Header: NOSTALGIA AND REGRESSIVE CHANGE

Nostalgia causes a preference for regressive social change

Matthew Baldwin

Abhay Alaukik

University of Florida

Joris Lammers

University of Cologne

Address correspondence to: Matt Baldwin, 524 McCarty Hall C, Department of Psychology, University of Florida, Gainesville, FL, 32603, mbaldwin1@ufl.edu, 352-328-2494.

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Abstract

A broad literature demonstrates that nostalgia – a positive emotion associated with sentimental longing for the past – offers many psychological benefits for the individual. In contrast, we present seven studies showing that nostalgia, measured and manipulated, is associated with increased support for regressive social norms and policy. In the first four studies, we show that nostalgia is associated with opposition to smoke-free laws, preference for unsafe cars, expressions of benevolent sexism and opposition to gender equality, and enjoyment of sexist, racist, and other politically incorrect humor. Studies 5 and 6 establish a causal connection between nostalgia and regressive social norms. Lastly, Study 7 shows preliminary evidence that nostalgia causes these preferences through perceptions of the past as sacred. These findings shed light on a darker side of nostalgia and highlight how progressive policies can be undermined by a longing for the past.

Key-words: nostalgia, well-being, society, attitudes, beliefs

Nostalgia causes a preference for regressive social change

With hair slicked back, a cigar in his hand, and sitting in a crowded smoky bar, Don Draper (played by John Hamm) woos the viewers in the TV show *Mad Men*. Shows like *Mad Men* – a popular drama series about an advertising agency set in the 1960s and seeped in nostalgic imagery – present the past through rose-colored glasses and arguably invoke a longing for the way things used to be (Niemeyer, 2014). *Mad Men* is not an exception—with each passing year, popular media outlets claim that society has been taken over by nostalgia and people are looking back to the good old days (e.g. *The Atlantic*, 2015; *The Guardian*, 2016).

Nostalgia can indeed play a positive role in people's lives. Recalling nostalgic memories about cherished moments from the past can provide psychological comfort and security (Sedikides, Wildschut, Arndt, & Routledge, 2008; Wildschut, Sedikides, Arndt, & Routledge, 2006). Nostalgia connects the present with authentic versions of the past-self and provides people with a sense of continuity and meaning in life (Baldwin, Biernat, & Landau, 2015; Sedikides, Wildschut, Routledge, & Arndt, 2015; Sedikides et al. 2016). Nostalgia may also be positive for social relationships. It increases a sense of social belongingness and reduces loneliness (Wildschut, Sedikides, Routledge, Arndt, & Cordaro, 2010; Zhou, Sedikides, Wildschut, & Gao, 2008), shifts attention away from extrinsic motivations like money (Lasaleta, Sedikides, & Vohs, 2014), and toward intrinsic and more prosocial ones, such as secure relationships (Baldwin et al., 2015; Wildschut et al., 2006) and charitable giving (Zhou, Wildschut, Sedikides, Shi, & Feng, 2012). Altogether, nostalgia seems to be a positive resource for the self.

Can Longing Go Wrong?

Although nostalgia may offer many psychological benefits for individuals, it may also come with costs for society. While longing for the past—and appreciating fond memories of meaningful events with close others—can be a well of psychological well-being, those same longings may serve to justify “the way it was” even if those aspects of the past may serve to undermine social progress. In the current research, we focus on how these nostalgic thoughts about specific aspects of past society may affect people’s attitudes on current society.

We propose that nostalgia for the way society used to be serves as a justification for supporting what we call *regressive social change*, or the desire to return to social norms, policies, and practices of the past. In some cases, longing for these aspects of the past conflicts with values regarding public health and safety, social justice, and other progressive trends that define modern societies. To return to the example of *Mad Men*, nostalgic feelings about the 1960s while watching the show may coincide with a recognition that some elements of that time were demonstrably negative and antithetical to progress (e.g., smoking indoors). These critical views of the past can conflict with the nostalgic portrayal of those times, and can thus evoke cognitive dissonance—psychological unease caused by contradictory attitudes and behaviors (Festinger, 1957).

How might people resolve this cognitive dissonance when facing contradictory information about the past? One strategy would be to dismiss the nostalgic feelings and instead turn a more critical eye toward aspects of the past that are antithetical to progress in the present—to set aside one’s nostalgic feelings in favor of anti-smoking norms and policies, for instance. Another strategy would be to maintain the rose-colored view of the past and instead turn a more critical eye toward progressive

aspects of the present—to use one’s nostalgic feelings as a rationale for reasoning about ways anti-smoking policies have gone too far, as an example.

Between these two options, we hypothesize that people will be more inclined to maintain their nostalgic views of the past because the feeling of nostalgia is informative—it indicates to the perceiver that the target of nostalgia is meaningful, authentic, and worth keeping or restoring (Baldwin et al., 2015; Routledge et al., 2012; Boym, 2001). In other words, we argue that nostalgia points to something *sacred* and thus culturally meaningful, morally good, and authentically true (Durkheim & Swain, 1912). As Nisbet (1993) puts it, the “sacred” consists of the non-rational and non-utilitarian symbols and sets of behaviors that we cherish and venerate (Nisbet 1993). This can include everything from non-religious symbols such as the Statue of Liberty or the Constitution to religious ones such as the Bible or totems. Since people simultaneously preserve and protect the sacred as well as react strongly to its loss or violation (Pargament et al., 2017), they are likely to support regressive (or restorative) change instead of admonishing the past. For example, even if rationally speaking, smoking indoors is bad for public health, people may endorse this collective behavior simply because a smoke-filled bar is viewed as a sacred cultural practice when viewed through rose-colored glasses.

