self-interests. Rather, we found that societal remembrance activated belief in progress that statistically mediated the societal-remembrance effect on risk preference. To further validate the underlying mechanism, we manipulated the belief directly in Study 4.

## 7. Study 4

Study 4 validates that the observed effect of societal remembrance is a result of activating belief in progress. On the one hand, this study sought to replicate the proposed effect (societal remembrance vs control) in conditions where belief in progress was not manipulated (i.e., baseline condition). On the other hand, we included conditions in which the level of belief in progress was experimentally heightened or suppressed (progress vs anti-progress conditions, respectively). In those conditions, participants read passages arguing that societal progress was either substantial or illusory. We predicted that risk preference for public policies would be driven by the manipulated levels of belief in progress rather than by societal remembrance, with the latter having negligible effects in those conditions because the experimental manipulation overrides effects of societal remembrance on the mediator, belief in progress.

### 7.1. Method

We recruited US residents from Amazon Mechanical Turk (MTurk) with a monetary incentive (USD \$0.75). Because the proposed effect arises from one's understanding of historical events and society's development, this and subsequent studies involving US participants included only residents who had lived in the US for more than 20 years to ensure that they had at least a rudimentary personal experience with and knowledge of US society. This resulted in a final sample of 422 participants (186 males;  $M_{age} = 36.67$ ,  $SD = 11.82$ ). They were randomly assigned to one of the 2 (remembrance: societal vs control)  $\times$  3 (belief in progress: baseline vs progress vs anti-progress) between-subjects conditions.

At the beginning of the study and before the remembrance task, participants first read an article about human progress adapted from Rutjens et al. (2009; see Appendix C). In the progress condition, the article claimed that human progress is substantial. In the anti-progress condition, the article argued that humans have not seen real progress, that history keeps repeating itself, and that any progress is only illusory. In the baseline condition, the article was similar in structure and length, but it elaborated on the development of a public transportation system. After reading the article, participants rated "to what extent do you agree that humans make little progress in history?" (reverse-coded) and "to what extent do you agree that there is a constant March of progress over

time?" as the manipulation check for belief in progress ( $\alpha = 0.615$ ). Next, they completed a study that was purportedly a brand story campaign. In response to a fictitious Starbucks ad, they wrote a story about coffee based on some guided questions (see Appendix D). The participants in the societal condition wrote about the era when coffee became popular and described the life of Americans at that time, whereas those in the control condition wrote about the features of coffee such as its ingredients and price. After writing the story, all participants answered some bogus questions that corroborated the cover story (e.g., how much do you like coffee or Starbucks?) and the manipulation-check questions adapted from Study 3 (1 = *not at all*; 7 = *very much*). They then reported their moods on three items (*happy/sad*, *positive/negative*, *good/bad*;  $\alpha = 0.935$ ) as well as their nostalgic feeling. Finally, they completed a decision-making task with the four policy decisions used in Study 3.

## 7.2. Results

### 7.2.1. Manipulation check

As expected, a remembrance  $\times$  belief ANOVA indicated that participants perceived society as having made more constant progress in the progress and baseline conditions than in the anti-progress condition ( $M_{Prog} = 5.31$ ,  $SD = 1.21$  vs  $M_{Baseline} = 5.38$ ,  $SD = 1.07$  vs  $M_{Antiprog} = 4.71$ ,  $SD = 1.30$ ;  $F(2, 416) = 13.53$ ,  $p < .001$ ). Analyses also showed that participants in the societal-remembrance condition wrote more about society ( $M_{Soc} = 5.36$ ,  $SD = 1.59$  vs  $M_{Control} = 3.94$ ,  $SD = 1.96$ ;  $F(1, 416) = 69.22$ ,  $p < .001$ ), whereas those in the control condition wrote more about the features of the coffee ( $M_{Soc} = 3.38$ ,  $SD = 1.84$  vs  $M_{Control} = 4.83$ ,  $SD = 1.52$ ;  $F(1, 416) = 75.72$ ,  $p < .001$ ). No other effect was significant in all manipulation checks ( $ps > 0.2$ ).

