



Nostalgia and Spirituality

The Roles of Self-Continuity and Meaning in Life

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Abstract: We investigated the relation between nostalgia and spirituality. We hypothesized that nostalgia is linked to greater spirituality through self-continuity and, in turn, meaning in life. In Study 1, we measured nostalgia and spirituality. Nostalgia predicted greater spirituality. In Study 2, we tested this relation in a nationally representative sample. Nostalgia again predicted greater spirituality, and this relation remained significant after controlling for key demographic variables and core personality traits. In Study 3, we manipulated nostalgia and measured self-continuity, meaning in life, and spirituality. Nostalgia predicted spirituality serially via self-continuity and meaning in life.

Keywords: nostalgia, spirituality, self-continuity, meaning in life

Nostalgia, “a sentimental longing or wistful affection for the past” (The New Oxford Dictionary of English, 1998, p. 1266), promotes self-continuity (a sense of connection between one’s past and present self; Sedikides et al., 2008) and meaning in life (a sense of purpose, significance, and coherence; King et al., 2016). Scholars have loosely speculated that nostalgia is also linked to spirituality, “the quality of being concerned with the human spirit or soul as opposed to material or physical things” (The New Oxford Dictionary of English, 1998, p. 1794). However, no work has expanded on these speculations nor empirically tested this link. Here, we theoretically develop and test the relation between nostalgia and spirituality.

Nostalgia

Nostalgia is a past-oriented, self-relevant, social, and mostly positive emotion (Juhl et al., 2020; Sedikides et al., 2015a, 2015b). Prototype analyses have revealed that laypersons conceive nostalgia as fond recollection of their valued past (Hepper et al., 2012, 2014). Content analyses have indeed shown that nostalgic recollections involve personally important life events (e.g., reunions, holidays, weddings) and life periods (e.g., childhood, high school, college; Abeyta et al., 2015; Wildschut et al., 2006). The self plays a protagonistic role in such recollections but is nearly always surrounded by close others (e.g., family members, partners, friends; Sedikides & Wildschut, 2019).

Although nostalgic recollections are predominantly positive, they often involve yearning or sadness for irredeemably bygone moments (Leunissen et al., 2021; Sedikides & Wildschut, 2016a). When a nostalgic narrative contains negative elements, though, the narrative is typically redemptive; that is, people view negative experiences as overshadowed or redeemed by positive ones (Wildschut et al., 2006). Nostalgia is commonly experienced (Hepper et al., 2021; Newman et al., 2020; Turner & Stanley, 2021; Wildschut et al., 2006) by people of various ages (Biskas et al., 2019; Madoglou et al., 2017) and across cultures (Hepper et al., 2014; Wildschut et al., 2019).

Additionally, nostalgia confers various psychological benefits (Frankenbach et al., 2021; Wildschut & Sedikides, 2020). For example, it fosters self-continuity. In relevant experiments, half of participants think and write about a nostalgic event from their past, whereas the other half think and write about an ordinary past event (Event Reflection Task; Sedikides et al., 2015a, 2015b). Next, all participants report their level of self-continuity (Sedikides et al., 2015a, 2015b; see also Hong et al., 2021a, 2021b). Participants in the nostalgia condition manifest greater self-continuity than controls (for replications with song-based or scent-based nostalgia inductions, see, respectively, Reid et al., 2015; Sedikides et al., 2016). Furthermore, nostalgia fosters meaning in life. In relevant experiments, nostalgia induced via the Event Reflection Task (Sedikides et al., 2015a, 2015b) or song lyrics (Routledge et al., 2011) increases meaning in life.

Nostalgia and Spirituality

We expanded on prior work to examine whether nostalgia is related to, and affects, spirituality. Although there is variation in definitions of spirituality, theory (Pargament & Zinnbauer, 2005; Park, 2005) and research assessing people's definitions of spirituality (Mattis, 2000; Zinnbauer et al., 1997) concur that it involves perceptions that there is more to one's life than the purely physical.

Some scholars have discussed spirituality within the context of nostalgia. For example, Harper (1966) described nostalgia as a spiritual awareness of "what life ought to be like" (pp. 28–29) and Boym (2001) viewed nostalgia as "a spiritual longing" including "a home that is both physical and spiritual" (p. 8). Along these lines, nostalgic reflections on Facebook contain mentions of spirituality (Davalos et al., 2015). However, the details of a potential link between nostalgia and spirituality have remained unclear. We thus developed a rationale for the relation between nostalgia and spirituality and tested this relation empirically.