In sum, we predict that nostalgic feelings should predict support for restoring aspects of the past that are the target of longing, and that this relation should be mediated by perceptions of the past being sacred. In the current research, we focus on utilitarian and progressive aspects of society that may also have nostalgic appeal. Specifically, we evaluate nostalgia’s influence on opposition to public smoking bans, car safety, progressive gender roles and norms, and political correctness, which we summarize below.

Public smoking. First, we examine attitudes toward a salient public health concern, namely, smoking. It is well-established that inhaling tobacco smoke exhaled by others brings the same health risks as smoking itself (HHS, 2006). Therefore, many countries have enacted smoke-free laws that ban smoking in public. But nostalgia may make people appreciate the dim, smoke-filled bars, clubs, and spaces of the past, and thus oppose modern-day smoking bans. In testing this relationship, we also analyze whether any effects are restricted to smokers, or also extend to non-smokers.

Car safety. Second, we focus on a different topic that affects public health: car-safety. Over the past decades, significant advances in automobile design have made cars much safer (airbags, crumple zones, etc.). We propose that nostalgia leads people to value other qualities of past cars (e.g., style, craftsmanship, power) over safety, to discount the importance of car safety in general, and thus actively oppose safety measures in modern-day vehicles. Furthermore, we test whether this is even true for people who have been personally involved in a car accident.

Gender roles and norms. Third, and turning to psycho-social issues, a rising tide of gender equality has reduced much of the sexism and role-expectations of past society (Inglehart & Norris, 2003). We propose that nostalgia leads people to value traditional gender roles and norms of the past over more progressive norms of the present-day. We focus, in particular, on benevolent sexism – the seemingly positive stereotype that portray women as warmer and more moral, but weaker and less agentic than men (Glick & Fiske, 1996). Benevolent sexism is particularly harmful, because it restricts women to caring positions (nurse, child-care taker) and undermines their performance, but is difficult to confront due to its seemingly positive nature compared to more hostile forms of sexism (Becker & Wright, 2011; Dardenne,

Dumont, & Bollier, 2007). We also test whether effects of nostalgia on benevolent sexism extend to women and self-identified feminists.

Political correctness. Finally, we turn to expressions of political (in)correctness, which recent work suggests are an important factor in voting behavior even controlling for political ideology (Conway III, Repke, & Houck, 2017). Over time, people have become increasingly more sensitive to political correctness, and typically see forms of political incorrectness as inappropriate (Dovidio & Gaertner, 1991). We test whether nostalgia undermines this progressive ideal and leads people to appreciate political incorrectness, which we operationalize here as prejudiced humor. Prejudice can be expressed in everyday interactions through sexist, racist, or other offensive forms of humor, and this kind of humor aides in the maintenance of prejudice because its seemingly playful nature makes it hard to confront (Ford, Boxer, Armstrong, & Edel, 2008). If people are nostalgic for the past in which politically incorrect humor was viewed as more acceptable, they should be more likely to endorse this kind of humor.

Overview of Studies and Methodological Notes

We test these ideas in seven studies, in which we measure or manipulate nostalgia and measure support for these features of society. The first four studies establish a credible correlation between nostalgia and supporting each of these regressive aspects of society (or opposing their progressive analog). Next, Studies 5 and 6 establish a causal relationship where nostalgia causes a preference for these aspects of the past. Lastly, study 7 shows preliminary evidence that nostalgia can indirectly cause a preference for regressive aspects of the past through feelings of sacredness.

Across these studies, we report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures. Links to preregistrations are provided per study. Raw data (including all item-descriptions) are available at https://osf.io/yz3bf/?view_only=1376a5fba3554927b46a19317df6b023.

Study 1 – Public Smoking

Method

Participants and Design. Participants were 1,963 Dutch and Flemish readers of a popular online magazine (40.1% men, 59.9% women, mean age 36.1 years) who participated voluntarily. Due to this voluntary participation, we could not set sample size *a priori* but maximized participation within a fixed period. The study was preregistered at <http://aspredicted.org/blind.php?x=vu9fb2>.

Measures. Participants completed a shortened 6-item Dutch translation of Batcho's (1995) Nostalgia Inventory, by indicating how nostalgic they felt for the past's music, habits, toys/ games, movies/ tv-programs, and for how people were and behaved ($\alpha = .69$), all between *Not at all* (1) and *Very much* (7). Next, participants were reminded of the public smoking ban and provided their opinion about it with two items: *I long back to the days that you could smoke in bars*; *The anti-smoking laws have gone too far* ($r = .77, p < .0001$), both between *Strongly disagree* (1) and *Strongly agree* (7). Finally, participants provided demographics and indicated whether they smoked frequently (18.6%), smoked infrequently (9.0%), were ex-smoker (25.0%), or never smoked (47.4%). We also measured political party preference, recoded to a 5-point scale between *Left-wing* (1) and *Right-wing* (5) (515 did not disclose their party preference).

