



Nostalgia proneness and reduced prejudice

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ABSTRACT

We examined the association between nostalgia proneness and prejudice. In four correlational studies, we assessed nostalgia proneness, empathy, motivation to control prejudiced reactions, and blatant as well as subtle prejudice expression. The more prone to nostalgia participants were, the more likely they were to be motivated to control prejudice against an outgroup (African-Americans; Studies 1–4). Further, motivation to control prejudice mediated the relation between nostalgia proneness and reduced blatant/subtle prejudice expression (Studies 2–4). Finally, the stronger motivation to control prejudice and subsequent prejudice expression reduction was mediated by empathy that accompanied higher levels of nostalgia proneness (Studies 3–4). Nostalgia has implications for intergroup perception, and specifically prejudicial attitudes.

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Nostalgia is a social emotion, as it entails bringing to mind important persons from one's past and experiencing high levels of empathy. We ask whether the social character of nostalgia has implications for prejudice. Is nostalgia proneness associated with stronger motivation to control prejudiced reactions and thereby weaker expression of prejudice? We also ask if empathy mediates the association between nostalgia proneness, motivation to control prejudiced reactions, and prejudice expression. We define the constructs of interest, formulate hypotheses, and test these hypotheses in four correlational studies.

1. Nostalgia

The *New Oxford Dictionary of English* (1998) defines nostalgia as “a sentimental longing or wistful affection for the past” (p. 1266). This definition is shared by laypersons across cultures (Hepper, Ritchie, Sedikides, & Wildschut, 2012; Hepper et al., 2014). Nostalgia involves reflections (often through rose-colored glasses) on key figures (e.g., family members, friends, partners) or on meaningful events (e.g., childhood, anniversaries, graduations) from one's past. The nostalgizer revisits the relevant memory fondly and tenderly, misses those persons or events, and may even yearn for a return to the past (Sedikides et al., 2015). Nostalgia, then, is a social emotion. It is also an emotion experienced frequently (modally three times a week; Wildschut, Sedikides, Arndt, & Routledge, 2006) and across the lifespan (Hepper, Wildschut, Sedikides, Robertson, & Routledge, under review).

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2. Prejudice expression and motivation to control prejudice

We define prejudice as “an individual-level attitude...toward groups and their members that creates or maintains hierarchical status relations between groups” (Dovidio, Hewstone, Glick, & Esses, 2010, pp. 7–8). In the current article, we examine both the expression of prejudice and the motivation to control prejudice. First, we distinguish, after Pettigrew and Meertens (1995), between blatant and subtle prejudice expression. Blatant prejudice expression refers to reluctance for having close contact with the stereotyped target (e.g., an ethnic minority group) and to perceptions of threat from the stereotyped target. Subtle prejudice expression refers to defense of traditional values against values of the stereotyped target, exaggeration of cultural differences between the ingroup and the stereotyped target, and denial of positive emotions for the stereotyped target.

Second, individuals may vary in their motivation to control prejudiced reactions. Those who do not express prejudice may be genuinely non-prejudiced or motivated to control it (Devine, 1989; Dunton & Fazio, 1997). When motivated to control prejudice, individuals may correct for their automatically activated prejudiced reactions by neutralizing them or altering them in favor of the stereotyped target (Olson & Fazio, 2004).

3. Nostalgia and prejudice: hypotheses

We addressed the relations among dispositional nostalgia (i.e., individual-level proclivity to nostalgize), motivation to control prejudice, and expression of blatant and subtle prejudice. We formulated the following hypotheses: *H1*. The more prone to nostalgia one is, the more likely one will be to control prejudice (nostalgia \Rightarrow prejudice control);

H2. Stronger motivation to control prejudice mediates high nostalgic individuals' reduction of prejudice expression (nostalgia \Rightarrow prejudice control \Rightarrow prejudice expression); H3. Empathy is the key mechanism through which high nostalgics control prejudice and reduce prejudice expression (nostalgia \Rightarrow empathy \Rightarrow prejudice control \Rightarrow prejudice expression). We summarize these hypotheses in Fig. 1.

We derived the rationale for all hypotheses from the social character of nostalgia. To begin, nostalgic recollections are rich in their social repertoire. Relative to regular autobiographical narratives, they include a high number of first-person plural pronouns (e.g., “ours,” “we”) and social words (“friend,” “mother”; Wildschut, Sedikides, & Robertson, under review), and often describe meaningful interactions with close others (Abeyta, Routledge, Royle, Wildschut, & Sedikides, 2015; Wildschut et al., 2006). Also, individuals high (vs. low) on trait nostalgia display a stronger preference for song lyrics (Batcho, DaRin, Nave, & Yaworsky, 2008) and activities (Batcho, 1998) in which relationships occupy central place, report stronger intentions to interact with others (Abeyta, Routledge, & Juhl, 2015), and manifest higher levels of perceived social support (Zhou, Sedikides, Wildschut, & Gao, 2008).

We derived the rationale for H1 and H2 from research by Turner and colleagues. They induced nostalgia in undergraduates by asking them to imagine and then write about a nostalgic or ordinary encounter with an outgroup member—either an overweight person (Turner, Wildschut, & Sedikides, 2012) or a person with mental illness (Turner, Wildschut, Sedikides, & Gheorghiu, 2013). Nostalgic (vs. control) participants reported more positive attitudes toward the outgroup (overweight persons, persons with mental illness) and a greater willingness to interact with members of the outgroup. Although these studies (1) were predominantly concerned with intentions for intergroup contact, (2) did not examine prejudice per se, and (3) adopted an experimental approach, the findings align with the possibility that nostalgia proneness entails motivation to control prejudice.

We derived H3 from the relation between nostalgia and empathy (feeling concerned and touched, or feeling vicariously others' emotions; Davis, 1983; Vreeke & Van der Mark, 2003). Some research has shown that nostalgia prone individuals are higher on trait empathy (Juhl, Wildschut, Sedikides, Diebel, & Vingerhoets, under review), and other findings have indicated that empathy is associated with prejudice reduction (Pettigrew & Tropp, 2008; Vescio, Sechrist, & Paolucci, 2003). Relatedly, when experimentally manipulated, nostalgia increases in-the-moment empathy. Zhou, Wildschut, Sedikides, Shi, and Feng (2012, Study 2) induced nostalgia with a narrative task (writing about a nostalgic vs. ordinary autobiographical event) and then instructed participants to read information about a fictitious charitable organization (“Half the Sky Foundation”). Subsequently, Zhou et al. assessed state empathy with four adjectives derived from the relevant literature (e.g., “sympathetic,” “tender”) and measured donation intentions as well as actual donations. Nostalgic participants reported higher levels of empathy than controls. Zhou et al. replicated these findings with a

different charitable cause (Study 3) and a sample of ethnically diverse participants varying on age (Study 4). In all three studies, empathy mediated the effect of nostalgia on donation intentions and donations. Lastly, in Turner et al. (2013), nostalgic participants reported higher levels of social connectedness (measured with such items as “connected to loved ones” and “I can trust others”), a construct similar to empathy. Further, social connectedness mediated the effect of nostalgia on outgroup attitudes and intergroup contact intentions.

