Supplemental Materials

Studies 1-2: Cross-Sectional Relationships

Results

In the main text, we report the aggregated results to be concise. Here we report the results separately across studies for transparency. Standardizing all continuous predictors, we regressed envy on nostalgia and found they were positively related in Study 1, $B = .28$ [.23, .34] 95% CI, $t = 10.20$, $p < .001$, $R^2 = .08$, in Study 2, $B = .31$ [.26, .36] 95% CI, $t = 12.32$, $p < .001$, $R^2 = .10$, and in a data set that combined Studies 1 and 2, $B = .30$ [.26, .34] 95% CI, $t = 15.99$, $p < .001$, $R^2 = .09$. Next, we controlled for demographics (age, gender, education, income, and race and ethnicity) and gratitude to God. These relationships were similar. Nostalgia was positively related to envy in Study 1, $B = .28$ [.22, .33] 95% CI, $t = 10.44$, $p < .001$, multiple $R^2 = .20$, and in Study 2, $B = .31$ [.26, .30] 95% CI, $t = 12.65$, $p < .001$, multiple $R^2 = .22$. Next, we added each of the six personality traits as additional controls. Although the relationships were attenuated, nostalgia was positively related to envy in Study 1, $B = .15$ [.11, .20] 95% CI, $t = 6.62$, $p < .001$, multiple $R^2 = .46$, in Study 2, $B = .20$ [.16, .24] 95% CI, $t = 9.59$, $p < .001$, multiple $R^2 = .48$, and in a data set that combined Studies 1 and 2, $B = .18$ [.15, .21] 95% CI, $t = 11.47$, $p < .001$, multiple $R^2 = .46$.

In all analyses, the results in Study 1 were the same as in Study 2. That is, the relationships were all in the same direction and were significant in each case.

Studies 3-4: Daily States of Nostalgia and Envy

Results

Cross-level Interaction

In addition to the primary analyses presented in the text, we also ran secondary analyses by examining how trait levels of envy would moderate the within-person relationship between nostalgia and envy. According to the Bittersweet Variation Model of Nostalgia (Newman & Sachs, 2023), the relationship between nostalgia and envy should be stronger when nostalgia is elicited by negative situations or traits. Individuals high in envy should experience nostalgia in more harmful ways than those who are less envious on average. To test this hypothesis, we standardized aggregated daily states of envy and entered this variable as a predictor at level 2 from the previous model as follows:

Supplemental Model 1

Day level: y_{ij} (envy) $= \beta_{0j} + \beta_{1j}$ (nostalgia) $+ r_{ij}$

Person level: $\beta_{0j} = \gamma_{00} + \gamma_{01}$ (aggregated daily envy) $+ u_{0j}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}$ (aggregated daily envy) $+ u_{1j}$

The interaction coefficient at level 2 was significant, $b = .06$, $t = 4.18$, $p < .001$. The within-person relationship between nostalgia and envy in this model was .11. This means that among individuals who scored one standard deviation above the mean, the estimated within-person relationship between nostalgia and envy was .17, whereas the same relationship was .04 among those who scored one standard deviation below the mean. Thus, the within-person relationship between nostalgia and envy was stronger among those higher in trait envy than among those lower in trait envy, consistent with the Bittersweet Variation Model of Nostalgia.

Envy and Jealousy Analyses

As requested by a reviewer, we present analyses of single items measures of envy and jealousy. These analyses were not preregistered. Because the two items demonstrated a reasonably high reliability (.71), we aggregated the two items and present those results in the main text. The results from each individual item run separately were very similar to the aggregated results, and we present those findings here.