We theorized that nostalgia is associated naturalistically with greater spirituality and also that it promotes spirituality. The effect of nostalgia on self-continuity and meaning in life, previously reviewed, laid the foundation for this formulation. Specifically, Van Tilburg et al. (2019) found that nostalgia increased self-continuity and meaning in life. Additionally, self-continuity predicted greater meaning in life, and self-continuity mediated the effect of nostalgia on meaning in life (nostalgia \Rightarrow self-continuity \Rightarrow meaning in life).

Meaning in life may, in turn, increase spirituality. Meaning in life entails perceptions that life has more significance than the mundane (King et al., 2016). This sense of significance may transcend not only the mundane but also the physical world. Thus, it may foster spirituality. Consistent with this, theorists have argued that meaning-providing events such as the birth of a child, marriage, or the death of a loved one elicit a more spiritual conception of the self (Pargament, 2011; Pargament et al., 2017). Empirical evidence is consistent with this proposition. For example, people who have greater meaning in life are more spiritual (Roepke, 2013) and more likely to perceive their life as sacred (Doehring et al., 2009). Also, going through a life period (i.e., transition from middle school to high school) that one feels is a meaningful turning point is associated with increased spirituality (Iimura & Taku, 2018). Finally, when reflecting on what makes life meaningful, people report becoming more in touch with their spiritual self (Barry & Gibbens, 2011). Taken together, given that nostalgia harbors meaning in life (via self-continuity), it may also foster spirituality. Thus, we propose a theoretical model in which nostalgia is linked to spirituality sequentially through self-continuity and meaning in life (i.e., nostalgia \Rightarrow self-continuity \Rightarrow meaning in life \Rightarrow spirituality).

Overview

We tested this model in three studies. In Study 1 to Study 2, we examined the robustness and generality of the relation between nostalgia and spirituality. In Study 2, we tested whether the relation holds when controlling for Big Five personality traits and whether it varies across demographic profiles. In Study 3, we examined the influence of nostalgia on spirituality and whether self-continuity and meaning in life explain this influence. Studies 1 and 3 received ethical approval from the University of Southampton. For ethical considerations in Study 2, see <https://www.lissdata.nl/faq-page/how-are-ethics-and-consent-organized-liss-panel>.

Study 1

Study 1 served as an initial test of our model, specifically examining the association between nostalgia and spirituality.

Method

Participants

One hundred ninety-nine British undergraduates participated for course credit. We excluded 13 participants who did not complete the spirituality measure. The final sample comprised 186 participants (154 women, 24 men, 8 unknown; aged 18–49 years, $M_{age} = 19.77$, $SD_{age} = 2.91$, 8 unknown). We aimed to test at least 175 participants, the required sample size to secure power = .80 (two-tailed, $\alpha = .05$) for detecting the typical effect size in social psychology ($r = .21$; Richard et al., 2003).

Measures

Nostalgia

We measured nostalgia with two scales: Southampton Nostalgia Scale (SNS; Barrett et al., 2010; Routledge et al., 2008) and Nostalgia Inventory (NI; Batcho, 1995). We applied the logic of multiple convergent operations to prevent the drawback of single operationalizations (Campbell & Fiske, 1959; Cook & Campbell, 1979). For the SNS, participants read the New Oxford Dictionary of English (1998) definition of nostalgia (previously mentioned) and responded to seven items. Three of them refer to whether participants find nostalgia valuable, important, or significant (e.g., "How valuable is nostalgia for you?"; 1 = *not at all*, 7 = *very much*) and four refer to nostalgia proneness (e.g., "How prone are you to

feeling nostalgic?"; 1 = *not at all*, 7 = *very much*) or frequency of nostalgic engagement (e.g., "Generally speaking, how often do you bring to mind nostalgic experiences?"; 1 = *very rarely*, 7 = *very frequently*). We averaged responses to compute SNS scores ($\alpha = .97$, $M = 4.32$, $SD = 1.61$).² For the original NI, participants report how much they missed 20 objects from their past (e.g., "family," "music," "holidays I went on"). *Miss*, however, is only one of many central features of the construct (Hepper et al., 2012, 2014). We thus asked participants to report how nostalgic (1 = *not at all nostalgic*, 6 = *very nostalgic*) they felt about those objects. We averaged responses to compute NI scores ($\alpha = .92$, $M = 3.32$, $SD = 0.95$).