### 7.2.2. Risk preference

A remembrance  $\times$  belief ANOVA on the risk preference index (0–4) yielded a significant effect of belief condition ( $M_{Baseline} = 1.45$ ,  $SD = 1.10$  vs  $M_{Prog} = 1.57$ ,  $SD = 1.02$  vs  $M_{Antiprog} = 1.26$ ,  $SD = 1.01$ ;  $F(2, 416) = 3.14$ ,  $p = .044$ ); and the remembrance  $\times$  belief interaction was significant ( $F(2, 416) = 4.28$ ,  $p = .014$ , see Fig. 2). As predicted, the proposed effect of societal remembrance emerged only in the baseline conditions—societal remembrance (vs control) increased risk preference ( $M_{Soc} = 1.68$ ,  $SD = 1.16$  vs  $M_{Control} = 1.21$ ,  $SD = 1.01$ ;  $F(1, 416) = 7.00$ ,  $p = .008$ ). However, when the belief in progress or anti-progress was made salient, risk preference was not significantly influenced by societal remembrance (progress:  $M_{Soc} = 1.46$ ,  $SD = 1.06$  vs  $M_{Control} = 1.70$ ,  $SD = 0.96$ ,  $F(1, 416) = 1.85$ ,  $p = .18$ ; anti-progress:  $M_{Soc} = 1.24$ ,  $SD = 0.96$  vs  $M_{Control} = 1.29$ ,  $SD = 1.08$ ,  $F < 1$ ). Rather, risk preference between the progress and anti-progress conditions showed significant difference ( $M_{Prog} = 1.57$ ,  $SD = 1.02$  vs  $M_{Antiprog} = 1.26$ ,  $SD = 1.01$ ;  $F(1, 416) = 6.29$ ,  $p = .013$ ). This is consistent with our predictions that the belief-in-progress manipulation overrides the effects of societal remembrance and drives risk preference.

### 7.2.3. Mood and nostalgia

A remembrance  $\times$  belief ANOVA on mood showed no significant effect of belief condition ( $M_{Baseline} = 5.81$ ,  $SD = 1.20$  vs  $M_{Prog} = 5.79$ ,  $SD = 1.19$  vs  $M_{Antiprog} = 5.53$ ,  $SD = 1.20$ ;  $F(2, 416) = 2.13$ ,  $p = .12$ , see also Table 5), societal remembrance ( $M_{Soc} = 5.62$ ,  $SD = 1.24$  vs  $M_{Control} = 5.81$ ,  $SD = 1.16$ ;  $F(1, 416) = 2.28$ ,  $p = .13$ ), or their interaction ( $F < 1$ ). However, the results yielded a significant main effect of societal remembrance on nostalgia ( $M_{Soc} = 4.75$ ,  $SD = 1.72$  vs  $M_{Control} = 4.07$ ,  $SD = 1.77$ ;  $F(1, 416) = 16.30$ ,  $p < .001$ ). No other effect was significant ( $Fs < 1$ ). Note that the proposed societal remembrance  $\times$  belief in progress interaction on risk preference remained significant after controlling for these affective responses ( $F(2, 414) = 4.38$ ,  $p = .013$ ).

## 7.3. Discussion

The results of Study 4 showed that while the proposed effect on risk

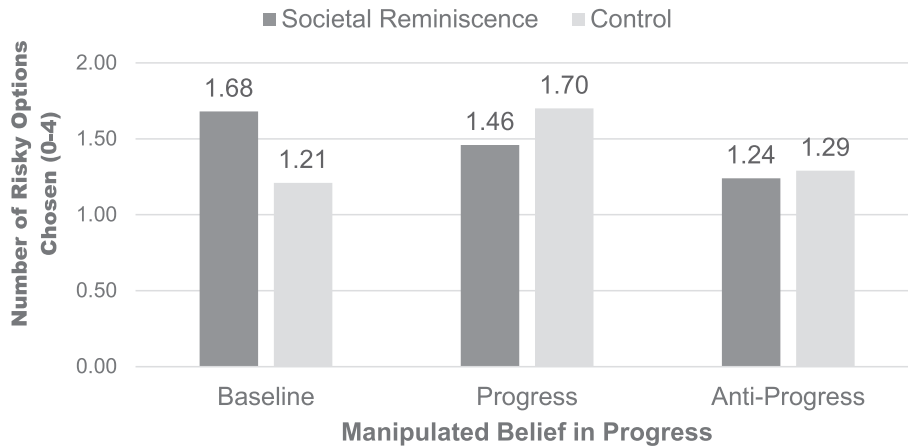


Fig. 2. Risk preference as a function of societal reminiscence and belief in progress (Study 4).