Results from unconditional models for envy ($M = 1.95$, within-person variation = 1.19, between-person variation = 1.11) and jealousy ($M = 1.94$, within-person variation = 1.14, between-person variation = 1.10) were similar. In the between-person analyses, aggregated daily nostalgia predicted greater envy, $b = .46$, 95% CI [.33, .59], $t = 7.00$, $p < .001$, $r_b^{(f)} = .50$, and greater jealousy, $b = .40$, 95% CI [.27, .53], $t = 5.99$, $p < .001$, $r_b^{(f)} = .44$. Within-person analyses indicated that daily nostalgia predicted greater envy, $b = .11$, 95% CI [.06, .16], $t = 4.37$, $p < .001$, $r_w^{(f)} = .27$, and greater jealousy, $b = .10$, 95% CI [.06, .15], $t = 4.35$, $p < .001$, $r_w^{(f)} = .25$. After controlling for positive and negative events, daily nostalgia was still significantly related to envy, $b = .08$, 95% CI [.03, .13], $t = 3.34$, $p = .001$, and jealousy, $b = .07$, 95% CI [.03, .12], $t = 3.24$, $p = .001$. In the lagged analyses, daily nostalgia on day $n - 1$ predicted greater envy on day n, $b = .06$, 95% CI [.01, .11], $t = 2.48$, $p = .015$, and greater jealousy on day n, $b = .05$, 95% CI [.00, .09], $t = 2.03$, $p = .045$. Envy on day $n - 1$ was not significantly related to nostalgia on day n, $b = .04$, 95% CI [-.02, .11], $t = 1.28$, $p = .203$. Likewise, jealousy on day $n - 1$ was not significantly related to nostalgia on day n, $b = .07$, 95% CI [-.00, .15], $t = 1.94$, $p = .058$. Thus, the results did not differ meaningfully when considering envy and jealousy as separate items as opposed to combining them together as a single construct.

Study 5: Daily Nostalgia and Targets of Envy

Results

Cross-level Interaction

Similar to Studies 3-4, we present the primary analyses in the main text, and we report the secondary analysis pertaining to trait moderation here. The within-person relationship between daily nostalgia and daily envy was moderated by trait envy, $b = .10$, $t = 3.94$, $p < .001$, such that the within-person relationship was stronger among those higher (+1 SD) in trait envy, $b = .32$, than among those lower (-1 SD) in trait envy, $b = .12$.

Envy and Jealousy Analyses

Results from unconditional models for envy ($M = 1.95$, within-person variation = 1.09, between-person variation = 0.79) and jealousy ($M = 1.87$, within-person variation = 1.08, between-person variation = 0.82) were similar. In the between-person analyses, aggregated daily nostalgia predicted greater envy, $b = .44$, 95% CI [.33, .55], $t = 7.59$, $p < .001$, $r_b^{(f)} = .60$, and greater jealousy, $b = .40$, 95% CI [.28, .52], $t = 6.55$, $p < .001$, $r_b^{(f)} = .53$. Within-person analyses indicated that daily nostalgia predicted greater envy, $b = .25$, 95% CI [.17, .34], $t = 5.92$, $p < .001$, $r_w^{(f)} = .42$, and greater jealousy, $b = .20$, 95% CI [.14, .27], $t = 5.90$, $p < .001$, $r_w^{(f)} = .29$. In the lagged analyses, daily nostalgia on day $n - 1$ did not significantly predict envy on day n, $b = .04$, 95% CI [-.03, .12], $t = 1.17$, $p = .249$, and did not significantly predict jealousy on day n, $b = .04$, 95% CI [-.03, .12], $t = 1.22$, $p = .234$. Envy on day $n - 1$ was not significantly related to nostalgia on day n, $b = .03$, 95% CI [-.04, .09], $t = .85$, $p = .393$. Likewise, jealousy on day $n - 1$ was not significantly related to nostalgia on day n, $b = .05$, 95% CI [-.02, .11], $t = 1.49$, $p = .143$. Thus, the results did not differ meaningfully when considering envy and jealousy as separate items as opposed to combining them together as a single construct.

Aggregated Results from Studies 3-5

Cross-level Interaction

The within-person relationship between daily nostalgia and daily envy was moderated by trait envy, $b = .07$, $t = 5.50$, $p < .001$, such that the relationship was stronger among those higher (+1 SD) in trait envy ($b = .21$) than it was among those lower (-1 SD) in trait envy ($b = .07$).