Results

We found a small-to-medium sized positive effect, meaning that the more nostalgic people were, the more they believed the anti-smoking laws have gone too far, $B = .42$, $SE = 0.04$, $\beta = .22$, $t(1957) = 10.17$, $p < .0001$, $95\%CI_B [.34; .51]$, $R^2 = .05$. This effect remained significant after controlling for political party preference, $B = .40$, $SE = 0.05$, $\beta = .22$, $t(1441) = 8.69$, $p < .0001$, $95\%CI_B [.31; .49]$.

Surprisingly, this effect was even significant for non-smokers, $b = .24$, $SE = 0.05$, $t(1951) = 5.04$, $p < .0001$, $95\%CI_b [.15; .34]$, ex-smokers, $b = .44$, $SE = 0.06$, $t(1951) = 6.76$, $p < .0001$, $95\%CI_b [.31; .56]$, and infrequent smokers, $b = .44$, $SE = 0.11$, $t(1951) = 4.07$, $p < .0001$, $95\%CI_b [.23; .65]$, while it was only descriptively stronger for frequent smokers, $b = .49$, $SE = 0.08$, $t(1951) = 6.28$, $p < .0001$, $95\%CI_b [.34; .65]$. We calculated this using PROCESS Model 1 (Hayes, 2017) with three dummy codes, highest-order unconditional interaction: $F(3, 1951) = 3.59$, $p = .013$. In other words, nostalgia even increases opposition to smoke-free laws among those who would gain little and suffer a lot from undoing these laws.

Study 2 – Car Safety

Method

Participants and Design. Participants were 256 Amazon Mechanical Turk users (57.8% men, 42.2% women, mean age 34.6 years, 62.9% White, 5.1% Black, 30.5% Asian, 1.6% other) who completed the survey in exchange for \$0.50. We set sample size to $N = 250$ a priori, following Schönbrodt and Perugini (2013). The study was preregistered at <http://aspredicted.org/blind.php?x=iz5mm9>

Measures. We measured feelings of nostalgia using Baldwin et al.'s (2018) Nostalgia Scale, which taps into 4 aspects of the past, including childhood, personal experiences, popular culture, and past society with 16 items ($\alpha = .92$). Next, participants completed four 7-point Likert items measuring a tendency to discount car

safety ($\alpha = .89$): *The focus on safety has taken some of the fun out of cars*; *Concerns with safety have reduced the enjoyment we get out of cars*; *If I would buy a car now, I would pick one that is very safe* (recoded); and *For my next car purchase, I take one that prioritizes fun over safety*, all between *Strongly disagree* (1) and *Strongly agree* (7). Finally, to determine whether any effect of nostalgia depends on participants' personal experience with car crashes, participants indicated whether they had ever been personally involved in a car accident (never: 51.2%; once, 29.3%; or more than once, 19.5%). We did not measure political preference.

Results. We found a medium-sized positive effect, meaning the more nostalgic people were, the more they discounted the importance of modern car safety, $b = .69$, $SE = 0.11$, $\beta = .37$, $t(254) = 6.44$, $p < .0001$, 95%CI_b [.48; .90], $R^2 = .14$.

Surprisingly, testing for moderation (using PROCESS Model 1) with two dummy codes, we found that the effect of nostalgia was not moderated by past involvement in a crash, highest-order unconditional interaction: $F(2, 250) = 1.37$, $p = .26$ ($\Delta R^2 = .0092$; Scaled JZS Bayes Factor in favor of the null = 46.24). In other words, nostalgia leads people to discount the safety of modern cars, even if people personally experienced the importance of that safety.

Study 3 – Gender Roles and Norms

Method

Participants and Design. Participants were 608 Amazon Mechanical Turk users, (overall 51.5% men, 48.2% women, mean age 36.8 years, 73.0% White, 7.0% Black, 13.8% Asian, 5.9% other) who completed the survey in exchange for \$0.50. We set sample size to $N = 600$ *a priori*, which provides more than 95% power to detect a small-to-medium effect of $\rho = .20$.

Measures. Participants first provided demographics, including a two-item measure of political ideology, between *Strongly favor Democrats* (1) and *Strongly favor Republicans* (7) and between *Very liberal* (1) and *Very conservative* (7), which were combined ($r = .77, p < .0001$). Also, participants indicated whether they *Strongly disagreed* (1) or *Strongly agreed* (7) with feminism. Next, participants completed the same 16-item measure of nostalgia as used in Study 2 ($\alpha = .91$).

As dependent measures, participants first completed an eight-item measure of opposition toward gender equality ($\alpha = .93$), which included items measuring support for patriarchic role differentiation (e.g., *It is better for a family if only one parent works*) and hostility to feminism (e.g., *Feminism has produced negative effects on families*). Second, participants completed Glick and Fiske's (1996) eleven-item Benevolent Sexism Scale ($\alpha = .89$). All items were completed between *Strongly disagree* (1) and *Strongly agree* (7).