Table 5  
Summary of Findings (Study 4).

		Belief-in-Progress Conditions					
		Baseline		Progress		Anti-Progress	
		Mean	(SD)	Mean	(SD)	Mean	(SD)
Risk Preference	Control	1.21 <sup>a</sup>	(1.01)	1.70 <sup>b</sup>	(0.96)	1.29 <sup>a</sup>	(1.08)
	Societal	1.68 <sup>b</sup>	(1.16)	1.46 <sup>a,b</sup>	(1.06)	1.24 <sup>a</sup>	(0.96)
General Mood	Control	5.92 <sup>a</sup>	(1.17)	5.84 <sup>a</sup>	(1.07)	5.66 <sup>a</sup>	(1.24)
	Societal	5.70 <sup>a</sup>	(1.24)	5.75 <sup>a</sup>	(1.31)	5.44 <sup>a</sup>	(1.17)
Nostalgic Feeling	Control	3.97 <sup>a</sup>	(1.83)	4.13 <sup>a</sup>	(1.81)	4.11 <sup>a</sup>	(1.68)
	Societal	4.80 <sup>b</sup>	(1.72)	5.00 <sup>b</sup>	(1.76)	4.47 <sup>b</sup>	(1.67)

Note. Cells for each variable with different superscripts differ at  $p < .05$ .

preference was replicated in the baseline conditions, experimentally heightening or suppressing belief in progress mitigated the effect. In those conditions, risk preference followed the manipulated level of belief in progress that overrode the effects of societal reminiscence. Participants’ risk preference increased when they were led to think about society’s progress, whereas risk preference decreased when participants were led to think that societal progress was illusory. This finding accumulated more evidence for the belief in progress as the underlying mechanism. Consistent with other studies, the observed effect cannot be explained by general mood or nostalgic feelings.

8. Study 5

To provide concrete insights on practice, this study sought to demonstrate how daily experiences of societal reminiscence (e.g., incidentally encountering an ad featuring a society’s past) can shape choice. As evidenced in the previous studies, the societal-reminiscence effect does not work in all cases but only in those in which the welfare of society matters. To test the effect, we thus designed a task that involves choices between innovative products that may benefit society and conventional products whose impacts on society are less desirable but more certain. Specifically, participants reported their willingness to pay for gasoline car models from brands they liked and their respective electric versions. We predicted that those who looked back to society’s past would be willing to pay more for the electric models whose impacts on the environment are less certain but seemingly better than the gasoline models.

8.1. Method

A total of 80 US residents were recruited from MTurk with monetary incentive (41 males,  $M_{age} = 41.55$ ,  $SD = 12.70$ ). They were randomly assigned to either the societal-reminiscence or control conditions and

completed several unrelated surveys. At the beginning of the survey, they reported their age, place of birth, and living duration as well as answered some questions about driving (e.g., “How often do you drive?”, “Have you ever owned a car?”) as eligibility check. They also selected and ranked three brands they liked the most among a list of six automobile brands. Then they proceeded to the same Starbucks task used in Study 4. Those in the societal-reminiscence (control) condition proceeded to write a story about the era and life of Americans when coffee became popular (the features of coffee) with reference to a Starbucks Ad. They also answered some questions corroborated with the task’s cover story including the manipulation checks. Next, all of them completed a survey on car preferences. On separate pages, they were presented with information about two purportedly recent car models from a brand that they liked earlier. The two models were identical except one was electric and the other gas-powered. They reported their willingness to pay for each model, which was repeated three times for each brand they liked. This resulted in a repeated measure design with willingness to pay measured six times within each participant (i.e., car version [gasoline vs electric]  $\times$  top three brands). Finally, they responded to three items on mood ( $\alpha = 0.933$ ), one item on nostalgic feeling, and attention checks.

