

Nostalgia as a Repository of Social Connectedness: The Role of Attachment-Related Avoidance

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Individuals who are low (compared with high) in attachment-related avoidance rely on social bonds to regulate distress, and the authors hypothesized that nostalgia can be a repository of such social connectedness. Studies 1–3 showed a positive association between loneliness and nostalgia when attachment-related avoidance was low, but not when it was high. Study 4 revealed that low-avoidance individuals derived more social connectedness from nostalgia than did high-avoidance individuals. Study 5 extended these findings and demonstrated that, in addition to being a source of social connectedness, nostalgia increased participants' perceived capacity to provide emotional support to others. As in the case of social connectedness, this beneficial effect of nostalgia was significantly stronger when attachment-related avoidance was low (compared with high).

Keywords: nostalgia, attachment, loneliness, social connectedness

Nostalgia is an emotion that is said to be experienced by almost everyone (Boym, 2001). But what exactly is the content of nostalgia, when is it likely to be elicited, and what does it do for the individual? Turning to contemporary psychological literature will reveal few, if any, answers. Although nostalgia appears to be a prevalent experience, and draws from uniquely human cognitive abilities (i.e., to think temporally and self-reflectively; Sedikides, Wildschut, Arndt, & Routledge, 2006; Sedikides, Wildschut, Gaertner, Routledge, & Arndt, 2008), its deeper psychological ramifications have remained shrouded.

The term *nostalgia* derives from the Greek words *nostos* (*return*) and *algos* (*pain*). It was coined by the Swiss physician Johannes Hofer (1688/1934) to describe the adverse symptoms displayed by Swiss mercenaries fighting in the service of European

monarchs. Hofer conceptualized nostalgia as “a cerebral disease” (p. 387), and his view of nostalgia as a neurological affliction persisted throughout the 17th and 18th century. By the early 19th century, nostalgia came to be regarded as a form of melancholia or depression, and it remained relegated to the realm of psychological disorders for much of the 20th century. To some extent, this disconsolate perspective was due to the equation of nostalgia with homesickness. Only in the latter part of the 20th century did nostalgia acquire a separate conceptual status (Davis, 1979). Present dictionary definitions of homesickness and nostalgia reflect this distinctness. *The New Oxford Dictionary of English* (1998) defines *homesick* as “experiencing a longing for one’s home during a period of absence from it” and *nostalgia* as “a sentimental longing for the past.”

Whereas there is now a sizable literature on homesickness (Van Tilburg & Vingerhoets, 1997; Van Tilburg, Vingerhoets, & van Heck, 1996), empirical research on nostalgia remains scarce and, until recently, confined mainly to the field of marketing and consumer preferences (Holbrook, 1993; Schindler & Holbrook, 2003). Focused on accounting for the market success of certain consumer goods, this research has demonstrated how product styles (e.g., of music) that were popular during one’s youth influence one’s lifelong preferences. Although these findings are important, we have attempted to lay

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the foundation for a broader perspective in order to understand more fully the psychological significance of nostalgia (Sedikides, Wildschut, Arndt, & Routledge, 2008; Sedikides, Wildschut, & Baden, 2004; Sedikides, Wildschut, Routledge, Arndt, & Zhou, 2009). In the present research, we built on this foundation and examined whether the psychological significance of nostalgia resides partly in its capacity to strengthen social connectedness, and how this role of nostalgia is shaped by attachment-related individual differences.

Nostalgia as a Repository of Social Connectedness

Individuals have a fundamental need to belong (Baumeister & Leary, 1995; Maslow, 1954). This is illustrated, for instance, by findings that individuals form social bonds with relative ease (Festinger, Schachter, & Back, 1950) and resist tenaciously their dissolution (Vaughan, 1986). Under stressful or threatening circumstances, individuals often rely on social bonds for intimacy and protection, and those with strong social bonds experience better psychological and physical well-being (Cohen & Wills, 1985; Sarason, Sarason, & Gurung, 1997). Social networks, however, are not static. The deterioration or severance of valued social bonds that often accompany life transitions can make individuals feel adrift and lonely (Colson, 1971; Sedikides, Wildschut, Gaertner, et al., 2008; Van Tilburg & Vingerhoets, 1997). In addition, social connectedness can be threatened by interpersonal rejections (Williams, 1997).

Deficiencies in social connectedness are highly distressing and elicit a range of compensatory mechanisms geared toward replenishing this vital psychological resource (Williams, Forgas, & von Hippel, 2005). Gardner, Pickett, and Knowles (2005) made a distinction between direct and indirect compensatory mechanisms or strategies. Direct strategies are engaged when suitable interaction partners are available, and are geared toward forming or repairing relationships with these individuals. For example, ostracized participants put forth more effort on a subsequent collective task (Williams & Sommer, 1997). Indirect strategies are engaged when suitable interaction partners are not readily available, and rely on mental representations of social bonds as a source of social connectedness. For example, participants who write about a rejection (compared with an acceptance) show increased accessibility of their group memberships, as assessed by word completion and lexical decision tasks (Knowles & Gardner, 2008). We propose that nostalgia, too, can serve as an indirect strategy to bolster social connectedness. In nostalgic reverie, “the mind is ‘peopled’” (Hertz, 1990, p. 195). By rekindling meaningful relationships, nostalgia bolsters social bonds and renders accessible positive relational knowledge structures (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996). Important figures from one’s past are brought to life and become part of one’s present (Davis, 1979).

In an initial series of studies, Wildschut, Sedikides, Arndt, and Routledge (2006) provided three pieces of evidence in support of the idea that nostalgia can strengthen social connectedness. First, they found that nostalgic narratives typically featured the self in social context, were focused often on close others (e.g., family, friends), and were richer in expressions of positive than negative affect. Second, they found a causal link between loneliness and nostalgia. Participants in a state of loneliness scored higher on a measure of nostalgia than those in a control condition. Importantly, loneliness predominantly

increased feelings of nostalgia for close others (e.g., “my family,” “having someone to depend on”), suggesting that participants were recruiting nostalgia to redress feelings of loneliness. Third, they found that nostalgia strengthened social bonds. In three studies, participants brought to mind either a nostalgic or an ordinary event in their lives and then completed measures of positive and negative affect, self-esteem, and social connectedness. Participants in the nostalgia condition scored higher on multiple and convergent measures of positive (but not negative) affect, self-esteem, and social connectedness. More recently, Zhou, Sedikides, Wildschut, and Gao (2008) examined the role of nostalgia in the regulation of loneliness in several Chinese samples (i.e., secondary school children, university students, factory workers). In four studies, they found that, whereas the direct effect of loneliness was to reduce perceptions of social support, there was also a directionally opposite indirect effect of loneliness on perceived social support via nostalgia. Specifically, loneliness increased nostalgia, and nostalgia, in turn, increased perceptions of social support.

Prior research findings are thus consistent with the idea that nostalgia can serve to regulate loneliness by strengthening social connectedness. Indeed, lonely individuals may gravitate toward nostalgia because alternative, more direct compensatory strategies are not viable in the absence of suitable interaction partners (Gardner et al., 2005). These findings, however, do not address well-documented attachment-related differences in the way individuals regulate psychological distress (Ainsworth, Blehar, Waters, & Wall, 1978). The key objective of the present research was to examine whether such attachment-related differences influence the degree to which individuals regulate loneliness by using nostalgia as a source of social connectedness.

Attachment and Distress Regulation

According to attachment theory (Bartholomew & Horowitz, 1991; Bowlby, 1982; Brennan, Clark, & Shaver, 1998; Fraley & Shaver, 2000; Mikulincer & Shaver, 2003), individual differences in reactions to distress are a manifestation of two underlying dimensions: attachment-related anxiety (anxiety) and attachment-related avoidance (avoidance). The former reflects the extent to which the self is seen as worthy of love and support, whereas the latter reflects the extent to which others are seen as responsive to one’s distress. These internal working models of self and others begin to develop early in life in response to experiences with attachment figures (Ainsworth et al., 1978) and are thought to remain relatively stable across time (Sharfe & Bartholomew, 1994). This implies that, just as individual differences in anxiety and avoidance shape interactions between child and caregiver, such differences affect how individuals regulate distress and felt insecurity later in life.

