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Development and validation of a National Prostalgia scale to measure acceptance and desire for cultural change

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Introduction: Demographic changes occurring throughout the world, as well as different forms of climate and social movements, are examples of the constant cultural change people experience. Many of these changes reflect broad political and existential threats. We developed and tested the concept of national prostalgia, which we define as the longing of the nation's future. According to Cultural Inertia theory, national prostalgia is a psychological propeller that facilitates acceptance of cultural change.

Methods: We conducted two correlational studies to develop and test the construct, and the predictive, divergent, and convergent validity of national prostalgia by comparing it to two prospection scales that measure future-thinking, and a third study to experimentally test if national prostalgia can be manipulated. We hypothesized that national prostalgia would predict higher acceptance to cultural change. Change was operationalized as eco-friendly intentions, engagement of new norms created during the COVID-19 pandemic and lowering prejudiced attitudes–beyond the effect of national nostalgia, prospection, optimism, and openness to new experiences.

Results: Study 1 demonstrated that national prostalgia was a better predictor than prospection for higher eco-friendly intentions and acceptance of new normal norms, even when controlling for national nostalgia (i.e., a psychological anchor). In study 2, national prostalgia predicted higher eco- friendly intentions and acceptance of new normal norms, even when controlling for prospection, optimism, and openness to new experiences. National prostalgia did not predict outgroup derogation or white nationalism–variables that indicate prejudice. Study 3 replicated the basic effects, but manipulations designed to influence national prostalgia did not have their predicted effects.

Discussion: Thus, national prostalgia is a psychological propeller that goes above and beyond the effect of prospection and we now have a reliable and valid scale to measure national prostalgia.

KEYWORDS

cultural inertia, future-thinking, national prostalgia, scale validation, social change

1 Introduction

Change is a constant aspect of life. People and groups, however, react differently to change. Some people appreciate change while others tend to resist it (Zárate et al., 2012). Change takes many forms. In the USA, for example, ethnic minority populations have increased to the point that the U.S. Census Bureau projects ethnic minorities will outnumber White Americans by the year 2045

(Vespa et al., 2020). Importantly, cultural change generates intergroup hostility (Armenta et al., 2023; Craig and Richeson, 2014; Zárate et al., 2012). Those that reject cultural change perceived greater threat from outgroups, endorse anti-immigration policies, and have greater collective angst (Armenta et al., 2023). Changes towards a "new normal" brought about by the COVID-19 pandemic produced tremendous angst for some individuals particularly for those who avoid change. Some individuals embrace change whereas others resist that change. Thus, it is important to study what psychological constructs, such as national prostalgia, facilitate acceptance of cultural change. We developed a scale to measure national prostalgia–a longing for the nation's future that facilitates acceptance of change–to test predictions from the cultural inertia model (Zárate et al., 2019) and to further advance approaches to study cultural change.

1.1 Psychological propellors and anchors

The cultural inertia theory proposes that static societies—those who are not experiencing tremendous cultural change and have relatively homogenous demographics—tend to resist change because they wish to remain static (Zárate et al., 2012). Such societies might be considered "inert" and because they are rather stable and not moving, they resist further change. Conversely, dynamic societies are those with diverse demographics and a changing cultural landscape (Zárate et al., 2012). Those societies embrace cultural change as an established quality of life (Zárate et al., 2012). According to the cultural inertia theory, individual differences can influence the acceptance level of cultural change (Zárate et al., 2019). The Cultural Inertia model borrows freely from models of inertia to suggest that objects in motion tend to stay in motion, whereas inert objects tend to stay inert. Moreover, changes in those movement patterns can produce reactions. Those differences can be labeled anchors and propellers. Psychological anchors, such as national nostalgia—the sentimental longing for the nation's past (Smeekes et al., 2015; Armenta et al., 2022) prevent individuals from accepting cultural change (Zárate et al., 2019; Boym, 2007; Boym, 2001). Previous studies found that national nostalgia reduces support towards the Black Lives Matter movement and the new social norms created in response to the COVID-19 pandemic (Armenta et al., 2022). Both events are operationalized as forms of cultural change (Armenta et al., 2022).

In contrast, psychological propellers can include any number of contextual or individual difference factors. One primary contextual factor, for instance, concerns how immigration impacts cultural interactions. Here, our focus is on individual differences that facilitate the acceptance of change (Zárate et al., 2019). Propellers can come in different forms–individual inclinations to seek out change and embrace it, identity adjustment, and social factors that motivate change (Zárate et al., 2019). For example, a well-supported type of psychological propeller is openness to new experience (i.e., a tendency to embrace novel, unconventional, and unfamiliar events, people, and things), and people high in openness to new experience report lower levels of prejudice towards outgroups (Flynn, 2005). Furthermore, greater behavioral openness and manipulating perceived change predicted less prejudice towards immigrants (Zárate et al., 2012; Zárate et al., 2019; Caligiuri et al., 2000).

Openness to new experiences does not always lead to less prejudice. For example, research demonstrates that high levels of openness to new experiences predicts higher prejudice toward conventional outgroups (Brandt et al., 2015). These findings are in line, however, with the Cultural Inertia Model because they suggest that psychological propellors such as openness to new experiences are distinct from psychological anchors such that those higher in psychological propellors embrace and welcome change and reject stability (i.e., what or who is conventional), while psychological anchors motivate individuals to reject change (i.e., what or who is unconventional), and welcome stability.

1.2 National prostalgia as a psychological propellor

Support for the cultural inertia model is well documented in Zárate et al., 2019. More stable societies react more strongly to change than do more dynamic societies. Host societies react more strongly to an incoming immigrant population when the host societies are led to believe that they would have to change to accommodate the incoming population (Armenta et al., 2023). Group identity is considered an anchor, and higher group identity provokes greater reaction to having to change to accommodate to other groups (Quezada et al., 2012; Zárate et al., 2012) More recent work has focused on the individual differences associated with reactions to change. Most specifically, we have investigated how national prostalgia influences reactions to change. National prostalgia is conceptualized as a psychological propeller and is defined as a sentimental longing for the nation's future (Armenta et al., 2022). Research finds that high levels of national prostalgia predict higher support for cultural change in the forms of support for the Black Lives Matter movement and acceptance of the new normal norms created during the COVID-19 pandemic, even when controlling for political ideology (Armenta et al., 2022). The concept of national prostalgia was developed partially as the opposite of national nostalgia. Work on national nostalgia suggests that a longing for the past is associated with greater prejudice towards outgroups. If true, then it seems that a longing for the future might be associated with less prejudice towards outgroups. While not prejudice, Armenta et al. (2022) reported that higher levels of national prostalgia correlated with higher support toward agents of change in society. In line with those findings, Armenta et al. (2021a,b) also reported that national prostalgia was correlated with lower prejudice toward Latino immigrants, though these effects have not been sufficiently explored.

Here, we further develop the concept of national prostalgia. In the previously published studies, we simply took published nostalgia scale items (Smeekes et al., 2015) and modified the items to reflect future thinking (Armenta et al., 2022). In the studies presented here, we use those items, add our own items, and use formal scale development processes to develop a more formal national prostalgia measure.