8.2. Analysis and results

8.2.1. Model specification

Our analysis excluded 13 participants who had never owned a car. This resulted in a final sample of 67 participants (34 males,  $M_{age} = 42.15$ ,  $SD = 12.38$ ). We formulated an index indicating the extent to which participants preferred an electric model over a gasoline model (Eqn 1). Specifically, we let  $WTP_{e_{sj}}$  and  $WTP_{g_{sj}}$  denote the willingness to pay for the electric and the gasoline models of brand  $j$  liked by the participant  $s$ , respectively. By dividing the two variables, we obtained an index with a value greater than (less than) 1 indicating a stronger



preference towards the electric (gasoline) model and ran a repeated measure ANOVA. To capture the unobserved effects at the brand level such as brand prestige and heritage, which are constant for all the models from the same brand, we converted the data into a long format such that each row represents an observation for each brand for each participant. We ran a model as follows:

$$(WTP_{e_{sj}}+1)/(WTP_{g_{sj}}+1) = \omega + \eta_1 SocReminiscence_s + \xi_j + \varepsilon_{sj} \quad (1)$$

where  $\omega$  is the intercept term,  $SocReminiscence_s$  is our treatment, and  $\eta_1$  is the corresponding coefficient. We also included a set of dummy variables  $\xi_j$  at the brand level. The error term  $\varepsilon_{sj}$  follows normal distribution  $\varepsilon_{sj} \sim N(0, \sigma_\varepsilon^2)$ .

### 8.2.2. Results

To validate our manipulation, we first ran a series of ANOVA on manipulation check items, general mood, and nostalgic feeling. The results confirmed that the participants in the societal-remembrance condition wrote more about society ( $M_{Soc} = 6.23$ ,  $SD = 0.97$  vs  $M_{Control} = 5.11$ ,  $SD = 1.63$ ;  $F(1, 65) = 11.09$ ,  $p = .001$ ), whereas those in the control condition wrote more about the features of coffee ( $M_{Soc} = 3.70$ ,  $SD = 2.12$  vs  $M_{Control} = 4.89$ ,  $SD = 1.45$ ;  $F(1, 65) = 7.43$ ,  $p = .008$ ). There was no significant difference in general mood ( $M_{Soc} = 5.59$ ,  $SD = 1.30$  vs  $M_{Control} = 6.01$ ,  $SD = 0.94$ ;  $F(1, 65) = 2.34$ ,  $p > .10$ ) and nostalgic feeling ( $M_{Soc} = 4.63$ ,  $SD = 1.71$  vs  $M_{Control} = 3.97$ ,  $SD = 1.80$ ;  $F(1, 65) = 2.33$ ,  $p > .10$ ).

As predicted, repeated ANOVA yielded a significant difference in WTP across conditions ( $F(1, 65) = 4.41$ ,  $p = .040$ ). One-sample *t*-test further showed that in the control condition, WTP was similar for the two models ( $M = 1.08$ ,  $SD = 0.32$ ,  $t(36) = 1.53$ ,  $p > .10$ ), whereas in the societal remembrance condition participants would pay on average 25 % more for the electric than for the gasoline models ( $M = 1.25$ ,  $SD = 0.36$ ;  $t(29) = 3.85$ ,  $p = .001$ ). Further regression analyses with the data in a long format indicated that the effect remained significant after controlling for mood, nostalgic feelings, and the brand fixed effect ( $\beta = 0.215$ ,  $t(192) = 2.98$ ,  $p = .003$ ).

### 8.3. Discussion

As supplementary evidence to Study 1, the results of this study experimentally show that societal remembrance can have an impact not only on individuals' outlook towards society (e.g., consumer confidence) but also the adoption of innovative products with implications for society. In other words, looking back to the past—societal remembrance to be precise—can change how people perceive the world as well as motivate them to act for the common future. With different examples drawn from across studies, this research generated insightful findings on how firms and policy makers can draw on history to push innovations and hopefully change in the long run.

## 9. General discussion

As one common tactic in marketing communication, prompting people to look back to the past has been employed by businesses, policy makers, and social advocates to solicit public support for innovation and social changes. Surprisingly, most research has focused on remembrance of personally experienced pasts and has largely neglected societal remembrance and its effects. Empirical evidence illustrating whether and how looking back to a society's past can affect decisions has been scant, particularly on topics beyond brand choice and responses to market offerings. This research explores the impact of societal remembrance on decisions for a society in various domains. One correlational study based on real-life data and four experiments provided convergent evidence that societal remembrance leads people to believe in progress and choose less certain but potentially better options over more certain ones (i.e., become more risk-taking). This finding is novel for business research

because it extends the scope of understanding from responses to marketing offerings to decisions that have significant implications for society. Furthermore, our findings outlined the boundaries of the effect, showing that looking back to a society's past rather than one's own past shaped risk preference, revealing an enhanced risk-taking tendency in relation to decisions for society's welfare but not for one's own self-interest (Study 3). These findings offer insights into using past-linked appeals to solicit support for business innovations, social issues, and political campaigns (Routledge, 2017).