There is abundant empirical evidence that attachment-related avoidance influences the degree to which individuals rely on social bonds to regulate distress. Consistent with the idea that high-avoidance (compared with low-avoidance) individuals view others as unavailable or unresponsive, research shows that these individuals rely less on social bonds to regulate distress (Feeney, 2006; Mikulincer & Shaver, 2008). Of importance, research has also revealed that avoidance interacts with distress to shape support seeking (Collins & Feeney, 2000; Fraley & Shaver, 1998; Simpson, Rholes, & Nelligan, 1992). That is, the positive association

between psychological distress and support seeking is stronger for low-avoidance individuals, who see others as responsive, than for high-avoidance individuals, who see others as unresponsive. To the extent that nostalgia serves to strengthen social bonds, one would therefore expect the positive association between loneliness (a potent form of psychological distress) and nostalgia to be stronger when avoidance is low rather than high.

It is less clear whether attachment-related anxiety also influences the degree to which individuals rely on social bonds to regulate distress. Whereas some studies have found a negative association between anxiety and support seeking (Florian, Mikulincer, & Bucholtz, 1995), other studies have found a positive association between anxiety and support seeking (Ognibene & Collins, 1998), and still other studies have found no association between the two (Collins & Feeney, 2000; Larose, Boivin, & Doyle, 2001; Simpson et al., 1992). One factor that complicates the relation between anxiety and support seeking is that support seeking may not only reflect the high confidence in the availability of others that is characteristic of secure attachment (low anxiety and low avoidance) but may also reflect the hypervigilance regarding the availability of others that is characteristic of high anxiety (Feeney, 2006). Whether support seeking reflects confidence or hypervigilance may depend on a host of contextual factors. The task of identifying these contextual factors presents an interesting challenge for future research but falls outside the scope of the present article. Suffice it to say that the extant literature does not provide a strong basis for predicting whether or how anxiety might shape the relation between loneliness and nostalgia. We therefore treated this as an open question.

Overview

We present five studies that addressed three interrelated questions. The first question is whether loneliness elicits nostalgia and, specifically, whether the tendency to respond to loneliness by seeking refuge in nostalgia is influenced by attachment-related individual differences. In Study 1, we asked participants to write about the circumstances under which they become nostalgic and then coded the responses for instances in which participants identified loneliness as a trigger of nostalgia. We then examined whether attachment-related individual differences predicted how likely participants were to identify loneliness as a trigger of nostalgia. In Study 2, we measured how often participants felt lonely (differentiating between different facets of loneliness) and how frequently they experienced nostalgia. We then tested whether the strength of the association between loneliness facets and nostalgia varied as a function of attachment-related individual differences. Study 3 was an experiment examining whether the effect of manipulated relational connectedness (a specific facet of loneliness) on nostalgia was moderated by attachment-related individual differences. Studies 1–3 are thus positioned to address the foundational question of whether nostalgia is more strongly triggered by loneliness among low-avoidance (compared with high-avoidance) persons.

The second question we sought to address concerned the functional impact of nostalgia. We examined whether low-avoidance (compared with high-avoidance) individuals are more apt to harness nostalgia as a source of social connectedness. Study 4 thus

extended the analysis by assessing whether manipulated nostalgia uniquely strengthened feelings of social connectedness among low-avoidance (compared with high-avoidance) participants.

The third guiding question we examined was whether the potential utility of nostalgia extends beyond increasing perceived social connectedness. We turned our attention to a key ingredient in the formation and maintenance of interpersonal relationships: perceived competence in providing emotional support to others (Buhrmester, Furman, Wittenberg, & Reis, 1988). In Study 5, we assessed whether manipulated nostalgia uniquely strengthened perceived competence in providing emotional support to others among low-avoidance (compared with high-avoidance) participants.

Study 1

In Study 1, we asked participants to describe the circumstances under which they become nostalgic. We hypothesized that, if nostalgia serves as a source of social connectedness and if low-avoidance (compared with high-avoidance) individuals are more likely to regulate feelings of loneliness by relying on social bonds, then low-avoidance (compared with high-avoidance) individuals should more frequently identify loneliness as a trigger of nostalgia.

Method

Participants. Participants were 102 female undergraduate students enrolled at the University of Southampton, who received course credit.

Procedure and materials. Materials were administered in sessions ranging in size from 1 to 8 participants. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. First, they completed the Revised Experiences in Close Relationships Scale (ECR-R; Fraley, Waller, & Brennan, 2000), a 36-item measure assessing the dimensions of avoidance (e.g., “I am very uncomfortable with being close to romantic partners”) and anxiety (e.g., “I worry that romantic partners won’t care about me as much as I care about them”). Items were rated on a 7-point scale (1 = *strongly disagree*; 7 = *strongly agree*). The ECR-R yielded reliable measures of avoidance ($\alpha = .90$, $M = 2.86$, $SD = 0.98$) and anxiety ($\alpha = .94$, $M = 3.39$, $SD = 1.26$).

Next, participants described the circumstances under which they become nostalgic. Exact instructions read: “When do you bring to mind nostalgic experiences? What seems to trigger your memory of the nostalgic experiences? That is, under which circumstances do you think of nostalgic experiences?” A research assistant coded (0 = *absent*; 1 = *present*) participants’ descriptions for instances in which loneliness was identified as a trigger of nostalgia (e.g., “Thinking of my parents makes me feel secure, so if I’m feeling lonely I may think of past experiences with them”; “If I ever feel lonely or sad, I tend to think of my friends or family who I haven’t seen for a long time”; “Nostalgia is triggered when perhaps you may feel isolated from the world”; “When I am missing someone, for example my family, I will often feel nostalgic for shared experiences from the past”). A second research assistant coded a subset of 10 descriptions. There was perfect agreement between the two coders for this subset.

Results and Discussion

We entered loneliness codes into an Avoidance \times Anxiety logistic regression analysis.¹ Results revealed a significant negative association between avoidance and loneliness being coded "present" (odds ratio = 0.39, $B = -0.94$, $SE = 0.47$), $\chi^2(1, N = 102) = 3.97$, $p < .05$. Relative to high-avoidance participants, low-avoidance participants were more likely to identify loneliness as a trigger of nostalgia. The predicted probability of loneliness being coded "present" was 25% for low-avoidance participants ($-1 SD$) and 5% for high-avoidance participants ($+1 SD$). The association between anxiety and loneliness was not significant (odds ratio = 1.42, $B = 0.35$, $SE = 0.34$), $\chi^2(1, N = 102) = 1.08$, $p < .30$. Finally, the Avoidance \times Anxiety interaction was not significant (odds ratio = 0.58, $B = -0.54$, $SE = 0.38$), $\chi^2(1, N = 102) = 2.07$, $p < .16$.