Results

Opposition to Gender Equality. We found a medium-sized positive effect, of nostalgia on gender attitudes, meaning that the more nostalgic people were, the more they opposed gender equality, $b = .78, SE = 0.07, \beta = .39, t(604) = 10.51, p < .0001, 95\%CI_b [.64; .93], R^2 = .11$. This effect remained significant after controlling for political preference, $b = .54, SE = 0.06, \beta = .27, t(603) = 8.50, p < .0001, 95\%CI_b [.41; .66]$.

Surprisingly, testing for moderation (using PROCESS, Model 1), we found that the effect of nostalgia was not qualified by gender, $F(1, 602) = 0.11, p = .74 (\Delta R^2 = .0001; \text{Scaled JZS Bayes Factor in favor of the null} = 432.65)$. The effect was qualified by an interaction with identification with feminism, $F(1, 602) = 17.64, p < .0001$, but counter-intuitively, the effect of nostalgia was *stronger* for those who

identify *strongly* with feminism (at +1SD), $b = .98$, $SE = 0.08$, $t(602) = 11.48$, $p < .0001$, 95%CI_b [.81; 1.14], than those who identify only weakly (at -1SD), $b = .47$, $SE = 0.09$, $t(602) = 5.39$, $p < .0001$, 95%CI_b [.30 .64].

Benevolent Sexism. We found a similar medium-sized positive effect of nostalgia on Benevolent Sexism, $b = .54$, $SE = 0.06$, $\beta = .34$, $t(604) = 8.80$, $p < .0001$, 95%CI_b [.42; .66], $R^2 = .11$, meaning that the more nostalgic participants were, the more they endorsed sexist beliefs. This effect also remained significant after controlling for political ideology, $b = .42$, $SE = 0.06$, $\beta = .26$, $t(603) = 8.45$, $p < .0001$, 95%CI_b [.18; .29].

Again, testing for moderation (using PROCESS, Model 1), we found that the effect of nostalgia was *not* qualified by gender, $F(1, 602) = 0.99$, $p = .32$ ($\Delta R^2 = .0014$; Scaled JZS Bayes Factor in favor of the null = 298.35). Although the effect was qualified by identification with feminism, $F(1, 602) = 19.00$, $p < .0001$, again the effect of nostalgia was *stronger* for those who identify *strongly* with feminism (at +1SD), $b = .77$, $SE = 0.08$, $t(602) = 9.43$, $p < .0001$, 95%CI_b [.61; .92], than those who identify only weakly (at -1SD), $b = .27$, $SE = 0.08$, $t(602) = 3.18$, $p = .002$, 95%CI_b [.10 .43].

Study 4 – Political Correctness

Method

Participants and Design. Participants were 254 Amazon Mechanical Turk users (overall 61.00% men, 38.6% women, mean age 35.0 years, 76.4% White, 12.6% Black, 7.1% Asian, 3.9% other) who completed the survey in exchange for \$0.50. We set sample size to $N = 250$ *a priori*, following Schönbrodt and Perugini (2013). The study was preregistered at: <http://aspredicted.org/blind.php?x=zn9z9z>

Measures. After providing demographics, including a one-item measure of political ideology, between *Strongly favor Democrats* (1) and *Strongly favor Republicans* (7), participants completed Baldwin et al.'s (2018) Nostalgia Scale, also used in Study 2 ($\alpha = .92$). Participants then read three offensive Q&A jokes, taken from Crandall, Eshleman, and O'Brien (2002). They were: Q. Why did the woman on welfare climb up to the roof of the bar? A. She heard that the drinks were on the house; Q. Why don't fat people have elevator jobs? A. They don't know the route; Q. What are the worst six years in a Black person's life? A. Third grade. For each of the three jokes, participants indicated how offensive ($\alpha = .79$) and how funny ($\alpha = .79$) they were, between *Not at all* (1) and *Very much* (5).

Results

We found a medium- to large-sized positive effect, meaning that the more nostalgic people were, the funnier they thought the jokes were, $b = .64$, $SE = 0.08$, $\beta = .45$, $t(252) = 7.99$, $p < .0001$, $95\%CI_b [.48; .80]$, $R^2 = .20$. This effect also remained significant after controlling for political ideology, $b = .51$, $SE = 0.08$, $\beta = .36$, $t(223) = 6.02$, $p < .0001$, $95\%CI_b [.34; .68]$ (28 missing cases).

Although not pre-registered, when adding perceived offensiveness as a predictor, we found (using PROCESS, Model 1) an interaction with nostalgia, $b = .34$, $SE = .07$, $t(250) = 5.20$, $p < .0001$, $95\%CI_b [.21; .47]$. Inspecting this interaction using the Johnson-Neyman technique, we found that the more offensive a joke was rated, the less funny it was for people moderate or low in nostalgia (a significant negative effect when nostalgia < 3.11 , $p < .05$), whereas the opposite was true for people high in nostalgia who found jokes funnier, the more offensive they thought they were (a significant positive effect when nostalgia > 3.84 , $p < .05$). Viewed differently, we found that nostalgia predicts funniness, as long as jokes are considered at least

somewhat offensive (above 1.87, $p < .05$). This effect also remained significant after controlling for political ideology and its interaction with perceived offensiveness, $b = .21$, $SE = 0.07$, $t(220) = 2.90$, $p = .004$, 95%CI_b [.07; .36], which were both not significant predictors, $ts < 1.40$, $ps > .17$.