4. Overview

In Study 1, we assessed whether nostalgia proneness was associated with motivation to control prejudice toward an ethnic minority (African Americans). Here, we tested H1. In Study 2, we examined the associations among nostalgia proneness, motivation to control prejudice, and expression of prejudice against the same ethnic minority. Here, we tested H2 (and retested H1). In Study 3, we assessed the relations among nostalgia proneness, empathy, motivation to control prejudice reactions, and expression of prejudice against said ethnic minority. Here, we tested H3 (and retested H1 and H2). Moreover, we controlled for positive affect (PA) and Big Five personality. Finally, in Study 4, we assessed the replicability of key Study 3 findings with a different measure of nostalgia proneness, while attempting to clarify findings from all prior studies.

5. Study 1

We investigated, in Study 1, whether nostalgia proneness is linked with motivation to control prejudice against African Americans. We tested H1: The more prone to nostalgia one is, the more likely one will be to control prejudice.

5.1. Method

5.1.1. Participants

We recruited 183 participants via Amazon's Mechanical Turk (MTurk). All participants were US residents and had a 95% or higher job acceptance rate on MTurk. Given that a key measure concerned attitudes of Caucasians (ethnic majority) toward African Americans (ethnic minority), we screened out 34 non-Caucasian participants. We further excluded two participants who did not complete the nostalgia proneness measure. From the remaining 147 participants, 86 were women and 60 men (one participant did not report sex and age). Participants' ages ranged from 18–75 years ($M = 38.43$, $SD = 13.32$).

5.1.2. Procedure and measures

We assessed nostalgia proneness with a face-valid measure that we constructed. The measure did not include the word nostalgia, such that any associations between nostalgia proneness and motivation to control

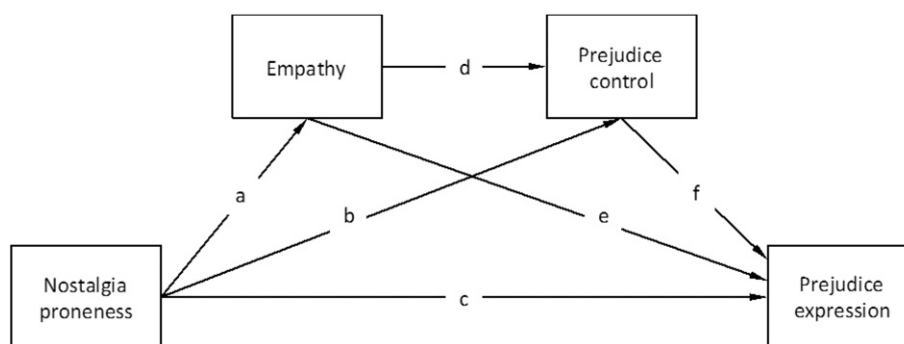


Fig. 1. Hypotheses tested in Studies 1–4. H1: Nostalgia proneness predicts stronger motivation to control prejudice (path b). H2: Stronger motivation to control prejudice mediates the negative association between nostalgia proneness and prejudice expression (path b \times path f). H3: The negative association between nostalgia proneness and prejudice expression is serially mediated by empathy and motivation to control prejudice (path a \times path d \times path f).

prejudiced reactions could not be attributed to demand characteristics. The measure consisted of five statements that described behaviors related to centrally prototypical features of nostalgia (Hepper et al., 2012): “I bring to mind rose-tinted memories,” “I reflect on keepsakes,” “I long for a time or place from my past,” “I remember shared experiences with my family and friends,” and “I remember my childhood.” That is, laypersons regard these features as core to the construct of nostalgia. Participants rated how frequently they engaged in each behavior (1 = *I do this very rarely*, 6 = *I do this very often*) and how important they regarded each behavior (1 = *This is not important for me*, 6 = *This is very important for me*). We aggregated the 10 responses (5 behaviors \times 2 ratings) to form a nostalgia proneness index ($\alpha = 0.86$, $M = 4.19$, $SD = 1.03$).

Next, we assessed control over prejudice with the Motivation to Control Prejudiced Reactions scale (Dunton & Fazio, 1997). It consists of 17 items (−3 = *strongly disagree*, 3 = *strongly agree*). Nine items pertain to concern with acting prejudiced in the eyes of others and oneself, termed *concern with acting prejudiced* (e.g., “I get angry with myself when I have a thought or feeling that might be considered prejudiced;” $\alpha = 0.88$, $M = 0.74$, $SD = 1.24$). The remaining eight items pertain to restraint of personal thoughts and feelings in order to avoid dispute with or about stereotyped targets, termed *restraint to avoid dispute* (e.g., “If I were participating in a class discussion and a Black student expressed an opinion with which I disagreed, I would be hesitant to express my own viewpoint;” $\alpha = 0.75$, $M = -0.32$, $SD = 1.02$).

5.2. Results and discussion

Nostalgia was positively related to concern with acting prejudiced, $r(147) = 0.24$, $p = 0.003$, but was unrelated to restraint to avoid dispute, $r(147) = 0.10$, $p = 0.24$. We proceeded to examine whether the association between nostalgia proneness and concern with acting prejudiced generalized across participant sex, while controlling for age.¹ We conducted a moderation analysis using Hayes's (2013) PROCESS macro (Model 1). Participants who were more prone to nostalgia exhibited increased concern with acting prejudiced, $\beta = 0.228$, $SE = 0.097$, $t(140) = 2.34$, $p = 0.021$. Further, women were more likely to manifest increased concern with acting prejudiced than men, $\beta = 0.414$, $SE = 0.208$, $t(140) = 1.99$, $p = 0.049$. Age was unassociated with concern with acting prejudiced, $\beta = 0.005$, $SE = 0.007$, $t(140) = 0.69$, $p = 0.491$. The relation between nostalgia proneness and concern with acting prejudiced was independent of sex, as indicated by a null interaction, $\beta = 0.173$, $SE = 0.199$, $t(140) = 0.87$, $p = 0.385$.

Individuals prone to nostalgia showed stronger concern with acting prejudiced, such that they were motivated to appear non-prejudiced to themselves and others. This finding is consistent with H1. Yet, individuals prone to nostalgia were not more likely than their counterparts to show restraint in order to avoid dispute with or about stereotyped targets. This finding is inconsistent with H1. The nostalgia literature suggests a possible explanation. Nostalgia galvanizes the intrinsic self (Baldwin, Biernat, & Landau, 2015), breeds authenticity (Baldwin & Landau, 2014; Stephan, Sedikides, & Wildschut, 2012), and elicits more approach than avoidance motivation (Cheung, Sedikides, & Wildschut, 2016; Cheung et al., 2013; Stephan et al., 2014). As such, nostalgia prone individuals may be particularly inclined to pursue actively an authentic or intrinsic (i.e., non-prejudiced) self rather than adopt an avoidant orientation, evading dispute about a personally important social value. Nevertheless, we opted to test the replicability of these findings.

