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Personality and Individual Differences

Nostalgia enhances gratitude by fostering social connectedness☆

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ABSTRACT

Philip Zimbardo helped redefine and expand research on mental time travel through his work on time perspective (Zimbardo & Boyd, 1999). Nostalgia is a psychologically rich experience centered around sentimental recollection of the past, particularly momentous events involving loved ones. We hypothesized that such nostalgic reverie would enhance gratitude. We further hypothesized that social connectedness, a sense of belongingness and acceptance, would mediate this link. Three methodologically diverse studies (correlational, longitudinal, experimental) tested these two hypotheses. In Study 1, those higher in trait nostalgia were more likely to evince gratitude. In longitudinal Study 2, trait nostalgia predicted gratitude 16 months later. In experimental Study 3, participants who listened to a nostalgic song reported more gratitude than those who listened to a cheerful control song. In each study, social connectedness mediated nostalgia's association with (Studies 1–2), and causal effect on (Study 3), gratitude: nostalgia increases gratitude via heightened social connectedness.

Philip Zimbardo was recently described as a heroic figure during a heroic age of social psychology—a character who was larger than life, highly influential, and not without controversy (Goethals, 2025). Among his prominent work on such varied topics as social influence (Zimbardo, 1972a, 1972b) and heroism (Franco et al., 2011) are his foundational contributions to the study of time perspective (Boyd & Zimbardo, 1997; Zimbardo & Boyd, 1999). The Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) assesses five components of time perspective: past-positive, past-negative, present-hedonistic, present-fatalistic, and future orientation. We provide brief definitions of each component in Table 1. Extensive evidence supports the validity and utility of the ZTPI across cultures (Sircova et al., 2014) and attests to the important role of time perspective in human cognition, emotion, and behavior (Stolarski et al., 2015).

Of the five components of time perspective (Table 1), past-positive bears a notable conceptual affinity with the emotion of nostalgia ("an affectionate feeling you have for the past, especially for a particularly happy time"; Collins English Dictionary, 2023). Both constructs share thematic elements such as gratitude and social connectedness, with the latter often serving as a key psychological mechanism linking positive reflection on one's past with emotional well-being. In the present research, we examine the association between nostalgia and gratitude, and test whether this association is mediated by social connectedness.

1. Nostalgia

Nostalgia typically contains both positive and ambivalent affect—the word bittersweet is apt—but on balance is conceptualized (Hepper et al., 2012, 2014) and experienced (Leunissen, 2023; Leunissen et al., 2021) as a predominantly positive emotion (i.e., more sweet than bitter). It is this bittersweet affective signature that distinguishes nostalgia from unalloyed positive perceptions of the past captured by the past-positive component of time perspective. Studies in which participants completed both the Past-Positive subscale of the ZTPI and a nostalgia scale revealed that the respective correlations between these measures were: $r = 0.36$ (Luo et al., 2016), $r = 0.40$ (Newman et al., 2020), and $r = 0.61$ (Routledge et al., 2008). Correlations in this range indicate conceptual overlap but not redundancy (Funder & Ozer, 2019). Furthermore, experiments comparing nostalgic recall to mere positive recall (i.e., remembering a lucky event) revealed that nostalgia conferred unique psychological benefits (Hepper et al., 2021; Sedikides et al., 2016; Wildschut et al., 2014; Zou et al., 2019).

Table 1
Components of Zimbardo's Time Perspective Inventory (ZTPI).

Component	Brief definition
Past-Positive	A warm and sentimental attitude toward the past, valuing positive past experiences.
Past-Negative	A regretful or aversive view of the past, focusing on negative memories and failures.
Present-Hedonistic	A focus on immediate pleasure and excitement, often disregarding future consequences.
Present-Fatalistic	A belief that life is controlled by fate, feeling powerless to influence the future.
Future	A tendency to set goals and delay gratification for long-term rewards and achievements.