1.3 National prostalgia as a unique and distinct construct from prospection

Future-thinking, also known as prospection, is a well-defined construct. Gilbert and Wilson (2007) define prospection as the ability to think about the future through mental representations of potential future events. Engaging in prospection results in multiple benefits for the individual, such as facilitation for goal pursual, preparing for

future problems, and developing positive academic achievement (Baumeister et al., 2016; Baumeister et al., 2018; Suddendorf et al., 2009; Prabhakar et al., 2016). Most research focuses on prospection as a state of mind and thus they manipulate their participants to reach that state (see examples: Baumsteiger, 2017; O'Connor et al., 2004). We believe that while prospection and national prostalgia are similar, they differ in important ways. The goal of prospection is to prepare yourself for a general future (Baumeister et al., 2018). The focus of prospection is on the self-concept and is intra-individual in nature. National prostalgia is interested in the future of the nation in question, rather than the individual. Furthermore, prospection acknowledges there are several alternatives to a future, many of which may not come true, while national prostalgia encourages thinking about a desired version or versions of the future. Thus, national prostalgia seems to be a wish or hope construct at the group level because people are encouraged to long for the future of the nation, regardless of how objectively unlikely the future they imagine may be. Theoretically, prospection taps into more cognitive constructs, whereas national prostalgia addresses more emotion-based constructs.

National Prostalgia is conceptually distinct from prospection, but here, we question if it is also empirically distinct from prospection. To measure prospection, we first used the Consideration for Future Consequences scale (Joireman et al., 2012; Strathman et al., 1994) because it is one of the most cited scales in the literature. For study 2, we used the newer Future Consciousness scale (Lalot et al., 2021) as a way to contrast national prostalgia with prospection. The revised Future Consciousness scale is a 20-item scale that measures future consciousness–the capacity of thinking about the future by trying to understand, anticipate, and prepare for it—as an inter-individual difference (Lalot et al., 2021).

National prostalgia is a collective, future-thinking and wish-oriented construct that should produce efforts to promote people's desired future worlds. To test that hypothesis and to simultaneously test for empirical distinctions between national prostalgia and prospection, we tested how national prostalgia and prospection predict attitudes toward environmental actions and in developing a new normal post-COVID. Environmentalism and a new normal are "forward looking" constructs. Having pro-environmental attitudes suggests a willingness and desire to work towards a desired future. It is also a group-oriented goal. One's own behavior matters only to the extent that the larger collective also engages in those behaviors. Similarly, the COVID-19 pandemic produced tremendous cultural change. Interpersonal interaction patterns changed, work patterns changed, and a host of other changes occurred, which became the new normal norms during and post-COVID. Some individuals reacted negatively to that new normal. We previously tested and found that those high in national nostalgia reacted negatively to those changes (Armenta et al., 2022). Simultaneously, those high in national prostalgia reacted positively to those changes.

Finally, national prostalgia concepts derived from national nostalgia concepts. Higher levels of national nostalgia predicted greater prejudice towards outgroups and less support for a new normal and for the Black Lives Matter movement (Armenta et al., 2021a,b; Armenta et al., 2022; Reyna et al., 2022). Accordingly, we predicted that higher levels of national prostalgia would predict less prejudice towards outgroups. Thus, there should be positive relationships between national prostalgia levels with eco-friendly intentions, and acceptance of new normal norms. Furthermore, higher national prostalgia levels should lower prejudice to create more peaceful intergroup interactions, which we argue will be a part of most people's desired future for the United States.

1.4 National prostalgia compared to other future-oriented constructs

Apart from prospection, national prostalgia is probably related to other future-oriented constructs. For instance, national prostalgia might be correlated with openness to new experiences because both variables act as psychological propellers that facilitate change. The direction of the association should be positive as both constructs (per the Cultural Inertia Model) motivate individuals to embrace change. The openness to alternatives subscale is related to openness to new experience (Lalot et al., 2021; Costa and McCrae, 1992). Optimism (i.e., a positive outlook toward the future; Schütz et al., 2020) is another construct that we expect to be related to national prostalgia. After all, if national prostalgia has a wish component, optimism may be necessary to invoke the desired future. Like openness to new experiences, optimism is also found in certain characteristics of prospection (Lalot et al., 2021). National prostalgia can contribute to the field if national prostalgia predicts behavior beyond these other already established constructs. Additionally, if national prostalgia serves as a psychological propellor that motivates individuals to embrace and accept change, national prostalgia may serve as a useful tool to reduce negative reactions toward societal change such as those that have been found in the literature (e.g., Craig and Richeson, 2014; Wilkins and Kaiser, 2014; Major et al., 2018).

We extended the model of cultural inertia to test how a desire for a sentimental longing for a future state of one's country impacts how one perceives others and society overall. Our goal was to refine our scale of national prostalgia and determine if national prostalgia contributes to the field beyond the established prospection scales. We were also interested in testing the construct, divergent, convergent, and predictive validity of national prostalgia to see if the construct would be a beneficial addition to the literature. To do so, we conducted two psychometric studies described below and one experimental study.

2 Study 1

In study 1, we first tested the relative predictive validity of the two related measures. We performed an exploratory factor analysis (EFA) to the National Prostalgia scale to assess validity and reliability. We hypothesized that higher prospection and national prostalgia levels would be associated with lower outgroup derogation, higher intentions to engage in eco-friendly behaviors, and higher acceptance of new normal norms. National prostalgia and prospection were used as predictor variables. We also wanted to control for national nostalgia since other research (Armenta et al., 2022) has found that national prostalgia is correlated with national nostalgia. We used study 1 to base our predictions for study 2.

2.1 Method

This study was not preregistered and no *a priori* power analysis was conducted. Thus, a sensitivity power analysis is reported in the results section. One-hundred and fifty-nine participants were

recruited from Amazon MTurk, during the Fall semester of 2023. Participants were compensated with $1.50 after completing a 15-min online survey. The only inclusion criteria were that participants must be older than 18 and consent to be part of the study. One participant was excluded from analysis because they reported being younger than 18 years old. Additionally, 2 participants were excluded for failing our attention checks. Thus, our final sample was 156 participants. Of our participants, 60 (38%) identified as female and 97 (61%) identified as male. Most of our sample were White ($N = 118$, 75.65%) and had an average age of 39.4 years ($SD = 11.28$). On a scale of 0 to 10 (with higher numbers indicating more conservatism), participants reported an average conservative score of 3.0 ($SD = 3.38$). Lastly, on a scale of 0 to 10 (with higher numbers indicating more liberalism), participants reported an average liberal score of 6.0 (SD = 3.5).

2.1.1 Materials

2.1.1.1 Demographics

Participants were asked to report their age, gender, ethnicity, and political party association. Their answers served to report the demographics of the sample.

2.1.1.2 National prostalgia

National prostalgia was measured via a modified National Prostalgia scale (Armenta et al., 2022) that was originally adapted from Routledge et al. (2008), Batcho (1995), and Smeekes et al. (2015). Participants were presented with our definition of national prostalgia, which was defined as a "sentimental longing for a future state of one's country," and asked to answer 12 items. The items were questions and statements where participants needed to report how much they long for a specific situation or how much they agree with the statement. Some examples are "How often do you bring to mind possible future experiences related to the way the United States will be in the future," "How much do you long for the way Americans will be in the future," and "I rarely consider life as part of this country beyond my immediate future." Participants responded on a 5-Likert scale, from never to all the time (e.g., 1-Never to 5-Always). In the present study, the National Prostalgia scale showed good reliability ($\alpha = 0.85$).