¹ In Studies 1–4, age did not contribute to any two-way or three-way interactions. We included age as covariate in analyses testing the moderating role of participant sex. Across studies, moderation analyses that did not include age as a covariate produced similar results.

6. Study 2

In Study 2, we aimed to replicate and extend the Study 1 findings. We retested H1 using an alternative measure of nostalgia proneness and examining its presumed positive link with motivation to control prejudice. More importantly, we tested H2: Stronger motivation to control prejudice will mediate high nostalgics' reduced prejudice expression against African Americans.

6.1. Method

6.1.1. Participants and design

We recruited via MTurk 289 US residents, all of whom had a 95% or higher job acceptance rate. We screened out 84 non-Caucasians. From the remaining 205 participants, 111 were women and 94 men. Their ages ranged from 18–72 years ($M = 35.48$, $SD = 13.10$).

6.1.2. Procedure

We assessed nostalgia proneness with the 7-item Southampton Nostalgia Scale (Barrett et al., 2010; Routledge, Arndt, Sedikides, & Wildschut, 2008). Four items assess frequency of nostalgic engagement (e.g., “How often do you experience nostalgia?”; 1 = *not at all*, 7 = *very much*) and three items assess the importance assigned to nostalgic engagement (e.g., “How important is it for you to bring to mind nostalgic experiences?”; 1 = *not at all*, 7 = *very much*). Responses had high internal consistency ($\alpha = 0.95$, $M = 4.42$, $SD = 1.47$).

We assessed control over prejudice with the Motivation to Control Prejudiced Reactions scale, as in Study 1, creating a concern with acting prejudiced score ($\alpha = 0.88$, $M = 0.67$, $SD = 1.27$) and a restraint to avoid dispute score ($\alpha = 0.70$, $M = -0.27$, $SD = 1.00$). Finally, we assessed prejudice expression against African Americans by adapting suitably the Subtle and Blatant Prejudice Scales (Pettigrew & Meertens, 1995). These scales consist of 20 items (1 = *strongly disagree*, 4 = *strongly agree*). Ten items pertain to blatant prejudice (e.g., “African Americans come from less able races and this explains why they are not as well off as most American people;” $\alpha = 0.86$, $M = 1.76$, $SD = 0.60$), and 10 items pertain to subtle prejudice (e.g., “African Americans living here teach their children values and skills different from those required to be successful in America;” $\alpha = 0.89$, $M = 2.26$, $SD = 0.69$).

6.2. Results and discussion

We present the bivariate correlations for all variables in Table 1. Replicating Study 1 findings, and in partial support of H1, nostalgia proneness was positively related to concern with acting prejudiced, $r(205) = 0.19$, $p = 0.005$, but was unrelated to restraint to avoid dispute, $r(205) = 0.11$, $p = 0.13$. In all subsequent analyses, we therefore operationalized motivation to control prejudice with the *concern with acting prejudiced* scale.

To find out if this association generalized across participant sex, we conducted a moderation analysis (Hayes's [2013] PROCESS macro, Model 1), while controlling for age. We replicated Study 1 findings.

Table 1
Zero-order correlations in Study 2.

	1	2	3	4	5	6
1 Nostalgia proneness	–					
2 Concern	0.19**	–				
3 Restraint	0.11	0.63**	–			
4 Blatant prejudice	0.03	−0.29**	−0.17*	–		
5 Subtle prejudice	−0.10	−0.38**	−0.16*	0.73**	–	
6 Prejudice (combined)	−0.04	−0.36**	−0.18*	0.92**	0.94**	–

Note. $N = 205$. Concern = concern with acting prejudiced. Restraint = restraint to avoid dispute.

* $p < 0.05$.

** $p < 0.01$.

Participants who were more prone to nostalgia displayed higher concern with acting prejudiced, $\beta = 0.170$, $SE = 0.059$, $t(200) = 2.88$, $p = 0.005$. Also, women showed more concern with acting prejudiced than men, $\beta = 0.351$, $SE = 0.178$, $t(200) = 1.97$, $p = 0.050$. Age was unassociated with concern with acting prejudiced, $\beta = 0.008$, $SE = 0.007$, $t(200) = 1.22$, $p = 0.226$. The link between nostalgia proneness and concern with acting prejudiced was independent of participant sex, as indicated by the null interaction, $\beta = 0.024$, $SE = 0.119$, $t(200) = 0.20$, $p = 0.840$.

6.2.1. Mediation analyses

We asked whether the stronger motivation to control prejudiced reactions endorsed by nostalgia prone participants had implications for prejudice expression. That is, we examined whether stronger motivation to control prejudiced reactions mediated these individuals' reduced prejudice expression.

We used the PROCESS macro (Hayes, 2013, Model 4) to test the indirect effect (denoted as *ab*) of nostalgia on blatant prejudice via concern with acting prejudiced (10,000 bootstrap samples). This effect was significant, $ab = -0.03$, $SE = 0.01$, 95% CI = $[-0.056, -0.007]$. The direct effect was null, $B = 0.04$, $SE = 0.03$, 95% CI = $[-0.020, 0.090]$. We also tested the indirect effect of nostalgia on subtle prejudice via concern with acting prejudiced (10,000 bootstrap samples). This effect was also significant, $ab = -0.03$, $SE = 0.01$, 95% CI = $[-0.068, -0.008]$, whereas the direct effect was not so, $B = -0.01$, $SE = 0.03$, 95% CI = $[-0.072, 0.050]$. Taken together, nostalgia proneness was associated indirectly with reduced blatant and subtle prejudice against an ethnic minority, via stronger concern with acting prejudiced. The results are consistent with H2.

Although we found significant indirect effects of nostalgia on blatant and subtle prejudice expression reduction via concern with acting prejudiced, we acknowledge that there was no significant total effect of nostalgia proneness on either blatant or subtle prejudice expression (i.e., the respective zero-order correlations were non-significant; Table 1). We return to this issue in General Discussion. For now, suffice it to say that the statistical power to detect a total effect can be considerably smaller than the power for the test of the indirect effect (Kenny & Judd, 2014). By using the terms total effect, direct effect, and indirect effect we adopt the parlance of intervening variable models, but do not claim support for causal effects.