Nostalgia is experienced frequently by most people (i.e., three times a week; Hepper et al., 2021; Wildschut et al., 2006) and can be triggered in myriad ways (Sedikides et al., 2015; Wildschut & Sedikides, 2025), including by sensory inputs such as smells or tastes (Green et al., 2023; Reid et al., 2015, 2023, 2025) and music (Barrett et al., 2010; Hennessy et al., 2024; Hennessy & Habibi, 2025). It often involves autobiographical memories of pivotal life events, usually associated with loved ones, such as graduations, anniversaries, vacations, or weddings (Abeyta et al., 2015; Wildschut et al., 2006). Importantly, the emotion confers psychological benefits, including social connectedness (i.e., a sense of belongingness and acceptance; Sedikides & Wildschut, 2019), approach motivation (Stephan et al., 2013), goal pursuit (Sedikides et al., 2018), meaning in life (Routledge et al., 2011), self-continuity (Sedikides et al., 2016), optimism (Cheung et al., 2013), and inspiration (Stephan et al., 2015). Moreover, nostalgia serves a homeostatic function; aversive states such as loneliness and disillusionment trigger nostalgic reverie, which then helps to ameliorate them (Maher et al., 2021; Wildschut & Sedikides, 2023a, 2023b; Zhou et al., 2008).

1.1. Gratitude

Gratitude refers to being thankful and appreciative for benefits received from others or an external source (Emmons & McCullough, 2003). As such, gratitude can be regarded both as a trait (i.e., a general disposition to be appreciative and thankful) and as a state (i.e., a transient feeling of appreciation and thankfulness; Regan et al., 2023). Individuals high in trait gratitude report greater well-being (McCullough et al., 2002). State gratitude can be induced through interventions, such remembering times in one's live when one felt grateful toward another person and then writing a letter about those experiences directly to that person (but not sending it; Lyubomirsky et al., 2011). Such interventions are also linked to increased well-being (Lyubomirsky & Layous, 2025), with benefits of gratitude expressions extending to interpersonal and network-level dynamics (Algoe et al., 2020).

Individuals commonly express gratitude for interpersonal relationships, acts of kindness, and life events that reflect care or support from others (König & Glück, 2014). They do so in particular when the benefactor's actions are perceived as intentional, benevolent, and effortful (Tesser et al., 1968). Crucially, "gratitude … is almost always felt in retrospection" (Emmons & Mishra, 2011, p. 256), that is, when one remembers and reflects upon benefits received in the past—typically from others (Emmons, 2004).

1.2. Nostalgia and gratitude: Social connectedness as a mechanism

As mentioned above, nostalgic memories often center around meaningful relationships and moments of connection (Abeyta et al., 2015; Wildschut et al., 2006). These experiences typically involve emotional support, kindness, or shared joy, all of which are common sources of gratitude. By evoking memories of being loved, supported, or uplifted by others, nostalgia should therefore provide a fertile ground from which gratitude can grow.

Indeed, the literatures on time perspective and nostalgia offer converging support for this postulated nostalgia—gratitude link. Endorsement of a past-positive time perspective, assessed with the ZTPI, is correlated with higher trait gratitude in Australian (Bhullar et al., 2015), Polish (Przepiorka & Sobol-Kwapinska, 2021), and U.S. (Zhang, 2020) samples. Furthermore, in recent experimental studies, nostalgia inductions increased state gratitude (Li et al., 2023; Wildschut et al., 2025). Li et al. (2023), for example, induced nostalgia by showing Chinese participants a video related to their childhood memories, which included items from the time when they were children, with corresponding nostalgic music. In the control condition, participants watched a neutral video showing natural landscapes with instrumental background music. The researchers then assessed gratitude with the Gratitude Adjective Checklist (GAC; McCullough et al., 2002), instructing participants to rate how "grateful," "thankful," and "appreciative" they felt. Participants in the nostalgia condition felt more grateful than those in the control condition.