Research has shown that the SNS and NI are correlated in Chinese ($r[191] = .41$, $p < .001$; Zhou et al., 2008), Dutch ($r[533] = .63$, $p < .001$; Stephan et al., 2014), and US ($r[36] = .40$, $p = .013$; Routledge et al., 2008) samples. Here, the SNS and NI were also correlated ($r[184] = .71$, $p = .001$). Thus, following previous research (Routledge et al., 2008; Stephan et al., 2014; Zhou et al., 2008), we standardized (z scored) and averaged the two scales to form a composite that encapsulated both global (SNS) and aspect-specific (NI) nostalgia ($\alpha = .97$). In Study 1 to Study 2, the SNS and NI were highly correlated. We standardized the scales and then averaged responses across them to create a nostalgia index. Accordingly, we report reliability coefficients for the linear combination of the two scales (denoted α). We computed these reliabilities using equations 7 to 16 of Nunnally and Bernstein (1994). We present the results for the nostalgia composite for economy of description, but separate analyses for the SNS and NI produced essentially identical results.

Spirituality

Next, participants read the aforementioned definition of spirituality and completed the 6-item Intrinsic Spirituality Scale (Hodge, 2003). The scale contains items such as "My spirituality beliefs affect...": 0 = *no aspect of my life*, 10 = *absolutely every aspect of my life*; "Spirituality is...": 0 = *not part of my life*, 10 = *the master motive of my life, directing every other aspect of my life*. We averaged responses to compute spirituality scores ($\alpha = .97$, $M = 3.75$, $SD = 2.57$).

Results and Discussion

Nostalgia was significantly and positively related to spirituality, $r(184) = .20$, $p = .008$. This provided initial evidence for our hypothesis.

Study 2

In Study 2, we tested the generality of the nostalgia-spirituality link by extracting data available from the Longitudinal Internet Studies for the Social Sciences (LISS) panel. The panel is a representative sample of the Dutch population based on a true probability sampling. Panel members completed measures of nostalgia, spirituality, and demographics. The representativeness of this sample provided an opportunity to scrutinize whether the relation between nostalgia and spirituality exists when controlling for demographics (i.e., gender, age, education level, household income) and whether it varies across different demographics. Panel members also completed a measure of the Big Five personality traits. This afforded the opportunity to test whether the relation between nostalgia and spirituality exists when controlling for core personality traits. We hypothesized that nostalgia would positively predict spirituality, explored whether this relation holds when controlling for demographics and Big Five personality traits, and whether it is moderated by demographics.

Method

Data Collection

We obtained the data from the LISS panel (www.lissdata.nl; managed by CentERdata in Tilburg, the Netherlands), which consist of household members, selected based on a true probability sampling of all households registered with Statistics Netherlands. Panel members complete studies every month, and their responses can be merged across studies. We drew on four LISS panel studies to create the data set for Study 2: *Background Variables* included demographics, *Nostalgia* included nostalgia measures, *Unaffiliated spirituality and social engagement* included a spirituality measure, and *Personality* included a measure of the Big Five traits. *Background Variables* is completed monthly to ensure demographic variables are updated. We used data that were collected during the same month as the study that contained the spirituality measure (Unaffiliated spirituality and social engagement). The Nostalgia study consists of two waves (i.e., Wave 1 and Wave 2), with each wave consisting of three parts (i.e., Part 1, Part 2, and Part 3). Part 1 of Wave 1 was administered closest in time to the study that contained the spirituality measure. We thus used data from this part to obtain the nostalgia measures. Finally, the Personality study is administered once annually, and nine waves of data were available. Wave 2 was administered closest in time to the study that contained the spirituality measure. We thus used data from Wave 2 to obtain the Big Five variables.

Participants

Our sample size ($N = 315$) was determined by the number of panel members who completed the nostalgia and spirituality measures (156 women, 159 men; aged 19–87 years, $M_{age} = 54.74$, $SD_{age} = 15.08$; monthly gross household income: range = €0–€26,000, $M = €4,121.74$, $SD = €2,566.91$). Most of these participants also completed Big Five traits ($N = 315$) as well as demographic questions concerning gender and age ($N = 315$), gross household income ($N = 295$), education level ($N = 305$), and relationship status ($N = 315$). Income data were unavailable from some participants. CentERdata used an imputation procedure (http://www.lissdata.nl/dataarchive/study_units/view/322) to compute income for most participants. Participants' highest education level varied greatly: 0.3% indicated that they had not started any education (coded as 1), 0.3% indicated that they had not completed any education (coded as 2), 4.1% indicated elementary school as their highest education level (coded as 3), 23.8% junior high school (coded as 4), 7.0% high school (coded as 5), 24.8% intermediate vocational education (coded as 6), 27.9% higher vocational education (coded as 7), 8.6% university education (coded as 8), and 3.2% others (coded as missing). Regarding relationship status, 62.9% of participants were married, 12.7% divorced, 5.4% widowed, and 19.0% never been married. Given that we relied on available data, we did not conduct a priori power analyses. However, a sensitivity analysis revealed that we achieved a power of .99 to detect a medium to small effect ($r = .24$; Cohen, 1992) at $\alpha = .05$.