These findings provide encouraging preliminary evidence for the idea that low-avoidance (compared with high-avoidance) individuals are more likely to respond to loneliness by seeking refuge in nostalgic reverie. Nevertheless, a critical limitation of Study 1 is that it treated loneliness as a unitary construct. There is evidence to suggest that individuals conceive of their social relationships (or lack thereof) as multifaceted. Hawkley, Browne, and Cacioppo (2005) examined individuals' representations of their social relationships (or lack thereof) by factor analyzing the UCLA Loneliness Scale (Russell, 1996), a 20-item questionnaire measuring feelings of social isolation and dissatisfaction with one's level of belongingness. Their results supported the conceptualization of loneliness-connectedness as "a coherent mental representation with three separable facets that are subordinate to a single overarching loneliness construct" (p. 800). The three facets were labeled *Isolation*, reflecting feelings of aloneness, anonymity, and withdrawal; *Relational Connectedness*, corresponding to familiarity, intimacy, and support; and *Collective Connectedness*, dealing with feelings of group cohesion and similarity. Hawkley et al. proposed that these three facets of loneliness-connectedness correspond to self-definition at the individual, relational, and collective level, respectively (Brewer & Gardner, 1996; Sedikides & Brewer, 2001). By distinguishing between the Isolation, Relational Connectedness, and Collective Connectedness facets of loneliness-connectedness, Study 2 sought to achieve a more detailed understanding of the association between loneliness and nostalgia, and of how this association might vary as a function of attachment-related individual differences.

Another limitation of Study 1 is that it involved female participants only. The reason for restricting data collection to women in this preliminary study was the high female-to-male ratio in our participant pool ($\approx 8:1$). In Study 2, we partially succeeded in recruiting a greater proportion of male participants by conducting the study on University visit days.

Study 2

The first objective of Study 2 was to offer a conceptual replication of the Study 1 finding that participants who were low (compared with high) in avoidance more frequently identified loneliness as a trigger of nostalgia. If low-avoidance (compared with high-avoidance) individuals are more likely to respond to loneliness by harnessing nostalgia as a source of social connect-

edness, then there should be a particularly strong positive association between the experience of loneliness and the experience of nostalgia when avoidance is low (compared with high). The second objective of Study 2 was to differentiate between the three facets of loneliness-connectedness identified by Hawkley et al. (2005). This allowed us to examine which, if any, of these facets interacts most strongly with avoidance to predict the frequency of nostalgia.

Method

Participants. One hundred thirty-two individuals (105 women, 27 men) served as participants. Eighty-nine (76 women, 13 men) were University of Southampton undergraduate students who received course credit. Twenty-two (18 women, 4 men) were prospective students, and 21 (11 women, 10 men) were these students' parents/guardians. Mean participant age was 24 years ($SD = 11.31$). Prospective students and their parents/guardians (during a visit to the University of Southampton) were recruited in an effort to increase the number of male participants. Preliminary analyses revealed that there was no significant gender difference in frequency of nostalgia and that gender did not qualify the statistically significant findings reported below. We therefore omitted gender from the reported analyses.

Procedure and materials. Participants were seated at desks and completed the materials anonymously and at their own pace. Participants first completed the ECR-R, yielding reliable assessments of avoidance ($\alpha = .94$, $M = 2.70$, $SD = 1.06$) and anxiety ($\alpha = .94$, $M = 3.22$, $SD = 1.27$). Next, participants completed the UCLA Loneliness Scale (Version 3; Russell, 1996). This scale comprises 20 items that were rated on a 4-point scale (1 = *never*; 4 = *always*). In addition to calculating an overall loneliness score ($\alpha = .92$, $M = 2.06$, $SD = 0.45$), scores for Isolation (e.g., "How often do you feel isolated from others"; $\alpha = .88$, $M = 2.31$, $SD = 0.51$), Relational Connectedness (e.g., "How often do you feel there are people who really understand you"; $\alpha = .85$, $M = 1.68$, $SD = 0.53$), and Collective Connectedness ("How often do you feel you have a lot in common with the people around you"; $\alpha = .74$, $M = 1.84$, $SD = 0.45$) were also calculated. Finally, participants completed two items that assessed the frequency with which they experience nostalgia. The first item was "Generally speaking, how often do you bring to mind nostalgic experiences?" This item was rated on a 7-point scale (1 = *very rarely*; 7 = *very frequently*). The second item was "Specifically, how often do you bring to mind nostalgic experiences?" For this item, participants checked one of the following seven response options: *once or twice a year*, *once every couple of months*, *once or twice a month*, *approximately once a week*, *approximately twice a week*, *three to four times a week*, and *at least once a day*. These options were scored 1 through 7. The two items were highly correlated, $r(132) = .68$, $p < .001$, and were averaged to create a composite score ($M = 4.47$, $SD = 1.37$).

¹ In this, and all subsequent studies, statistical analyses involved mean-centered measures of avoidance and anxiety. We estimated main effects and interactions simultaneously in all studies, but we obtained essentially identical findings when we performed hierarchical analyses in which we entered main effects on the first step, two-way interactions on the second step, and (where applicable) the three-way interaction on the third step.

Results

The UCLA Loneliness Scale. We entered frequency of nostalgia as the dependent variable in a Loneliness \times Avoidance \times Anxiety multiple regression analysis. Results revealed a marginal positive association between loneliness and nostalgia ($\beta = .19$), $F(1, 124) = 3.09$, $p < .09$. More important, there was a significant Loneliness \times Avoidance interaction ($\beta = -.25$), $F(1, 124) = 4.52$, $p < .05$. Tests of simple effects revealed a positive association between loneliness and nostalgia when avoidance was low (-1 SD; $\beta = .46$), $F(1, 124) = 6.06$, $p < .05$, but no significant association when avoidance was high ($+1$ SD; $\beta = -.07$), $F(1, 124) = 0.13$, $p < .72$. Furthermore, there was a significant negative association between avoidance and nostalgia when loneliness was high ($\beta = -.32$), $F(1, 124) = 4.60$, $p < .05$, but no significant association when loneliness was low ($\beta = .21$), $F(1, 124) = 1.10$, $p < .30$.

Loneliness-connectedness facets. To gain a more fine-grained understanding of which loneliness-connectedness facet

identified by Hawkley et al. (2005) was associated with nostalgia for low-avoidance persons, we repeated our analyses separately for each facet. We depict relevant findings in Figure 1. Plotted values are predicted means conditioned at one standard deviation above and below the mean of avoidance and one standard deviation above and below the mean of Isolation (top left panel), Relational Connectedness (top right panel), and Collective Connectedness (bottom panel).

Isolation. An Isolation \times Avoidance \times Anxiety multiple regression analysis revealed a marginal positive association of isolation with nostalgia ($\beta = .19$), $F(1, 124) = 2.86$, $p < .10$, and a significant Isolation \times Avoidance interaction, $F(1, 124) = 3.93$, $p < .05$. There was a significant positive association between isolation and nostalgia when avoidance was low ($\beta = .44$), $F(1, 124) = 5.66$, $p < .05$, but no significant association when avoidance was high ($\beta = -.06$), $F(1, 124) = 0.13$, $p < .72$. Furthermore, there was a negative association between avoidance and nostalgia when isolation was high ($\beta = -.28$), $F(1, 124) = 3.84$,