Yet, the question of *how* nostalgia increases gratitude has, so far, remained unanswered. Our key objective is to address this dearth of knowledge regarding mechanisms that connect nostalgia to gratitude. Drawing on the time perspective and nostalgia literatures, we focus on the mediational role of social connectedness. Whereas endorsement of a past-negative time perspective is associated with less perceived family support, a past-positive time perspective is linked with more perceived family support (Holman & Zimbardo, 2009). Likewise, abundant evidence indicates that nostalgia strengthens social connectedness (Juhl & Biskas, 2023; Sedikides & Wildschut, 2019) and does so across cultures (Hepper et al., 2024; Sedikides & Wildschut, 2022). In turn, knowing that one is supported and loved provides a wellspring of gratitude (Emmons, 2004). Accordingly, we tested the following hypotheses. First, nostalgia increases gratitude (H1). Second, and more important, social connectedness mediates the nostalgia—gratitude link (H2). We tested these hypotheses via three methodologically diverse studies (i.e., correlational, longitudinal, experimental). Data, analysis code, and materials are available on the Open Science Framework: https://osf.io/zepqv/?view_only=85ee1bd5f3fe4c6c834610358c9958a1. All studies received Institutional Review Board (IRB) approval from the relevant universities.

2. Study 1

In Study 1, we evaluated our hypotheses at the trait level in a sample of U.S. college students. We administered multiple trait-level measures of nostalgia and gratitude, selecting validated scales and aiming for convergent validity. We examined the mediating role of social connectedness in the relation between nostalgia and gratitude.

2.1. Method

2.1.1. Participants

Participants were undergraduate students at Virginia Commonwealth University, who completed the study online for partial course credit. We conducted a power analysis using G*Power (Faul et al., 2007). Assuming a small-to-medium effect size ($r = 0.20$), 300 participants were sufficient to achieve power = 0.95 (two-tailed alpha = 0.05). The final sample ($N = 294$) fell slightly short of this target but still afforded power greater than 0.90 to detect $r = 0.20$. The sample was moderately diverse in terms of ethnicity: White 146 (43.8 %), Black 42 (12.6 %), Asian or Pacific Islander 54 (16.2 %), biracial or multiracial 14 (4.2 %), Latino/Hispanic 19 (5.7 %), Middle Eastern 5 (1.5 %), and did not specify or other 14 (4.2 %). Participants ranged in age from 18 to 63 years ($M = 19.91$, $SD = 4.60$). The sample comprised mostly women (222 women, 68 men, 2 transgender, 2 not reported).

2.1.2. Measures and procedure

2.1.2.1. Nostalgia.
Participants completed two widely used and validated trait nostalgia measures: the Southampton Nostalgia Scale (SNS; Sedikides et al., 2015; Wildschut & Sedikides, 2022; Wildschut et al., 2023) and the Nostalgia Inventory (NI; Batcho, 1995). The SNS consists of seven items ($M = 4.62$, $SD = 1.15$, $\alpha = 0.90$). Four items assess proclivity (e.g., "How prone are you to feeling nostalgic?"; $1 = not\ at\ all$, $7 = very\ much$) or frequency (e.g., "How often do you experience nostalgia?"; $1 = very\ rarely$, $7 = very\ frequently$) of nostalgia, and three items assess its personal relevance (e.g., "How valuable is nostalgia for you?"; $1 = not\ at\ all$, $7 = very\ much$). The NI assesses participants' degree of nostalgia for 18 persons, situations, or events from their youth (e.g., "my childhood toys," "vacations I went on," "my family house"). Participants rated these items on a 5-point scale ($1 = not\ at\ all$, $5 = very\ much$; $M = 3.36$, $SD = 0.62$, $\alpha = 0.80$). The SNS and NI were significantly correlated, $r(294) = 0.58$, $p < .001$. Following previous practice (Bennett et al., 2024; Cheung et al., 2013; Lasaleta et al., 2024), we first standardized the scales (z scores) to create a shared metric and then averaged them to obtain a nostalgia index.