### 9.1. Theoretical implications

Results of this research illuminate the conceptual underpinnings of societal remembrance. Of most theoretical interest is the proposition that this effect is unlikely to be driven by emotional responses, including nostalgic feelings and mood, which have long been conceptualized as the mechanism underlying remembrance. We showed that although both societal and personal remembrance could give rise to nostalgic feelings, only societal remembrance increased the risk-taking tendency, and that such an effect was not explained by nostalgic feelings (Studies 3 and 4). In assessing these results, we reason that the nostalgia effects documented in the literature are mostly concerned with enhanced social connectedness and positive self-regard (e.g., Cheung et al., 2013). Given their relation to the self, these responses more likely result from remembrance of one's personally experienced past. A closer look at prior studies suggests that although nostalgia has been studied extensively, most studies have employed aided remembrance of interpersonal interactions, either with important others (Stern, 1992) or in a group setting (Baker et al., 2004; Wildschut et al., 2014) to induce nostalgic feelings. As remembrance about a society's past does not necessarily entail personal experiences with others, it is likely to elicit different degrees of feelings as well as distinct thoughts and memories. Therefore, although reflecting on a society's past is likely to give rise to feelings of nostalgia, existing knowledge of nostalgia may not be sufficient to explain the effects of societal remembrance on the decision of interest.

Instead, our results point to a largely overlooked process of societal remembrance. The findings in Studies 1 to 3 indicated that societal remembrance likely calls people's attention to society's development over time and made belief in progress salient. Based on field data, Study 1 suggests that people who engage in consumption of past-linked products tend to believe in progress and be more confident in their society's future. In Study 3, participants who reminisced about their society's past were more likely to believe that it had made progress over time, and this belief mediated the effect of societal remembrance on the endorsement of risky policies. Study 4 further tested the proposed mediating mechanism by experimentally manipulating belief in progress. While the proposed effect of societal remembrance (vs control) was replicated in the baseline conditions (i.e., belief in progress was not manipulated), the effect did not emerge when participants were made to believe that societal progress was either substantial (progress conditions) or illusory (anti-progress conditions). For those participants, their risk preference reflected the level of belief in progress as manipulated. These results confirmed that belief in progress drove the effect of societal remembrance.

It is also noteworthy that we examined whether societal remembrance can affect decision-making by altering perceived psychological distance and construal level (i.e., calling attention to a distant time and a higher construal of the self). Although these mechanisms were plausible, this research provided consistent evidence against any systematic influence of our treatment on various measures of psychological distance and construal level across studies. The results in Study 3 further showed that societal remembrance affected decisions for society but not personal decisions. This finding ruled out construal level as an alternative account because the effect should be evident for both types of decisions if societal remembrance is associated with a high construal level characterized by the consideration of desirability (i.e., outcome) over feasibility (i.e.,

chance of success). Taken together, our findings support belief in progress as a mechanism underlying the proposed effect against several established mechanisms, including general mood, psychological distance, and construal level.

## 9.2. Managerial implications

Reminiscence is used prevalently in persuasive appeals in marketing communications, social campaigns, and the political realm. Of practical significance, this research demonstrates how advocacy groups, policy makers, and businesses—any parties that seek to put forth social changes and innovations involving uncertainties—can garner greater support by triggering societal reminiscence. An important takeaway of this research is that practitioners should consider what people think, in addition to how nostalgic they feel, when deciding to use past-linked appeals. Our results show that the portrayal of the past is insufficient to shape people's belief in progress and their outlook on a society's future unless practitioners purposively call attention to a society's development and advance over time. The effect does not occur when an appeal portrays a personally experienced past or simply employs retro style or vintage design. Appeals that portray a society's past can also be a powerful tool for social marketing as well as branding. In social marketing campaigns, practitioners should consider involving the portrayal of a society's past to boost people's confidence in a social cause marked by uncertainty. Likewise, companies can enshrine their commitment to innovate by leveraging their links to history and societal development.