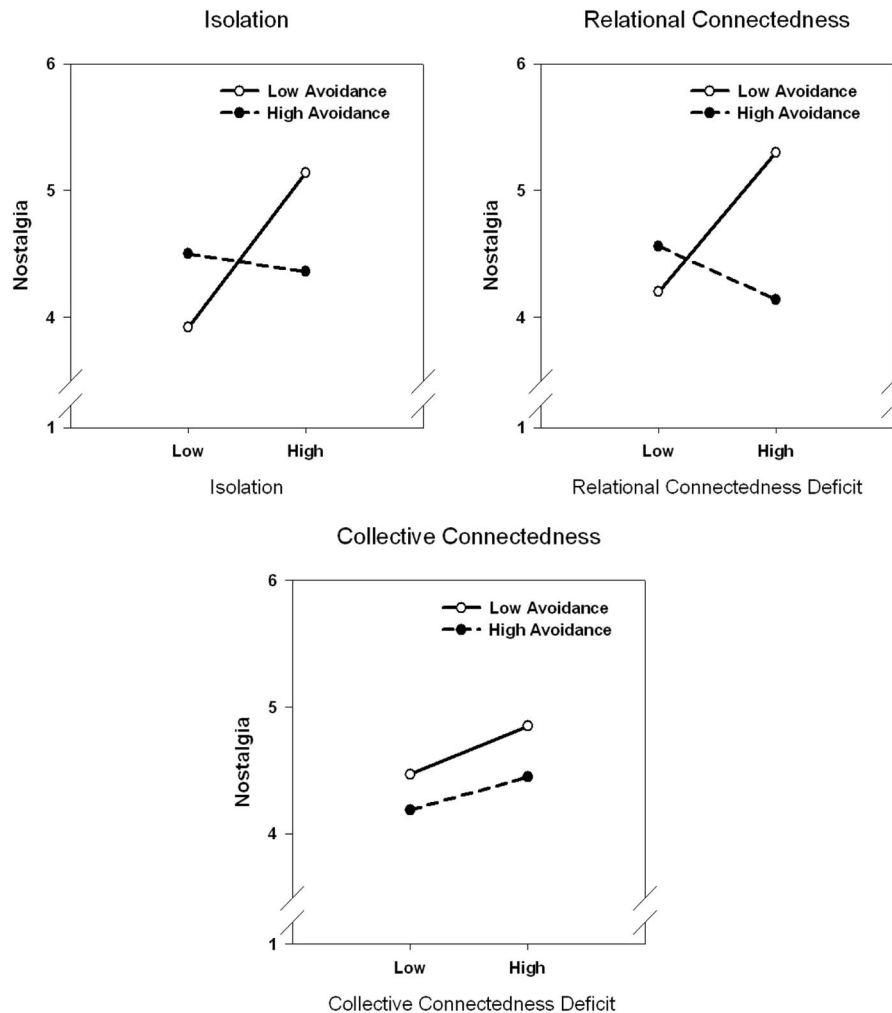


Figure 1. Frequency of nostalgia as a function of attachment-related avoidance and three loneliness-connectedness facets: Isolation (top left panel), Relational Connectedness (top right panel), and Collective Connectedness (bottom panel).

$p = .052$, but no significant association when isolation was low ($\beta = .22$), $F(1, 124) = 1.06$, $p < .31$.

Relational connectedness. A Relational Connectedness \times Avoidance \times Anxiety multiple regression analysis revealed a significant Relational Connectedness \times Avoidance interaction only, $F(1, 124) = 5.10$, $p < .05$. There was a significant positive association between deficiencies in relational connectedness and nostalgia when avoidance was low ($\beta = .40$), $F(1, 124) = 5.45$, $p < .05$, but no significant association when avoidance was high ($\beta = -.16$), $F(1, 124) = 1.08$, $p < .31$. Furthermore, there was a significant negative association between avoidance and nostalgia when deficiencies in relational connectedness were high ($\beta = -.42$), $F(1, 124) = 6.66$, $p < .05$, but no significant association when deficiencies in relational connectedness were low ($\beta = .13$), $F(1, 124) = 0.58$, $p < .45$.

Collective connectedness. Finally, a Collective Connectedness \times Avoidance \times Anxiety multiple regression analysis revealed a significant positive association between anxiety and nostalgia only ($\beta = .24$), $F(1, 124) = 4.49$, $p < .05$. The Collective Connectedness \times Avoidance interaction was not significant, $F(1, 124) = 0.03$, $p < .87$.

Supplementary analyses. The Isolation and Relational Connectedness facets produced parallel results and were highly correlated, $r(132) = .70$. We therefore wanted to assess the extent to which their respective contributions in predicting nostalgia were nonoverlapping. To do so, we first regressed each facet onto the remaining two facets. We then treated the residuals from these analyses as independent variables in models that also included avoidance and anxiety. Frequency of nostalgia was the dependent variable. An Isolation Residuals \times Avoidance \times Anxiety multiple regression analysis revealed no significant effects, $F_s(1, 124) < 2.37$, $p_s > .10$. Specifically, the Isolation Residuals \times Avoidance interaction was not significant, $F(1, 124) = 0.26$, $p < .61$. A Relational Connectedness Residuals \times Avoidance \times Anxiety multiple regression analysis, however, revealed that the Relational Connectedness Residuals \times Avoidance interaction was significant, $F(1, 124) = 5.38$, $p < .05$. These findings indicate that the previously significant Isolation \times Avoidance interaction, but not the Relational Connectedness \times Avoidance interaction, is attributable to overlap between the Isolation and Relational Connectedness facets.

Discussion

The key objective of Study 2 was to develop a fine-grained picture of the association between loneliness and nostalgia as a function of avoidance (and anxiety). To achieve this, we distinguished between three facets of loneliness-connectedness identified by Hawkey et al. (2005). We found that deficiencies in relational connectedness were positively associated with nostalgia when avoidance was low but not when avoidance was high. This finding substantiates the idea that low-avoidance persons are more likely to redress deficiencies in social connectedness—particularly those relating to lack of familiarity, intimacy, and emotional support—by drawing upon nostalgia.

We also found that avoidance was negatively associated with nostalgia when deficiencies in relational connectedness were high but not when they were low. Assuming that the attachment-behavioral system is more strongly activated when deficiencies in

relational connectedness are high (compared with low), this finding supports the idea that attachment-related individual differences in psychological functioning are manifested most clearly when the attachment-behavioral system is strongly activated (Mikulincer & Shaver, 2003).

Irrespective of attachment-related individual differences, deficiencies in collective connectedness were not associated with increased nostalgia. An explanation for this finding is that, unlike relational connectedness, collective connectedness can be easily replenished by means of direct compensatory strategies. Joining a new sports club, for instance, is much easier than finding a suitable person to fill the role of close friend, caregiver, or partner. Redressing deficiencies in collective connectedness would therefore be less likely to necessitate indirect compensatory strategies, such as nostalgia, that rely on mental representations of social bonds.

Study 2 has at least two limitations. First, evidence for the link between deficiencies in relational connectedness and nostalgia among low-avoidance persons was correlational. This opens the door to alternative explanations of our findings (e.g., nostalgia increasing perceived deficiencies in relational connectedness, rather than the reverse). We addressed this limitation in Study 3 by experimentally manipulating social connectedness. Second, we did not provide participants with a formal definition of nostalgia. This limitation also applies to Study 1. Wildschut et al. (2006) obtained parallel results in studies that did and did not include a definition of nostalgia (Studies 5–6). Nonetheless, it is crucial to rule out the possibility that the present findings stem from a peculiar conceptualization of nostalgia specific to our samples. Therefore, the nostalgia assessment in Study 3 was preceded by a dictionary definition of nostalgia.

Study 3

Study 2 findings underscored the importance of feelings of familiarity, intimacy, and emotional support encompassed by relational connectedness. In Study 3, we therefore sought to implement a manipulation of social connectedness tailored specifically to produce variation in relational connectedness, and to examine its impact on in-the-moment feelings of nostalgia (i.e., state nostalgia). Burgeoning interest in the adverse psychological effects of social exclusion has stimulated the development of inventive experimental manipulations (Leary, Tambor, Terdal, & Downs, 1995; Twenge, Baumeister, Tice, & Stucke, 2001; Williams, Cheung, & Choi, 2000; Williams & Sommer, 1997). What many of these manipulations have in common is that participants are excluded (vs. included) by anonymous others or others with whom they shared only a superficial level of acquaintanceship. This is not meant to say that such manipulations are weak, because even social exclusion at zero acquaintance can have profound psychological consequences (Williams et al., 2000). Still, such manipulations may have a relatively stronger impact on collective connectedness than on relational connectedness, to use Hawkey et al.'s (2005) terms. Indeed, relational connectedness may be difficult to manipulate experimentally, because participants would strongly resist any suggestion that those to whom they feel closest (e.g., romantic partners, family members, friends) harbor negative feelings toward them.