2.1.1.3 New normal norms

To test how much participants supported the new normal norms created during the COVID-19 pandemic, we modified the 9 COVID-19 specific questions from Armenta et al., 2022. Because the measurement was created during the start of the COVID-19 pandemic we updated some items to fit current times, eliminated one of the items, and added 4 items. Participants reported how much they consider a certain statement true during the start of the COVID-19 lockdown (e.g., "I want to return to my routines from before 2020 as soon as possible"), any changes they made because of the pandemic, and whether they are hopeful society will keep those societal changes made due to the new normal norms. Participants responded based on a 5-point Likert type scale, the specific answers changed depending on the items The COVID-19 specific questions showed satisfactory reliability ($\alpha = 0.71$) for the present study.

2.1.1.4 Eco-friendly intentions

For eco-friendly intentions, we adapted 10-items from Urien and Kilbourne (2011) and Armenta et al. (2021a,b) to assess the feelings of participants regarding their ecological behaviors and intentions. Participants used a 5-point Likert scale to report how much they agree or disagree with the items presented (e.g., 1-Strongly disagree to 5-Strongly agree). Some of the items included "I intend to buy organic food in the future," "I intend to use reusable bags in a grocery store," and "I intend to reduce household waste in the future." The Intentions to engage in eco-friendly behaviors had good reliability ($\alpha = 0.89$).

2.1.1.5 Prospection

To measure prospection, we used the 14-item Consideration for Future Consequences scale (CFC-14) created by Joireman et al. (2012) and derived from Strathman et al. (1994). National prostalgia was contrasted to this scale because the CFC-14 is one of the most cited prospection scales. The CFC-14 scale measures how much the participant engages with future-thinking, also known as prospection, constructed as the consideration for future consequences. The scale includes two subscales, one is for the immediate future and the other is for the long-term future. Both subscales have 7 items. Some examples included "I only act to satisfy immediate concerns, figuring the future will take care of itself," "My convenience is a big factor in the decisions I make or the actions I take," and "My behavior is generally influenced by future consequences." Participants used a 7-point Likert scale to indicate whether the statements were characteristic of them or not (e.g., 1-Not at all to 7-Very Much). The CFC-14 showed good reliability for the immediate future subscale ($\alpha = 0.88$) and for the long-term future subscale ($\alpha = 0.90$).

2.1.1.6 National nostalgia

To measure how much participants long for their nation's past we used a 6-item scale (Armenta et al., 2022) originally adapted from items used by Routledge et al. (2008), Batcho (1995), and Smeekes et al. (2015). Participants were presented with a definition of nostalgia before they could answer the items. The items were questions and statements where participants needed to report how much they long for a specific situation or how much they agree with the statement. Some examples are "How significant is it for you to feel nostalgic about the way the United States was in the past" and "How much you miss the way American society was in the past." Participants responded based on a 5-point Likert scale, from never to always (e.g., 1-Never, 3-About half the time, 5-Always) and not at all to a great deal (e.g., 1-Not at all, 3-A moderate amount, 5-A great deal), depending on the items. For this study, the National Nostalgia scale showed good reliability ($\alpha = 0.93$).

2.1.1.7 Outgroup derogation

We used the 13-item Outgroup Derogation measure (Armenta et al., 2023), originally adapted from Altemeyer and Hunsberger (1992), to assess the perception participants have towards immigrants and members of the outgroup. The scores were used as an approximation of amount of prejudice the participant shows. Participants used a 7-point Likert scale to report how much they agree or disagree with the items presented (e.g., 1-Strongly disagree to 7-Strongly agree). Some examples of the items are "There are entirely too many people from the wrong sorts of places being admitted into America now," "As a group, undocumented Latino immigrants are naturally lazy, promiscuous, and irresponsible," and "Intermarriage among undocumented Latino immigrants and Americans is wrong."

The reliability for the Outgroup Derogation measure was good ($\alpha = 0.93$).

2.1.2 Procedure

Participants were able to access the 15-min Qualtrics survey, with all the measures explained above, from the Amazon MTurk webpage. First, they were presented with an informed consent form. Those who consented were presented with the 12 item National Prostalgia Scale and the CFC-14 scale, in that order. Then, we randomized the presentation of the COVID-19 specific questions, the Outgroup Derogation measure, and the Intentions to engage in eco-friendly behaviors. Afterwards, participants answered the National Nostalgia scale and reported their demographics. At the end of the survey, an open-ended question was provided for participants to explain any issues or comments they may have had with the survey, if they had none, we asked them to write "Everything was great," this item was later used as an attention check. Across the study we had 2 other attention check items. Two participants were dropped because of the attention checks. Finally, we debriefed participants on the goal of the study and offered them our contact information. The items of all scales, except for demographics, were randomized.

2.2 Results

2.2.1 Analytical plan

We performed an EFA on our National Prostalgia scale to see what changes were necessary to improve the reliability and validity of the National Prostalgia scale. We then performed bivariate correlations to evaluate the means, standard deviations, and correlations amongst our variables utilizing the new National Prostalgia scale. Regressions were performed for each of our outcome variables (i.e., outgroup derogation, new normal acceptance, and intentions to engage in eco-friendly behavior) to test if national prostalgia was a better predictor than prospection. We included national nostalgia as a control variable, following previous studies of national prostalgia (Armenta et al., 2022).

2.2.2 Exploratory factor analysis

Table 1 shows the results of the exploratory factor analysis for the 12-item National Prostalgia scale. We used Principal Axis Factoring as the method of extraction and Promax with Kaiser Normalization as the rotation method. We found that the National Prostalgia scale loaded on to two factors. Factor 1 was comprised of 6 items that explained 38% of the variance with factors loading from 0.79 to 0.90. Factor 2 was comprised of 4 items. Items 8 and 10 were removed due to loading at similar levels on both factors. The 4 items that loaded onto factor 2 explained 14% of the variance with factors loading from 0.48 to 0.76. We decided not to average these two factors into a composite score for several reasons. First, the Cronbach alpha of all 10 items was 0.83, which attenuated the alpha of Factor 1 alone, which was 0.93. Second, the latent correlation between factors (0.57) did not suggest redundancy. Finally, we conducted a First Unrotated Principal Components (FUPC) analysis to determine if all 10 items loaded strongly on a common factor that could be averaged into a composite (see Bedford and Deary, 1999; Jones and Paulhus, 2014 for examples). Although the first six items did (loadings >0.70), only item 8 from the second factor loaded higher than 0.5. These results suggest that the Factor 2 items do not load well on an overall composite. Thus, we only retained the first six items for this study, creating a 6-item factor of the National Prostalgia scale (NP6).