7. Study 3

In Studies 1–2, we obtained a positive relation between nostalgia proneness and concern with acting prejudiced, and, in Study 2, we showed that concern with acting prejudiced mediates the relation between nostalgia proneness and prejudice expression. These findings are generally consistent with H1 and H2. In Study 3, we retested those hypotheses, but, more importantly, we tested H3. We examined whether nostalgia proneness is associated with stronger empathy and whether empathy, in turn, mediates the association of nostalgia with concern with acting prejudiced and reduced prejudice expression (nostalgia proneness \Rightarrow empathy \Rightarrow concern with acting prejudiced \Rightarrow prejudice expression). We also took into account the potential role of PA and domain-level personality factors. We assessed whether the associations among nostalgia proneness, empathy, concern with acting prejudiced, and prejudice expression hold independently of PA and Big Five personality.

7.1. Method

7.1.1. Participants and design

We recruited 192 US residents with the highest quality rating on Crowdfunder. We screened out 22 non-Caucasians. From the remaining 170 participants, 93 were men and 75 were women. Two participants

did not report their sex. Participants' ages ranged from 18–72 years ($M = 37.02$, $SD = 12.00$).

7.1.2. Procedure

We assessed nostalgia proneness with the Southampton Nostalgia Scale, as in Study 2 ($\alpha = 0.95$, $M = 4.56$, $SD = 1.34$). We assessed empathy with six items (empathetic, tender, concerned for others, sympathetic, compassionate, soft-hearted) based on work by Batson and colleagues (Batson, Fultz, & Schoenrade, 1987; Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Coke, Batson, & McDavid, 1978). Each item was preceded by the stem "In general, I feel..." (1 = *strongly disagree*, 6 = *strongly agree*; $\alpha = 0.91$, $M = 4.37$, $SD = 0.93$). We then assessed control over prejudice with the Motivation to Control Prejudiced Reactions scale, as in Studies 1–2, creating a *concern with acting prejudiced* score ($\alpha = 0.83$, $M = 0.66$, $SD = 0.97$) and a *restraint to avoid dispute* score ($\alpha = 0.86$, $M = -0.26$, $SD = 0.74$). Subsequently, we assessed prejudice against African Americans with the Subtle and Blatant Prejudice Scales, as in Study 2. We formed a *blatant prejudice* score ($\alpha = 0.86$, $M = 1.86$, $SD = 0.56$) and a *subtle prejudice* score ($\alpha = 0.86$, $M = 2.20$, $SD = 0.56$). Following that, we assessed PA with two items (happy, in a good mood; Hepper et al., 2012; Wildschut et al., 2006) preceded by the stem "In general, I feel..." (1 = *strongly disagree*, 6 = *strongly agree*; $r[166] = 0.85$, $p < 0.001$, $M = 4.46$, $SD = 1.12$).

Finally, we assessed Big Five personality with the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003). All items were preceded by the stem "I see myself as..." (1 = *strongly disagree*, 7 = *strongly agree*). Two items measured extraversion: "extraverted, enthusiastic" and "reserved, quiet," with the latter item reverse-scored; $r(164) = 0.52$, $p < 0.001$, $M = 3.57$, $SD = 1.46$. Two items measured agreeableness: "sympathetic, warm" and "critical, quarrelsome," with the latter item reverse-scored; $r(160) = 0.30$, $p < 0.001$, $M = 5.04$, $SD = 1.13$. Two items measured conscientiousness: "dependable, self-disciplined" and "disorganized, careless," with latter item reverse-scored; $r(163) = 0.45$, $p < 0.001$, $M = 5.04$, $SD = 1.21$. Two items measured neuroticism: "anxious, easily upset" and "calm, emotionally stable," with the latter item reverse-scored; $r(163) = 0.66$, $p < 0.001$, $M = 3.47$, $SD = 1.46$. Lastly, two items measured openness to experiences: "open to new experiences complex" and "conventional, uncreative," with the latter item reverse-scored; $r(166) = 0.22$, $p = 0.005$, $M = 4.66$, $SD = 1.14$. The sample size varied slightly due to missing values.

7.2. Results and discussion

We present, in Table 2, the bivariate correlations for all variables. Replicating the findings of Studies 1–2, nostalgia proneness was positively related to concern with acting prejudiced, $r(170) = 0.17$, $p = 0.02$, but was unrelated to restraint to avoid dispute, $r(170) = 0.06$, $p = 0.43$. These results are generally consistent with H1. As in Study 2, subsequent analyses used the *concern with acting prejudiced* scale to operationalize motivation to control prejudice.

We conducted moderation analysis (Hayes's [2013] PROCESS macro, Model 1) to test if this association generalized across sex, while controlling for age. As in Studies 1–2, participants who were more prone to nostalgia showed higher concern with acting prejudiced, $\beta = 0.118$, $SE = 0.056$, $t(163) = 2.10$, $p = 0.037$. Unlike Studies 1–2, though, women and men did not differ on concern with acting prejudiced, $\beta = 0.060$, $SE = 0.154$, $t(163) = 0.39$, $p = 0.697$. Age was unassociated with concern with acting prejudiced, $\beta = 0.001$, $SE = 0.006$, $t(163) = 0.13$, $p = 0.900$. As in the prior studies, the link between nostalgia proneness and concern with acting prejudiced was independent of sex, interaction $\beta = 0.035$, $SE = 0.111$, $t(163) = 0.32$, $p = 0.752$.

7.2.1. Mediation analyses in testing H2

To test H2, we first used the PROCESS macro (Hayes, 2013, Model 4) focusing on the indirect effect (denoted as *ab*) of nostalgia on blatant

Table 2
Zero-order correlations in Study 3 (below diagonal) and Study 4 (above diagonal).

		1	2	3	4	5	6	7
1	Nostalgia proneness	–	0.30**	0.11*	–0.05	–0.11*	–0.09*	–0.11*
2	Empathy	0.38**	–	0.45**	0.01	–0.19**	–0.28**	–0.25**
3	Concern	0.17*	0.31**	–	0.29**	–0.24**	–0.37*	–0.33*
4	Restraint	0.06	0.05	0.47**	–	–0.21**	–0.22*	–0.23*
5	Blatant Prejudice	–0.02	–0.13	–0.34**	–0.13	–	0.73**	0.94**
6	Subtle Prejudice	–0.07	–0.22**	–0.46*	–0.19*	0.74**	–	0.92**
7	Prejudice (combined)	–0.05	–0.19**	–0.43*	–0.17*	0.93**	0.93**	–

Note. Correlations for Study 3 are presented below the diagonal and correlations for Study 4 are presented above the diagonal. We measured nostalgia proneness using the Southampton Nostalgia Scale (Barrett et al., 2010; Routledge et al., 2008) in Study 3 and the Time Perspective Inventory (Zimbardo & Boyd, 1999; Routledge et al., 2008) in Study 4. Study 3: *N* = 170; Study 4: *N* = 550. Concern = concern with acting prejudiced. Restraint = restraint to avoid dispute.