There is, however, a validated manipulation of social connectedness that targets relational connectedness. This manipulation,

which was introduced by Twenge et al. (2001) and has since been implemented in numerous studies (Twenge, 2008), involves a basic contrast between a future alone and a future belonging condition. In the future alone condition, participants received a bogus personality profile indicating that they would end up alone later in life and would not have lasting friendships, relationships, or marriages. In the future belonging condition, participants were told that they were the type of person who would have rewarding friendships and relationships throughout life and would have stable, enduring marriages. By projecting deficiencies in relational connectedness into the future, this manipulation circumvents the aforementioned credibility problem that would arise if participants were told that close others harbored negative feelings toward them. In light of Study 2 findings, we thought that this particular manipulation of social connectedness was best suited to our purposes.

Method

Participants and design. Participants were 97 University of Southampton undergraduates (86 women, 11 men), who received course credit. Participants were assigned randomly to one of two experimental conditions (future alone vs. future belonging). In addition, avoidance and anxiety were assessed at the beginning of the experimental session. Preliminary analyses revealed that there was a marginal gender difference in state nostalgia only and that gender did not qualify the statistically significant findings reported below.² We therefore omitted gender from the reported analyses.

Procedure and materials. Participants were seated in individual cubicles. They first completed the ECR-R and the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975). The ECR-R yielded reliable assessments of avoidance ($\alpha = .96$, $M = 2.62$, $SD = 0.93$) and anxiety ($\alpha = .90$, $M = 2.95$, $SD = 0.78$). The EPQ was administered to set the stage for the experimental manipulation of relational connectedness adopted from Twenge et al. (2001, Studies 1–3). Participants received false feedback regarding their “personality type.” To bolster the credibility of this feedback, the experimenter first provided participants with accurate information regarding their level of extraversion, as assessed by the EPQ. Participants then received randomly assigned false information regarding the implications of this extraversion score for their future belongingness. In the future alone condition, participants were told the following:

You’re the type who will end up alone later in life. You may have friends and relationships now, but by your mid 20s most of these will have drifted away. You may even marry or have several marriages, but these are likely to be short-lived and not continue into your 30s. Relationships don’t last, and when you’re past the age where people are constantly forming new relationships, the odds are you’ll end up being alone more and more.

In the future belonging condition, participants were told the following:

You’re the type who has rewarding relationships throughout life. You’re likely to have a long and stable marriage, and have friendships that will last into your later years. The odds are that you’ll always have friends and people who care about you.

After receiving this feedback, participants read the definition of nostalgia as given in *The New Oxford Dictionary* (1998) (“*The*

Oxford Dictionary defines nostalgia as ‘a sentimental longing for the past’”) and then completed a validated three-item measure assessing state nostalgia (Wildschut et al., 2006). Items read as follows: “Right now, I am feeling quite nostalgic”; “Right now, I am having nostalgic feelings”; and “I feel nostalgic at the moment.” Ratings were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*). The items were averaged to create a state nostalgia score ($\alpha = .98$, $M = 4.38$, $SD = 1.43$).

Results and Discussion

We entered the state nostalgia score as a dependent variable into a Relational Connectedness (future alone vs. future belonging) \times Avoidance \times Anxiety analysis of covariance (ANCOVA). Results revealed a significant Relational Connectedness \times Avoidance interaction only, $F(1, 89) = 4.18$, $p < .05$. Relevant predicted means are presented in Table 1. Tests of simple effects showed that participants in the future alone condition scored higher on nostalgia than did participants in the future belonging condition when avoidance was low ($-1 SD$), $F(1, 89) = 5.88$, $p < .05$, but not when it was high ($+1 SD$), $F(1, 89) = 0.26$, $p < .62$.³

These findings further corroborate the idea that low-avoidance persons are more inclined to regulate deficiencies in relational connectedness by drawing upon nostalgia. It is worth noting that, unlike participants in Studies 1–2, Study 3 participants were given a definition of nostalgia. Yet, Study 3 conceptually replicated the findings of Studies 1–2. In accordance with previous research (Wildschut et al., 2006), this indicates that whether or not participants were given a definition of nostalgia did not influence our findings.

Study 3 findings are consistent with the conceptualization of nostalgia as a source of social connectedness, but we acknowledge that this interpretation hinges on a hitherto untested assumption. We have assumed that low-avoidance (compared with high-avoidance) individuals are more likely to respond to loneliness with nostalgia because they harness nostalgia as a source of social connectedness. There are, of course, other possibilities. There is evidence, for instance, that nostalgia not only strengthens social connectedness but also generates positive affect and boosts self-esteem (Wildschut et al., 2006). Perhaps low-avoidance (compared with high-avoidance) individuals are more likely to turn to nostalgia in times of need, not because they derive from it a stronger sense of social connectedness, but because they derive from it more positive affect, more positive self-esteem, or both. We examined these possibilities in Study 4.

Study 4

In Study 4, we manipulated nostalgia by instructing participants to bring to mind and reflect on either a nostalgic or an ordinary

² There was a descriptive tendency for women ($M = 4.53$, $SD = 1.37$) to score higher than men ($M = 3.21$, $SD = 1.42$) on the measure of state nostalgia, $F(1, 81) = 2.83$, $p < .10$.

³ Tests of simple effects also produced directionally opposite associations between avoidance and nostalgia in the future alone and future belonging conditions. The association between avoidance and nostalgia was significantly more negative in the future alone condition ($\beta = -.22$), $F(1, 89) = 2.02$, $p < .16$, than in the future belonging condition ($\beta = .22$), $F(1, 89) = 2.15$, $p < .15$.

Table 1
Nostalgia as a Function of Attachment-Related Avoidance and Manipulated Social Connectedness (Study 3)

Level of avoidance	Future belonging		Future alone	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low avoidance	3.86	0.29	4.90	0.31
High avoidance	4.50	0.30	4.28	0.32

Note. Ratings of nostalgia were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*). Table entries are predicted means conditioned at one standard deviation above and below the mean of avoidance. Respective *N*s for the future-belonging and future-alone conditions were 51 and 46.

event from their past. Previous research has found that recollection of a nostalgic (compared with an ordinary) event bolstered social connectedness (Wildschut et al., 2006) and perceived social support (Zhou et al., 2008), but also generated positive affect and increased self-esteem (Stephan, Wildschut, Sedikides, Routledge, & Arndt, 2008; Wildschut et al., 2006). The dual objectives of Study 4 were to replicate these earlier findings and to examine whether they are qualified by attachment-related individual differences. We expected that individuals who are low (compared with high) in avoidance are more likely to recruit nostalgia as a source of social connectedness. Whether attachment-related individual differences also play a role in shaping the effects of nostalgia on self-esteem and positive affect was an open question.

Method

Participants and design. One hundred six undergraduates (74 women, 31 men, 1 who did not report gender) served as participants for course credit. Of those, 59 were University of Southampton undergraduates (44 women, 15 men), and 47 were North Dakota State University undergraduates (30 women, 16 men, 1 who did not report gender). Participants were randomly assigned to one of two experimental conditions (nostalgia vs. control). In addition, avoidance and anxiety were assessed at the beginning of the experimental session. Preliminary analyses revealed that neither research location (University of Southampton vs. North Dakota State University) nor participant gender qualified any of the significant findings reported below, and these variables were therefore omitted from the reported analyses.