Study 5 – Manipulated Nostalgia

Studies 1–4 show that people high in nostalgia oppose a smoking ban, discount car safety, oppose gender equality, and find offensive jokes funnier. Study 5 manipulates nostalgia to establish a causal relationship.

Method

Participants and Design. In return for \$0.50, 506 Amazon Mechanical Turk users participated (44.5% men, 55.5% women, mean age 37.8 years, 81.0% White, 8.3% Black, 5.7% Asian, 4.9% other) and were randomly assigned to one of two conditions: nostalgia versus control. We set sample size to $N = 500$ *a priori*, to gain more than 95% power to detect a small-to-medium effect of $d = .35$. The study was preregistered at: <http://aspredicted.org/blind.php?x=nh75kg>

Nostalgia Manipulation. We induced feelings of nostalgia by asking participants to write about what made them feel positive and nostalgic about the past, compared to today. To avoid valence effects, participants in the control condition wrote instead about what made them feel positive and happy about today, compared to the past.

Measures. As a manipulation check, participants first completed a shortened 4-item version of the same nostalgia scale used in Studies 2 – 4 ($\alpha = .93$). Next, we measured the dependent variables of Studies 1 – 3. Specifically, three 7-point Likert items measured opposition to the smoking ban (example: *The anti-smoking laws have gone too far*, $\alpha = .88$), three 7-point items measured the tendency to discount care-

safety (*Car safety laws have gone too far*, $\alpha = .88$), and three items measured opposition to gender equality and modern sexism (*Traditional families are better off than modern ones*, $\alpha = .78$). All nine items were completed between *Strongly Disagree* (1) and *Strongly Agree* (7). The order in which the two sets of dependent variables were administered was randomized. In addition, we asked participants whether smoking is banned in the bars and restaurants that they typically visit (the US does not have a universal smoking ban), whether they had ever been in a car crash, and we administered the 1-item agreement with feminism measure used in Study 3.

Results

Manipulation check. The manipulation was successful; participants felt more nostalgic in the nostalgia condition ($M = 3.28$, $SD = 1.15$) than in the control condition ($M = 2.71$, $SD = 1.17$), $F(1, 504) = 30.27$, $p < .0001$, $\eta^2_p = .057$, $d = 0.49$, $95\%CI_{dif} [0.37; 0.78]$.

Public smoking. Because smoking may only be nostalgic when it is disallowed, we restricted the sample to participants who indicated that smoking is banned in the bars and restaurants they visit ($n = 343$, 67.8%, making the sample comparable to that of Study 1). Participants showed a stronger preference for undoing the smoking ban in the experimental condition ($M = 2.29$, $SD = 1.60$) than in the control condition ($M = 1.93$, $SD = 1.44$), $F(1, 341) = 4.79$, $p = .029$, $\eta^2_p = .014$, $d = 0.24$, $95\%CI_{dif} [0.04; 0.69]$. This effect was mediated by feelings of nostalgia, indirect effect = .16, $95\%CI_{indirect} [.06; .29]$ (computed with PROCESS Model 4, 5,000 bootstrap samples). Interestingly, the effect was *not* moderated by smoking habits, $F(3, 335) = 1.01$, $p = .39$ ($\Delta R^2 = .0057$; Scaled JZS Bayes Factor in favor of the null = 81.07; computed with PROCESS Model 1, same dummy codes as in Study 1).

Car safety. Second, participants in the nostalgia condition discounted car safety more ($M = 3.28$, $SD = 1.29$) compared to control participants ($M = 2.79$, $SD = 1.24$), $F(1, 504) = 18.95$, $p < .0001$, $\eta^2_p = .036$, $d = 0.39$, $95\%CI_{dif} [0.27; 0.71]$. An analysis using PROCESS Model 4 (5,000 bootstrap samples) showed that this effect was mediated by feelings of nostalgia, indirect effect = .21, $95\%CI_{indirect} [.13; .31]$. Furthermore, a test for moderation using PROCESS Model 1 (same dummies as in Study 2) showed that although the effect was moderated by involvement in car crashes, $F(2, 500) = 3.52$, $p = .03$, it was highly significant among participants who had been involved in one, $b = .76$, $SE = 0.18$, $t(500) = 4.18$, $p < .0001$, $95\%CI_b [.40 1.12]$, or even multiple car crashes, $b = .56$, $SE = 0.19$, $t(500) = 2.97$, $p = .003$, $95\%CI_b [.19; .93]$.