2.1.2.2. Social connectedness.
We measured social connectedness with 12 items from the Social Provisions Scale (SPS; Cutrona & Russell, 1987). The SPS assesses six relational provisions, which we tapped with two items each. Participants rated ($1 = strongly\ disagree$, $6 = strongly\ agree$) the degree to which their social relationships are currently providing guidance (e.g., "There is someone I could talk to about important decisions in my life"), reliable alliance (e.g., "There are people I can depend on to help me if I really need it"), reassurance of worth (e.g., "I have relationships where my competence and skills are recognized"), social integration (e.g., "There are people who enjoy the same social activities I do"), attachment (e.g., "I feel a strong emotional bond with at least one other person"), and opportunity to provide nurturance (e.g., "There are people who depend on me for help"). We averaged the 12 items to create a social connectedness index ($M = 5.07$, $SD = 0.63$, $\alpha = 0.82$).

2.1.2.3. Gratitude.
We administered two widely used and validated measures of trait gratitude: The Gratitude Questionnaire-Six Item Form (GQ-6; McCullough et al., 2002) and the GAC (McCullough et al., 2002). The GQ-6 includes items such as "I have so much to be thankful for" and "I am grateful for a wide variety of people." Participants rated each statement on a 7-point scale ($1 = strongly\ disagree$, $7 = strongly\ agree$; $M = 5.83$, $SD = 1.02$, $\alpha = 0.82$). The GAC instructs participants to rate how "grateful," "thankful," and "appreciative" they had felt over the past few weeks, using a 5-point scale ($1 = not\ at\ all$, $5 = extremely$; $M = 4.14$ $SD = 0.88$, $\alpha = 0.93$). The GQ-6 and GAC were significantly correlated, $r(294) = 0.62$, $p < .001$. We standardized the scales (z scores) and then averaged them to create a gratitude index.

2.3. Results and discussion

Consistent with H1, nostalgia was significantly correlated with gratitude, $r(294) = 0.19$, $p = .001$. Furthermore, nostalgia was significantly correlated with social connectedness, $r(294) = 0.19$, $p = .001$. In turn, social connectedness was significantly correlated with gratitude, $r(294) = 0.47$, $p < .001$. These findings set the stage for testing H2, which proposes that the relation between nostalgia and gratitude is mediated by social connectedness. We used Hayes' (2022) PROCESS macro to test this hypothesis (Model 4, 10,000 bootstrap samples).[1] Results revealed a significant indirect effect of nostalgia on gratitude via social connectedness, $ab^* = 0.085$, $SE = 0.030$, 95 % CI = [0.030, 0.149]. The indirect effect remained significant when controlling for participant age and gender (coded: woman = 1, other = 0), $ab^* = 0.071$, $SE = 0.030$, 95 % CI = [0.016, 0.133].

Results were essentially identical when we analyzed the individual measures of nostalgia (i.e., SNS and NI) and the individual measures of gratitude (i.e., GQ-6 and GAC), establishing convergent validity. When SNS was the predictor and GQ-6 the outcome, the indirect effect via social connectedness was $ab^* = 0.071$, $SE = 0.032$, 95 % CI = [0.011, 0.136]; when SNS was the predictor and GAC was the outcome, it was $ab^* = 0.041$, $SE = 0.022$, 95 % CI = [0.005, 0.090]; when NI was the predictor and GQ-6 was the outcome, it was $ab^* = 0.103$, $SE = 0.034$, 95 % CI = [0.041, 0.173]; when NI was the predictor and GAC was the outcome, it was $ab^* = 0.058$, $SE = 0.024$, 95 % CI = [0.019, 0.113].