* *p* < 0.05.

** *p* < 0.01.

prejudice via concern with acting prejudiced (10,000 bootstrap samples). We replicated the Study 2 finding. The indirect effect was significant, *ab* = –0.03, *SE* = 0.01, 95% *CI* = [–0.057, –0.002], whereas the direct effect was not so, *B* = 0.018, *SE* = 0.03, 95% *CI* = [–0.044, 0.079]. We then tested the indirect effect of nostalgia on subtle prejudice via concern with acting prejudiced (10,000 bootstrap samples). As in Study 2, this effect was significant *ab* = –0.03, *SE* = 0.02, 95% *CI* = [–0.072, –0.003], but the direct effect was null, *B* = 0.005, *SE* = 0.03, 95% *CI* = [–0.052, 0.062]. Overall, nostalgia proneness was associated with stronger concern with acting prejudiced, which further curbed prejudice expression against an ethnic minority. Stated otherwise, the indirect effect of nostalgia proneness via concern with acting prejudiced was consistent across blatant and subtle prejudice. Further, given that blatant prejudice correlated positively with subtle prejudice, *r*(170) = 0.74, *p* < 0.001, we averaged the blatant and subtle prejudice scores to form a prejudice index (α = 0.91, *M* = 2.03, *SD* = 0.52), and used this index in the subsequent mediational analyses.²

7.2.2. Mediational analyses in testing H3

We examined next whether higher levels of empathy endorsed by nostalgia prone participants accounted for stronger motivation to control prejudiced reactions and reduced prejudice expression (Fig. 1). We carried out the analyses using AMOS within SPSS for Windows. We calculated 95% bootstrapped percentile confidence intervals (CIs) and bootstrapped standard errors for direct and indirect effects (10,000 bootstrap samples). We present tests of direct and indirect effects in Table 3. Three direct effects (i.e., paths in Fig. 1) were significant. Nostalgia proneness predicted increased empathy (path a), empathy predicted increased concern with acting prejudiced (above and beyond nostalgia proneness; path d), and concern with acting prejudiced predicted reduced prejudice expression (above and beyond nostalgia proneness and empathy; path f).

Two indirect effects were significant. Consistent with the possibility that empathy constitutes a basis for the association between nostalgia proneness and concern with acting prejudiced, the link between nostalgia proneness and concern with acting prejudiced was mediated by empathy (a × d). Regarding the link between nostalgia proneness and prejudice expression, there was a significant total indirect effect of nostalgia proneness on prejudice expression. We partitioned this total indirect effect into a non-significant indirect effect via empathy (a × e) and a significant indirect effect via concern with acting prejudiced. In turn, we partitioned the indirect effect via concern with acting prejudiced into a

non-significant indirect effect that was independent of empathy (b × f) and a significant indirect effect that was mediated by empathy (a × d × f). The latter indirect effect (a × d × f) provides evidence for an extended sequence leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced prejudice expression. As in Study 2, we did not find a significant total effect of nostalgia proneness on blatant or subtle prejudice (i.e., the respective zero-order correlations were non-significant, Table 2). We re-visit this issue in General Discussion.

7.2.3. Model fit and alternative models

Within a set of models for the same data, the Akaike Information Criterion (AIC; Akaike, 1974) and Expected Cross Validation Index (ECVI; Browne & Cudeck, 1993) can be used to compare competing models that need not be nested (smaller is better). However, any two models that have the same paths between the same variables will have the same fit, even if some paths are in a different direction. For example, consider an alternative model in which concern with acting prejudiced precedes empathy. To test this model, one cannot simply reverse the order of empathy and concern with acting prejudiced in Fig. 1. Doing so would create an alternative model that differs from Fig. 1 only in the direction of the link between empathy and concern with acting prejudiced, and would therefore have the same fit as the original

Table 3
Tests of direct and indirect effects in Study 3's serial mediational model (Fig. 1).

Effect	Fig. 1 path	Coeff.	SE	95% CI
Direct effects				
Nostalgia ⇒ empathy	a	0.261**	0.050	0.166 to 0.361
Nostalgia ⇒ concern	b	0.048	0.057	–0.063 to 0.163
Nostalgia ⇒ prejudice	c	0.021	0.029	–0.036 to 0.077
Empathy ⇒ concern	d	0.296**	0.082	0.137 to 0.458
Empathy ⇒ prejudice	e	–0.042	0.043	–0.128 to 0.042
Concern ⇒ prejudice	f	–0.225**	0.039	–0.300 to –0.147
Indirect effect: nostalgia ⇒ concern				
Via empathy	a × d	0.077**	0.026	0.034 to 0.139
Indirect effect: nostalgia ⇒ prejudice				
Total		–0.039*	0.017	–0.076 to –0.007
Via empathy	a × e	–0.011	0.012	–0.037 to 0.010
Via concern		–0.028*	0.014	–0.058 to –0.005
Independent of empathy	b × f	–0.011	0.013	–0.039 to 0.014
Mediated by empathy	a × d × f	–0.017**	0.007	–0.034 to –0.007

Note. Nostalgia = nostalgia proneness; Concern = concern with acting prejudiced; Coeff. = unstandardized path coefficient; 95% *CI* = 95% bootstrap confidence interval; *N* = 170.

* *p* < 0.05.

** *p* < 0.01.

² Separate analyses for blatant and subtle prejudice produced similar results. The focal indirect effect leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced blatant prejudice (nostalgia proneness ⇒ empathy ⇒ concern with acting prejudiced ⇒ blatant prejudice) was significant (–0.015, *SE* = 0.006, 95% *CI* = [–0.032, –0.006]). Similarly, the crucial indirect effect leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced subtle prejudice (nostalgia proneness ⇒ empathy ⇒ concern with acting prejudiced ⇒ subtle prejudice) was significant (–0.020, *SE* = 0.007, 95% *CI* = [–0.038, –0.008]).

model. Accordingly, we tested a series of path models in which each variable predicted only the variable that immediately followed it in the postulated chain. This practice enabled us to assess which ordering of variables produced the lowest AIC and ECVI values.

With four variables in the model, there are 23 possible alternative sequences of variables. Among these alternative models, one model (prejudice expression ⇒ concern with acting prejudiced ⇒ empathy ⇒ nostalgia proneness) differed from the original model (nostalgia proneness ⇒ empathy ⇒ concern with acting prejudiced ⇒ prejudice expression) only in direction of the link between each variable. Put otherwise, it was a mirror image of the original model and produced the same fit indices. Between these two models, we opted to retain the original one, in which nostalgia proneness predicts reduced prejudice expression via heightened empathy and concern with acting prejudiced. Our decision was based on theoretical grounds, namely that feelings (empathy) predict motivation (concern with acting prejudiced; Batson et al., 1987; Pavey, Greitemeyer, & Sparks, 2012; Zaki, 2014) and that motivation triggers behavior (expression of prejudice; Amodio, Devine, & Harmon-Jones, 2007; Plant & Devine, 1998). Among the remaining 22 alternative models, there were 11 pairs with the same fit indices. We assessed one from each pair of alternative models. All 11 alternative models produced higher (i.e., worse) AIC and ECVI values. We present the fit indices in Table 4.