Measures

Nostalgia

Participants completed the SNS ($\alpha = .94$, $M = 4.11$, $SD = 1.21$) and NI ($\alpha = .94$, $M = 3.76$, $SD = 1.15$), described in Study 1. The two scales were highly correlated, $r(312) = .67$, $p = .001$. The degrees of freedom were 312 (instead of 313) because one participant did not complete the NI scale. For this participant, their nostalgia score was based solely on their standardized SNS score. We reran the analyses excluding this participant and obtained the same results. As

in Study 1, we standardized (z scored) and averaged the two scales to form a nostalgia composite ($\alpha = .96$). We present the results for the nostalgia composite, although separate analyses for the SNS and NI yielded virtually identical findings.

Spirituality

Participants completed the Experiences of Nonreligious Transcendence scale (Berghuijs et al., 2013). Specifically, they indicated how frequently they had six spiritual experiences (e.g., “A feeling of connectedness to a universal power”); 1 = *no, not at all*, 2 = *yes, sometimes*, 3 = *yes, often*). We averaged responses to compute spirituality scores ($\alpha = .85$).

Big Five Traits

Participants completed the Big Five personality scale (Goldberg, 1992). The scale assesses, with 10 items per trait, Agreeableness (e.g., “Make people feel at ease”; $\alpha = .81$), Neuroticism (e.g., “Get stressed out easily”; $\alpha = .87$), Conscientiousness (e.g., “Follow a schedule”; $\alpha = .80$), Extraversion (e.g., “Start conversations”; $\alpha = .87$), and Openness to Experience (e.g., “Have a vivid imagination”; $\alpha = .78$). Participants reported how accurately each statement described them (1 = *very inaccurate*, 5 = *very accurate*). We reverse-scored appropriate items and averaged responses for each trait to compute subscale scores.

Results

Table 1 provides descriptive statistics for, and correlations between, nostalgia, spirituality, and Big Five traits. Nostalgia was significantly and positively related to spirituality.

Controlling for Demographic Variables and Personality

To test whether nostalgia predicts spirituality when controlling for demographics (i.e., gender, age, household income, relationship status, education) and Big Five traits,

Table 1. Descriptive statistics and correlations among measured variables in Study 2

Scale	<i>M</i>	<i>SD</i>	Correlation with							Gender	Age
			S	A	N	C	E	O			
Nostalgia proneness	0.00	0.91	.24***	.20***	.10†	.16**	.16**	.04	-.03	.07	
Spirituality (S)	1.42	0.44	—	.24***	.05	.13*	.12*	.18**	.12*	.03	
Agreeableness (A)	3.87	0.50		—	-.07	.29***	.26***	.16**	.40***	.09†	
Neuroticism (N)	2.53	0.63			—	-.20***	-.21***	-.15**	.08	-.05	
Conscientiousness (C)	3.76	0.52				—	.01	.19**	.08	.26***	
Extraversion (E)	3.27	0.63					—	.31***	.04	-.11†	
Openness (O)	3.52	0.49						—	-.09	-.10†	

Note. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Correlations with gender are point-biserial (0 = *men*, 1 = *women*). $N = 315$; $df = 313$.

Table 2. Hierarchical regression analysis predicting spirituality in Study 2

	Predictor	<i>b</i>	<i>t</i>
Step 1	Gender	0.10	1.94*
	Age	0.01	0.03
	Income	-0.01	-3.04**
	Relationship status	0.01	0.13
	Education	-0.01	-0.61
Step 2	Gender	0.04	0.67
	Age	-0.01	-0.36
	Income	-0.01	-3.34**
	Relationship status	-0.01	-0.20
	Education	-0.03	-1.64†
	Agreeableness	0.16	2.70**
	Neuroticism	0.07	1.83†
	Conscientiousness	0.05	0.95
	Extraversion	0.03	0.69
	Openness	0.18	3.06**
Step 3	Gender	0.05	1.00
	Age	-0.01	-0.37
	Income	-0.01	-3.10**
	Relationship status	-0.01	-0.09
	Education	-0.03	-1.39
	Agreeableness	0.14	2.29*
	Neuroticism	0.06	1.38
	Conscientiousness	0.04	0.67
	Extraversion	0.01	0.19
	Openness	0.18	3.01**
	Nostalgia	0.08	2.65**

Note. † $p < .10$, * $p < .05$, ** $p < .001$. Gender was coded as 0 = men, 1 = women. $N = 315$. Step 1 $df = 280$, step 2 $df = 275$, and step 3 $df = 274$.