2.2.3 Correlations and regressions

The bivariate analysis (utilizing the six national prostalgia items that loaded onto factor 1), shown in Table 2, indicated that national prostalgia was significantly positively correlated with prospection ($r = 0.51$, $p < 0.001$), eco-friendly intentions ($r = 0.37$, $p < 0.001$), new normal norms ($r = 0.21$, $p = 0.007$), national nostalgia ($r = 0.45$, $p < 0.001$), and political conservatism ($r = 0.24$, $p = 0.003$). National prostalgia was not significantly correlated with outgroup derogation ($r = 0.10$, $p = 0.21$) nor political liberalism ($r = -0.07$, $p = 0.365$). Prospection was significantly positively correlated with eco-friendly intentions ($r = 0.23$, $p = 0.004$) and national nostalgia ($r = 0.32$, $p < 0.001$). Prospection was not correlated with new normal norms ($r = 0.13$, $p = 0.126$) nor outgroup derogation ($r = 0.07$, $p = 0.370$). National nostalgia was also significantly correlated with outgroup derogation ($r = 0.37$, $p < 0.001$) and acceptance of new normal norms ($r = -0.16$, $p < 0.041$).

We performed multiple linear regressions with prospection, national prostalgia, political conservatism, and national nostalgia as predictors. Greater national prostalgia ($b = 0.32$, $SE = 0.077$, $p < 0.001$) predicted greater eco-friendly intentions. While greater political conservatism ($b = -0.07$, $SE = 0.021$, $p = 0.002$) predicted lower eco-friendly intentions. Meanwhile, national nostalgia ($b = 0.09$, $SE = 0.077$, $p = 0.249$) and prospection ($b = 0.02$, $SE = 0.107$, $p = 0.820$), failed to predict environmental intentions, $F(4, 151) = 9.079$, $p < 0.001$, $R^2 = 0.194$. National nostalgia ($b = 0.24$, $SE = 0.064$, $p < 0.001$) and political conservatism ($b = -0.06$, $SE = 0.018$, $p = 0.001$), but not prospection nor national nostalgia, significantly positively and negatively, respectively, predicted new normal norms, $F(4, 151) = 8.745$, $p < 0.001$, $R^2 = 0.188$. Political conservatism ($b = 0.28$, $SE = 0.026$, $p < 0.001$) significantly predicted greater outgroup derogation. National prostalgia ($b = -0.17$, $SE = 0.093$, $p = 0.065$), prospection ($b = 0.017$, $SE = 0.129$, $p = 0.183$) and national nostalgia ($b = 0.02$, $SE = 0.093$, $p = 0.798$) failed to predict outgroup derogation, $F(4, 151) = 40.46$, $p < 0.001$, $R^2 = 0.517$.

A sensitivity power analysis ($\alpha = 0.05$, power = 0.80, sample size = 156, predictors = 3) was conducted to determine whether our effects were sufficiently powered for a two-tailed multiple linear bivariate regression analysis. The results demonstrated that we were sufficiently powered to detect a beta coefficient of 0.22. Since our smallest significant effect in the aforementioned models was a beta coefficient of −0.22, which corresponded to the relationship between national nostalgia and acceptance toward new normal norms, our regression with national prostalgia as the sole predictor of the outcome variables were sufficiently powered. However, since this study was not pre-registered and our sample size did not meet the recommendations proposed in the literature to sufficiently power an EFA (Cattell, 1978; Gorsuch, 1983; Dimitrov, 2012; Kyriazos, 2018), we decided to run an additional study. Thus, for our preregistered study 2, we used an appropriate sample size to sufficiently power our effects and conceptually replicate our results.

TABLE 1 Exploratory factor analysis results for the 12 item National Prostalgia scale for study 1.

Items	Factors	
	1	2
1. How often do you bring to mind possible future experiences related to the way the United States will be in the future?	**0.79**	0.05
2 How important is it for you to bring to mind possible future experiences related to the way the United States will be in the future?	**0.78**	0.13
3. How significant is it for you to feel a sentimental longing about the way the United States will be in the future?	**0.84**	0.02
4. How much do you long for the way Americans will be in the future?	**0.90**	−0.12
5. How much do you long for the way American society will be in the future?	**0.90**	−0.09
6. How much do you long for the way the American landscape (i.e., surroundings) will look like in the future?	**0.79**	−0.18
7. How much do you agree that 'I rarely consider life as part of this country beyond my immediate future'?	−0.14	**0.76**
8. How much do you agree that 'I have a particular vision for the future of the United States'?	0.38	0.33
9. How much do you agree that 'I desire my country to be a certain way in the future'?	0.08	**0.48**
10. How much do you agree that 'I want to be part of the future United States'?	0.31	0.23
11. How much do you agree that 'I care about the future of the United States'?	0.11	**0.54**
12. How much do you agree that 'I worry about the future United States.'	−0.26	**0.56**

Extraction method: principal axis factoring; rotation method: Promax with Kaiser Normalization. Loading larger than 0.40 are in bold. Items 8 and 10 were removed due to high correlations between items.

TABLE 2 Means, standard deviations, and correlations for study 1 variables.

	M	*SD*	1.	2.	3.	4.	5.	6.
1. National prostalgia	2.7	0.9	—					
2. Prospection	3.8	0.7	0.51***	—				
3. Eco-friendly intentions	3.7	0.8	0.37***	0.23**	—			
4. New normal norms	3.2	0.7	0.21**	0.12	0.36***	—		
5. National Nostalgia	2.6	1.0	0.45***	0.32***	0.14	−0.16*	—	
6. Outgroup Derogations	3.0	1.3	0.10	0.07	−0.25**	−0.33***	0.37***	—

***$p < 0.001$ level, **$p < 0.01$, *$p < 0.05$.

2.3 Discussion

As hypothesized, national prostalgia was a better predictor for eco-friendly intentions and acceptance of new normal norms. However, neither national prostalgia nor prospection predicted outgroup derogation. Furthermore, the exploratory factor analysis indicated that the best way to measure longing for the nation's future was to use the 6 items that formed factor 1 of the scale. However, our EFA was not sufficiently powered in study 1 (Cattell, 1978; Gorsuch, 1983; Dimitrov, 2012; Kyriazos, 2018). Thus, for study 2, we decided to conceptually replicate our effects with an appropriate sample size that would sufficiently power an EFA. National nostalgia and national prostalgia were positively correlated. This conceptually replicates previous research (Armenta et al., 2022). One preliminary hypothesis is that national nostalgia and national prostalgia are positively correlated because they are both time-oriented constructs that influence one another. The more one thinks about the past, the more than one will think about the future and vice versa. The prostalgia items were derived from the nostalgia scales, so this might also simply reflect a method variance effect. While positively correlated, however, national nostalgia and national prostalgia produce different results. National prostalgia, for example, was positively correlated with support for creating new norms, while national nostalgia negatively correlated with creating new norms. National nostalgia predicted increases in outgroup derogation, but national prostalgia did not predict outgroup derogation in this study. This suggests that national nostalgia and national prostalgia are conceptually different constructs that lead to different consequences. Future work will need to identify how those variables influence each other and if the positive correlations are predicted by a time orientation.

3 Study 2

The second study aimed to replicate the findings from study 1. We predicted that national prostalgia would be a stronger predictor for eco-friendly intentions and acceptance of new normal norms compared to prospection. For study 2, we used the time perspective subscale from the revised future consciousness scale (Lalot et al., 2021) as a measure of prospection. This measure is a shorter and newer future-thinking scale that is more aligned to our national prostalgia construct. Our goal was to contrast national prostalgia from prospection, but we were agnostic regarding the prospection measure. Therefore, we changed the measure to provide a broader contrast.