In addition to the implications based on the overall theory, specific implications can be derived from the findings in the individual studies. In Study 1, analysis of the field data showed that consumer confidence in the US increases with the sales of classic vehicle models of American brands. This finding sheds lights on the relevance of societal reminiscence to broader applications. Given its effect on elevating confidence about imminent economic conditions (e.g., expectations regarding household income), societal reminiscence could be potentially useful for companies in the consumer discretionary sector (e.g., tourism, luxury goods) and companies that focus on big-ticket consumer purchases (e.g., automobiles and major appliances). Indeed, Study 5 showed that societal reminiscence positively influences how much consumers are willing to pay for electric (vs gasoline) cars. This finding suggests that societal reminiscence is promising for encouraging innovation adoption. Besides, to further illuminate the real-world implications of societal reminiscence, we expanded the analysis in Study 1 to a major US stock index concerning technology and innovation sectors (i.e., NASDAQ). As in Study 1, we regressed the stock index on the four sales indexes covering classic car models of American, European, and Japanese-Korean brands and modern car models of American brands, along with their six-month lagging variables and control variables under the same time frame. Intriguingly, the results show that sales of classic models from American brands have a positive lagged effect on the NASDAQ index ( $\beta = 0.114$ ,  $t(151) = 2.73$ ,  $p = .007$ ). In other words, sales of classic American car models predict stock prices of major tech companies six months later. There is no other significant relationship except that sales of classic models from European brands are negatively correlated with the index ( $\beta = -0.085$ ,  $t(151) = 2.17$ ,  $p = .031$ ). These findings, though tentative and exploratory, hint that societal reminiscence could affect investment in innovative firms. They also point to the crucial consideration that, when designing stimuli to evoke societal reminiscence, practitioners should keep in mind the differences in

shared knowledge across groups and cultures. For example, Americans are more responsive to past-linked appeals or consumption activities involving American brands than to those that involve brands from other countries. As an analogy, a local snack—such as red bean pudding (Studies 2 and 3)—that can trigger societal reminiscence among Hong Kong people may not work for all Chinese communities.

## 9.3. Limitations and future research directions

This research represents one of the first attempts to extend (empirical) investigation from personal to societal reminiscences. We advance this understanding by acknowledging the potential differences in the emotional and cognitive processes evoked by different types of reminiscence. In regard to the nature of the thoughts evoked, belief in progress is likely a unique response that results from the thought process led by societal reminiscence. It should nonetheless be noted that our findings can only speak to belief in progress as one nuanced thought process associated with societal reminiscence. Future research is warranted to explore other possible psychological processes underlying reminiscence, both societal and personal. We hope our work illuminates further research endeavors on these processes and their pragmatic influence on various kinds of decisions. Another caveat is that we used a rather explicit manipulation to induce societal reminiscence. Although such an experimental approach is theoretically necessary to ensure the internal validity of the findings, we are also convinced that societal reminiscence can be spontaneously triggered in real life, as shown in previous advertising research on historical appeals (e.g., Belk, 1990; Davis, 1979; Holbrook, 1993; Muehling & Pascal, 2011).

In addition, our findings seem to contradict the common intuition that people who are prone to reminiscence and manifest nostalgic preference would tend to believe that things were better in the “good old days” (Holbrook & Schindler, 1991). That is, looking back to the past may prompt belief in decline, not progress. In fact, how people perceive things to be when they look back to the past, whether progressing or declining, remains elusive. Speaking to this ambiguity, we identify one out of many possibilities: reminiscence can give people hope in progress and empower them to embrace uncertainties for a better future. Rather than one direction precluding another, we contend that different types of reminiscence may produce impacts in different directions. It is possible that under some circumstances, looking back to the past may activate belief in decline and not in progress. These possibilities and their mechanisms await further investigation.

## CRedit authorship contribution statement

**Canice M.C. Kwan:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Investigation, Formal analysis, Conceptualization. **Shirley Y.Y. Cheng:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization. **Alex S.L. Tsang:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Appendix A

### SAMPLES OF WRITING TASK (STUDIES 2 AND 3).

*Control condition*

Red bean pudding is a common snack. Do you know what it is exactly? With reference to the snack, please try to answer the following questions.