we conducted a hierarchical regression analysis (Table 2). In the first step, we entered demographics as predictors of spirituality. In the second step, we entered the Big Five traits. In the third step, we entered nostalgia. In the first step, women, compared to men, predicted higher spirituality, and higher income predicted lower spirituality. In the second step, higher Agreeableness and Openness predicted higher spirituality, whereas higher income predicted lower spirituality. Finally, in the third step, higher nostalgia predicted increased spirituality, whereas income (negatively), Agreeableness (positively), and Openness (positively) also predicted spirituality. Thus, nostalgia predicted increased spirituality after controlling for key demographics and core personality traits.

Tests of Moderation by Demographic Variables

We conducted moderation analyses to examine if the relation between nostalgia and spirituality varied as a

function of demographics. To test whether the categorical demographic variables (i.e., gender and relationship status) moderated the relation, we conducted separate analysis of covariance for each variable. For each analysis, we entered the respective demographic variable, nostalgia, and the Nostalgia \times Demographic variable interaction as predictors of spirituality. Neither gender, $F(1, 311) = 0.10$, $p = .758$, nor relationship status, $F(3, 307) = 0.81$, $p = .490$, moderated the relation between nostalgia and spirituality.

To test whether the continuous demographic variables (i.e., age, household income, education level) moderated the relation, we conducted a hierarchical regression analysis for each variable. For each, we entered nostalgia and the respective demographic variable in the first step, and their interaction in the second step, as predictors of spirituality. Neither age, $t(311) = 0.13$, $p = .892$, household income, $t(291) = -1.49$, $p = .138$, nor education level, $t(301) = -1.71$, $p = .088$, moderated the relation between nostalgia and spirituality. For household income, degrees of freedom were 291 (instead of 311) because data from 20 participants were unavailable. For education level, degrees of freedom were 301 (instead of 311) because 10 participants did not provide relevant information. We also considered level of education as a categorical moderator, and it similarly did not moderate the relation between nostalgia and spirituality, $F(6, 299) = 0.84$, $p = .537$.

Discussion

Study 2 conceptually replicated and expanded on the findings of Study 1. In a nationally representative sample, nostalgia predicted greater spirituality and did so after controlling for key demographics and core personality traits. Demographics did not moderate the nostalgia-spirituality relation, demonstrating the generality of this relation.

Study 3

Study 1 to Study 2 showed that nostalgia is related to greater spirituality, thus providing support for part of our theoretical model. In Study 3, we tested the full model by manipulating nostalgia (vs. control) and then measuring self-continuity, meaning in life, and spirituality. We hypothesized that nostalgia would have a serial indirect effect on spirituality via self-continuity and meaning in life (i.e., nostalgia \Rightarrow self-continuity \Rightarrow meaning in life \Rightarrow spirituality).

Method

Participants

One hundred sixty-one British undergraduates participated in exchange for course credit. They completed all materials in private cubicles. We excluded one participant because they did not complete the nostalgia manipulation. The final sample comprised 160 participants (142 women, 18 men; aged 18–38 years, $M_{age} = 19.31$, $SD_{age} = 1.85$). We aimed to test at least 132 participants. This is the required sample size to secure power = .80 ($\alpha = .05$) to detect the effect size of $r = .24$ ($f = .2472$), which we obtained in Study 2 using a representative sample.

Procedure

We first experimentally induced nostalgia via the Event Reflection Task (Sedikides et al., 2015a, 2015b). Participants in the nostalgia condition read the aforementioned definition of nostalgia and recalled a nostalgic event from their life. Participants in the control condition recalled an ordinary event from their life. In both conditions, participants took a few moments to reflect on the respective event and their feelings about it. They then listed four keywords relevant to the event and spent a few minutes writing about it.

Subsequently, participants completed measures of self-continuity, spirituality, and meaning in life, in this fixed random order. Finally, participants completed a nostalgia manipulation check.

Measures

For the self-continuity scale (Sedikides et al., 2015a, 2015b), participants indicated their agreement (1 = *strongly disagree*, 6 = *strongly agree*) with four statements preceded by the stem: “With this event in mind, I feel...” (e.g., “connected with my past,” “connected with whom I was in the past”). We averaged responses to compute self-continuity scores ($\alpha = .75$, $M = 4.53$, $SD = 1.01$).