Traditional gender roles and norms. Participants in the nostalgia condition endorsed benevolently sexist ideas more ($M = 4.49$, $SD = 1.60$) than did participants in the control condition ($M = 4.12$, $SD = 1.48$), $F(1, 504) = 7.47$, $p = .006$, $\eta^2_p = .015$, $d = 0.24$, $95\%CI_{dif} [0.11; 0.64]$. This effect was mediated by the manipulation check, indirect effect = .45, $95\%CI_{indirect} [.29; .63]$ (computed with PROCESS, Model 4, 5,000 bootstrap samples). This effect was *not* moderated by gender, $F(1, 502) = 1.55$, $p = .21$ ($\Delta R^2 = .0030$; Scaled JZS Bayes Factor in favor of the null = 168.25) and was also *not* moderated by identification with feminism, $F(1, 502) = 2.78$, $p = .10$ ($\Delta R^2 = .0044$; Scaled JZS Bayes Factor in favor of the null = 120.30).

Study 6 – Clarifying the Causal Effect

Study 5 used a symmetric design: participants who wrote what makes them feel nostalgic and positive about the past (compared to the present) showed increased support for public smoking, discounted car safety more, and expressed stronger sexism, compared to participants who wrote about what makes them feel positive

about the present (compared to the past). Although this symmetric design ensured that all participants made the same temporal comparison (but in opposite directions), a disadvantage is that the observed effects may be due to control participants devaluing the past, rather than experimental participants valuing the past. Study 6 avoids this confound using an adapted set of instructions. For simplicity, we only focus on the issue of progressive gender norms in this study.

Method

Participants and Design. In return for \$0.50, 498 Amazon Mechanical Turk users participated (51.2% men, 48.8% women, mean age 36.7 years, 82.9% White, 7.4% Black, 4.8% Asian, 4.8% other) and were randomly assigned to one of two conditions: nostalgia, control. We set sample size to $N = 500$ *a priori*, following the same considerations as in Study 5, but received two participants fewer than planned. The study was preregistered at: <http://aspredicted.org/blind.php?x=ww7pm4>

Nostalgia Manipulation. We induced feelings of nostalgia by asking participants to write about what made them feel positive and nostalgic about the past (experimental condition) or feel positive about today (control condition). Note that by asking all participants to write about positive information, but not in a comparative manner, we not only avoid the problem of Study 5 but also control for valence effects.

Measures. After completing the same manipulation check as in Study 5 ($\alpha = .93$), participants provided their opinion on six items measuring opposition to gender equality (examples items: *Traditional families are better off than modern ones*; *It is better for a family if only one parent works than if both work*; *We should try to restore the traditional family of the past*). Items were all completed on 7-point Likert items between *Strongly disagree* (1) and *Strongly agree* (7) and correlated well ($\alpha = .92$). We also used the same 1-item agreement with feminism measure of Studies 3 and 5.

Results

Manipulation Check. Participants felt more nostalgic in the nostalgia condition ($M = 3.39$, $SD = 1.04$) than in the control condition ($M = 2.82$, $SD = 1.20$), $F(1, 496) = 31.89$, $p < .0001$, $\eta^2_p = .06$, $d = 0.51$, $95\%CI_{dif} [0.37; 0.77]$.

Traditional gender roles and norms. Participants were more strongly opposed to gender equality in the nostalgia condition ($M = 4.68$, $SD = 1.42$) than in the control condition ($M = 4.38$, $SD = 1.46$), $F(1, 496) = 5.37$, $p = .021$, $\eta^2_p = .01$, $d = 0.20$, $95\%CI_{dif} [0.05; 0.55]$. This effect was mediated by the manipulation check, indirect effect = .47, $95\%CI_{indirect} [.30; .65]$ (computed with PROCESS, Model 4, 5,000 bootstrap samples). This effect was not moderated by gender, $F(1, 494) = 0.58$, $p = .45$ ($\Delta R^2 = .0012$; Scaled JZS Bayes Factor in favor of the null = 254.17), and was also not moderated by identification with feminism, $F(1, 494) = 0.45$, $p = .50$ ($\Delta R^2 = .0008$; Scaled JZS Bayes Factor in favor of the null = 279.19).

Study 7—Exploring a Mechanism

These studies show that nostalgia can cause preference or support for socially regressive norms and policy. We propose that at least one factor underlying this effect is the extent to which nostalgia paints the past as being sacred. Although this proposed mechanism has not been studied directly, some literature points to its potential. Previous work has shown that nostalgia increases meaning in life (Sedikides & Wildschut, 2018) by increasing self-continuity and social connectedness (van Tilburg, Sedikides, Wildschut, & Vingerhoets, 2019). Research has also demonstrated that nostalgia is associated with feelings of authenticity, both about oneself (Baldwin et al., 2015) and one's groups (Smeekes, 2015; Smeekes, Verkuyten, & Martinovic, 2015), and is connected to beliefs that one's group is morally superior (Baldwin, White, & Sullivan, 2018). Nostalgia seems to give its target some transcendent,

morally good, meaningful, and authentic qualities—all of which align closely with the idea of sacredness (Durkheim & Swain, 1912). Thus, in Study 7 we test whether nostalgia promotes positive attitudes toward regressive aspects of the past (or opposition toward progressive aspects of the present) by giving the past this sacred quality. Materials, data, and analysis code can be found at https://osf.io/x6s59/?view_only=d9740e46086c4d72ac04e187b4a6e692.