At the trait level, nostalgia was positively associated with gratitude (supporting H1), and this association was mediated by social connectedness (supporting H2). However, the cross-sectional design of Study 1 precludes causal inferences due the perennial validity threats posed by reverse causation and confounding. To begin to address these limitations, we proceeded to test our hypotheses in a longitudinal study (Study 2). In a longitudinal design, assessments of the presumed causes and outcomes are spaced over a period of time (rather than administered at a single time point). Given that later scores are unlikely to be the cause of earlier ones, such designs reduce ambiguity regarding direction of causality (but do not eliminate it; Besser et al., 2021; Murayama & Gfrörer, 2025).

3. Study 2

Study 2 built on Study 1 in several ways. To increase generalizability, we collected a substantially larger sample from a different country and with a wider age range. Additionally, we implemented a longitudinal design to examine whether earlier trait nostalgia was prognostic of later gratitude, mediated by intervening social connectedness, covering a 16-month period.

Further, we used agreeableness as a proxy for social connectedness. In a group of emerging adults transitioning from high school, agreeableness predicted greater relational closeness, less insecurity, and less conflict (Parker et al., 2012). Indeed, agreeableness is associated with positive relationship quality among previously unacquainted individuals (Kurtz & Sherker, 2003) and self-reported marital adjustment (Holland & Roisman, 2008). Also, agreeable individuals make greater efforts in romantic relationships to be responsive (Kilian et al., 2025) and respond more positively to conflict (Jensen-Campbell & Graziano, 2001). This may be a reason why agreeable individuals are more likely to be selected as friends (Selfhout et al., 2010).

3.1. Method

3.1.1. Participants
Participants were members of the Dutch general public who were enrolled in the Longitudinal Internet Studies for the Social Sciences (LISS) panel (www.lissdata.nl). The panel includes household members selected via a true probability sampling of households that are registered with Statistics Netherlands. Panel members take part in studies monthly. Each respondent has a unique identification number, allowing researchers to combine data from different studies. We compiled the

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[1] In each study, we report fully standardized indirect effects, denoted as ab^*. In the context of the present studies, the term "indirect effect" does not refer to a causal effect, because the intervening variable was always measured rather than manipulated (i.e., we used a measurement-of-mediation approach; Spencer et al., 2005).

dataset from four LISS studies. We took the nostalgia measure from the "Nostalgia 2019" study (Wave 2, administered in July 2019). We took the social connectedness measure (i.e., agreeableness) from the "Personality" study (Wave 12, administered in May 2020). In addition, we took the gratitude measure from the "Quantifying health-related well-being 2020" study (administered in November 2020). LISS demographic information is updated monthly. Lastly, we extracted demographics from the July 2019 "Background variables" study, as it was closest to the date when nostalgia was assessed.

The resultant sample consisted of 624 individuals (322 women, 302 men). The sample was diverse regarding civil status (355 married, 153 single, 70 divorced or separated, 46 widowed), net monthly household income (M = €3182, SD = €1754), age (M = 56.50, SD = 16.76, range from 17 to 92 years,), and education level (36 completed primary school, 133 intermediate secondary education [VMBO], 78 higher secondary education [HAVO/VWO], 136 intermediate vocational education [MBO], 169 higher vocational education [HBO], and 72 university). The size of the sample was dictated by the eligible panel members who completed all relevant measures. A sensitivity power analysis indicated that a sample size of 624 afforded 80 % power to detect a small effect size, r = 0.08 (G*Power 3.1).

3.1.2. Materials and procedure

Nostalgia was assessed with the SNS (see Study 1). We averaged the seven SNS items to form a nostalgia index (M = 4.21, SD = 1.24, α = 0.94). Social connectedness was assessed with the 10-item Agreeableness subscale of Goldberg et al.'s (2006) International Personality Item Pool (IPIP) Big Five scales (e.g., "I am interested in other people," "I am not really interested in others" [reversed]; 1 = *very inaccurate*, 5 = *very accurate*; M = 3.85, SD = 0.53, α = 0.83). Gratitude was assessed by a single, face-valid item ("I am grateful for what life offers me"; 0 = *completely disagree*, 10 = *certainly*; M = 7.87, SD = 1.73). Participants completed the assessments online.