For spirituality, participants completed a version of the Intrinsic Spirituality Scale (used in Study 1; Hodge, 2003) that we adapted to conform to the format of the self-continuity and meaning in life scales. Specifically, they indicated their agreement (1 = *strongly disagree*, 6 = *strongly agree*) with six statements preceded by the stem: “With this event in mind, I feel...” (e.g., “my spirituality answers my questions,” “that growing spiritually is important in my life”). We averaged responses to compute spirituality scores ($\alpha = .97$, $M = 3.20$, $SD = 1.37$).

For the meaning in life scale (Routledge et al., 2011), participants indicated their agreement (1 = *strongly disagree*, 6 = *strongly agree*) with four statements preceded by the stem: “With this event in mind, I feel...” (e.g., “that life is meaningful,” “that life has a purpose”). We averaged

responses to compute meaning in life scores ($\alpha = .81$, $M = 4.98$, $SD = .83$).

For the manipulation check, participants thought back to the Event Reflection Task and indicated their agreement with three statements (e.g., “I was feeling nostalgic during the task”; 1 = *strongly disagree*, 6 = *strongly agree*). We averaged responses to compute manipulation check scores ($\alpha = .98$, $M = 4.62$, $SD = 1.45$).

Results

Manipulation Check

To test whether manipulated nostalgia increased state nostalgia, we conducted a one-way (manipulated nostalgia: nostalgia vs. ordinary) analysis of variance (ANOVA). Participants in the nostalgia condition ($M = 5.25$, $SD = .87$) reported greater nostalgia than those in the control condition ($M = 3.92$, $SD = 1.64$), $F(1, 158) = 41.99$, $p < .001$, $\eta^2 = .21$. The manipulation was effective.

Main Effects

To test whether manipulated nostalgia increased self-continuity, meaning in life, and spirituality, we conducted three separate one-way ANOVAs. Participants in the nostalgia condition ($M = 4.78$, $SD = 0.89$) exhibited greater self-continuity than those in the control condition ($M = 4.26$, $SD = 1.07$), $F(1, 158) = 10.96$, $p = .001$, $\eta^2 = .06$. Those in the nostalgia condition ($M = 5.11$, $SD = 0.79$) reported greater meaning in life than controls ($M = 4.83$, $SD = 0.85$), $F(1, 157) = 4.72$, $p = .031$, $\eta^2 = .03$. Those in the nostalgia condition ($M = 3.38$, $SD = 1.36$) trended toward greater spirituality than controls ($M = 3.00$, $SD = 1.36$), $F(1, 158) = 3.14$, $p = .078$, $\eta^2 = .02$.

Mediation Analysis

We tested the hypothesized model (i.e., nostalgia \Rightarrow self-continuity \Rightarrow meaning in life \Rightarrow spirituality) using PROCESS v2.0 (Model 6; Hayes, 2013; 10,000 bootstrap resamples). As illustrated in Figure 1, the effects from nostalgia to self-continuity, self-continuity to meaning in life, and meaning in life to spirituality were all significant. Additionally, the serial indirect effect (ab_1b_2) was significant, $ab_1b_2 = 0.0658$, $SE = 0.0456$, 95% CI = [0.0049, 0.1915]. We also tested self-continuity and meaning in life as single and parallel mediators. Both self-continuity and meaning in life were significant mediators when tested separately, but only meaning in life was a significant mediator when tested in parallel.

Alternative Models

In addition to the original mediation model (nostalgia \Rightarrow self-continuity \Rightarrow meaning in life \Rightarrow spirituality), five

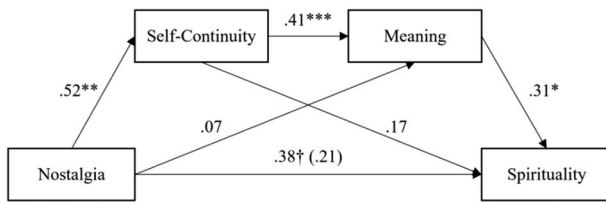


Figure 1. Mediation model in Study 3. Path coefficients are unstandardized. The number in the parenthesis represents the coefficient of the direct effect. Note. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

alternative models are possible (Table 3). To compare models, we computed five fit indices for each: (1) Comparative Fit Index (CFI; Bentler, 1990), (2) RMSEA (Steiger, 1990), (3) Standardized Root Mean Square Residual (Bentler, 1995), (4) Akaike Information Criterion (Akaike, 1974), and (5) Expected Cross-Validation Index (Browne & Cudeck, 1992). A higher value for CFI and lower values for the other indices indicate better model fit. Models that have the same paths between the same variables produce fit indices with identical values, even when some paths are in a different direction. For example, the alternative mediation model in which the order of meaning in life and self-continuity is reversed differs from the original model only in the direction of the link between the paths but still contains the same paths between the same variables and so will have the same fit as the original model. To be able to compare the models, we therefore tested path models in which each variable predicted only the variable immediately following it in the proposed (or alternative) causal sequence (Cheung et al., 2017). The original model produced better fit indices than any of the alternatives (Table 3).