Method

Participants and Design. Participants were 280 workers on Prolific Academic who participated for at least minimum wage. The sample size was set to 280 based on a power analysis to achieve a power of 0.80 for the mediation analysis. The details of the power analysis parameters along with all other important considerations for the study were preregistered at https://osf.io/784vt/?view_only=62600b7eb2cf4c898beb7f5f9740b103. After removing responses from participants who asked to have their data removed as well as those who failed a distraction test, 262 responses were retained. The results reported are based on these 262 responses ($M_{\text{age}} = 31.09$, $SD_{\text{age}} = 11.34$; 161 White, 44 Black, 13 Hispanic/Latino, 37 Asian/Pacific Islander, 6 Multiracial, and 1 Other; 123 female, 131 male, 6 trans, 2 none of the three).

Nostalgia manipulation. Participants were randomly assigned to either the nostalgia condition or the control condition. In the nostalgia condition, participants saw five images that were clearly from the past (the photos were all black-and-white; all stimuli can be found in the material on the OSF link) and depicted scenes of indoor-smoking in a bar/restaurant setting. In the control condition, participants saw five images that were clearly modern (the photos were all in color) and depicted scenes of indoor-smoking in a bar/ restaurant. For each set of photos, we included

four photos that depicted groups (more than one person) and one photo that depicted a lone individual. The order in which people saw the images was randomized.

Measures and Procedure. As a manipulation check, participants answered a single item “how nostalgic do u feel” ($\alpha = .90$) on a 7-point Likert scale (“Not at all” to “Extremely”). On the same 7-point scale, participants responded to four items which included a measure of meaning, transcendence, importance to America, and sacredness to measure overall sacredness ($\alpha = .96$). Two other items assessing authenticity and ordinariness respectively were excluded from analyses because of low reliability.

Participants then read a vignette which informed them of a supposed growing wave of politicians and activists who want to allow indoor smoking and were instructed to rate on a 5-point Likert scale (ranging from “None at all” to “A great deal”) how likely they were to support smoke-ban removal. This was our face-valid, single-item measure of support for this specific regressive smoking policy. They also reported their agreement with the same smoking-ban items from Study 2 (“*I long back to the days that you could smoke in bars*” and “*The anti-smoking laws have gone too far*”) on a 7-point Likert scale ranging from Strongly Disagree to Strongly Agree ($\alpha = .81$). This served as a two-item measure of a general support for support for smoke-ban removal, and the composite score of the two items was used in the analysis. Lastly, we measured participants’ smoking behavior in the recent past, their state nostalgia (the same scale from Studies 2 and 5; Baldwin et al., 2018), as well as demographic information.

Results

Manipulation check. As expected, people in the nostalgia condition reported higher levels of nostalgia ($M = 3.76$, $SD = 1.76$) than those in the control condition (M

$= 2.55, SD = 1.36), F(1, 260) = 38.61, p < .0001, \eta^2_p = .13, d = 0.76, 95\% CI_{dif} [0.51; 1.01]$.

Mixed effects model. Neither sacredness nor support for ban-removal differed according to stimuli type or individual ($p > 0.05$), showing negligible random effects. In other words, the stimuli did not have unique and/or separate effects on any variable as all stimuli had the same intercept. Thus, we can treat each within-condition stimuli to be part of the same population of stimuli and proceed with model evaluation.

Evaluating the proposed model. Since participant scores on nostalgia, sacredness and support for ban-removal did not vary depending on stimuli, we can continue with evaluating the proposed mediation model. The mediation model was run using the *mediate* package in R (R Core Team, 2020) which used 1,000 bootstrapped samples to derive the following results. All code is provided with the OSF material.

Mediation results are summarized in Figure 1. After including the sacredness mediator in the model, there was a direct effect of condition on support for ban-removal such that being in the nostalgia condition predicted lower support for ban-removal ($b = -0.57, 95\% CI = [-0.94, -0.23], p = 0.004$). At the same time, there was an indirect effect of condition on support for ban-removal through sacredness, such that higher perceived sacredness led to higher support for ban-removal ($b = 0.54, 95\% CI = [0.33, 0.80], p < 0.001$). Thus, the indirect and direct effects were almost equal but in opposite directions. Consequently, the total effect was non-significant ($b = 0.04, 95\% CI = [-0.44, 0.35], p = 0.88$).

Figure 1: Nostalgia has an indirect effect on support for smoke-ban removal through feelings of sacredness. The direct effect (c') is significant after inclusion of the mediator, suggesting statistical suppression.

The opposing direct and indirect effects point to the existence of statistical suppression (Tzelgoy & Henik, 1991). This suppressor effect might be arising from a desire to return to in-person social activities – activities which have been suspended since the beginning of the COVID-19 pandemic. As such, people in the modern condition might have felt an inclination to remove smoking bans simply because the stimuli images (especially those in the modern condition) which depicted people in bars and restaurants, might induce a desire for normal social gatherings. Nevertheless, feelings of sacredness associated with the images—which was higher for nostalgic versus modern images—were associated with support for regressive smoking policies.