1. What is red bean pudding? What is its color, texture, and taste? What ingredients does it contain?
2. Where can people buy the pudding? How much does it usually cost?
3. What kind of people would like the pudding the most?
4. On what occasions do people buy or eat the pudding?
5. What makes red bean pudding so popular in Hong Kong?

*Societal-Past condition*

Red bean pudding was a common snack in the old Hong Kong. With reference to the snack, please try to answer the following questions.

1. In which era do you think red bean pudding was common in Hong Kong?
2. Where could people at that time buy the pudding?
3. What kind of people might like the pudding at that time and have it often?
4. What do you think about the society of the old Hong Kong?
5. Did the pudding have any unique meaning to the society at that time?

*Societal-Present condition*

Red bean pudding is a common snack in Hong Kong. With reference to the snack, please try to answer the following questions.

1. Is red bean pudding common in Hong Kong?
2. Where can people buy the pudding?
3. What kind of people may like the pudding and have it often?
4. What do you think about the current society of Hong Kong?
5. Does the pudding have any unique meaning to the society nowadays?

*Personal-Past condition*

Red bean pudding was a common snack that we often had in our childhood. With reference to the snack, please try to answer the following questions.

1. Where could you buy a red bean pudding in your childhood?
2. Did you like the pudding and why?
3. Did you have the pudding on your own or with the others? Who would those people be? How did you feel about them?
4. What do you think about your life in those old days?
5. When looking back to the days at that time, how do you feel?

*Personal-Present condition*

Red bean pudding is a common snack that we often have. With reference to the snack, please try to answer the following questions.

1. Where can you buy red bean pudding now?
2. Do you like the pudding and why?
3. Do you usually have the pudding on your own or with the others? Who are those people? How do you feel about them?
4. What do you think about your life right now?
5. How do you feel about your present life?

Please organize your answers to the above questions and write a short article based on your answers. You can add some other information to make it more interesting and fluent.

**Appendix B**

SAMPLES FOR PUBLIC-POLICY DECISIONS AND PERSONAL DECISIONS.

*Samples for Public-Policy decisions (Studies 3 and 4)*

Imagine that your state government is going to launch a campaign of reducing household garbage. Two alternative plans for waste management have been proposed. Assume that the exact estimates of the consequences of the plans are as follows. Which plan do you support?

- Plan A: Sure reduction of 20 % of the current waste-management load.

- Plan B: There is 50 % chance that the plan will reduce 40 % of the current waste-management load and 50 % chance that the current load remains unchanged.

Imagine that the crime rate in your state is very high. In light of this, your state government is deciding about the use of US\$10M to enhance property protection and security. Two proposals have been raised. Assume that the exact estimates of the consequences of the proposals are as follows. Which one do you choose?

- Proposal X: The crime rate will be reduced by 20 % for sure.
- Proposal Q: There is a 40 % chance that the crime rate will be halved and another 60 % chance it will remain unchanged.

Imagine that a few business sectors in the states are facing fierce competition from overseas competitors. To increase competitiveness, some industries advocate that the government adopt one of the two following policies. Which policy do you prefer?

- Protection Grants: Increase the subsidies for some sectors such as agriculture, metal and steel trading, and raw material manufacturing so that these industries can offer a more competitive price and gain a better margin to sustain business.
- R&D Grants: Increase in research and development (R&D) funding for the above sectors so that these industries can achieve greater opportunities for reducing product price by streamlining the process of production, as well as a higher expected value by inventing and improving products.

Imagine that a new policy on social insurance is introduced. Specifically, one of the following products will be launched and every US citizen would be required to invest 5 % of his/her monthly income into it. Below are the product details. Which product would you prefer the government to launch?

- Inflation-linked bond with a guaranteed annual return equal to the inflation rate.
- Stock-market-linked mutual fund with a possible return higher than the inflation rate, but it is also possible that the fund incurs a loss.

#### *Samples for personal decisions (Study 3)*

Imagine that you receive two job offers and need to decide which one to accept. Given the below information about your new company, which one would you prefer?

- Company Z: You remain in the same ranking in coming years and can gain a 15 % increase in salary for sure.
- Company C: You have a high chance for job promotion in coming years. If you get promoted, your salary might increase by 25 %; otherwise, it might not change at all.

Imagine that you have some spare money and would like to choose a financial plan. Meanwhile, you are deciding to spend the money on a saving plan or an investment plan. Assume the exact scientific estimates of the plan are stated as below. Which plan would you choose?