7.2.4. Testing the role of PA and Big Five personality

Finally, we examined whether the associations among nostalgia proneness, empathy, concern with acting prejudiced, and prejudice expression were above and beyond the influence of PA and Big Five personality. Specifically, we tested the Fig. 1 model with PA, extraversion, agreeableness, conscientiousness, neuroticism, openness to experiences as additional predictors of empathy, concern with acting prejudiced, and prejudice expression.

After controlling for PA and Big Five personality, the vital extended path from nostalgia proneness to prejudice expression via empathy and concern with acting prejudiced (a × d × f) remained significant, indirect effect = -0.008, SE = 0.005, 95% CI = [-0.021, -0.002]. In all, we obtained support for a model in which the association of nostalgia proneness with prejudice expression was mediated by empathy and concern with acting prejudiced. These associations were independent of PA and domain-level personality traits.

8. Study 4

In Study 4, we examined the replicability of Study 3 findings: We retested all hypotheses using an alternative measure of nostalgia proneness. More importantly, we addressed the issue that, in Studies 2–3, nostalgia proneness was not significantly correlated with prejudice

expression. As hypothesized, the correlation between nostalgia proneness and prejudice expression was negative in both studies but the effect size was small. We therefore wondered whether we could detect it by increasing substantially the sample size, boosting statistical power.

8.1. Method

8.1.1. Participants and design

We recruited 664 US residents who had the highest quality rating on Crowdfunder. We screened out 86 non-Caucasians. We further excluded 28 participants who did not complete at least one of the key measures. From the remaining 550 participants, 273 were men and 272 were women. Participants' ages ranged from 18–77 years (M = 33.29, SD = 11.05). Five participants did not report their sex and four did not report their age.

8.1.2. Procedure

We assessed nostalgia proneness using items from the Time Perspective Inventory (Zimbardo & Boyd, 1999), as in Routledge et al. (2008). We asked participants to read eight statements (e.g., “I get nostalgic about my childhood,” “The past has too many unpleasant memories that I prefer not to think about”—reverse scored) and indicate the extent to which each statement is true of them (1 = very untrue, 5 = very true). We averaged responses to form a nostalgia proneness index (α = 0.65, M = 3.16, SD = 0.58).

We assessed empathy, as in Study 3 (α = 0.88, M = 4.41, SD = 0.95). We then assessed control over prejudiced expressions with the Motivation to Control Prejudiced Reactions scale, as in Studies 1–3, creating a concern with acting prejudiced score (α = 0.86, M = 0.68, SD = 1.11) and a restraint to avoid dispute score (α = 0.58, M = -0.24, SD = 0.82). Subsequently, we assessed prejudice against African Americans with the Subtle and Blatant Prejudice Scales, as in Studies 2–3. We formed a blatant prejudice score (α = 0.87, M = 1.87, SD = 0.62) and a subtle prejudice score (α = 0.83, M = 2.19, SD = 0.58).

8.2. Results and discussion

In Table 2, we present the bivariate correlations for all variables. Replicating the findings of Studies 1–3, nostalgia proneness was positively related to concern with acting prejudiced, r(550) = 0.11, p = 0.01, but was unrelated to restraint to avoid dispute, r(550) = -0.05, p = 0.23. These results are consistent with H1. We subsequently operationalized motivation to control prejudice with the concern with acting prejudiced scale, as in Studies 2–3.

We conducted moderation analysis (Hayes's [2013] PROCESS macro, Model 1) to test if this association generalized across sex, while controlling for age. As in Studies 1–3, participants who were more prone to nostalgia manifested higher concern with acting prejudiced, β =

Table 4 Comparison of alternative mediational models in Study 3.

	χ^2	p of χ^2	SRMSR	RMSEA	CFI	AIC	ECVI
Original model	0.599	0.615	0.024	<0.001	1.00	23.80	0.14
NOST ⇒ EMP ⇒ PREJ ⇒ CON	4.379	0.004	0.087	0.141	0.86	35.14	0.21
NOST ⇒ CON ⇒ EMP ⇒ PREJ	17.068	<0.001	0.156	0.308	0.34	73.21	0.43
NOST ⇒ CON ⇒ PREJ ⇒ EMP	11.223	<0.001	0.136	0.246	0.58	55.67	0.33
NOST ⇒ PREJ ⇒ EMP ⇒ CON	18.667	<0.001	0.174	0.323	0.28	78.00	0.46
NOST ⇒ PREJ ⇒ CON ⇒ EMP	9.042	<0.001	0.127	0.218	0.67	49.13	0.29
EMP ⇒ NOST ⇒ CON ⇒ PREJ	4.613	0.003	0.093	0.146	0.85	35.84	0.21
EMP ⇒ NOST ⇒ PREJ ⇒ CON	6.212	<0.001	0.120	0.176	0.79	40.64	0.24
EMP ⇒ CON ⇒ NOST ⇒ PREJ	18.900	<0.001	0.178	0.325	0.27	78.70	0.47
EMP ⇒ PREJ ⇒ NOST ⇒ CON	22.681	<0.001	0.202	0.358	0.12	90.04	0.53
CON ⇒ NOST ⇒ EMP ⇒ PREJ	14.238	<0.001	0.154	0.280	0.46	67.71	0.38
CON ⇒ EMP ⇒ NOST ⇒ PREJ	12.056	<0.001	0.146	0.256	0.55	58.17	0.34

Note. SRMSR = Standardized Root Mean Square Residual. RMSEA = Root Mean Square Error of Approximation. CFI = Comparative Fit Index. AIC = Akaike Information Criterion. ECVI = Expected Cross Validation Index. Smaller AIC and ECVI values indicate better model fit. Original Model: Nostalgia proneness ⇒ empathy ⇒ concern with acting prejudiced ⇒ prejudice expression. NOST = nostalgia proneness. EMP = empathy. Concern = concern with acting prejudiced. PREJ = prejudice expression.

Table 5
Tests of direct and indirect effects in Study 4's serial mediational model (Fig. 1).