General Discussion

When comparing the past with the present, one of the most striking differences is how advances in technology, science, and social views have benefited the human condition (Pinker, 2018). This is not to say that all features of past society were worse than those of today – with progress many positive and endearing qualities of the past were lost and people may feel nostalgic for them. Regardless of their utilitarian value however, the past is often made sacred such that symbols that harken to the “good old days” become an end unto themselves. The current research shows that this can even include demonstratively regressive aspects of the past. Seven studies presented

correlational and experimental evidence that feelings of nostalgia can lead people to oppose anti-smoking regulations (Studies 1 and 5), to discount car safety (Studies 2 and 5), to oppose gender equality (Studies 3, 5, and 6), and to enjoy sexist and racist humor – not despite, but *because* of its offensiveness (Study 4). Finally, building on these findings and to test the mechanism of these effects, Study 7 showed that nostalgia has this effect, at least in part, due to people construing the past as being sacred through the nostalgic lens.

Counterintuitively, we found these negative effects even among people who can – rationally speaking – be expected to oppose them. Specifically, nostalgia led non-smokers to oppose smoke-free laws, led victims of car crashes to neglect car safety, led women and feminists to oppose gender equality, and led liberals to enjoy offensive humor. This observation suggests that nostalgic cues—in popular culture such as *Mad Men*, for instance—may lead nostalgic viewers to enjoy and condone regressive values and policies such as sexism, racism, public smoking, and ignorance of safety concerns, even if they disagree with those aspects of the past on an intellectual or experiential level. Finally, through a mediation model, we found that a potential reason why nostalgia can cause endorsement of regressive social norms is that aspects of the past might be construed as being more sacred than those considered more mundane in the present. However, since this was the only study evaluating this model and since there are clear indications of a suppressor effect, more converging evidence is needed to establish this claim.

Integrating with prior research. These results stand in stark contrast to existing literature that paints a positive image of nostalgia. Although a positive emotion at an individual level, nostalgia can lead people to support regressive social norms and policies. Thus, these findings also connect with other work showing the

darker side of social nostalgia, for instance, when nostalgia leads to prejudice toward outgroups (Behler, Cairo, Green, & Hall, 2021; Smeekes, 2015; Smeekes et al., 2015), buffers against collective guilt related to in-group harm (Baldwin et al., 2018), and fuels support for antagonistic and politically incorrect populist leaders (Menke & Wulf, 2021; Lammers & Baldwin, 2020). Nevertheless, other research demonstrates that feelings of nostalgia, when used strategically, can increase agreement across party lines on divisive political issues such as gun control, inequality, and climate-change (Baldwin & Lammers, 2016; Lammers & Baldwin, 2018). Understanding the role of nostalgia for the self and society, and whether it will harm or help social progress, requires moving toward a more comprehensive approach to the phenomenon (see Stefaniak, Wohl, Sedikides, Smeekes, & Wildschut, 2021 for work along these lines).

Future research. In the current studies, we focused on how nostalgia leads people to yearn back to regressive—and arguably more negative—elements of the past. An unexplored issue is whether nostalgia also reduces support for positive elements of the future. For example, it would be interesting to test whether nostalgia also leads to the rejection of new technologies such as driverless cars, wearable technology, embryo screening, or genetic modification. These progressive trends would likely bring great benefits to society, but at the same time would threaten to uproot decades of sacred cultural practices. The value that one derives from tradition, and the extent to which one's worldview promotes nostalgic longing for those traditions may pose a barrier to future progress.

The recent rise in nationalist movements around the world is sometimes characterized as a nostalgic desire to undo decades of progressive change and return to the past (Inglehart & Norris, 2016). Our results show interesting parallels between

nostalgia and the disregard for public health regulations, the sexism, the prejudice, and the disregard for political correctness that are associated with these two political movements. It is not clear, however, whether these associations are limited to the US context or whether similar parallels would be found in cross-nationally. Future research should explore the way that nostalgia and nationalist (or populist) movements are associated outside of the US.

Along these lines, is important to note that our results are based heavily on samples of WEIRD participants—those from predominantly White, educated, industrialized, rich, and democratic settings (Henrich, Heine, & Norenzayan; 2010; Rad, Martingano & Ginges, 2018). Although we do utilize a sample of Dutch and Flemish participants in Study 1, and participants from the general US population in the remaining studies, it is possible that the sort of longing we study here is particular to groups with these sample characteristics. As discussed by Boym (2002), the desire to *restore* a glorious past may be afforded to some people and not others. A more *reflective* and critical eye toward the past may include some nostalgic feelings, but without the desire to supplant modern progress with sacred symbols. It seems likely that participants from historically oppressed groups or historically under-represented minorities, may tend toward the more reflective type of nostalgia, as these individuals may have little desire to restore the past. Future research may seek to test the generalizability of the findings here to other groups of participants who do not represent the majority, or to non-WEIRD settings.

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Author Contributions

All authors developed the study concept and design. Testing and data collection for studies 1 to 6 were performed by J. Lammers while those for study 7 were done by M. Baldwin and A. Alaukik. Both J. Lammers and M. Baldwin performed the data analysis and interpretation for studies 1 to 6, while those for study 7 were conducted by M. Baldwin and A. Alaukik. J. Lammers and A. Alaukik drafted the manuscript, and M. Baldwin provided critical revisions. All authors approved the final version of the manuscript for submission.