3.2. Results and discussion

Consistent with H1, nostalgia (assessed July 2019) predicted higher gratitude approximately 16 months later (November 2020), $r(624)$ = 0.10, p = .010. Nostalgia also predicted higher social connectedness approximately 10 months later (May 2020), $r(624)$ = 0.15, p < .001. In turn, social connectedness predicted higher gratitude seven months later, $r(624)$ = 0.17, p < .001. These findings are consistent with the hypothesis that social connectedness mediates the relation between nostalgia and gratitude (H2). We tested directly this mediational hypothesis with the PROCESS macro (Model 4, 10,000 bootstrap samples). The indirect effect of nostalgia on gratitude via social connectedness was significant, ab^* = 0.023, SE = 0.009, 95 % CI = [0.009, 0.045]. Attesting to its robustness, the indirect effect remained significant when we included age, gender, net household income, civil status (dummy coded), and education level (dummy coded) as covariates, ab^* = 0.017, SE = 0.008, 95 % CI = [0.005, 0.037].

Whereas longitudinal studies provide a stronger basis for causal inference than do cross-sectional ones, they remain vulnerable to the validity threats of reverse causation and, particularly, confounding (Besser et al., 2021; Murayama & Gfrörer, 2025). By employing random assignment, experiments better guard against these threats and allow stronger causal inferences. Accordingly, in Study 3, we experimentally induced nostalgia with music and compared this condition to one in which participants listened to a cheerful control song.

4. Study 3

In Study 3, members of the Dutch general public listened to either a nostalgic song or a cheerful control song and then rated their social connectedness and gratitude. We hypothesized that the nostalgic (compared to cheerful) song would evoke more gratitude (H1) and that

this effect would be mediated by social connectedness (H2).

4.1. Method

4.1.1. Participants and design

Participants were 664 members of the Dutch general public who visited the website of a popular radio station (319 men, 345 women; M_{age} = 36.58, SD_{age} = 13.18). We used music to evoke nostalgia, a method employed successfully in the past (Barrett et al., 2010; Cheung et al., 2013; Li et al., 2023; van Tilburg et al., 2019; for a review, see Sedikides et al., 2022). We randomly assigned participants to listen either to the nostalgic or cheerful control song. Participants completed the study voluntarily and received no compensation.[2]

4.1.2. Materials and procedure

We invited visitors to the Top2000.nl website hosted by Dutch radio station NPO Radio 2 to an online study. We randomly assigned them to listen to either a nostalgic song ("Het Dorp"; https://www.youtube.com/watch?v=CTrzuKEimA8) or a cheerful control song ("Nikkelen Nelis"; https://www.youtube.com/watch?v=GiF8YZi3OPg). Both songs were performed by the Dutch artist Wim Sonneveld.

We used brief dependent measures due to survey space limitations. We administered a 2-item manipulation check that assessed whether the song made participants feel "nostalgic" and "longing for their past" (α =0.80, M = 3.03, SD = 1.29). To measure social connectedness, participants then rated the extent to which the song made them feel "connected to close others" and "loved" (α = 0.87, M = 2.62, SD = 1.18). Finally, to measure gratitude, participants indicated how "grateful" the song made them feel (M = 2.79, SD = 1.34). All items were rated on a 5-point scale (1 = *not at all*, 5 = *very much*).

4.2. Results and discussion

4.2.1. Manipulation check

The nostalgic song (M = 3.44, SD = 1.26) evoked more nostalgia than the cheerful song (M = 2.58, SD = 1.17), $F(1, 662)$ = 81.14, p < .001, η^2 = 0.11. The manipulation was successful.

4.2.2. Social connectedness

Participants felt more social connectedness after listening to the nostalgic song (M = 2.88, SD = 1.17) than after listening to the cheerful song (M = 2.32, SD = 1.13), $F(1, 662)$ = 39.04, p < .001, η^2 = 0.06. Nostalgia strengthened the presumed mediator.