Discussion

Study 3 provided evidence supporting the idea that nostalgia promotes spirituality serially via self-continuity and meaning in life. Although the total effect of nostalgia on spirituality was trending, the serial indirect effect was significant. It is possible and legitimate to find a significant indirect effect in the case of a trending or nonsignificant total effect (Hayes, 2013;

MacKinnon et al., 2000). Additionally, each link in the mediating chain was significant. Specifically, nostalgia increased self-continuity. Self-continuity, in turn, predicted greater meaning in life, which, in turn, predicted greater spirituality. Finally, the data fit the hypothesized serial mediation model better than all possible alternatives.

General Discussion

Scholars have loosely speculated that nostalgia is linked to spirituality, yet no relevant empirical work exists. We examined this link. In Study 1, nostalgia was related to greater spirituality. In Study 2, nostalgia was related to greater spirituality in a representative sample, and the relation was independent of core personality traits and key demographics and did not vary across demographic profiles. In Study 3, we expanded on these findings by manipulating nostalgia and examining the mechanisms underlying this effect. The effect of nostalgia and increased spirituality was mediated by spirituality via self-continuity and meaning in life serially.

Limitations and Alternative Models

The effect of nostalgia on spirituality was marginal in Study 3, and thus, the evidence for a direct causal effect of nostalgia on spirituality in Study 3 was somewhat weak. However, the results of this study were supportive of our underlying causal model (nostalgia \Rightarrow self-continuity \Rightarrow meaning \Rightarrow spirituality). All links in the model were significant, and the serial indirect effect of nostalgia on spirituality via self-continuity and meaning in life was significant. Causal conclusions, however, can only be made about the effects of manipulated variables, not measured variables. Hence, in Study 3, we can only make causal claims about the effects of nostalgia, and not self-continuity or meaning in life. To partly address this issue, we compared the fit of the original model to all possible alternatives, and the original model explained the data better than all alternatives. Nevertheless, manipulating

Table 3. Comparison of alternative mediational models in Study 3

		CFI	RMSEA	SRMR	AIC	ECVI
0	Nostalgia \Rightarrow self-continuity \Rightarrow meaning \Rightarrow spirituality	.98	.045	.049	25.97	0.16
A1	Nostalgia \Rightarrow self-continuity \Rightarrow spirituality \Rightarrow meaning	.38	.289	.152	64.93	0.41
A2	Nostalgia \Rightarrow meaning \Rightarrow self-continuity \Rightarrow spirituality	.86	.136	.079	33.81	0.21
A3	Nostalgia \Rightarrow meaning \Rightarrow spirituality \Rightarrow self-continuity	.29	.310	.165	70.91	0.45
A4	Nostalgia \Rightarrow spirituality \Rightarrow self-continuity \Rightarrow meaning	.84	.147	.096	35.35	0.22
A5	Nostalgia \Rightarrow spirituality \Rightarrow meaning \Rightarrow self-continuity	.87	.133	.092	33.50	0.21

Note. 0 = Original Model, A1 = Alternative Model 1, A2 = Alternative Model 2, A3 = Alternative Model 3, A4 = Alternative Model 4, A5 = Alternative Model 5.

self-continuity and meaning in life in separate experiments to test their effects on downstream constructs in the model would provide stronger evidence for causality (Spencer et al., 2005). Fortunately, prior research has manipulated self-continuity and shown that it increases meaning in life (Van Tilburg et al., 2019). Additionally, a within-subjects manipulation of meaning in life increased spirituality (Barry & Gibbens, 2011), although this study has some limitations (e.g., small sample size).

In our original model, meaning in life precedes spirituality. However, previous work has also emphasized that spirituality bolsters meaning in life (George & Park, 2017). In Study 3, we tested alternative models in which spirituality directly precedes meaning in life (A1 and A5). The data did not fit these alternative models as well as the original model. This finding, however, does not negate that spirituality increases meaning. It simply *suggests* that, within the context of having experienced nostalgia, meaning in life likely precedes spirituality. The causal direction can certainly go from spirituality to meaning within other contexts (George & Park, 2017).