Procedure and materials. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. First, they completed the ECR-R to assess avoidance ($\alpha = .95$, $M = 2.33$, $SD = 0.82$) and anxiety ($\alpha = .93$, $M = 2.80$, $SD = 0.89$). Then, they received information relevant to the experimental manipulation of nostalgia. In the nostalgia condition, participants were instructed to “. . . bring to mind a nostalgic event in your life. Specifically, try to think of a past event that makes you feel most nostalgic.” In the control condition, participants were instructed to “. . . bring to mind an ordinary event in your daily life—an event that took place in the last week.” Participants were instructed to write down four keywords relevant to the event and to take a few moments to think about the event and how it made them feel. Next, participants completed a manipulation check consisting of three items assessing state nostalgia (see

Study 3; $\alpha = .96$, $M = 3.98$, $SD = 1.19$). As intended, participants in the nostalgia condition ($M = 4.29$, $SD = 1.06$) reported more nostalgia than did those in the control condition ($M = 3.64$, $SD = 1.25$), $F(1, 97) = 7.33$, $p < .01$.⁴

Next, participants completed state measures of social connectedness, self-esteem, positive affect, and negative affect, each consisting of two items that were rated on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*). The items were “Thinking about this event makes me feel loved” and “. . . feel connected to loved ones” (to assess state social connectedness; $\alpha = .90$, $M = 4.23$, $SD = 1.52$); “. . . feel I have many positive qualities” and “. . . value myself more” (to assess state self-esteem; $\alpha = .86$, $M = 3.66$, $SD = 1.32$); “. . . feel happy” and “. . . in a good mood” (to assess state positive affect; $\alpha = .95$, $M = 4.41$, $SD = 1.38$); and “. . . feel unhappy” and “. . . feel sad” (to assess state negative affect; $\alpha = .89$, $M = 2.17$, $SD = 1.37$). A standard assessment format was used, rather than an assortment of existing scales, because one objective of Study 4 was to compare results for measures of social connectedness, self-esteem, and positive (and negative) affect. We did not want to compromise these comparisons by confounding outcomes and assessment formats.

Results

We entered the measure of perceived social connectedness into a Nostalgia Versus Control \times Avoidance \times Anxiety analysis of covariance (ANCOVA). Results revealed a significant main effect for nostalgia versus control, $F(1, 96) = 6.62$, $p < .05$. Social connectedness was stronger in the nostalgia ($M = 4.69$, $SD = 1.28$) than the control ($M = 3.73$, $SD = 1.62$) condition. Results further revealed a significant negative association between avoidance and social connectedness ($\beta = -.30$), $F(1, 96) = 7.42$, $p < .05$. More important, these findings were qualified by a significant Nostalgia Versus Control \times Avoidance interaction, $F(1, 96) = 5.21$, $p < .05$. Relevant predicted means are presented in Table 2 (top rows). Test of simple effects showed that participants in the nostalgia condition reported stronger social connectedness than those in the control condition when avoidance was low ($-1 SD$), $F(1, 96) = 11.89$, $p < .01$, but not when avoidance was high ($+1 SD$), $F(1, 96) = 0.00$, $p < .99$.⁵

We performed parallel analyses for the state measures of self-esteem, positive affect, and negative affect. These analyses did not reveal significant interaction effects involving avoidance or anxiety. We therefore proceeded by testing the simple contrast between the nostalgia and control conditions. Self-esteem was higher in the nostalgia ($M = 3.98$, $SD = 1.31$) than in the control ($M = 3.22$, $SD = 1.26$) condition, $F(1, 103) = 6.90$, $p < .01$. Participants in

⁴ In Studies 4 and 5, we entered the nostalgia manipulation check into a Nostalgia Versus Control \times Avoidance \times Anxiety ANCOVA. In both studies, state nostalgia was significantly higher in the nostalgia than in the control condition. In neither study was this effect qualified by significant higher order interactions. In Study 4, there was also a significant negative association between avoidance and state nostalgia ($\beta = -.27$), $F(1, 97) = 5.42$, $p < .05$.

⁵ Tests of simple effects further revealed that avoidance was negatively associated with perceived social support in the nostalgia condition ($\beta = -.57$), $F(1, 96) = 9.18$, $p < .01$, but not in the control condition ($\beta = -.05$), $F(1, 96) = 0.15$, $p < .70$.

Table 2
Perceived Social Connectedness (Study 4) and Perceived Interpersonal Competence (Study 5) as a Function of Attachment-Related Avoidance and Manipulated Nostalgia

	Ordinary event		Nostalgic event	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Study 4				
Low avoidance	3.84	0.29	5.38	0.35
High avoidance	3.69	0.28	3.70	0.36
Study 5				
Low avoidance	3.21	0.35	4.15	0.28
High avoidance	4.01	0.35	3.40	0.25

Note. Ratings of perceived social connectedness were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*), and ratings of perceived interpersonal competence were made on a 5-point scale (1 = *disagree*, 5 = *agree*). Table entries are predicted means conditioned at one standard deviation above and below the mean of avoidance. Respective *N*s for the ordinary-event and nostalgic-event conditions were 51 and 55 in Study 4, and 26 and 26 in Study 5.

the nostalgia condition ($M = 4.72$, $SD = 1.37$) also reported more positive affect than did those in the control condition ($M = 4.09$, $SD = 1.33$), $F(1, 103) = 5.80$, $p < .05$. There was, however, no significant difference between the nostalgia ($M = 2.27$, $SD = 1.41$) and control ($M = 2.07$, $SD = 1.34$) conditions on negative affect, $F(1, 103) = 0.55$, $p < .46$. These findings replicate previous research (Wildschut et al., 2006).

Discussion

Consistent with the idea that low-avoidance (compared with high-avoidance) individuals are more apt to harness nostalgia as a source of social connectedness, Study 4 found that recalling a nostalgic (compared with an ordinary) event increased perceived social connectedness only among low-avoidance participants. This does not mean, however, that only low-avoidance persons derive psychological benefit from nostalgia. Study 4 showed that recalling a nostalgic (compared with an ordinary) event increased self-esteem and positive affect irrespective of attachment-related individual differences. These findings thus also shed light on the role of nostalgia in high-avoidance persons.

The finding that recall of a nostalgic (compared with an ordinary) event increased positive affect but did not decrease negative affect indicates that, although nostalgia is a predominantly positive experience, it is not devoid of the sadness or unhappiness one might occasionally experience when recalling ordinary life events. Finally, note that, even in the control condition, positive affect ($M = 4.09$) exceeded negative affect ($M = 2.07$) by a considerable margin, $F(1, 50) = 34.79$, $p < .01$. It is clearly not the case that recalling a nostalgic event had relatively beneficial effects merely because participants disliked recalling an ordinary event. On the contrary, it appears that participants mildly enjoyed recalling an ordinary event. This is reassuring, because it indicates that the control condition provides an adequate and meaningful baseline for assessing the effects of nostalgia.

A critical remaining question is how far-reaching the benefits of nostalgia are. Skeptics might argue that, although nostalgia produces a temporary increase in perceived social connectedness, it

does not provide a structural solution to the problem of loneliness. Nostalgia, according to this perspective, provides only a weak surrogate for real interpersonal closeness (Kaplan, 1987) or, worse still, is a feeble escape from reality (Fodor, 1950). We take a different perspective. Research has shown that, when people feel efficacious and competent to navigate complex interpersonal situations (e.g., providing emotional support to a grieving friend), they are more successful at forming and maintaining social relationships (Buhrmester, 1990; Buhrmester et al., 1988). Furthermore, interpersonal competence is shaped at least partially in the context of experiences with close others (e.g., family, friends, partners, peers); the feelings of social connectedness and intimacy derived from social bonds provide the scaffolding for building interpersonal competence and forming new relationships throughout life (Buhrmester, 1996; Hartup, 1983; Hartup & Sancilio, 1986; Hazan & Shaver, 1987; Savin-Williams & Berndt, 1990; Sroufe & Fleeson, 1986; Sullivan, 1953). The acquisition of social connectedness and intimacy, then, is inextricably linked with the provision of emotional support to others, and we propose that nostalgic memories may encompass information about both. We examined this proposal in Study 5.