4.2.3. Gratitude

Participants who listened to the nostalgic song reported more gratitude (M = 3.14, SD = 1.31) than those who listened to the cheerful song (M = 2.41, SD = 1.26), $F(1, 662)$ = 52.95, p < .001, η^2 = 0.07. This finding is consistent with H1.

4.2.4. Mediation

We hypothesized that social connectedness would mediate the effect of nostalgia on gratitude (H2) and tested this with the PROCESS macro. The indirect of nostalgia (coded: cheerful song = −1, nostalgic song = 1) on gratitude via social connectedness was significant, ab^* = 0.175, SE = 0.028, 95 % CI [0.121, 0.230]. Nostalgia increased gratitude (H1) via social connectedness (H2).

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5. General discussion

Despite the conceptual overlap between the past-positive time perspective (Zimbardo & Boyd, 1999) and the emotion of nostalgia (Sedikides et al., 2015), the respective scientific literatures examining these phenomena have, for the most part, developed independently. We identified areas where these literatures intersect and reinforce each other, and might inspire future bridging research. One point of agreement concerned the link between nostalgia and gratitude. The past-positive time perspective is positively correlated with trait-level gratitude (Bhullar et al., 2015; Przepiorka & Sobol-Kwapinska, 2021; Zhang, 2020), and experimental nostalgia inductions increase state-level gratitude (Li et al., 2023; Wildschut et al., 2025). Another potential point of agreement concerns the mediator of this link. The important question of *how* nostalgia affects gratitude has, until now, been neglected. Drawing on the time perspective and nostalgia literatures, we identified social connectedness as a plausible mechanism. Positive-past time perspective is positively associated with indices of social connectedness (e.g., social networks, duration of relationships, support from family; Holman & Zimbardo, 2009) and nostalgia fosters social connectedness (Naidu et al., 2024; Sedikides & Wildschut, 2019). In turn, social connectedness, rooted in memories of being loved, supported, and uplifted by others, has been established as a rich source of gratitude (Emmons, 2004; König & Glück, 2014).

Accordingly, we tested the hypotheses that nostalgia enhances gratitude (H1) and that this effect is mediated by social connectedness (H2). Across three methodologically diverse studies conducted in the U. S. and The Netherlands—including a cross-sectional correlational study, a 16-month longitudinal study, and an experiment—we found converging evidence in support of these hypotheses. In Study 1, we demonstrated a positive association between trait nostalgia and dispositional gratitude in a sample of U.S. college students, with social connectedness mediating this relation. Importantly, this pattern held across multiple validated nostalgia and gratitude measures, offering convergent validation. In Study 2, we extended these findings using a longitudinal design in a nationally representative Dutch sample. Baseline nostalgia predicted greater gratitude 16 months later. This relation was mediated by intervening perceptions of social connectedness, indexed via agreeableness. The replicability of Study 1 findings in a culturally distinct and demographically diverse sample, underscores their generalizability. Recognizing the value of experiments for establishing causality, in Study 3, we used a music-based induction to manipulate nostalgia. Participants reported higher gratitude after listening to a nostalgic song relative to a cheerful control song, with social connectedness mediating this effect. Collectively, the findings identify social connectedness as a key mechanism linking nostalgia to gratitude.

From a practical standpoint, the findings suggest that nostalgia serves as a psychologically accessible strategy for fostering gratitude, with ensuing benefits for physical and psychological well-being, relationship quality, and prosocial behavior (Algoe et al., 2020; Dickens, 2017; Gu et al., 2022; Lyubomirsky & Layous, 2025; Ma et al., 2017). Unlike interventions requiring structured journaling or gratitude expression exercises, nostalgia can be spontaneously evoked through familiar triggers such as music, photographs, or scents (Dang et al., 2024; Reid et al., 2015, 2023; Wildschut & Sedikides, 2025). This property of nostalgia makes it a versatile tool for use in clinical, educational, and organizational settings to bolster gratitude. For example, organizations might inculcate group rituals and revisit its history to foster enhanced social connectedness and gratitude (Leunissen et al., 2024). Also, schools engage in many of these practices organically (e.g., reunions, homecoming weekends; Green et al., 2021) though they could more deliberately build nostalgia-related practices and traditions.