We also included white nationalism as a measure of prejudice. We predicted that higher levels of national prostalgia would

be associated with lower levels of white nationalism. In addition to adding white nationalism as an outcome variable, we also considered openness to new experiences and optimism as covariates with national prostalgia. Our pre-registered hypotheses can be found on the Open Science Framework: https://osf.io/ue5wy/?view_only=f2181f859eec4862be410df53e81e725.

3.1 Method

We aimed to recruit 250 participants to achieve adequate power for an EFA on the National Prostalgia scale as recommend by previous literature (Cattell, 1978; Gorsuch, 1983; Dimitrov, 2012; Kyriazos, 2018). In total, 267 participants from Prolific completed the study. We removed 6 participants for failing our attention checks (final $N = 261$). Participants took a 12-min online survey and were compensated $1.60. Our sample was composed of 102 (39.1%) females, 146 (55.9%) males, 10 (3.8%) non-binary, 2 (0.8%) preferred not to report their gender, and 1 (0.4%) self-reported as they. Most of our sample was White ($N = 188$, 72%), 31 (12%) identified as Asian, 27 (10.5%) identified as Black, 4 (1.5%) identified as other, 2 (0.7%) identified as American Indian, 1 (0.4%) identified as Pacific Islander, 1 (0.4%) choose not to answer, and 7 (2.6%) reported being a mix of different races and ethnicities. Among the 261 participants, 35 identified as Hispanic. The average age of our sample was 38.4 years ($SD = 13.4$). Political ideology was measured via similar methods as study 1. Participants reported an average conservative score of 2.9 ($SD = 3.2$) and an average liberal score of 6.0 ($SD = 3.5$).

3.1.1 Materials

Participants were given the same 12-item national prostalgia ($\alpha = 0.88$), eco-friendly intentions ($\alpha = 0.90$), and acceptance of new normal norms ($\alpha = 0.66$) scales as those reported in study 1.

3.1.1.1 Prospection

To measure prospection, we used the 4-item Time Perspective subscale of the revised Future Consciousness scale (Lalot et al., 2021). The Time Perspective subscale measures how much someone thinks about the future. Participants used a 5 point Likert scale to report how much they agree or disagree with the items presented (e.g., 1-Not true of me at all to 5-Very true of me). Some of the items included "I think about the consequences before I do something" and "I am willing to sacrifice my immediate happiness or well-being in order to achieve something in the future." The Time Perspective subscale showed satisfactory reliability for this study ($\alpha = 0.71$).

3.1.1.2 Optimism

To measure optimism, we used the 4-item Agency Beliefs subscale of the revised Future Consciousness scale that measured how much one feels to be in control of their future (Lalot et al., 2021). High-level sense of personal agency is linked to optimism (Ahvenharju et al., 2018). Participants used a 5 point Likert scale to report how much they agreed or disagreed with the items presented (e.g., 1-Not true of me at all to 5-Very true of me). Some of the items included "I believe I can succeed at most any endeavor to which I set my mind" and "I am always optimistic about my future." The reliability for the Agency Beliefs subscale was good ($\alpha = 0.79$).

3.1.1.3 Openness to new experiences

To measure openness to new experiences we used the 4-items Openness to Alternatives subscale of the revised Future Consciousness scale that assesses someone's capacity of imagining alternative paths and solutions (Lalot et al., 2021). Participants used a 5-point Likert scale to report how much they agree or disagree with the items presented (e.g., 1-Not true of me at all to 5-Very true of me). Some of the items included "I am often on the lookout for new ideas" and "I often re-evaluate my experiences so that I can learn from them." The reliability for the Openness to Alternative subscale was satisfactory ($\alpha = 0.73$).

3.1.1.4 White nationalism

Participants were presented with the 5-items version of the White Nationalism scale to measure how much they agree with White nationalist beliefs and ideologies (Reyna et al., 2022). Participants used a 7 point Likert scale (e.g., 1-Strongly disagree to 7-Strongly agree) to answer the scale. Some examples of the items are "White American culture is what makes this country great" and "Multiculturalism is the biggest threat to White America." The reliability of the White Nationalism scale was good for the second study ($\alpha = 0.90$).

3.1.2 Procedure

The procedure for the second study was very similar to study 1. The main difference was that participants accessed the 12-min Qualtrics survey from the Prolific website. Once participants provided consent, they were presented with the 12-item National Prostalgia scale, the Time Perspective subscale, the Agency Beliefs subscale, and the Openness to Alternatives subscale in that order. Then, we randomized the presentation of the COVID-19 specific questions, the White Nationalism measure, and the intentions to engage in eco-friendly behaviors. Afterwards, participants reported their demographics. At the end of the survey, we had the same open-ended question described in study 1. Across the study we also had other 2 items that acted as attention checks. Finally, we debriefed participants on the goal of the study and offered them our contact information. The items of all scales, except for demographics, were randomized.

3.2 Results

3.2.1 Exploratory factor analysis

Since we were not sufficiently powered to run an EFA in Study 1, we decided to replicate our EFA in Study 2 utilizing a more appropriate sample size. Table 3 shows the results of the Exploratory Factor Analysis for the 12-item National Prostalgia scale. Like in Study 1, we used Principal Axis Factoring as the method of extraction and Promax with Kaiser Normalization as the rotation method. Once again, two clear factors emerged. Factor 1 was comprised of 6 items that explained 32% of the variance with factors loading from 0.62 to 0.93. Like in Study 1, Factor 2 was comprised of 6 items that explained 18% of the variance with factors loading from 0.50 to 0.71. The Cronbach alpha utilizing all items was 0.88, which was lower than the alpha of the first six (0.92). The latent correlation was again not high

TABLE 3 Exploratory factor analysis results for the 12 item National Prostalgia scale for study 2.

Items	Factors	
	1	2
1. How often do you bring to mind possible future experiences related to the way the United States will be in the future?	**0.62**	0.20
2 How important is it for you to bring to mind possible future experiences related to the way the United States will be in the future?	**0.67**	0.24
3. How significant is it for you to feel a sentimental longing about the way the United States will be in the future?	**0.78**	0.08
4. How much do you long for the way Americans will be in the future?	**0.93**	−0.08
5. How much do you long for the way American society will be in the future?	**0.92**	−0.10
6. How much do you long for the way the American landscape (i.e., surroundings) will look like in the future?	**0.73**	−0.08
7. How much do you agree that 'I rarely consider life as part of this country beyond my immediate future'?	0.06	**0.50**
8. How much do you agree that 'I have a particular vision for the future of the United States'?	0.11	**0.71**
9. How much do you agree that 'I desire my country to be a certain way in the future'?	−0.09	**0.85**
10. How much do you agree that 'I want to be part of the future United States'?	0.29	0.07
11. How much do you agree that 'I care about the future of the United States'?	0.05	**0.50**
12. How much do you agree that 'I worry about the future United States.'	−0.12	**0.55**

Extraction method: Principal Axis Factoring; Rotation method: Promax with Kaiser Normalization. Loading larger than 0.40 are in bold. Item 10 was removed due to loading poorly on either factor.

enough to suggest redundancy between the two factors (0.56). Further, like in Study 1, we found that the first six items formed a strong and coherent composite using a FUPC analysis (all items loading >0.67), whereas items loading on Factor 2 did not load well on overall composite score, with an average FUPC loading of 0.487 (less than 0.5). Thus, we replicated the EFA of Study 1 and only analyzed the 6-item factor of the National Prostalgia scale (NP6). Thus, our subsequent analyses only utilize the NP6.