- Saving plan with a fixed and guaranteed annual interest equal to 4.5 %.
- Investment plan with a 45 % chance of gaining a return equal to 10 % and a 65 % chance of gaining no return.

If you unfortunately suffer from lung cancer in an early stage, which type of treatment will you choose?

- Surgery: Of 100 people having surgery, nobody dies during the post-operative period but ALL suffer moderate permanent lung damage.
- Radiation Therapy: Of 100 people having radiation therapy, 23 die during the treatment.

If you unfortunately suffer from diabetes, which type of treatment will you choose?

- Traditional Treatment: Of 100 people having this treatment, ALL are alive but need to take doses of insulin every day for their remaining life.
- Newly-invented Treatment: Of 100 people having this treatment, 77 can survive without any side-effect.

## **Appendix C**

### **SAMPLES OF BELIEF-IN-PROGRESS MANIPULATION (STUDY 4).**

Below you will find part of an article published in a magazine some months ago. Please read the text carefully and answer the questions that follow.

#### *Progress Condition:*

"The question of whether there is human progress is easy to answer; I think humans have made progress and this will continue.

We focus on progress and development, and meanwhile have identified answers to the problems we face. There's plenty of evidence that we have witnessed major progress since the Middle Ages: we find both short- and long-term solutions to many problems, political systems function better than, say, 100 years ago, there is less poverty in the world, and so on. We have learned from history and prevent the same mistakes from happening over and over again. Moreover, certain diseases that we cannot control right now can very well be controlled within years from now. That's why I do believe that our children will encounter a world that is better than the world we live in today. Humans make progress both now and in the future.

All in all, I think we can see in reality: progress will continue!"



*Anti-progress Condition:*

"The question of whether there is human progress is easy to answer; I think progress is definitely an illusion.

We always seem to focus on progress and development, but meanwhile there still exist wars and conflicts in the world. There's plenty of evidence that we haven't witnessed any real progress since the Middle Ages: we fail to find answers to many problems, political systems do not function better than, say, 100 years ago, there still is poverty in the world, and so on. We don't seem to learn from history and keep making the same mistakes over and over again. Moreover, once we have managed to control certain diseases, there will always be new ones to deal with. That's why I cannot believe that our children will encounter a world that is better than the world we live in today. People are people, we simply do not make any progress.

All in all, I think we have to face reality: progress is an illusion!"

*Baseline Condition:*

"It does not take much to answer that question; I think public transport has improved considerably.

We have focused on carbon emissions and greenhouse gases, and meanwhile public transport has become a part of the solution for our environmental problems and crowded motorways. There are plenty of examples illustrating that public transport improves our lives and environment: trains are departing on schedule these days, and information services are getting better as well. Moreover, buses in our major cities are much cleaner, with lower emissions due to the installation of special filters and the use of different fuels. Over time the authorities learn from their experiences and prevent the same mistakes from happening again. That's why I believe that the future looks bright for public transport.

All in all, I think public transport is making clear progress."

**Appendix D**

## SAMPLES OF TASK ON BRAND STORY CAMPAIGN (STUDIES 4 AND 5).

*Societal condition*

With reference to the ad below, please tell a story about coffee drinking and American life. An extra BONUS of \$0.20 will be paid for the story that is regarded as authentic, relevant, and well-written.



The story should be based on how coffee was related to American life in the old days. When writing the story, try to cover the following as much as possible:

- In which period of time in the past (e.g., Boston Tea Party, Civil War, Gold Rush, Post-WII Era, etc.), has coffee become the most popular drink among Americans?
- What kind of Americans liked drinking coffee the most during that period? Why did they love it so much?
- How did coffee relate to Americans' life during that period? Did coffee embody any special meaning to the American society at that point in time?

*Control condition*

With reference to the ad below, please write a short description about coffee drinking. An extra BONUS of \$0.20 will be paid for the story that is regarded as authentic, relevant, and well-written.



The description should be based on common and basic features of coffee. When writing the description, try to cover the following as much as possible:

- What is a cup of coffee made of? What are its ingredients? What are the common varieties of coffee?
- Where do people usually buy coffee? How much does a cup of coffee cost?
- On what occasion(s) do people usually drink coffee? What kind of people like coffee most?

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