5.1. Limitations and future directions

We note several limitations of our research. First, in Studies 2–3, we used brief, face-valid measures of gratitude and social connectedness due to survey-space constraints. This limitation is mitigated by the use of validated, multi-item scales in Study 1. As such, the studies draw strength from each other (Campbell & Fiske, 1959). Second, in Study 2, social connectedness was operationalized via agreeableness, a domain-level personality trait associated with interpersonal warmth and pro-sociality (Jensen-Campbell & Graziano, 2001; Kilian et al., 2025; Kurtz & Sherker, 2003). Although consistent with literature linking agreeableness to social functioning, future longitudinal investigations could incorporate more direct assessments of social connectedness to better capture the hypothesized mediational process. Third, whereas the music induction in Study 3 successfully elicited nostalgia, reliance on a single nostalgic and single control song constrain generalizability. Future work could employ more extensive stimulus sampling (Judd et al., 2012), using a range of nostalgia induction techniques, including scent cues, autobiographical memory prompts, or media content (Wildschut & Sedikides, 2025). Fourth, whereas our mediation analyses supported the hypothesized indirect effect of nostalgia on gratitude via social connectedness, the correlational nature of the link between mediator and dependent variable within each study constrains the strength of causal inferences (Maxwell & Cole, 2007). Still, the mediation analyses are useful, as they exposed our hypotheses to potential falsification (Fiedler et al., 2011).

Looking ahead, new avenues merit exploration. Although we identified social connectedness as a psychological mechanism through which nostalgia exerts its beneficial effect on gratitude, other intervening processes may also play a role. For example, nostalgia increases meaning in life (Routledge et al., 2011; Sedikides & Wildschut, 2018), raising the possibility that meaning-making processes mediate the nostalgia-–gratitude link. Appraising the circumstances that contributed to one's meaningful existence might evoke gratitude (and vice versa, Nezlek et al., 2017).

Although nostalgia is bittersweet, its affective signature is predominantly positive (Leunissen, 2023). Nostalgia increases deactivated positive affect ("relaxed," "calm," "satisfied") and reduces deactivated negative affect ("bored," "sluggish," "tired"; Leunissen et al., 2021). In a daily diary study, Krejtz et al. (2016) showed that high deactivated positive affect and low deactivated negative affect predicted increases in gratitude over time, perhaps because "relaxation and lowered negative affect may allow or predispose people to realize or to think about the things for which they are grateful" (p. 35). Jointly, these findings indicate that changes in (deactivated) positive and negative affect could mediate nostalgia's effect on gratitude.

5.2. Concluding remarks

Temporal orientations toward the past, present, and future profoundly shape human psychology (Stolarski et al., 2015; Zimbardo & Boyd, 1999). The present research affirms this perspective on time by foregrounding nostalgia as a beneficial emotion, capable of enhancing gratitude by fostering social connectedness.

CRediT authorship contribution statement

Jeffrey D. Green: Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Tim Wildschut:** Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Constantine Sedikides:** Writing – review & editing, Resources, Methodology, Investigation, Conceptualization. **Margaret A. Kneuer:** Writing – review & editing, Methodology, Investigation, Data curation, Conceptualization. **Mattie V. Hedgebeth:**

Writing – review & editing, Methodology, Investigation, Data curation, Conceptualization. **Isabella L. Di Lauro:** Writing – review & editing, Methodology, Investigation, Data curation, Conceptualization. **Stephanie A. Barrientos:** Writing – review & editing, Methodology, Investigation, Data curation, Conceptualization.

Declaration of competing interest

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

Data availability

Data and analysis code are available on the Open Science Framework

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