3.2.2 Correlations

Table 4 presents the bivariate analysis for our second study. The 6-items version of the national nostalgia scale (NP6) was significantly correlated with prospection ($r = 0.41$, $p < 0.001$), eco-friendly intentions ($r = 0.35$, $p < 0.001$), new normal norms ($r = 0.21$, $p < 0.001$), optimism ($r = 0.29$, $p < 0.001$), and openness to new experiences ($r = 0.36$, $p < 0.001$). Neither white nationalism ($r = 0.12$, $p = 0.057$), political conservatism ($r = 0.06$, $p = 0.315$), nor political liberalism ($r = 0.09$, $p = 0.165$) correlated with NP6. Prospection was significantly correlated with eco-friendly intentions ($r = 0.27$, $p < 0.001$), optimism ($r = 0.30$, $p < 0.001$), and openness to new experiences ($r = 0.39$, $p < 0.001$). Prospection was not correlated with new normal norms ($r = 0.11$, $p = 0.077$) or white nationalism ($r = 0.10$, $p = 0.114$).

3.2.3 Regressions

We performed regressions with national prostalgia, prospection, optimism, political conservatism, and openness to new experiences as predictors of our outcome variables. Greater political conservatism ($b = -0.07$, $SE = 0.014$, $p < 0.001$) predicted lower environmental intentions. National prostalgia ($b = 0.18$, $SE = 0.050$, $p < 0.001$) and openness to new experience ($b = 0.28$, $SE = 0.063$, $p < 0.001$), but not prospection ($b = 0.09$, $SE = 0.070$, $p = 0.181$) or optimism ($b = 0.06$, $SE = 0.051$, $p = 0.219$) significantly positively predicted environmental intentions, $F(5, 255) = 19.88$, $p < 0.001$, $R^2 = 0.280$. Political conservatism ($b = -0.08$, $SE = 0.011$, $p < 0.001$) significantly negatively predicted new normal norms. National prostalgia ($b = 0.13$, $SE = 0.041$, $p = 0.001$), but not prospection ($b = 0.051$, $SE = 0.056$, $p = 0.363$), optimism ($b = -0.02$, $SE = 0.041$, $p = 0.571$), or openness to new experiences ($b = 0.04$, $SE = 0.051$, $p = 0.439$), significantly positively predicted new normal norms, $F(5, 255) = 13.69$, $p < 0.001$, $R^2 = 0.212$. Since one of our variables was regarding extremism perpetuated by White people (i.e., White nationalism), we restricted our White nationalism analyses to only our White participants ($N = 188$). Optimism ($b = 0.22$, $SE = 0.108$, $p = 0.045$), but not national prostalgia ($b = 0.14$, $SE = 0.109$, $p = 0.201$), prospection ($b = 0.21$, $SE = 0.150$, $p = 0.153$), or openness to new experience ($b = -0.24$, $SE = 0.135$, $p = 0.082$), significantly positively predicted White nationalism, $F(4, 183) = 3.088$, $p = 0.017$, $R^2 = 0.063$.[1]

3.3 Discussion

Study 2 results nicely replicate the results from study 1. National prostalgia predicted eco-friendly intentions and acceptance of new normal norms. Like in study 1, prospection did not predict eco-friendly intentions or acceptance of new normal norms. Moreover, the significant national prostalgia effects remained even after controlling for openness to new experiences and optimism. Thus, this study provides further support for the hypothesis that national prostalgia is in fact a unique construct. Finally, contrary to

1 We included above the results of the multiple linear regression where White nationalism was the dependent variable for easier interpretation. However, the assumption that the residuals in White nationalism were normal was not met and thus we ran a gamma regression analysis (and used the inverse of our data) with the aforementioned predictors and White nationalism as the dependent variable as this was a more appropriate test. The results did not change. Optimism ($b = -0.05$, $SE = 0.024$, $p = 0.049$), but not national prostalgia ($b = -0.03$, $SE = 0.024$, $p = 0.199$), prospection ($b = -0.05$, $SE = 0.034$, $p = 0.139$), or openness to new experience ($b = 0.05$, $SE = 0.029$, $p = 0.065$), significantly predicted White nationalism.

TABLE 4 Means, standard deviations, and correlations for study 2 variables.

	M	*SD*	1.	2.	3.	4.	5.	6.	7.
1. National prostalgia (6 items)	2.7	1.0	—						
2. Prospection	3.8	0.7	0.41***	—					
3. Eco-friendly intentions	3.5	0.8	0.35***	0.27***	—				
4. New normal norms	3.2	0.6	0.21***	0.11	0.36***	—			
5. White nationalism	2.1	1.3	0.12	0.10	−0.16**	−0.35***	—		
6. Optimism	3.3	1.0	0.29***	0.30***	0.19**	−0.02	0.13*	—	
7. Openness to new experiences	3.9	0.8	0.36***	0.39***	0.41***	0.14*	−0.04	0.33***	—

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

predictions, national prostalgia did not predict lower levels of white nationalism. This is in line with the results of study 1, such that national prostalgia did not predict outgroup derogation. Lastly, optimism positively predicted White nationalism. The results from study 2 are important as we conceptually replicate our study 1 effects utilizing a much larger sample that was informed by power recommendations from previous literature (Cattell, 1978; Gorsuch, 1983; Dimitrov, 2012; Kyriazos, 2018).

4 Experiment (study 3)

Studies 1 and 2 showed strong support that national prostalgia is a unique psychological construct. However, these studies were correlational in nature. The purpose of study 3 was to experimentally test if national prostalgia can be manipulated to further assess how national prostalgia influences the associated constructs. Thus, this experiment uses a framing manipulation whereby the end points were manipulated to influence how often participants think about the future. The manipulations were consistent with past research (Zárate et al., 2004; Zárate and Garza, 2002) that has successfully influenced participant's beliefs. Some participants were given the National Prostalgia scale with endpoints that suggest they never or rarely consider the future. Others were given the scale with endpoints that suggest they often consider the future. We predicted that biasing people to think they think often of the future would increase acceptance of new norms, eco-friendly intentions, and collective action in comparison to low levels of national prostalgia. Our pre-registered hypotheses can be found on the Open Science Framework: https://osf.io/zy4k3/?view_only=c770a10c89224990a9a744bb793954f6.

4.1 Method

The smallest reported effect size from Armenta et al. (2022) that used national prostalgia as a predictor was used to conduct an *a priori* power analysis for a one-way between subjects design. The "pwr" package within R (Champely, 2020) was used to conduct the power analysis (k = 2, sig. level = 0.05, $f = 0.25$, power = 0.90). The power analysis indicated that 172 participants would be needed to achieve 90% power.