Effect	Fig. 1 path	Coeff.	SE	95% CI
Direct effects				
Nostalgia \Rightarrow empathy	a	0.491**	0.074	0.346 to 0.632
Nostalgia \Rightarrow concern	b	−0.059	0.081	−0.213 to 0.108
Nostalgia \Rightarrow prejudice	c	−0.042	0.042	−0.125 to 0.038
Empathy \Rightarrow concern	d	0.534**	0.055	0.423 to 0.641
Empathy \Rightarrow prejudice	e	−0.068*	0.028	−0.124 to −0.015
Concern \Rightarrow prejudice	f	−0.134**	0.025	−0.182 to −0.083
Indirect effect: nostalgia \Rightarrow concern				
Via empathy	a \times d	0.262**	0.046	0.174 to 0.354
Indirect effect: nostalgia \Rightarrow prejudice				
Total		−0.060**	0.019	−0.099 to −0.024
Via empathy	a \times e	−0.033*	0.014	−0.062 to −0.007
Via concern		−0.027*	0.013	−0.054 to −0.005
Independent of empathy	b \times f	0.008	0.011	−0.014 to 0.031
Mediated by empathy	a \times d \times f	−0.035**	0.010	−0.055 to −0.018

Note. Nostalgia = nostalgia proneness; Concern = concern with acting prejudiced; Coeff. = unstandardized path coefficient; 95% CI = 95% bootstrap confidence interval. $N = 550$.

* $p < 0.05$.

** $p < 0.001$.

0.190, $SE = 0.088$, $t(538) = 2.17$, $p = 0.031$. As in Studies 1–2, women showed more concern with acting prejudiced than men, $\beta = 0.335$, $SE = 0.097$, $t(538) = 3.46$, $p = 0.001$. Age was unrelated to concern with acting prejudiced, $\beta = -0.007$, $SE = 0.004$, $t(538) = -1.51$, $p = 0.132$. As in Studies 1–3, the association between nostalgia proneness and concern with acting prejudiced was independent of sex, interaction $\beta = -0.100$, $SE = 0.174$, $t(538) = -0.57$, $p = 0.568$.

8.2.1. Mediation analyses in testing H2

To test Hypothesis 2, we first used the PROCESS macro (Hayes, 2013, Model 4), testing the indirect effect (denoted as ab) of nostalgia on blatant prejudice via concern with acting prejudiced (10,000 bootstrap samples). We replicated findings of Studies 2–3. The indirect effect was significant, $ab = -0.03$, $SE = 0.01$, 95% CI = $[-0.054, -0.006]$, as was the direct effect, $B = -0.088$, $SE = 0.04$, 95% CI = $[-0.175, -0.001]$.³ We then tested the indirect effect of nostalgia on subtle prejudice via concern with acting prejudiced (10,000 bootstrap samples). As in Studies 2–3, this effect was significant $ab = -0.04$, $SE = 0.02$, 95% CI = $[-0.074, -0.008]$, but the direct effect was null, $B = -0.053$, $SE = 0.04$, 95% CI = $[-0.131, 0.025]$. Overall, nostalgia proneness was associated with stronger concern with acting prejudiced, which further curbed both blatant and subtle prejudice against an ethnic minority. Further, given that blatant prejudice correlated positively with subtle prejudice, $r(550) = 0.73$, $p < 0.001$, we averaged the blatant and subtle prejudice scores to form a prejudice index ($\alpha = 0.91$, $M = 2.03$, $SD = 0.56$), and we used this index in the subsequent mediational analyses.⁴

8.2.2. Mediation analyses in testing H3

We examined whether higher empathy endorsed by nostalgia prone participants accounted for stronger motivation to control prejudiced reactions and reduced prejudice expression (Fig. 1). We carried out the analyses using AMOS within SPSS for Windows. We calculated 95% bootstrapped percentile confidence intervals (CIs) and bootstrapped

³ The finding that the direct effect was significant when controlling for the mediator could indicate that mediation was “partial” rather than “complete.” However, it is inadvisable to make claims of complete (vs. partial) mediation based on the non-significance (vs. significance) of the direct effect and, hence, we did not adopt this distinction (for an in-depth critique of the distinction between complete vs. partial mediation, see Rucker, Preacher, Tormala, & Petty, 2011).

⁴ Separate analyses for blatant and subtle prejudice produced similar results. The focal indirect effect leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced blatant prejudice (nostalgia \Rightarrow empathy \Rightarrow concern with acting prejudiced \Rightarrow blatant prejudice) was significant (-0.029 , $SE = 0.009$, 95% CI = $[-0.049, -0.012]$). Likewise, the critical indirect effect leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced subtle prejudice (nostalgia \Rightarrow empathy \Rightarrow concern with acting prejudiced \Rightarrow subtle prejudice) was significant (-0.042 , $SE = 0.011$, 95% CI = $[-0.066, -0.023]$).

standard errors for direct and indirect effects (10,000 bootstrap samples). We present tests of direct and indirect effects in Table 5. We replicated the crucial extended sequence leading from nostalgia proneness to empathy to concern with acting prejudiced to reduced prejudice expression (nostalgia proneness \Rightarrow empathy \Rightarrow concern with acting prejudiced \Rightarrow prejudice expression; path $a \times d \times f$).

Crucially, and unlike Studies 2–3, we found a significant total effect of nostalgia proneness on blatant and subtle prejudice expression (i.e., the respective zero-order correlations were both significant; Table 2). This finding suggests that the non-significant total effects of nostalgia proneness on prejudice expression in Studies 2–3 were due to lack of power.

8.2.3. Model fit and alternative models

As in Study 3, we tested a series of path models in which each variable predicted only the variable that immediately followed it in the postulated chain. This enabled us to assess which ordering of variables produced the lowest AIC and ECVI values. Of the 22 alternative models, there were 11 pairs with the same fit indices. We assessed one from each pair of alternative models. All 11 alternative models produced higher (i.e., worse) AIC and ECVI values than the original model. We present the fit indices in Table 6.

9. General discussion

We examined the relations among nostalgia proneness, empathy, motivation to control prejudice, and expression of blatant and subtle prejudice. We formulated three hypotheses, based on prior findings documenting the social character of nostalgia (Juhl et al., under review; Sedikides et al., 2015; Wildschut et al., 2006). We obtained support for these hypotheses in four correlational studies. In particular, nostalgia prone individuals were more likely to be motivated to control prejudice (H1), stronger motivation to control prejudice mediated nostalgia prone individuals' reduction of prejudice expression (H2), and empathy was the key mechanism through which individuals high on nostalgia proneness control prejudice and reduce prejudice expression (H3), with this pattern holding above and beyond PA or Big Five personality.

We focused on individual differences in personal nostalgia. Our findings were consistent with experiments that induced personal nostalgia and then measured outgroup attitudes or intergroup contact intentions (Turner et al., 2012, 2013). In these experiments, participants who recalled a nostalgic (vs. ordinary) encounter with an outgroup member reported more positive attitudes toward the entire outgroup and stronger intentions to interact with outgroup members in general. Our current work goes beyond that of Turner et al. by suggesting that external

Table 6
Comparison of alternative mediational models in Study 4.