Envy and Jealousy Analyses

In the between-person analyses, aggregated daily nostalgia predicted greater envy, $b = .43$, 95% CI [.34, .51], $t = 9.72$, $p < .001$, $r_b^{(f)} = .51$, and greater jealousy, $b = .38$, 95% CI [.29, .47], $t = 8.38$, $p < .001$, $r_b^{(f)} = .46$. Within-person analyses indicated that daily nostalgia predicted greater envy, $b = .16$, 95% CI [.12, .20], $t = 7.24$, $p < .001$, $r_w^{(f)} = .33$, and greater jealousy, $b = .14$, 95% CI [.10, .18], $t = 7.01$, $p < .001$, $r_w^{(f)} = .25$. In the lagged analyses, daily nostalgia on day $n - 1$ predicted greater envy on day n, $b = .05$, 95% CI [.01, .09], $t = 2.68$, $p = .008$, and greater jealousy on day n, $b = .04$, 95% CI [.01, .08], $t = 2.23$, $p = .027$. Envy on day $n - 1$ was not significantly related to nostalgia on day n, $b = .04$, 95% CI [-.01, .09], $t = 1.71$, $p = .090$ (though the relationship was trending in the positive direction). Jealousy on day $n - 1$ was significantly related to nostalgia on day n, $b = .07$, 95% CI [.02, .12], $t = 2.57$, $p = .012$. This lagged relationship from envy/jealousy to nostalgia was the only instance in which the significance differed between envious and jealousy, though we note they were both positive coefficients. Across nearly all analyses, the results did not differ meaningfully when considering envy and jealousy as separate items as opposed to combining them together as a single construct.

Studies 6-7: Experimental Effects of Nostalgia on Envy

Supplemental Table 2. Dependent variables as a function of connected and disconnected nostalgia separately by study.

Study 6

| | | Conditions | | | Omnibus test | | | Planned Contrast | | | |
| | | Connected Nostalgia | Disconnected Nostalgia | Control | | | | | | | |
DV	N	M (SD)	M (SD)	M (SD)	F	p	η^2	Diff [95% CI]	t	p	d
General envy	213	3.13 (1.64)	2.63 (1.65)	2.21 (1.62)	5.58	.004	.050	.67 [.20, 1.38]	2.82	.005	.41
Envy toward others	213	2.36 (1.60)	1.88 (1.30)	2.12 (1.61)	1.78	.171	.017	.00 [-.43, .43]	.00	1.00	.00
Envy toward one's past self	213	3.86 (1.87)	3.59 (1.91)	2.58 (1.85)	9.11	< .001	.080	1.14 [.60, 1.68]	4.18	< .001	.61
Regret	213	2.87 (1.55)	3.47 (1.89)	2.72 (1.42)	4.27	.015	.039	.45 [-.01, .92]	1.91	.058	.28

Study 7

| | | Conditions | | | Omnibus test | | | Planned Contrast | | | |
| | | Connected Nostalgia | Disconnected Nostalgia | Control | | | | | | | |
DV	N	M (SD)	M (SD)	M (SD)	F	p	η^2	Diff [95% CI]	t	p	d
General envy	300	2.61 (1.61)	2.85 (1.72)	2.10 (1.45)	5.92	.003	.038	.64 [.25, 1.02]	3.25	.001	.40
Envy toward others	300	1.87 (1.32)	2.21 (1.46)	2.01 (1.35)	1.52	.220	.010	.03 [-.30, .36]	.17	.862	.02
Envy toward one's past self	300	3.42 (1.91)	3.96 (2.02)	2.35 (1.58)	20.10	< .001	.119	1.35 [.90, 1.79]	5.95	< .001	.73
Regret	300	3.64 (1.74)	4.04 (1.69)	3.35 (1.64)	4.24	.015	.028	.49 [.08, .89]	2.35	.019	.29
Satisfaction with past	300	5.42 (1.46)	5.69 (1.27)	4.94 (1.62)	6.90	.001	.044	.61 [.26, .96]	3.44	< .001	.421
Satisfaction with present	300	4.41 (1.80)	4.53 (1.91)	4.73 (1.64)	.84	.433	.006	-.26 [-.69, .17]	-1.20	.230	.147

Note: Satisfaction with the past and satisfaction with the present were only assessed in Study 7.

Supplemental Table 3. Logged transformed dependent variables as a function of connected and disconnected nostalgia (Studies 6 – 7).