Contribution to the Literature and Future Research Directions

The finding, across our three studies, that nostalgia positively predicts spirituality extends prior research on the conditions influencing spirituality. People often become more spiritual after or during adverse life experiences, such as socioeconomic distress (Wimberley, 1984), close relationship troubles (Kirkpatrick, 2005), illness (Spilka et al., 2003), or bereavement (Michael et al., 2003). People also report greater spirituality when experiencing events that elicit positive emotions such as awe, elevation, and admiration (Saroglou et al., 2008; Van Cappellen et al., 2013). Such events typically involve appreciation for something that is perceived as greater than the self (e.g., the wonders of nature, childbirth). Our findings contribute to this line of inquiry by suggesting that nostalgia, a predominantly positive and self-relevant experience, invokes spirituality.

In Study 2, we found a link between spirituality and the Big Five personality traits: Spirituality was positively associated with Agreeableness, Conscientiousness, Extraversion, and Openness, but not with Neuroticism. These findings are largely consistent with the literature. For example, in a meta-analysis of the relation between spirituality and the Big Five personality traits, Saroglou (2010) reported that spirituality was positively linked to Agreeableness, Conscientiousness, Extraversion, and Openness. Contrary to our results, the meta-analysis revealed a negative relation between spirituality and Neuroticism. This contrast may be due to our operationalization of spirituality. MacDonald (2000) assessed various dimensions of spirituality and

found that the negative relation between spirituality and Neuroticism only emerged when spirituality was assessed as a source of existential comfort.

In Study 3, the link from nostalgia to spirituality was mediated by self-continuity and meaning in life. This may not be the only explanation for the nostalgia-spirituality relation. Nostalgia may refer to the past but is an approach-oriented emotion with motivational potency (Sedikides & Wildschut, 2016b, 2020). For example, nostalgia increases inspiration (Stephan et al., 2015) and optimism (Cheung et al., 2013). Researchers have speculated that inspiration is closely linked to spirituality (Austin, 2004; Schreiber, 2012), and optimism predicts increased spirituality (Ciarrocchi & Deneke, 2006; Ellison & Fan, 2008). Thus, inspiration and optimism may also help explain the nostalgia-spirituality link. Future research should examine this.

In Study 3, we focused on the directionality of the relation between nostalgia and spirituality, specifically testing the effect of the former on the latter. We did so based on our original rationale for the link between nostalgia and spirituality (i.e., nostalgia \Rightarrow self-continuity \Rightarrow meaning in life \Rightarrow spirituality). However, we cannot rule out the possibility that this link is bidirectional. Assuming that spirituality can refer to an idealized state (i.e., utopia) and assuming that nostalgizing involves a degree of idealization, spirituality may evoke nostalgia. This possibility is worth testing.

Practical Implications

Our finding that nostalgia may enhance spirituality has therapeutic implications. Spirituality is associated with greater well-being. For example, spirituality is related to increased self-esteem and optimism (Ellison & Fan, 2008), higher life satisfaction (Kelley & Miller, 2007), and more resilience against life stressors (Gnanaprakash, 2013). Furthermore, spirituality helps people cope with conditions invoking death-related concerns. For instance, spirituality can be a source of solace to older people approaching death by providing the sense that life will continue after death (Agli et al., 2018; Wink, 2006). Spirituality can assure people that their life-threatening illness may offer lessons to self or others (Daaleman & Dobbs, 2010). Additionally, spirituality can offer bereaved people a sense of vicarious control, leaving the death of the loved one in the hands of a higher power (Ando et al., 2010). Due to these benefits of spirituality, therapists have developed psychological treatments that promote spirituality in the face of death-related conditions.

Our findings indicate that therapists might implement nostalgia in these treatments. This approach holds some promise. For example, nostalgia facilitates adaptation to bereavement (Reid et al., 2021) and may do so by nurturing spirituality. Also, nostalgia helps people cope with situations

entailing existential threats such as death awareness (Juhl et al., 2010) and meaninglessness (Sedikides & Wildschut, 2018). Nostalgia, then, could strengthen existing treatments.

Conclusion

The current work provides the first empirical evidence for a link between nostalgia and spirituality. Nostalgia predicts greater spirituality, and it does so after controlling for core personality traits and key demographics. Additionally, the effect of nostalgia on increased spirituality is mediated serially via self-continuity and meaning in life. These findings pave the way for several empirical directions and bear practical implications.

Electronic Supplementary Materials

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/1864-9335/a000487>

ESM 1. Factor Structure of the Southampton Nostalgia Scale (SNS); Factor analyses and correlations.

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Studies 1 and 3 received ethical approval from the University of Southampton. For ethical considerations in Study 2, see <https://www.lissdata.nl/faq-page/how-are-ethics-and-consent-organized-liss-panel>.

Authorship

All authors were involved in all parts of the research.

Open Data

The data that support the findings of these studies are openly available in Open Science Framework at <https://osf.io/dhx4u/> (Biskas et al., 2022).

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