Study 5

The findings of Studies 1–4 were consistent with the idea that nostalgia can be used as an indirect strategy to establish proximity to close others and that low-avoidance (compared with high-avoidance) individuals are more apt to harness nostalgia for this purpose. Contrary to direct strategies for bolstering social connectedness, which are engaged when suitable interaction partners are available, indirect strategies are engaged when suitable interaction partners are unavailable and rely on mental representations of social bonds as a source of social connectedness (Gardner et al., 2005). Because, in the context of social relationships, the acquisition of social connectedness and intimacy are inextricably linked with the provision of emotional support to others, we assume that mental representations of social bonds encompass information about both (Kunze & Shaver, 1994). For instance, nostalgic memories of vacations spent with friends may both increase feelings of social connectedness and serve as reminders of one's own capacity to be a friend to others. We tested the hypothesis that, if low-avoidance (compared with high-avoidance) individuals are more apt to harness nostalgia for the purpose of establishing proximity to close others, then nostalgia should uniquely increase perceived interpersonal competence among low-avoidance (compared with high-avoidance) individuals. That is, we expected Study 5 to reveal a results pattern for perceived interpersonal competence that would complement the results pattern for perceived social connectedness shown in Study 4.

A second objective of Study 5 was to address a potential limitation of Studies 1–4 relating to the attachment assessment. In these previous studies, the attachment assessment immediately preceded the experimental manipulation and/or assessment of dependent variables. This might raise questions about the extent to which participants may have inferred the general purpose of these studies and, specifically, the relevance of the attachment assessment to the subsequent experimental manipulation and/or assessment of dependent variables. In Study 5, the attachment assessment was

therefore part of a mass pretest that preceded the experimental session by several weeks.

Method

Participants and procedure. Participants were 52 University of Missouri—Columbia undergraduate students (23 women, 29 men) who received course credit. At the beginning of the semester, participants completed a mass pretest that included an abbreviated assessment of avoidance and anxiety. Participants then signed up for an experimental session at a later time during the semester. Preliminary analyses revealed that gender did not qualify the statistically significant findings reported below. Gender was therefore omitted from the reported analyses.

Pretest assessment of avoidance and anxiety. Because of strict space limitations in the mass pretest, a total of six items assessing avoidance and anxiety were drawn from the Relationships Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994). Although the RSQ was designed to assess the four-category attachment model proposed by Bartholomew and Horowitz (1991), Kurdek (2002) showed that subsets of RSQ items could be combined to create valid measures of the underlying avoidance and anxiety dimensions. On the basis of Kurdek's analysis, three items were selected to assess avoidance and three items to assess anxiety. To assess avoidance, the following were used: "Others often want me to be closer than I feel comfortable being"; "I worry about others getting too close to me"; and "I find it relatively easy to get close to others." The latter item was reverse scored. To assess anxiety, the following were used: "I find that others are reluctant to get as close as I would like"; "My desire to merge completely sometimes scares people away"; and "I often worry that others won't want to stay with me." A principal factor analysis using oblique rotation revealed two factors with eigenvalues greater than 1. The three items assessing avoidance all had factor loadings greater than .53 on the first factor and no factor loadings greater than .27 on the second factor. The three items assessing anxiety all had factor loadings greater than .67 on the second factor and no factor loadings greater than .37 on the first factor. The interfactor correlation was .06. Composite measures of anxiety ($\alpha = .69$, $M = 2.13$, $SD = 0.76$) and avoidance ($\alpha = .67$, $M = 2.29$, $SD = 0.81$) were created by averaging the appropriate items.

Experimental session. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. They received instructions relevant to the experimental manipulation of nostalgia (see Study 4) and completed three items assessing state nostalgia (see Studies 3–4; $\alpha = .90$). As intended, participants in the nostalgia condition ($M = 3.99$, $SD = 1.33$) reported feeling more nostalgic than did participants in the control condition ($M = 3.21$, $SD = 1.20$), $F(1, 43) = 4.56$, $p < .05$. Next, participants completed the Emotional Support scale from the Interpersonal Competence Questionnaire (Buhrmester et al., 1988). This scale consists of eight items that assess perceived competence to provide emotional support to close others (e.g., "Helping a close companion get to the heart of a problem he or she is experiencing"; "Being a good and sensitive listener for a companion who is upset"). Participants rated on a 5-point scale (1 = *disagree*; 5 = *agree*) how competent they felt to enact the behaviors described in each item. The items were averaged to

create a measure of perceived emotional support competence ($\alpha = .95$, $M = 3.63$, $SD = 1.01$).

Results and Discussion

A Nostalgia Versus Control \times Avoidance \times Anxiety ANCOVA for perceived emotional support competence revealed a significant Nostalgia Versus Control \times Avoidance interaction only, $F(1, 44) = 5.62$, $p < .05$. Relevant predicted means are presented in Table 2 (bottom rows). Tests of simple effects revealed that, relative to participants in the control condition, those in the nostalgia condition perceived themselves to be more competent to provide emotional support to close others when avoidance was low ($-1 SD$), $F(1, 44) = 4.35$, $p < .05$, but not when avoidance was high ($+1 SD$), $F(1, 44) = 2.03$, $p < .17$.⁶

These findings indicate that nostalgia not only increases the perceived social connectedness of low-avoidance (compared with high-avoidance) individuals but also increases their perceived competence to provide emotional support to others, thereby providing these individuals with an important resource for the effective formation and maintenance of interpersonal relations.

General Discussion

Nostalgia is a common emotion (Wildschut et al., 2006) that is experienced in both Western and Eastern cultures (Zhou et al., 2008), but, by and large, it has been neglected in psychological scholarship. We have laid the foundation for an empirical approach to nostalgia that aims to explore and understand its psychological significance (Sedikides, Wildschut, et al., 2008; Sedikides et al., 2004). The present research built on this foundation to address three interrelated questions. In Studies 1–3, we examined whether the tendency to respond to loneliness by seeking refuge in nostalgia is influenced by attachment-related individual differences. We extended the analysis in Study 4 by assessing whether manipulated nostalgia uniquely strengthened feelings of social connectedness among low-avoidance (compared with high-avoidance) participants. Finally, we assessed in Study 5 whether manipulated nostalgia also uniquely strengthened perceived competence in providing emotional support to others among low-avoidance (compared with high-avoidance) participants.

Summary of Findings

Is the link between loneliness and nostalgia shaped by attachment-related individual differences? High-avoidance (compared with low-avoidance) persons view others as unavailable or unresponsive and are therefore less likely to rely on social bonds to regulate psychological distress (Collins & Feeney, 2000; Simpson et al., 1992). This basic tenet of attachment theory served as our point of departure for investigating the idea that nostalgia can serve as a repository of social connectedness. We hypothesized that if nostalgia can be a source of social connectedness, then loneliness (a potent form of psychological distress) should more

⁶ Tests of simple effects further showed that avoidance was negatively associated with emotional support competence in the nostalgia condition ($\beta = -.37$), $F(1, 44) = 4.67$, $p < .05$, but not in the control condition ($\beta = .39$), $F(1, 44) = 2.07$, $p < .16$.

strongly trigger nostalgia among low-avoidance (compared with high-avoidance) persons. We found in Study 1 that low-avoidance (compared with high-avoidance) participants more frequently stated that they become nostalgic in response to loneliness. In Study 2, we distinguished among three facets of loneliness-connectedness and highlighted the particular significance of deficiencies in relational connectedness as a predictor of increased nostalgia among low-avoidance (compared with high-avoidance) participants. Building on these findings, we manipulated relational connectedness (Twenge et al., 2001) and assessed its impact on in-the-moment feelings of nostalgia in Study 3. Results revealed that deficiencies in relational connectedness increased nostalgia among low-avoidance participants, but not among high-avoidance participants.