DV	N	Connected Nostalgia M (SD)	Disconnected Nostalgia M (SD)	Control M (SD)	F	p	η^2	Diff [95% CI]	t	p	d
			Conditions			Omnibus test			Planned Contrast		
General envy	513	.37 (.27)	.36 (.27)	.24 (.27)	12.43	< .001	.046	.126 [.076, .177]	4.96	< .001	.464
Envy toward others	513	.23 (.26)	.24 (.25)	.23 (.26)	.12	.888	.000	.010 [-.037, .058]	.43	.670	.040
Envy toward one's past self	513	.48 (.27)	.51 (.27)	.29 (.29)	31.78	< .001	.111	.205 [.154, .256]	7.91	< .001	.740
Regret	513	.45 (.25)	.52 (.25)	.43 (.24)	6.17	.002	.024	.058 [.013, .104]	2.51	.013	.234
Satisfaction with past	300	.71 (.17)	.74 (.14)	.66 (.20)	5.87	.003	.038	.067 [.026, .108]	3.18	.002	.389
Satisfaction with present	300	.59 (.24)	.60 (.25)	.64 (.20)	1.07	.344	.007	-.041 [-.097, .015]	-1.46	.147	.178

Note: Satisfaction with the past and satisfaction with the present were only assessed in Study 7. These analyses were not pre-registered, but we include them as requested by a reviewer.

The results across Studies 6 and 7 were very similar. The omnibus tests for general envy, envy toward one's past self, and regret were all significant, and the omnibus test for envy toward others was not significant in both studies. The planned contrasts were the same for each variable in Studies 6 and 7 with the exception of regret which was significant in Study 7 ($p = .019$) but was not significant in Study 6 ($p = .058$).

In our preregistration, we noted secondary analyses that involved the examination of trait measures of envy and nostalgia as moderators of the effect of nostalgia on general envy. According to our theory, the effect of nostalgia on envy should be stronger among those who score high in trait nostalgia and trait envy. Trait envy and trait nostalgia were included as measures in Study 7 only. We found that trait envy did not significantly moderate the effect of nostalgia on envy, $b = .18$, 95% CI [-.06, .42], $t = 1.46$, $p = .146$. Though the effect was not significant, the pattern of effects was in the expected direction, namely that the effect of nostalgia on envy was more strongly positive among those high in trait envy (+1 SD), $b = .89$, than it was among those low in trait envy (-1 SD), $b = .38$. Similarly, trait nostalgia did not significantly moderate the effect of nostalgia on envy, $b = .18$, 95% CI [-.05, .41], $t = 1.55$, $p = .122$. Though not significant, the effect of nostalgia on envy was stronger among those high in trait nostalgia (+1 SD), $b = .75$, than it was among those low in trait nostalgia, $b = .18$.

Envy and Jealousy Analyses

Similar to Studies 3-5, we ran additional analyses for the separate envy and jealousy items individually as requested by a reviewer. The results are presented in Supplemental Table 4 below. The results for envy and jealousy were the same for all analyses.

Supplemental Table 4. Dependent variables as a function of connected and disconnected nostalgia (Studies 6 – 7).

DV	N	Connected Nostalgia M (SD)	Conditions Disconnected Nostalgia M (SD)	Control M (SD)	Omnibus test F	p	η^2	Planned Contrast Diff [95% CI]	t	p	d
General envy	513	3.22 (1.88)	3.16 (1.95)	2.33 (1.73)	12.24	< .001	.046	.86	4.94	< .001	.462
General jealousy	513	2.44 (1.62)	2.37 (1.69)	1.96 (1.42)	4.69	.010	.018	.45	3.04	.002	.284
Envy toward others	513	2.17 (1.55)	2.14 (1.45)	2.14 (1.55)	.02	.980	.000	.01	.09	.926	.009
Jealousy toward others	513	1.99 (1.46)	2.01 (1.45)	1.97 (1.44)	.03	.966	.000	.03	.213	.831	.020
Envy toward one's past self	513	3.90 (1.98)	4.10 (2.08)	2.62 (1.85)	28.59	< .001	.101	1.38	7.49	< .001	.701
Jealousy toward one's past self	513	3.31 (2.00)	3.52 (2.13)	2.27 (1.70)	20.30	< .001	.074	1.15	6.70	< .001	.588