	χ^2	p of χ^2	SRMSR	RMSEA	CFI	AIC	ECVI
Original model	3.356	0.018	0.040	0.066	0.97	24.07	0.04
NOST \Rightarrow EMP \Rightarrow PREJ \Rightarrow CON	32.517	<0.001	0.119	0.240	0.61	111.55	0.20
NOST \Rightarrow CON \Rightarrow EMP \Rightarrow PREJ	27.036	<0.001	0.108	0.218	0.67	95.11	0.17
NOST \Rightarrow CON \Rightarrow PREJ \Rightarrow EMP	47.534	<0.001	0.150	0.291	0.42	156.60	0.29
NOST \Rightarrow PREJ \Rightarrow EMP \Rightarrow CON	26.996	<0.001	0.113	0.218	0.67	94.99	0.17
NOST \Rightarrow PREJ \Rightarrow CON \Rightarrow EMP	18.333	<0.001	0.098	0.178	0.78	69.00	0.13
EMP \Rightarrow NOST \Rightarrow CON \Rightarrow PREJ	42.247	<0.001	0.154	0.274	0.48	140.74	0.26
EMP \Rightarrow NOST \Rightarrow PREJ \Rightarrow CON	42.207	<0.001	0.156	0.274	0.48	140.62	0.26
EMP \Rightarrow CON \Rightarrow NOST \Rightarrow PREJ	36.727	<0.001	0.149	0.255	0.55	124.18	0.23
EMP \Rightarrow PREJ \Rightarrow NOST \Rightarrow CON	65.887	<0.001	0.193	0.344	0.19	211.66	0.39
CON \Rightarrow NOST \Rightarrow EMP \Rightarrow PREJ	50.910	<0.001	0.166	0.302	0.38	166.73	0.30
CON \Rightarrow EMP \Rightarrow NOST \Rightarrow PREJ	21.710	<0.001	0.120	0.194	0.74	79.13	0.14

Note. SRMSR = Standardized Root Mean Square Residual. RMSEA = Root Mean Square Error of Approximation. CFI = Comparative Fit Index. AIC = Akaike Information Criterion. ECVI = Expected Cross Validation Index. Smaller AIC and ECVI values indicate better model fit. Original model: Nostalgia proneness \Rightarrow empathy \Rightarrow concern with acting prejudiced \Rightarrow prejudice expression. NOST = nostalgia proneness. EMP = empathy. CONC = concern with acting prejudiced. PREJ = prejudice expression.

triggers (e.g., narrative inductions) of nostalgia may not be necessary for containing prejudice. Individuals prone to nostalgia have likely internalized its concomitant prosociality benefits (i.e., empathy) and are thus inclined to control their prejudice and reduce prejudice expression.

We acknowledged the fluctuation in the total effect of nostalgia proneness on blatant and subtle prejudice expression across Studies 2–4. The respective zero-order correlations were non-significant in Studies 2–3, but were significant in Study 4. This discrepancy was likely due to the higher statistical power in Study 4 compared to Studies 2–3. We pursued further this possibility by conducting three mini meta-analyses across Studies 2–4. We evaluated the overall strength of associations among nostalgia proneness and blatant prejudice, subtle prejudice, and the aggregated prejudice expression index. We used a fixed effects approach, in which the correlations were weighted by the inverse of their variance (Senn et al., 2011). Across the three studies, nostalgia proneness was marginally associated with blatant prejudice ($\bar{r} = -0.063$, $SE = 0.033$, 95% CI = $[-0.128, 0.002]$, $Z = -1.91$, $p = 0.057$), and significantly associated with subtle prejudice ($\bar{r} = -0.089$, $SE = 0.033$, 95% CI = $[-0.154, -0.024]$, $Z = -2.69$, $p = 0.007$) and with the overall prejudice expression index ($\bar{r} = -0.084$, $SE = 0.033$, 95% CI = $[-0.149, -0.019]$, $Z = -2.54$, $p = 0.011$). Importantly, the test of effect size heterogeneity across studies was non-significant in each meta-analysis: for blatant prejudice, $Q(2) = 3.29$, $p = 0.193$; for subtle prejudice, $Q(2) = 0.09$, $p = 0.958$; for overall prejudice, $Q(2) = 0.97$, $p = 0.617$. Taken together, the three studies yielded consistent effect-size estimates, particularly for the association between nostalgia proneness and subtle prejudice. This finding supports that conclusion that the three studies estimated the same effect(s), but only Study 4 had sufficient power to reject the null hypothesis. Overall, then, there is evidence for a negative, albeit weak, relation between nostalgia proneness and prejudice expression.

We tested MTurk workers in Studies 1–2 and Crowdfunder workers in Studies 3–4. Our participants may not be representative of the general population. Compared to undergraduate students, online workers are more diverse in background (Paolacci & Chandler, 2014) and equally devoted (Farrell, Grenier, & Leiby, in press), but less extraverted (Goodman, Cryder, & Cheema, 2013). Also, online workers are younger, more educated, and more liberal than non-internet users (Berinsky, Huber, & Lenz, 2012; Paolacci, Chandler, & Ipeirotis, 2010). These sampling differences place due constraints on the generalizability of our findings.

Nostalgia may refer to one's group (i.e., collective nostalgia; Wildschut, Bruder, Robertson, van Tilburg, & Sedikides, 2014) rather than one's personal past. Collective nostalgia may lead to ingroup favoritism (Wildschut et al., 2014). For example, nostalgia for one's (Dutch) national group fuels opposition to minority (Muslim) rights, such as to "Build mosques" or "Found Islamic schools" (Smeekes,

Verkuyten, & Martinovic, 2014), due to autochthony (i.e., entitlement of original settlers). Notably, these effects of collective nostalgia are observed while controlling for personal nostalgia. Our reconciliation of these seemingly discrepant findings rests on the referent of nostalgia. The studies we reported were arguably referent-free; that is, we assessed dispositional proneness to nostalgic reflection. When one nostalgizes about the "way the country was," one may express conservative attitudes toward immigrants or minorities; conversely, when one nostalgizes about social protest, civil rights movements, or a tradition of tolerance, one may express more liberal attitudes toward immigrants or minorities. In national nostalgia, one may nostalgize about a homogenous past, thus producing an oppositional orientation toward outgroups (Smeekes et al., 2014). A task of future research would be to test the role of the referent of collective or national nostalgia in eliciting attitudes toward outgroups.

Trait levels of personal nostalgia were associated with increased empathy, which in turn predicted higher motivation to control prejudice, and subsequently contributed to lower levels of blatant and subtle prejudice. Nostalgia, a social emotion, has relevance to intergroup perception, and in particular to prejudicial reactions. Future research would do well to build on these findings—by using either correlational or experimental designs—to explore their behavioral implications, such as expressions of prejudice in social contexts.

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