The findings of Studies 1–3 were consistent with the idea that low-avoidance (compared with high-avoidance) individuals regulate deficiencies in relational connectedness by seeking proximity to close others and that nostalgia can be a source of such proximity. Of course, the proximity afforded by nostalgia is psychological rather than physical; nostalgia is as an indirect compensatory strategy, which relies on mental representations of social bonds as a source of social connectedness (Gardner et al., 2005). Our findings also shed light on the traditional conflation of nostalgia with homesickness, which we regard as being partially responsible for having perpetuated the classification of nostalgia as a psychological impairment. If nostalgia is a response to deficiencies in relational connectedness, then it stands to reason that homesickness and nostalgia would be contiguous in time. Although one can understand how such temporal contiguity could give rise to the perception that homesickness and nostalgia are two sides of the same coin, our findings indicate that it is more appropriate to conceptualize nostalgia as a reaction to, rather than as a symptom of, homesickness.

Is the link between nostalgia and social connectedness shaped by attachment-related individual differences? An important issue remained. We assumed that low-avoidance (compared with high-avoidance) individuals are more likely to respond to loneliness by drawing on nostalgia because they are more apt to harness nostalgia as a source of social connectedness. There are, of course, other possibilities. Perhaps low-avoidance (compared with high-avoidance) individuals are more apt to harness nostalgia as a source of positive affect, positive self-esteem, or both. In Study 4, we found that manipulated nostalgia indeed increased social connectedness only among low-avoidance participants. However, we also found that nostalgia increased positive affect and self-esteem irrespective of attachment-related individual differences. Whereas the former finding underscores the ability of low-avoidance individuals to harness nostalgia as a source of social connectedness, the latter finding sheds light on the potential utility of nostalgia for high-avoidance individuals. Although such individuals do not use nostalgia as a source of social connectedness, they may use nostalgia for other purposes; for instance, they may seek to buffer self-threat by using nostalgia to affirm valued aspects of the self. Prior work on compensatory self-inflation (Baumeister & Jones, 1974; Greenberg & Pyszczynski, 1985) and self-affirmation (Sherman & Cohen, 2006; Steele, 1988) has revealed that when people face self-threats, rather than countering directly the specific threat, they often counter its effects by affirming essential and positive aspects of the self. We propose that nostalgia constitutes a benign

mechanism through which people can affirm valued aspects of the self. Consistent with this possibility, recent evidence indicated that nostalgia attenuates the effect of mortality salience (a potent self-threat) on death-thought accessibility (Routledge, Arndt, Sedikides, & Wildschut, 2008) and also attenuates self-esteem defense (Vess, Arndt, Routledge, Sedikides, & Wildschut, 2008; Zauberman, Ratner, & Kim, 2009).

Does the utility of nostalgia extend beyond strengthening social connectedness? The acquisition of social connectedness and intimacy is inextricably linked with the provision of emotional support to others, and we hypothesized that nostalgic memories encompass information about both. Consistent with this idea, we found in Study 5 that manipulated nostalgia uniquely increased perceived competence in providing emotional support to others among low-avoidance (compared with high-avoidance) participants. A noteworthy implication of this finding is that, by providing this important resource for the effective formation and maintenance of interpersonal relations, nostalgia can facilitate relationship strivings. This suggests the interesting possibility that nostalgia is a two-pronged strategy that can indirectly facilitate social connectedness when suitable interaction partners are unavailable and can directly facilitate social connectedness when suitable interaction partners are available.

Limitations and Future Directions

Before generalizing from the findings, one must keep in mind that participants in our studies were predominantly young adult females. Across the four studies that included both female and male participants, we did not find any consistent effects involving gender. However, due to the relatively small number of male participants, tests of gender effects may have had insufficient statistical power. To address this limitation, we meta-analyzed the results of Studies 2–4.⁷ We first meta-analyzed Studies 2–3 and found that the pattern of measured (Study 2) and manipulated (Study 3) deficiencies in relational connectedness being more strongly related to nostalgia among low-avoidance (compared with high-avoidance) individuals was not significantly moderated by gender ($r = .12$; 95% CI: $-.01, .25$). We then meta-analyzed Studies 3–4 and found that the pattern of manipulated nostalgia having a stronger effect on relationship-relevant outcomes among low-avoidance (compared with high-avoidance) individuals was not moderated by gender ($r = .04$; 95% CI: $-.12, .20$). Finally, we meta-analyzed all four studies and found that the theoretically meaningful results patterns (see above) were not moderated by gender ($r = .09$; 95% CI: $-.01, .19$).

Clarifying the relation between age and nostalgia is a high priority for future research. Socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999) proposes that with

⁷ We selected r as a measure of effect size and coded the data so that positive effect sizes indicated that the theoretically meaningful results patterns were stronger for female participants. Study weights were inversely proportional to the conditional variance of individual effect sizes. The conditional variance of the combined effect size estimate was inversely proportional to the sum of the study weights. The standard error for the combined effect size estimate was calculated by taking the square root of its conditional variance. Confidence intervals were calculated by multiplying the standard error by 1.96 (Shadish & Haddock, 1994).

advancing age, people come to view their life span as limited and shift attention from future-oriented and knowledge-related goals toward a desire to find purpose and meaning in life, to enjoy intimate friendships, and to be embedded in a social network. This may mean that nostalgia acquires a more prominent role in old age. Bereavement and physical frailty can render older adults particularly vulnerable to loneliness (Victor, Scambler, Bowling, & Bond, 2005), and nostalgia may therefore play a vital role in reestablishing a symbolic connection with significant others (Batcho, 1998; Cavanaugh, 1989). Indeed, research indicates that older adults may be more concerned about shielding positive memories than are younger adults (Mather, 2004).

Although social connectedness may acquire special significance in old age, it is important at any age. There is a wealth of evidence that strong social bonds are associated with increased psychological and physical health (Berkman, 1995; Sarason et al., 1997). This raises the question of how, if not through nostalgia, high-avoidance individuals redress deficiencies in social connectedness. Simpson et al. (1992) proposed that, for high-avoidance persons, "increases in perceived threat or distress sharply accelerate the onset of fear of proximity" (p. 443). This suggests that high-avoidance individuals favor strategies that afford rigorous control over the degree of proximity experienced. They might, for instance, prefer to join large and impersonal groups in which immediate and intimate social interaction is optional rather than immerse themselves in dyadic relationships. In this regard, nostalgia may be unappealing to high-avoidance individuals because it can be fortuitously triggered (e.g., through smells, songs, photographs, conversations) at times when fear of proximity is high.

Our findings did not shed light on the role of anxiety. Anxiety qualified neither the link between loneliness and nostalgia nor the effect of nostalgia on perceived social connectedness and interpersonal competence. This pattern of results suggests that nostalgia can reflect not only high confidence in the availability of others (characteristic of low anxiety) but also hypervigilance regarding the availability of others and reliance on hyperactivation strategies (e.g., clinging) to maintain proximity to others (characteristic of high anxiety). Future research may be able to differentiate these two types of nostalgia (confidence based vs. hypervigilance based) by comparing individuals' nostalgic recollections of specific events with partner reports of the same events. We expect that if high-anxiety (compared with low-anxiety) individuals use nostalgia as a source of reassurance regarding their worthiness of love, then their nostalgic recollections will be more idealized and contain fewer negative elements than their partner's recollection of the same event.

Concluding Remarks

Our findings carry three key implications. Most immediately, they indicate that perceived social connectedness—a vital ingredient to optimal psychological functioning and physical health—is deposited in the form of nostalgic memories and is accessed in times of need by retrieving these nostalgic memories. More generally, the findings locate the psychological significance of nostalgia in its capacity to strengthen social bonds. Finally, the findings highlight the pervasive influence of attachment-related individual differences in the vast domain of relationship-relevant phenomena—a domain that now has been expanded to include

nostalgia. These implications illustrate how research on nostalgia promises to offer integrative insights across diverse areas of psychological inquiry.

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