In total, 188 participants completed the survey. Nine participants were removed from analyses for failing at least one attention check question and 6 were excluded due to timing out issues with Prolific, leaving an analyzable sample of 173 participants. Participants took a 9-min online survey and were compensated $1.20. Of the 173, 140 (80.9%) identified as White, 18 (10.4%) identified as Hispanic, 11 (6.3%) identified as multi-racial, 9 (5.2%) identified as Asian, 6 (3.5%) identified as Black, 6 (3.5%) identified as Other, and 1 (0.6%) identified as American Indian or Alaska Native. Most participants reported identifying as female ($N = 85$) or male ($N = 81$). A small minority in our sample identified as non-binary ($N = 5$). The participants' mean age was 38.7 ($SD = 13.5$).

4.1.1 Materials

4.1.1.1 National prostalgia items and manipulation

The current study utilized a one-way between subjects design. All participants received the same National Prostalgia scale. However, to manipulate national prostalgia, the end points for the 6 national prostalgia items we created in Study 1 and 2 were modified. To manipulate "low" levels of national prostalgia, participants randomly assigned to this group were only given "low" level response choices on the national prostalgia items. In the low national prostalgia group ($\alpha = 0.799$), participants rated each item on a 5-point Likert scale ranging from 1(Never) to 5(Occasionally). To induce "high" levels of national prostalgia, participants randomly assigned to this group were only given "high" level response choices on the national prostalgia items. Those in the high national prostalgia group ($\alpha = 0.916$) rated each item on a 5-point Likert scale ranging from 1(Occasionally) to 5(Always). Thus, the most prostalgia one can report in the low condition corresponds to the least amount of prostalgia one can respond to in the high condition.

In addition to the manipulation, we included the other 6 items from the original national prostalgia measure in Study 1 and 2 as a manipulation check ($\alpha = 0.665$). Participants rated each item on a 5point Likert scale (1-Strongly Disagree to 5-Strongly Agree).

4.1.1.2 Acceptance of new norms

The same scale from Study 1 and Study 2 was used. The reliability for the new normal scale was acceptable for the experiment ($\alpha = 0.76$).

4.1.1.3 Eco-friendly intentions

The same scale from Study 1 and Study 2 was used. This scale was reliable in the experiment ($\alpha = 0.904$).

4.1.1.4 Collective action

Cohen-Chen and Van Zomeren's (2018) willingness to engage in collective action measure was used as a dependent variable ($\alpha = 0.934$). Participants rated 10 items (1-Definitely not to 6-Definitely) on their intentions to engage in various behaviors geared towards collective action (e.g., "taking part in a strike").

4.1.2 Procedure

Participants signed up for the experiment on Prolific by clicking on a Qualtrics survey page. After providing consent, they were randomly assigned to the high ($N = 86$) or low ($N = 86$) national prostalgia group. Across both groups, participants were instructed to indicate the extent to which they think of the following questions regarding national prostalgia–which was defined after the instructions–and how much they long for certain situations. Following this, participants completed the acceptance of new norms, eco-friendly intentions, and collective action measures, which were presented in a randomized order. Participants then completed a demographics survey and were asked to type in what they thought about during the start of the study and report any questions or comments they had about the study.

4.2 Results

First, we ran a one-way between subjects ANOVA to test whether the manipulation adequately induced high and low levels of national prostalgia. The manipulation was unsuccessful. Participants in the high national prostalgia group ($M = 3.93$, $SD = 0.58$) reported near identical levels of national prostalgia to those in the low national prostalgia group ($M = 3.95$, $SD = 0.53$), $F\ (1,172) = 0.06$, $p = 0.809$, $\eta_p^2 < 0.001$. Next, we tested whether our manipulation influenced our outcome variables. Consistent with our null manipulation checks, there were no effects of the manipulation on any of the dependent variables. Participants in the high national prostalgia group ($M = 3.09$, $SD = 0.73$) scored similarly to those in the low national prostalgia group ($M = 3.17$, $SD = 0.72$) on accepting new norms, $F\ (1,172) = 0.54$, $p = 0.466$, $\eta_p^2 = 0.003$. There were no significant differences in participants' eco-friendly intentions between the high ($M = 3.62$, $SD = 0.85$) and low national prostalgia groups ($M = 3.65$, $SD = 0.79$), $F\ (1,172) = 0.07$, $p = 0.785$, $\eta_p^2 < 0.001$. Finally, there were no significant differences in collective action scores between the high ($M = 3.12$, $SD = 1.25$) and low national prostalgia groups ($M = 3.05$, $SD = 1.18$), $F\ (1,172) = 0.13$, $p = 0.721$, $\eta_p^2 = 0.001$.

As a final validation step of the Nostalgia Scale, we conducted a Confirmatory Factor Analysis (CFA) using the lavaan package in R (Rosseel, 2012). Specifically, we examined the six-item scale, collapsing across the two experimental conditions. As per the EFA analyses of Studies 1 and 2, we specified a one-factor solution with six items. We treated the data as categorical in nature given that the response options were on a 1–5 Likert Type scale (Muthén and Kaplan, 1985). This choice was especially important given that the sample size was not particularly large in Study 3 (Padgett and Morgan, 2021). Further, because of the categorical selection, we used Mean and Variance Centered Weighted Least Squares as the extraction method (WLSMV; Padgett and Morgan, 2021). According to the Chi-Square analysis, the model was not a fit ($\chi^2 = 33.67$, $p < 0.001$), although Chi-Square tends to be overly strict. For example, other popular fit indices demonstrated that this six-factor solution had a reasonable fit to the data across the standard indices (CFI/TLI = 0.965/0.942; RMSEA = 0.121; SRMR = 0.037) and a good fit according to the robust indices (CFI/TLI = 0.997/0.995; RMSEA = 0.057; SRMR = 0.037).

To examine the impact of the scaling differences (high vs. low), we then conducted a series of Multi-Group Confirmatory Analyses (MG-CFAs) to determine if the loadings, intercepts, or mean structure had invariance across the different scale labels. We first created a mean structure, then constrained loadings to be equivalent across the two groups. The results demonstrated that there was invariance between the baseline model and the model with the loadings constrained ($\Delta\chi^2 = 3.733$, $p = 0.589$). However, there was variance between the loading constrained model and the model constraining intercepts ($\Delta\chi^2 = 22.44$, $p < 0.001$), the same was true of the model constraining means ($\Delta\chi^2 = 89.18$, $p < 0.001$). Thus, the intercepts and the means were significantly different across the experimental conditions, but the overall factor loadings had invariance between those two groups.

The experimental manipulation did not produce group differences, but post-hoc analyses revealed partial support for our hypotheses. We explored whether national prostalgia scores influenced new normal norms, eco-friendly intentions, and collective action by including national prostalgia, condition, and their interaction in the model for each outcome variable. In both conditions, higher scores represented more prostalgia. This analysis basically tests if individual differences in prostalgia again predict the outcomes. National prostalgia did not significantly predict new normal norms [$F(1,172) = 1.40$, $p = 0.238$, $\eta_p^2 < 0.001$], however, increases in prostalgia scores significantly predicted increases in collective action [$F(1,172) = 5.98$, $p = 0.016$, $\eta_p^2 = 0.007$] and eco-friendly intentions [$F(1,172) = 4.09$, $p = 0.045$, $\eta_p^2 = 0.012$]. That is purely post-hoc, but these results again demonstrate that individual differences in prostalgia predict multiple outcomes. The failure to manipulate national prostalgia suggests that that national prostalgia is a stable psychological variable. Manipulations that have been used successfully in the past did not change the subsequent responding, but future research should use stronger manipulations before one concludes that prostalgia cannot be manipulated. It also seems plausible that prostalgia is a stable trait for a subset of the population while others do not really consider the concept on a daily basis. A review of the participant comments suggested that some individuals had trouble thinking about the future, as requested by the manipulations. Thus, future studies will further test for contextual (i.e., manipulated) changes in national prostalgia with an eye towards recognizing that prostalgia might be more salient for some individuals.

5 General discussion

The results for study 1 support our hypothesis that national prostalgia is a better predictor for cultural change variables compared to prospection. National prostalgia was shown to be the stronger predictor for eco-friendly intentions and new normal norms as compared to prospection. Again, eco-friendly intentions and new normal norms are examples of acceptance for cultural change, meaning that national prostalgia is also a stronger predictor for accepting cultural change and acting as a stronger psychological propeller than prospection. Such findings also support previous

research on national prostalgia and national nostalgia (Armenta et al., 2022).

The EFA results in study 1 for the National Prostalgia Scale demonstrated that the 6-items version, which loaded into one factor, was the most reliable and valid scale to measure national prostalgia. However, our EFA was not sufficiently powered in study 1. Thus, we conceptually replicated our effects in study 2 utilizing a more appropriate sample. Study 2's results demonstrated additional support that national prostalgia functions better as a 6-item measure. Comparing NP6 to prospection for study 2 replicated the findings of study 1, as described above. National prostalgia was the best predictor for eco-friendly intentions and new normal norms, supporting the hypothesis that national prostalgia is a psychological propeller that facilitates acceptance of cultural change previously proposed in the literature (Armenta et al., 2022; Zárate et al., 2019).

Neither prospection nor national prostalgia, however, predicted less prejudiced attitudes towards outgroups in studies 1 and 2. Thus, it seems that national prostalgia predicts acceptance of cultural change, but that does not necessarily mean that national prostalgia extends to more intergroup variables, as predicted. Study 2 also found that national prostalgia had convergent validity with optimism and openness to new experiences, two constructs we predicted would be related to our definition of national prostalgia –a longing for the nation's future. Not only did we find a strong positive correlation between NP6, optimism, and openness to new experiences, but importantly, the inclusion of those variables as predictors did not influence how well national prostalgia predicted eco-friendly intentions or willingness to form a new normal. Even when controlling for national nostalgia (in study 1) and optimism and openness to new experiences (in study 2), national prostalgia continued to predict eco-friendly intentions and acceptance of new normal norms. National prostalgia also demonstrated nice divergent validity from national nostalgia. Prostalgia and nostalgia might be correlated, but they demonstrated opposite patterns regarding predicting a new normal. Thus, national prostalgia appears to be a unique psychological construct.

The experimental study failed to find any evidence that national prostalgia caused any differences in our outcome variables. Further studies will test that process again, but with stronger manipulation strategies. Post-hoc tests of the national prostalgia effects replicated studies 1 and 2. Higher prostalgia predicted greater support for eco-friendly intentions and collective action. Review of the verbal responses from the respondents suggest that some individuals do not think in national prostalgia like terms whereas other individuals suggested that they enjoy thinking like that. Future studies will consider this possibility and differentiate participants who claim to think in prostalgic terms from those who do not.

5.1 Future directions

Here, we compared national prostalgia to several future-oriented constructs, but there are other variables that have yet to be tested. For instance, national prostalgia could also be compared to utopian thinking (Fernando et al., 2018). Both constructs encourage people to imagine desired possible worlds, which in turns can facilitate cultural change (Fernando et al., 2018; Badaan et al., 2022; Armenta et al., 2022). However, while national prostalgia focuses on the longing one has for the nation's future, that does not necessarily mean people are imagining a utopia (i.e., "a symbolically constructed representation of an ideal human world"; Kashima and Fernando, 2020). For starters, because a utopia is a cultural product, people will differ on what they would consider to be an ideal society (Kashima and Fernando, 2020). This is important as the content of utopias may determine if they motivate or undermine cultural change (Fernando et al., 2020; Kashima and Fernando, 2020). People can also imagine the future state of their nation without considering it an ideal world, regardless of how much they long for it or how objectively unlikely they consider it to be. In other words, because the future they are imagining is limited to the current reality of the nation they live in (e.g., their politics, history, and citizens) the future they imagine will likely be flawed and imperfect. Even if people were attempting to imagine the most perfect future for their nation, this future will never achieve the levels of a utopia, as the latter will always refer to the whole human world or to a universal society. After all, how perfect and ideal can a nation truly be if the other nations of the world are not? Therefore, utopian thinking must always consider the whole world and not only one's nation. Future research, however, should empirically test these differences as well as any overlap that may exist between these and related constructs (e.g., utopian aspirations and dystopian fears; Skitka et al., 2017).

The research here supports the hypothesis that national prostalgia is a unique construct –compared to prospection, openness to new experiences, and optimism—with strong reliability, predictive power, and convergent validity. When introducing a new scale/variable, it is important to identify if the new scale predicts anything beyond related scales. National prostalgia was a better predictor than prospection for all the tested variables. National prostalgia was developed as a psychological propellor for cultural inertia concepts. It was also developed to contrast that to national nostalgia. Thus, one might take a systematic approach and contrast national nostalgia effects to national prostalgia. More theoretically, psychological propellors for change should make people more open to new change, and this can cross multiple identity changing constructs. Thus, as society moves to more electric cars, renewable energies, shifting demographics, and changing economic situations, one might find that national prostalgia can predict who adapts well and who reacts with hostility. National prostalgia constructs might also be used to develop interventions to promote more acceptance of change, as necessary.

6 Conclusion

In conclusion, we found that national prostalgia is a significant and different construct from prospection. The conceptual differences seemed genuine, but these studies show an important empirical distinction as well. Indeed, in both studies, national prostalgia had stronger predictability towards eco-friendly intentions and acceptance of new normal norms, which are examples of cultural change. In the end, we improved the reliability and validity of our original 12-items National Prostalgia scale by reducing it to 6-items. Having a valid and reliable scale for national prostalgia will allow us and other researchers to continue testing national prostalgia as a construct to study how that individual difference can be used to facilitate acceptance of cultural change, which can be operationalized as support to different social movements–such as the Black Lives Matter movement, MeToo movement, acceptance of new normal norms, and different climate movements. Knowing how to manipulate national prostalgia and measure how nationally prostalgic someone is at a certain moment

can be used to study how to improve interpersonal relationships amongst different groups as well.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: https://osf.io/dacs7/?view_only=24a976f628bc432bbf3218ddc53a5ce7.

Ethics statement

The studies involving humans were approved by University of Texas at El Paso IRB. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

SC: Conceptualization, Formal analysis, Data curation, Investigation, Methodology, Software, Visualization, Writing – original draft, Writing – review & editing. JB: Formal analysis, Writing – original draft, Conceptualization, Methodology, Supervision. DJ: Formal analysis, Methodology, Writing – review & editing. MZ: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Writing – original draft, Writing – review & editing. AA: Conceptualization, Formal analysis, Methodology, Supervision, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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